



# GLOBAL KNOWLEDGE INDEX 2020

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# FOREWORD

## **Mohammed Bin Rashid Al Maktoum Knowledge Foundation**

The 4th edition of the Global Knowledge Index is published in an era where knowledge increasingly presents itself as a legitimate source of development and prosperity, as the world strives to accelerate the pace of advancements and to set ambitious yet calculated plans for a better future. The index comes in the midst of a health crisis that has put the entire world on high alert, bringing nations together to work on the common goal of mitigating the effects of the pandemic.

With that in mind, the Mohammed bin Rashid Al Maktoum Knowledge Foundation is releasing this edition of the Global Knowledge Index, in collaboration with our partners at the United Nations Development Programme (UNDP), amid unprecedented circumstances. All around the world, efforts are converging against an invisible enemy that has affected every human being and forced most countries around the world to declare a state of emergency. By and large, knowledge remains our best bet to emerge from the COVID-19 crisis and return to normality.

We launch the Global Knowledge Index full of confidence in the path we chose and continue to walk. We present officials and decision makers with this report – a product of relentless efforts to compile, analyse, and investigate data, to produce an international index that demonstrates the importance of collaboration to find effective solutions for all challenges.

MBRF is proud of this achievement, and of the team that made it happen, despite all obstacles and challenges that stood in its path with the strict precautions implemented around the world. Nevertheless, with commitment and resolve, inspired by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE, Ruler of Dubai, we carried on, along with our partners at the UNDP, to produce this report that will always stand out as the index that was released during the COVID-19 pandemic, offering encouraging results that can help us understand the current state of affairs with regards to knowledge in light of this crisis and its widespread negative impact on all communities.

The constructive alliance between MBRF and the UNDP is a prime example of the need to collaborate across borders. This partnership now presents every country around the world with a blueprint for development.

Benefiting from successful international experiences gives decision-makers the tools to accurately measure performance and variables, all while introducing the results achieved in every country in the areas considered fundamental for creating, disseminating, and evaluating knowledge as a means to ensure sustainable development.

The COVID-19 pandemic accelerated the digitisation of our lives, shifting means of production and communication towards a virtual world. Work and education – the two sectors with the largest influence over the development of societies – became fully online, remote activities almost overnight. This shift had its positive results, making advanced technologies accessible to everyone, engaging millions of people around the world in a smart production system.

Published in truly exceptional times, this report will support world leaders as they work to prepare their people for the knowledge sector of the future, and equip them with the necessary skills to re-programme the development landscape and identify the skills needed to manoeuvre this new future. We hope this report can be of assistance to political leaders, allowing stakeholders to objectively and effectively visualise the future needs of their citizens.

**Sheikh Ahmed bin Mohammed bin Rashid Al Maktoum**

Chairman of the Mohammed bin Rashid Al Maktoum Knowledge Foundation (MBRF)



# FOREWORD

## United Nations Development Programme

In 2019, the United Nations Development Programme (UNDP) and the Mohammed bin Rashid Al Maktoum Knowledge Foundation (MBRF) commemorated a decade of partnership and signed a new ten-year agreement to bring our expertise and global footprint together to harness the power of knowledge for sustainable development. Through this partnership and its flagship Knowledge Project, the two entities promote thought leadership and evidence-based policymaking for sustainable development in both the Arab States region and across the globe. Within this framework, the Global Knowledge Index (GKI) is a vital tool to monitor the “knowledge status” of countries in key areas including education, research and development and innovation.

Covering 138 countries and 199 indicators this year’s GKI is an instrument to guide policymakers, researchers, civil society, and the private sector as they nurture knowledge-based societies and bridge knowledge gaps. Leveraging a range of over 30 unique international databases and sources including the UNESCO Institute for Statistics, the International Telecommunication Union, and the World Bank, it shows how a number of developing countries such as Costa Rica, Belarus and Mauritius are making notable progress on knowledge resources - ranking higher than the world average on the Index. The overall results of the GKI 2020 confirm an urgent and global need for increased investment in R&D and innovation as a means to advance the frontiers of knowledge for sustainable development. In particular, addressing knowledge gaps in areas like the digital economy will be crucial to accelerate our collective efforts to transition to a zero-carbon future that protects and restores nature. Indeed, investment in knowledge is an intrinsic way to advance human development and wellbeing. Therefore, the GKI can feed into other key measurements such as the Human Development Index.

I would like to express my appreciation to all those who have contributed to this informative and instructive report. I would also like to thank His Highness Sheikh Mohammed bin Rashid Al Maktoum for his continuous support for knowledge and scientific initiatives that help to both foresee - and create - a greener, more inclusive, and more sustainable future. The United Nations and partners such as the Mohammed bin Rashid Al Maktoum Knowledge Foundation will continue to help countries to strengthen their knowledge resources in the midst of the ongoing Fourth Industrial Revolution. Such efforts will help to propel progress on all 17 Sustainable Development Goals at this pivotal moment in history.

**Achim Steiner**

United Nations Development Programme (UNDP)



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# INTRODUCTION

The Global Knowledge Index (GKI), produced annually since 2017, is a summary measure for tracking the knowledge performance of countries at the level of seven areas; namely pre-university education, technical and vocational education and training, higher education, research, development and innovation, information and communications technology, economy and the general enabling environment.

Being the flagship product of the partnership between UNDP and the Mohammed Bin Rashid Al Maktoum Knowledge Foundation, its construction employs a participatory approach featuring a multidisciplinary core team and a high-level advisory board.

It aims to measure the multifaceted concept of knowledge. The concept is a fluid one, often linked to related concepts such as 'knowledge economy' or 'knowledge society'. It is also sometimes restricted to a narrow understanding that limits the focus to education or technology.

Given the variations in its use and meanings, the GKI aims to introduce a more systematic understanding of knowledge by breaking down the concept into its constituent components, thus recognizing the multidimensional nature of knowledge systems in all contexts and applications relating to economic and social structures. This allows a more meaningful and insightful exploration of knowledge policies in relation to different sectors. Additionally, it also enables a more scientific and evidence-based linkage between development and knowledge, in maintaining the notion of human development as applied by UNDP as well as the concept of sustainable development agreed by world leaders in 2015 in the 2030 Agenda for Sustainable Development.

Covering 138 countries and 199 indicators, the GKI provides a systematic tool for guiding and informing policymakers, researchers, civil society and the private sector to collaborate on different aspects of policies to foster knowledge-based societies and bridge knowledge gaps.

The country profiles provide an insight into each country's performance in terms of its knowledge infrastructure. We have added this year a 'country performance summary' section where we describe the country performance as leading, strong, moderate, modest or weak according to its GKI score and rank, while also comparing its performance to that of the cluster it belongs to in the Human Development Index of 2018. This section also shows the areas of strength and improvement of each country that were determined by computing the percentile ranks across the 133 variables constituting the index, with other statistical methods (such as standardization) being used to reduce the number of identified variables to five as needed.

Full country profiles featuring expandable sectoral tables, the index's methodology and information about the variables in terms of definitions and sources can be found at [www.knowledge4all.org](http://www.knowledge4all.org).

# GLOBAL KNOWLEDGE INDEX

PRE-UNIVERSITY EDUCATION



TECHNICAL & VOCATIONAL EDUCATION & TRAINING



HIGHER EDUCATION



RESEARCH, DEVELOPMENT & INNOVATION



INFORMATION & COMMUNICATIONS TECHNOLOGY



ECONOMY





GENERAL ENABLING ENVIRONMENT



# GLOBAL KNOWLEDGE INDEX

Rank		World average: 46.7	Value	Rank		World average: 46.7	Value
1	Switzerland		73.6	41	Costa Rica		51.2
2	United States		71.1	42	Saudi Arabia		50.9
3	Finland		70.8	43	Bahrain		50.9
4	Sweden		70.6	44	Chile		50.9
5	Netherlands		69.7	45	Russian Federation		50.6
6	Luxembourg		69.5	46	Uruguay		50.3
7	Singapore		69.2	47	Belarus		50
8	Denmark		68.3	48	Serbia		49.9
9	United Kingdom		68.1	49	Croatia		49.6
10	Hong Kong, China (SAR)		66.8	50	Seychelles		49
11	Germany		66.2	51	Brunei Darussalam		48.5
12	Japan		66.2	52	Romania		48.5
13	Norway		66.1	53	Thailand		48.3
14	Ireland		66.1	54	Bulgaria		48.3
15	United Arab Emirates		66.1	55	Mauritius		47.8
16	Austria		65.4	56	Ukraine		47.6
17	Belgium		65.4	57	Mexico		47.5
18	Iceland		65.2	58	Oman		47.5
19	Korea (Republic of)		64.4	59	Greece		46.8
20	France		64	60	Philippines		46.6
21	Israel		63.7	61	Albania		46.5
22	New Zealand		63.2	62	Kazakhstan		46.2
23	Australia		62.2	63	Georgia		46
24	Canada		61.1	64	Azerbaijan		45.8
25	Estonia		60.5	65	Kuwait		45.8
26	Portugal		60.2	66	Viet Nam		45.6
27	Malta		59.7	67	Barbados		45.5
28	Slovenia		58.8	68	Brazil		45.4
29	Czechia		58.7	69	Turkey		45.2
30	Spain		57.9	70	Mongolia		45.2
31	China		57.4	71	South Africa		45.1
32	Italy		56.6	72	Egypt		45
33	Malaysia		55.6	73	Colombia		44.7
34	Latvia		55.1	74	North Macedonia		44.6
35	Lithuania		55	75	India		44.4
36	Cyprus		54.9	76	Lebanon		44.3
37	Slovakia		54.6	77	Panama		44.2
38	Poland		54.3	78	Moldova (Republic of)		43.9
39	Qatar		54.2	79	Jordan		43.9
40	Hungary		53.9	80	Iran (Islamic Republic of)		43.5



Rank	 World average: 46.7		Value	Rank	 World average: 46.7		Value
81	Indonesia		43.3	121	Madagascar		31.8
82	Tunisia		42.7	122	Guinea		31.7
83	Morocco		42.6	123	Malawi		31.7
84	Armenia		42.5	124	Lesotho		31.3
85	Namibia		42.5	125	Benin		31.3
86	Guyana		42.4	126	Burkina Faso		31
87	Sri Lanka		42.1	127	Burundi		30.7
88	Kenya		42	128	Myanmar		30.6
89	Cabo Verde		41.9	129	Togo		28.7
90	Cambodia		41.7	130	Syrian Arab Republic		28.5
91	Botswana		41.4	131	Mozambique		28.3
92	Ecuador		41.3	132	Ethiopia		27.4
93	Dominican Republic		41.1	133	Mali		27.3
94	Bhutan		40.9	134	Congo		25.9
95	Bosnia and Herzegovina		40.9	135	Niger		25.7
96	Peru		40.6	136	Mauritania		25.6
97	Kyrgyzstan		40.5	137	Angola		21.9
98	Bolivia (Plurinational State of)		40.2	138	Chad		21.5
99	Rwanda		39.9				
100	Honduras		39.3				
101	Ghana		38.7				
102	Paraguay		38.5				
103	Algeria		37.5				
104	Zimbabwe		37.5				
105	Lao People's Democratic Republic		37.4				
106	El Salvador		37				
107	Tanzania (United Republic of)		36.6				
108	Guatemala		36.5				
109	Belize		36.5				
110	Nepal		36.2				
111	Pakistan		35.9				
112	Bangladesh		35.9				
113	Senegal		35				
114	Tajikistan		34.7				
115	Venezuela (Bolivarian Republic of)		34.6				
116	Cameroon		34.5				
117	Côte d'Ivoire		34.3				
118	Eswatini (Kingdom of)		34.2				
119	Uganda		33				
120	Gambia		32.7				

# HEATMAP TABLE

RANK	COUNTRY	GLOBAL KNOWLEDGE INDEX	PRE-UNIVERSITY EDUCATION	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	HIGHER EDUCATION	RESEARCH, DEVELOPMENT & INNOVATION	INFORMATION & COMMUNICATIONS TECHNOLOGY	ECONOMY	GENERAL ENVIRONMENT
1	Switzerland	73.6	76.2	77.5	68.6	65.7	82.7	62.3	86.6
2	United States	71.1	63.2	92.3	57.8	64.3	86.5	61.1	73.5
3	Finland	70.8	78.5	81	56.1	57	81.9	61.6	83.8
4	Sweden	70.6	76.4	69.7	57.9	65.5	84.6	59.9	85.4
5	Netherlands	69.7	71.2	76.8	56.2	58.4	84.5	63.5	80.9
6	Luxembourg	69.5	70.7	72.2	66.2	47.6	85.3	65.4	84
7	Singapore	69.2	75.2	60.2	56	53.3	85.9	76.6	81.3
8	Denmark	68.3	75.4	63.6	61	57.8	82.7	59	83.9
9	United Kingdom	68.1	68.1	63.4	68.3	58.2	84.2	60.1	77.5
10	Hong Kong, China (SAR)	66.8	78.1	58.3	55.9	45.4	84.6	71.2	78.1
11	Germany	66.2	63	64.3	60.2	61.2	81.5	58.6	78.9
12	Japan	66.2	75.5	61	50.5	63.2	83.2	56.2	77.5
13	Norway	66.1	75.8	72.9	57.4	44.5	77.6	53.1	89.3
14	Ireland	66.1	75.7	67.1	57.7	46.2	75.3	63.1	83.3
15	United Arab Emirates	66.1	75.5	69.6	55.4	37.8	79.9	73.2	73.9
16	Austria	65.4	68.9	72.6	56.8	51	76.2	56.6	80.9
17	Belgium	65.4	75.3	73.8	55.9	48.4	74.7	56.1	77.2
18	Iceland	65.2	78	71.2	51.6	49.8	79.2	48.7	84
19	Korea (Republic of)	64.4	72.7	57.7	45.3	63.3	83.4	60.6	69.5
20	France	64	75.4	55.1	55.4	54.6	79.4	56.2	75.9
21	Israel	63.7	73.7	57.4	46.7	64.5	78.5	55.8	71.8
22	New Zealand	63.2	71	62.3	56	43.2	78.9	54.6	83.3
23	Australia	62.2	65.8	65.1	55.5	43.7	77	55.3	78.7
24	Canada	61.1	56.6	52.8	62.8	46.5	77.7	58.5	78.4
25	Estonia	60.5	71.2	54.7	53.3	36.4	79.8	56.7	76.6
26	Portugal	60.2	72.2	57.5	53.3	37.1	74.2	54.4	79.2
27	Malta	59.7	75.1	43.6	50.9	42.8	77.9	59.2	73
28	Slovenia	58.8	74.3	58.8	48.3	37.9	70.2	52.6	75.2
29	Czechia	58.7	72.5	56.9	52.8	37.7	65.9	56	74.8
30	Spain	57.9	67.9	54.4	50.2	40.2	71.8	51.3	74.9
31	China	57.4	76.9	65.2	38.9	44.4	61.4	57.7	57.6
32	Italy	56.6	71.2	54.6	51.1	42	66.3	44.4	71.9
33	Malaysia	55.6	65.8	53.9	45.6	33.1	70.3	57.3	66.7
34	Latvia	55.1	72	56.7	45.5	27.5	65.1	51.6	73.8
35	Lithuania	55	70.2	48.6	48.2	26.6	72.6	51.2	74.2
36	Cyprus	54.9	63.2	55.5	51.3	29	67.4	50.6	73.6
37	Slovakia	54.6	65.8	54.4	51.9	27.4	65.8	52.4	69.3
38	Poland	54.3	74.1	52	49.8	28.8	63.9	47.3	69.5
39	Qatar	54.2	62.4	53.1	52.1	28.3	66.6	51.9	70.4
40	Hungary	53.9	70	45.4	48	34.1	64.7	51.5	68.3
41	Costa Rica	51.2	64.9	63.2	45.7	21.9	61.6	36.3	72
42	Saudi Arabia	50.9	50.5	68.5	41.3	29.7	66.2	45.2	57.6
43	Bahrain	50.9	63.9	59.8	42.8	17.4	65.1	51.1	59.1
44	Chile	50.9	62.7	50.7	38.2	25.4	64.1	51.1	70.6
45	Russian Federation	50.6	72.9	48.9	45.8	27	63.5	40.9	57.7
46	Uruguay	50.3	67.4	60.2	38.4	19.8	59.4	40.8	73.8
47	Belarus	50	72.6	43	39.2	17.1	67.7	52.2	62.2
48	Serbia	49.9	62.1	59.9	43.9	21	57.9	45.6	63.6
49	Croatia	49.6	65.3	44.8	46	24.9	59.6	44.1	69.4
50	Seychelles	49	67.6	52.8	37.6	18.1	64.5	46.1	59.7
51	Brunei Darussalam	48.5	63.9	43	49.1	18.6	59	44.7	67.9
52	Romania	48.5	58	46.8	45.1	22.6	60.7	46.3	66
53	Thailand	48.3	59.3	44.9	37.3	25.7	59.6	53.8	61.8
54	Bulgaria	48.3	52.5	48.7	43.1	26.8	61.9	44.2	66.9
55	Mauritius	47.8	65	47.4	31.1	20.6	60	50.1	66.7
56	Ukraine	47.6	72.6	50.3	44.9	24.8	52.1	37.1	53.3
57	Mexico	47.5	59.1	48.2	42.6	24.9	56.3	44.7	61.1
58	Oman	47.5	57.4	47.6	37.3	22.1	61.9	48.6	62.2
59	Greece	46.8	60.1	48.2	32.8	29.5	59.3	37.9	66.6
60	Philippines	46.6	60	54.9	38.7	22.8	53.8	43.2	56.3
61	Albania	46.5	63.1	53	38.5	21.5	51.1	40.7	62.6
62	Kazakhstan	46.2	68.6	48.4	39.9	14.5	57.2	38.8	61.2
63	Georgia	46	60.1	48.9	39.8	19.3	54.2	43	62.3
64	Azerbaijan	45.8	62.6	51.1	38.6	14.8	59.6	40.7	56.8
65	Kuwait	45.8	59.3	45.2	42.4	17.5	57.4	42.8	60.7
66	Viet Nam	45.6	63.1	49.3	30.9	23.1	49.2	48.4	60.5
67	Barbados	45.5	68.1	42.7	21.1	21.2	60.5	45.3	66.7
68	Brazil	45.4	54.2	49.6	43.1	25.6	56.2	35.9	57.1
69	Turkey	45.2	54.5	46.7	31.8	27.8	58.5	46.7	53.4

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RANK	COUNTRY	GLOBAL KNOWLEDGE INDEX	PRE-UNIVERSITY EDUCATION	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	HIGHER EDUCATION	RESEARCH, DEVELOPMENT & INNOVATION	INFORMATION & COMMUNICATIONS TECHNOLOGY	ECONOMY	GENERAL ENABLING ENVIRONMENT
70	Mongolia	45.2	69.9	50.2	29.3	21.3	50.6	40.7	59.4
71	South Africa	45.1	52.2	47.4	42.3	25	55.6	41.5	55.3
72	Egypt	45	57.2	47.6	45.6	19.9	52.4	41.8	53.4
73	Colombia	44.7	59.1	45.1	39.6	21.9	56.9	37.1	58
74	North Macedonia	44.6	51.5	50.3	44	17.1	50.9	42.5	61.4
75	India	44.4	49.9	55.7	38.9	27.3	52.1	40.6	47.5
76	Lebanon	44.3	61.8	62.2	38.6	21	38.3	41.2	48.2
77	Panama	44.2	42.8	39	40.4	25.2	56.3	47.7	65.2
78	Moldova (Republic of)	43.9	58.5	45.6	38.2	19.8	53.7	38.7	57.6
79	Jordan	43.9	48.6	46.9	43.6	19.9	52.9	44.2	54.7
80	Iran (Islamic Republic of)	43.5	58.1	51.2	36.2	27.6	50	37.7	43.8
81	Indonesia	43.3	53.9	44.7	35.6	15.4	55.7	45.5	57.1
82	Tunisia	42.7	57.6	43.5	42.5	20.3	48.8	38.1	50.9
83	Morocco	42.6	51.6	46.9	36.5	19.3	52.3	44.2	50
84	Armenia	42.5	55.7	40	32.1	19.8	54.7	41.3	59.2
85	Namibia	42.5	63.9	47.9	34.4	18.2	42.9	36.1	59.5
86	Guyana	42.4	66.1	53.1	31.1	20.9	41.1	35.8	51.6
87	Sri Lanka	42.1	69.8	43.7	30.8	17.3	46.1	33	60.2
88	Kenya	42	56.2	52.3	32.6	21.3	50.9	32.5	51.4
89	Cabo Verde	41.9	60.8	49.4	30.5	14.6	44.1	38.2	62.4
90	Cambodia	41.7	53.7	60.3	28	14.3	46.6	40.3	51.8
91	Botswana	41.4	50.6	61.8	32.4	17.4	38.5	36	58.6
92	Ecuador	41.3	63.7	36.4	41.6	14.8	48.2	31	59.2
93	Dominican Republic	41.1	49	46.2	31.7	19.8	49.8	38.5	58.7
94	Bhutan	40.9	60.3	46.1	33.6	14.9	45.1	33.6	58.3
95	Bosnia and Herzegovina	40.9	51.1	49.9	39	14.8	46.9	34.6	54.1
96	Peru	40.6	54.7	32.1	36.5	23.5	45.4	36.7	63.2
97	Kyrgyzstan	40.5	64.4	48.5	35.2	10.6	41	35	53
98	Bolivia (Plurinational State of)	40.2	68.4	60.2	30.2	12.1	33.1	27.6	54.2
99	Rwanda	39.9	45.4	53.2	29.2	20.2	44.8	34.5	58.3
100	Honduras	39.3	52	53.4	33.2	14.3	37.2	36.3	53.4
101	Ghana	38.7	48.6	46.8	35.2	14.4	46.7	31.1	52.2
102	Paraguay	38.5	56.2	35	29.2	18.9	41.6	37.3	58.1
103	Algeria	37.5	57.3	30.7	47.2	14.2	37.5	32.3	46.5
104	Zimbabwe	37.5	62.7	51.4	38.6	15.9	27.8	24.5	43.4
105	Lao People's Democratic Republic	37.4	49.7	42.7	35.5	19.5	33.8	34	51.6
106	El Salvador	37	48	40.2	30.2	15.6	41.4	32.5	58.2
107	Tanzania (United Republic of)	36.6	40.7	42.1	39.6	21.3	37.3	30	49.2
108	Guatemala	36.5	44.5	41.7	26.3	15.3	45.2	35.2	53
109	Belize	36.5	52.8	41.9	30.6	19	35.9	27.6	53.7
110	Nepal	36.2	69.6	28.3	31.4	12.4	34.1	32.3	49.5
111	Pakistan	35.9	46.9	42.7	38.7	16	37.4	32	38.5
112	Bangladesh	35.9	43.9	49	24.1	16.4	43.1	31.5	46.4
113	Senegal	35	27.5	46.4	37.5	11.9	43.6	33.9	49.2
114	Tajikistan	34.7	55.1	43.4	26	10.6	28.9	34.5	49.4
115	Venezuela (Bolivarian Republic of)	34.6	54.7	33.6	43.1	13.5	34	18.7	50
116	Cameroon	34.5	39.4	56.3	27.2	17.9	30.4	31.2	41.2
117	Côte d'Ivoire	34.3	40.1	47.4	29.9	11.8	41.7	34.1	35.3
118	Eswatini (Kingdom of)	34.2	60.5	45.3	26.3	8.9	24.5	34.5	42.2
119	Uganda	33	32.3	44.2	31.7	13.1	34.4	32.7	47.6
120	Gambia	32.7	47.7	34.6	22.9	18.5	36.9	28.2	44
121	Madagascar	31.8	37.8	48.1	30	12.6	19.9	29.2	51.5
122	Guinea	31.7	29.2	41.4	34.8	9.8	35.9	38.8	31.7
123	Malawi	31.7	43.5	45	25.2	16.3	20.1	28	49.4
124	Lesotho	31.3	53.8	45.7	21.4	9.5	27.4	27.6	34.7
125	Benin	31.3	38.6	51.2	15.8	15.9	30.3	28.7	41.8
126	Burkina Faso	31	30.8	46.5	31.4	14.4	31	29.5	34.8
127	Burundi	30.7	41.4	42.6	40.7	9.9	18.3	22.8	43
128	Myanmar	30.6	45.8	37	26.8	13.3	25.1	26.6	44
129	Togo	28.7	48.9	29.4	23.7	8	27.8	27.3	39.1
130	Syrian Arab Republic	28.5	25.4	37.6	23.2	13.3	33.1	33.8	35.5
131	Mozambique	28.3	40.8	29.4	28.4	10	25.2	28.5	39.4
132	Ethiopia	27.4	20.9	42.3	28.2	11.1	23.4	27.2	44.6
133	Mali	27.3	20.7	49.3	18.2	13.6	32.8	25.6	32.9
134	Congo (Democratic Republic of the)	25.9	36	26.3	31.1	13.1	14.2	28.8	34.5
135	Niger	25.7	14.1	31.5	40.1	11.3	18.9	33.6	33.1
136	Mauritania	25.6	27.9	38.2	23.1	7.8	22.7	25.8	37.8
137	Angola	21.9	22.5	29.4	16.3	8.6	21.9	18.8	43.1
138	Chad	21.5	14.6	39.9	35.6	7.4	11	15.3	29.7



# SECTORAL INDICES



**PRE-UNIVERSITY  
EDUCATION**



**TECHNICAL & VOCATIONAL  
EDUCATION & TRAINING**



**HIGHER  
EDUCATION**



**RESEARCH, DEVELOPMENT  
& INNOVATION**



**INFORMATION & COMMUNICATIONS  
TECHNOLOGY**



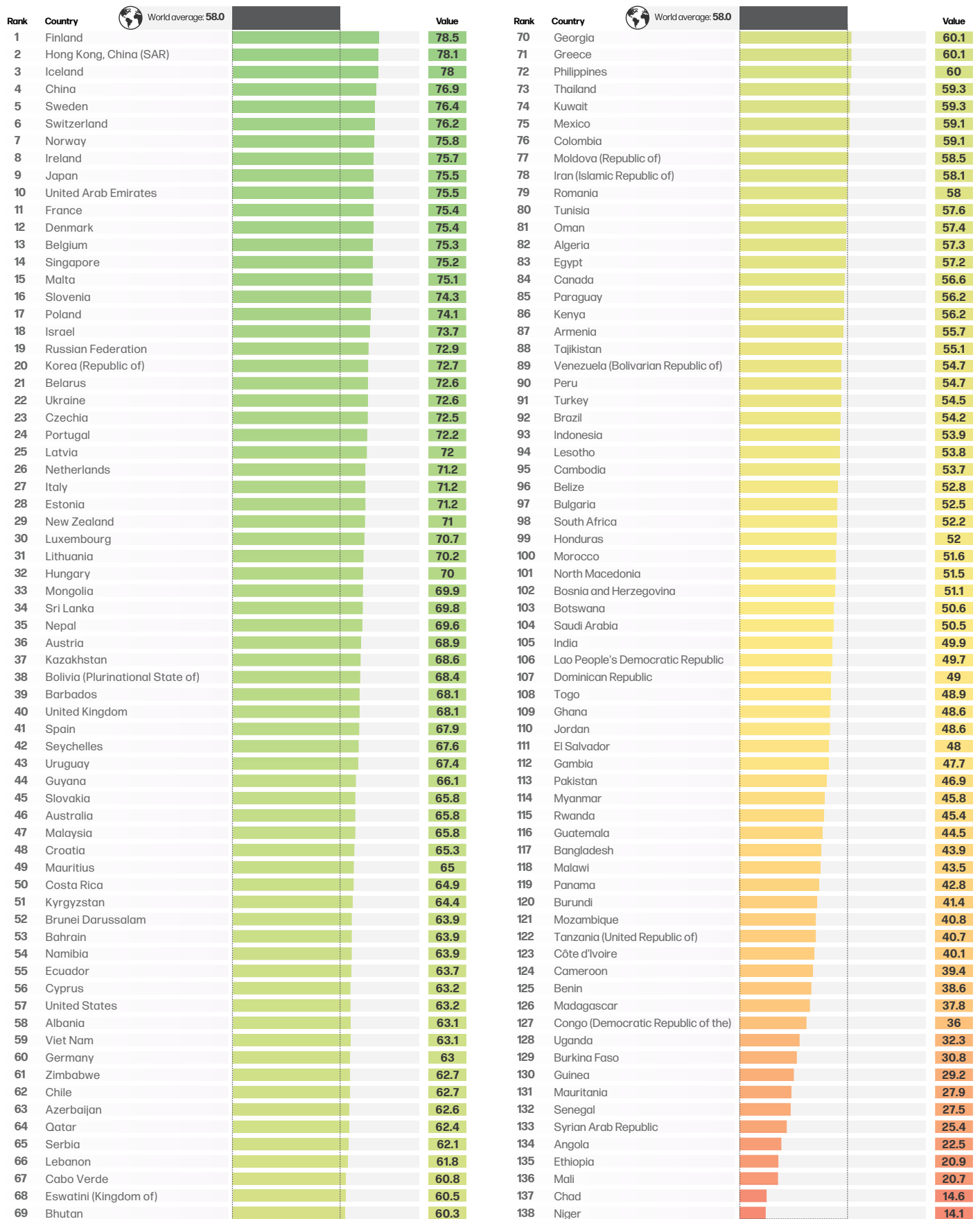
**ECONOMY**



**GENERAL ENABLING  
ENVIRONMENT**



# PRE-UNIVERSITY EDUCATION



0 100



# TECHNICAL & VOCATIONAL EDUCATION & TRAINING

Rank	Country	World average: 50.8	Value	Rank	Country	World average: 50.8	Value
1	United States		92.3	70	Georgia		48.9
2	Finland		81	71	Russian Federation		48.9
3	Switzerland		77.5	72	Bulgaria		48.7
4	Netherlands		76.8	73	Lithuania		48.6
5	Belgium		73.8	74	Kyrgyzstan		48.5
6	Norway		72.9	75	Kazakhstan		48.4
7	Austria		72.6	76	Greece		48.2
8	Luxembourg		72.2	77	Mexico		48.2
9	Iceland		71.2	78	Madagascar		48.1
10	Sweden		69.7	79	Namibia		47.9
11	United Arab Emirates		69.6	80	Egypt		47.6
12	Saudi Arabia		68.5	81	Oman		47.6
13	Ireland		67.1	82	Côte d'Ivoire		47.4
14	China		65.2	83	South Africa		47.4
15	Australia		65.1	84	Mauritius		47.4
16	Germany		64.3	85	Jordan		46.9
17	Denmark		63.6	86	Morocco		46.9
18	United Kingdom		63.4	87	Ghana		46.8
19	Costa Rica		63.2	88	Romania		46.8
20	New Zealand		62.3	89	Turkey		46.7
21	Lebanon		62.2	90	Burkina Faso		46.5
22	Botswana		61.8	91	Senegal		46.4
23	Japan		61	92	Dominican Republic		46.2
24	Cambodia		60.3	93	Bhutan		46.1
25	Uruguay		60.2	94	Lesotho		45.7
26	Bolivia (Plurinational State of)		60.2	95	Moldova (Republic of)		45.6
27	Singapore		60.2	96	Hungary		45.4
28	Serbia		59.9	97	Eswatini (Kingdom of)		45.3
29	Bahrain		59.8	98	Kuwait		45.2
30	Slovenia		58.8	99	Colombia		45.1
31	Hong Kong, China (SAR)		58.3	100	Malawi		45
32	Korea (Republic of)		57.7	101	Thailand		44.9
33	Portugal		57.5	102	Croatia		44.8
34	Israel		57.4	103	Indonesia		44.7
35	Czechia		56.9	104	Uganda		44.2
36	Latvia		56.7	105	Sri Lanka		43.7
37	Cameroon		56.3	106	Malta		43.6
38	India		55.7	107	Tunisia		43.5
39	Cyprus		55.5	108	Tajikistan		43.4
40	France		55.1	109	Brunei Darussalam		43
41	Philippines		54.9	110	Belarus		43
42	Estonia		54.7	111	Lao People's Democratic Republic		42.7
43	Italy		54.6	112	Pakistan		42.7
44	Spain		54.4	113	Barbados		42.7
45	Slovakia		54.4	114	Burundi		42.6
46	Malaysia		53.9	115	Ethiopia		42.3
47	Honduras		53.4	116	Tanzania (United Republic of)		42.1
48	Rwanda		53.2	117	Belize		41.9
49	Qatar		53.1	118	Guatemala		41.7
50	Guyana		53.1	119	Guinea		41.4
51	Albania		53	120	El Salvador		40.2
52	Canada		52.8	121	Armenia		40
53	Seychelles		52.8	122	Chad		39.9
54	Kenya		52.3	123	Panama		39
55	Poland		52	124	Mauritania		38.2
56	Zimbabwe		51.4	125	Syrian Arab Republic		37.6
57	Iran (Islamic Republic of)		51.2	126	Myanmar		37
58	Benin		51.2	127	Ecuador		36.4
59	Azerbaijan		51.1	128	Paraguay		35
60	Chile		50.7	129	Gambia		34.6
61	Ukraine		50.3	130	Venezuela (Bolivarian Republic of)		33.6
62	North Macedonia		50.3	131	Peru		32.1
63	Mongolia		50.2	132	Niger		31.5
64	Bosnia and Herzegovina		49.9	133	Algeria		30.7
65	Brazil		49.6	134	Angola		29.4
66	Cabo Verde		49.4	135	Togo		29.4
67	Viet Nam		49.3	136	Mozambique		29.4
68	Mali		49.3	137	Nepal		28.3
69	Bangladesh		49	138	Congo (Democratic Republic of the)		26.3





# HIGHER EDUCATION

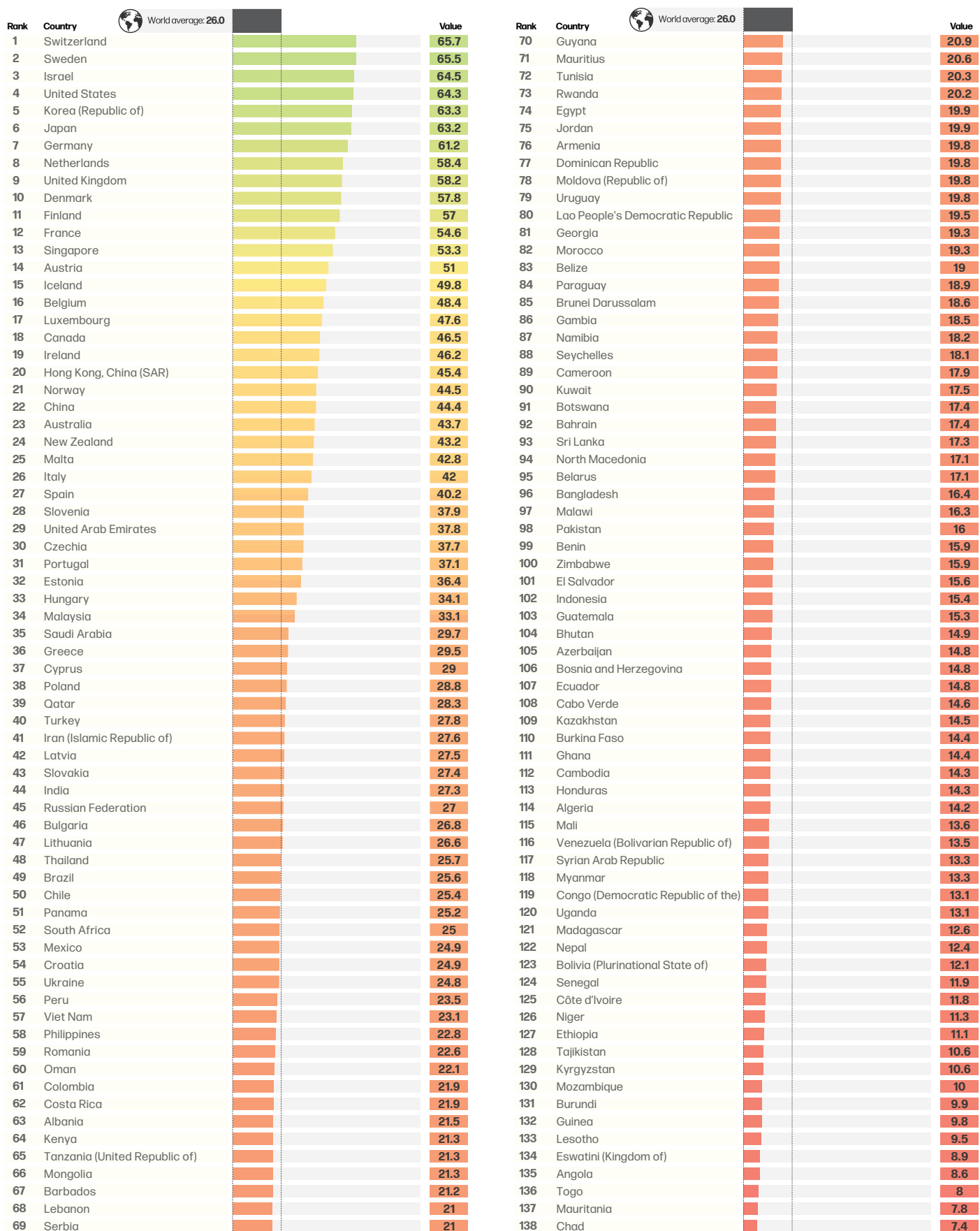


Rank	Country	World average: 40.3	Value	Rank	Country	World average: 40.3	Value
1	Switzerland		68.6	70	India		38.9
2	United Kingdom		68.3	71	China		38.9
3	Luxembourg		66.2	72	Philippines		38.7
4	Canada		62.8	73	Pakistan		38.7
5	Denmark		61	74	Azerbaijan		38.6
6	Germany		60.2	75	Lebanon		38.6
7	Sweden		57.9	76	Zimbabwe		38.6
8	United States		57.8	77	Albania		38.5
9	Ireland		57.7	78	Uruguay		38.4
10	Norway		57.4	79	Moldova (Republic of)		38.2
11	Austria		56.8	80	Chile		38.2
12	Netherlands		56.2	81	Seychelles		37.6
13	Finland		56.1	82	Senegal		37.5
14	Singapore		56	83	Oman		37.3
15	New Zealand		56	84	Thailand		37.3
16	Hong Kong, China (SAR)		55.9	85	Morocco		36.5
17	Belgium		55.9	86	Peru		36.5
18	Australia		55.5	87	Iran (Islamic Republic of)		36.2
19	United Arab Emirates		55.4	88	Indonesia		35.6
20	France		55.4	89	Chad		35.6
21	Portugal		53.3	90	Lao People's Democratic Republic		35.5
22	Estonia		53.3	91	Kyrgyzstan		35.2
23	Czechia		52.8	92	Ghana		35.2
24	Qatar		52.1	93	Guinea		34.8
25	Slovakia		51.9	94	Namibia		34.4
26	Iceland		51.6	95	Bhutan		33.6
27	Cyprus		51.3	96	Honduras		33.2
28	Italy		51.1	97	Greece		32.8
29	Malta		50.9	98	Kenya		32.6
30	Japan		50.5	99	Botswana		32.4
31	Spain		50.2	100	Armenia		32.1
32	Poland		49.8	101	Turkey		31.8
33	Brunei Darussalam		49.1	102	Dominican Republic		31.7
34	Slovenia		48.3	103	Uganda		31.7
35	Lithuania		48.2	104	Burkina Faso		31.4
36	Hungary		48	105	Nepal		31.4
37	Algeria		47.2	106	Congo (Democratic Republic of the)		31.1
38	Israel		46.7	107	Mauritius		31.1
39	Croatia		46	108	Guyana		31.1
40	Russian Federation		45.8	109	Viet Nam		30.9
41	Costa Rica		45.7	110	Sri Lanka		30.8
42	Egypt		45.6	111	Belize		30.6
43	Malaysia		45.6	112	Cabo Verde		30.5
44	Latvia		45.5	113	Bolivia (Plurinational State of)		30.2
45	Korea (Republic of)		45.3	114	El Salvador		30.2
46	Romania		45.1	115	Madagascar		30
47	Ukraine		44.9	116	Côte d'Ivoire		29.9
48	North Macedonia		44	117	Mongolia		29.3
49	Serbia		43.9	118	Rwanda		29.2
50	Jordan		43.6	119	Paraguay		29.2
51	Brazil		43.1	120	Mozambique		28.4
52	Venezuela (Bolivarian Republic of)		43.1	121	Ethiopia		28.2
53	Bulgaria		43.1	122	Cambodia		28
54	Bahrain		42.8	123	Cameroon		27.2
55	Mexico		42.6	124	Myanmar		26.8
56	Tunisia		42.5	125	Eswatini (Kingdom of)		26.3
57	Kuwait		42.4	126	Guatemala		26.3
58	South Africa		42.3	127	Tajikistan		26
59	Ecuador		41.6	128	Malawi		25.2
60	Saudi Arabia		41.3	129	Bangladesh		24.1
61	Burundi		40.7	130	Togo		23.7
62	Panama		40.4	131	Syrian Arab Republic		23.2
63	Niger		40.1	132	Mauritania		23.1
64	Kazakhstan		39.9	133	Gambia		22.9
65	Georgia		39.8	134	Lesotho		21.4
66	Colombia		39.6	135	Barbados		21.1
67	Tanzania (United Republic of)		39.6	136	Mali		18.2
68	Belarus		39.2	137	Angola		16.3
69	Bosnia and Herzegovina		39	138	Benin		15.8

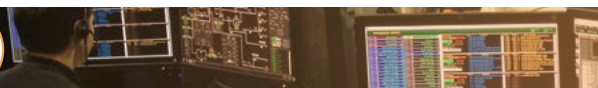




# RESEARCH, DEVELOPMENT & INNOVATION







# INFORMATION & COMMUNICATIONS TECHNOLOGY

Rank	Country	World average: 53.8	Value
1	United States		86.5
2	Singapore		85.9
3	Luxembourg		85.3
4	Sweden		84.6
5	Hong Kong, China (SAR)		84.6
6	Netherlands		84.5
7	United Kingdom		84.2
8	Korea (Republic of)		83.4
9	Japan		83.2
10	Switzerland		82.7
11	Denmark		82.7
12	Finland		81.9
13	Germany		81.5
14	United Arab Emirates		79.9
15	Estonia		79.8
16	France		79.4
17	Iceland		79.2
18	New Zealand		78.9
19	Israel		78.5
20	Malta		77.9
21	Canada		77.7
22	Norway		77.6
23	Australia		77
24	Austria		76.2
25	Ireland		75.3
26	Belgium		74.7
27	Portugal		74.2
28	Lithuania		72.6
29	Spain		71.8
30	Malaysia		70.3
31	Slovenia		70.2
32	Belarus		67.7
33	Cyprus		67.4
34	Qatar		66.6
35	Italy		66.3
36	Saudi Arabia		66.2
37	Czechia		65.9
38	Slovakia		65.8
39	Bahrain		65.1
40	Latvia		65.1
41	Hungary		64.7
42	Seychelles		64.5
43	Chile		64.1
44	Poland		63.9
45	Russian Federation		63.5
46	Oman		61.9
47	Bulgaria		61.9
48	Costa Rica		61.6
49	China		61.4
50	Romania		60.7
51	Barbados		60.5
52	Mauritius		60
53	Thailand		59.6
54	Azerbaijan		59.6
55	Croatia		59.6
56	Uruguay		59.4
57	Greece		59.3
58	Brunei Darussalam		59
59	Turkey		58.5
60	Serbia		57.9
61	Kuwait		57.4
62	Kazakhstan		57.2
63	Colombia		56.9
64	Panama		56.3
65	Mexico		56.3
66	Brazil		56.2
67	Indonesia		55.7
68	South Africa		55.6
69	Armenia		54.7

Rank	Country	World average: 53.8	Value
70	Georgia		54.2
71	Philippines		53.8
72	Moldova (Republic of)		53.7
73	Jordan		52.9
74	Egypt		52.4
75	Morocco		52.3
76	India		52.1
77	Ukraine		52.1
78	Albania		51.1
79	North Macedonia		50.9
80	Kenya		50.9
81	Mongolia		50.6
82	Iran (Islamic Republic of)		50
83	Dominican Republic		49.8
84	Viet Nam		49.2
85	Tunisia		48.8
86	Ecuador		48.2
87	Bosnia and Herzegovina		46.9
88	Ghana		46.7
89	Cambodia		46.6
90	Sri Lanka		46.1
91	Peru		45.4
92	Guatemala		45.2
93	Bhutan		45.1
94	Rwanda		44.8
95	Cabo Verde		44.1
96	Senegal		43.6
97	Bangladesh		43.1
98	Namibia		42.9
99	Côte d'Ivoire		41.7
100	Paraguay		41.6
101	El Salvador		41.4
102	Guyana		41.1
103	Kyrgyzstan		41
104	Botswana		38.5
105	Lebanon		38.3
106	Algeria		37.5
107	Pakistan		37.4
108	Tanzania (United Republic of)		37.3
109	Honduras		37.2
110	Gambia		36.9
111	Guinea		35.9
112	Belize		35.9
113	Uganda		34.4
114	Nepal		34.1
115	Venezuela (Bolivarian Republic of)		34
116	Lao People's Democratic Republic		33.8
117	Bolivia (Plurinational State of)		33.1
118	Syrian Arab Republic		33.1
119	Mali		32.8
120	Burkina Faso		31
121	Cameroon		30.4
122	Benin		30.3
123	Tajikistan		28.9
124	Zimbabwe		27.8
125	Togo		27.8
126	Lesotho		27.4
127	Mozambique		25.2
128	Myanmar		25.1
129	Eswatini (Kingdom of)		24.5
130	Ethiopia		23.4
131	Mauritania		22.7
132	Angola		21.9
133	Malawi		20.1
134	Madagascar		19.9
135	Niger		18.9
136	Burundi		18.3
137	Congo (Democratic Republic of the)		14.2
138	Chad		11







# ECONOMY



Rank	Country	World average: 42.7	Value	Rank	Country	World average: 42.7	Value
1	Singapore		76.6	70	Russian Federation		40.9
2	United Arab Emirates		73.2	71	Uruguay		40.8
3	Hong Kong, China (SAR)		71.2	72	Mongolia		40.7
4	Luxembourg		65.4	73	Azerbaijan		40.7
5	Netherlands		63.5	74	Albania		40.7
6	Ireland		63.1	75	India		40.6
7	Switzerland		62.3	76	Cambodia		40.3
8	Finland		61.6	77	Kazakhstan		38.8
9	United States		61.1	78	Guinea		38.8
10	Korea (Republic of)		60.6	79	Moldova (Republic of)		38.7
11	United Kingdom		60.1	80	Dominican Republic		38.5
12	Sweden		59.9	81	Cabo Verde		38.2
13	Malta		59.2	82	Tunisia		38.1
14	Denmark		59	83	Greece		37.9
15	Germany		58.6	84	Iran (Islamic Republic of)		37.7
16	Canada		58.5	85	Paraguay		37.3
17	China		57.7	86	Ukraine		37.1
18	Malaysia		57.3	87	Colombia		37.1
19	Estonia		56.7	88	Peru		36.7
20	Austria		56.6	89	Costa Rica		36.3
21	France		56.2	90	Honduras		36.3
22	Japan		56.2	91	Namibia		36.1
23	Belgium		56.1	92	Botswana		36
24	Czechia		56	93	Brazil		35.9
25	Israel		55.8	94	Guyana		35.8
26	Australia		55.3	95	Guatemala		35.2
27	New Zealand		54.6	96	Kyrgyzstan		35
28	Portugal		54.4	97	Bosnia and Herzegovina		34.6
29	Thailand		53.8	98	Eswatini (Kingdom of)		34.5
30	Norway		53.1	99	Tajikistan		34.5
31	Slovenia		52.6	100	Rwanda		34.5
32	Slovakia		52.4	101	Côte d'Ivoire		34.1
33	Belarus		52.2	102	Lao People's Democratic Republic		34
34	Qatar		51.9	103	Senegal		33.9
35	Latvia		51.6	104	Syrian Arab Republic		33.8
36	Hungary		51.5	105	Bhutan		33.6
37	Spain		51.3	106	Niger		33.6
38	Lithuania		51.2	107	Sri Lanka		33
39	Bahrain		51.1	108	Uganda		32.7
40	Chile		51.1	109	Kenya		32.5
41	Cyprus		50.6	110	El Salvador		32.5
42	Mauritius		50.1	111	Nepal		32.3
43	Iceland		48.7	112	Algeria		32.3
44	Oman		48.6	113	Pakistan		32
45	Viet Nam		48.4	114	Bangladesh		31.5
46	Panama		47.7	115	Cameroon		31.2
47	Poland		47.3	116	Ghana		31.1
48	Turkey		46.7	117	Ecuador		31
49	Romania		46.3	118	Tanzania (United Republic of)		30
50	Seychelles		46.1	119	Burkina Faso		29.5
51	Serbia		45.6	120	Madagascar		29.2
52	Indonesia		45.5	121	Congo (Democratic Republic of the)		28.8
53	Barbados		45.3	122	Benin		28.7
54	Saudi Arabia		45.2	123	Mozambique		28.5
55	Brunei Darussalam		44.7	124	Gambia		28.2
56	Mexico		44.7	125	Malawi		28
57	Italy		44.4	126	Lesotho		27.6
58	Bulgaria		44.2	127	Bolivia (Plurinational State of)		27.6
59	Jordan		44.2	128	Belize		27.6
60	Morocco		44.2	129	Togo		27.3
61	Croatia		44.1	130	Ethiopia		27.2
62	Philippines		43.2	131	Myanmar		26.6
63	Georgia		43	132	Mauritania		25.8
64	Kuwait		42.8	133	Mali		25.6
65	North Macedonia		42.5	134	Zimbabwe		24.5
66	Egypt		41.8	135	Burundi		22.8
67	South Africa		41.5	136	Angola		18.8
68	Armenia		41.3	137	Venezuela (Bolivarian Republic of)		18.7
69	Lebanon		41.2	138	Chad		15.3





# GENERAL ENABLING ENVIRONMENT

Rank	Country	World average: 59.9	Value
1	Norway		89.3
2	Switzerland		86.6
3	Sweden		85.4
4	Luxembourg		84
5	Iceland		84
6	Denmark		83.9
7	Finland		83.8
8	Ireland		83.3
9	New Zealand		83.3
10	Singapore		81.3
11	Netherlands		80.9
12	Austria		80.9
13	Portugal		79.2
14	Germany		78.9
15	Australia		78.7
16	Canada		78.4
17	Hong Kong, China (SAR)		78.1
18	Japan		77.5
19	United Kingdom		77.5
20	Belgium		77.2
21	Estonia		76.6
22	France		75.9
23	Slovenia		75.2
24	Spain		74.9
25	Czechia		74.8
26	Lithuania		74.2
27	United Arab Emirates		73.9
28	Latvia		73.8
29	Uruguay		73.8
30	Cyprus		73.6
31	United States		73.5
32	Malta		73
33	Costa Rica		72
34	Italy		71.9
35	Israel		71.8
36	Chile		70.6
37	Qatar		70.4
38	Poland		69.5
39	Korea (Republic of)		69.5
40	Croatia		69.4
41	Slovakia		69.3
42	Hungary		68.3
43	Brunei Darussalam		67.9
44	Bulgaria		66.9
45	Mauritius		66.7
46	Malaysia		66.7
47	Barbados		66.7
48	Greece		66.6
49	Romania		66
50	Panama		65.2
51	Serbia		63.6
52	Peru		63.2
53	Albania		62.6
54	Cabo Verde		62.4
55	Georgia		62.3
56	Belarus		62.2
57	Oman		62.2
58	Thailand		61.8
59	North Macedonia		61.4
60	Kazakhstan		61.2
61	Mexico		61.1
62	Kuwait		60.7
63	Viet Nam		60.5
64	Sri Lanka		60.2
65	Seychelles		59.7
66	Namibia		59.5
67	Mongolia		59.4
68	Armenia		59.2
69	Ecuador		59.2

Rank	Country	World average: 59.9	Value
70	Bahrain		59.1
71	Dominican Republic		58.7
72	Botswana		58.6
73	Rwanda		58.3
74	Bhutan		58.3
75	El Salvador		58.2
76	Paraguay		58.1
77	Colombia		58
78	Russian Federation		57.7
79	Moldova (Republic of)		57.6
80	Saudi Arabia		57.6
81	China		57.6
82	Indonesia		57.1
83	Brazil		57.1
84	Azerbaijan		56.8
85	Philippines		56.3
86	South Africa		55.3
87	Jordan		54.7
88	Bolivia (Plurinational State of)		54.2
89	Bosnia and Herzegovina		54.1
90	Belize		53.7
91	Turkey		53.4
92	Egypt		53.4
93	Honduras		53.4
94	Ukraine		53.3
95	Guatemala		53
96	Kyrgyzstan		53
97	Ghana		52.2
98	Cambodia		51.8
99	Lao People's Democratic Republic		51.6
100	Guyana		51.6
101	Madagascar		51.5
102	Kenya		51.4
103	Tunisia		50.9
104	Morocco		50
105	Venezuela (Bolivarian Republic of)		50
106	Nepal		49.5
107	Tajikistan		49.4
108	Malawi		49.4
109	Tanzania (United Republic of)		49.2
110	Senegal		49.2
111	Lebanon		48.2
112	Uganda		47.6
113	India		47.5
114	Algeria		46.5
115	Bangladesh		46.4
116	Ethiopia		44.6
117	Myanmar		44
118	Gambia		44
119	Iran (Islamic Republic of)		43.8
120	Zimbabwe		43.4
121	Angola		43.1
122	Burundi		43
123	Eswatini (Kingdom of)		42.2
124	Benin		41.8
125	Cameroon		41.2
126	Mozambique		39.4
127	Togo		39.1
128	Pakistan		38.5
129	Mauritania		37.8
130	Syrian Arab Republic		35.5
131	Côte d'Ivoire		35.3
132	Burkina Faso		34.8
133	Lesotho		34.7
134	Congo (Democratic Republic of the)		34.5
135	Niger		33.1
136	Mali		32.9
137	Guinea		31.7
138	Chad		29.7



# COUNTRY PROFILES



## A

Albania  
Algeria  
Angola  
Armenia  
Australia  
Austria  
Azerbaijan

## B

Bahrain  
Bangladesh  
Barbados  
Belarus  
Belgium  
Belize  
Benin  
Bhutan  
Bolivia (Plurinational State of)  
Bosnia and Herzegovina  
Botswana  
Brazil  
Brunei Darussalam  
Bulgaria  
Burkina Faso  
Burundi

## C

Cabo Verde  
Cambodia  
Cameroon  
Canada  
Chad  
Chile  
China  
Colombia  
Congo (Democratic Republic of the)  
Costa Rica  
Croatia  
Cyprus  
Czechia  
Côte d'Ivoire

## D

Denmark  
Dominican Republic

## E

Ecuador  
Egypt  
El Salvador  
Estonia  
Eswatini (Kingdom of)  
Ethiopia

## F

Finland  
France

## G

Gambia  
Georgia  
Germany  
Ghana  
Greece  
Guatemala  
Guinea  
Guyana

## H

Honduras  
Hong Kong, China (SAR)  
Hungary

## I

Iceland  
India  
Indonesia  
Iran (Islamic Republic of)  
Ireland  
Israel  
Italy

## J

Japan  
Jordan



## K

Kazakhstan  
Kenya  
Korea (Republic of)  
Kuwait  
Kyrgyzstan

## L

Lao People's Democratic Republic  
Latvia  
Lebanon  
Lesotho  
Lithuania  
Luxembourg

## M

Madagascar  
Malawi  
Malaysia  
Mali  
Malta  
Mauritania  
Mauritius  
Mexico  
Moldova (Republic of)  
Mongolia  
Morocco  
Mozambique  
Myanmar

## N

Namibia  
Nepal  
Netherlands  
New Zealand  
Niger  
North Macedonia  
Norway

## O

Oman

## P

Pakistan  
Panama  
Paraguay  
Peru  
Philippines

Poland  
Portugal

## Q

Qatar

## R

Romania  
Russian Federation  
Rwanda

## S

Saudi Arabia  
Senegal  
Serbia  
Seychelles  
Singapore  
Slovakia  
Slovenia  
South Africa  
Spain  
Sri Lanka  
Sweden  
Switzerland  
Syrian Arab Republic

## T

Tajikistan  
Tanzania (United Republic of)  
Thailand  
Togo  
Tunisia  
Turkey

## U

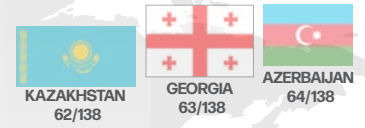
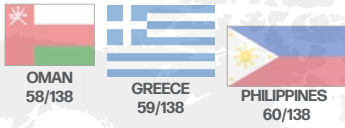
Uganda  
Ukraine  
United Arab Emirates  
United Kingdom  
United States  
Uruguay

## V

Venezuela (Bolivarian Republic of)  
Viet Nam

## Z

Zimbabwe



# ALBANIA

**15.278** GDP US\$ billions | **2,877,800** Population | **0.791** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Albania is a moderate performer in terms of its knowledge infrastructure. It ranks 61<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 9<sup>th</sup> out of the 36 countries with high human development.

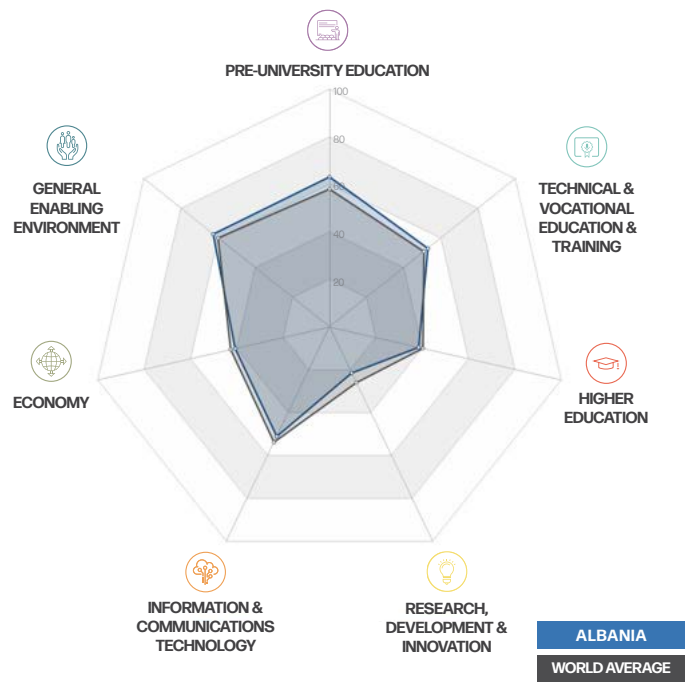
### + AREAS OF STRENGTH

- + Restrictive labour regulations
- + Business impact of rules on FDI
- + Printing and publishing manufactures (% of manufactured output)
- + FDI, net inflows (% of GDP)
- + Prevalence of non-tariff barriers

### - AREAS OF IMPROVEMENT

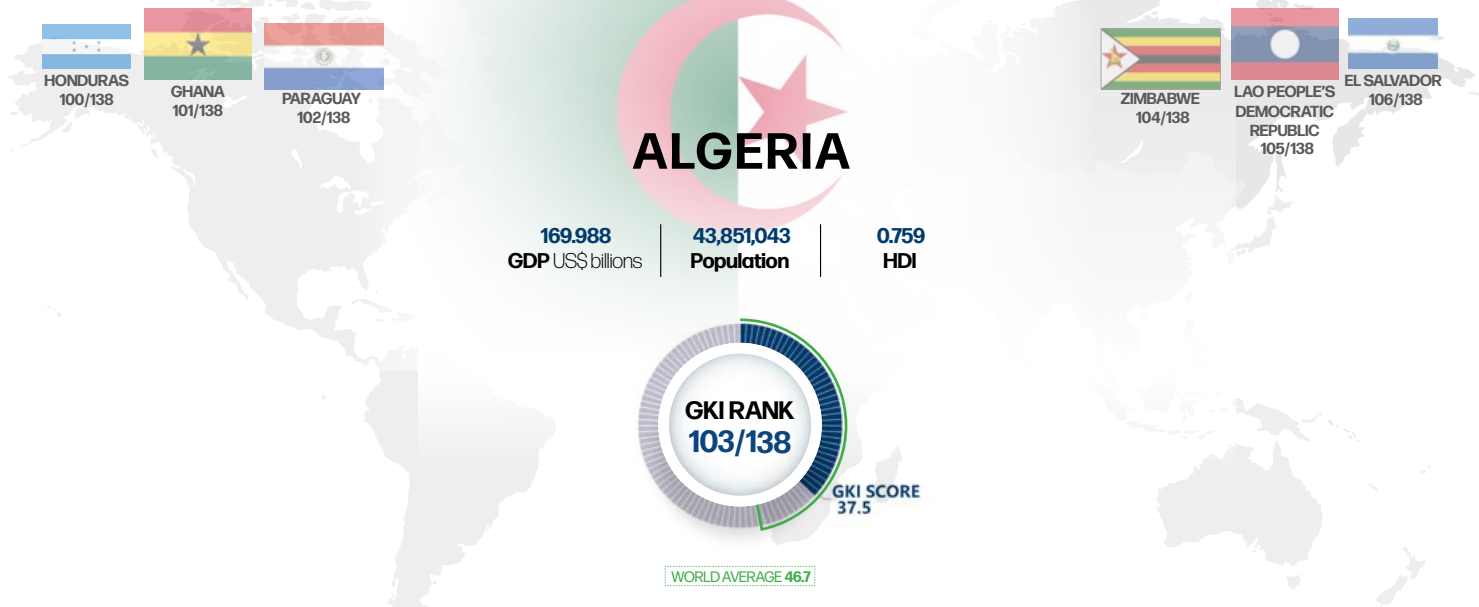
- Judicial independence
- Best scientific journal (SJR ranking)
- High-technology net imports (% of total trade)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	58	63.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	51	53	
	HIGHER EDUCATION	77	38.5	
	RESEARCH, DEVELOPMENT & INNOVATION	63	21.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	78	51.1	
	ECONOMY	74	40.7	
	GENERAL ENABLING ENVIRONMENT	53	62.6	



### COUNTRY PERFORMANCE SUMMARY

Algeria is a modest performer in terms of its knowledge infrastructure. It ranks 103<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 34<sup>th</sup> out of the 36 countries with high human development.

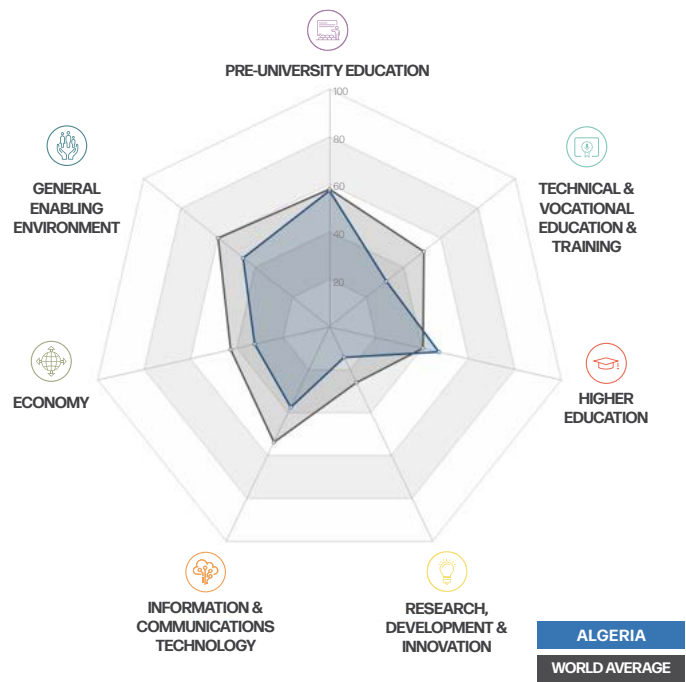
#### + AREAS OF STRENGTH

- + Gross graduation ratio, primary (%)
- + Gross fixed capital formation (% of GDP)
- + Researchers in higher education (%)
- + Manufacturing, value added (% of GDP)
- + Creative services exports (% of total trade in services)

#### - AREAS OF IMPROVEMENT

- Assessment of 15-year-old students
- Total computer software spending (% of GDP)
- Labour force participation rate, female-to-male ratio
- Researchers (HC) in business enterprise (%)
- Ease of protecting minority investors

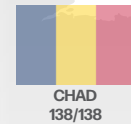
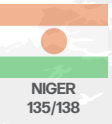
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



### SECTORAL INDICES

Image	Index	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	82	57.3	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	133	30.7	
	HIGHER EDUCATION	37	47.2	
	RESEARCH, DEVELOPMENT & INNOVATION	114	14.2	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	106	37.5	
	ECONOMY	112	32.3	
	GENERAL ENABLING ENVIRONMENT	114	46.5	





# ANGOLA

**94.635** GDP US\$ billions | **32,866,268** Population | **0.574** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Angola is a weak performer in terms of its knowledge infrastructure. It ranks 137<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 24<sup>th</sup> out of the 24 countries with medium human development.

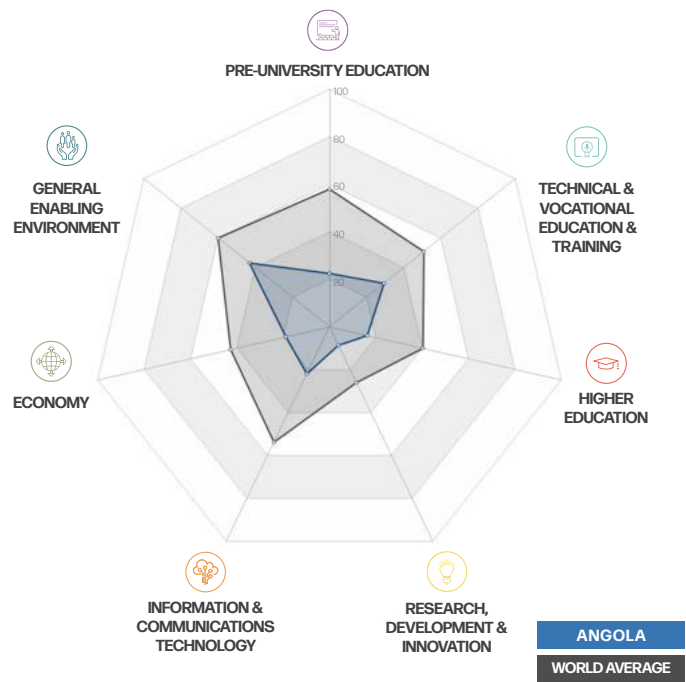
### + AREAS OF STRENGTH

- + Labour force participation rate, female-to-male ratio
- + Restrictive labour regulations
- + Printing and publishing manufactures (% of manufactured output)
- + Gross enrolment ratio, primary (%)
- + Youth not in employment, education or training (NEET) (%)

### - AREAS OF IMPROVEMENT

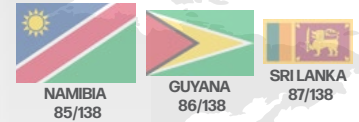
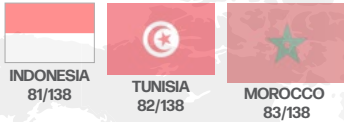
- Availability of research and training services
- Ease of finding skilled employees
- Enrolment in tertiary education, ISCED 6 (%)
- Quality of research institutions
- Laws relating to ICTs

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	134	22.5
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	134	29.4
HIGHER EDUCATION	137	16.3
RESEARCH, DEVELOPMENT & INNOVATION	135	8.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	132	21.9
ECONOMY	136	18.8
GENERAL ENABLING ENVIRONMENT	121	43.1



# ARMENIA

**13.673** GDP US\$ billions | **2,963,234** Population | **0.76** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Armenia is a modest performer in terms of its knowledge infrastructure. It ranks 84<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 25<sup>th</sup> out of the 36 countries with high human development.

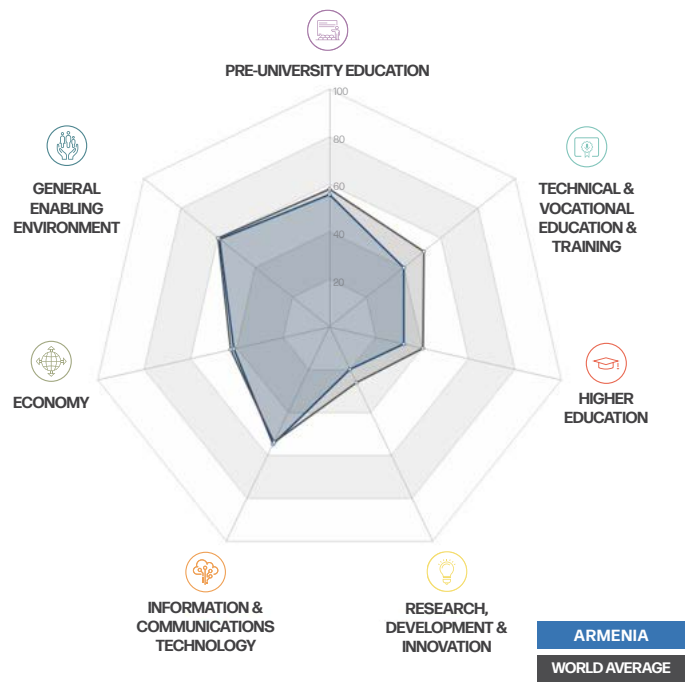
### + AREAS OF STRENGTH

- + Restrictive labour regulations
- + Pupil-teacher ratio, tertiary (HC)
- + Adult literacy rate (%)
- + Graduates, ISCED 8 (%)
- + Trademark applications (per billion PPP\$ GDP)

### - AREAS OF IMPROVEMENT

- Government expenditure, primary (% of GDP)
- Unemployment with advanced education (%)
- Intellectual property receipts (% of total trade)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	87	55.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	121	40	
	HIGHER EDUCATION	100	32.1	
	RESEARCH, DEVELOPMENT & INNOVATION	76	19.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	69	54.7	
	ECONOMY	68	41.3	
	GENERAL ENABLING ENVIRONMENT	68	59.2	

FRANCE  
20/138

ISRAEL  
21/138

NEW ZEALAND  
22/138

CANADA  
24/138

ESTONIA  
25/138

PORTUGAL  
26/138

# AUSTRALIA

**1,392,681** GDP US\$ billions | **25,499,881** Population | **0.938** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Australia is a leading performer in terms of its knowledge infrastructure. It ranks 23<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 23<sup>rd</sup> out of the 56 countries with very high human development.

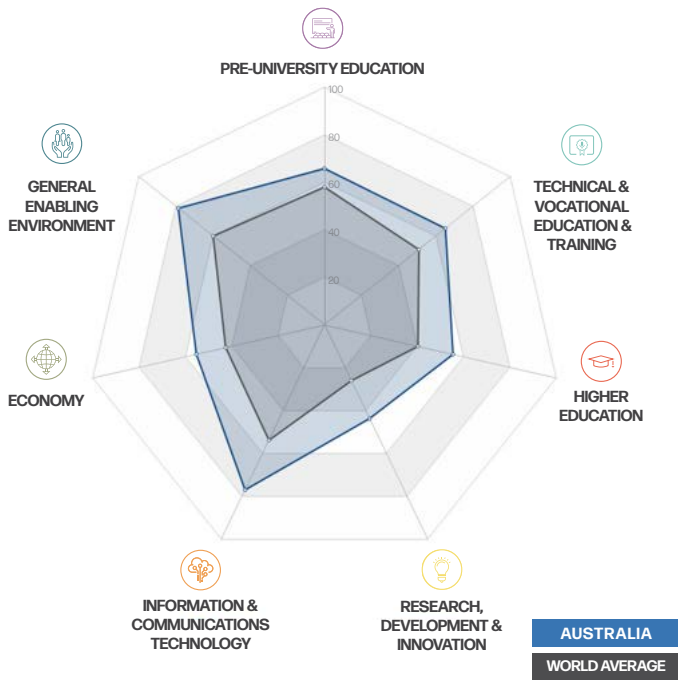
### + AREAS OF STRENGTH

- + Regulatory quality
- + Gross enrolment ratio, upper secondary (%)
- + Inbound mobility rate (%)
- + Ease of starting a business
- + Soundness of banks

### - AREAS OF IMPROVEMENT

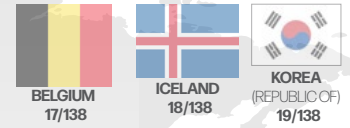
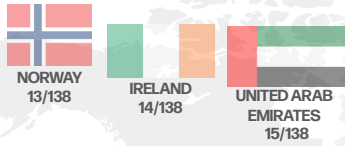
- Trade (% of GDP)
- Poor work ethic in the labour force
- Restrictive labour regulations
- Manufacturing, value added (% of GDP)
- Total CO2 emissions per capita

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	46	65.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	15	65.1	
	HIGHER EDUCATION	18	55.5	
	RESEARCH, DEVELOPMENT & INNOVATION	23	43.7	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	23	77	
	ECONOMY	26	55.3	
	GENERAL ENABLING ENVIRONMENT	15	78.7	



# AUSTRIA

**446.315** GDP US\$ billions | **9,006,400** Population | **0.914** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Austria is a leading performer in terms of its knowledge infrastructure. It ranks 16<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 16<sup>th</sup> out of the 56 countries with very high human development.

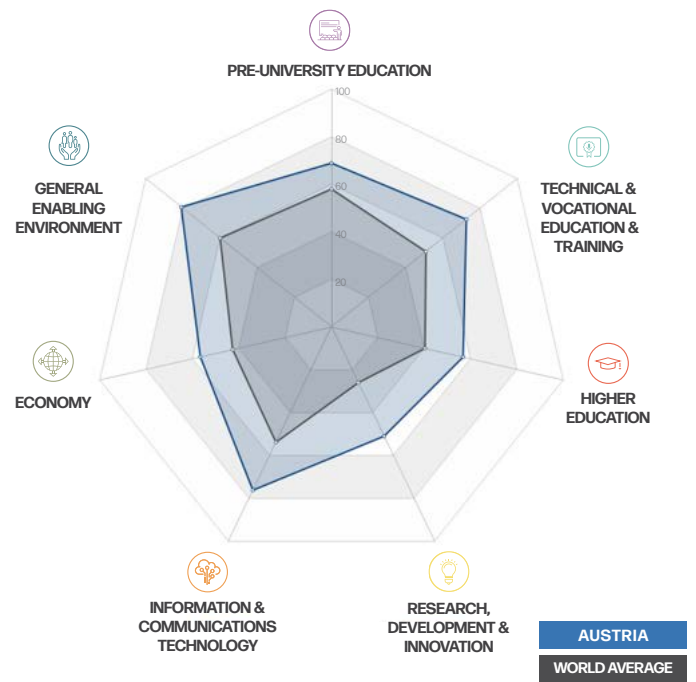
### + AREAS OF STRENGTH

- + Technicians per thousand labour force (HC)
- + Logistics Performance Index
- + Pupil-teacher ratio, tertiary (HC)
- + Survival rate, last grade of lower secondary (%)
- + Out-of-school children (%)

### - AREAS OF IMPROVEMENT

- Government expenditure, primary (% of GDP)
- Total tax and contribution rate (% of profit)
- Investment in telecom services (% of GDP)
- Enrolment in tertiary education, ISCED 6 (%)
- Restrictive labour regulations

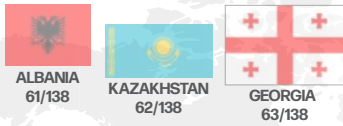
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value
	PRE-UNIVERSITY EDUCATION	36	68.9
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	7	72.6
	HIGHER EDUCATION	11	56.8
	RESEARCH, DEVELOPMENT & INNOVATION	14	51
	INFORMATION & COMMUNICATIONS TECHNOLOGY	24	76.2
	ECONOMY	20	56.6
	GENERAL ENABLING ENVIRONMENT	12	80.9





# AZERBAIJAN

**48,048** GDP US\$ billions | **10,139,175** Population | **0.754** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Azerbaijan is a moderate performer in terms of its knowledge infrastructure. It ranks 64<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 11<sup>th</sup> out of the 36 countries with high human development.

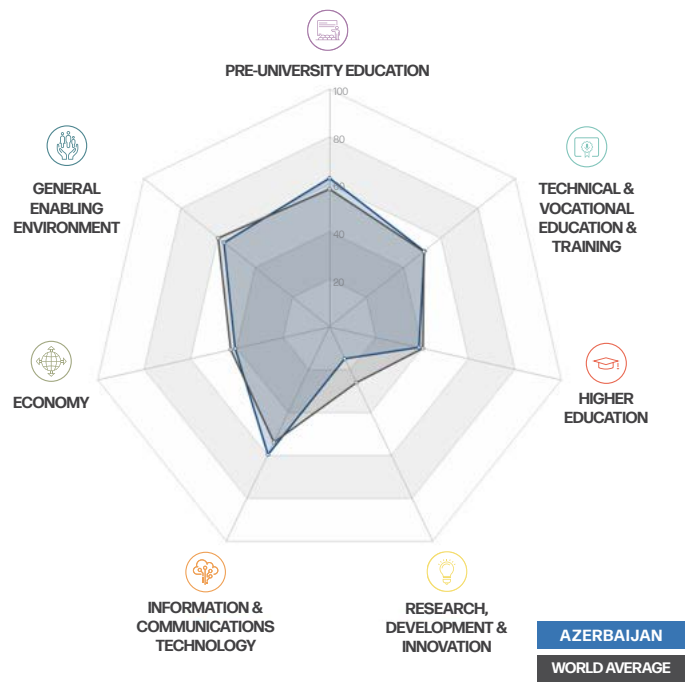
### + AREAS OF STRENGTH

- + Expenditure on educational institutions, all levels (%)
- + Gross graduation ratio, primary (%)
- + Ease of starting a business
- + Adult literacy rate (%)
- + Pupil-teacher ratio, secondary (HC)

### - AREAS OF IMPROVEMENT

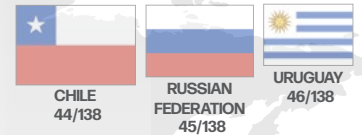
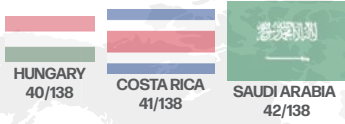
- Citations per document
- ICT goods exported (% of total exports)
- Manufacturing, value added (% of GDP)
- World Press Freedom Index
- Expenditure on non-tertiary vocational education (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	63	62.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	59	51.1	
	HIGHER EDUCATION	74	38.6	
	RESEARCH, DEVELOPMENT & INNOVATION	105	14.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	54	59.6	
	ECONOMY	73	40.7	
	GENERAL ENABLING ENVIRONMENT	84	56.8	



# BAHRAIN

**38.574** GDP US\$ billions | **1,701,583** Population | **0.838** HDI



## COUNTRY PERFORMANCE SUMMARY

Bahrain is a strong performer in terms of its knowledge infrastructure. It ranks 43<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 41<sup>st</sup> out of the 56 countries with very high human development.

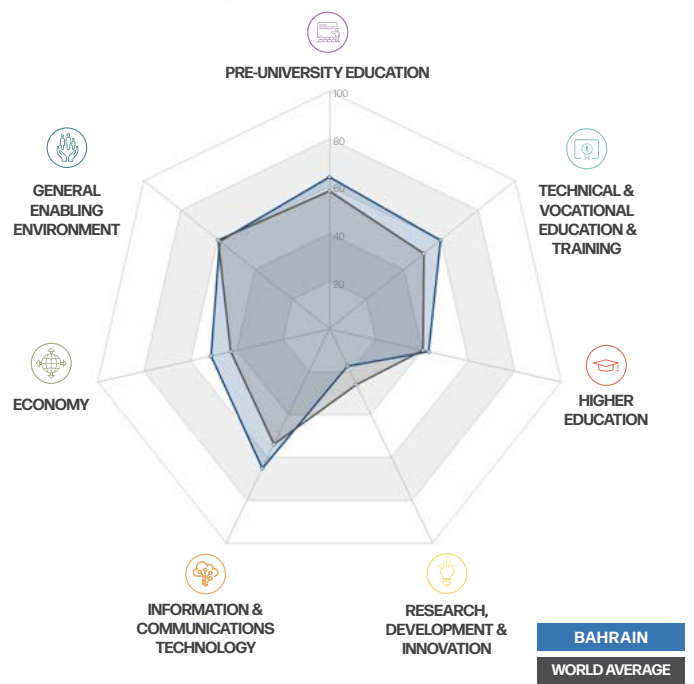
### + AREAS OF STRENGTH

- + Internet users (%)
- + Unemployment rate (%)
- + Joint venture per strategic alliance deals
- + Researchers in higher education (%)
- + Total tax and contribution rate (% of profit)

### - AREAS OF IMPROVEMENT

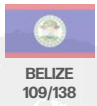
- Researchers (HC) in business enterprise (%)
- Best scientific journal (SJR ranking)
- Total CO2 emissions per capita
- National feature films produced (per million inhabitants)
- Renewable energy consumption (% of total final energy consumption)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	53	63.9
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	29	59.8
HIGHER EDUCATION	54	42.8
RESEARCH, DEVELOPMENT & INNOVATION	92	17.4
INFORMATION & COMMUNICATIONS TECHNOLOGY	39	65.1
ECONOMY	39	51.1
GENERAL ENABLING ENVIRONMENT	70	59.1



BELIZE  
109/138



NEPAL  
110/138



PAKISTAN  
111/138

# BANGLADESH



SENEGAL  
113/138



TAJIKISTAN  
114/138



VENEZUELA  
(BOLIVARIAN  
REPUBLIC OF)  
115/138

302.571  
GDP US\$ billions

164,689,383  
Population

0.614  
HDI



GKI SCORE  
35.9

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Bangladesh is a weak performer in terms of its knowledge infrastructure. It ranks 112<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 19<sup>th</sup> out of the 24 countries with medium human development.

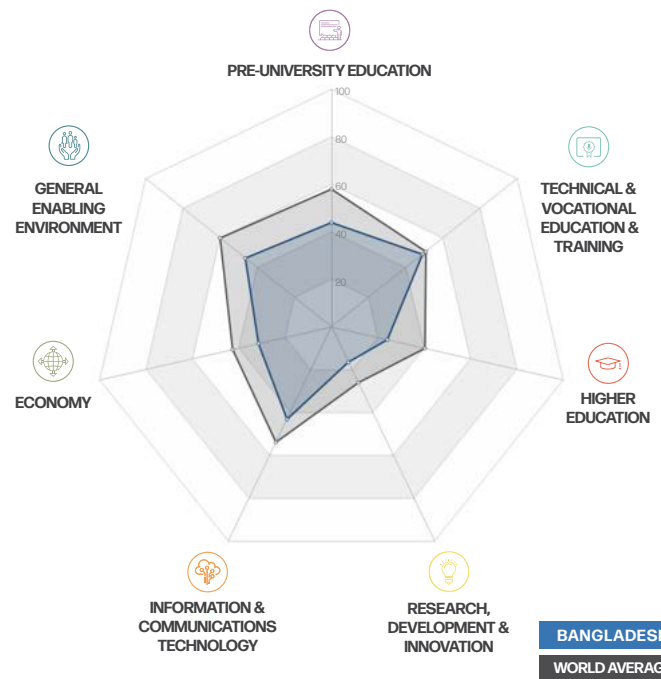
### + AREAS OF STRENGTH

- + Restrictive labour regulations
- + Gross enrolment ratio, primary (%)
- + Gross fixed capital formation (% of GDP)
- + Manufacturing, value added (% of GDP)
- + Total CO2 emissions per capita

### - AREAS OF IMPROVEMENT

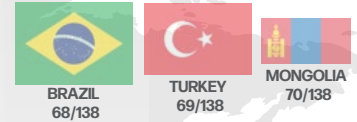
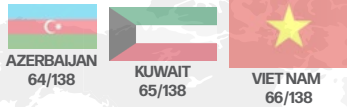
- Pupil-teacher ratio, secondary (HC)
- Printing and publishing manufactures (% of manufactured output)
- New business density
- Enrolment in globally-ranked universities (% of tertiary students)
- Ease of enforcing a contract

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	117	43.9
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	69	49
HIGHER EDUCATION	129	24.1
RESEARCH, DEVELOPMENT & INNOVATION	96	16.4
INFORMATION & COMMUNICATIONS TECHNOLOGY	97	43.1
ECONOMY	114	31.5
GENERAL ENABLING ENVIRONMENT	115	46.4



# BARBADOS

**5.209** GDP US\$ billions | **287,371** Population | **0.813** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Barbados is a moderate performer in terms of its knowledge infrastructure. It ranks 67<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 55<sup>th</sup> out of the 56 countries with very high human development.

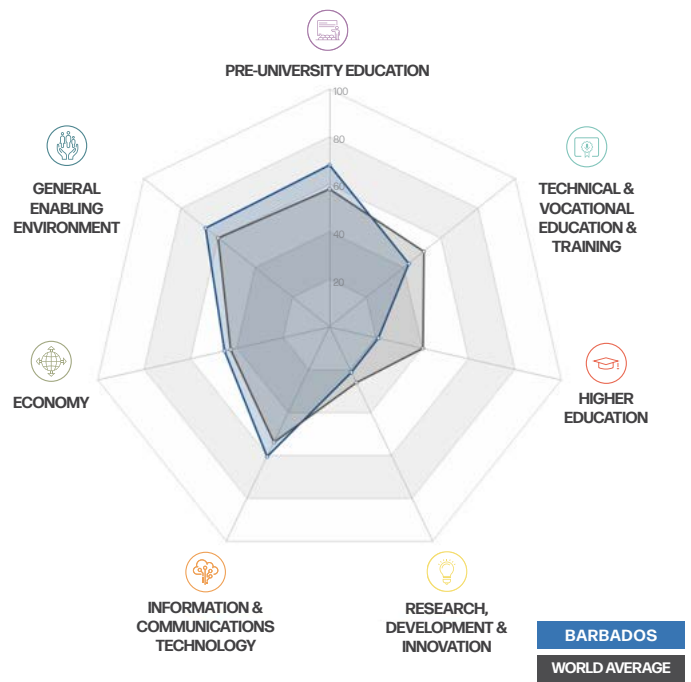
### + AREAS OF STRENGTH

- + ICT PCT patent applications (per million inhabitants)
- + Fixed-telephone subscriptions (per 100 inhabitants)
- + Government expenditure, tertiary (% of GDP)
- + Bank deposits to GDP (%)
- + International Internet bandwidth per Internet user (Kbit/s)

### - AREAS OF IMPROVEMENT

- Venture capital availability
- Trademark applications (per billion PPP\$ GDP)
- Poor work ethic in the labour force
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

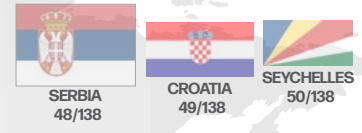
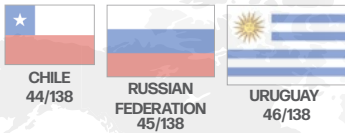
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

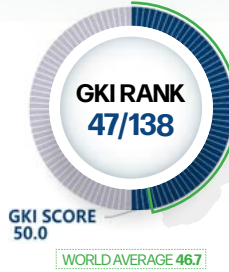
Category	Rank	Value
PRE-UNIVERSITY EDUCATION	39	68.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	113	42.7
HIGHER EDUCATION	135	21.1
RESEARCH, DEVELOPMENT & INNOVATION	67	21.2
INFORMATION & COMMUNICATIONS TECHNOLOGY	51	60.5
ECONOMY	53	45.3
GENERAL ENABLING ENVIRONMENT	47	66.7





# BELARUS

**63.08** GDP US\$ billions | **9,449,321** Population | **0.817** HDI



## COUNTRY PERFORMANCE SUMMARY

Belarus is a strong performer in terms of its knowledge infrastructure. It ranks 47<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 45<sup>th</sup> out of the 56 countries with very high human development.

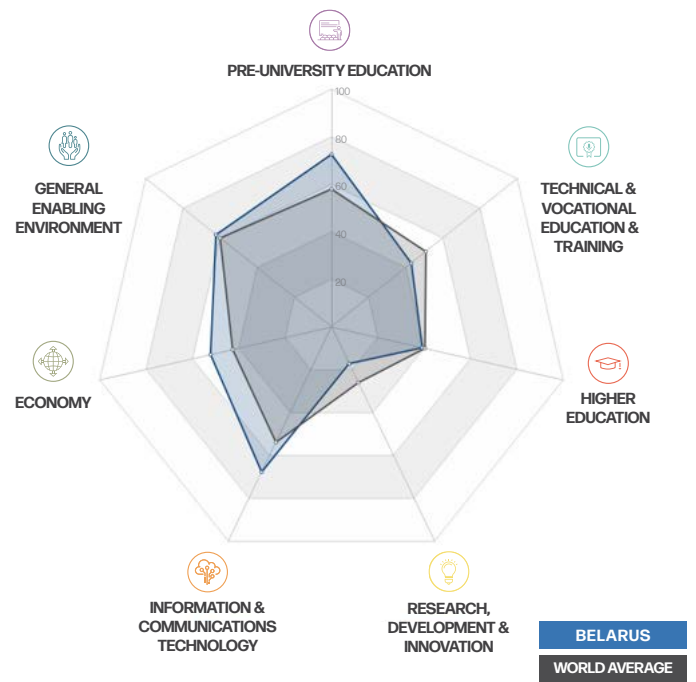
### + AREAS OF STRENGTH

- + Labour force with advanced education (%)
- + Investment in telecom services (% of GDP)
- + Graduates, ISCED 6 (%)
- + Researchers (HC) in business enterprise (%)
- + Adult literacy rate (%)

### - AREAS OF IMPROVEMENT

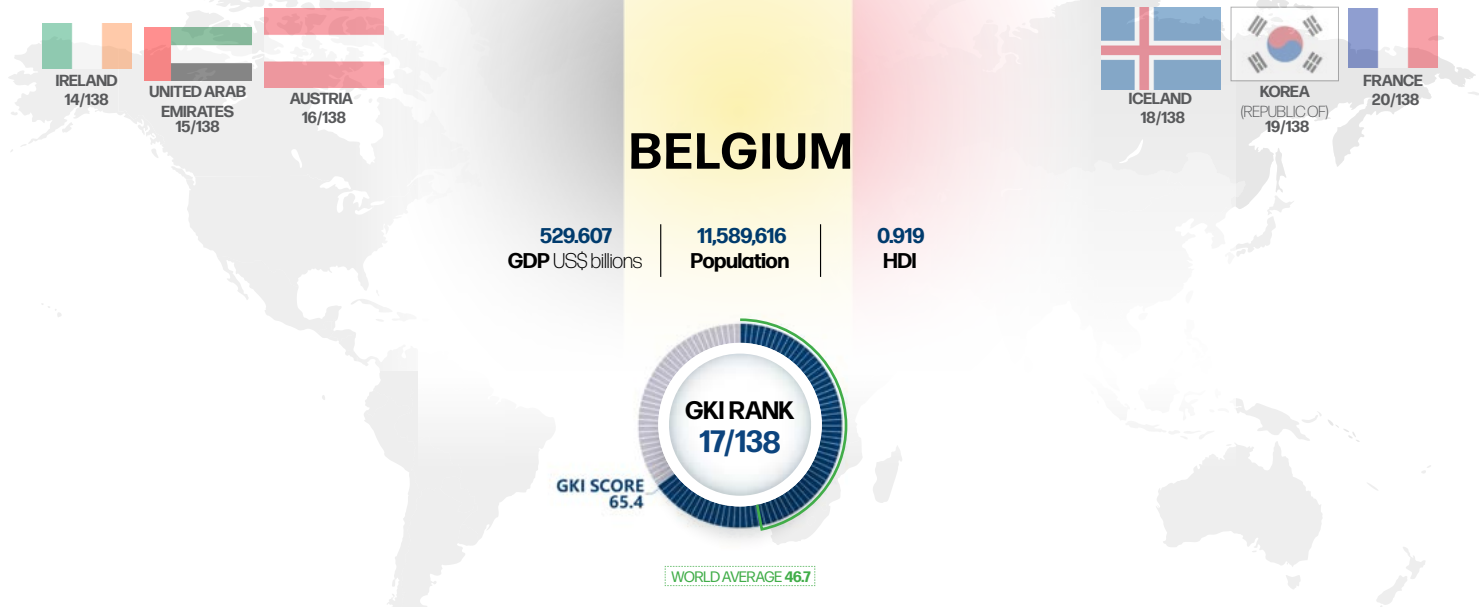
- Enrolment in tertiary education, ISCED 7 (%)
- Printing and publishing manufactures (% of manufactured output)
- Unlicensed software installation rates
- National feature films produced (per million inhabitants)
- Researchers in higher education (%)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	21	72.6
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	110	43
HIGHER EDUCATION	68	39.2
RESEARCH, DEVELOPMENT & INNOVATION	95	17.1
INFORMATION & COMMUNICATIONS TECHNOLOGY	32	67.7
ECONOMY	33	52.2
GENERAL ENABLING ENVIRONMENT	56	62.2



### COUNTRY PERFORMANCE SUMMARY

Belgium is a leading performer in terms of its knowledge infrastructure. It ranks 17<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 17<sup>th</sup> out of the 56 countries with very high human development.

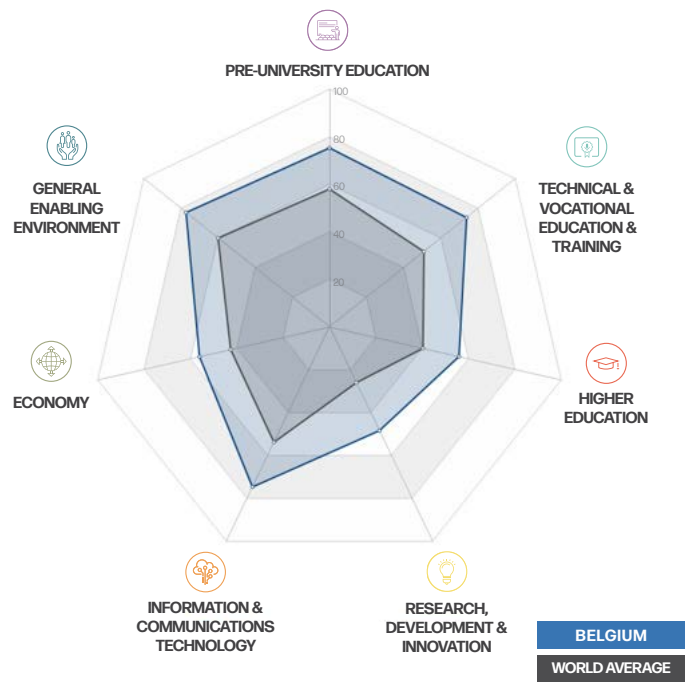
#### + AREAS OF STRENGTH

- + Logistics Performance Index
- + Enrolment in vocational programmes, secondary (%)
- + Gross enrolment ratio, upper secondary (%)
- + Expenditure on non-tertiary vocational education (%)
- + Production process sophistication

#### - AREAS OF IMPROVEMENT

- Total CO2 emissions per capita
- Restrictive labour regulations
- Total tax and contribution rate (% of profit)
- ICT goods imported (% of total imports)
- FDI, net inflows (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



### SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	13	75.3	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	5	73.8	
	HIGHER EDUCATION	17	55.9	
	RESEARCH, DEVELOPMENT & INNOVATION	16	48.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	26	74.7	
	ECONOMY	23	56.1	
	GENERAL ENABLING ENVIRONMENT	20	77.2	



**1.88** GDP US\$ billions | **397,621** Population | **0.72** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Belize is a modest performer in terms of its knowledge infrastructure. It ranks 109<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 35<sup>th</sup> out of the 36 countries with high human development.

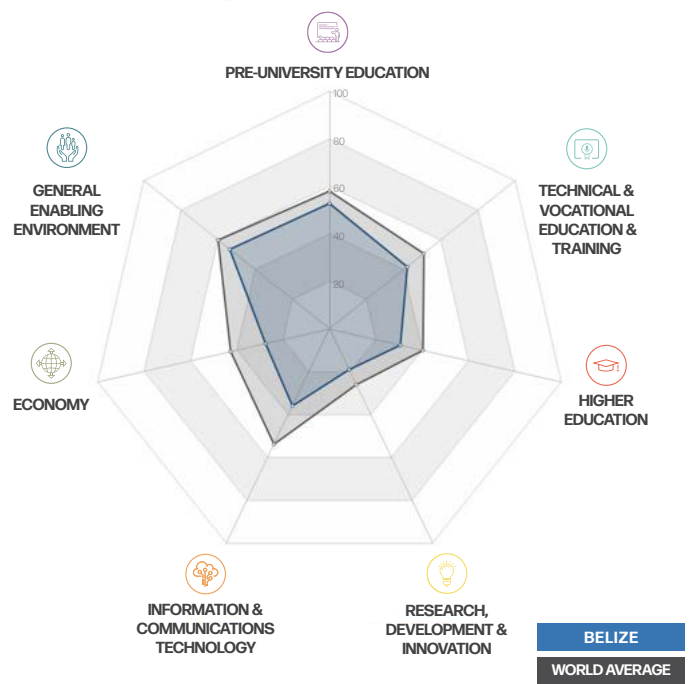
### + AREAS OF STRENGTH

- + Citations per document
- + Government expenditure, secondary (% of GDP)
- + Government expenditure, primary (% of GDP)
- + Restrictive labour regulations
- + Secure Internet servers (per million inhabitants)

### - AREAS OF IMPROVEMENT

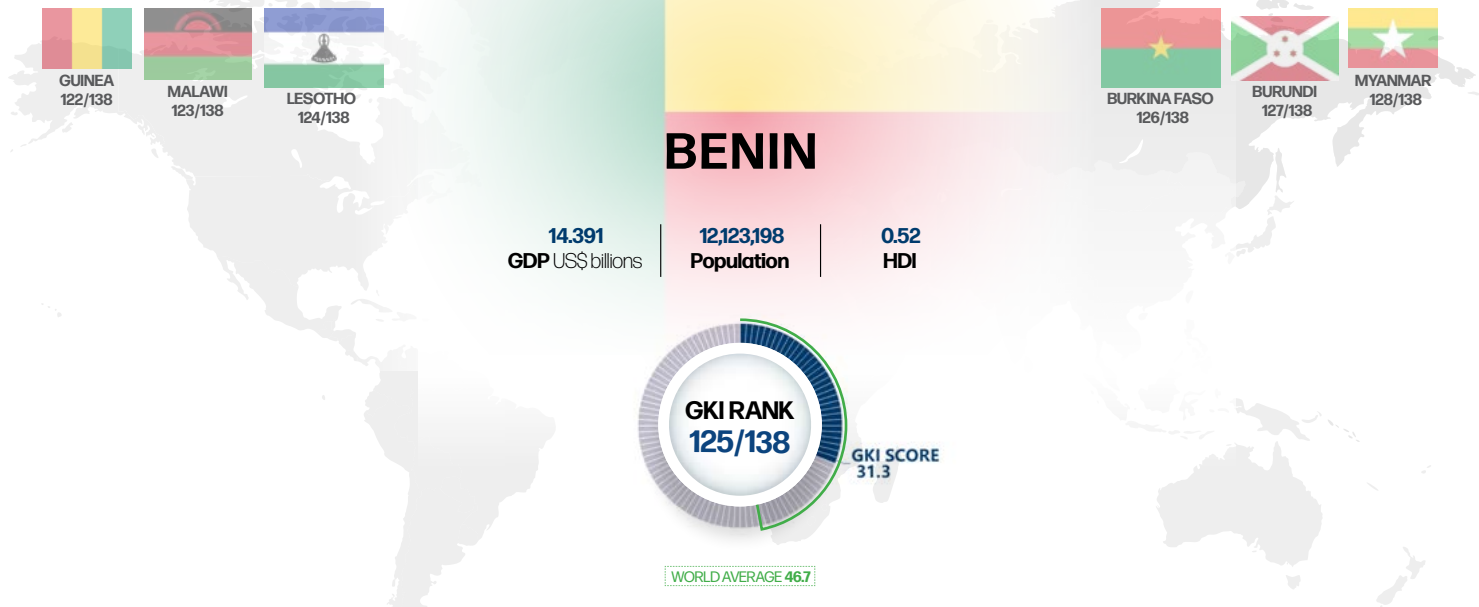
- Teachers with the minimum required qualifications, primary (%)
- Enrolment in tertiary education, ISCED 7 (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- High-technology net exports (% of total trade)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	96	52.8
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	117	41.9
HIGHER EDUCATION	111	30.6
RESEARCH, DEVELOPMENT & INNOVATION	83	19
INFORMATION & COMMUNICATIONS TECHNOLOGY	112	35.9
ECONOMY	128	27.6
GENERAL ENABLING ENVIRONMENT	90	53.7



# BENIN

**14.391** GDP US\$ billions | **12,123,198** Population | **0.52** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Benin is a weak performer in terms of its knowledge infrastructure. It ranks 125<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 11<sup>th</sup> out of the 22 countries with low human development.

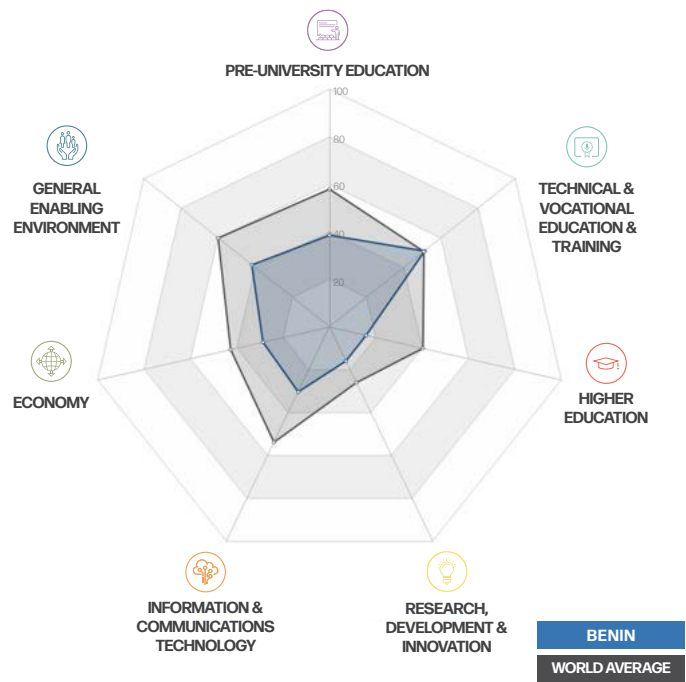
### + AREAS OF STRENGTH

- + Labour force participation rate, female-to-male ratio
- + Gross enrolment ratio, primary (%)
- + Investment in telecom services (% of GDP)
- + Restrictive labour regulations
- + Unemployment rate (%)

### - AREAS OF IMPROVEMENT

- Grade 1 entrants with ECE (%)
- Pupil-teacher ratio, tertiary (HC)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

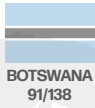
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Icon	Sector	RANK	VALUE
	PRE-UNIVERSITY EDUCATION	125	38.6
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	58	51.2
	HIGHER EDUCATION	138	15.8
	RESEARCH, DEVELOPMENT & INNOVATION	99	15.9
	INFORMATION & COMMUNICATIONS TECHNOLOGY	122	30.3
	ECONOMY	122	28.7
	GENERAL ENABLING ENVIRONMENT	124	41.8





# BHUTAN

2.447 GDP US\$ billions | 771,612 Population | 0.617 HDI



## COUNTRY PERFORMANCE SUMMARY

Bhutan is a modest performer in terms of its knowledge infrastructure. It ranks 94<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 9<sup>th</sup> out of the 24 countries with medium human development.

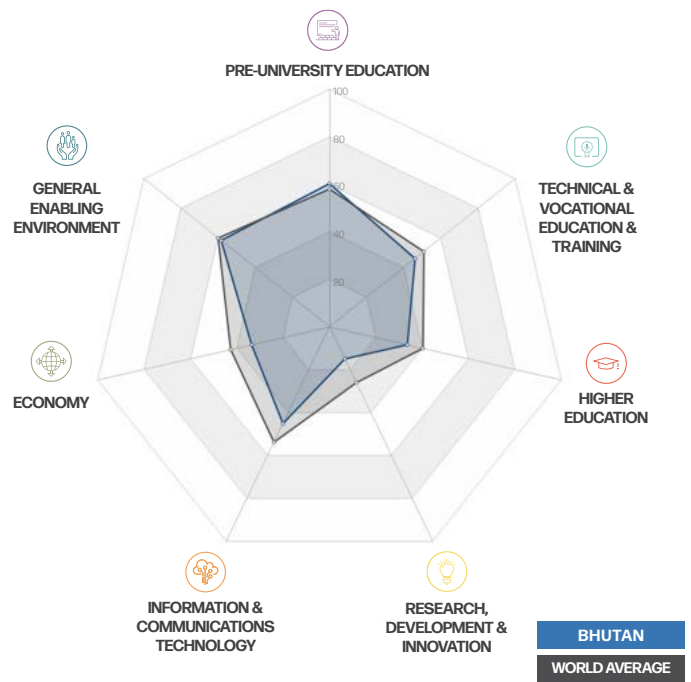
### + AREAS OF STRENGTH

- + Gross fixed capital formation (% of GDP)
- + Government expenditure, secondary (% of GDP)
- + National feature films produced (per million inhabitants)
- + Renewable energy consumption (% of total final energy consumption)
- + ICT goods exported (% of total exports)

### - AREAS OF IMPROVEMENT

- Expenditure on non-tertiary vocational education (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Patent applications (per million inhabitants)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	69	60.3
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	93	46.1
HIGHER EDUCATION	95	33.6
RESEARCH, DEVELOPMENT & INNOVATION	104	14.9
INFORMATION & COMMUNICATIONS TECHNOLOGY	93	45.1
ECONOMY	105	33.6
GENERAL ENABLING ENVIRONMENT	74	58.3



# BOLIVIA

(PLURINATIONAL STATE OF)

**40.895** GDP US\$ billions | **11,673,029** Population | **0.703** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Bolivia (Plurinational State of) is a modest performer in terms of its knowledge infrastructure. It ranks 98<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 32<sup>nd</sup> out of the 36 countries with high human development.

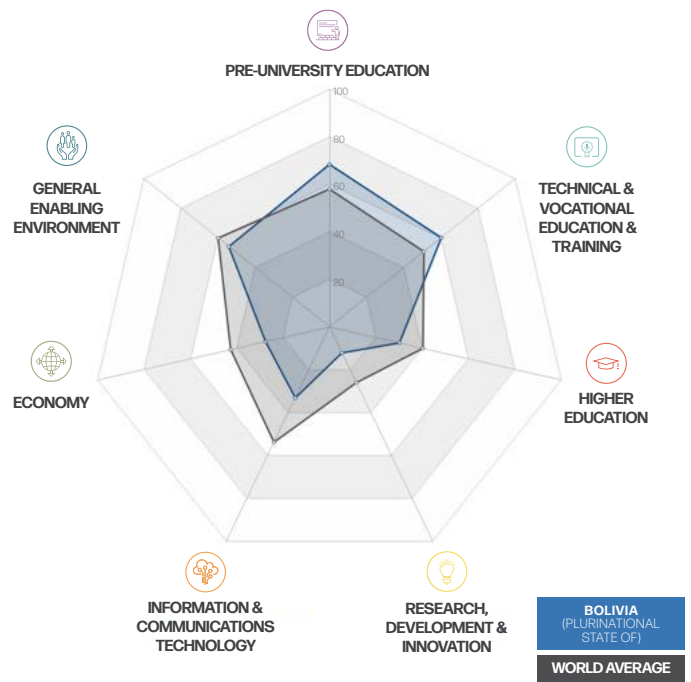
### + AREAS OF STRENGTH

- + Enrolment in vocational programmes, secondary (%)
- + Women-to-men ratio in parliament (%)
- + Government expenditure, tertiary (% of GDP)
- + Citations per document
- + Poor work ethic in the labour force

### - AREAS OF IMPROVEMENT

- Enrolment in tertiary education, ISCED 8 (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Government success in ICT promotion
- Total tax and contribution rate (% of profit)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	38	68.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	26	60.2	
	HIGHER EDUCATION	113	30.2	
	RESEARCH, DEVELOPMENT & INNOVATION	123	12.1	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	117	33.1	
	ECONOMY	127	27.6	
	GENERAL ENABLING ENVIRONMENT	88	54.2	





# BOSNIA AND HERZEGOVINA

**20,048** GDP US\$ billions | **3,280,815** Population | **0.769** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Bosnia and Herzegovina is a modest performer in terms of its knowledge infrastructure. It ranks 95<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 30<sup>th</sup> out of the 36 countries with high human development.

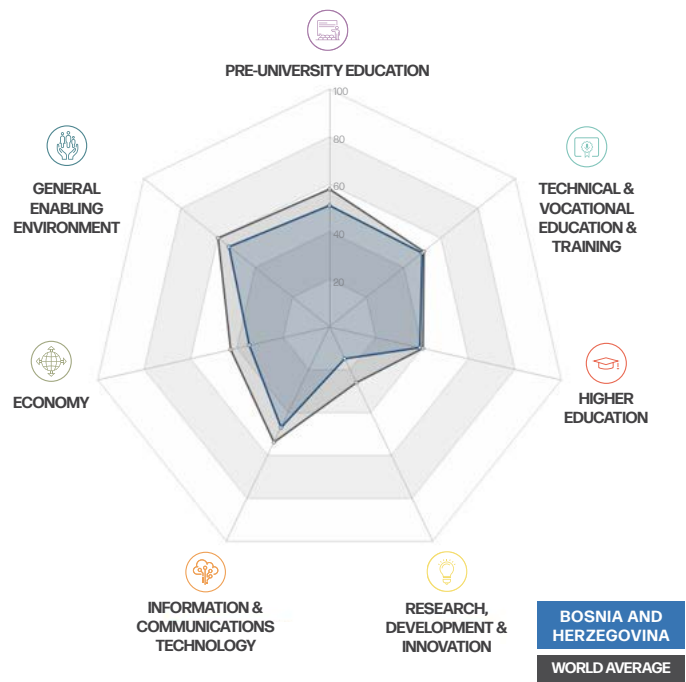
### + AREAS OF STRENGTH

- + Government expenditure, secondary (% of GDP)
- + Enrolment in vocational programmes, secondary (%)
- + Average documents per researcher
- + Graduates, ISCED 8 (%)
- + Pupil-teacher ratio, tertiary (HC)

### - AREAS OF IMPROVEMENT

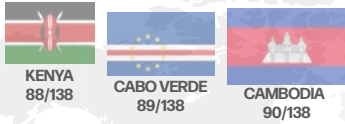
- Unemployment rate (%)
- Citations per document
- Ease of starting a business
- Government success in ICT promotion
- Enrolment in globally-ranked universities (% of tertiary students)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	102	51.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	64	49.9
HIGHER EDUCATION	69	39
RESEARCH, DEVELOPMENT & INNOVATION	106	14.8
INFORMATION & COMMUNICATIONS TECHNOLOGY	87	46.9
ECONOMY	97	34.6
GENERAL ENABLING ENVIRONMENT	89	54.1



# BOTSWANA

**18.341** GDP US\$ billions | **2,351,625** Population | **0.728** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Botswana is a modest performer in terms of its knowledge infrastructure. It ranks 91<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 27<sup>th</sup> out of the 36 countries with high human development.

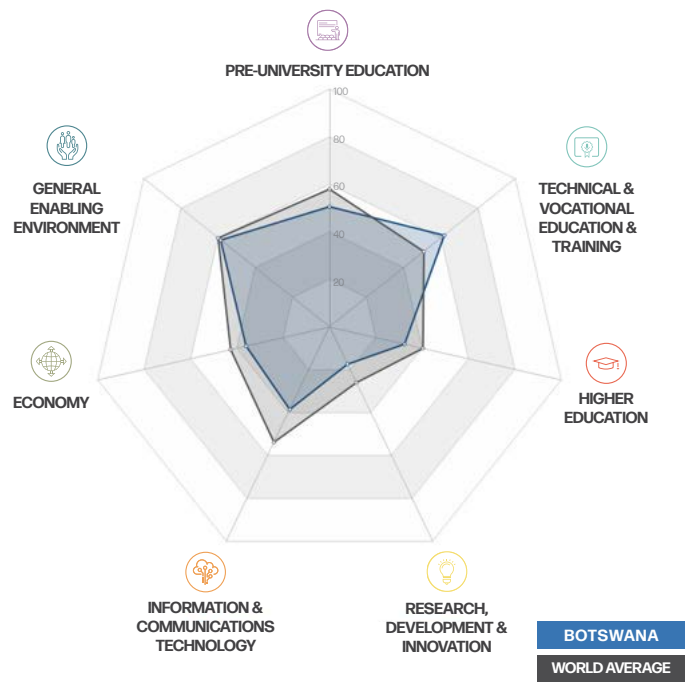
### + AREAS OF STRENGTH

- + New business density
- + Creative services exports (% of total trade in services)
- + Government expenditure, secondary (% of GDP)
- + GERD per researcher (constant '000 PPP\$)
- + Mobile-cellular subscriptions (per 100 inhabitants)

### - AREAS OF IMPROVEMENT

- Unemployment rate (%)
- Poor work ethic in the labour force
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	103	50.6
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	22	61.8
HIGHER EDUCATION	99	32.4
RESEARCH, DEVELOPMENT & INNOVATION	91	17.4
INFORMATION & COMMUNICATIONS TECHNOLOGY	104	38.5
ECONOMY	92	36
GENERAL ENABLING ENVIRONMENT	72	58.6



## COUNTRY PERFORMANCE SUMMARY

Brazil is a moderate performer in terms of its knowledge infrastructure. It ranks 68<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 12<sup>th</sup> out of the 36 countries with high human development.

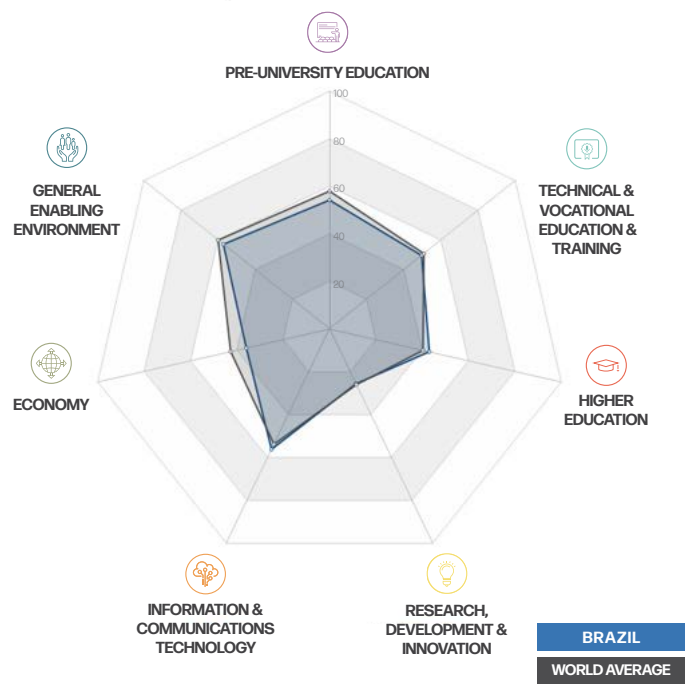
### + AREAS OF STRENGTH

- + Enrolment in tertiary education, ISCED 6 (%)
- + Creative services exports (% of total trade in services)
- + Gross enrolment ratio, primary (%)
- + Government expenditure, secondary (% of GDP)
- + Poor work ethic in the labour force

### - AREAS OF IMPROVEMENT

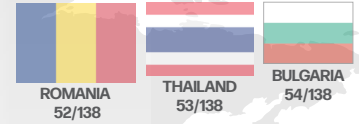
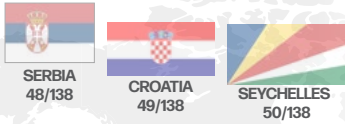
- Gross fixed capital formation (% of GDP)
- Total tax and contribution rate (% of profit)
- Prevalence of non-tariff barriers
- Enrolment in tertiary education, ISCED 7 (%)
- Trade (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	92	54.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	65	49.6	
	HIGHER EDUCATION	51	43.1	
	RESEARCH, DEVELOPMENT & INNOVATION	49	25.6	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	66	56.2	
	ECONOMY	93	35.9	
	GENERAL ENABLING ENVIRONMENT	83	57.1	



# BRUNEI DARUSSALAM

**13.469** GDP US\$ billions | **437,483** Population | **0.845** HDI



## COUNTRY PERFORMANCE SUMMARY

Brunei Darussalam is a strong performer in terms of its knowledge infrastructure. It ranks 51<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 48<sup>th</sup> out of the 56 countries with very high human development.

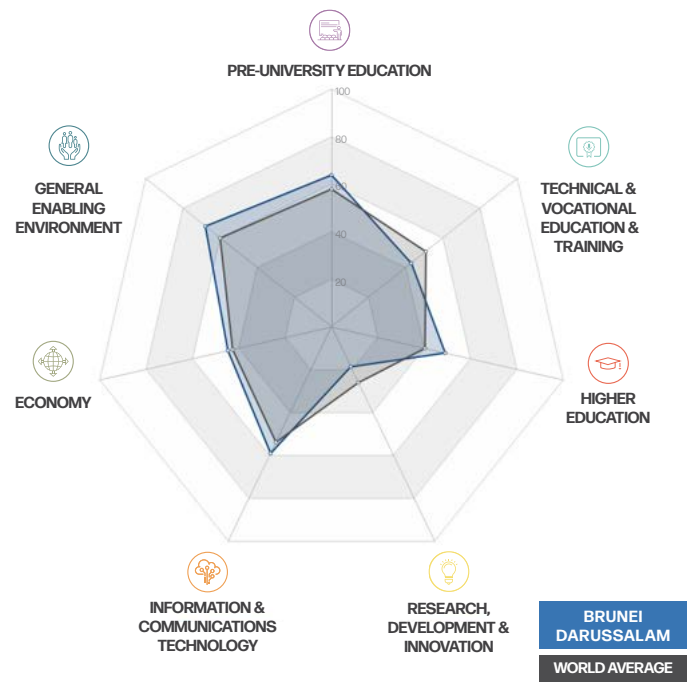
### + AREAS OF STRENGTH

- + Total tax and contribution rate (% of profit)
- + Labour freedom
- + Researchers in higher education (%)
- + Graduates, ISCED 6 (%)
- + Average documents per researcher

### - AREAS OF IMPROVEMENT

- Renewable energy consumption (% of total final energy consumption)
- Industrial design applications (per billion PPP\$ GDP)
- Poor work ethic in the labour force
- Intellectual property receipts (% of total trade)
- GERD financed by business enterprises (%)

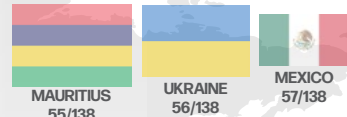
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	52	63.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	109	43	
	HIGHER EDUCATION	33	49.1	
	RESEARCH, DEVELOPMENT & INNOVATION	85	18.6	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	58	59	
	ECONOMY	55	44.7	
	GENERAL ENABLING ENVIRONMENT	43	67.9	





# BULGARIA

**67.927** GDP US\$ billions | **6,948,445** Population | **0.816** HDI



## COUNTRY PERFORMANCE SUMMARY

Bulgaria is a strong performer in terms of its knowledge infrastructure. It ranks 54<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 50<sup>th</sup> out of the 56 countries with very high human development.

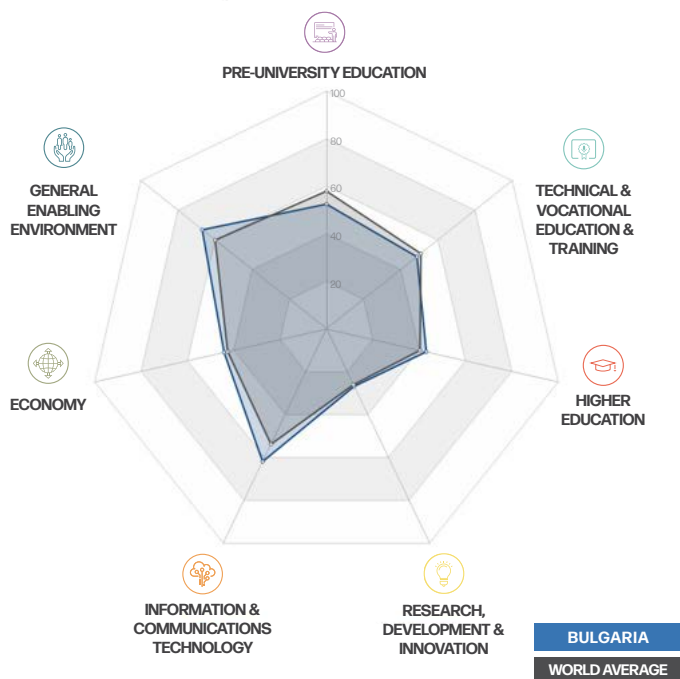
### + AREAS OF STRENGTH

- + International Internet bandwidth per Internet user (Kbit/s)
- + Unemployment with advanced education (%)
- + Enrolment in vocational programmes, secondary (%)
- + New business density
- + Enrolment in tertiary education, ISCED 7 (%)

### - AREAS OF IMPROVEMENT

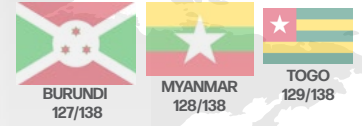
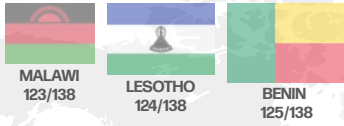
- Gross fixed capital formation (% of GDP)
- Government expenditure, primary (% of GDP)
- Poor work ethic in the labour force
- Gross enrolment ratio, primary (%)
- Survival rate, last grade of lower secondary (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	97	52.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	72	48.7	
	HIGHER EDUCATION	53	43.1	
	RESEARCH, DEVELOPMENT & INNOVATION	46	26.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	47	61.9	
	ECONOMY	58	44.2	
	GENERAL ENABLING ENVIRONMENT	44	66.9	



# BURKINA FASO

**15.746** GDP US\$ billions | **20,903,278** Population | **0.434** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Burkina Faso is a weak performer in terms of its knowledge infrastructure. It ranks 126<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 12<sup>th</sup> out of the 22 countries with low human development.

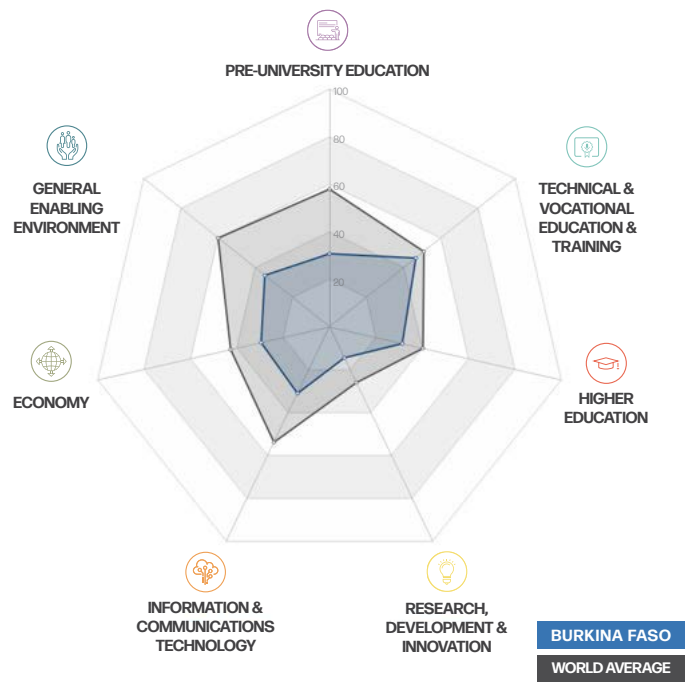
### + AREAS OF STRENGTH

- + Enrolment in tertiary education, ISCED 7 (%)
- + Government expenditure, primary (% of GDP)
- + Total CO2 emissions per capita
- + Renewable energy consumption (% of total final energy consumption)
- + Pupil-teacher ratio, secondary vocational (HC)

### - AREAS OF IMPROVEMENT

- Venture capital availability
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)
- Mean years of schooling (ISCED 1 or higher)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Category	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	129	30.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	90	46.5	
	HIGHER EDUCATION	104	31.4	
	RESEARCH, DEVELOPMENT & INNOVATION	110	14.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	120	31	
	ECONOMY	119	29.5	
	GENERAL ENABLING ENVIRONMENT	132	34.8	





**3.012** GDP US\$ billions | **11,890,781** Population | **0.423** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Burundi is a weak performer in terms of its knowledge infrastructure. It ranks 127<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 13<sup>th</sup> out of the 22 countries with low human development.

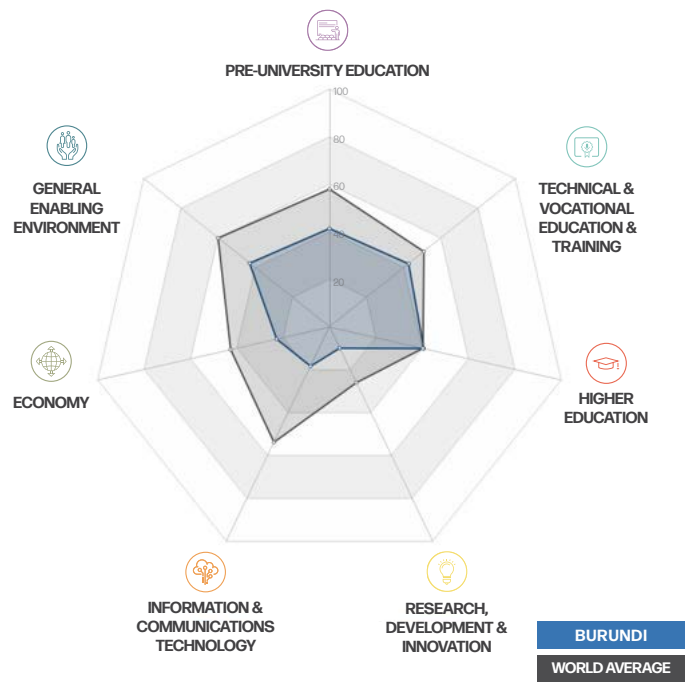
### + AREAS OF STRENGTH

- + Total CO2 emissions per capita
- + Renewable energy consumption (% of total final energy consumption)
- + Enrolment in tertiary education, ISCED 6 (%)
- + Labour force participation rate, female-to-male ratio
- + Graduates, ISCED 8 (%)

### - AREAS OF IMPROVEMENT

- Population covered by mobile-cellular networks (%)
- Internet users (%)
- Firm-level technology absorption
- High-skilled employment (% of total employed people)
- GDP per capita, PPP (constant 2011 international \$)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

	RANK	VALUE	
PRE-UNIVERSITY EDUCATION	120	41.4	
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	114	42.6	
HIGHER EDUCATION	61	40.7	
RESEARCH, DEVELOPMENT & INNOVATION	131	9.9	
INFORMATION & COMMUNICATIONS TECHNOLOGY	136	18.3	
ECONOMY	135	22.8	
GENERAL ENABLING ENVIRONMENT	122	43	



# CABO VERDE

**1.982** GDP US\$ billions | **555,988** Population | **0.651** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Cabo Verde is a modest performer in terms of its knowledge infrastructure. It ranks 89<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 7<sup>th</sup> out of the 24 countries with medium human development.

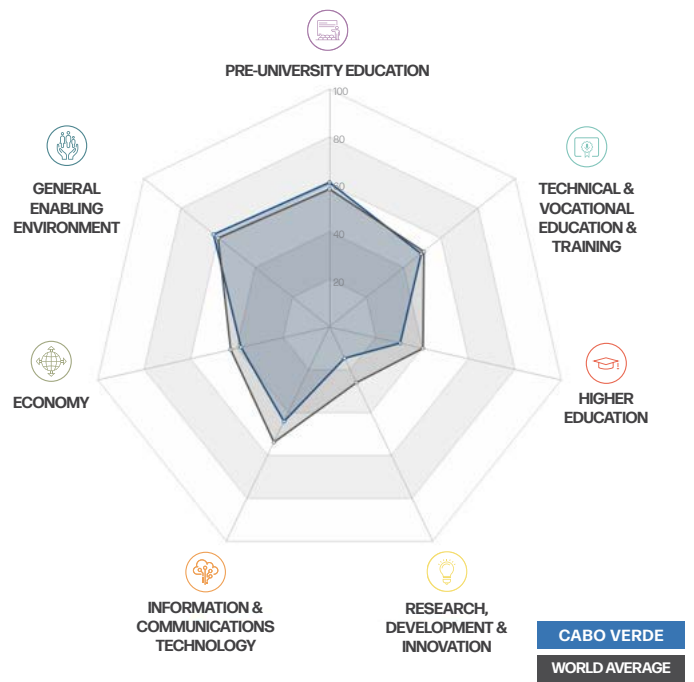
### + AREAS OF STRENGTH

- + Enrolment in tertiary education, ISCED 6 (%)
- + Pupil-teacher ratio, tertiary (HC)
- + Gross fixed capital formation (% of GDP)
- + Energy intensity level of primary energy (MJ/2011 PPP\$)
- + Industrial design applications (per billion PPP\$ GDP)

### - AREAS OF IMPROVEMENT

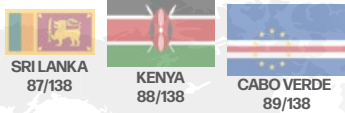
- Graduates, ISCED 8 (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Citable documents H index
- ICT goods exported (% of total exports)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	67	60.8
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	66	49.4
HIGHER EDUCATION	112	30.5
RESEARCH, DEVELOPMENT & INNOVATION	108	14.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	95	44.1
ECONOMY	81	38.2
GENERAL ENABLING ENVIRONMENT	54	62.4



# CAMBODIA

**27,089** GDP US\$ billions | **16,718,971** Population | **0.581** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Cambodia is a modest performer in terms of its knowledge infrastructure. It ranks 90<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 8<sup>th</sup> out of the 24 countries with medium human development.

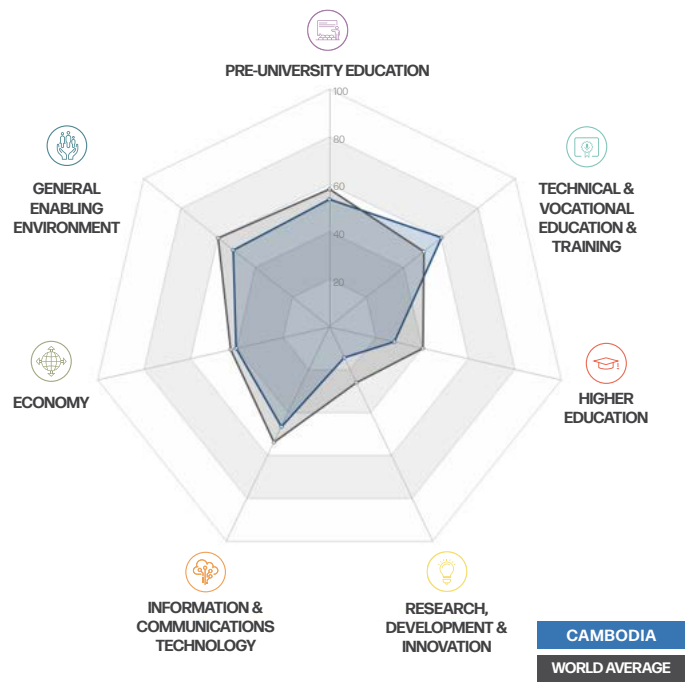
### + AREAS OF STRENGTH

- + Expenditure on educational institutions, all levels (%)
- + Unemployment with advanced education (%)
- + Unemployment rate (%)
- + Investment in telecom services (% of GDP)
- + FDI, net inflows (% of GDP)

### - AREAS OF IMPROVEMENT

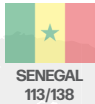
- Government expenditure per student, tertiary (constant PPP\$)
- Government expenditure, tertiary (% of GDP)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Ease of starting a business

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	95	53.7
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	24	60.3
HIGHER EDUCATION	122	28
RESEARCH, DEVELOPMENT & INNOVATION	112	14.3
INFORMATION & COMMUNICATIONS TECHNOLOGY	89	46.6
ECONOMY	76	40.3
GENERAL ENABLING ENVIRONMENT	98	51.8



SENEGAL  
113/138



TAJIKISTAN  
114/138



VENEZUELA  
(BOLIVARIAN  
REPUBLIC OF)  
115/138

# CAMEROON

38.76  
GDP US\$ billions

26,545,864  
Population

0.563  
HDI



GKI SCORE  
34.5

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Cameroon is a weak performer in terms of its knowledge infrastructure. It ranks 116<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 21<sup>st</sup> out of the 24 countries with medium human development.

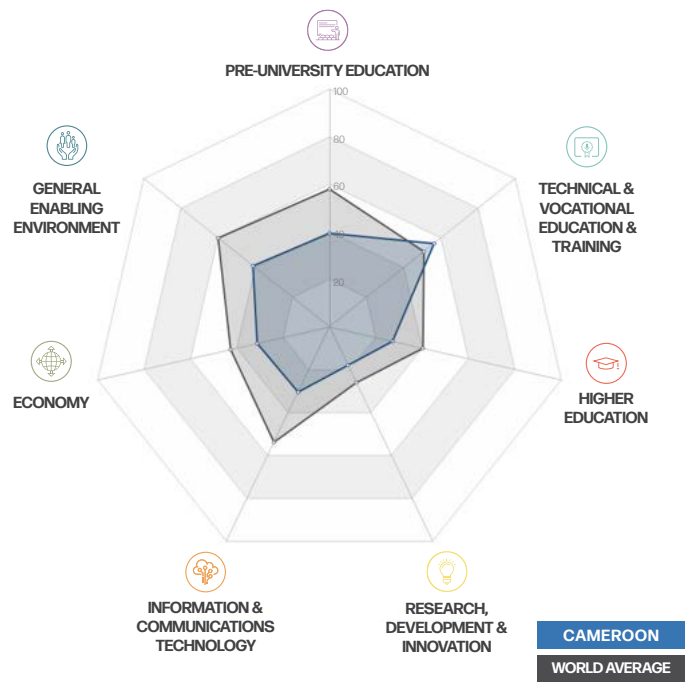
### + AREAS OF STRENGTH

- + Expenditure on non-tertiary vocational education (%)
- + Renewable energy consumption (% of total final energy consumption)
- + Investment in telecom services (% of GDP)
- + Graduates, ISCED 8 (%)
- + Total CO2 emissions per capita

### - AREAS OF IMPROVEMENT

- Life expectancy at birth, both sexes (years)
- International Internet bandwidth per Internet user (Kbit/s)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

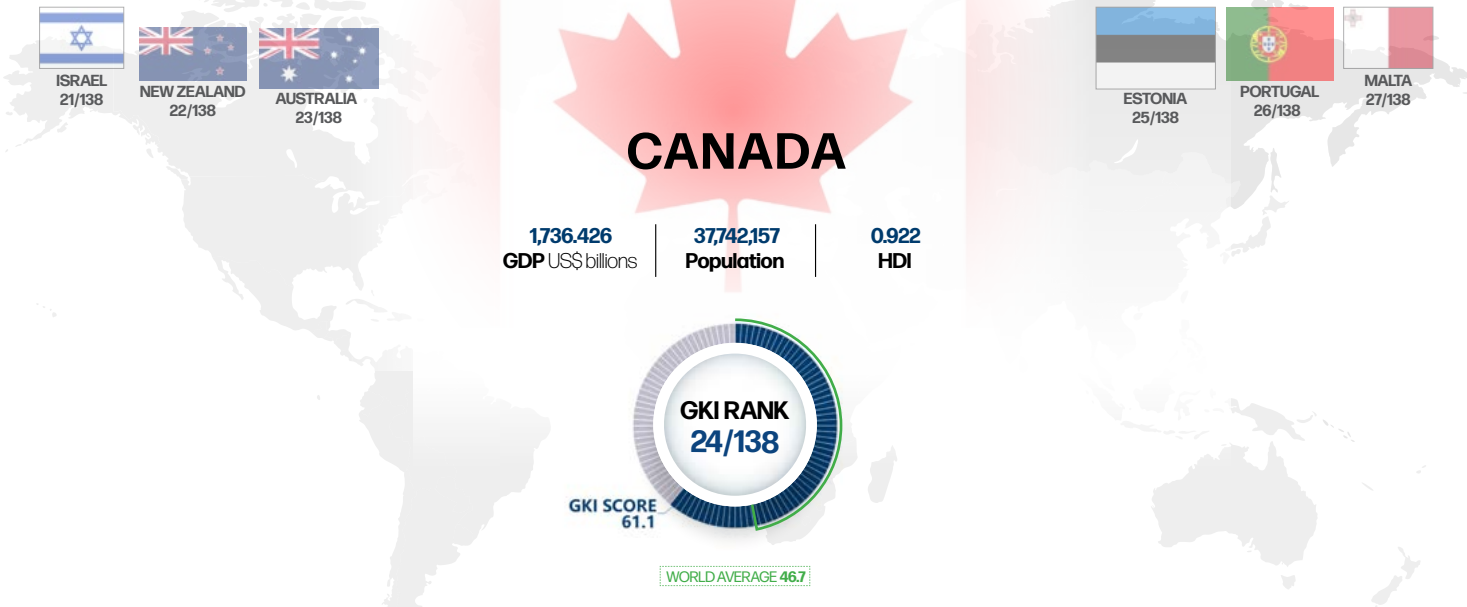
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	124	39.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	37	56.3	
	HIGHER EDUCATION	123	27.2	
	RESEARCH, DEVELOPMENT & INNOVATION	89	17.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	121	30.4	
	ECONOMY	115	31.2	
	GENERAL ENABLING ENVIRONMENT	125	41.2	





**COUNTRY PERFORMANCE SUMMARY**

Canada is a leading performer in terms of its knowledge infrastructure. It ranks 24<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 24<sup>th</sup> out of the 56 countries with very high human development.

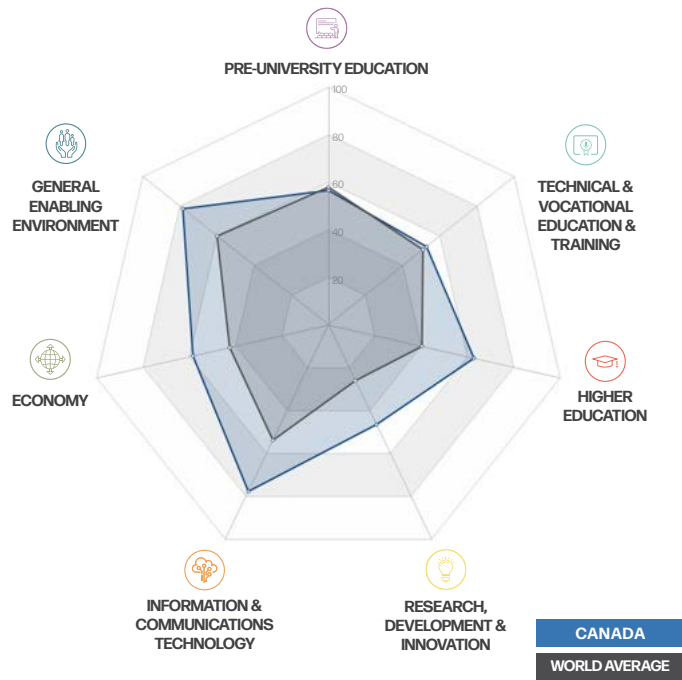
**+ AREAS OF STRENGTH**

- + Labour force with advanced education (%)
- + Joint venture per strategic alliance deals
- + Global Entrepreneurship Index
- + Citable documents H index
- + Ease of starting a business

**- AREAS OF IMPROVEMENT**

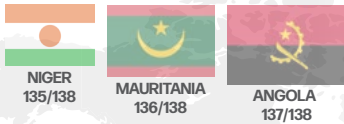
- Enrolment in vocational programmes, secondary (%)
- Mobile-cellular subscriptions (per 100 inhabitants)
- Energy intensity level of primary energy (MJ/2011 PPP\$)
- New business density
- Total CO2 emissions per capita

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



**SECTORAL INDICES**

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	84	56.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	52	52.8	
	HIGHER EDUCATION	4	62.8	
	RESEARCH, DEVELOPMENT & INNOVATION	18	46.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	21	77.7	
	ECONOMY	16	58.5	
	GENERAL ENABLING ENVIRONMENT	16	78.4	



# CHAD

**11.315** GDP US\$ billions | **16,425,859** Population | **0.401** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Chad is a weak performer in terms of its knowledge infrastructure. It ranks 138<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 22<sup>nd</sup> out of the 22 countries with low human development.

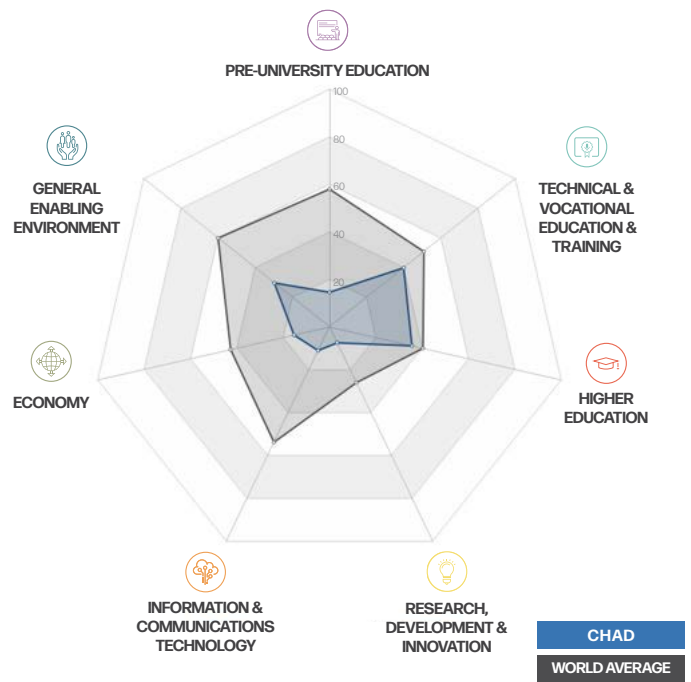
### + AREAS OF STRENGTH

- + Total CO2 emissions per capita
- + Researchers in higher education (%)
- + Renewable energy consumption (% of total final energy consumption)
- + Enrolment in tertiary education, ISCED 6 (%)
- + Unemployment rate (%)

### - AREAS OF IMPROVEMENT

- Gross graduation ratio, primary (%)
- Secure Internet servers (per million inhabitants)
- Business-to-consumer Internet use
- Adult literacy rate (%)
- Under-five mortality rate (per 1000 live births)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	137	14.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	122	39.9	
	HIGHER EDUCATION	89	35.6	
	RESEARCH, DEVELOPMENT & INNOVATION	138	7.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	138	11	
	ECONOMY	138	15.3	
	GENERAL ENABLING ENVIRONMENT	138	29.7	





# CHILE

**282.318** GDP US\$ billions | **19,116,209** Population | **0.847** HDI



GKI SCORE 50.9  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Chile is a strong performer in terms of its knowledge infrastructure. It ranks 44<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 42<sup>nd</sup> out of the 56 countries with very high human development.

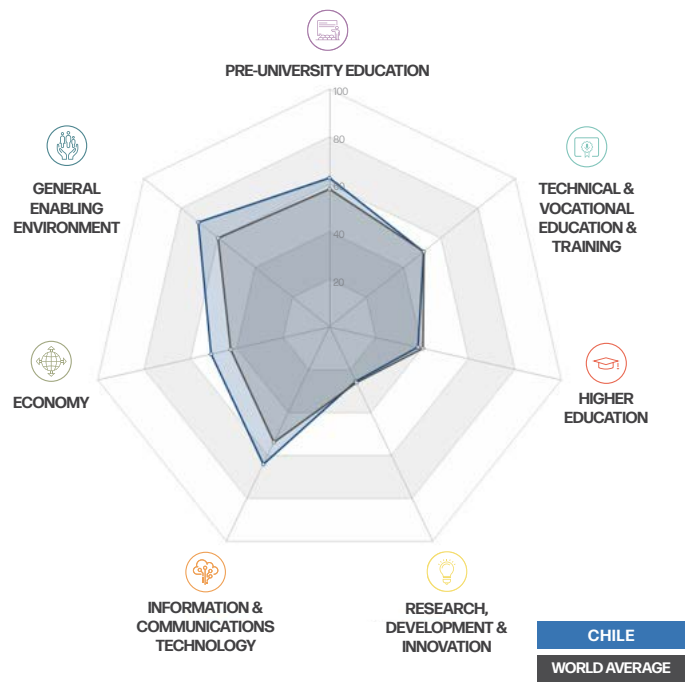
### + AREAS OF STRENGTH

- + Soundness of banks
- + Average documents per researcher
- + Firms offering formal training (%)
- + New business density
- + Survival rate, last grade of lower secondary (%)

### - AREAS OF IMPROVEMENT

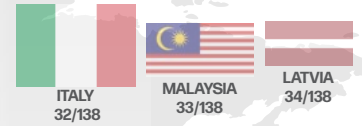
- Pupil-teacher ratio, secondary vocational (HC)
- Printing and publishing manufactures (% of manufactured output)
- Inbound mobility rate (%)
- Industrial design applications (per billion PPP\$ GDP)
- Restrictive labour regulations

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



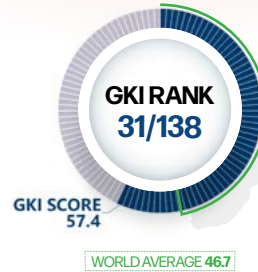
## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	62	62.7
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	60	50.7
HIGHER EDUCATION	80	38.2
RESEARCH, DEVELOPMENT & INNOVATION	50	25.4
INFORMATION & COMMUNICATIONS TECHNOLOGY	43	64.1
ECONOMY	40	51.1
GENERAL ENABLING ENVIRONMENT	36	70.6



# CHINA

**14,342,903** GDP US\$ billions | **1,439,323,774** Population | **0.758** HDI



## COUNTRY PERFORMANCE SUMMARY

China is a strong performer in terms of its knowledge infrastructure. It ranks 31<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 1<sup>st</sup> out of the 36 countries with high human development.

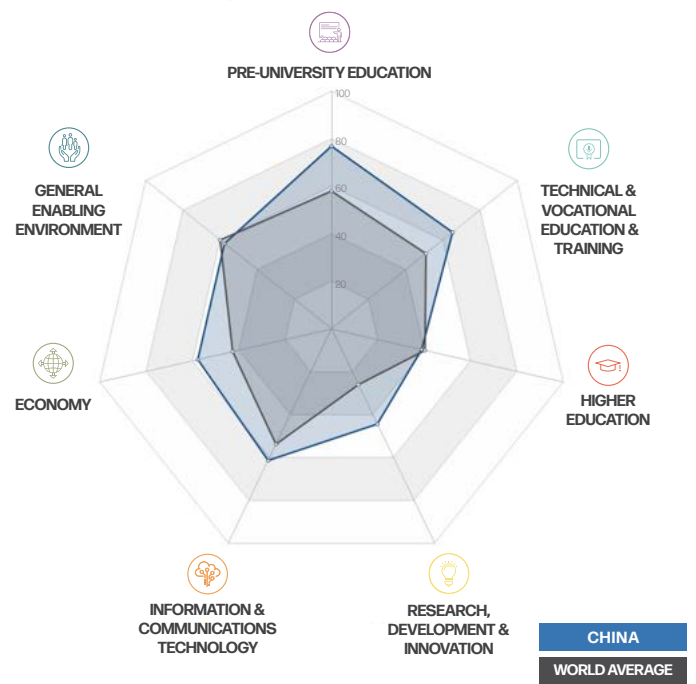
### + AREAS OF STRENGTH

- + Creative goods exports (% of total trade in goods)
- + Assessment of 15-year-old students
- + Firms offering formal training (%)
- + Globally-ranked universities
- + GERD financed by business enterprises (%)

### - AREAS OF IMPROVEMENT

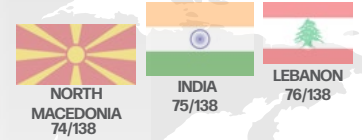
- Researchers in higher education (%)
- Total tax and contribution rate (% of profit)
- Enrolment in tertiary education, ISCED 6 (%)
- Trade (% of GDP)
- World Press Freedom Index

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	4	76.9
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	14	65.2
HIGHER EDUCATION	71	38.9
RESEARCH, DEVELOPMENT & INNOVATION	22	44.4
INFORMATION & COMMUNICATIONS TECHNOLOGY	49	61.4
ECONOMY	17	57.7
GENERAL ENABLING ENVIRONMENT	81	57.6



# COLOMBIA

**323.803** GDP US\$ billions | **50,882,884** Population | **0.761** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Colombia is a moderate performer in terms of its knowledge infrastructure. It ranks 73<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 16<sup>th</sup> out of the 36 countries with high human development.

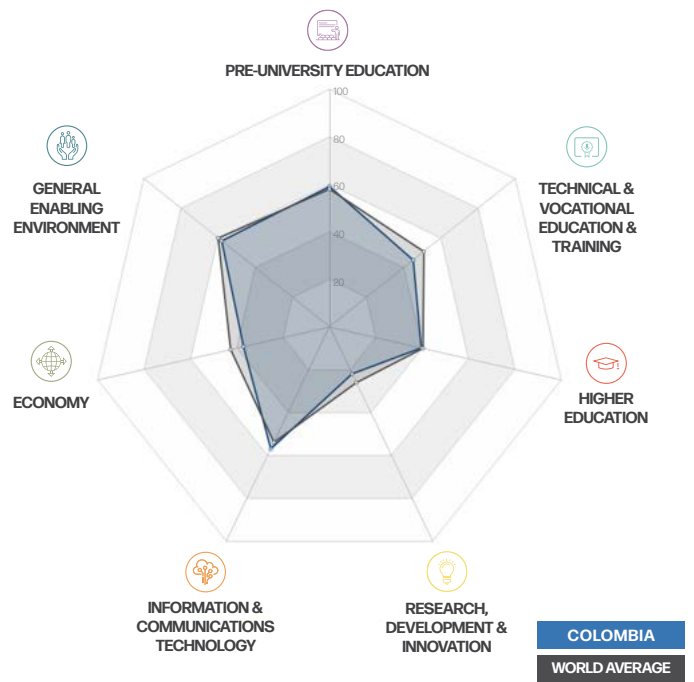
### + AREAS OF STRENGTH

- + Graduates, ISCED 7 (%)
- + Energy intensity level of primary energy (MJ/2011 PPP\$)
- + Gross graduation ratio, primary (%)
- + Firms offering formal training (%)
- + Average documents per researcher

### - AREAS OF IMPROVEMENT

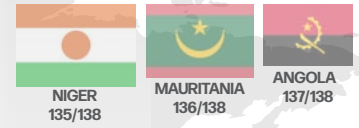
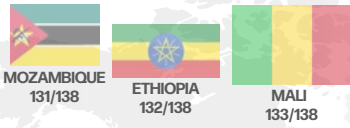
- Enrolment in tertiary education, ISCED 8 (%)
- Trade (% of GDP)
- Inbound mobility rate (%)
- Ease of enforcing a contract
- Total tax and contribution rate (% of profit)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	76	59.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	99	45.1	
	HIGHER EDUCATION	66	39.6	
	RESEARCH, DEVELOPMENT & INNOVATION	61	21.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	63	56.9	
	ECONOMY	87	37.1	
	GENERAL ENABLING ENVIRONMENT	77	58	



# CONGO (DEMOCRATIC REPUBLIC OF THE)

**47.32** GDP US\$ billions | **89,561,404** Population | **0.459** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Congo (Democratic Republic of the) is a weak performer in terms of its knowledge infrastructure. It ranks 134<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 19<sup>th</sup> out of the 22 countries with low human development.

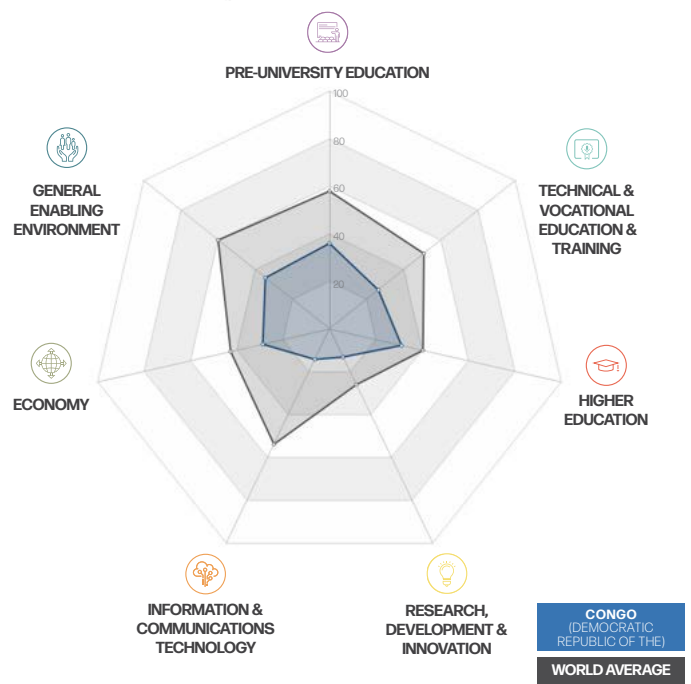
### + AREAS OF STRENGTH

- + Renewable energy consumption (% of total final energy consumption)
- + Total CO2 emissions per capita
- + GERD per researcher (constant '000 PPP\$)
- + Labour force participation rate, female-to-male ratio
- + Gross enrolment ratio, primary (%)

### - AREAS OF IMPROVEMENT

- Expenditure on non-tertiary vocational education (%)
- Population covered by mobile-cellular networks (%)
- International Internet bandwidth per Internet user (Kbit/s)
- Domestic credit to private sector (% of GDP)
- Energy intensity level of primary energy (MJ/2011 PPP\$)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	127	36	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	138	26.3	
	HIGHER EDUCATION	106	31.1	
	RESEARCH, DEVELOPMENT & INNOVATION	119	13.1	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	137	14.2	
	ECONOMY	121	28.8	
	GENERAL ENABLING ENVIRONMENT	134	34.5	





# COSTA RICA

**61.774** GDP US\$ billions | **5,094,114** Population | **0.794** HDI



## COUNTRY PERFORMANCE SUMMARY

Costa Rica is a strong performer in terms of its knowledge infrastructure. It ranks 41<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 2<sup>nd</sup> out of the 36 countries with high human development.

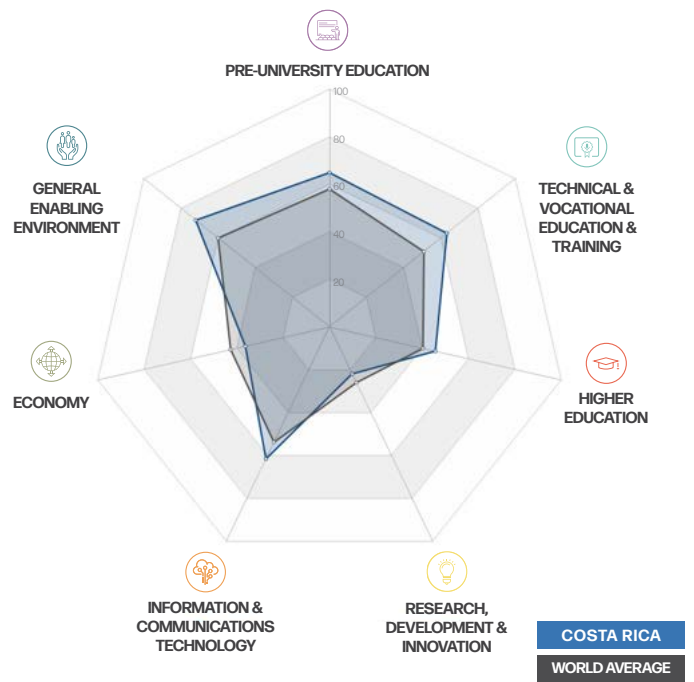
### + AREAS OF STRENGTH

- + Expenditure on non-tertiary vocational education (%)
- + Expenditure on educational institutions, all levels (%)
- + World Press Freedom Index
- + Gross enrolment ratio, upper secondary (%)
- + Women-to-men ratio in parliament (%)

### - AREAS OF IMPROVEMENT

- Industrial design applications (per billion PPP\$ GDP)
- Total tax and contribution rate (% of profit)
- Gross fixed capital formation (% of GDP)
- Joint venture per strategic alliance deals
- Creative services exports (% of total trade in services)

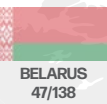
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



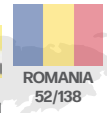
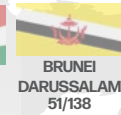
## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	50	64.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	19	63.2	
	HIGHER EDUCATION	41	45.7	
	RESEARCH, DEVELOPMENT & INNOVATION	62	21.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	48	61.6	
	ECONOMY	89	36.3	
	GENERAL ENABLING ENVIRONMENT	33	72	





# CROATIA



**60.416**  
GDP US\$ billions

**4,105,268**  
Population

**0.837**  
HDI



GKI SCORE  
49.6

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Croatia is a strong performer in terms of its knowledge infrastructure. It ranks 49<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 46<sup>th</sup> out of the 56 countries with very high human development.

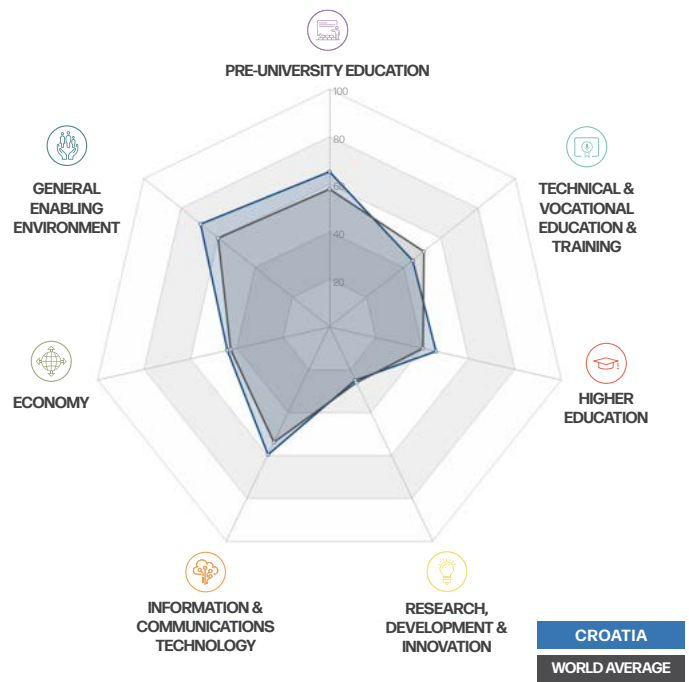
### + AREAS OF STRENGTH

- + Pupil-teacher ratio, secondary (HC)
- + Enrolment in tertiary education, ISCED 7 (%)
- + Enrolment in vocational programmes, secondary (%)
- + Printing and publishing manufactures (% of manufactured output)
- + Total tax and contribution rate (% of profit)

### - AREAS OF IMPROVEMENT

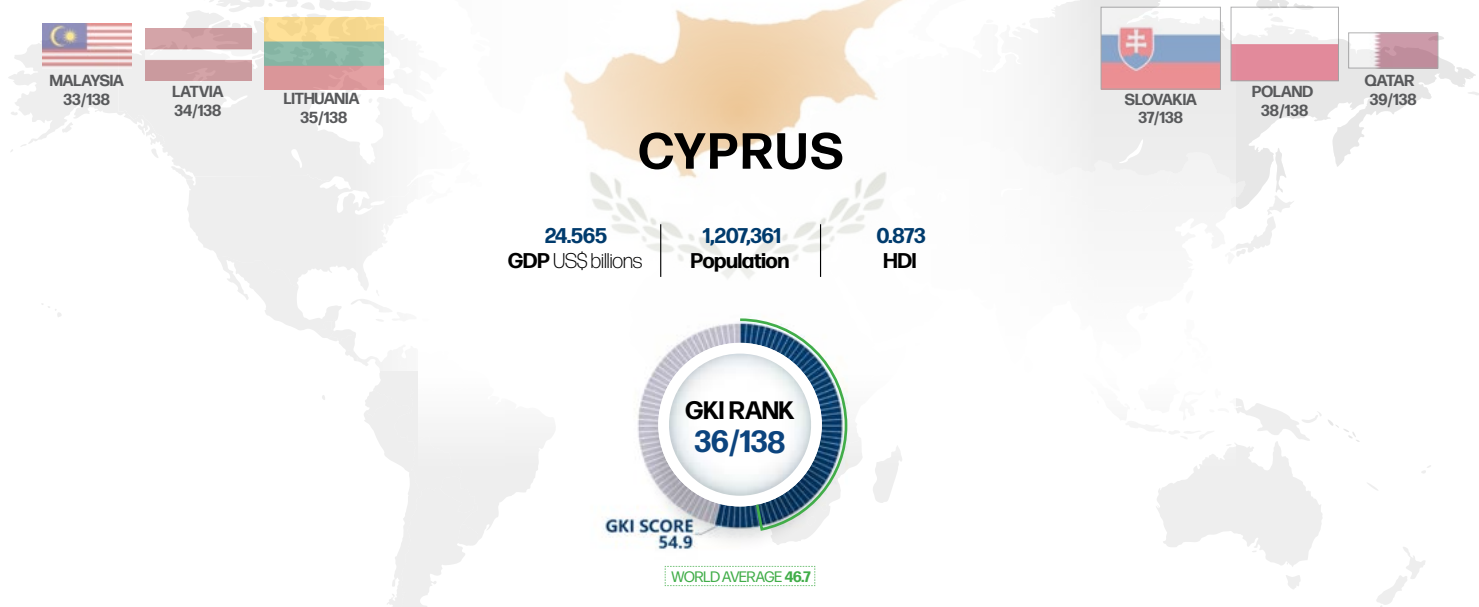
- Extent of staff training
- University-industry collaboration in R&D
- Judicial independence
- Labour freedom
- Ease of finding skilled employees

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	48	65.3	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	102	44.8	
	HIGHER EDUCATION	39	46	
	RESEARCH, DEVELOPMENT & INNOVATION	54	24.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	55	59.6	
	ECONOMY	61	44.1	
	GENERAL ENABLING ENVIRONMENT	40	69.4	



### COUNTRY PERFORMANCE SUMMARY

Cyprus is a strong performer in terms of its knowledge infrastructure. It ranks 36<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 35<sup>th</sup> out of the 56 countries with very high human development.

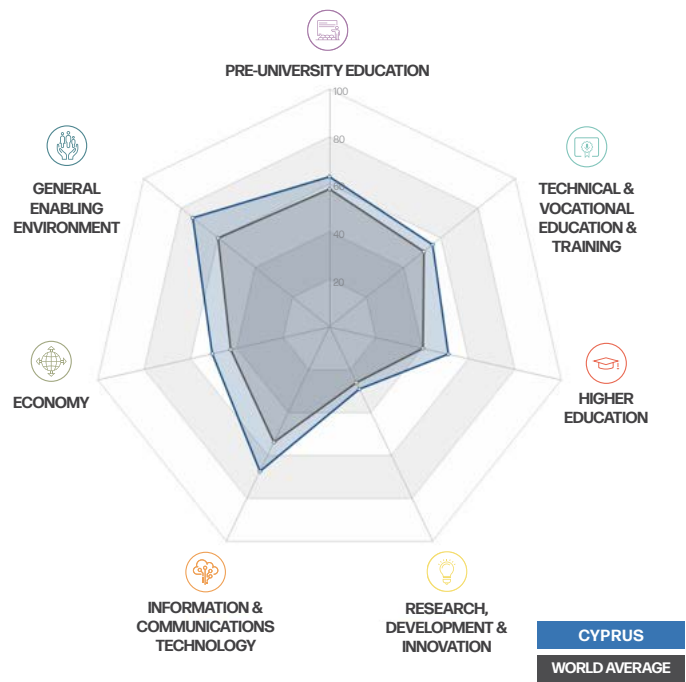
#### + AREAS OF STRENGTH

- + Enrolment in tertiary education, ISCED 7 (%)
- + International Internet bandwidth per Internet user (Kbit/s)
- + Under-five mortality rate (per 1000 live births)
- + Average documents per researcher
- + FDI, net inflows (% of GDP)

#### - AREAS OF IMPROVEMENT

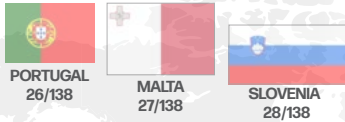
- Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- High-technology net imports (% of total trade)
- Soundness of banks
- Enrolment in tertiary education, ISCED 6 (%)
- Manufacturing, value added (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



### SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	56	63.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	39	55.5	
	HIGHER EDUCATION	27	51.3	
	RESEARCH, DEVELOPMENT & INNOVATION	37	29	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	33	67.4	
	ECONOMY	41	50.6	
	GENERAL ENABLING ENVIRONMENT	30	73.6	



# CZECHIA

**246.489** GDP US\$ billions | **10,708,982** Population | **0.891** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Czechia is a strong performer in terms of its knowledge infrastructure. It ranks 29<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 29<sup>th</sup> out of the 56 countries with very high human development.

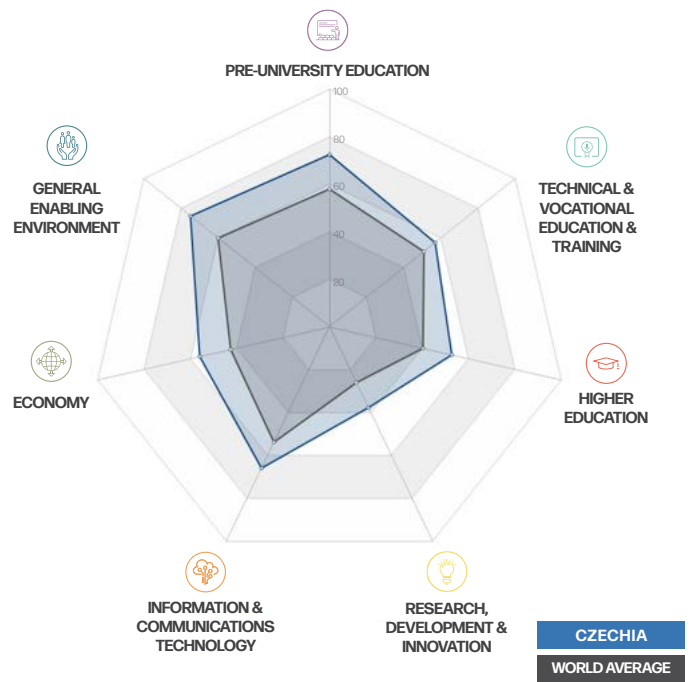
### + AREAS OF STRENGTH

- + Gross enrolment ratio, ECE (%)
- + Enrolment in tertiary education, ISCED 8 (%)
- + Unemployment with advanced education (%)
- + Adult literacy rate (%)
- + Technicians per thousand labour force (HC)

### - AREAS OF IMPROVEMENT

- Pupil-teacher ratio, tertiary (HC)
- Government expenditure, primary (% of GDP)
- Total CO2 emissions per capita
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Ease of finding skilled employees

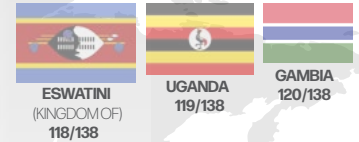
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	23	72.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	35	56.9	
	HIGHER EDUCATION	23	52.8	
	RESEARCH, DEVELOPMENT & INNOVATION	30	37.7	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	37	65.9	
	ECONOMY	24	56	
	GENERAL ENABLING ENVIRONMENT	25	74.8	

# CÔTE D'IVOIRE



**58.792** GDP US\$ billions | **26,378,275** Population | **0.516** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Côte d'Ivoire is a weak performer in terms of its knowledge infrastructure. It ranks 117<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 4<sup>th</sup> out of the 22 countries with low human development.

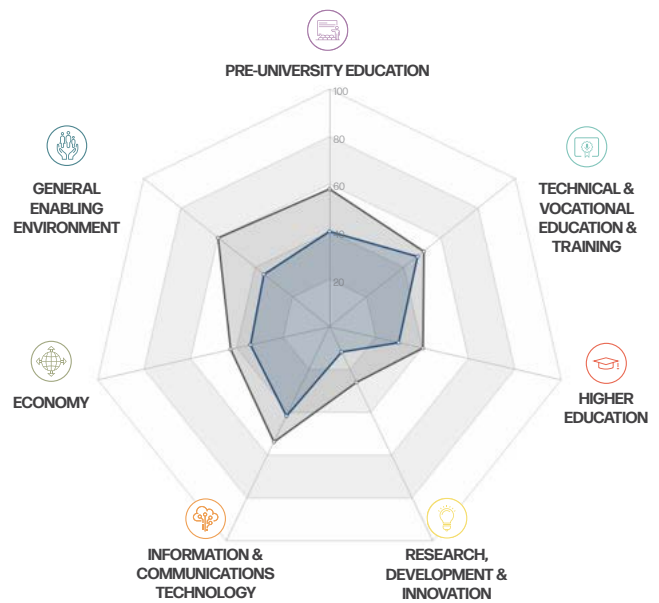
### + AREAS OF STRENGTH

- + Restrictive labour regulations
- + Researchers in higher education (%)
- + Mobile-cellular subscriptions (per 100 inhabitants)
- + Pupil-teacher ratio, secondary vocational (HC)
- + Investment in telecom services (% of GDP)

### - AREAS OF IMPROVEMENT

- Under-five mortality rate (per 1000 live births)
- Life expectancy at birth, both sexes (years)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.

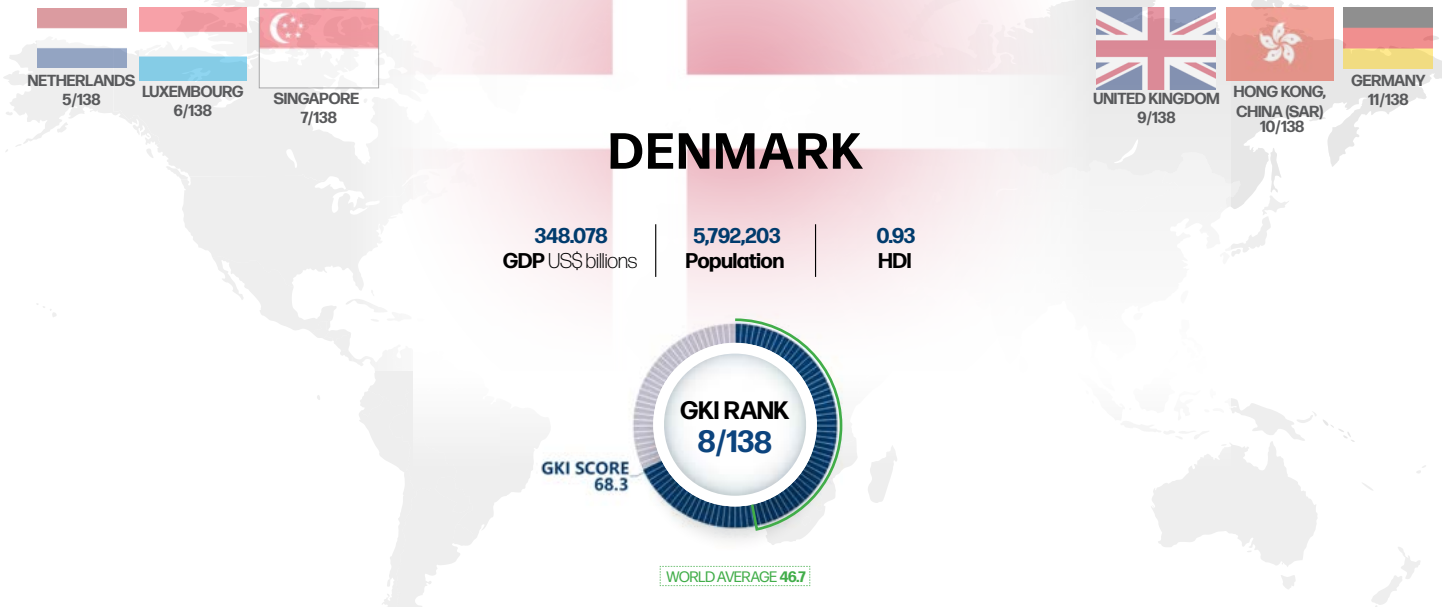


CÔTE D'IVOIRE  
WORLD AVERAGE

## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	123	40.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	82	47.4	
	HIGHER EDUCATION	116	29.9	
	RESEARCH, DEVELOPMENT & INNOVATION	125	11.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	99	41.7	
	ECONOMY	101	34.1	
	GENERAL ENABLING ENVIRONMENT	131	35.3	





## COUNTRY PERFORMANCE SUMMARY

Denmark is a leading performer in terms of its knowledge infrastructure. It ranks 8<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 8<sup>th</sup> out of the 56 countries with very high human development.

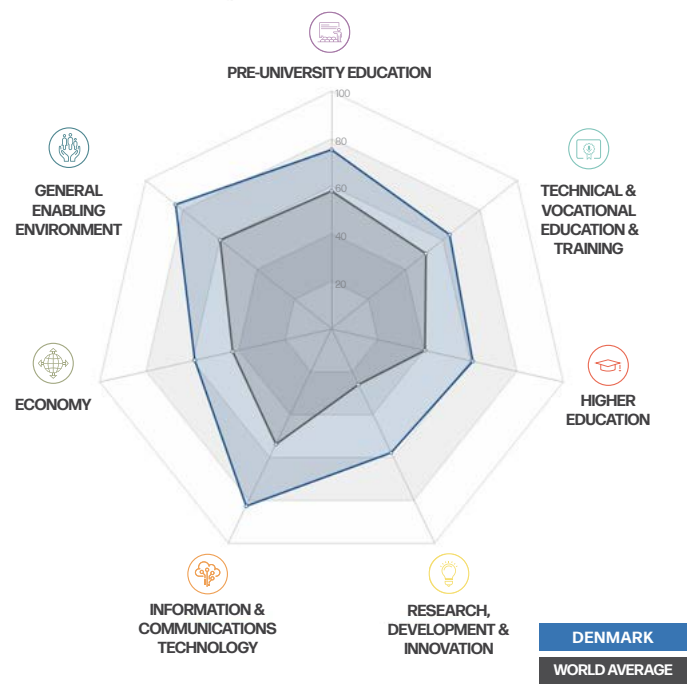
### + AREAS OF STRENGTH

- + Government expenditure, tertiary (% of GDP)
- + Secure Internet servers (per million inhabitants)
- + Researchers per thousand labour force (HC)
- + Government effectiveness
- + World Press Freedom Index

### - AREAS OF IMPROVEMENT

- High-technology net imports (% of total trade)
- Restrictive labour regulations
- Total CO2 emissions per capita
- Researchers in higher education (%)
- FDI, net inflows (% of GDP)

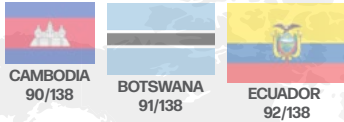
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	12	75.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	17	63.6	
	HIGHER EDUCATION	5	61	
	RESEARCH, DEVELOPMENT & INNOVATION	10	57.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	11	82.7	
	ECONOMY	14	59	
	GENERAL ENABLING ENVIRONMENT	6	83.9	





# DOMINICAN REPUBLIC

**88.941** GDP US\$ billions | **10,847,904** Population | **0.745** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Dominican Republic is a modest performer in terms of its knowledge infrastructure. It ranks 93<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 29<sup>th</sup> out of the 36 countries with high human development.

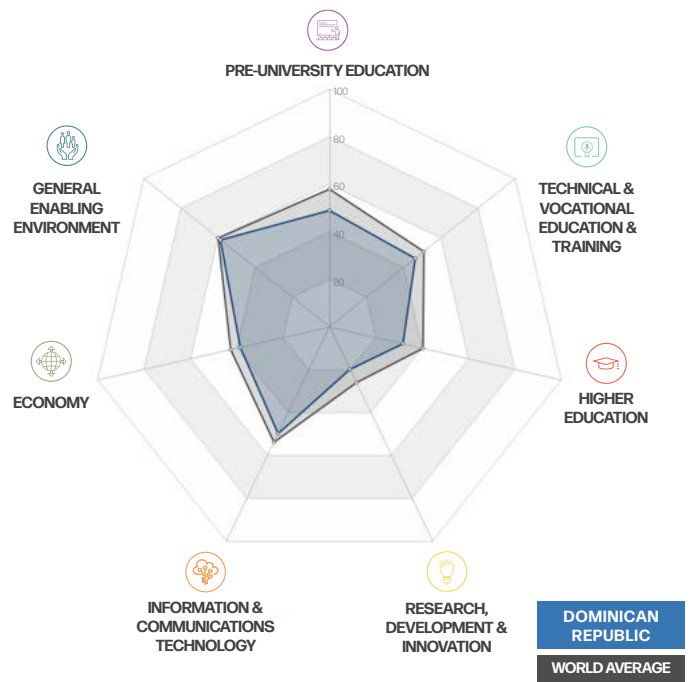
### + AREAS OF STRENGTH

- + Graduates, ISCED 7 (%)
- + Enrolment in tertiary education, ISCED 6 (%)
- + Energy intensity level of primary energy (MJ/2011 PPP\$)
- + Educational attainment: at least completed upper secondary, 25+ years, GPI
- + Business impact of rules on FDI

### - AREAS OF IMPROVEMENT

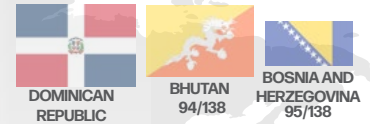
- Assessment of 15-year-old students
- Expenditure on non-tertiary vocational education (%)
- Graduates, ISCED 8 (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	107	49	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	92	46.2	
	HIGHER EDUCATION	102	31.7	
	RESEARCH, DEVELOPMENT & INNOVATION	77	19.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	83	49.8	
	ECONOMY	80	38.5	
	GENERAL ENABLING ENVIRONMENT	71	58.7	



# ECUADOR

**107.436** GDP US\$ billions | **17,643,060** Population | **0.758** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Ecuador is a modest performer in terms of its knowledge infrastructure. It ranks 92<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 28<sup>th</sup> out of the 36 countries with high human development.

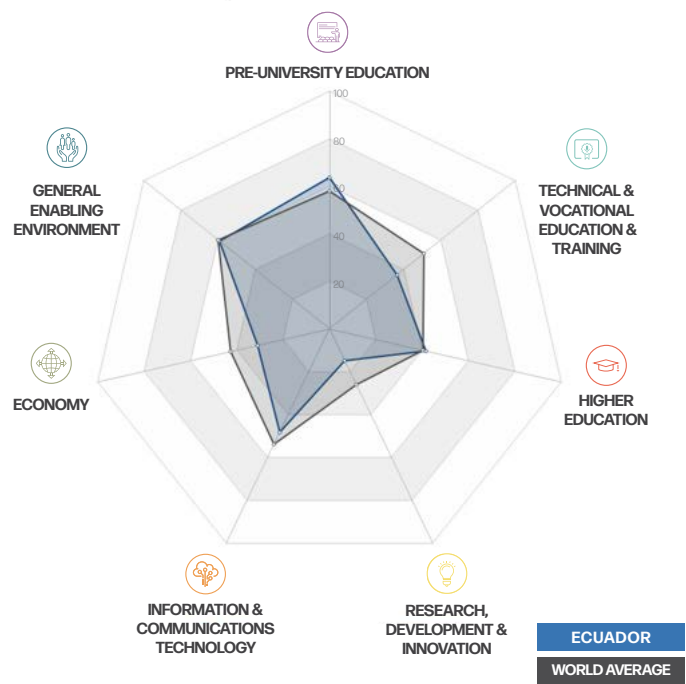
### + AREAS OF STRENGTH

- + Graduates, ISCED 7 (%)
- + Firms offering formal training (%)
- + Government expenditure, tertiary (% of GDP)
- + Creative services exports (% of total trade in services)
- + Grade 1 entrants with ECE (%)

### - AREAS OF IMPROVEMENT

- Ease of starting a business
- Enrolment in tertiary education, ISCED 8 (%)
- GERD financed by business enterprises (%)
- Prevalence of non-tariff barriers
- Pupil-teacher ratio, secondary vocational (HC)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	55	63.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	127	36.4	
	HIGHER EDUCATION	59	41.6	
	RESEARCH, DEVELOPMENT & INNOVATION	107	14.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	86	48.2	
	ECONOMY	117	31	
	GENERAL ENABLING ENVIRONMENT	69	59.2	



**303.175** GDP US\$ billions | **102,334,403** Population | **0.7** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Egypt is a moderate performer in terms of its knowledge infrastructure. It ranks 72<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 15<sup>th</sup> out of the 36 countries with high human development.

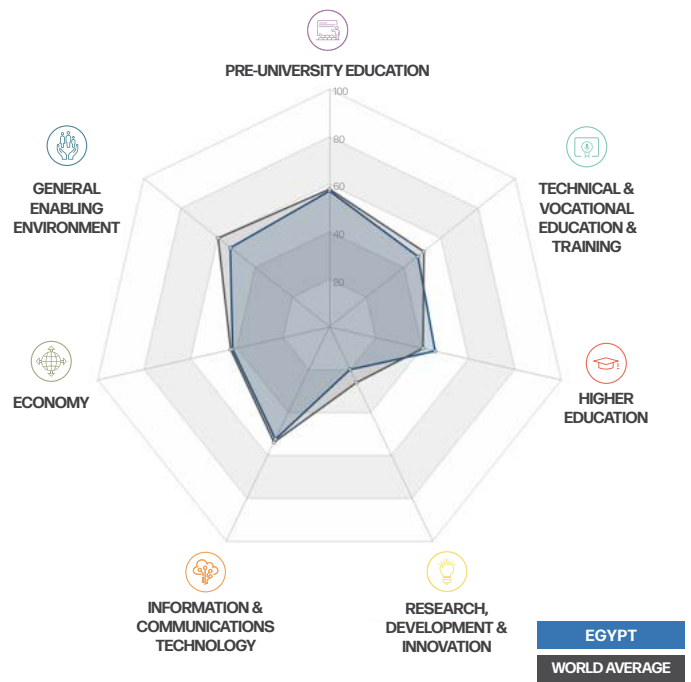
### + AREAS OF STRENGTH

- + Enrolment in globally-ranked universities (% of tertiary students)
- + Enrolment in tertiary education, ISCED 6 (%)
- + Judicial independence
- + Enrolment in vocational programmes, secondary (%)
- + Out-of-school children (%)

### - AREAS OF IMPROVEMENT

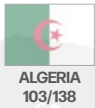
- World Press Freedom Index
- Assessment of 8<sup>th</sup> grade students
- Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Unemployment with advanced education (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	83	57.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	80	47.6	
	HIGHER EDUCATION	42	45.6	
	RESEARCH, DEVELOPMENT & INNOVATION	74	19.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	74	52.4	
	ECONOMY	66	41.8	
	GENERAL ENABLING ENVIRONMENT	92	53.4	



ALGERIA  
103/138



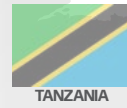
ZIMBABWE  
104/138



LAO PEOPLE'S  
DEMOCRATIC  
REPUBLIC  
105/138



# EL SALVADOR



TANZANIA  
(UNITED  
REPUBLIC OF)  
107/138



GUATEMALA  
108/138



BELIZE  
109/138

27.023 GDP US\$ billions | 6,486,201 Population | 0.667 HDI



GKI SCORE  
37.0

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

El Salvador is a modest performer in terms of its knowledge infrastructure. It ranks 106<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 15<sup>th</sup> out of the 24 countries with medium human development.

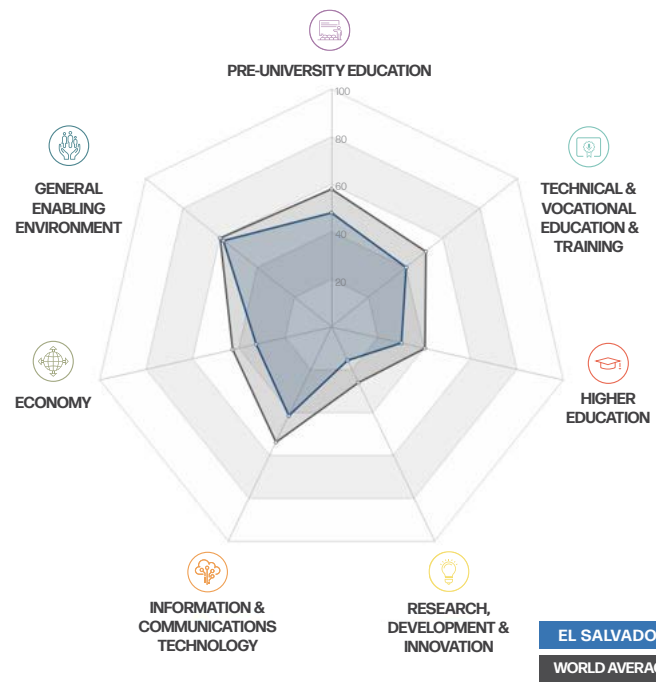
### + AREAS OF STRENGTH

- + Restrictive labour regulations
- + Mobile-cellular subscriptions (per 100 inhabitants)
- + Graduates, ISCED 8 (%)
- + Firms offering formal training (%)
- + Researchers in higher education (%)

### - AREAS OF IMPROVEMENT

- Creative services exports (% of total trade in services)
- Quality of research institutions
- Expenditure on non-tertiary vocational education (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

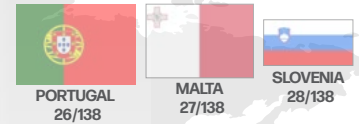
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	111	48	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	120	40.2	
	HIGHER EDUCATION	114	30.2	
	RESEARCH, DEVELOPMENT & INNOVATION	101	15.6	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	101	41.4	
	ECONOMY	110	32.5	
	GENERAL ENABLING ENVIRONMENT	75	58.2	





# ESTONIA

**31.387** GDP US\$ billions | **1,326,539** Population | **0.882** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Estonia is a leading performer in terms of its knowledge infrastructure. It ranks 25<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 25<sup>th</sup> out of the 56 countries with very high human development.

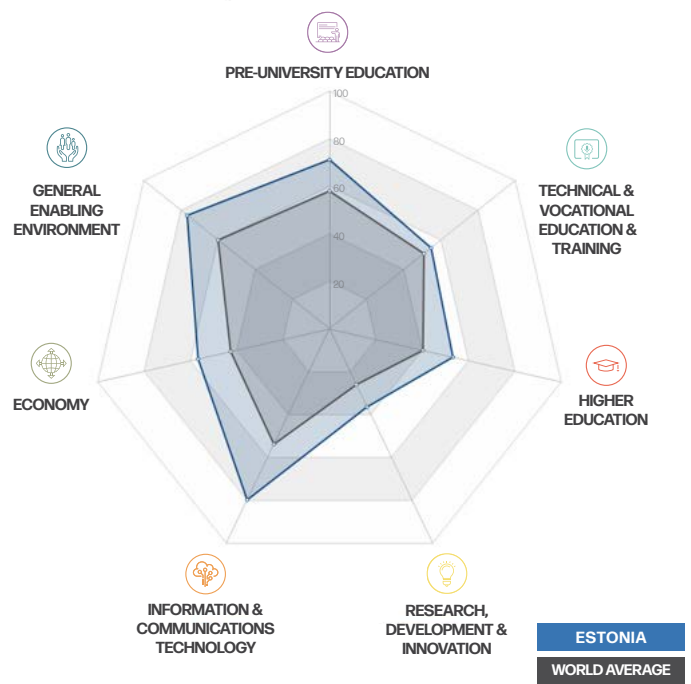
### + AREAS OF STRENGTH

- + Government Online Service Index
- + Mean years of schooling (ISCED 1 or higher)
- + New business density
- + Adult literacy rate (%)
- + Active mobile-broadband subscriptions (per 100 inhabitants)

### - AREAS OF IMPROVEMENT

- Graduates, ISCED 8 (%)
- Gross enrolment ratio, primary (%)
- Investment in telecom services (% of GDP)
- Ease of finding skilled employees
- Total CO2 emissions per capita

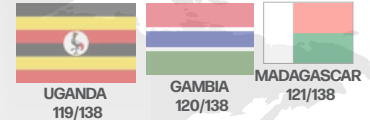
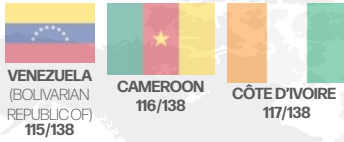
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	28	71.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	42	54.7	
	HIGHER EDUCATION	22	53.3	
	RESEARCH, DEVELOPMENT & INNOVATION	32	36.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	15	79.8	
	ECONOMY	19	56.7	
	GENERAL ENABLING ENVIRONMENT	21	76.6	





# ESWATINI (KINGDOM OF)

**4.405** GDP US\$ billions | **1,160,164** Population | **0.608** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Eswatini (Kingdom of) is a weak performer in terms of its knowledge infrastructure. It ranks 118<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 22<sup>nd</sup> out of the 24 countries with medium human development.

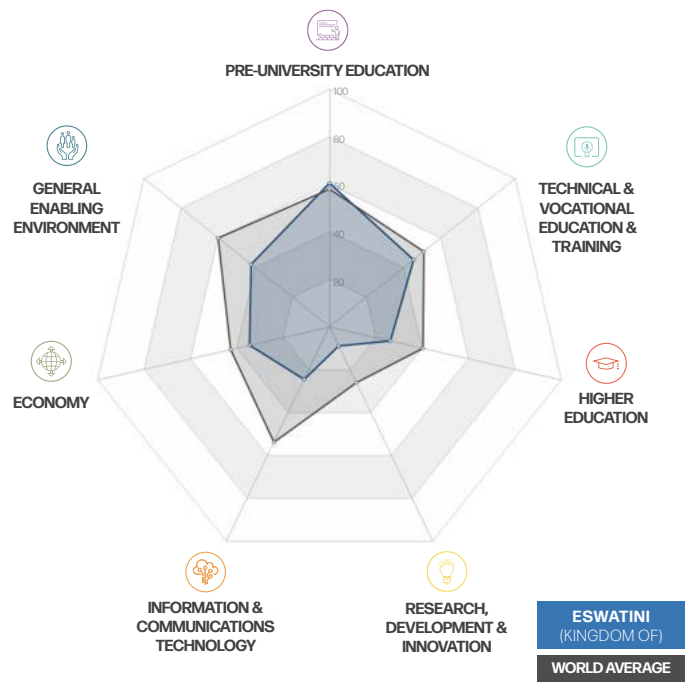
### + AREAS OF STRENGTH

- + Government expenditure, primary (% of GDP)
- + Manufacturing, value added (% of GDP)
- + Creative services exports (% of total trade in services)
- + Gross graduation ratio, primary (%)
- + Government expenditure, secondary (% of GDP)

### - AREAS OF IMPROVEMENT

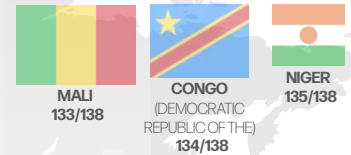
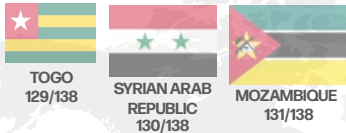
- Graduates, ISCED 6 (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- Population covered by mobile-cellular networks (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	68	60.5
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	97	45.3
HIGHER EDUCATION	125	26.3
RESEARCH, DEVELOPMENT & INNOVATION	134	8.9
INFORMATION & COMMUNICATIONS TECHNOLOGY	129	24.5
ECONOMY	98	34.5
GENERAL ENABLING ENVIRONMENT	123	42.2



# ETHIOPIA

**96.108** GDP US\$ billions | **114,963,583** Population | **0.47** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Ethiopia is a weak performer in terms of its knowledge infrastructure. It ranks 132<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 17<sup>th</sup> out of the 22 countries with low human development.

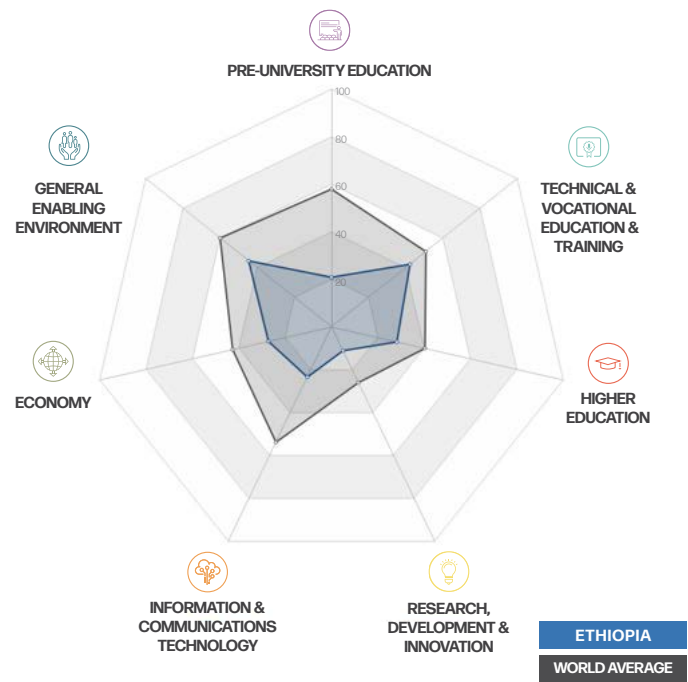
### + AREAS OF STRENGTH

- + Government expenditure, tertiary (% of GDP)
- + Renewable energy consumption (% of total final energy consumption)
- + Expenditure on non-tertiary vocational education (%)
- + Total CO2 emissions per capita
- + Gross fixed capital formation (% of GDP)

### - AREAS OF IMPROVEMENT

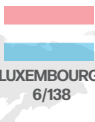
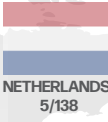
- Expenditure on educational institutions, all levels (%)
- Pupil-teacher ratio, secondary (HC)
- Ease of protecting minority investors
- Internet and telephony level of competition
- Mobile-cellular subscriptions (per 100 inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	135	20.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	115	42.3	
	HIGHER EDUCATION	121	28.2	
	RESEARCH, DEVELOPMENT & INNOVATION	127	11.1	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	130	23.4	
	ECONOMY	130	27.2	
	GENERAL ENABLING ENVIRONMENT	116	44.6	



# FINLAND

**268.761** GDP US\$ billions | **5,540,718** Population | **0.925** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Finland is a leading performer in terms of its knowledge infrastructure. It ranks 3<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 3<sup>rd</sup> out of the 56 countries with very high human development.

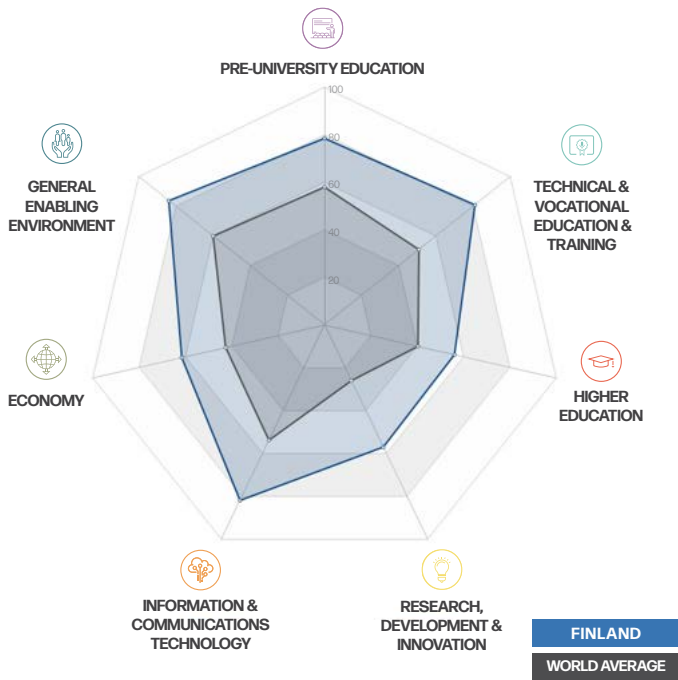
### + AREAS OF STRENGTH

- + Gross enrolment ratio, upper secondary (%)
- + Gross graduation ratio, upper secondary (%)
- + Availability of latest technologies
- + Soundness of banks
- + Judicial independence

### - AREAS OF IMPROVEMENT

- Labour freedom
- Researchers in higher education (%)
- Total CO2 emissions per capita
- Investment in telecom services (% of GDP)
- Restrictive labour regulations

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	1	78.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	2	81	
	HIGHER EDUCATION	13	56.1	
	RESEARCH, DEVELOPMENT & INNOVATION	11	57	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	12	81.9	
	ECONOMY	8	61.6	
	GENERAL ENABLING ENVIRONMENT	7	83.8	



# FRANCE

**2,715.518** GDP US\$ billions | **65,273,512** Population | **0.891** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

France is a leading performer in terms of its knowledge infrastructure. It ranks 20<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 20<sup>th</sup> out of the 56 countries with very high human development.

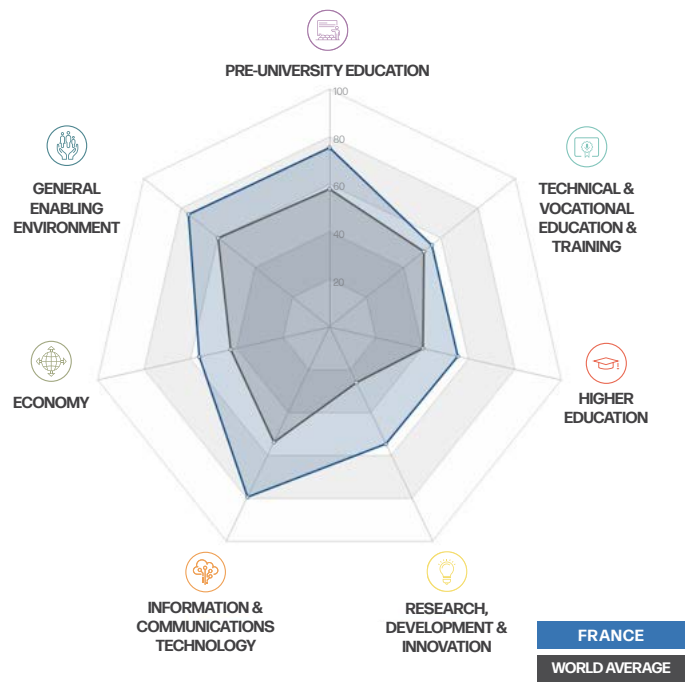
### + AREAS OF STRENGTH

- + Fixed-broadband subscriptions (per 100 inhabitants)
- + Fixed-telephone subscriptions (per 100 inhabitants)
- + Creative goods exports (% of total trade in goods)
- + Survival rate, last grade of lower secondary (%)
- + Gross enrolment ratio, ECE (%)

### - AREAS OF IMPROVEMENT

- Labour freedom
- Researchers in higher education (%)
- Total tax and contribution rate (% of profit)
- Restrictive labour regulations
- Enrolment in tertiary education, ISCED 6 (%)

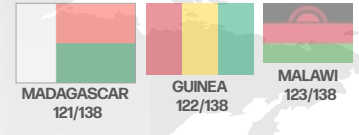
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	11	75.4
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	40	55.1
HIGHER EDUCATION	20	55.4
RESEARCH, DEVELOPMENT & INNOVATION	12	54.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	16	79.4
ECONOMY	21	56.2
GENERAL ENABLING ENVIRONMENT	22	75.9





# GAMBIA

**1.764** GDP US\$ billions | **2,416,664** Population | **0.466** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Gambia is a weak performer in terms of its knowledge infrastructure. It ranks 120<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 6<sup>th</sup> out of the 22 countries with low human development.

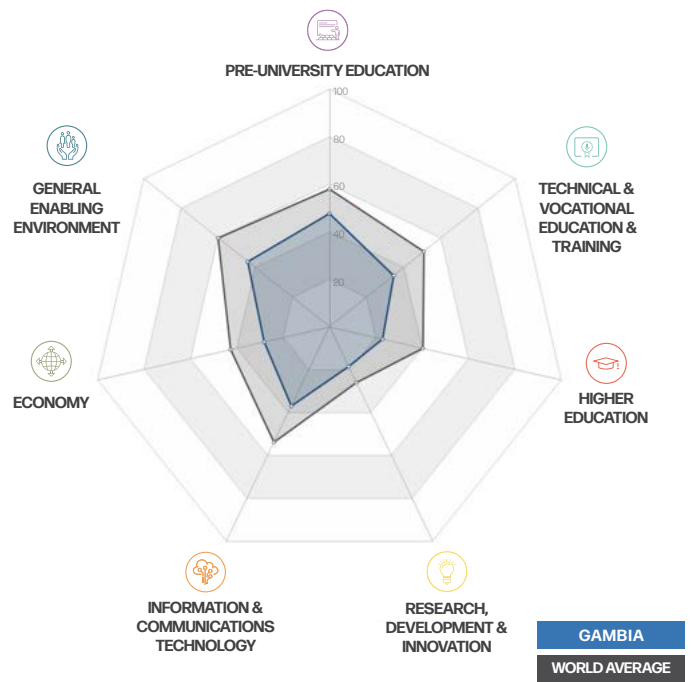
### + AREAS OF STRENGTH

- + Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- + Citations per document
- + Average documents per researcher
- + Total CO2 emissions per capita
- + Mobile-cellular subscriptions (per 100 inhabitants)

### - AREAS OF IMPROVEMENT

- Expenditure on educational institutions, all levels (%)
- Expenditure on non-tertiary vocational education (%)
- ICT goods imported (% of total imports)
- Government Online Service Index
- Creative goods exports (% of total trade in goods)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	112	47.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	129	34.6	
	HIGHER EDUCATION	133	22.9	
	RESEARCH, DEVELOPMENT & INNOVATION	86	18.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	110	36.9	
	ECONOMY	124	28.2	
	GENERAL ENABLING ENVIRONMENT	118	44	



PHILIPPINES  
60/138

ALBANIA  
61/138

KAZAKHSTAN  
62/138

AZERBAIJAN  
64/138

KUWAIT  
65/138

VIET NAM  
66/138

# GEORGIA

17.743  
GDP US\$ billions

3,989,175  
Population

0.786  
HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Georgia is a moderate performer in terms of its knowledge infrastructure. It ranks 63<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 10<sup>th</sup> out of the 36 countries with high human development.

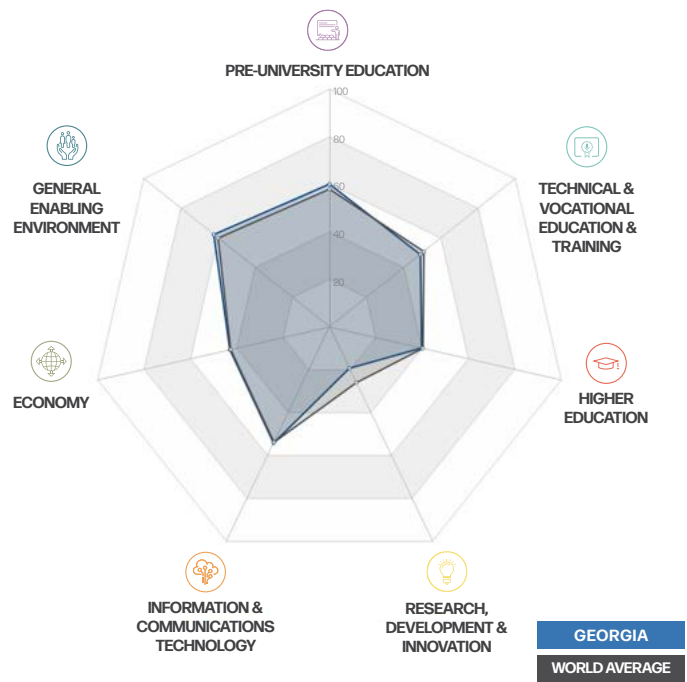
### + AREAS OF STRENGTH

- + Ease of starting a business
- + Pupil-teacher ratio, secondary vocational (HC)
- + Total tax and contribution rate (% of profit)
- + Pupil-teacher ratio, secondary (HC)
- + Pupil-teacher ratio, primary (HC)

### - AREAS OF IMPROVEMENT

- Government expenditure, primary (% of GDP)
- Availability of research and training services
- Quality of research institutions
- GERD per researcher (constant '000 PPP\$)
- Poor work ethic in the labour force

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	70	60.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	70	48.9	
	HIGHER EDUCATION	65	39.8	
	RESEARCH, DEVELOPMENT & INNOVATION	81	19.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	70	54.2	
	ECONOMY	63	43	
	GENERAL ENABLING ENVIRONMENT	55	62.3	



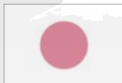
DENMARK  
8/138



UNITED KINGDOM  
9/138



HONG KONG, CHINA (SAR)  
10/138



JAPAN  
12/138



NORWAY  
13/138



IRELAND  
14/138

# GERMANY

**3,845.63** | **83,783,945** | **0.939**  
GDP US\$ billions | Population | HDI



GKI SCORE  
66.2

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Germany is a leading performer in terms of its knowledge infrastructure. It ranks 11<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 11<sup>th</sup> out of the 56 countries with very high human development.

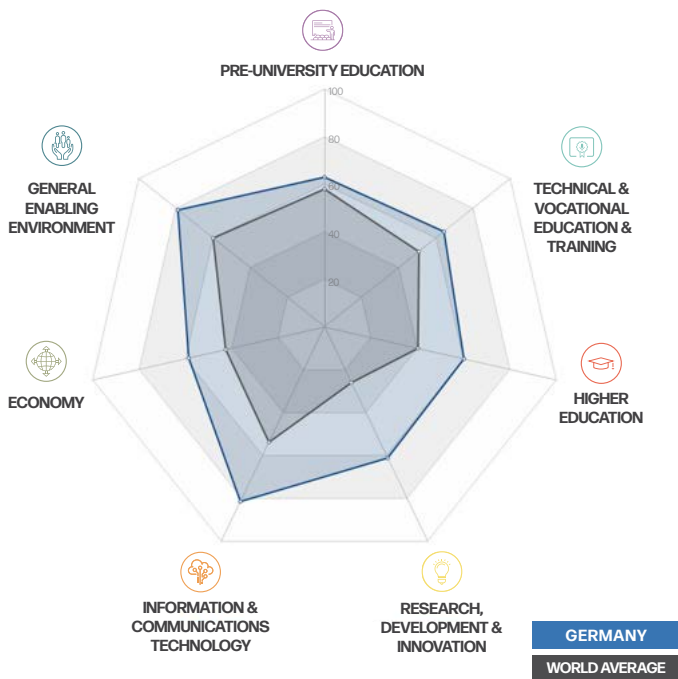
### + AREAS OF STRENGTH

- + Mean years of schooling (ISCED 1 or higher)
- + Logistics Performance Index
- + Citable documents H index
- + Enrolment in tertiary education, ISCED 8 (%)
- + Globally-ranked universities

### - AREAS OF IMPROVEMENT

- Total tax and contribution rate (% of profit)
- Poor work ethic in the labour force
- Investment in telecom services (% of GDP)
- Total CO2 emissions per capita
- Government expenditure, primary (% of GDP)


The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	60	63	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	16	64.3	
	HIGHER EDUCATION	6	60.2	
	RESEARCH, DEVELOPMENT & INNOVATION	7	61.2	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	13	81.5	
	ECONOMY	15	58.6	
	GENERAL ENABLING ENVIRONMENT	14	78.9	

  
BOLIVIA  
(PLURINATIONAL STATE OF)  
98/138

  
RWANDA  
99/138

  
HONDURAS  
100/138

# GHANA

  
PARAGUAY  
102/138

  
ALGERIA  
103/138

  
ZIMBABWE  
104/138

**66.984** | **31,072,945** | **0.596**  
GDP US\$ billions | Population | HDI



## COUNTRY PERFORMANCE SUMMARY

Ghana is a modest performer in terms of its knowledge infrastructure. It ranks 101<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 12<sup>th</sup> out of the 24 countries with medium human development.

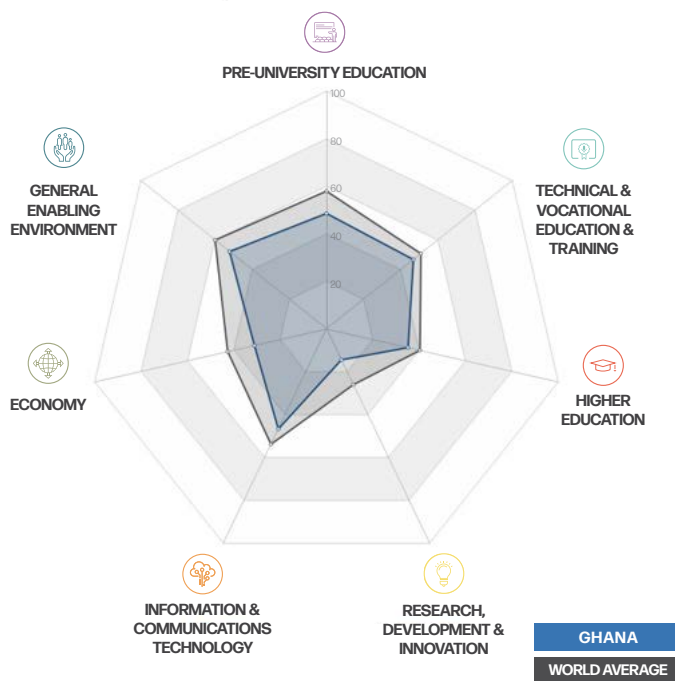
### + AREAS OF STRENGTH

- + FDI, net inflows (% of GDP)
- + Labour force participation rate, female-to-male ratio
- + Graduates, ISCED 7 (%)
- + Government expenditure, secondary (% of GDP)
- + Total CO2 emissions per capita









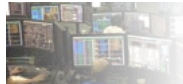





### - AREAS OF IMPROVEMENT

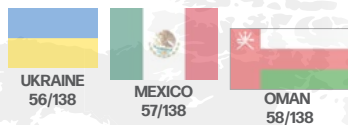
- Total computer software spending (% of GDP)
- Intellectual property receipts (% of total trade)
- Assessment of 8<sup>th</sup> grade students
- GERD performed by business enterprises (% of GDP)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	109	48.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	87	46.8	
	HIGHER EDUCATION	92	35.2	
	RESEARCH, DEVELOPMENT & INNOVATION	111	14.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	88	46.7	
	ECONOMY	116	31.1	
	GENERAL ENABLING ENVIRONMENT	97	52.2	



# GREECE

**209.853** GDP US\$ billions | **10,423,056** Population | **0.872** HDI



## COUNTRY PERFORMANCE SUMMARY

Greece is a moderate performer in terms of its knowledge infrastructure. It ranks 59<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 52<sup>nd</sup> out of the 56 countries with very high human development.

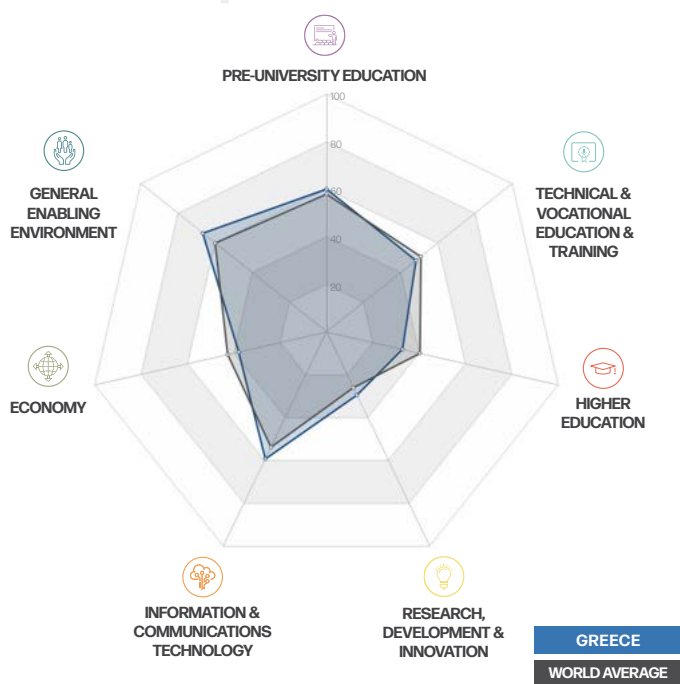
### + AREAS OF STRENGTH

- + Pupil-teacher ratio, primary (HC)
- + Ease of starting a business
- + Fixed-telephone subscriptions (per 100 inhabitants)
- + Fixed-broadband subscriptions (per 100 inhabitants)
- + Poor work ethic in the labour force

### - AREAS OF IMPROVEMENT

- Unemployment rate (%)
- Graduates, ISCED 6 (%)
- Pupil-teacher ratio, tertiary (HC)
- Soundness of banks
- Gross fixed capital formation (% of GDP)

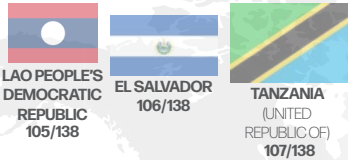
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	71	60.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	76	48.2	
	HIGHER EDUCATION	97	32.8	
	RESEARCH, DEVELOPMENT & INNOVATION	36	29.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	57	59.3	
	ECONOMY	83	37.9	
	GENERAL ENABLING ENVIRONMENT	48	66.6	





# GUATEMALA

**76.71** GDP US\$ billions | **17,915,567** Population | **0.651** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Guatemala is a modest performer in terms of its knowledge infrastructure. It ranks 108<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 16<sup>th</sup> out of the 24 countries with medium human development.

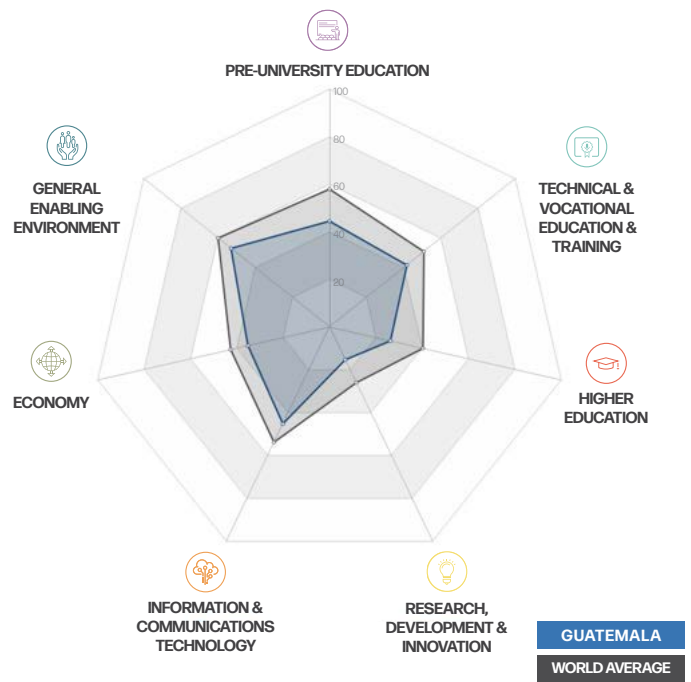
### + AREAS OF STRENGTH

- + Average documents per researcher
- + Soundness of banks
- + Firms offering formal training (%)
- + Poor work ethic in the labour force
- + Educational attainment: at least completed upper secondary, 25+ years, GPI

### - AREAS OF IMPROVEMENT

- Expenditure on non-tertiary vocational education (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- GERD performed by business enterprises (% of GDP)
- ICT PCT patent applications (per million inhabitants)

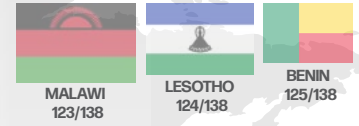
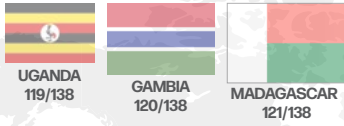
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	116	44.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	118	41.7	
	HIGHER EDUCATION	126	26.3	
	RESEARCH, DEVELOPMENT & INNOVATION	103	15.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	92	45.2	
	ECONOMY	95	35.2	
	GENERAL ENABLING ENVIRONMENT	95	53	





# GUINEA

**13.59** GDP US\$ billions | **13,132,792** Population | **0.466** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Guinea is a weak performer in terms of its knowledge infrastructure. It ranks 122<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 8<sup>th</sup> out of the 22 countries with low human development.

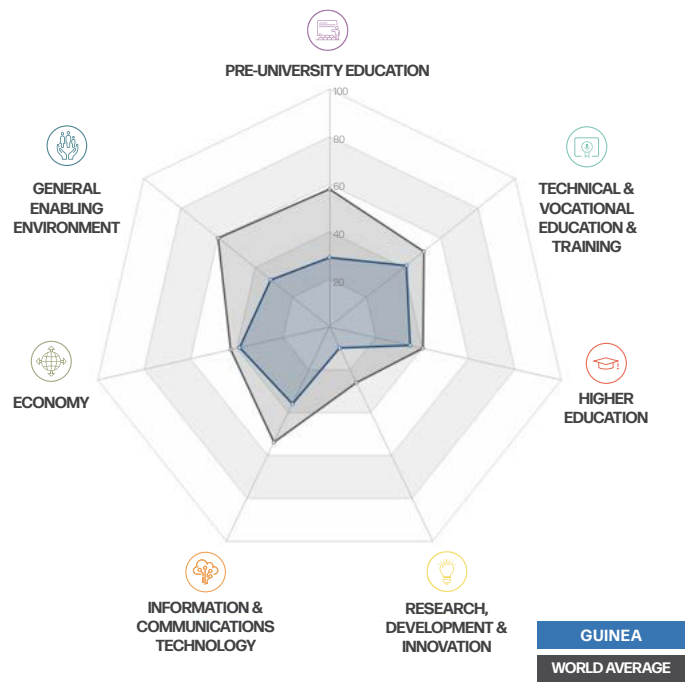
### + AREAS OF STRENGTH

- + Investment in telecom services (% of GDP)
- + Graduates, ISCED 8 (%)
- + Labour force participation rate, female-to-male ratio
- + Extent of marketing
- + Expenditure on educational institutions, all levels (%)

### - AREAS OF IMPROVEMENT

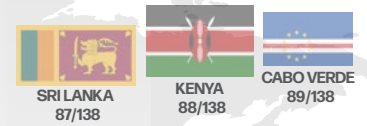
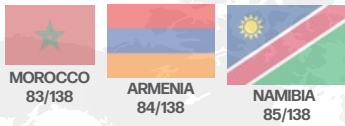
- Technicians per thousand labour force (HC)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Fixed-telephone subscriptions (per 100 inhabitants)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	130	29.2
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	119	41.4
HIGHER EDUCATION	93	34.8
RESEARCH, DEVELOPMENT & INNOVATION	132	9.8
INFORMATION & COMMUNICATIONS TECHNOLOGY	111	35.9
ECONOMY	78	38.8
GENERAL ENABLING ENVIRONMENT	137	31.7



# GUYANA

**4.28** GDP US\$ billions | **786,559** Population | **0.67** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Guyana is a modest performer in terms of its knowledge infrastructure. It ranks 86<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 5<sup>th</sup> out of the 24 countries with medium human development.

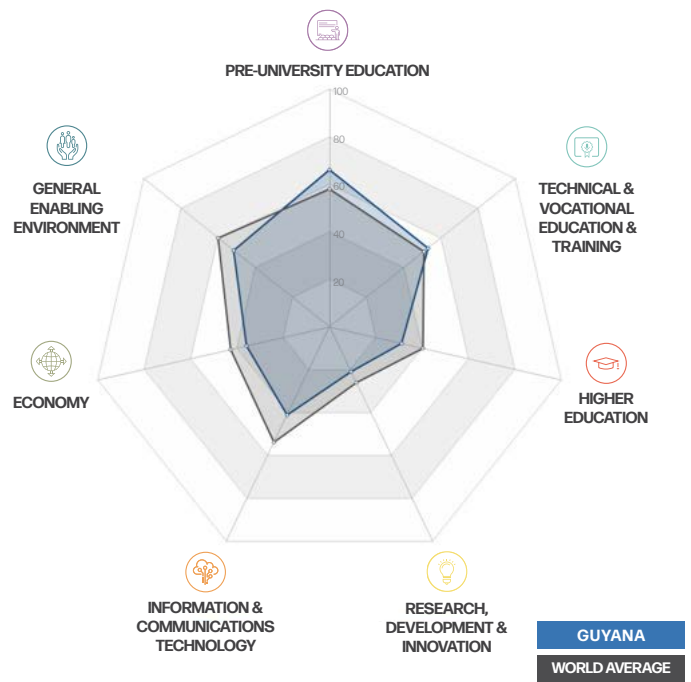
### + AREAS OF STRENGTH

- + FDI, net inflows (% of GDP)
- + National feature films produced (per million inhabitants)
- + Firms offering formal training (%)
- + Gross fixed capital formation (% of GDP)
- + Gross enrolment ratio, ECE (%)

### - AREAS OF IMPROVEMENT

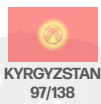
- Citable documents H index
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Patent applications (per million inhabitants)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	44	66.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	50	53.1	
	HIGHER EDUCATION	108	31.1	
	RESEARCH, DEVELOPMENT & INNOVATION	70	20.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	102	41.1	
	ECONOMY	94	35.8	
	GENERAL ENABLING ENVIRONMENT	100	51.6	



KYRGYZSTAN  
97/138



BOLIVIA  
(PLURINATIONAL STATE OF)  
98/138

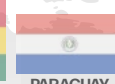


RWANDA  
99/138

# HONDURAS



GHANA  
101/138



PARAGUAY  
102/138



ALGERIA  
103/138

**25.095** | **9,904,608** | **0.623**  
GDP US\$ billions | Population | HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Honduras is a modest performer in terms of its knowledge infrastructure. It ranks 100<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 11<sup>th</sup> out of the 24 countries with medium human development.

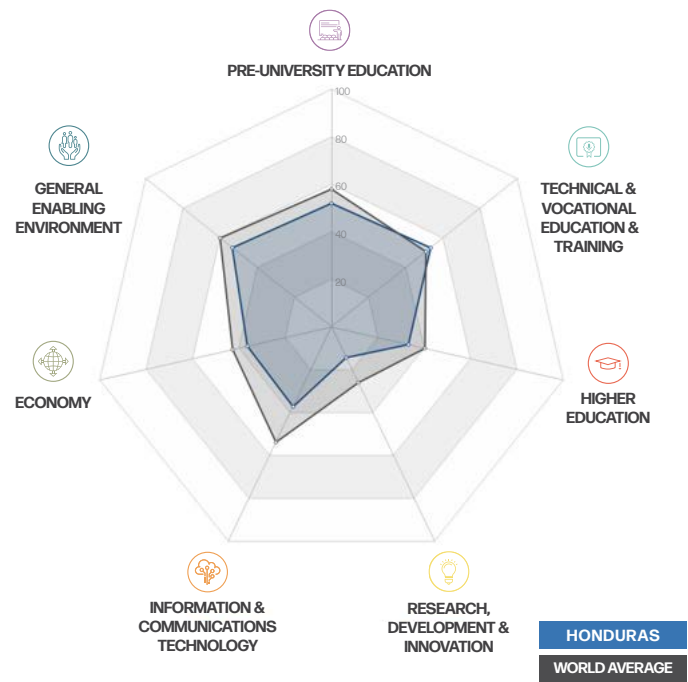
### + AREAS OF STRENGTH

- + Government expenditure, primary (% of GDP)
- + Educational attainment: at least completed upper secondary, 25+ years, GPI
- + Poor work ethic in the labour force
- + Graduates, ISCED 8 (%)
- + Enrolment in vocational programmes, secondary (%)

### - AREAS OF IMPROVEMENT

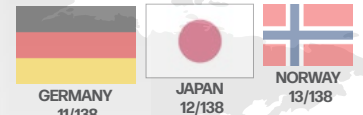
- Labour freedom
- Intellectual property receipts (% of total trade)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Category	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	99	52	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	47	53.4	
	HIGHER EDUCATION	96	33.2	
	RESEARCH, DEVELOPMENT & INNOVATION	113	14.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	109	37.2	
	ECONOMY	90	36.3	
	GENERAL ENABLING ENVIRONMENT	93	53.4	



# HONG KONG, CHINA (SAR)

**366.03** GDP US\$ billions | **7,496,988** Population | **0.939** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Hong Kong, China (SAR) is a leading performer in terms of its knowledge infrastructure. It ranks 10<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 10<sup>th</sup> out of the 56 countries with very high human development.

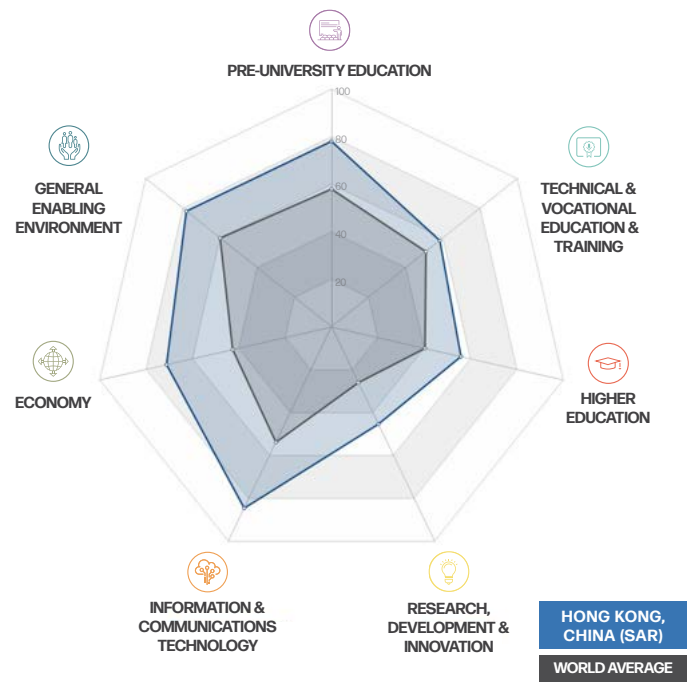
### + AREAS OF STRENGTH

- + ICT goods exported (% of total exports)
- + Business impact of rules on FDI
- + Domestic credit to private sector (% of GDP)
- + International Internet bandwidth per Internet user (Kbit/s)
- + Energy intensity level of primary energy (MJ/2011 PPP\$)

### - AREAS OF IMPROVEMENT

- Expenditure on educational institutions, all levels (%)
- FDI, net inflows (% of GDP)
- Enrolment in vocational programmes, secondary (%)
- Renewable energy consumption (% of total final energy consumption)
- Manufacturing, value added (% of GDP)

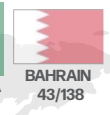
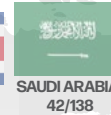
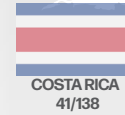
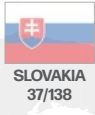
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	2	78.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	31	58.3	
	HIGHER EDUCATION	16	55.9	
	RESEARCH, DEVELOPMENT & INNOVATION	20	45.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	5	84.6	
	ECONOMY	3	71.2	
	GENERAL ENABLING ENVIRONMENT	17	78.1	





# HUNGARY

**160.967** GDP US\$ billions | **9,660,350** Population | **0.845** HDI



## COUNTRY PERFORMANCE SUMMARY

Hungary is a strong performer in terms of its knowledge infrastructure. It ranks 40<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 39<sup>th</sup> out of the 56 countries with very high human development.

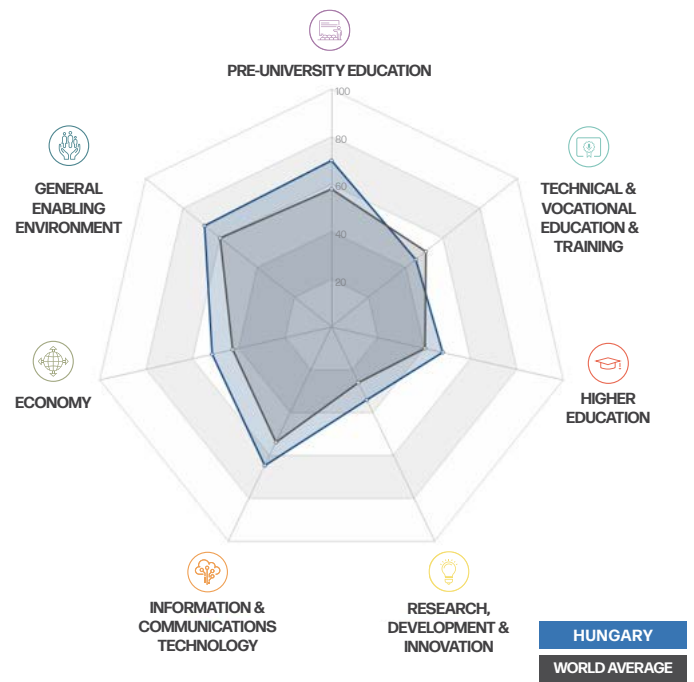
### + AREAS OF STRENGTH

- + Unemployment with advanced education (%)
- + Trade (% of GDP)
- + High-technology net exports (% of total trade)
- + Creative services exports (% of total trade in services)
- + High-technology net imports (% of total trade)

### - AREAS OF IMPROVEMENT

- Extent of marketing
- Poor work ethic in the labour force
- Government expenditure, primary (% of GDP)
- Ease of finding skilled employees
- FDI, net inflows (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	32	70
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	96	45.4
HIGHER EDUCATION	36	48
RESEARCH, DEVELOPMENT & INNOVATION	33	34.1
INFORMATION & COMMUNICATIONS TECHNOLOGY	41	64.7
ECONOMY	36	51.5
GENERAL ENABLING ENVIRONMENT	42	68.3



**24.188** GDP US\$ billions | **341,250** Population | **0.938** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Iceland is a leading performer in terms of its knowledge infrastructure. It ranks 18<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 18<sup>th</sup> out of the 56 countries with very high human development.

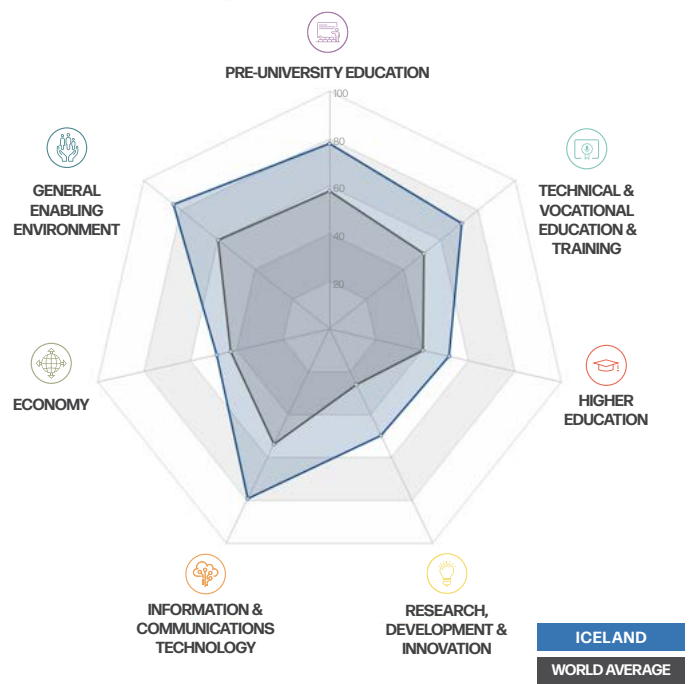
### + AREAS OF STRENGTH

- + Out-of-school children (%)
- + Use of virtual social networks
- + Political stability and absence of violence/terrorism
- + Under-five mortality rate (per 1000 live births)
- + Firm-level technology absorption

### - AREAS OF IMPROVEMENT

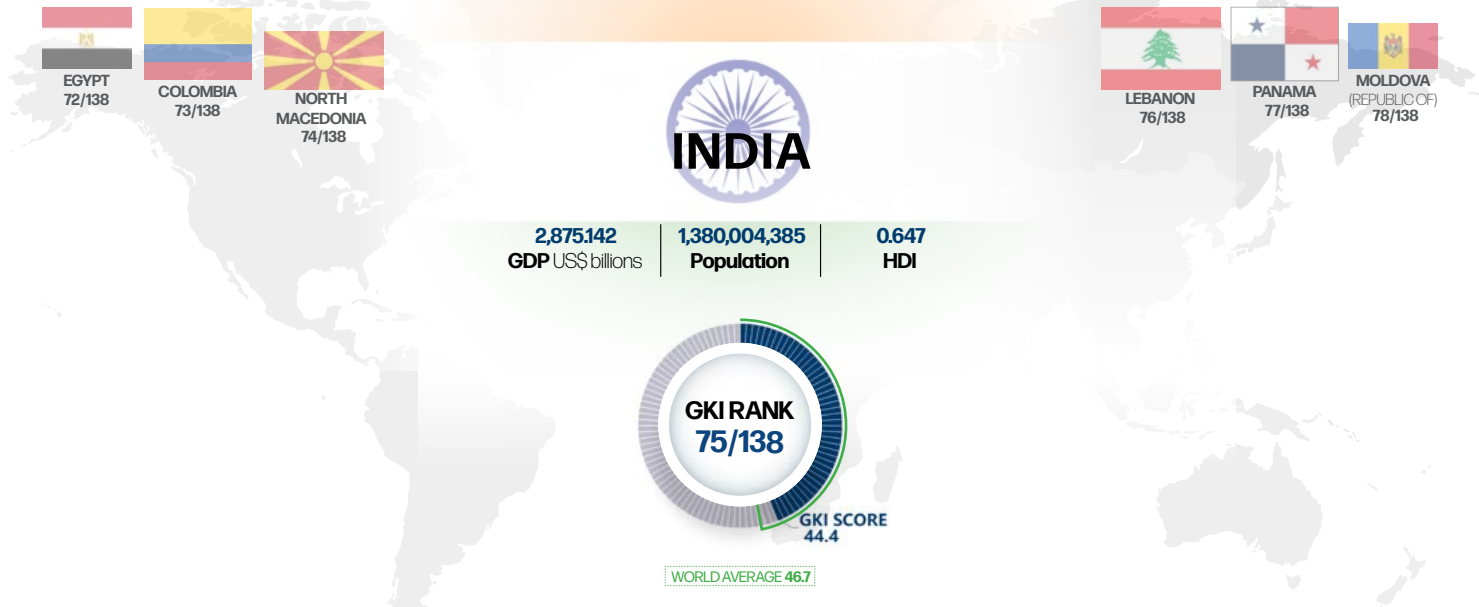
- Manufacturing, value added (% of GDP)
- Graduates, ISCED 8 (%)
- Creative goods exports (% of total trade in goods)
- FDI, net inflows (% of GDP)
- Energy intensity level of primary energy (MJ/2011 PPP\$)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	3	78	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	9	71.2	
	HIGHER EDUCATION	26	51.6	
	RESEARCH, DEVELOPMENT & INNOVATION	15	49.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	17	79.2	
	ECONOMY	43	48.7	
	GENERAL ENABLING ENVIRONMENT	5	84	



### COUNTRY PERFORMANCE SUMMARY

India is a moderate performer in terms of its knowledge infrastructure. It ranks 75<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 2<sup>nd</sup> out of the 24 countries with medium human development.

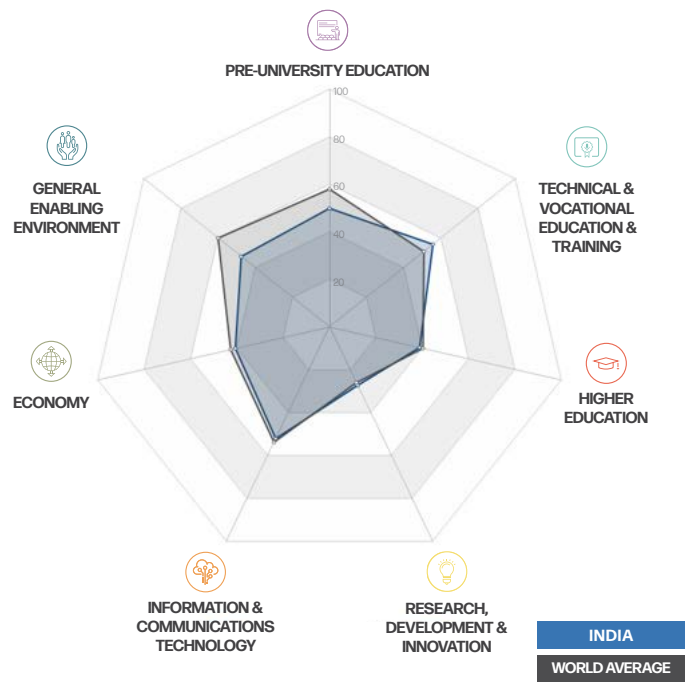
#### + AREAS OF STRENGTH

- + Globally-ranked universities
- + Creative goods exports (% of total trade in goods)
- + Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- + Ease of protecting minority investors
- + Best scientific journal (SJR ranking)

#### - AREAS OF IMPROVEMENT

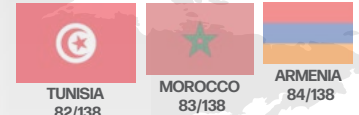
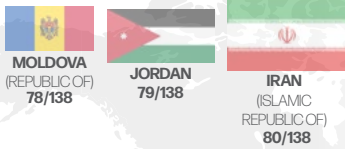
- Enrolment in vocational programmes, secondary (%)
- Labour freedom
- Labour force participation rate, female-to-male ratio
- Inbound mobility rate (%)
- Enrolment in globally-ranked universities (% of tertiary students)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



### SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	105	49.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	38	55.7	
	HIGHER EDUCATION	70	38.9	
	RESEARCH, DEVELOPMENT & INNOVATION	44	27.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	76	52.1	
	ECONOMY	75	40.6	
	GENERAL ENABLING ENVIRONMENT	113	47.5	



# INDONESIA

**1,119.191** GDP US\$ billions | **273,523,621** Population | **0.707** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Indonesia is a moderate performer in terms of its knowledge infrastructure. It ranks 81<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 23<sup>rd</sup> out of the 36 countries with high human development.

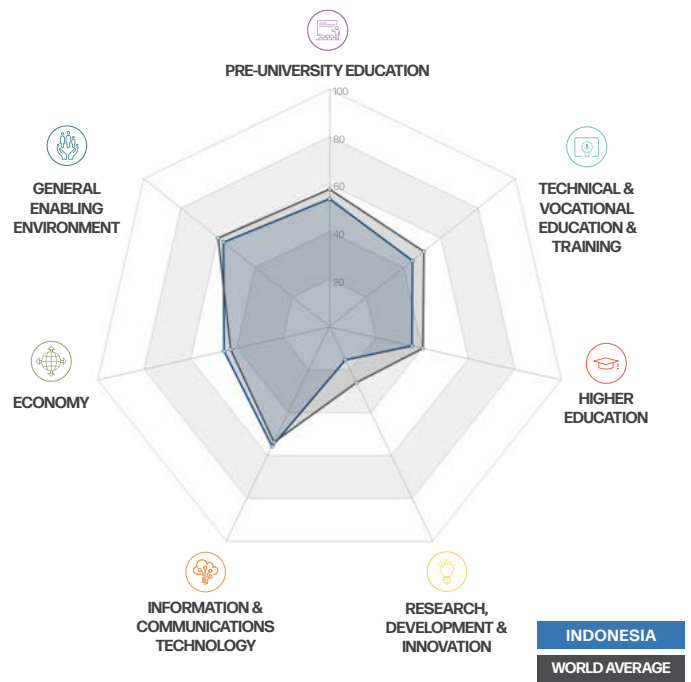
### + AREAS OF STRENGTH

- + Investment in telecom services (% of GDP)
- + Gross fixed capital formation (% of GDP)
- + Manufacturing, value added (% of GDP)
- + Researchers in higher education (%)
- + Business-to-consumer Internet use

### - AREAS OF IMPROVEMENT

- Trade (% of GDP)
- Unlicensed software installation rates
- Inbound mobility rate (%)
- Firms offering formal training (%)
- Citations per document

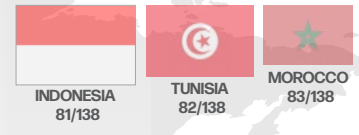
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	93	53.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	103	44.7	
	HIGHER EDUCATION	88	35.6	
	RESEARCH, DEVELOPMENT & INNOVATION	102	15.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	67	55.7	
	ECONOMY	52	45.5	
	GENERAL ENABLING ENVIRONMENT	82	57.1	





# IRAN (ISLAMIC REPUBLIC OF)

**445.345** | **83,992,953** | **0.797**  
**GDP** US\$ billions | **Population** | **HDI**



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Iran (Islamic Republic of) is a moderate performer in terms of its knowledge infrastructure. It ranks 80<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 22<sup>nd</sup> out of the 36 countries with high human development.

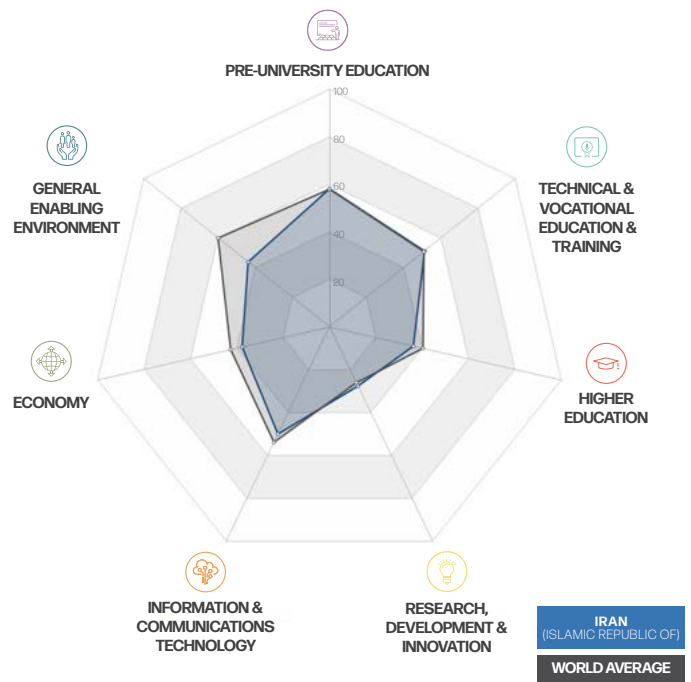
### + AREAS OF STRENGTH

- + Trademark applications (per billion PPP\$ GDP)
- + Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- + Investment in telecom services (% of GDP)
- + Expenditure on non-tertiary vocational education (%)
- + ICT Price Basket

### - AREAS OF IMPROVEMENT

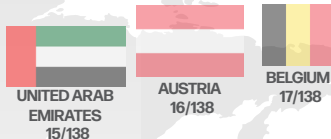
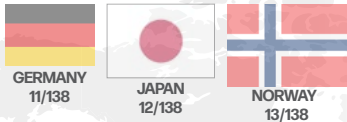
- Labour force participation rate, female-to-male ratio
- World Press Freedom Index
- Women-to-men ratio in parliament (%)
- Business impact of rules on FDI
- Joint venture per strategic alliance deals

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

	RANK	VALUE	
PRE-UNIVERSITY EDUCATION	78	58.1	
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	57	51.2	
HIGHER EDUCATION	87	36.2	
RESEARCH, DEVELOPMENT & INNOVATION	41	27.6	
INFORMATION & COMMUNICATIONS TECHNOLOGY	82	50	
ECONOMY	84	37.7	
GENERAL ENABLING ENVIRONMENT	119	43.8	



# IRELAND

**388.699** GDP US\$ billions | **4,937,796** Population | **0.942** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Ireland is a leading performer in terms of its knowledge infrastructure. It ranks 14<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 14<sup>th</sup> out of the 56 countries with very high human development.

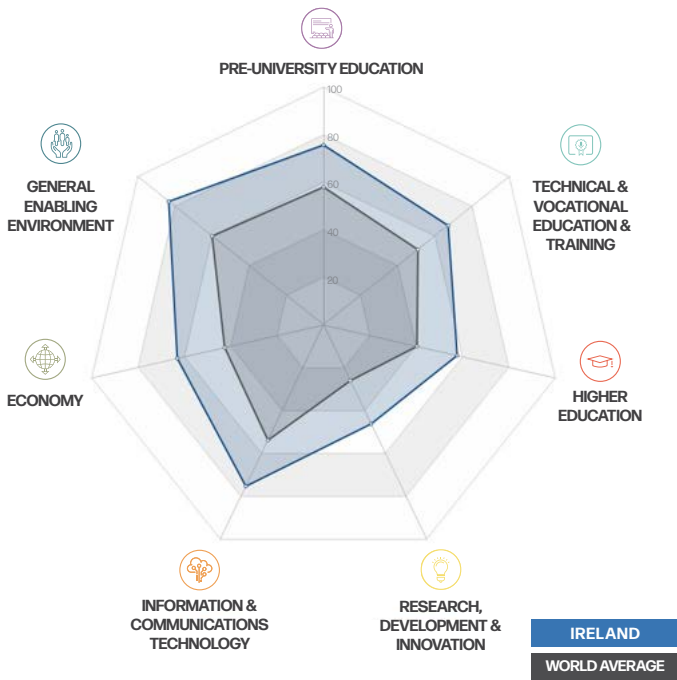
### + AREAS OF STRENGTH

- + Poor work ethic in the labour force
- + FDI and technology transfer
- + Manufacturing, value added (% of GDP)
- + Gross enrolment ratio, upper secondary (%)
- + Out-of-school children (%)

### - AREAS OF IMPROVEMENT

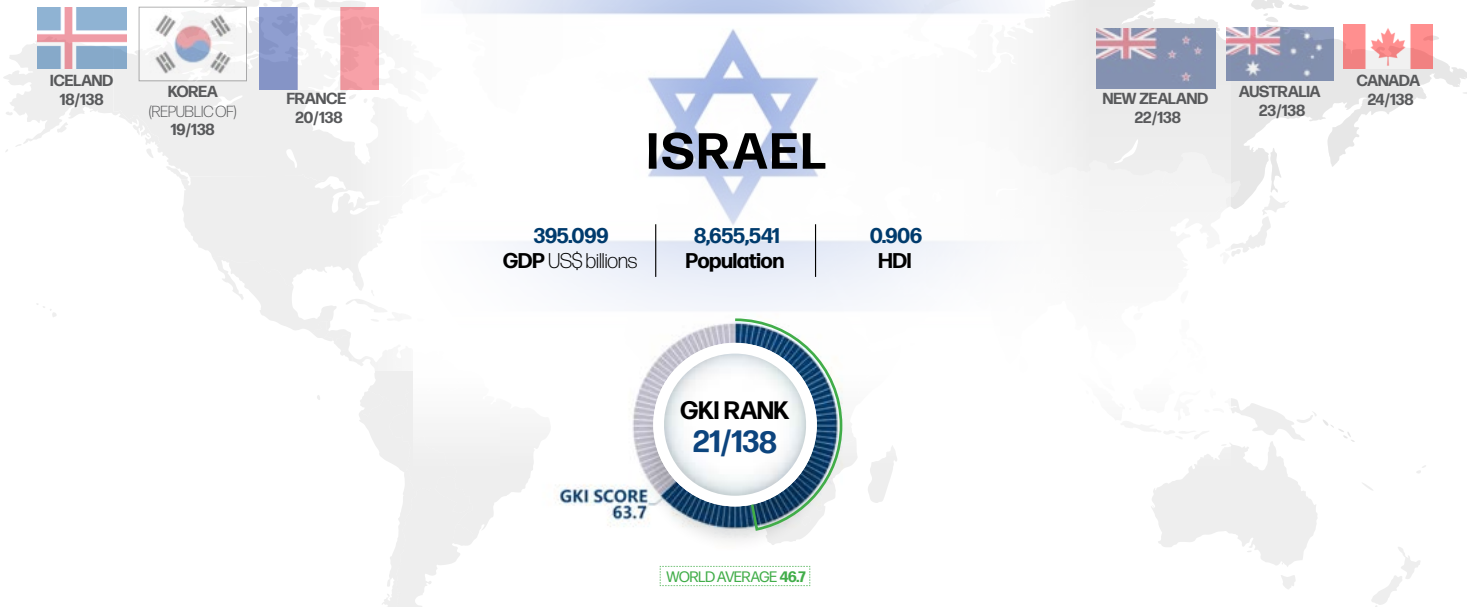
- Creative services exports (% of total trade in services)
- Restrictive labour regulations
- Total CO2 emissions per capita
- Investment in telecom services (% of GDP)
- Printing and publishing manufactures (% of manufactured output)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	8	75.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	13	67.1	
	HIGHER EDUCATION	9	57.7	
	RESEARCH, DEVELOPMENT & INNOVATION	19	46.2	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	25	75.3	
	ECONOMY	6	63.1	
	GENERAL ENABLING ENVIRONMENT	8	83.3	

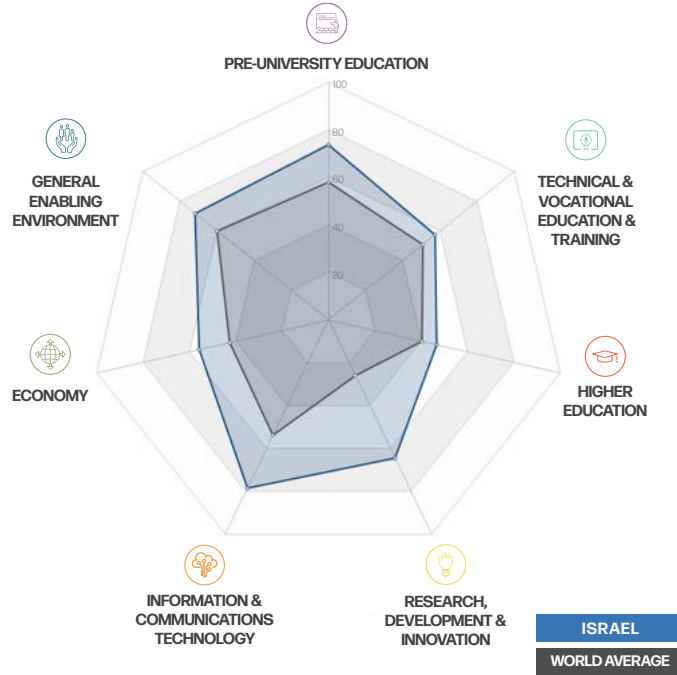


**COUNTRY PERFORMANCE SUMMARY**

Israel is a leading performer in terms of its knowledge infrastructure. It ranks 21<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 21<sup>st</sup> out of the 56 countries with very high human development.

- AREAS OF STRENGTH**
  - + University-industry collaboration in R&D
  - + GERD (% of GDP)
  - + Quality of research institutions
  - + Use of virtual social networks
  - + Venture capital availability
- AREAS OF IMPROVEMENT**
  - Political stability and absence of violence/terrorism
  - Total CO2 emissions per capita
  - Renewable energy consumption (% of total final energy consumption)
  - Firms offering formal training (%)
  - Enrolment in vocational programmes, post-secondary non-tertiary (%)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



**SECTORAL INDICES**

Image	SECTOR	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	18	73.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	34	57.4	
	HIGHER EDUCATION	38	46.7	
	RESEARCH, DEVELOPMENT & INNOVATION	3	64.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	19	78.5	
	ECONOMY	25	55.8	
	GENERAL ENABLING ENVIRONMENT	35	71.8	



# ITALY

**2,001,244** GDP US\$ billions | **60,461,828** Population | **0.883** HDI



## COUNTRY PERFORMANCE SUMMARY

Italy is a strong performer in terms of its knowledge infrastructure. It ranks 32<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 31<sup>st</sup> out of the 56 countries with very high human development.

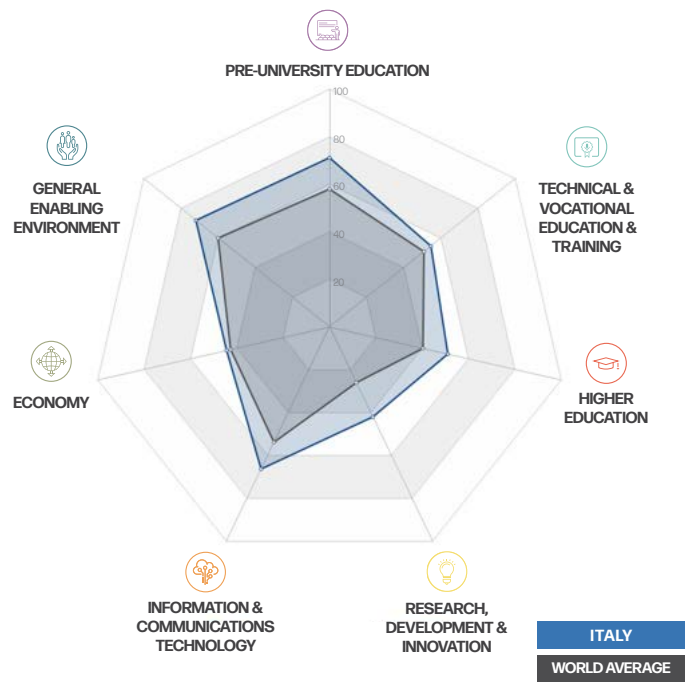
### + AREAS OF STRENGTH

- + Industrial design applications (per billion PPP\$ GDP)
- + Creative goods exports (% of total trade in goods)
- + Enrolment in tertiary education, ISCED 7 (%)
- + Globally-ranked universities
- + Enrolment in globally-ranked universities (% of tertiary students)

### - AREAS OF IMPROVEMENT

- Unemployment rate (%)
- Researchers in higher education (%)
- Gross fixed capital formation (% of GDP)
- Total tax and contribution rate (% of profit)
- Firms offering formal training (%)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	27	71.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	43	54.6	
	HIGHER EDUCATION	28	51.1	
	RESEARCH, DEVELOPMENT & INNOVATION	26	42	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	35	66.3	
	ECONOMY	57	44.4	
	GENERAL ENABLING ENVIRONMENT	34	71.9	



  
UNITED KINGDOM  
9/138

  
HONG KONG, CHINA (SAR)  
10/138

  
GERMANY  
11/138

**JAPAN**


**5,081.77**  
GDP US\$ billions

**126,476,458**  
Population

**0.915**  
HDI

  
NORWAY  
13/138

  
IRELAND  
14/138

  
UNITED ARAB EMIRATES  
15/138



GKI SCORE  
66.2

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Japan is a leading performer in terms of its knowledge infrastructure. It ranks 12<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 12<sup>th</sup> out of the 56 countries with very high human development.

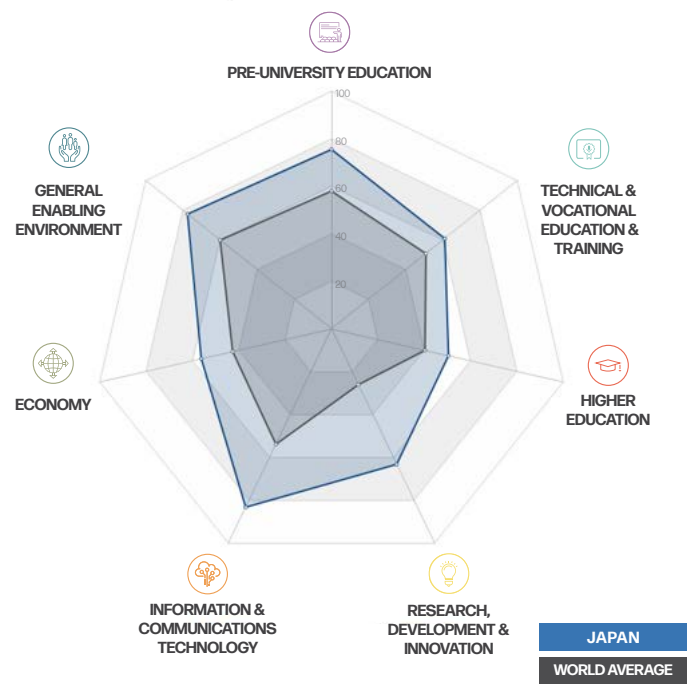
### + AREAS OF STRENGTH

- + Survival rate, last grade of lower secondary (%)
- + GERD financed by business enterprises (%)
- + Patent applications (per million inhabitants)
- + Youth not in employment, education or training (NEET) (%)
- + Life expectancy at birth, both sexes (years)

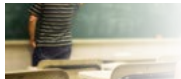







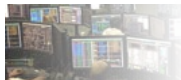



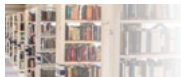

### - AREAS OF IMPROVEMENT

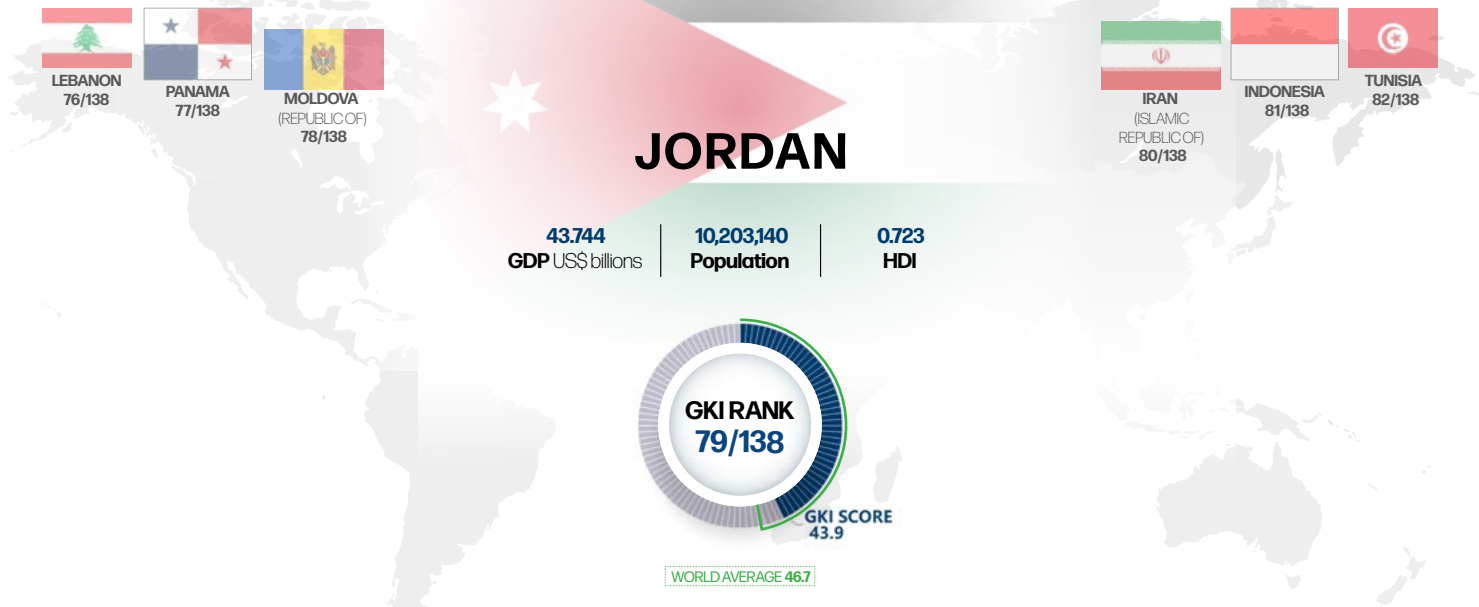
- FDI, net inflows (% of GDP)
- Total CO2 emissions per capita
- Restrictive labour regulations
- Women-to-men ratio in parliament (%)
- Trade (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	9	75.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	23	61	
	HIGHER EDUCATION	30	50.5	
	RESEARCH, DEVELOPMENT & INNOVATION	6	63.2	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	9	83.2	
	ECONOMY	22	56.2	
	GENERAL ENABLING ENVIRONMENT	18	77.5	



## COUNTRY PERFORMANCE SUMMARY

Jordan is a moderate performer in terms of its knowledge infrastructure. It ranks 79<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 21<sup>st</sup> out of the 36 countries with high human development.

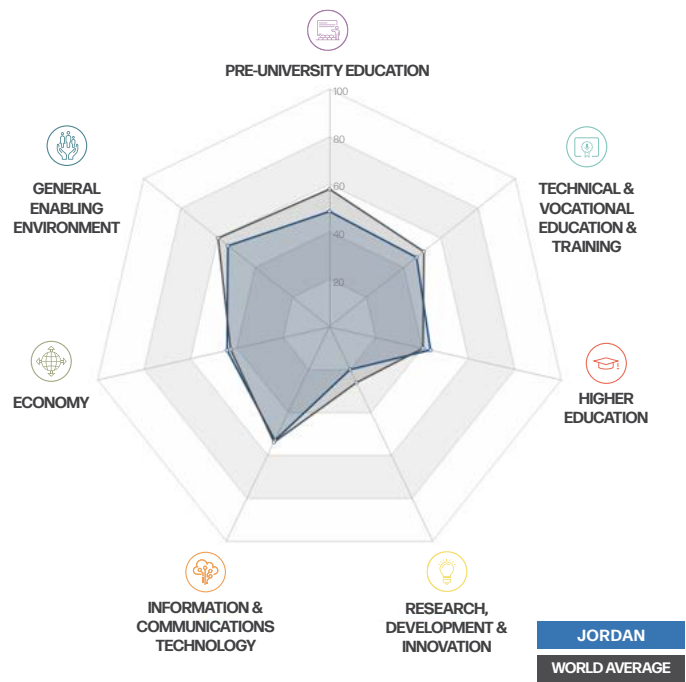
### + AREAS OF STRENGTH

- + Researchers in higher education (%)
- + Printing and publishing manufactures (% of manufactured output)
- + Inbound mobility rate (%)
- + Bank deposits to GDP (%)
- + Manufacturing, value added (% of GDP)

### - AREAS OF IMPROVEMENT

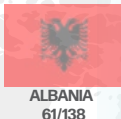
- Government expenditure per student, tertiary (constant PPP\$)
- Unemployment rate (%)
- Unemployment with advanced education (%)
- Gross enrolment ratio, primary (%)
- Labour force participation rate, female-to-male ratio

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.

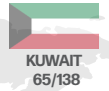
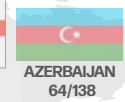


## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	110	48.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	85	46.9	
	HIGHER EDUCATION	50	43.6	
	RESEARCH, DEVELOPMENT & INNOVATION	75	19.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	73	52.9	
	ECONOMY	59	44.2	
	GENERAL ENABLING ENVIRONMENT	87	54.7	



# KAZAKHSTAN



180.162 GDP US\$ billions | 18,776,707 Population | 0.817 HDI



## COUNTRY PERFORMANCE SUMMARY

Kazakhstan is a moderate performer in terms of its knowledge infrastructure. It ranks 62<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 53<sup>rd</sup> out of the 56 countries with very high human development.

### + AREAS OF STRENGTH

- + Gross graduation ratio, upper secondary (%)
- + Ease of enforcing a contract
- + Pupil-teacher ratio, secondary (HC)
- + Labour freedom
- + Adult literacy rate (%)

### - AREAS OF IMPROVEMENT

- Government expenditure, tertiary (% of GDP)
- Creative services exports (% of total trade in services)
- Government expenditure, primary (% of GDP)
- Expenditure on non-tertiary vocational education (%)
- Citations per document

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Index Name	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	37	68.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	75	48.4	
	HIGHER EDUCATION	64	39.9	
	RESEARCH, DEVELOPMENT & INNOVATION	109	14.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	62	57.2	
	ECONOMY	77	38.8	
	GENERAL ENABLING ENVIRONMENT	60	61.2	



# KENYA

**95.503** GDP US\$ billions | **53,771,300** Population | **0.579** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Kenya is a modest performer in terms of its knowledge infrastructure. It ranks 88<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 6<sup>th</sup> out of the 24 countries with medium human development.

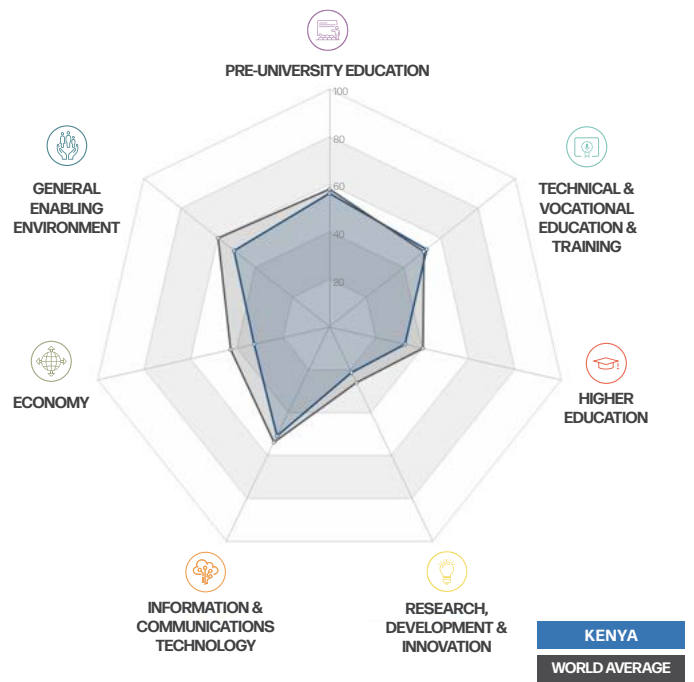
### + AREAS OF STRENGTH

- + Ease of protecting minority investors
- + International Internet bandwidth per Internet user (Kbit/s)
- + Printing and publishing manufactures (% of manufactured output)
- + Gross graduation ratio, primary (%)
- + Labour force participation rate, female-to-male ratio

### - AREAS OF IMPROVEMENT

- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Labour force with advanced education (%)
- Gross fixed capital formation (% of GDP)
- Fixed-telephone subscriptions (per 100 inhabitants)
- Trade (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	86	56.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	54	52.3	
	HIGHER EDUCATION	98	32.6	
	RESEARCH, DEVELOPMENT & INNOVATION	64	21.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	80	50.9	
	ECONOMY	109	32.5	
	GENERAL ENABLING ENVIRONMENT	102	51.4	



**AUSTRIA**  
16/138

**BELGIUM**  
17/138

**ICELAND**  
18/138

**FRANCE**  
20/138

**ISRAEL**  
21/138

**NEW ZEALAND**  
22/138

# KOREA (REPUBLIC OF)

**1,642.383**  
GDP US\$ billions

**51,269,183**  
Population

**0.906**  
HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Korea (Republic of) is a leading performer in terms of its knowledge infrastructure. It ranks 19<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 19<sup>th</sup> out of the 56 countries with very high human development.

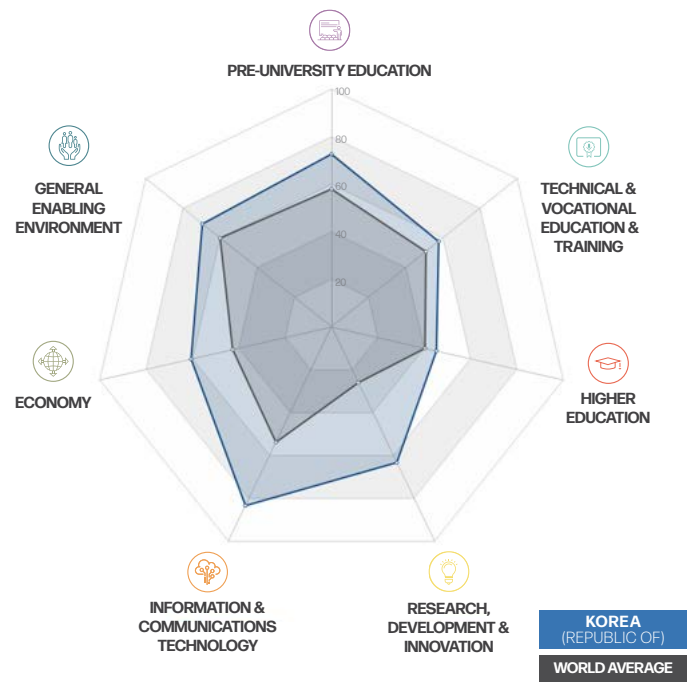
### + AREAS OF STRENGTH

- + Government Online Service Index
- + Ease of enforcing a contract
- + GERD (% of GDP)
- + Researchers (HC) in business enterprise (%)
- + GERD performed by business enterprises (% of GDP)

### - AREAS OF IMPROVEMENT

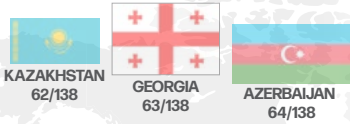
- FDI, net inflows (% of GDP)
- Renewable energy consumption (% of total final energy consumption)
- Total CO2 emissions per capita
- Researchers in higher education (%)
- Printing and publishing manufactures (% of manufactured output)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	20	72.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	32	57.7	
	HIGHER EDUCATION	45	45.3	
	RESEARCH, DEVELOPMENT & INNOVATION	5	63.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	8	83.4	
	ECONOMY	10	60.6	
	GENERAL ENABLING ENVIRONMENT	39	69.5	



# KUWAIT

**134.761** GDP US\$ billions | **4,270,563** Population | **0.808** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Kuwait is a moderate performer in terms of its knowledge infrastructure. It ranks 65<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 54<sup>th</sup> out of the 56 countries with very high human development.

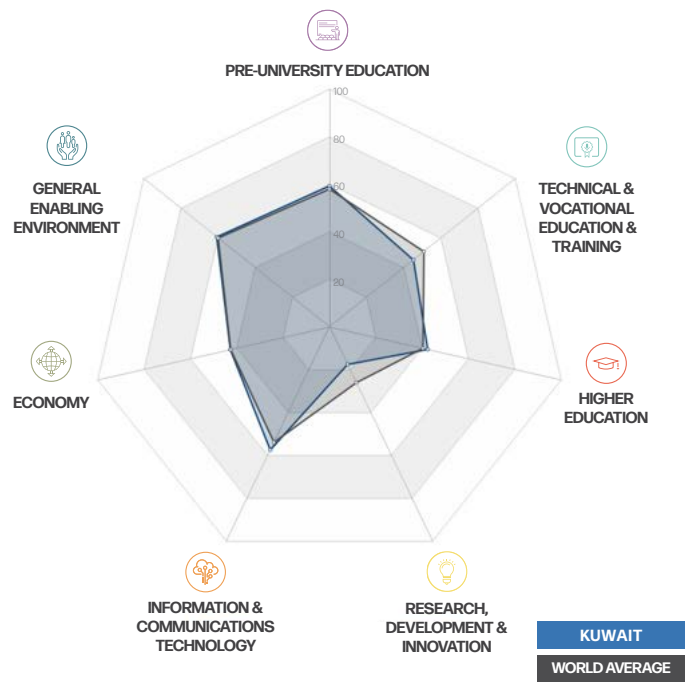
### + AREAS OF STRENGTH

- + ICT Price Basket
- + Educational attainment: at least completed upper secondary, 25+ years, GPI
- + Internet users (%)
- + Pupil-teacher ratio, primary (HC)
- + Pupil-teacher ratio, secondary (HC)

### - AREAS OF IMPROVEMENT

- Enrolment in tertiary education, ISCED 8 (%)
- Enrolment in tertiary education, ISCED 7 (%)
- Women-to-men ratio in parliament (%)
- Total CO2 emissions per capita
- Renewable energy consumption (% of total final energy consumption)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*

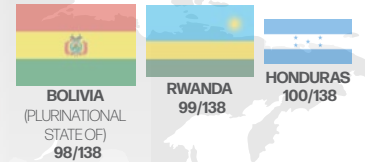


## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	74	59.3	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	98	45.2	
	HIGHER EDUCATION	57	42.4	
	RESEARCH, DEVELOPMENT & INNOVATION	90	17.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	61	57.4	
	ECONOMY	64	42.8	
	GENERAL ENABLING ENVIRONMENT	62	60.7	



# KYRGYZSTAN



**8.455** GDP US\$ billions | **6,524,191** Population | **0.674** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Kyrgyzstan is a modest performer in terms of its knowledge infrastructure. It ranks 97<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 10<sup>th</sup> out of the 24 countries with medium human development.

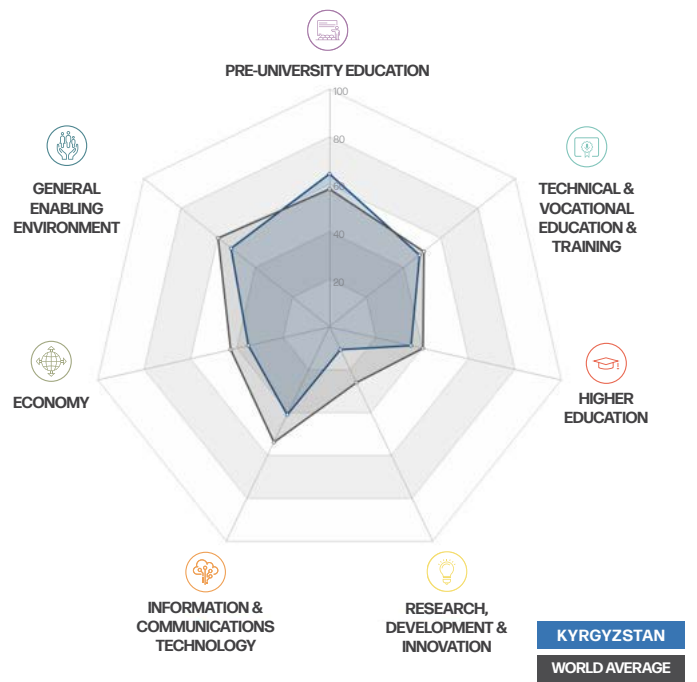
### + AREAS OF STRENGTH

- + Creative services exports (% of total trade in services)
- + Graduates, ISCED 7 (%)
- + Pupil-teacher ratio, secondary vocational (HC)
- + Labour freedom
- + Adult literacy rate (%)

### - AREAS OF IMPROVEMENT

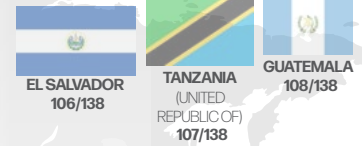
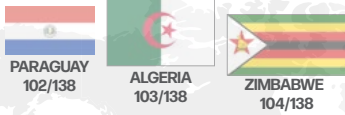
- GERD per researcher (constant '000 PPP\$)
- Government expenditure per student, tertiary (constant PPP\$)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	51	64.4
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	74	48.5
HIGHER EDUCATION	91	35.2
RESEARCH, DEVELOPMENT & INNOVATION	129	10.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	103	41
ECONOMY	96	35
GENERAL ENABLING ENVIRONMENT	96	53



# LAO PEOPLE'S DEMOCRATIC REPUBLIC

**18.174** GDP US\$ billions | **7,275,556** Population | **0.604** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Lao People's Democratic Republic is a modest performer in terms of its knowledge infrastructure. It ranks 105<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 14<sup>th</sup> out of the 24 countries with medium human development.

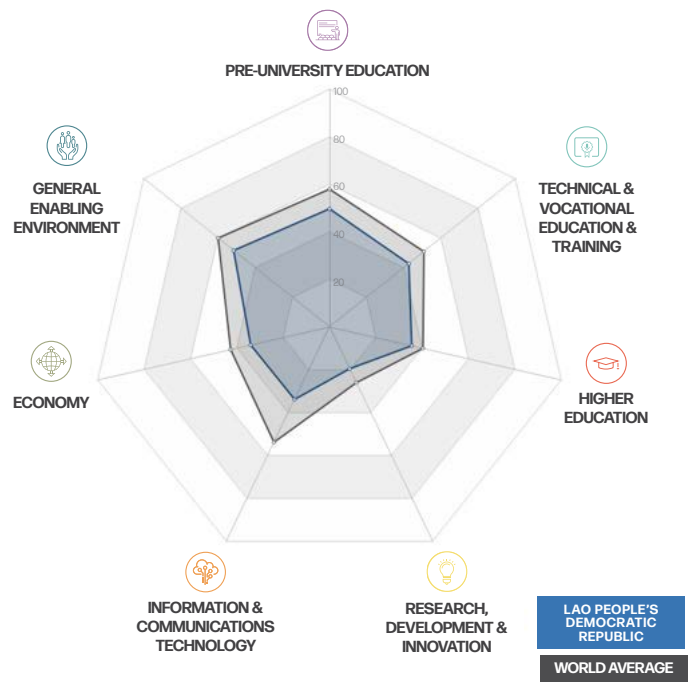
### + AREAS OF STRENGTH

- + Unemployment rate (%)
- + Graduates, ISCED 8 (%)
- + Labour force participation rate, female-to-male ratio
- + Investment in telecom services (% of GDP)
- + FDI, net inflows (% of GDP)

### - AREAS OF IMPROVEMENT

- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- New business density
- Printing and publishing manufactures (% of manufactured output)
- Internet and telephony level of competition

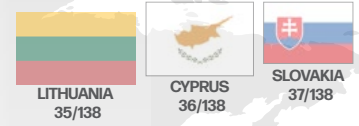
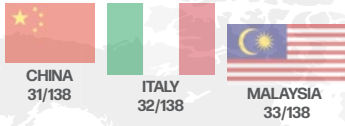
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

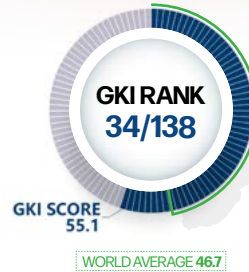
		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	106	49.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	111	42.7	
	HIGHER EDUCATION	90	35.5	
	RESEARCH, DEVELOPMENT & INNOVATION	80	19.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	116	33.8	
	ECONOMY	102	34	
	GENERAL ENABLING ENVIRONMENT	99	51.6	





# LATVIA

**34.117** GDP US\$ billions | **1,886,202** Population | **0.854** HDI



## COUNTRY PERFORMANCE SUMMARY

Latvia is a strong performer in terms of its knowledge infrastructure. It ranks 34<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 33<sup>rd</sup> out of the 56 countries with very high human development.

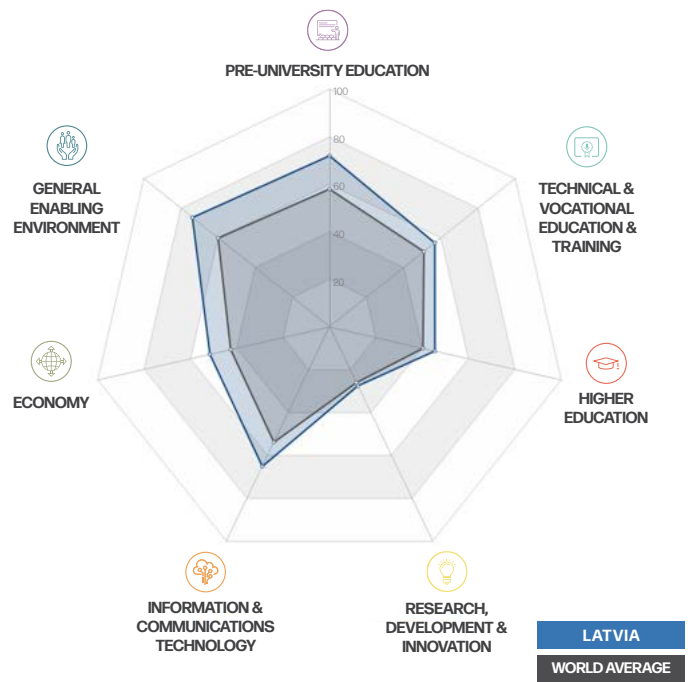
### + AREAS OF STRENGTH

- + Adult literacy rate (%)
- + Printing and publishing manufactures (% of manufactured output)
- + Trademark applications (per billion PPP\$ GDP)
- + Active mobile-broadband subscriptions (per 100 inhabitants)
- + Mean years of schooling (ISCED 1 or higher)

### - AREAS OF IMPROVEMENT

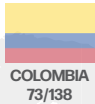
- Graduates, ISCED 6 (%)
- Enrolment in tertiary education, ISCED 6 (%)
- GERD per researcher (constant '000 PPP\$)
- Citations per document
- Graduates, ISCED 8 (%)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	25	72	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	36	56.7	
	HIGHER EDUCATION	44	45.5	
	RESEARCH, DEVELOPMENT & INNOVATION	42	27.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	40	65.1	
	ECONOMY	35	51.6	
	GENERAL ENABLING ENVIRONMENT	28	73.8	



COLOMBIA  
73/138



NORTH  
MACEDONIA  
74/138

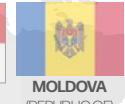


INDIA  
75/138

# LEBANON



PANAMA  
77/138



MOLDOVA  
(REPUBLIC OF)  
78/138



JORDAN  
79/138

**53.367** GDP US\$ billions | **6,825,442** Population | **0.73** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Lebanon is a moderate performer in terms of its knowledge infrastructure. It ranks 76<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 18<sup>th</sup> out of the 36 countries with high human development.

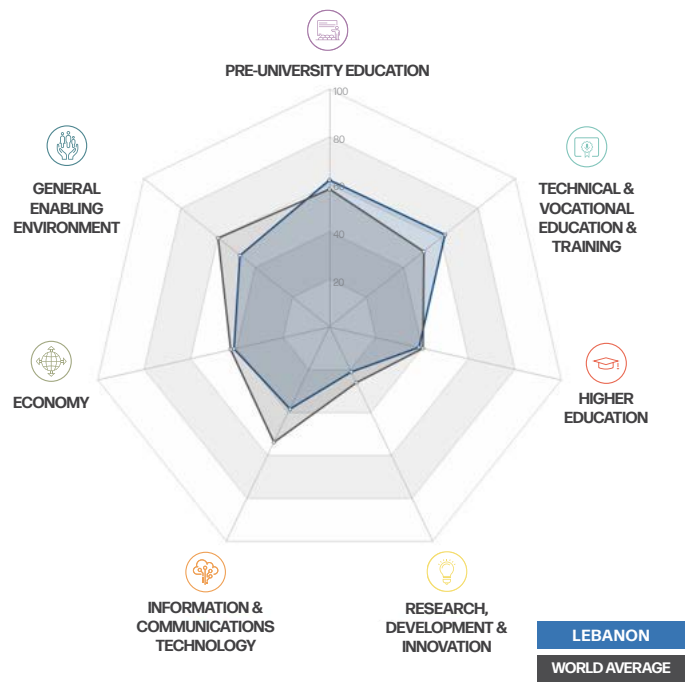
### + AREAS OF STRENGTH

- + Expenditure on educational institutions, all levels (%)
- + Pupil-teacher ratio, tertiary (HC)
- + Bank deposits to GDP (%)
- + Pupil-teacher ratio, secondary (HC)
- + Ease of finding skilled employees

### - AREAS OF IMPROVEMENT

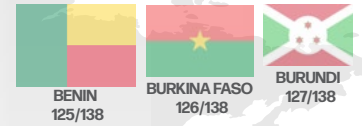
- Government success in ICT promotion
- Political stability and absence of violence/terrorism
- Internet and telephony level of competition
- Women-to-men ratio in parliament (%)
- Government expenditure, secondary (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	66	61.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	21	62.2	
	HIGHER EDUCATION	75	38.6	
	RESEARCH, DEVELOPMENT & INNOVATION	68	21	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	105	38.3	
	ECONOMY	69	41.2	
	GENERAL ENABLING ENVIRONMENT	111	48.2	



# LESOTHO

**2.46** GDP US\$ billions | **2,142,252** Population | **0.518** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Lesotho is a weak performer in terms of its knowledge infrastructure. It ranks 124<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 10<sup>th</sup> out of the 22 countries with low human development.

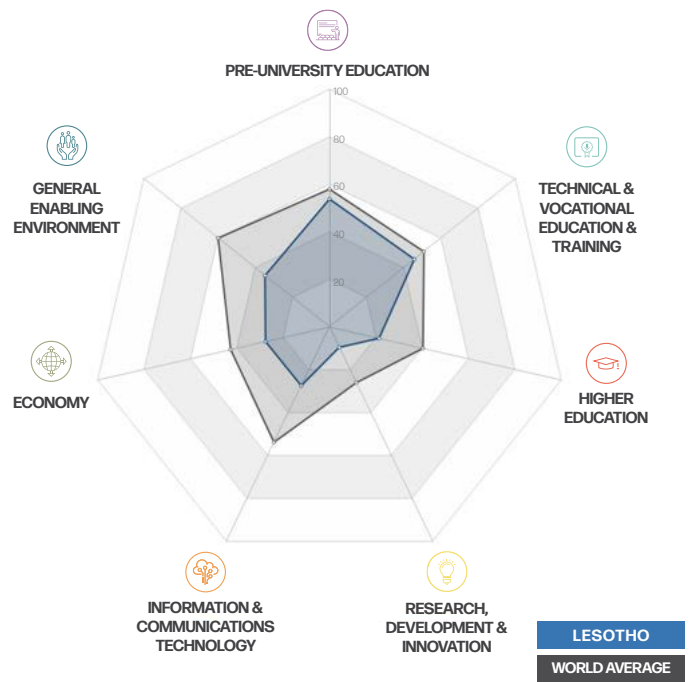
### + AREAS OF STRENGTH

- + Government expenditure, primary (% of GDP)
- + Poor work ethic in the labour force
- + Restrictive labour regulations
- + Total tax and contribution rate (% of profit)
- + Gross enrolment ratio, primary (%)

### - AREAS OF IMPROVEMENT

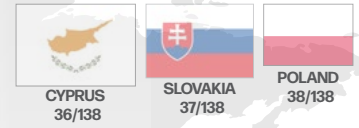
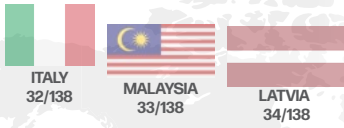
- Graduates, ISCED 8 (%)
- Use of virtual social networks
- Impact of ICTs on new services and products
- Soundness of banks
- Life expectancy at birth, both sexes (years)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



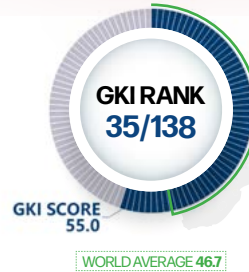
## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	94	53.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	94	45.7	
	HIGHER EDUCATION	134	21.4	
	RESEARCH, DEVELOPMENT & INNOVATION	133	9.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	126	27.4	
	ECONOMY	126	27.6	
	GENERAL ENABLING ENVIRONMENT	133	34.7	



# LITHUANIA

**54.219** GDP US\$ billions | **2,722,291** Population | **0.869** HDI



## COUNTRY PERFORMANCE SUMMARY

Lithuania is a strong performer in terms of its knowledge infrastructure. It ranks 35<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 34<sup>th</sup> out of the 56 countries with very high human development.

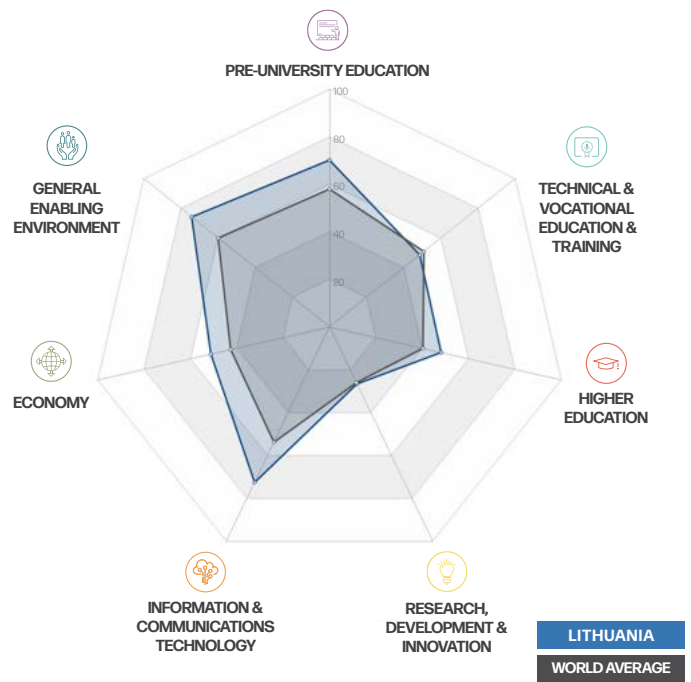
### + AREAS OF STRENGTH

- + Out-of-school children (%)
- + Adult literacy rate (%)
- + Mobile-cellular subscriptions (per 100 inhabitants)
- + Ease of enforcing a contract
- + Mean years of schooling (ISCED 1 or higher)

### - AREAS OF IMPROVEMENT

- Total computer software spending (% of GDP)
- Restrictive labour regulations
- Ease of finding skilled employees
- Investment in telecom services (% of GDP)
- Government expenditure, primary (% of GDP)

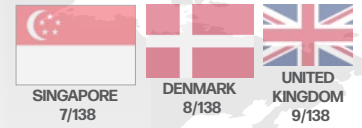
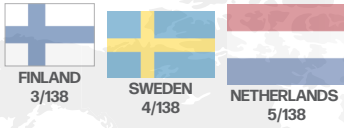
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	31	70.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	73	48.6	
	HIGHER EDUCATION	35	48.2	
	RESEARCH, DEVELOPMENT & INNOVATION	47	26.6	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	28	72.6	
	ECONOMY	38	51.2	
	GENERAL ENABLING ENVIRONMENT	26	74.2	





# LUXEMBOURG

**71.105** GDP US\$ billions | **625,976** Population | **0.909** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Luxembourg is a leading performer in terms of its knowledge infrastructure. It ranks 6<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 6<sup>th</sup> out of the 56 countries with very high human development.

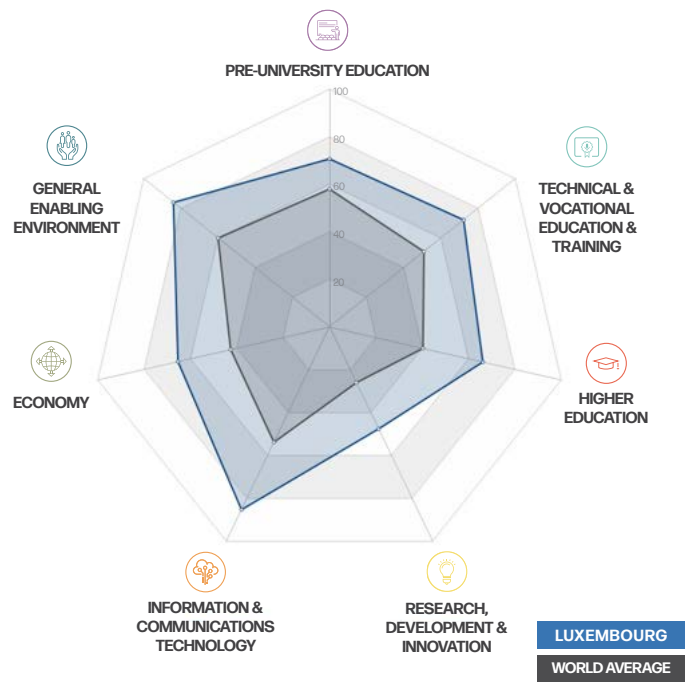
### + AREAS OF STRENGTH

- + High-skilled employment (% of total employed people)
- + GDP per capita, PPP (constant 2011 international \$)
- + Enrolment in tertiary education, ISCED 8 (%)
- + International Internet bandwidth per Internet user (Kbit/s)
- + Laws relating to ICTs

### - AREAS OF IMPROVEMENT

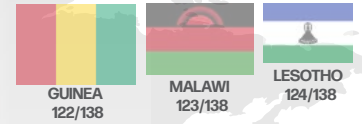
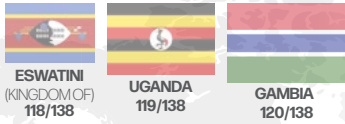
- Restrictive labour regulations
- Manufacturing, value added (% of GDP)
- Total CO2 emissions per capita
- Enrolment in tertiary education, ISCED 6 (%)
- High-technology net imports (% of total trade)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	30	70.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	8	72.2	
	HIGHER EDUCATION	3	66.2	
	RESEARCH, DEVELOPMENT & INNOVATION	17	47.6	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	3	85.3	
	ECONOMY	4	65.4	
	GENERAL ENABLING ENVIRONMENT	4	84	



# MADAGASCAR

**14.084** GDP US\$ billions | **27,691,019** Population | **0.521** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Madagascar is a weak performer in terms of its knowledge infrastructure. It ranks 121<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 7<sup>th</sup> out of the 22 countries with low human development.

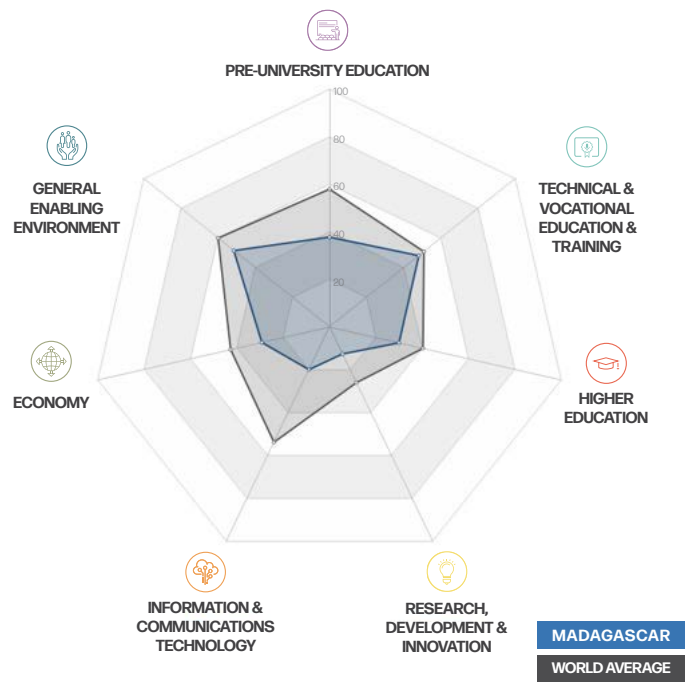
### + AREAS OF STRENGTH

- + Gross enrolment ratio, primary (%)
- + Restrictive labour regulations
- + Total CO2 emissions per capita
- + Investment in telecom services (% of GDP)
- + Labour force participation rate, female-to-male ratio

### - AREAS OF IMPROVEMENT

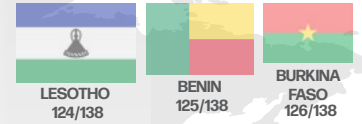
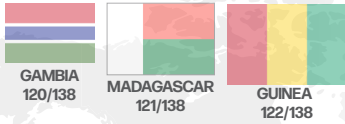
- Teachers with the minimum required qualifications, primary (%)
- Government expenditure per student, tertiary (constant PPP\$)
- Globally-ranked universities
- Population covered by mobile-cellular networks (%)
- Internet and telephony level of competition

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	126	37.8
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	78	48.1
HIGHER EDUCATION	115	30
RESEARCH, DEVELOPMENT & INNOVATION	121	12.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	134	19.9
ECONOMY	120	29.2
GENERAL ENABLING ENVIRONMENT	101	51.5



# MALAWI

**7.667** GDP US\$ billions | **19,129,955** Population | **0.485** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Malawi is a weak performer in terms of its knowledge infrastructure. It ranks 123<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 9<sup>th</sup> out of the 22 countries with low human development.

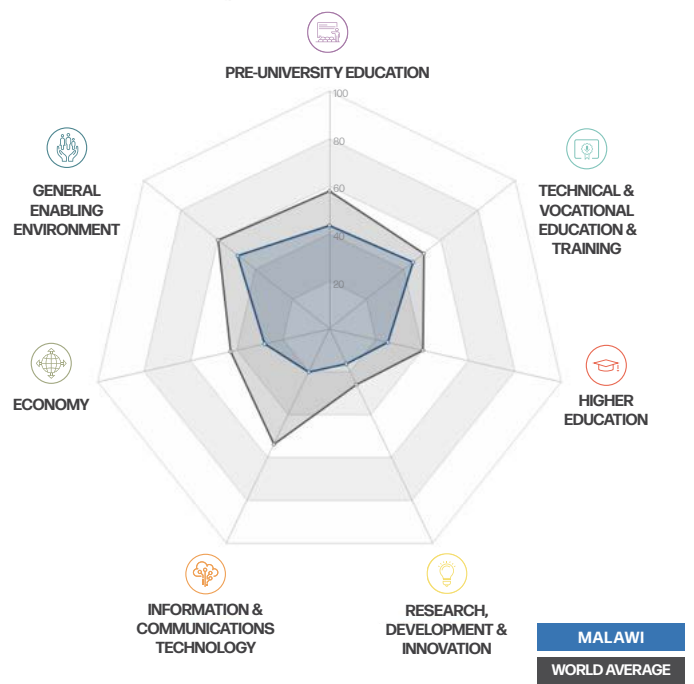
### + AREAS OF STRENGTH

- + Gross enrolment ratio, primary (%)
- + Total CO2 emissions per capita
- + Renewable energy consumption (% of total final energy consumption)
- + Government expenditure, primary (% of GDP)
- + Expenditure on educational institutions, all levels (%)

### - AREAS OF IMPROVEMENT

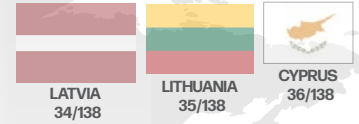
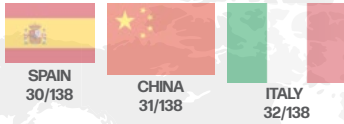
- ICT Price Basket
- Survival rate, last grade of lower secondary (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	118	43.5
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	100	45
HIGHER EDUCATION	128	25.2
RESEARCH, DEVELOPMENT & INNOVATION	97	16.3
INFORMATION & COMMUNICATIONS TECHNOLOGY	133	20.1
ECONOMY	125	28
GENERAL ENABLING ENVIRONMENT	108	49.4



# MALAYSIA

**364.702** GDP US\$ billions | **32,365,998** Population | **0.804** HDI



## COUNTRY PERFORMANCE SUMMARY

Malaysia is a strong performer in terms of its knowledge infrastructure. It ranks 33<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 32<sup>nd</sup> out of the 56 countries with very high human development.

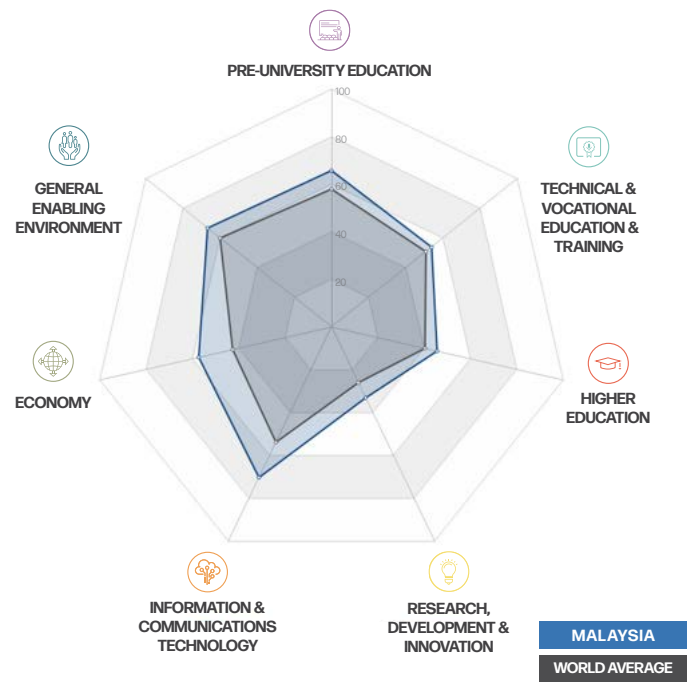
### + AREAS OF STRENGTH

- + High-technology net imports (% of total trade)
- + Ease of protecting minority investors
- + High-technology net exports (% of total trade)
- + Extent of marketing
- + ICT goods exported (% of total exports)

### - AREAS OF IMPROVEMENT

- Renewable energy consumption (% of total final energy consumption)
- Enrolment in tertiary education, ISCED 6 (%)
- Firms offering formal training (%)
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Citations per document

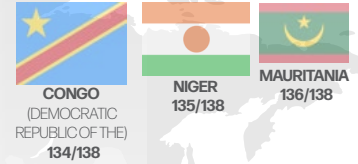
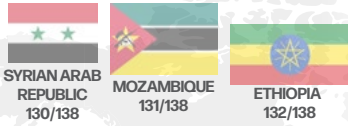
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	47	65.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	46	53.9	
	HIGHER EDUCATION	43	45.6	
	RESEARCH, DEVELOPMENT & INNOVATION	34	33.1	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	30	70.3	
	ECONOMY	18	57.3	
	GENERAL ENABLING ENVIRONMENT	46	66.7	





# MALI

**17.51** GDP US\$ billions | **20,250,834** Population | **0.427** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Mali is a weak performer in terms of its knowledge infrastructure. It ranks 133<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 18<sup>th</sup> out of the 22 countries with low human development.

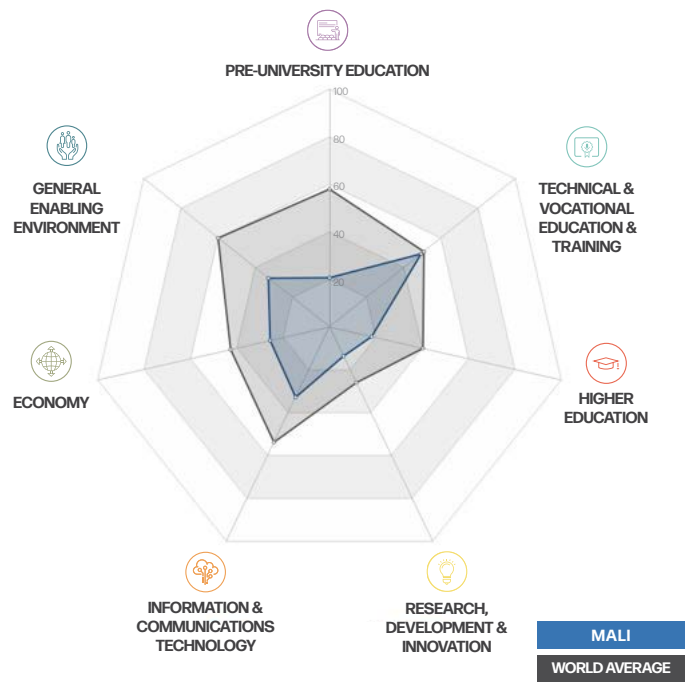
### + AREAS OF STRENGTH

- + Total CO2 emissions per capita
- + Expenditure on non-tertiary vocational education (%)
- + Expenditure on educational institutions, all levels (%)
- + Investment in telecom services (% of GDP)
- + Energy intensity level of primary energy (MJ/2011 PPP\$)

### - AREAS OF IMPROVEMENT

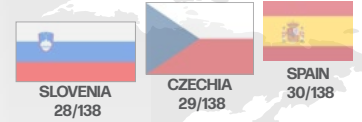
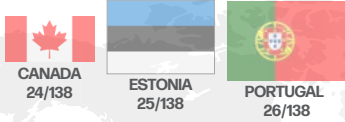
- Researchers in higher education (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Best scientific journal (SJR ranking)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Index Name	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	136	20.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	68	49.3	
	HIGHER EDUCATION	136	18.2	
	RESEARCH, DEVELOPMENT & INNOVATION	115	13.6	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	119	32.8	
	ECONOMY	133	25.6	
	GENERAL ENABLING ENVIRONMENT	136	32.9	



# MALTA

**14.786** GDP US\$ billions | **441,539** Population | **0.885** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Malta is a leading performer in terms of its knowledge infrastructure. It ranks 27<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 27<sup>th</sup> out of the 56 countries with very high human development.

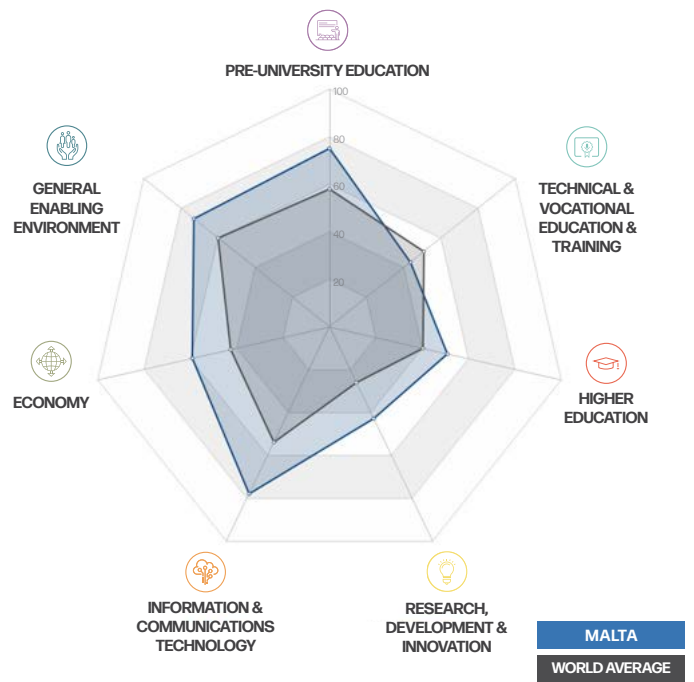
### + AREAS OF STRENGTH

- + Fixed-telephone subscriptions (per 100 inhabitants)
- + Creative services exports (% of total trade in services)
- + Fixed-broadband subscriptions (per 100 inhabitants)
- + Energy intensity level of primary energy (MJ/2011 PPP\$)
- + Gross enrolment ratio, ECE (%)

### - AREAS OF IMPROVEMENT

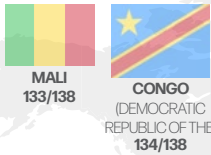
- Ease of finding skilled employees
- Poor work ethic in the labour force
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	15	75.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	106	43.6
HIGHER EDUCATION	29	50.9
RESEARCH, DEVELOPMENT & INNOVATION	25	42.8
INFORMATION & COMMUNICATIONS TECHNOLOGY	20	77.9
ECONOMY	13	59.2
GENERAL ENABLING ENVIRONMENT	32	73



**7.594** GDP US\$ billions | **4,649,660** Population | **0.527** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Mauritania is a weak performer in terms of its knowledge infrastructure. It ranks 136<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 21<sup>st</sup> out of the 22 countries with low human development.

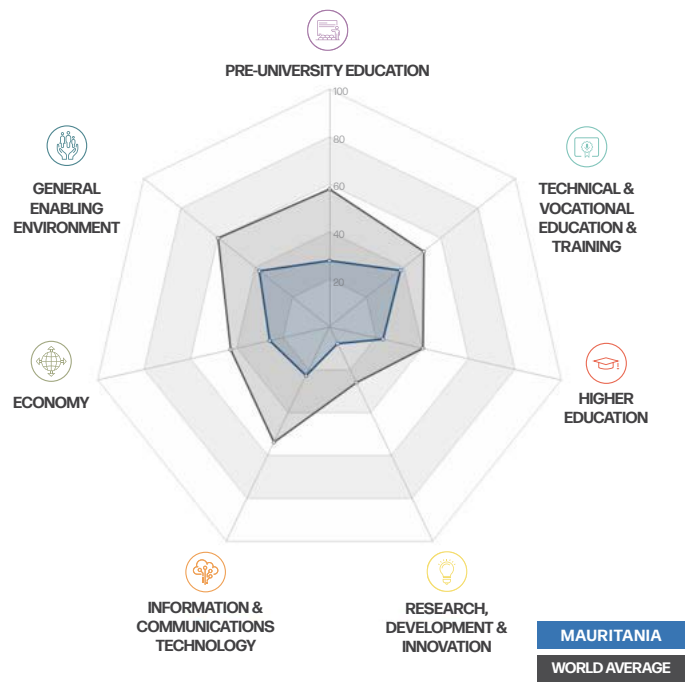
### + AREAS OF STRENGTH

- + Researchers in higher education (%)
- + Gross fixed capital formation (% of GDP)
- + Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- + Firms offering formal training (%)
- + FDI, net inflows (% of GDP)

### - AREAS OF IMPROVEMENT

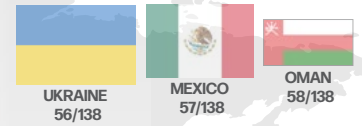
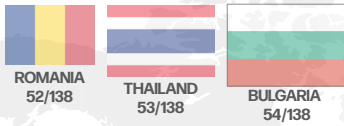
- Gross graduation ratio, upper secondary (%)
- Extent of staff training
- Graduates, ISCED 7 (%)
- Extent of marketing
- Prevalence of non-tariff barriers

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Index Name	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	131	27.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	124	38.2	
	HIGHER EDUCATION	132	23.1	
	RESEARCH, DEVELOPMENT & INNOVATION	137	7.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	131	22.7	
	ECONOMY	132	25.8	
	GENERAL ENABLING ENVIRONMENT	129	37.8	



# MAURITIUS

**14.18** GDP US\$ billions | **1,271,767** Population | **0.796** HDI



GKI SCORE 47.8

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Mauritius is a strong performer in terms of its knowledge infrastructure. It ranks 55<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 5<sup>th</sup> out of the 36 countries with high human development.

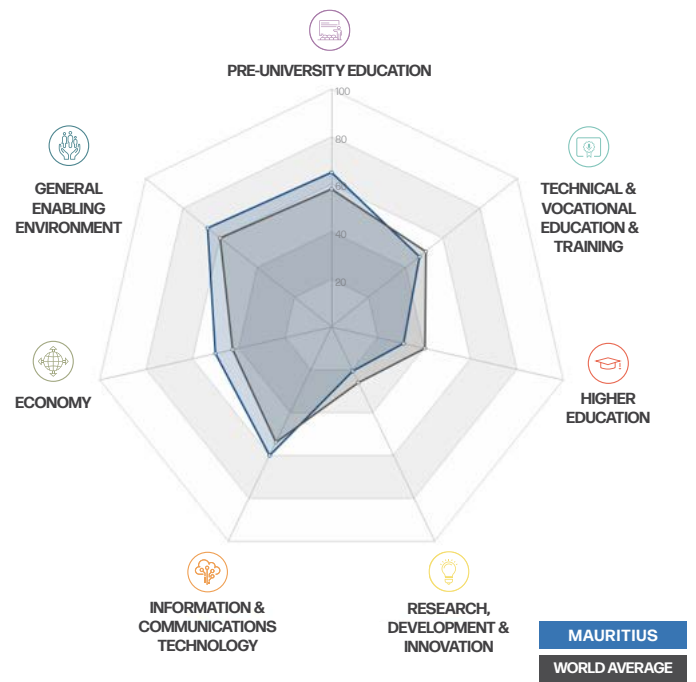
### + AREAS OF STRENGTH

- + Government expenditure, secondary (% of GDP)
- + Restrictive labour regulations
- + Pupil-teacher ratio, secondary vocational (HC)
- + Business impact of rules on FDI
- + Energy intensity level of primary energy (MJ/2011 PPP\$)

### - AREAS OF IMPROVEMENT

- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Poor work ethic in the labour force
- Government expenditure, tertiary (% of GDP)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

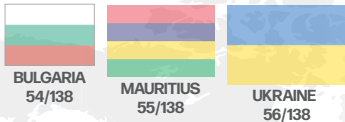
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	49	65
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	84	47.4
HIGHER EDUCATION	107	31.1
RESEARCH, DEVELOPMENT & INNOVATION	71	20.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	52	60
ECONOMY	42	50.1
GENERAL ENABLING ENVIRONMENT	45	66.7





# MEXICO

**1,258.287** GDP US\$ billions | **128,932,753** Population | **0.767** HDI



GKI SCORE 47.5  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Mexico is a moderate performer in terms of its knowledge infrastructure. It ranks 57<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 7<sup>th</sup> out of the 36 countries with high human development.

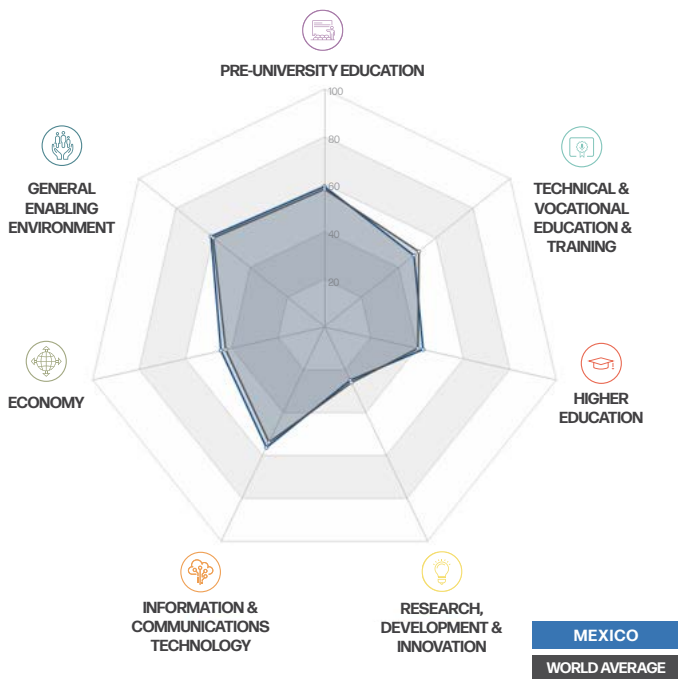
### + AREAS OF STRENGTH

- + Women-to-men ratio in parliament (%)
- + High-technology net imports (% of total trade)
- + ICT goods imported (% of total imports)
- + High-technology net exports (% of total trade)
- + Expenditure on educational institutions, all levels (%)

### - AREAS OF IMPROVEMENT

- World Press Freedom Index
- Labour force participation rate, female-to-male ratio
- Total tax and contribution rate (% of profit)
- Printing and publishing manufactures (% of manufactured output)
- Inbound mobility rate (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



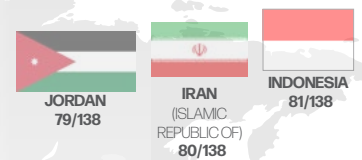
## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	75	59.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	77	48.2
HIGHER EDUCATION	55	42.6
RESEARCH, DEVELOPMENT & INNOVATION	53	24.9
INFORMATION & COMMUNICATIONS TECHNOLOGY	65	56.3
ECONOMY	56	44.7
GENERAL ENABLING ENVIRONMENT	61	61.1



# MOLDOVA (REPUBLIC OF)

**11.955** GDP US\$ billions | **4,033,963** Population | **0.711** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Moldova (Republic of) is a moderate performer in terms of its knowledge infrastructure. It ranks 78<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 20<sup>th</sup> out of the 36 countries with high human development.

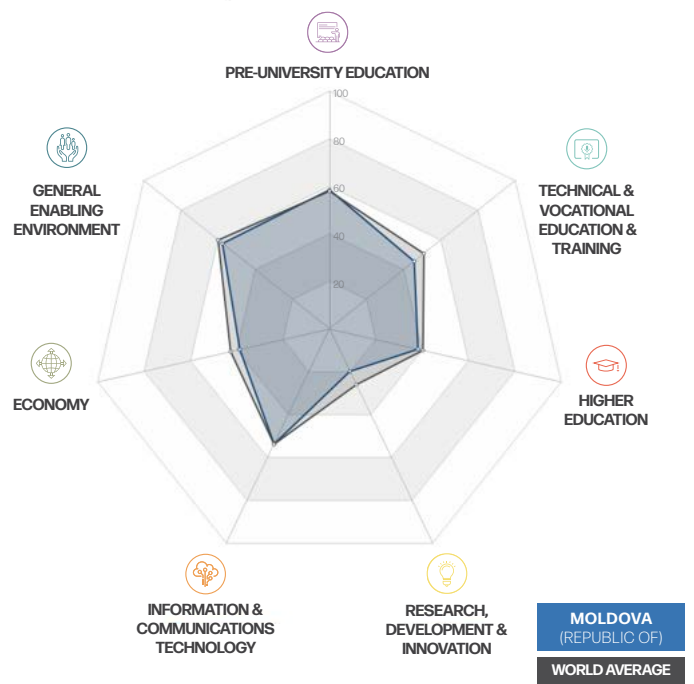
### + AREAS OF STRENGTH

- + Industrial design applications (per billion PPP\$ GDP)
- + Trademark applications (per billion PPP\$ GDP)
- + Ease of starting a business
- + Graduates, ISCED 6 (%)
- + Adult literacy rate (%)

### - AREAS OF IMPROVEMENT

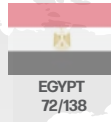
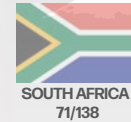
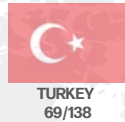
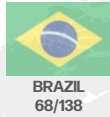
- Labour freedom
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- National feature films produced (per million inhabitants)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	77	58.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	95	45.6	
	HIGHER EDUCATION	79	38.2	
	RESEARCH, DEVELOPMENT & INNOVATION	78	19.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	72	53.7	
	ECONOMY	79	38.7	
	GENERAL ENABLING ENVIRONMENT	79	57.6	



# MONGOLIA

**13.853** GDP US\$ billions | **3,278,292** Population | **0.735** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Mongolia is a moderate performer in terms of its knowledge infrastructure. It ranks 70<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 13<sup>th</sup> out of the 36 countries with high human development.

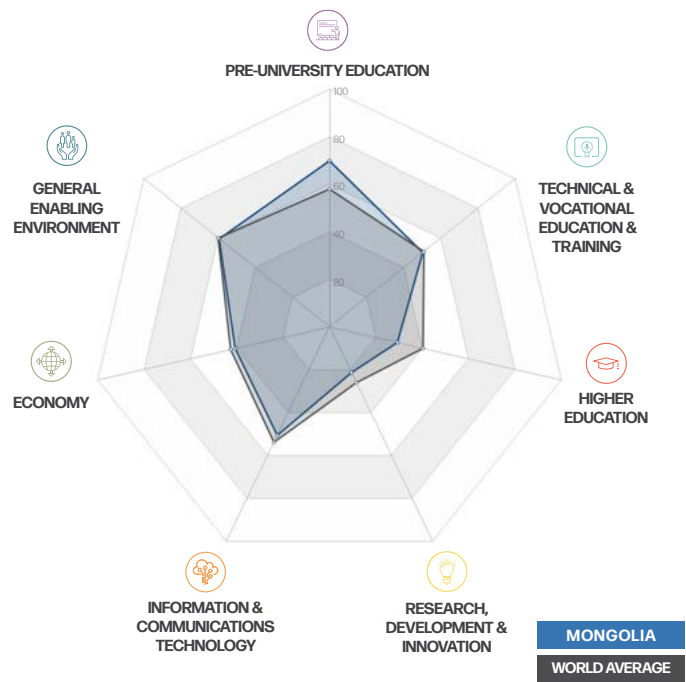
### + AREAS OF STRENGTH

- + Trademark applications (per billion PPP\$ GDP)
- + Industrial design applications (per billion PPP\$ GDP)
- + National feature films produced (per million inhabitants)
- + Firms offering formal training (%)
- + FDI, net inflows (% of GDP)

### - AREAS OF IMPROVEMENT

- Creative services exports (% of total trade in services)
- Government expenditure per student, tertiary (constant PPP\$)
- Ease of finding skilled employees
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	33	69.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	63	50.2	
	HIGHER EDUCATION	117	29.3	
	RESEARCH, DEVELOPMENT & INNOVATION	66	21.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	81	50.6	
	ECONOMY	72	40.7	
	GENERAL ENABLING ENVIRONMENT	67	59.4	

**IRAN**  
(ISLAMIC  
REPUBLIC OF)  
80/138

**INDONESIA**  
81/138

**TUNISIA**  
82/138

# MOROCCO

**ARMENIA**  
84/138

**NAMIBIA**  
85/138

**GUYANA**  
86/138

**118.725** GDP US\$ billions | **36,910,558** Population | **0.676** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Morocco is a moderate performer in terms of its knowledge infrastructure. It ranks 83<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 3<sup>rd</sup> out of the 24 countries with medium human development.

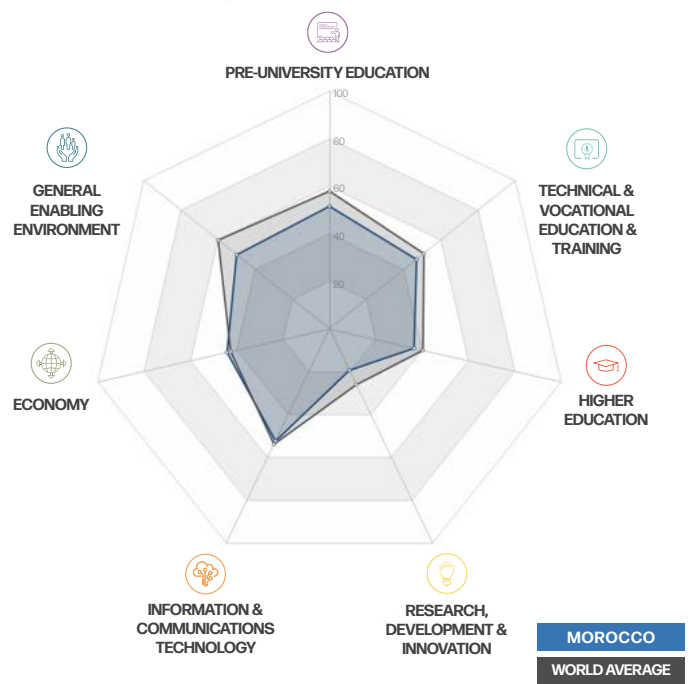
### + AREAS OF STRENGTH

- + Government expenditure, secondary (% of GDP)
- + Industrial design applications (per billion PPP\$ GDP)
- + Researchers in higher education (%)
- + Business impact of rules on FDI
- + Government expenditure, primary (% of GDP)

### - AREAS OF IMPROVEMENT

- Pupil-teacher ratio, tertiary (HC)
- Labour force participation rate, female-to-male ratio
- Unemployment with advanced education (%)
- Assessment of 15-year-old students
- Labour freedom

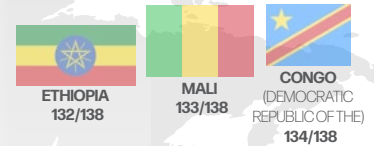
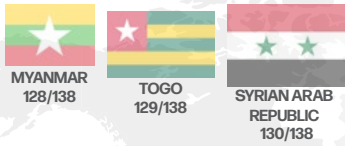
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	100	51.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	86	46.9	
	HIGHER EDUCATION	85	36.5	
	RESEARCH, DEVELOPMENT & INNOVATION	82	19.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	75	52.3	
	ECONOMY	60	44.2	
	GENERAL ENABLING ENVIRONMENT	104	50	





# MOZAMBIQUE

**14.934** GDP US\$ billions | **31,255,435** Population | **0.446** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Mozambique is a weak performer in terms of its knowledge infrastructure. It ranks 131<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 16<sup>th</sup> out of the 22 countries with low human development.

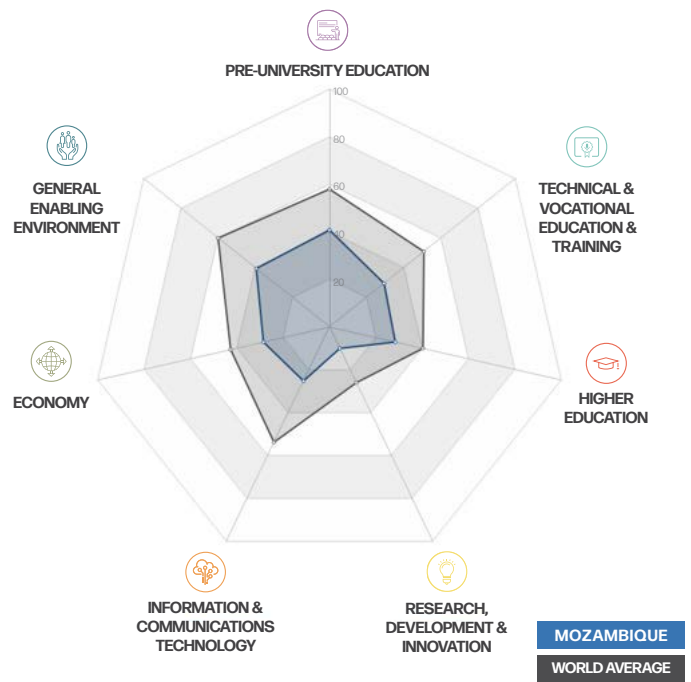
### + AREAS OF STRENGTH

- + Labour force participation rate, female-to-male ratio
- + Enrolment in tertiary education, ISCED 6 (%)
- + Government expenditure, primary (% of GDP)
- + FDI, net inflows (% of GDP)
- + Renewable energy consumption (% of total final energy consumption)

### - AREAS OF IMPROVEMENT

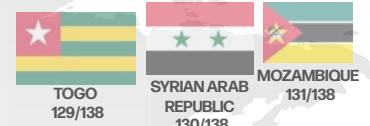
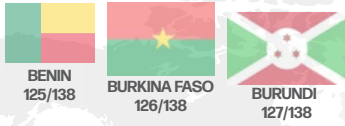
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- GERD performed by business enterprises (% of GDP)
- ICT PCT patent applications (per million inhabitants)
- Energy intensity level of primary energy (MJ/2011 PPP\$)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	121	40.8
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	136	29.4
HIGHER EDUCATION	120	28.4
RESEARCH, DEVELOPMENT & INNOVATION	130	10
INFORMATION & COMMUNICATIONS TECHNOLOGY	127	25.2
ECONOMY	123	28.5
GENERAL ENABLING ENVIRONMENT	126	39.4



# MYANMAR

**76.086** GDP US\$ billions | **54,409,794** Population | **0.584** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Myanmar is a weak performer in terms of its knowledge infrastructure. It ranks 128<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 23<sup>rd</sup> out of the 24 countries with medium human development.

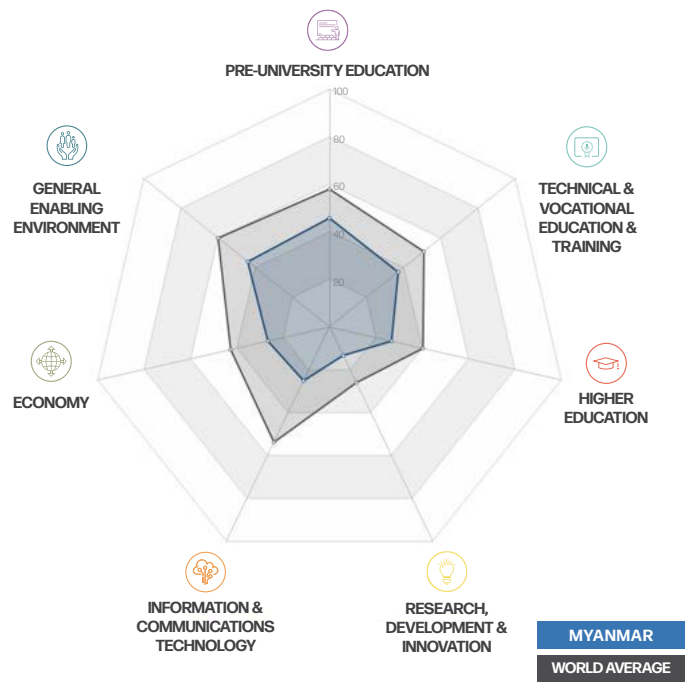
### + AREAS OF STRENGTH

- + Unemployment with advanced education (%)
- + Enrolment in tertiary education, ISCED 6 (%)
- + Printing and publishing manufactures (% of manufactured output)
- + Manufacturing, value added (% of GDP)
- + Pupil-teacher ratio, secondary vocational (HC)

### - AREAS OF IMPROVEMENT

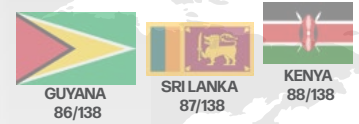
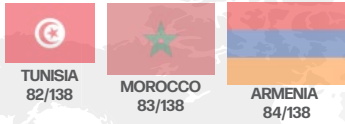
- Firms offering formal training (%)
- Enrolment in vocational programmes, secondary (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- GERD financed by business enterprises (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

	RANK	VALUE	
PRE-UNIVERSITY EDUCATION	114	45.8	
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	126	37	
HIGHER EDUCATION	124	26.8	
RESEARCH, DEVELOPMENT & INNOVATION	118	13.3	
INFORMATION & COMMUNICATIONS TECHNOLOGY	128	25.1	
ECONOMY	131	26.6	
GENERAL ENABLING ENVIRONMENT	117	44	



# NAMIBIA

**12.367** GDP US\$ billions | **2,540,916** Population | **0.645** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Namibia is a modest performer in terms of its knowledge infrastructure. It ranks 85<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 4<sup>th</sup> out of the 24 countries with medium human development.

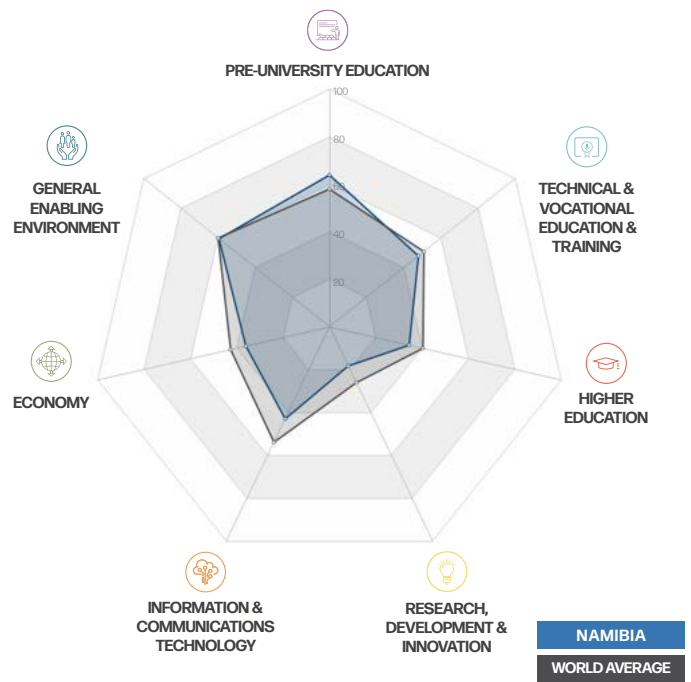
### + AREAS OF STRENGTH

- + Gross enrolment ratio, primary (%)
- + Government expenditure, tertiary (% of GDP)
- + Labour freedom
- + Women-to-men ratio in parliament (%)
- + Total tax and contribution rate (% of profit)

### - AREAS OF IMPROVEMENT

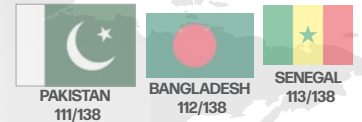
- Government expenditure, primary (% of GDP)
- Unemployment rate (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	54	63.9
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	79	47.9
HIGHER EDUCATION	94	34.4
RESEARCH, DEVELOPMENT & INNOVATION	87	18.2
INFORMATION & COMMUNICATIONS TECHNOLOGY	98	42.9
ECONOMY	91	36.1
GENERAL ENABLING ENVIRONMENT	66	59.5



**NEPAL**  
 30.641 GDP US\$ billions | 29,136,808 Population | 0.579 HDI



WORLD AVERAGE 46.7

### COUNTRY PERFORMANCE SUMMARY

Nepal is a modest performer in terms of its knowledge infrastructure. It ranks 110<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 17<sup>th</sup> out of the 24 countries with medium human development.

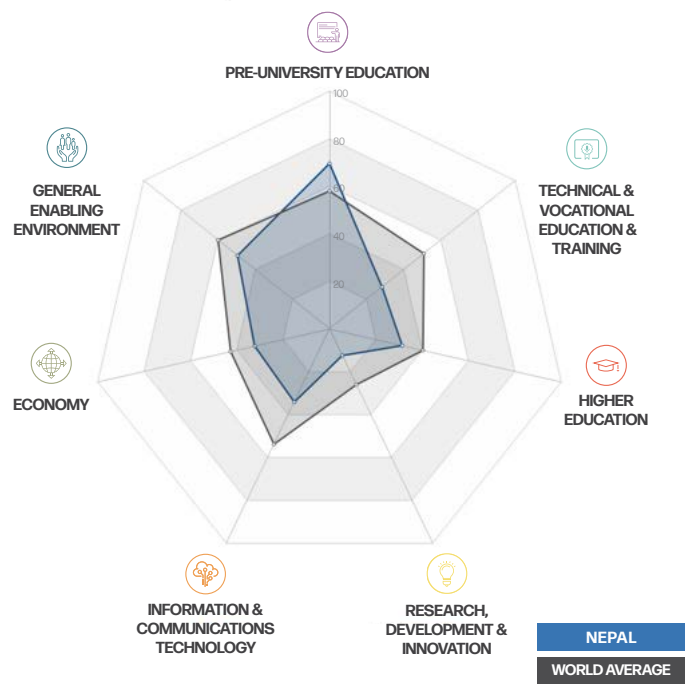
#### + AREAS OF STRENGTH

- + Enrolment in globally-ranked universities (% of tertiary students)
- + Gross graduation ratio, primary (%)
- + Labour force participation rate, female-to-male ratio
- + Unemployment rate (%)
- + Gross enrolment ratio, primary (%)

#### - AREAS OF IMPROVEMENT

- Government expenditure per student, tertiary (constant PPP\$)
- Researchers in higher education (%)
- Inbound mobility rate (%)
- Pupil-teacher ratio, tertiary (HC)
- ICT PCT patent applications (per million inhabitants)

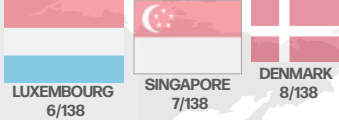
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



### SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	35	69.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	137	28.3	
	HIGHER EDUCATION	105	31.4	
	RESEARCH, DEVELOPMENT & INNOVATION	122	12.4	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	114	34.1	
	ECONOMY	111	32.3	
	GENERAL ENABLING ENVIRONMENT	106	49.5	





# NETHERLANDS

**909.07** GDP US\$ billions | **17,134,873** Population | **0.934** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Netherlands is a leading performer in terms of its knowledge infrastructure. It ranks 5<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 5<sup>th</sup> out of the 56 countries with very high human development.

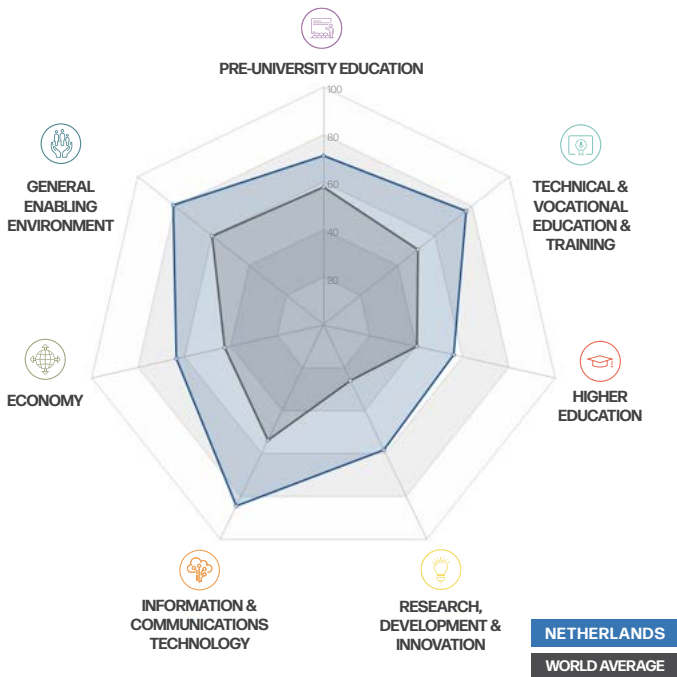
### + AREAS OF STRENGTH

- + Expenditure on non-tertiary vocational education (%)
- + Secure Internet servers (per million inhabitants)
- + Availability of research and training services
- + Impact of ICTs on new services and products
- + Judicial independence

### - AREAS OF IMPROVEMENT

- Pupil-teacher ratio, secondary vocational (HC)
- Total CO2 emissions per capita
- Researchers in higher education (%)
- Restrictive labour regulations
- FDI, net inflows (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.




## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	26	71.2
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	4	76.8
HIGHER EDUCATION	12	56.2
RESEARCH, DEVELOPMENT & INNOVATION	8	58.4
INFORMATION & COMMUNICATIONS TECHNOLOGY	6	84.5
ECONOMY	5	63.5
GENERAL ENABLING ENVIRONMENT	11	80.9

  
KOREA  
(REPUBLIC OF)  
19/138

  
FRANCE  
20/138

  
ISRAEL  
21/138

# NEW ZEALAND

  
AUSTRALIA  
23/138

  
CANADA  
24/138

  
ESTONIA  
25/138

206.929 | 4,822,233 | 0.921  
GDP US\$ billions | Population | HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

New Zealand is a leading performer in terms of its knowledge infrastructure. It ranks 22<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 22<sup>nd</sup> out of the 56 countries with very high human development.

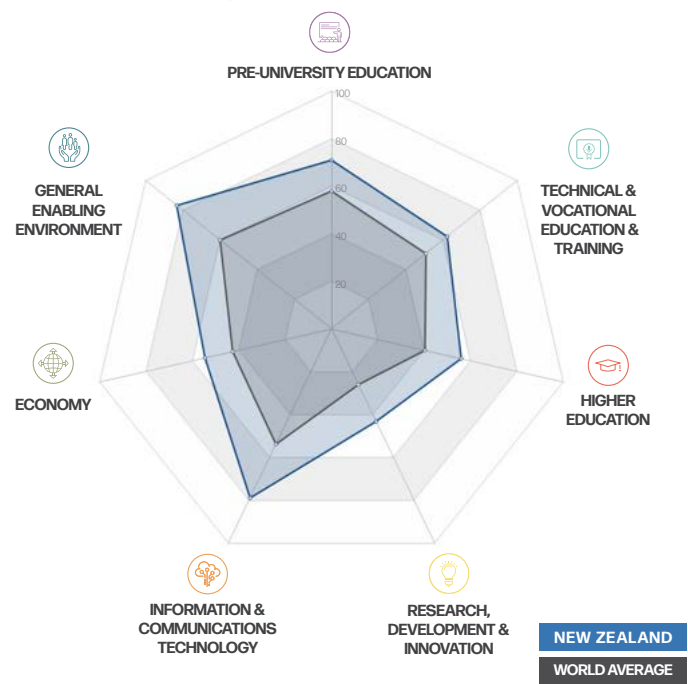
### + AREAS OF STRENGTH

- + Ease of starting a business
- + Judicial independence
- + Political stability and absence of violence/terrorism
- + Regulatory quality
- + Unlicensed software installation rates








### - AREAS OF IMPROVEMENT

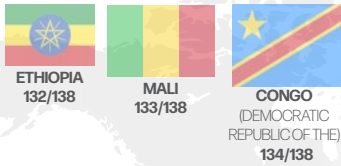
- FDI, net inflows (% of GDP)
- Trade (% of GDP)
- Total CO2 emissions per capita
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Pupil-teacher ratio, secondary vocational (HC)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
 PRE-UNIVERSITY EDUCATION	29	71
 TECHNICAL & VOCATIONAL EDUCATION & TRAINING	20	62.3
 HIGHER EDUCATION	15	56
 RESEARCH, DEVELOPMENT & INNOVATION	24	43.2
 INFORMATION & COMMUNICATIONS TECHNOLOGY	18	78.9
 ECONOMY	27	54.6
 GENERAL ENABLING ENVIRONMENT	9	83.3



# NIGER



**12.928** GDP US\$ billions | **24,206,636** Population | **0.377** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Niger is a weak performer in terms of its knowledge infrastructure. It ranks 135<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 20<sup>th</sup> out of the 22 countries with low human development.

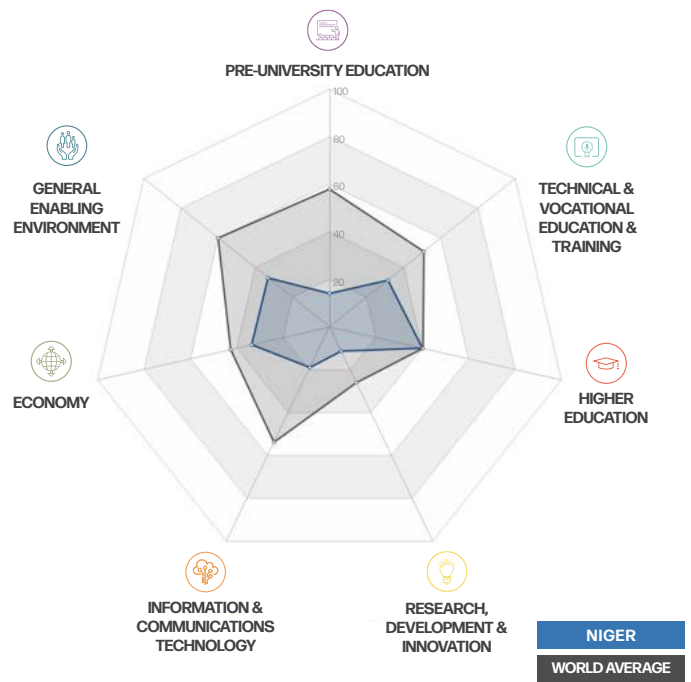
### + AREAS OF STRENGTH

- + Unemployment rate (%)
- + Graduates, ISCED 6 (%)
- + Graduates, ISCED 8 (%)
- + Graduates, ISCED 7 (%)
- + Printing and publishing manufactures (% of manufactured output)

### - AREAS OF IMPROVEMENT

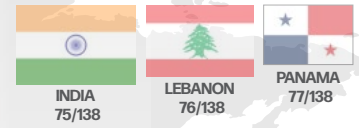
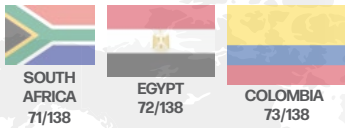
- Gross enrolment ratio, primary (%)
- Out-of-school children (%)
- Teachers with the minimum required qualifications, secondary (%)
- ICT Price Basket
- Youth not in employment, education or training (NEET) (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	138	14.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	132	31.5
HIGHER EDUCATION	63	40.1
RESEARCH, DEVELOPMENT & INNOVATION	126	11.3
INFORMATION & COMMUNICATIONS TECHNOLOGY	135	18.9
ECONOMY	106	33.6
GENERAL ENABLING ENVIRONMENT	135	33.1



# NORTH MACEDONIA

**12.695** GDP US\$ billions | **2,083,380** Population | **0.759** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

North Macedonia is a moderate performer in terms of its knowledge infrastructure. It ranks 74<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 17<sup>th</sup> out of the 36 countries with high human development.

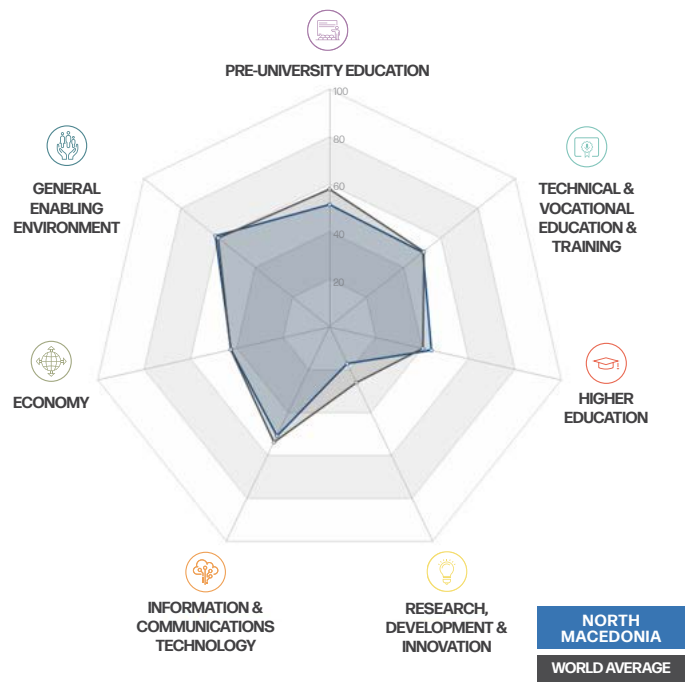
### + AREAS OF STRENGTH

- + Graduates, ISCED 7 (%)
- + Graduates, ISCED 8 (%)
- + Enrolment in tertiary education, ISCED 6 (%)
- + Total tax and contribution rate (% of profit)
- + Ease of protecting minority investors

### - AREAS OF IMPROVEMENT

- Extent of staff training
- Quality of research institutions
- Unemployment rate (%)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

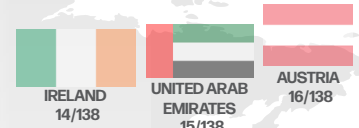
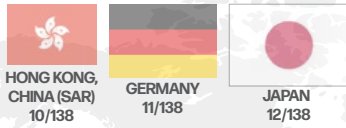
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	101	51.5
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	62	50.3
HIGHER EDUCATION	48	44
RESEARCH, DEVELOPMENT & INNOVATION	94	17.1
INFORMATION & COMMUNICATIONS TECHNOLOGY	79	50.9
ECONOMY	65	42.5
GENERAL ENABLING ENVIRONMENT	59	61.4





# NORWAY

**403.336** GDP US\$ billions | **5,421,242** Population | **0.954** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Norway is a leading performer in terms of its knowledge infrastructure. It ranks 13<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 13<sup>th</sup> out of the 56 countries with very high human development.

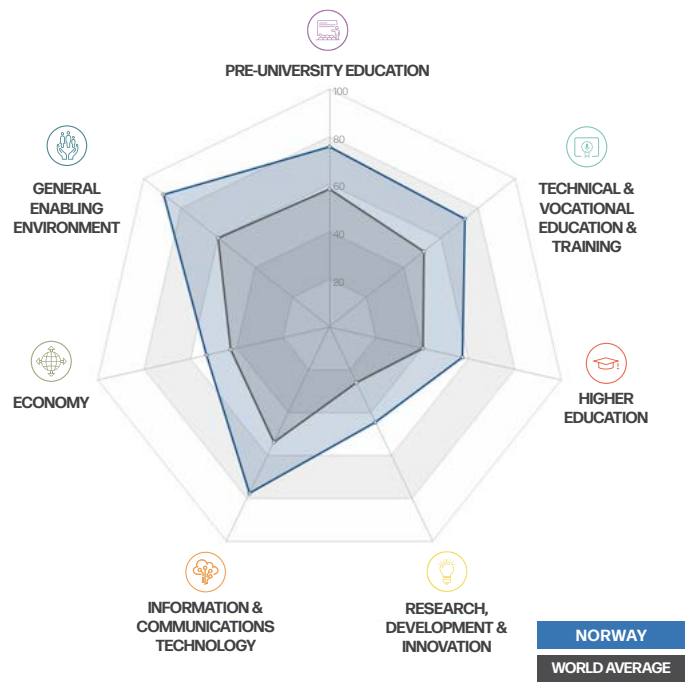
### + AREAS OF STRENGTH

- + Researchers per thousand labour force (HC)
- + World Press Freedom Index
- + Out-of-school children (%)
- + Government expenditure, tertiary (% of GDP)
- + Ease of enforcing a contract

### - AREAS OF IMPROVEMENT

- Expenditure on educational institutions, all levels (%)
- Poor work ethic in the labour force
- Manufacturing, value added (% of GDP)
- FDI, net inflows (% of GDP)
- Investment in telecom services (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	7	75.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	6	72.9	
	HIGHER EDUCATION	10	57.4	
	RESEARCH, DEVELOPMENT & INNOVATION	21	44.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	22	77.6	
	ECONOMY	30	53.1	
	GENERAL ENABLING ENVIRONMENT	1	89.3	



# OMAN

**76.983** GDP US\$ billions | **5,106,622** Population | **0.834** HDI



GKI SCORE 47.5  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Oman is a moderate performer in terms of its knowledge infrastructure. It ranks 58<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 51<sup>st</sup> out of the 56 countries with very high human development.

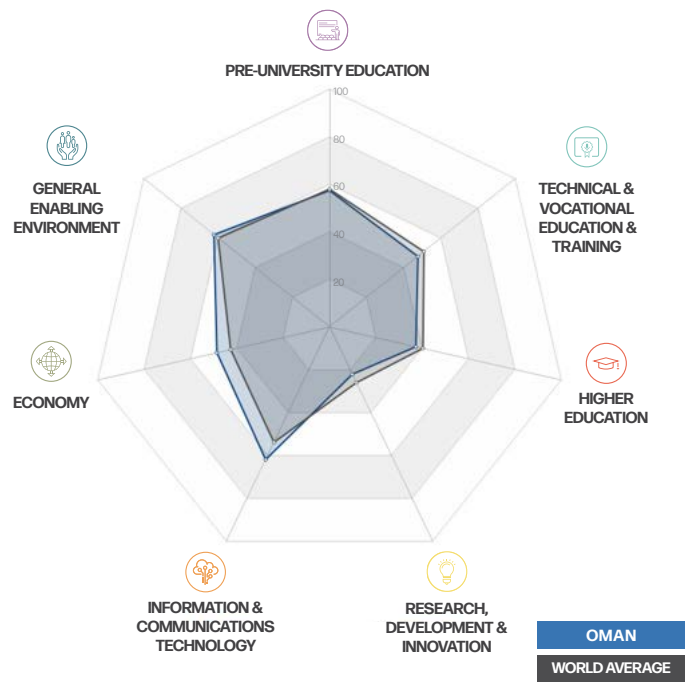
### + AREAS OF STRENGTH

- + Manufacturing, value added (% of GDP)
- + Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- + Educational attainment: at least completed upper secondary, 25+ years, GPI
- + Pupil-teacher ratio, primary (HC)
- + Laws relating to ICTs

### - AREAS OF IMPROVEMENT

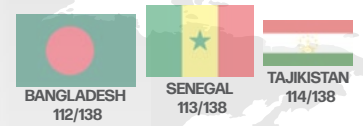
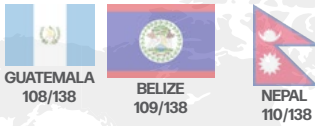
- Restrictive labour regulations
- Enrolment in vocational programmes, secondary (%)
- Industrial design applications (per billion PPP\$ GDP)
- Women-to-men ratio in parliament (%)
- Renewable energy consumption (% of total final energy consumption)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	81	57.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	81	47.6	
	HIGHER EDUCATION	83	37.3	
	RESEARCH, DEVELOPMENT & INNOVATION	60	22.1	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	46	61.9	
	ECONOMY	44	48.6	
	GENERAL ENABLING ENVIRONMENT	57	62.2	



# PAKISTAN

**278.222** GDP US\$ billions | **220,892,331** Population | **0.56** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Pakistan is a weak performer in terms of its knowledge infrastructure. It ranks 111<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 18<sup>th</sup> out of the 24 countries with medium human development.

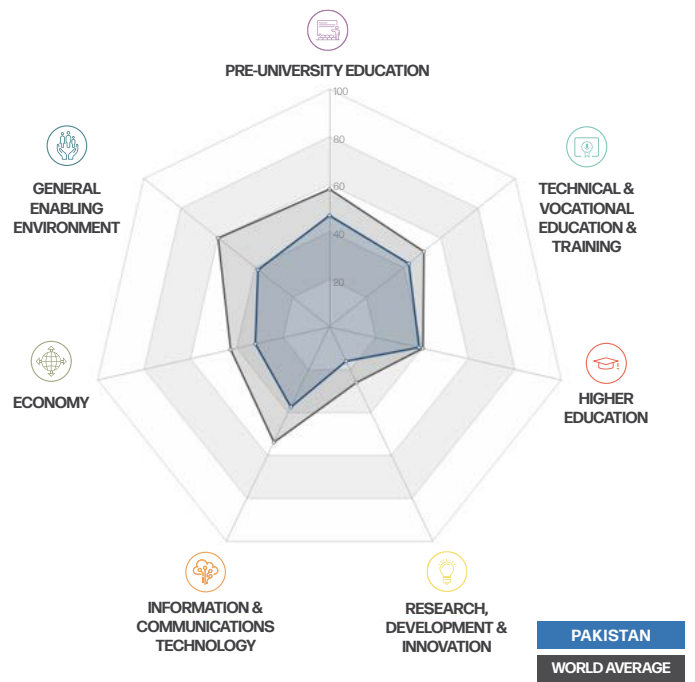
### + AREAS OF STRENGTH

- + Researchers in higher education (%)
- + Enrolment in tertiary education, ISCED 6 (%)
- + Grade 1 entrants with ECE (%)
- + High-technology net imports (% of total trade)
- + Gross enrolment ratio, ECE (%)

### - AREAS OF IMPROVEMENT

- Labour force participation rate, female-to-male ratio
- Trade (% of GDP)
- Investment in telecom services (% of GDP)
- Intellectual property receipts (% of total trade)
- Political stability and absence of violence/terrorism

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	113	46.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	112	42.7	
	HIGHER EDUCATION	73	38.7	
	RESEARCH, DEVELOPMENT & INNOVATION	98	16	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	107	37.4	
	ECONOMY	113	32	
	GENERAL ENABLING ENVIRONMENT	128	38.5	

**NORTH MACEDONIA**  
74/138

**INDIA**  
75/138

**LEBANON**  
76/138

**MOLDOVA (REPUBLIC OF)**  
78/138

**JORDAN**  
79/138

**IRAN (ISLAMIC REPUBLIC OF)**  
80/138

# PANAMA

**66.801**  
GDP US\$ billions

**4,314,768**  
Population

**0.795**  
HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Panama is a moderate performer in terms of its knowledge infrastructure. It ranks 77<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 19<sup>th</sup> out of the 36 countries with high human development.

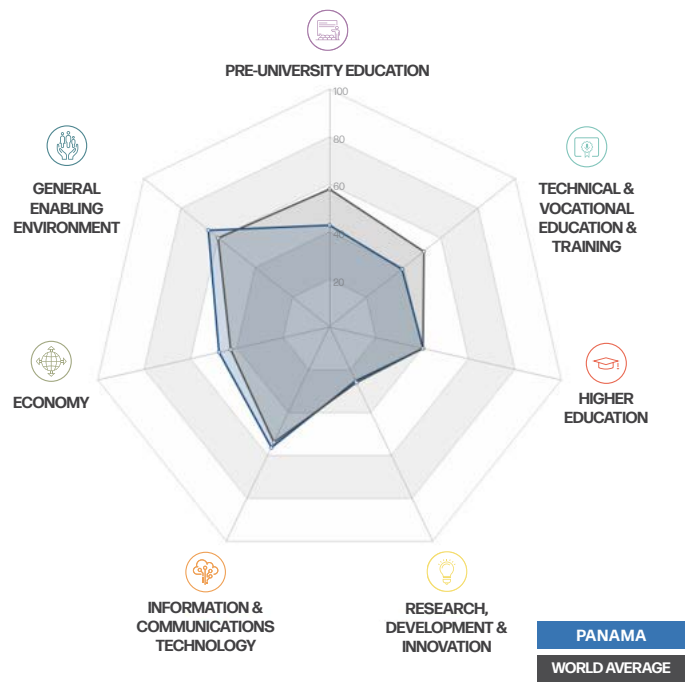
### + AREAS OF STRENGTH

- + Citations per document
- + Energy intensity level of primary energy (MJ/2011 PPP\$)
- + GERD per researcher (constant '000 PPP\$)
- + Gross fixed capital formation (% of GDP)
- + Educational attainment: at least completed upper secondary, 25+ years, GPI

### - AREAS OF IMPROVEMENT

- High-technology net imports (% of total trade)
- Assessment of 15-year-old students
- Industrial design applications (per billion PPP\$ GDP)
- Firms offering formal training (%)
- GERD performed by business enterprises (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	119	42.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	123	39	
	HIGHER EDUCATION	62	40.4	
	RESEARCH, DEVELOPMENT & INNOVATION	51	25.2	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	64	56.3	
	ECONOMY	46	47.7	
	GENERAL ENABLING ENVIRONMENT	50	65.2	





# PARAGUAY

**38.145** GDP US\$ billions | **7,132,530** Population | **0.724** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Paraguay is a modest performer in terms of its knowledge infrastructure. It ranks 102<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 33<sup>rd</sup> out of the 36 countries with high human development.

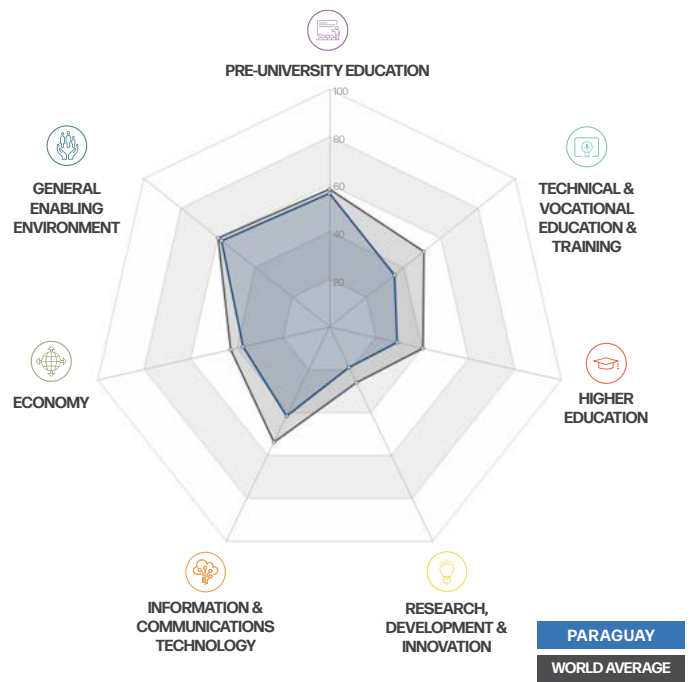
### + AREAS OF STRENGTH

- + Trademark applications (per billion PPP\$ GDP)
- + ICT goods imported (% of total imports)
- + High-technology net imports (% of total trade)
- + Business impact of rules on FDI
- + Renewable energy consumption (% of total final energy consumption)

### - AREAS OF IMPROVEMENT

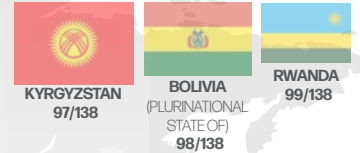
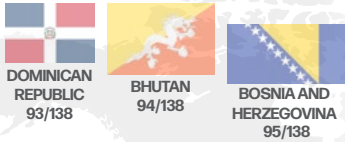
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Patent applications (per million inhabitants)
- GERD performed by business enterprises (% of GDP)
- ICT PCT patent applications (per million inhabitants)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	85	56.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	128	35	
	HIGHER EDUCATION	119	29.2	
	RESEARCH, DEVELOPMENT & INNOVATION	84	18.9	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	100	41.6	
	ECONOMY	85	37.3	
	GENERAL ENABLING ENVIRONMENT	76	58.1	



# PERU

**226.848** GDP US\$ billions | **32,971,846** Population | **0.759** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Peru is a modest performer in terms of its knowledge infrastructure. It ranks 96<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 31<sup>st</sup> out of the 36 countries with high human development.

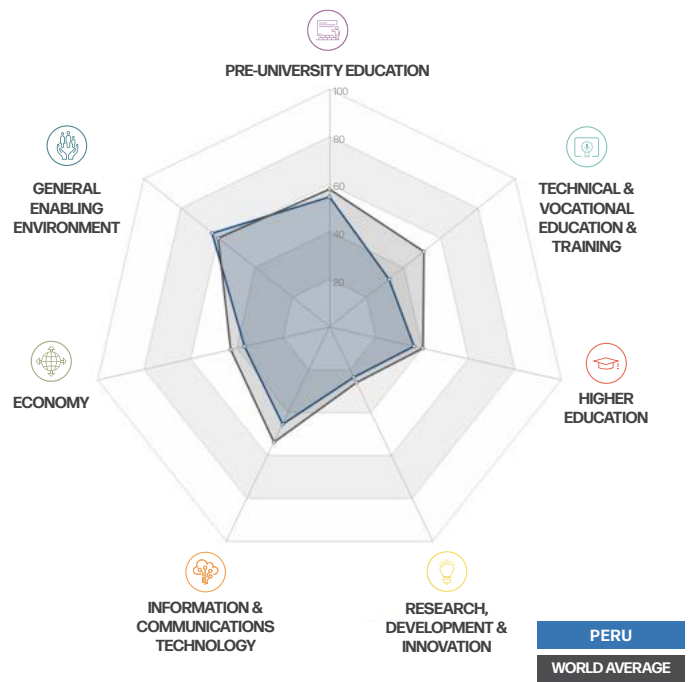
### + AREAS OF STRENGTH

- + Average documents per researcher
- + Enrolment in tertiary education, ISCED 6 (%)
- + Firms offering formal training (%)
- + GERD per researcher (constant '000 PPP\$)
- + Graduates, ISCED 8 (%)

### - AREAS OF IMPROVEMENT

- Graduates, ISCED 6 (%)
- Teachers with the minimum required qualifications, secondary (%)
- Pupil-teacher ratio, secondary vocational (HC)
- Teachers with the minimum required qualifications, primary (%)
- Population covered by mobile-cellular networks (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

	RANK	VALUE	
PRE-UNIVERSITY EDUCATION	90	54.7	
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	131	32.1	
HIGHER EDUCATION	86	36.5	
RESEARCH, DEVELOPMENT & INNOVATION	56	23.5	
INFORMATION & COMMUNICATIONS TECHNOLOGY	91	45.4	
ECONOMY	88	36.7	
GENERAL ENABLING ENVIRONMENT	52	63.2	



# PHILIPPINES

**376.796** GDP US\$ billions | **109,581,085** Population | **0.712** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Philippines is a moderate performer in terms of its knowledge infrastructure. It ranks 60<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 8<sup>th</sup> out of the 36 countries with high human development.

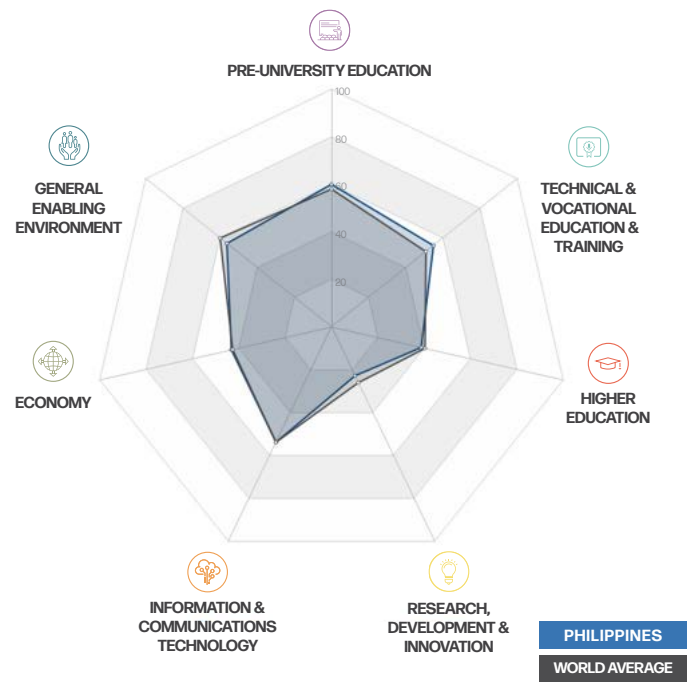
### + AREAS OF STRENGTH

- + ICT goods exported (% of total exports)
- + High-technology net exports (% of total trade)
- + Poor work ethic in the labour force
- + Use of virtual social networks
- + High-technology net imports (% of total trade)

### - AREAS OF IMPROVEMENT

- New business density
- Graduates, ISCED 7 (%)
- Ease of starting a business
- Assessment of 15-year-old students
- Pupil-teacher ratio, secondary vocational (HC)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	72	60	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	41	54.9	
	HIGHER EDUCATION	72	38.7	
	RESEARCH, DEVELOPMENT & INNOVATION	58	22.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	71	53.8	
	ECONOMY	62	43.2	
	GENERAL ENABLING ENVIRONMENT	85	56.3	



LITHUANIA  
35/138



CYPRUS  
36/138



SLOVAKIA  
37/138

# POLAND

592.164  
GDP US\$ billions

37,846,605  
Population

0.872  
HDI



GKI SCORE  
54.3

WORLD AVERAGE 46.7



QATAR  
39/138



HUNGARY  
40/138



COSTA RICA  
41/138

## COUNTRY PERFORMANCE SUMMARY

Poland is a strong performer in terms of its knowledge infrastructure. It ranks 38<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 37<sup>th</sup> out of the 56 countries with very high human development.

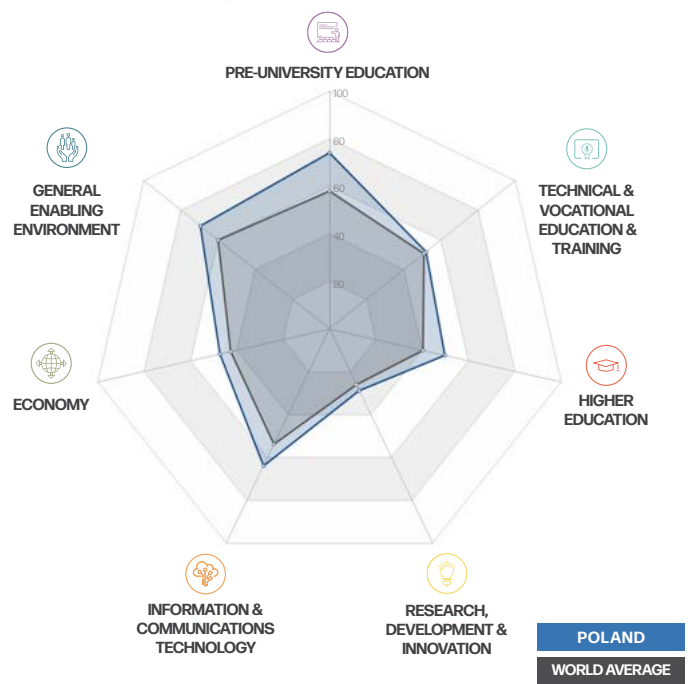
### + AREAS OF STRENGTH

- + Pupil-teacher ratio, primary (HC)
- + Graduates, ISCED 6 (%)
- + Active mobile-broadband subscriptions (per 100 inhabitants)
- + Gross graduation ratio, primary (%)
- + Mean years of schooling (ISCED 1 or higher)

### - AREAS OF IMPROVEMENT

- Graduates, ISCED 8 (%)
- Gross enrolment ratio, primary (%)
- Government success in ICT promotion
- Judicial independence
- Investment in telecom services (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



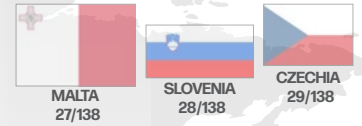
## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	17	74.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	55	52	
	HIGHER EDUCATION	32	49.8	
	RESEARCH, DEVELOPMENT & INNOVATION	38	28.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	44	63.9	
	ECONOMY	47	47.3	
	GENERAL ENABLING ENVIRONMENT	38	69.5	





# PORTUGAL



**237.686** GDP US\$ billions | **10,196,707** Population | **0.85** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Portugal is a leading performer in terms of its knowledge infrastructure. It ranks 26<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 26<sup>th</sup> out of the 56 countries with very high human development.

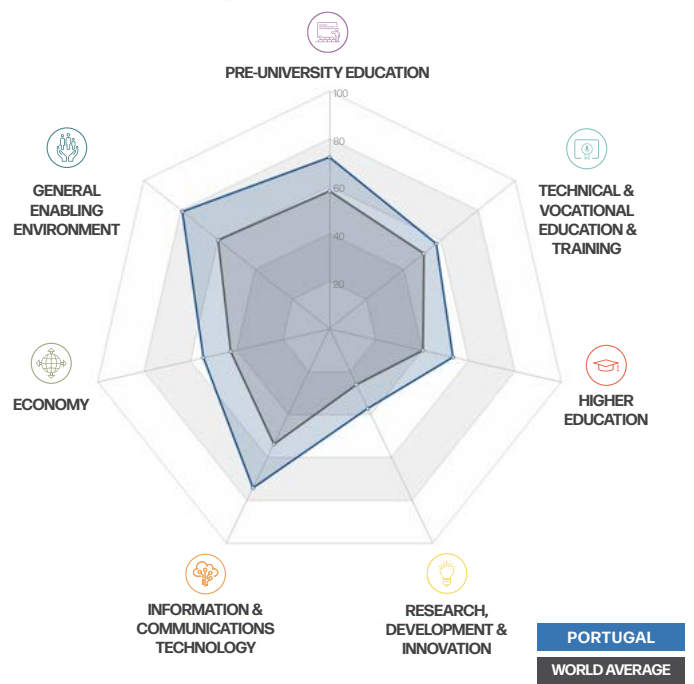
### + AREAS OF STRENGTH

- + Fixed-telephone subscriptions (per 100 inhabitants)
- + Prevalence of non-tariff barriers
- + Enrolment in tertiary education, ISCED 8 (%)
- + Business impact of rules on FDI
- + Enrolment in globally-ranked universities (% of tertiary students)

### - AREAS OF IMPROVEMENT

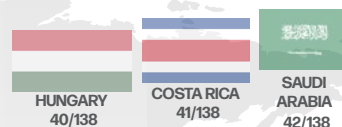
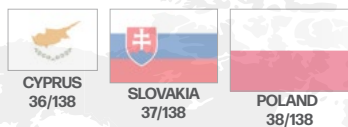
- Enrolment in tertiary education, ISCED 6 (%)
- Restrictive labour regulations
- Gross fixed capital formation (% of GDP)
- Soundness of banks
- Labour freedom

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	24	72.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	33	57.5	
	HIGHER EDUCATION	21	53.3	
	RESEARCH, DEVELOPMENT & INNOVATION	31	37.1	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	27	74.2	
	ECONOMY	28	54.4	
	GENERAL ENABLING ENVIRONMENT	13	79.2	



# QATAR

**183.466** GDP US\$ billions | **2,881,060** Population | **0.848** HDI



## COUNTRY PERFORMANCE SUMMARY

Qatar is a strong performer in terms of its knowledge infrastructure. It ranks 39<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 38<sup>th</sup> out of the 56 countries with very high human development.

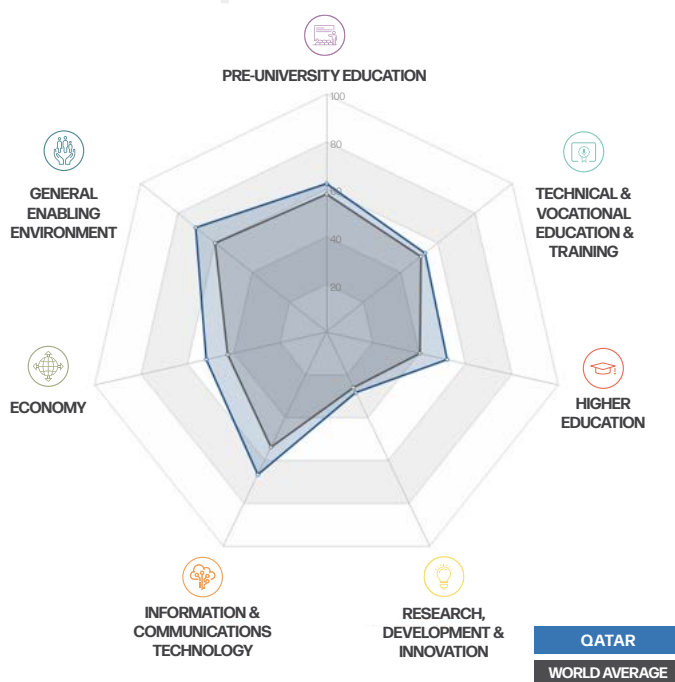
### + AREAS OF STRENGTH

- + Educational attainment: at least completed upper secondary, 25+ years, GPI
- + Unemployment rate (%)
- + Unemployment with advanced education (%)
- + Internet users (%)
- + Average documents per researcher

### - AREAS OF IMPROVEMENT

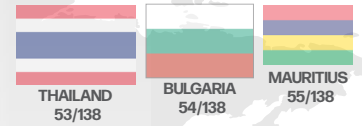
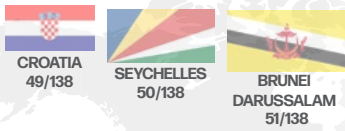
- Poor work ethic in the labour force
- Intellectual property receipts (% of total trade)
- ICT goods exported (% of total exports)
- Total CO2 emissions per capita
- Renewable energy consumption (% of total final energy consumption)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	64	62.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	49	53.1	
	HIGHER EDUCATION	24	52.1	
	RESEARCH, DEVELOPMENT & INNOVATION	39	28.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	34	66.6	
	ECONOMY	34	51.9	
	GENERAL ENABLING ENVIRONMENT	37	70.4	



# ROMANIA

**250.077** GDP US\$ billions | **19,237,682** Population | **0.816** HDI



GKI SCORE 48.5  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Romania is a strong performer in terms of its knowledge infrastructure. It ranks 52<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 49<sup>th</sup> out of the 56 countries with very high human development.

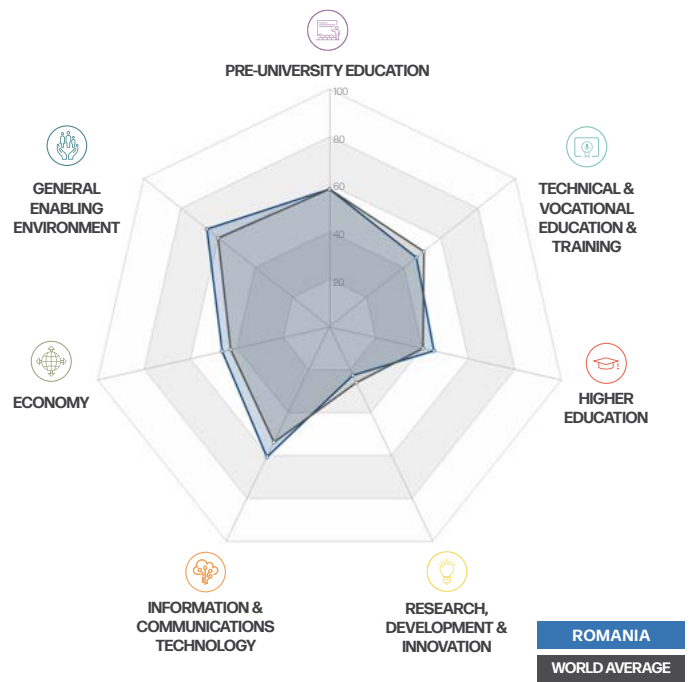
### + AREAS OF STRENGTH

- + Unemployment with advanced education (%)
- + Total tax and contribution rate (% of profit)
- + Business impact of rules on FDI
- + Enrolment in tertiary education, ISCED 7 (%)
- + Ease of enforcing a contract

### - AREAS OF IMPROVEMENT

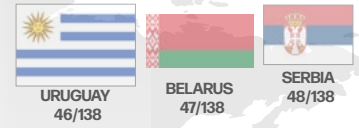
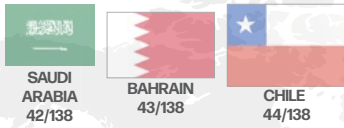
- Expenditure on non-tertiary vocational education (%)
- Ease of finding skilled employees
- Citations per document
- Gross enrolment ratio, primary (%)
- Government expenditure, primary (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	79	58
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	88	46.8
HIGHER EDUCATION	46	45.1
RESEARCH, DEVELOPMENT & INNOVATION	59	22.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	50	60.7
ECONOMY	49	46.3
GENERAL ENABLING ENVIRONMENT	49	66



# RUSSIAN FEDERATION

**1,699.877** GDP US\$ billions | **145,934,460** Population | **0.824** HDI



GKI SCORE 50.6 | WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Russian Federation is a strong performer in terms of its knowledge infrastructure. It ranks 45<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 43<sup>rd</sup> out of the 56 countries with very high human development.

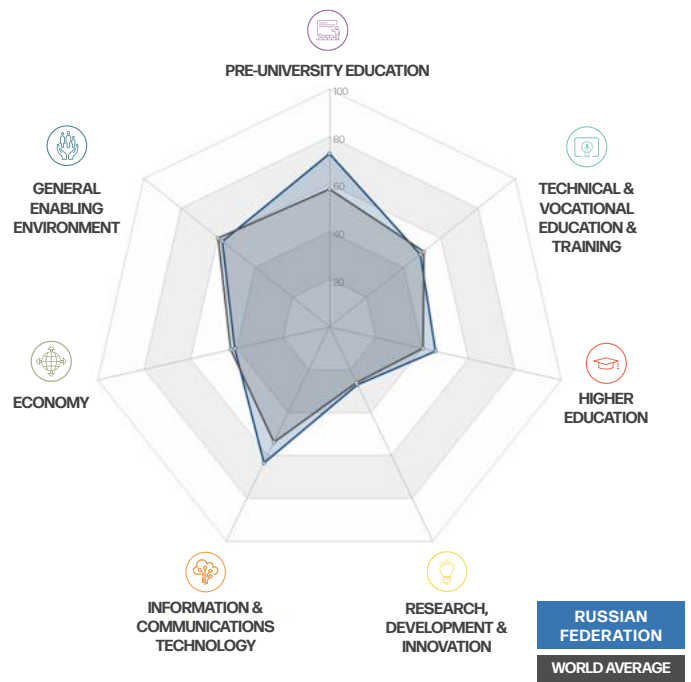
### + AREAS OF STRENGTH

- + Creative services exports (% of total trade in services)
- + Labour force with advanced education (%)
- + Out-of-school children (%)
- + Mobile-cellular subscriptions (per 100 inhabitants)
- + ICT Price Basket

### - AREAS OF IMPROVEMENT

- Total CO2 emissions per capita
- Enrolment in tertiary education, ISCED 6 (%)
- Citations per document
- Researchers in higher education (%)
- Firms offering formal training (%)

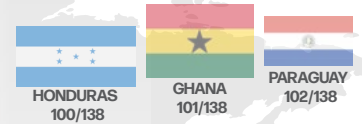
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	19	72.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	71	48.9	
	HIGHER EDUCATION	40	45.8	
	RESEARCH, DEVELOPMENT & INNOVATION	45	27	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	45	63.5	
	ECONOMY	70	40.9	
	GENERAL ENABLING ENVIRONMENT	78	57.7	





# RWANDA

**10.122** GDP US\$ billions | **12,952,209** Population | **0.536** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Rwanda is a modest performer in terms of its knowledge infrastructure. It ranks 99<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 1<sup>st</sup> out of the 22 countries with low human development.

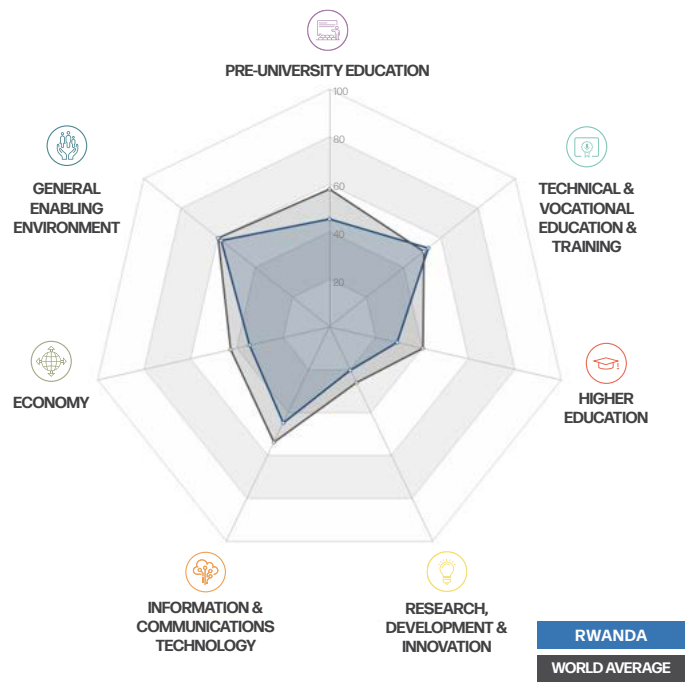
### + AREAS OF STRENGTH

- + Labour force participation rate, female-to-male ratio
- + GERD per researcher (constant '000 PPP\$)
- + Gross enrolment ratio, primary (%)
- + Total CO2 emissions per capita
- + Renewable energy consumption (% of total final energy consumption)

### - AREAS OF IMPROVEMENT

- Creative services exports (% of total trade in services)
- Pupil-teacher ratio, primary (HC)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.

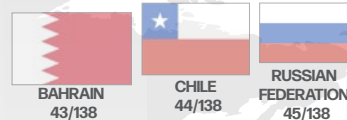
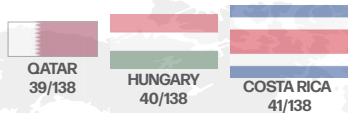


## SECTORAL INDICES

Image	Index Name	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	115	45.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	48	53.2	
	HIGHER EDUCATION	118	29.2	
	RESEARCH, DEVELOPMENT & INNOVATION	73	20.2	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	94	44.8	
	ECONOMY	100	34.5	
	GENERAL ENABLING ENVIRONMENT	73	58.3	

العلم للجميع

# SAUDI ARABIA



**792.967** GDP US\$ billions | **34,813,867** Population | **0.857** HDI



**GKI SCORE**  
50.9  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Saudi Arabia is a strong performer in terms of its knowledge infrastructure. It ranks 42<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 40<sup>th</sup> out of the 56 countries with very high human development.

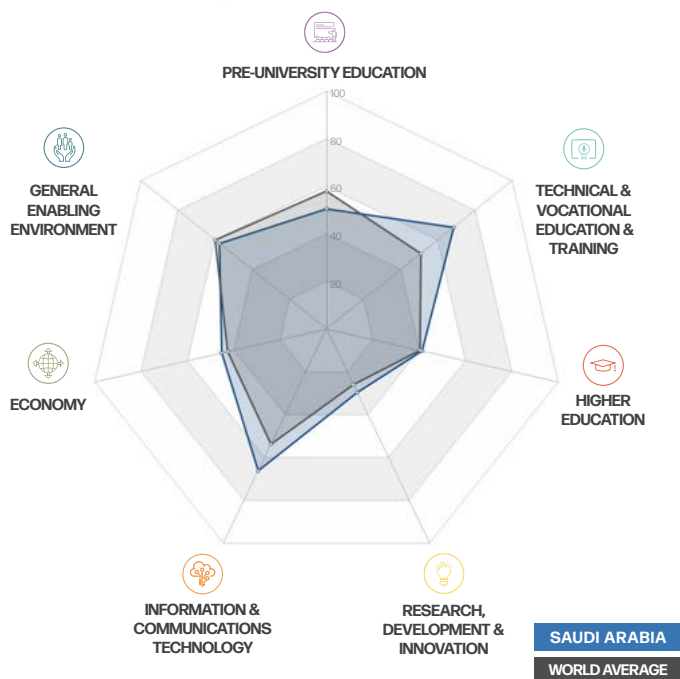
### + AREAS OF STRENGTH

- + Technicians per thousand labour force (HC)
- + GERD per researcher (constant '000 PPP\$)
- + Ease of protecting minority investors
- + Government success in ICT promotion
- + Total tax and contribution rate (% of profit)

### - AREAS OF IMPROVEMENT

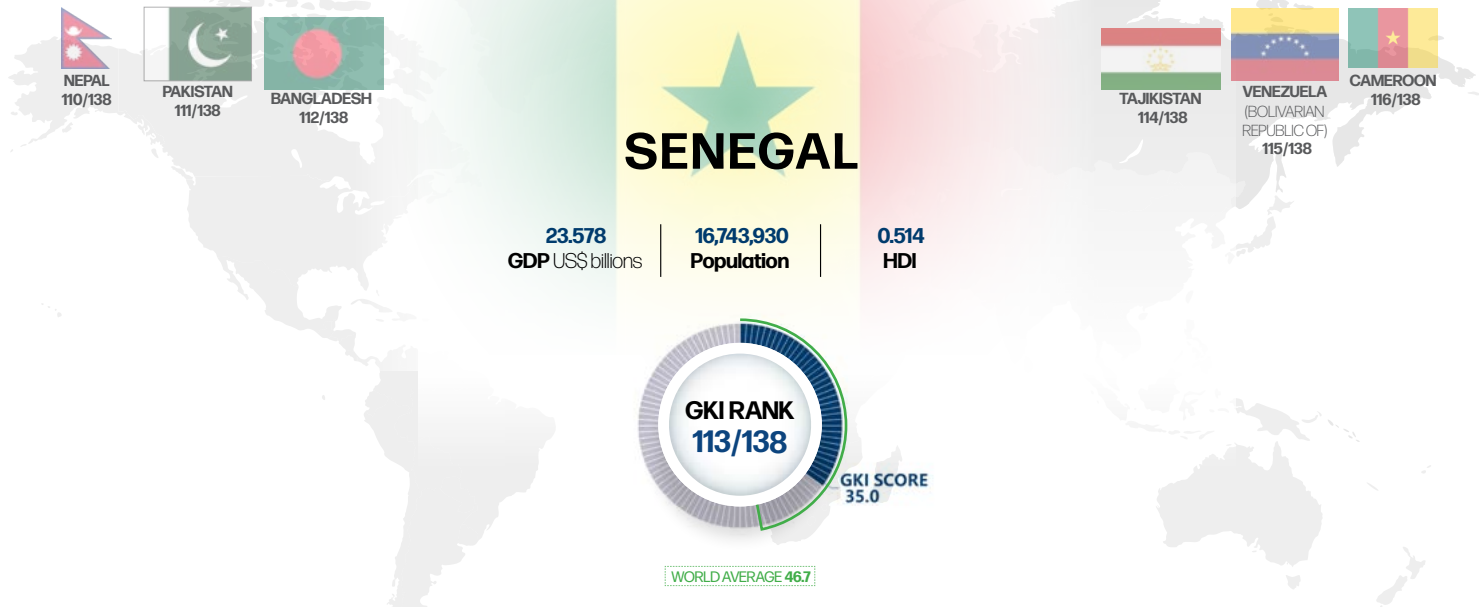
- World Press Freedom Index
- Total CO2 emissions per capita
- Enrolment in vocational programmes, secondary (%)
- Renewable energy consumption (% of total final energy consumption)
- Grade 1 entrants with ECE (%)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	104	50.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	12	68.5	
	HIGHER EDUCATION	60	41.3	
	RESEARCH, DEVELOPMENT & INNOVATION	35	29.7	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	36	66.2	
	ECONOMY	54	45.2	
	GENERAL ENABLING ENVIRONMENT	80	57.6	



### COUNTRY PERFORMANCE SUMMARY

Senegal is a weak performer in terms of its knowledge infrastructure. It ranks 113<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 3<sup>rd</sup> out of the 22 countries with low human development.

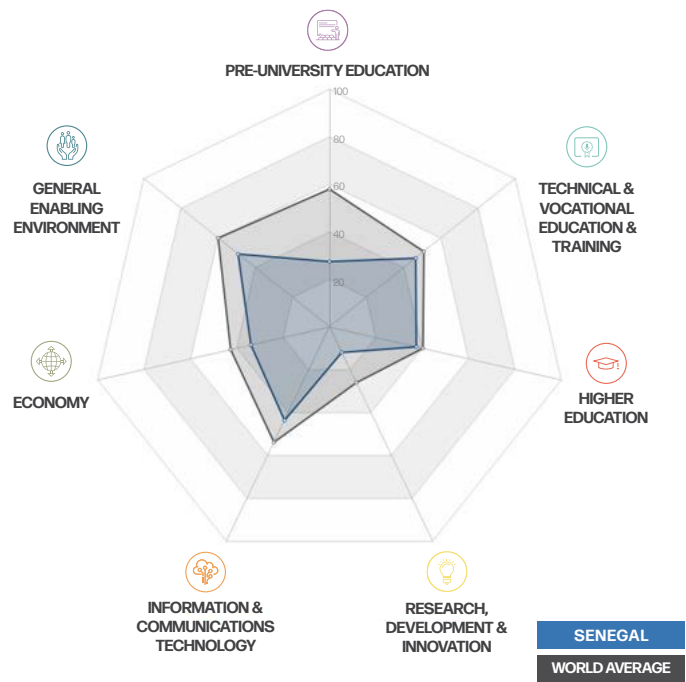
#### + AREAS OF STRENGTH

- + Pupil-teacher ratio, secondary vocational (HC)
- + Researchers in higher education (%)
- + Women-to-men ratio in parliament (%)
- + Enrolment in tertiary education, ISCED 8 (%)
- + Government expenditure, tertiary (% of GDP)

#### - AREAS OF IMPROVEMENT

- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- GERD performed by business enterprises (% of GDP)
- Researchers (HC) in business enterprise (%)
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.




### SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	132	27.5
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	91	46.4
HIGHER EDUCATION	82	37.5
RESEARCH, DEVELOPMENT & INNOVATION	124	11.9
INFORMATION & COMMUNICATIONS TECHNOLOGY	96	43.6
ECONOMY	103	33.9
GENERAL ENABLING ENVIRONMENT	110	49.2

  
RUSSIAN  
FEDERATION  
45/138

  
URUGUAY  
46/138

  
BELARUS  
47/138



# SERBIA


**51.409**  
GDP US\$ billions

**8,737,370**  
Population

**0.799**  
HDI

  
CROATIA  
49/138

  
SEYCHELLES  
50/138

  
BRUNEI  
DARUSSALAM  
51/138



**GKI SCORE**  
49.9

WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Serbia is a strong performer in terms of its knowledge infrastructure. It ranks 48<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 3<sup>rd</sup> out of the 36 countries with high human development.

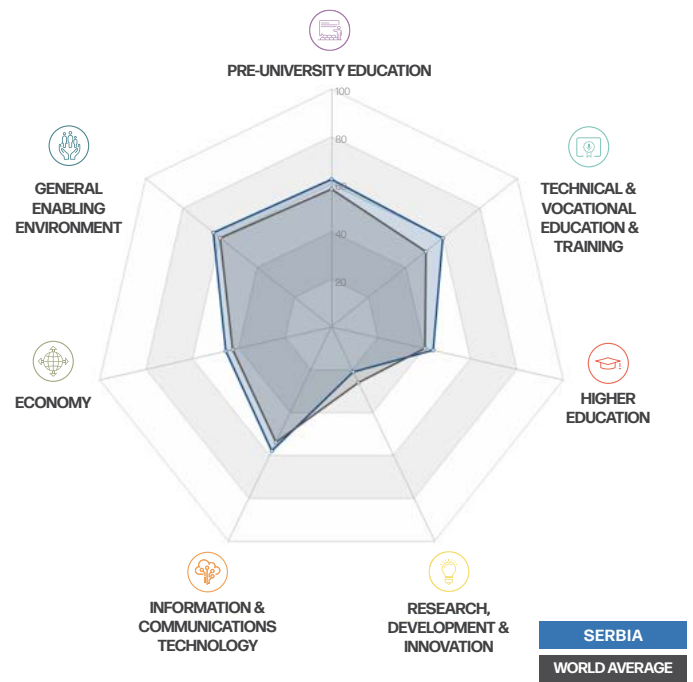
### + AREAS OF STRENGTH

- + Enrolment in tertiary education, ISCED 8 (%)
- + Enrolment in vocational programmes, secondary (%)
- + Pupil-teacher ratio, secondary (HC)
- + Enrolment in globally-ranked universities (% of tertiary students)
- + FDI, net inflows (% of GDP)

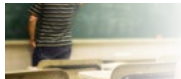






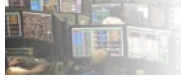





### - AREAS OF IMPROVEMENT

- Total computer software spending (% of GDP)
- Citations per document
- Unemployment rate (%)
- Teachers with the minimum required qualifications, secondary (%)
- Teachers with the minimum required qualifications, primary (%)

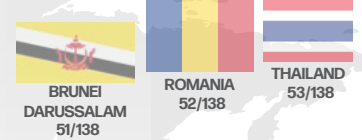
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	65	62.1	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	28	59.9	
	HIGHER EDUCATION	49	43.9	
	RESEARCH, DEVELOPMENT & INNOVATION	69	21	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	60	57.9	
	ECONOMY	51	45.6	
	GENERAL ENABLING ENVIRONMENT	51	63.6	





# SEYCHELLES

**1.699** GDP US\$ billions | **98,340** Population | **0.801** HDI



GKI SCORE 49.0  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Seychelles is a strong performer in terms of its knowledge infrastructure. It ranks 50<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 47<sup>th</sup> out of the 56 countries with very high human development.

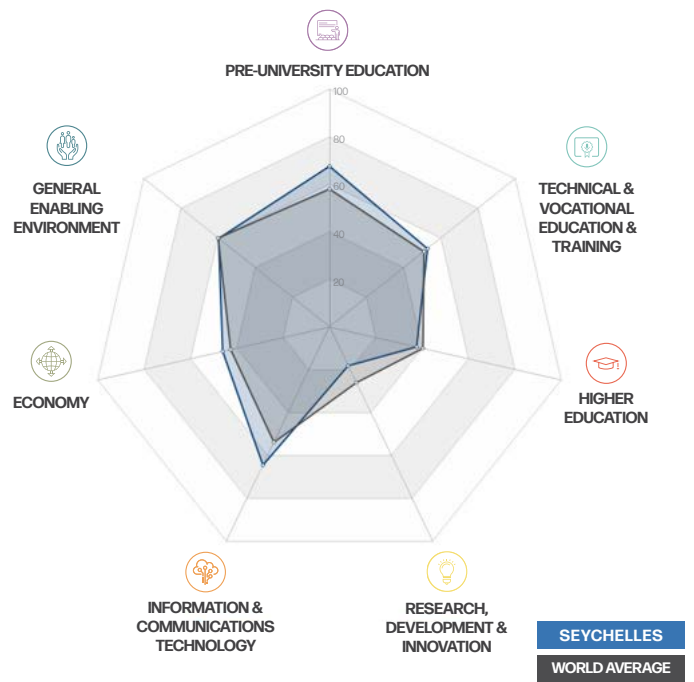
### + AREAS OF STRENGTH

- + Mobile-cellular subscriptions (per 100 inhabitants)
- + Citations per document
- + Secure Internet servers (per million inhabitants)
- + Gross fixed capital formation (% of GDP)
- + Labour force with advanced education (%)

### - AREAS OF IMPROVEMENT

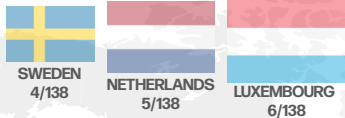
- Expenditure on non-tertiary vocational education (%)
- Graduates, ISCED 8 (%)
- Globally-ranked universities
- Inbound mobility rate (%)
- Labour force participation rate, female-to-male ratio

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	42	67.6
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	53	52.8
HIGHER EDUCATION	81	37.6
RESEARCH, DEVELOPMENT & INNOVATION	88	18.1
INFORMATION & COMMUNICATIONS TECHNOLOGY	42	64.5
ECONOMY	50	46.1
GENERAL ENABLING ENVIRONMENT	65	59.7



# SINGAPORE

**372.063** GDP US\$ billions | **5,850,343** Population | **0.935** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Singapore is a leading performer in terms of its knowledge infrastructure. It ranks 7<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 7<sup>th</sup> out of the 56 countries with very high human development.

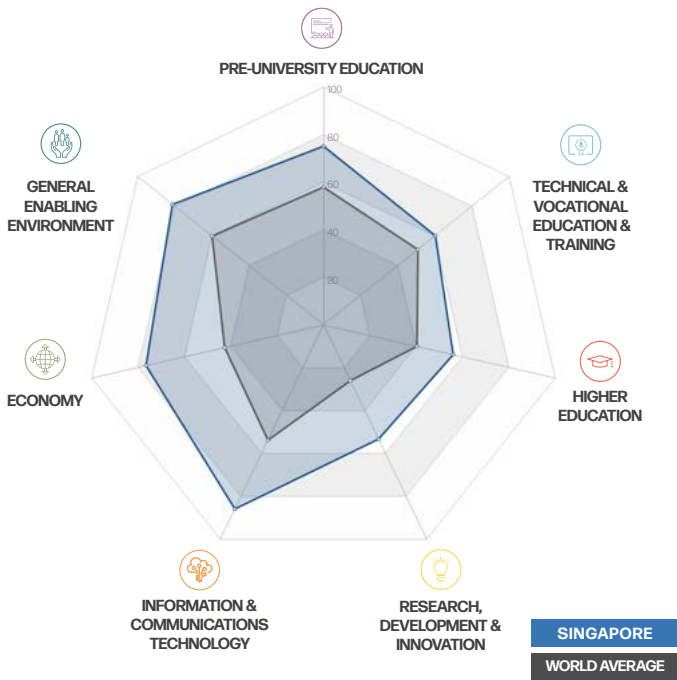
### + AREAS OF STRENGTH

- + Assessment of 8<sup>th</sup> grade students
- + Social impacts of ICT
- + Prevalence of non-tariff barriers
- + Government success in ICT promotion
- + Ease of enforcing a contract

### - AREAS OF IMPROVEMENT

- World Press Freedom Index
- Renewable energy consumption (% of total final energy consumption)
- Investment in telecom services (% of GDP)
- Government expenditure, primary (% of GDP)
- Restrictive labour regulations

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



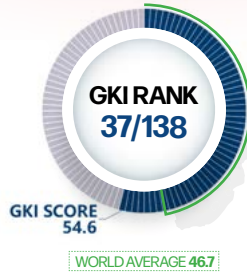
## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	14	75.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	27	60.2	
	HIGHER EDUCATION	14	56	
	RESEARCH, DEVELOPMENT & INNOVATION	13	53.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	2	85.9	
	ECONOMY	1	76.6	
	GENERAL ENABLING ENVIRONMENT	10	81.3	



# SLOVAKIA

**105.422** GDP US\$ billions | **5,459,643** Population | **0.857** HDI



## COUNTRY PERFORMANCE SUMMARY

Slovakia is a strong performer in terms of its knowledge infrastructure. It ranks 37<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 36<sup>th</sup> out of the 56 countries with very high human development.

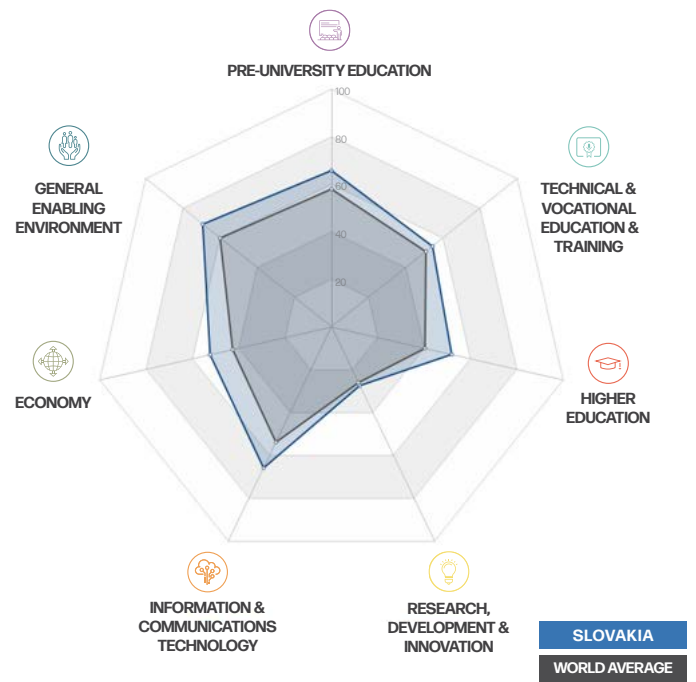
### + AREAS OF STRENGTH

- + Enrolment in tertiary education, ISCED 7 (%)
- + Trade (% of GDP)
- + Enrolment in tertiary education, ISCED 8 (%)
- + Gross enrolment ratio, ECE (%)
- + Poor work ethic in the labour force

### - AREAS OF IMPROVEMENT

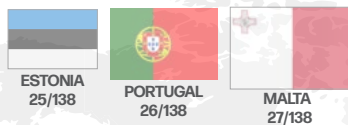
- Printing and publishing manufactures (% of manufactured output)
- Investment in telecom services (% of GDP)
- Government expenditure, primary (% of GDP)
- Enrolment in tertiary education, ISCED 6 (%)
- Ease of finding skilled employees

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	45	65.8
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	45	54.4
HIGHER EDUCATION	25	51.9
RESEARCH, DEVELOPMENT & INNOVATION	43	27.4
INFORMATION & COMMUNICATIONS TECHNOLOGY	38	65.8
ECONOMY	32	52.4
GENERAL ENABLING ENVIRONMENT	41	69.3



# SLOVENIA

**53.742** GDP US\$ billions | **2,078,932** Population | **0.902** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Slovenia is a leading performer in terms of its knowledge infrastructure. It ranks 28<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 28<sup>th</sup> out of the 56 countries with very high human development.

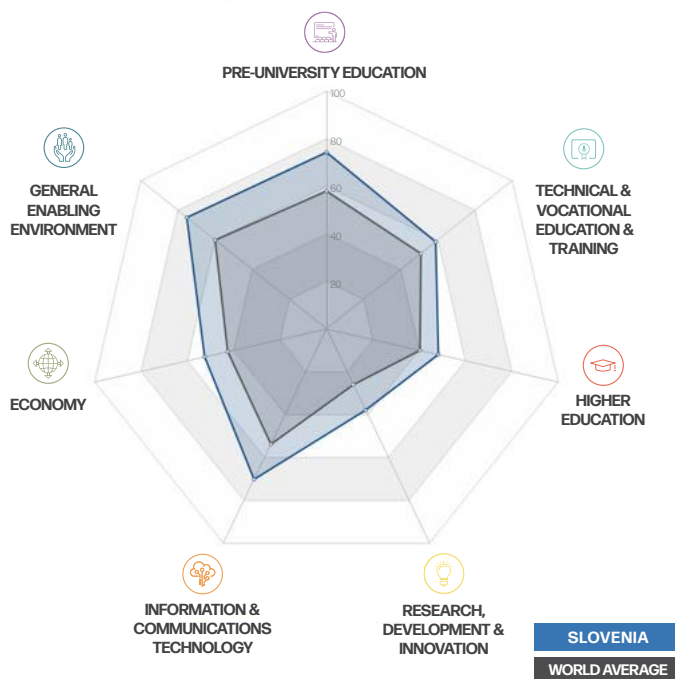
### + AREAS OF STRENGTH

- + Under-five mortality rate (per 1000 live births)
- + Enrolment in vocational programmes, secondary (%)
- + GERD financed by business enterprises (%)
- + Enrolment in globally-ranked universities (% of tertiary students)
- + Technicians per thousand labour force (HC)

### - AREAS OF IMPROVEMENT

- Enrolment in tertiary education, ISCED 6 (%)
- Researchers in higher education (%)
- Restrictive labour regulations
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Investment in telecom services (% of GDP)

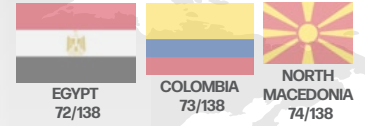
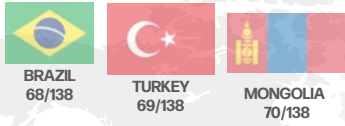
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	16	74.3
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	30	58.8
HIGHER EDUCATION	34	48.3
RESEARCH, DEVELOPMENT & INNOVATION	28	37.9
INFORMATION & COMMUNICATIONS TECHNOLOGY	31	70.2
ECONOMY	31	52.6
GENERAL ENABLING ENVIRONMENT	23	75.2





# SOUTH AFRICA

**351.432** GDP US\$ billions | **59,308,690** Population | **0.705** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

South Africa is a moderate performer in terms of its knowledge infrastructure. It ranks 71<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 14<sup>th</sup> out of the 36 countries with high human development.

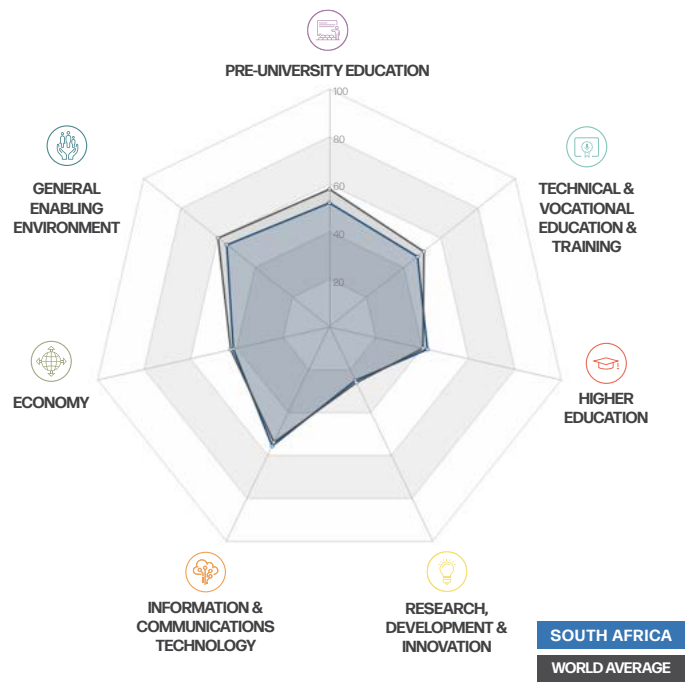
### + AREAS OF STRENGTH

- + Women-to-men ratio in parliament (%)
- + Mobile-cellular subscriptions (per 100 inhabitants)
- + Government expenditure, primary (% of GDP)
- + Domestic credit to private sector (% of GDP)
- + Printing and publishing manufactures (% of manufactured output)

### - AREAS OF IMPROVEMENT

- Pupil-teacher ratio, secondary vocational (HC)
- Energy intensity level of primary energy (MJ/2011 PPP\$)
- Assessment of 8<sup>th</sup> grade students
- Investment in telecom services (% of GDP)
- Unemployment rate (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	98	52.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	83	47.4	
	HIGHER EDUCATION	58	42.3	
	RESEARCH, DEVELOPMENT & INNOVATION	52	25	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	68	55.6	
	ECONOMY	67	41.5	
	GENERAL ENABLING ENVIRONMENT	86	55.3	



**SPAIN**

**1,394.116** GDP US\$ billions | **46,754,783** Population | **0.893** HDI



**COUNTRY PERFORMANCE SUMMARY**

Spain is a strong performer in terms of its knowledge infrastructure. It ranks 30<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 30<sup>th</sup> out of the 56 countries with very high human development.

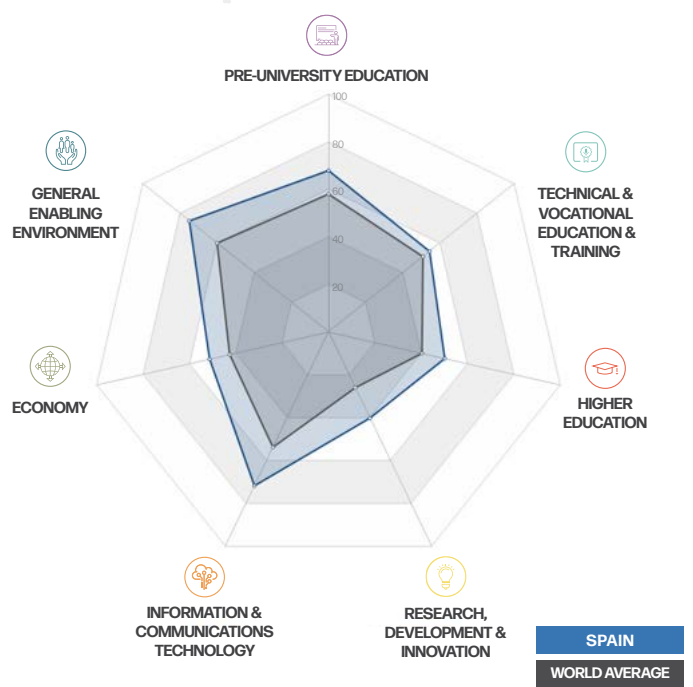
**+ AREAS OF STRENGTH**

- + Life expectancy at birth, both sexes (years)
- + Total computer software spending (% of GDP)
- + Women-to-men ratio in parliament (%)
- + Globally-ranked universities
- + Citable documents H index

**- AREAS OF IMPROVEMENT**

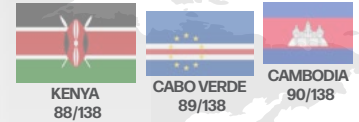
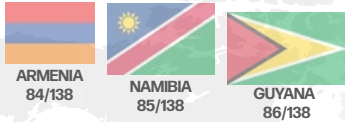
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Enrolment in tertiary education, ISCED 6 (%)
- Graduates, ISCED 6 (%)
- Restrictive labour regulations
- Unemployment rate (%)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



**SECTORAL INDICES**

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	41	67.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	44	54.4	
	HIGHER EDUCATION	31	50.2	
	RESEARCH, DEVELOPMENT & INNOVATION	27	40.2	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	29	71.8	
	ECONOMY	37	51.3	
	GENERAL ENABLING ENVIRONMENT	24	74.9	



# SRI LANKA

**84.009** GDP US\$ billions | **21,413,250** Population | **0.78** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Sri Lanka is a modest performer in terms of its knowledge infrastructure. It ranks 87<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 26<sup>th</sup> out of the 36 countries with high human development.

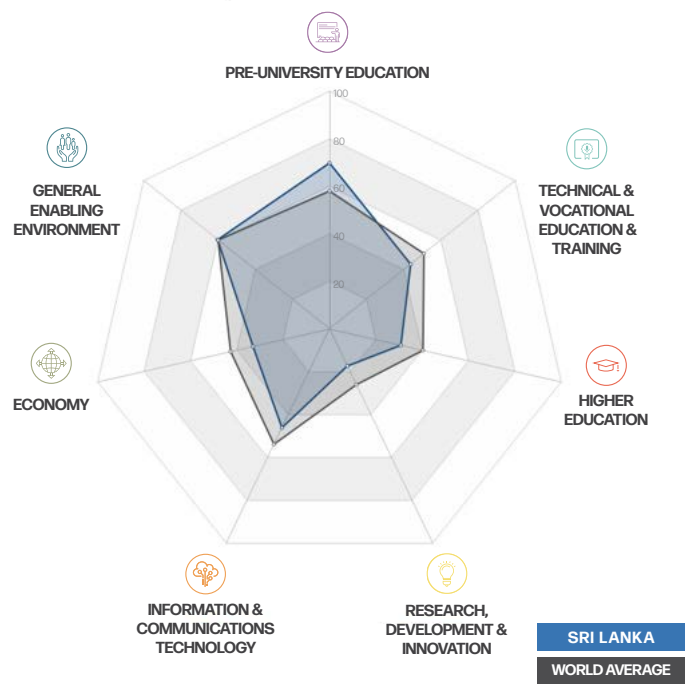
### + AREAS OF STRENGTH

- + Energy intensity level of primary energy (MJ/2011 PPP\$)
- + Restrictive labour regulations
- + Out-of-school children (%)
- + Printing and publishing manufactures (% of manufactured output)
- + Mobile-cellular subscriptions (per 100 inhabitants)

### - AREAS OF IMPROVEMENT

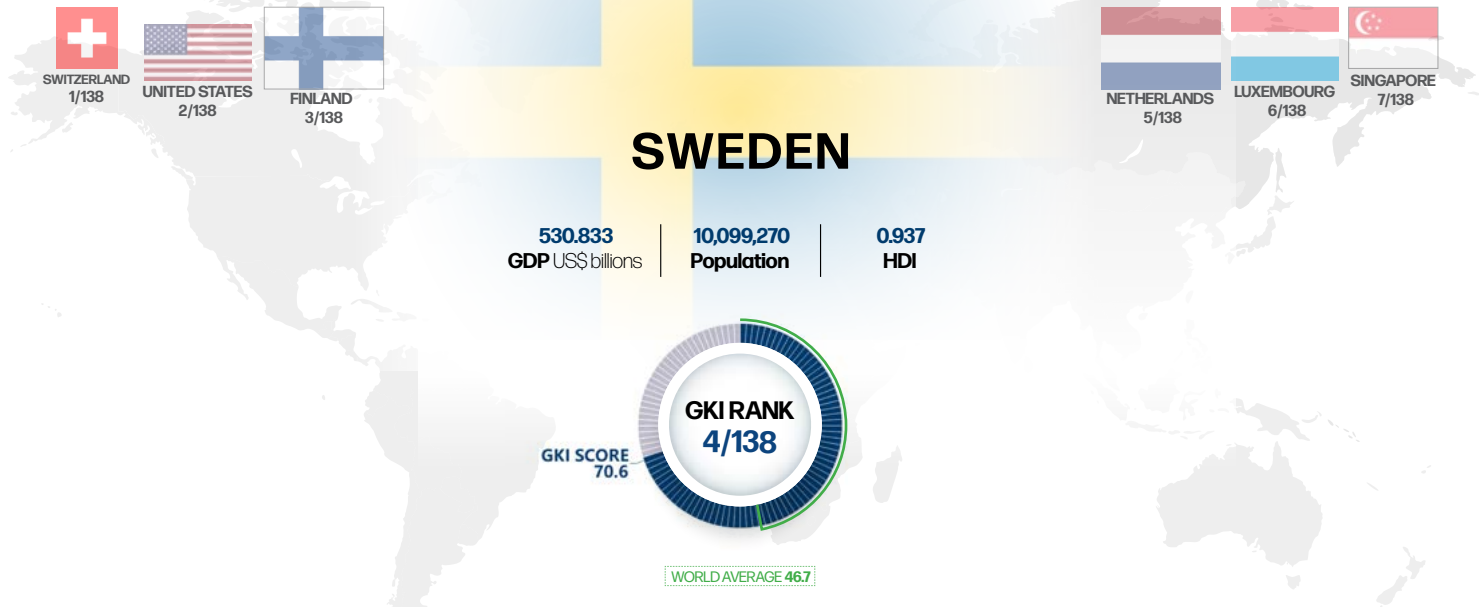
- Pupil-teacher ratio, secondary vocational (HC)
- Expenditure on educational institutions, all levels (%)
- Women-to-men ratio in parliament (%)
- Investment in telecom services (% of GDP)
- Expenditure on non-tertiary vocational education (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Index Name	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	34	69.8	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	105	43.7	
	HIGHER EDUCATION	110	30.8	
	RESEARCH, DEVELOPMENT & INNOVATION	93	17.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	90	46.1	
	ECONOMY	107	33	
	GENERAL ENABLING ENVIRONMENT	64	60.2	



### COUNTRY PERFORMANCE SUMMARY

Sweden is a leading performer in terms of its knowledge infrastructure. It ranks 4<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 4<sup>th</sup> out of the 56 countries with very high human development.

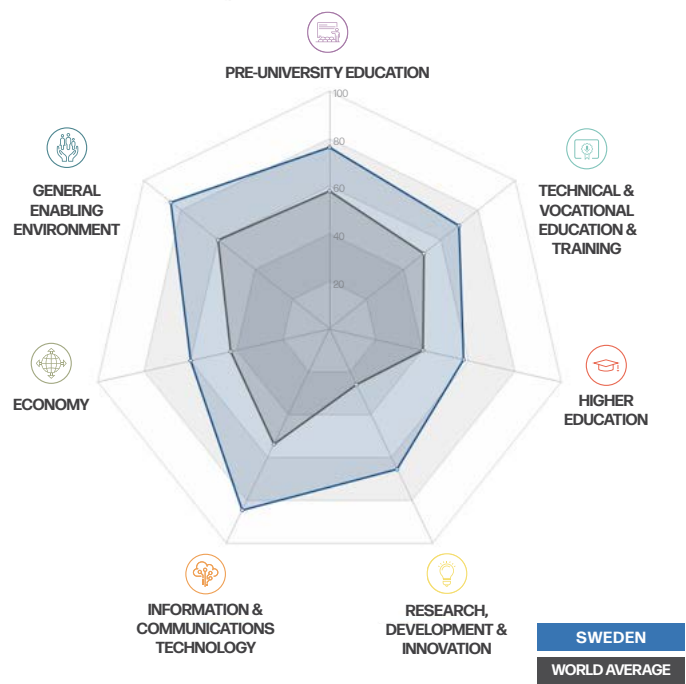
#### + AREAS OF STRENGTH

- + Impact of ICTs on new services and products
- + Business-to-consumer Internet use
- + ICT PCT patent applications (per million inhabitants)
- + Firm-level technology absorption
- + Patent applications (per million inhabitants)

#### - AREAS OF IMPROVEMENT

- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Graduates, ISCED 6 (%)
- Enrolment in tertiary education, ISCED 6 (%)
- Researchers in higher education (%)
- Restrictive labour regulations

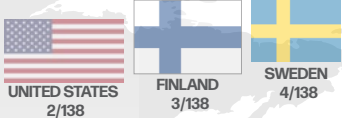
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



### SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	5	76.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	10	69.7	
	HIGHER EDUCATION	7	57.9	
	RESEARCH, DEVELOPMENT & INNOVATION	2	65.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	4	84.6	
	ECONOMY	12	59.9	
	GENERAL ENABLING ENVIRONMENT	3	85.4	





# SWITZERLAND

**703.082** GDP US\$ billions | **8,654,618** Population | **0.946** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Switzerland is a leading performer in terms of its knowledge infrastructure. It ranks 1<sup>st</sup> out of 138 countries in the Global Knowledge Index 2020 and 1<sup>st</sup> out of the 56 countries with very high human development.

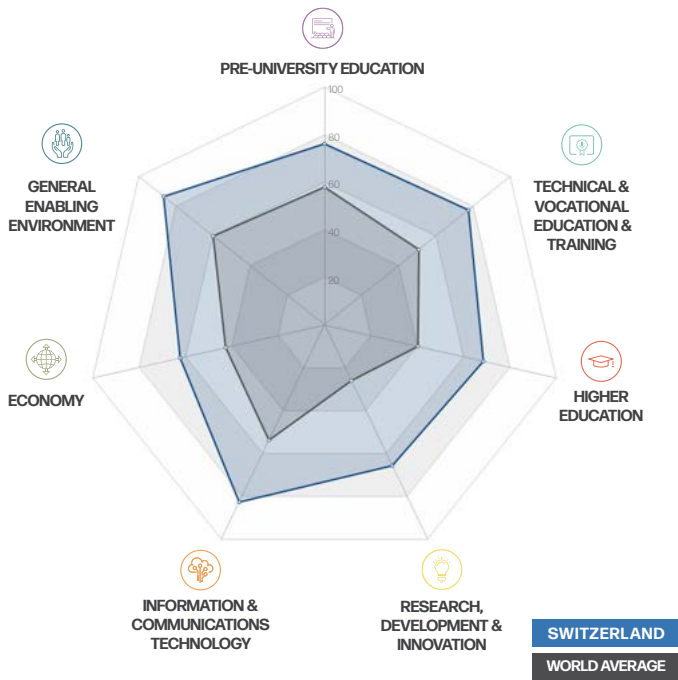
### + AREAS OF STRENGTH

- + Extent of staff training
- + Availability of research and training services
- + Quality of research institutions
- + Production process sophistication
- + Government effectiveness

### - AREAS OF IMPROVEMENT

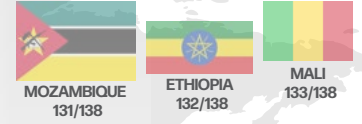
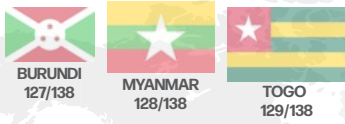
- ICT goods imported (% of total imports)
- Expenditure on educational institutions, all levels (%)
- Enrolment in vocational programmes, post-secondary non-tertiary (%)
- Restrictive labour regulations
- Creative services exports (% of total trade in services)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	6	76.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	3	77.5	
	HIGHER EDUCATION	1	68.6	
	RESEARCH, DEVELOPMENT & INNOVATION	1	65.7	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	10	82.7	
	ECONOMY	7	62.3	
	GENERAL ENABLING ENVIRONMENT	2	86.6	



# SYRIAN ARAB REPUBLIC

**40.405** GDP US\$ billions | **17,500,657** Population | **0.549** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Syrian Arab Republic is a weak performer in terms of its knowledge infrastructure. It ranks 130<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 15<sup>th</sup> out of the 22 countries with low human development.

### + AREAS OF STRENGTH

- + Enrolment in tertiary education, ISCED 6 (%)
- + Researchers in higher education (%)
- + Government expenditure, primary (% of GDP)
- + Pupil-teacher ratio, secondary vocational (HC)
- + Graduates, ISCED 8 (%)

### - AREAS OF IMPROVEMENT

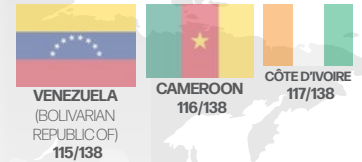
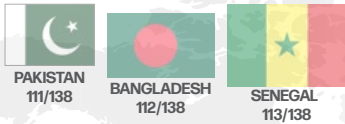
- Survival rate, last grade of lower secondary (%)
- Pupil-teacher ratio, tertiary (HC)
- Enrolment in globally-ranked universities (% of tertiary students)
- Political stability and absence of violence/terrorism
- Government effectiveness

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

		RANK	VALUE	
	PRE-UNIVERSITY EDUCATION	133	25.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	125	37.6	
	HIGHER EDUCATION	131	23.2	
	RESEARCH, DEVELOPMENT & INNOVATION	117	13.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	118	33.1	
	ECONOMY	104	33.8	
	GENERAL ENABLING ENVIRONMENT	130	35.5	



# TAJIKISTAN

**8.117** GDP US\$ billions | **9,537,642** Population | **0.656** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Tajikistan is a weak performer in terms of its knowledge infrastructure. It ranks 114<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 20<sup>th</sup> out of the 24 countries with medium human development.

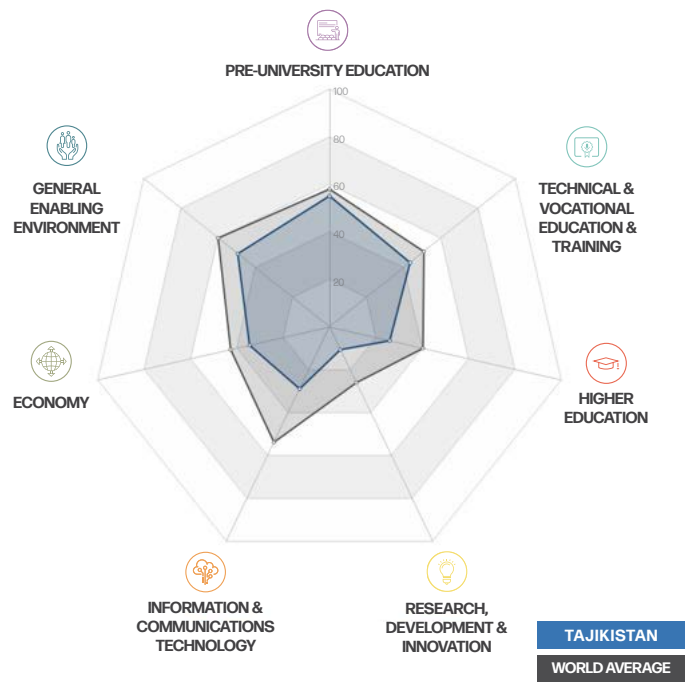
### + AREAS OF STRENGTH

- + Adult literacy rate (%)
- + Graduates, ISCED 8 (%)
- + Total CO2 emissions per capita
- + Ease of starting a business
- + Teachers with the minimum required qualifications, primary (%)

### - AREAS OF IMPROVEMENT

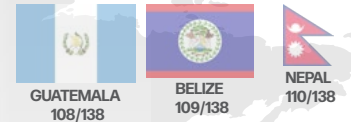
- Citations per document
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Internet and telephony level of competition
- ICT PCT patent applications (per million inhabitants)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	88	55.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	108	43.4
HIGHER EDUCATION	127	26
RESEARCH, DEVELOPMENT & INNOVATION	128	10.6
INFORMATION & COMMUNICATIONS TECHNOLOGY	123	28.9
ECONOMY	99	34.5
GENERAL ENABLING ENVIRONMENT	107	49.4



# TANZANIA (UNITED REPUBLIC OF)

**63.177** | **59,734,213** | **0.528**  
**GDP** US\$ billions | **Population** | **HDI**



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Tanzania (United Republic of) is a modest performer in terms of its knowledge infrastructure. It ranks 107<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 2<sup>nd</sup> out of the 22 countries with low human development.

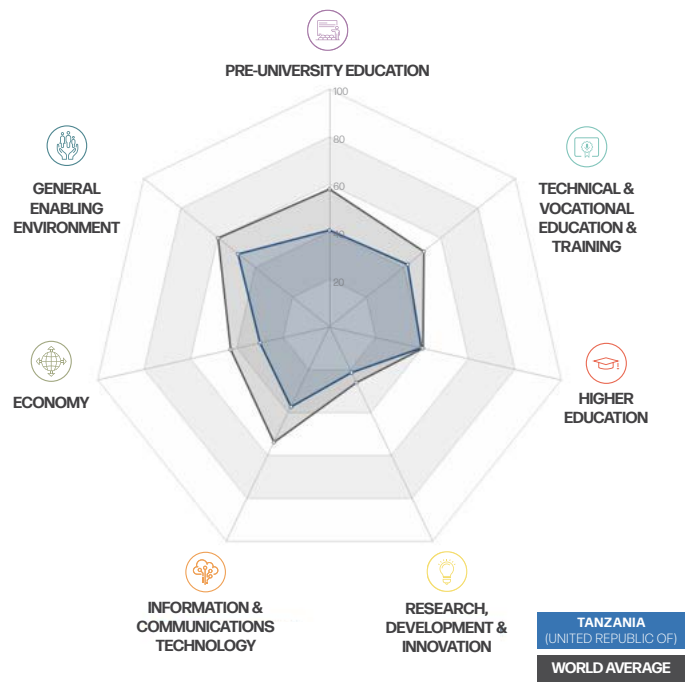
### + AREAS OF STRENGTH

- + Pupil-teacher ratio, secondary vocational (HC)
- + Renewable energy consumption (% of total final energy consumption)
- + Enrolment in tertiary education, ISCED 6 (%)
- + GERD per researcher (constant '000 PPP\$)
- + Gross fixed capital formation (% of GDP)

### - AREAS OF IMPROVEMENT

- Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- Total computer software spending (% of GDP)
- High-skilled employment (% of total employed people)
- Gross enrolment ratio, upper secondary (%)
- ICT PCT patent applications (per million inhabitants)

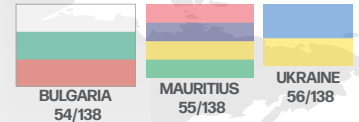
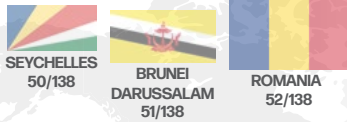
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	122	40.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	116	42.1	
	HIGHER EDUCATION	67	39.6	
	RESEARCH, DEVELOPMENT & INNOVATION	65	21.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	108	37.3	
	ECONOMY	118	30	
	GENERAL ENABLING ENVIRONMENT	109	49.2	





# THAILAND

**543.65** GDP US\$ billions | **69,799,978** Population | **0.765** HDI



GKI SCORE 48.3  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Thailand is a strong performer in terms of its knowledge infrastructure. It ranks 53<sup>rd</sup> out of 138 countries in the Global Knowledge Index 2020 and 4<sup>th</sup> out of the 36 countries with high human development.

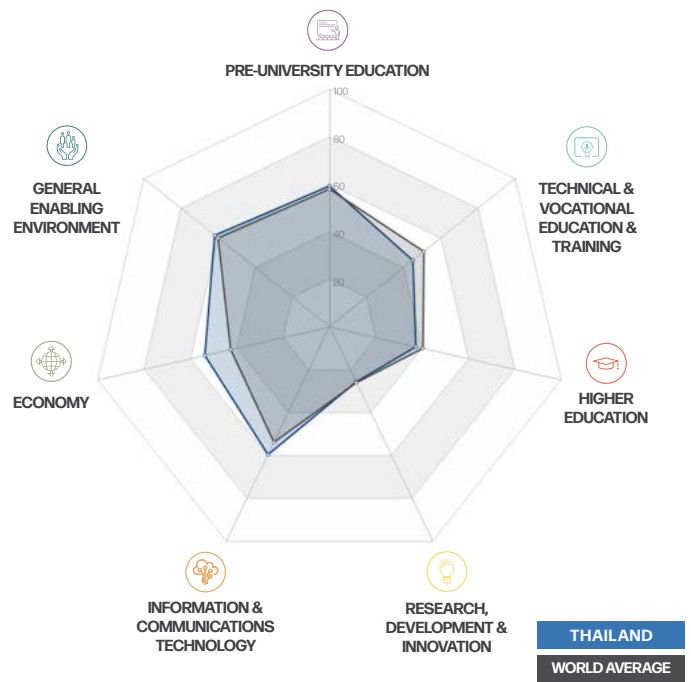
### + AREAS OF STRENGTH

- + Mobile-cellular subscriptions (per 100 inhabitants)
- + Unemployment with advanced education (%)
- + Ease of protecting minority investors
- + Unemployment rate (%)
- + Manufacturing, value added (% of GDP)

### - AREAS OF IMPROVEMENT

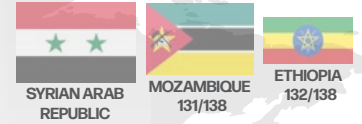
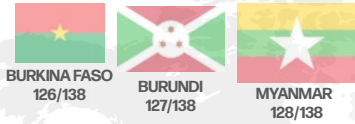
- Pupil-teacher ratio, tertiary (HC)
- Creative services exports (% of total trade in services)
- Firms offering formal training (%)
- Pupil-teacher ratio, secondary (HC)
- Average documents per researcher

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	73	59.3
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	101	44.9
HIGHER EDUCATION	84	37.3
RESEARCH, DEVELOPMENT & INNOVATION	48	25.7
INFORMATION & COMMUNICATIONS TECHNOLOGY	53	59.6
ECONOMY	29	53.8
GENERAL ENABLING ENVIRONMENT	58	61.8



# TOGO

**5.46** GDP US\$ billions | **8,278,737** Population | **0.513** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Togo is a weak performer in terms of its knowledge infrastructure. It ranks 129<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 14<sup>th</sup> out of the 22 countries with low human development.

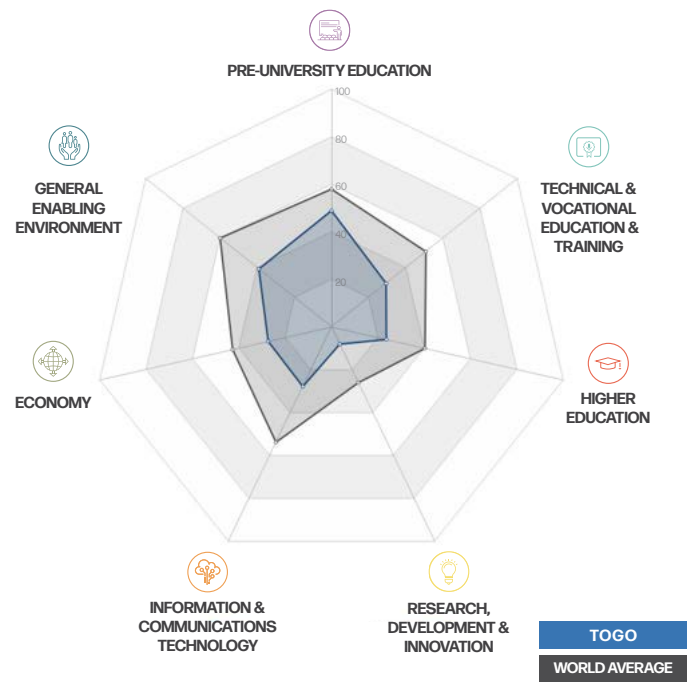
### + AREAS OF STRENGTH

- + Government expenditure, primary (% of GDP)
- + Labour force participation rate, female-to-male ratio
- + Gross enrolment ratio, primary (%)
- + Ease of starting a business
- + Expenditure on educational institutions, all levels (%)

### - AREAS OF IMPROVEMENT

- Intellectual property receipts (% of total trade)
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Educational attainment: at least completed upper secondary, 25+ years, GPI
- Energy intensity level of primary energy (MJ/2011 PPP\$)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	108	48.9	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	135	29.4	
	HIGHER EDUCATION	130	23.7	
	RESEARCH, DEVELOPMENT & INNOVATION	136	8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	125	27.8	
	ECONOMY	129	27.3	
	GENERAL ENABLING ENVIRONMENT	127	39.1	



**38.798** GDP US\$ billions | **11,818,618** Population | **0.739** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Tunisia is a moderate performer in terms of its knowledge infrastructure. It ranks 82<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 24<sup>th</sup> out of the 36 countries with high human development.

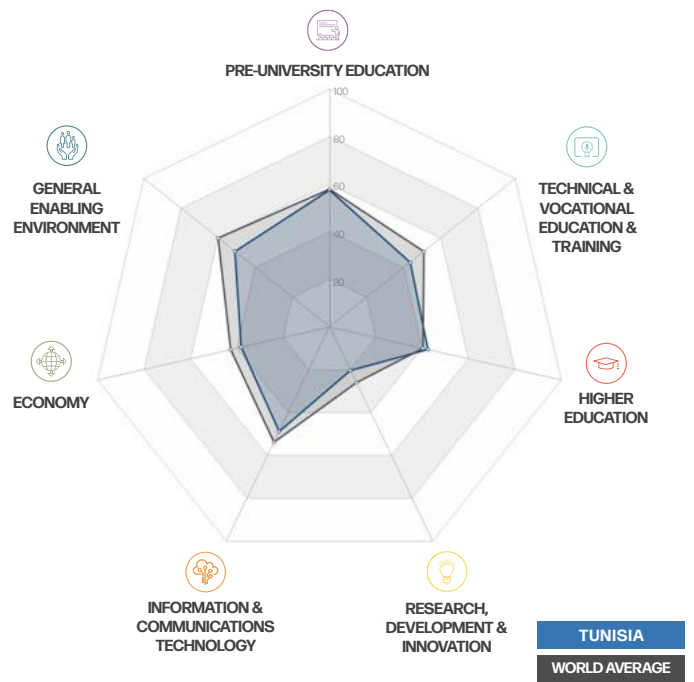
### + AREAS OF STRENGTH

- + Government expenditure, secondary (% of GDP)
- + Graduates from science, technology, engineering and mathematics programmes, tertiary (%)
- + Enrolment in tertiary education, ISCED 7 (%)
- + Government expenditure, tertiary (% of GDP)
- + Enrolment in tertiary education, ISCED 8 (%)

### - AREAS OF IMPROVEMENT

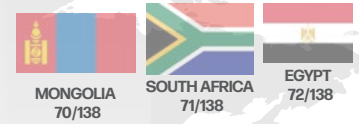
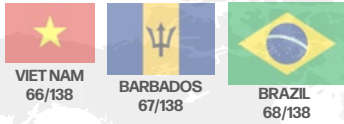
- Joint venture per strategic alliance deals
- Assessment of 15-year-old students
- Total tax and contribution rate (% of profit)
- Unemployment rate (%)
- Unemployment with advanced education (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	80	57.6	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	107	43.5	
	HIGHER EDUCATION	56	42.5	
	RESEARCH, DEVELOPMENT & INNOVATION	72	20.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	85	48.8	
	ECONOMY	82	38.1	
	GENERAL ENABLING ENVIRONMENT	103	50.9	



**754.412** GDP US\$ billions | **84,339,067** Population | **0.807** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Turkey is a moderate performer in terms of its knowledge infrastructure. It ranks 69<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 56<sup>th</sup> out of the 56 countries with very high human development.

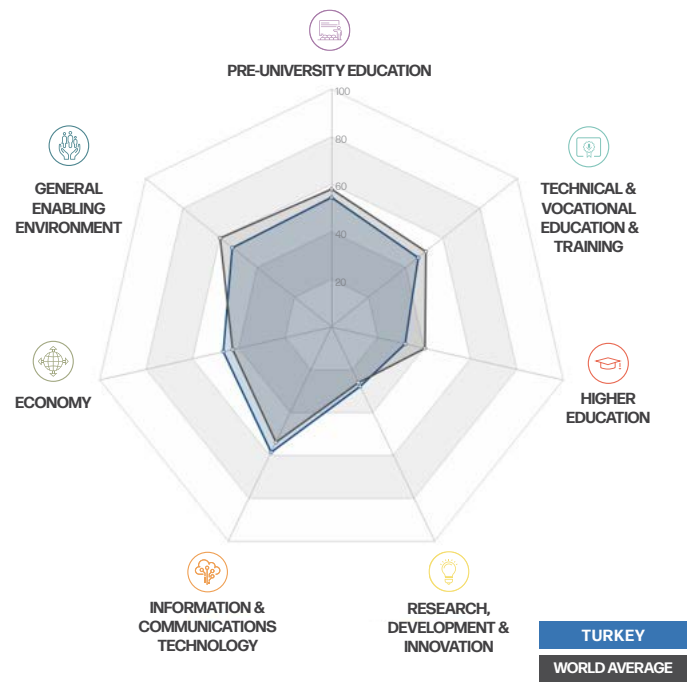
### + AREAS OF STRENGTH

- + Industrial design applications (per billion PPP\$ GDP)
- + Intensity of local competition
- + Creative goods exports (% of total trade in goods)
- + Globally-ranked universities
- + Trademark applications (per billion PPP\$ GDP)

### - AREAS OF IMPROVEMENT

- World Press Freedom Index
- Unemployment rate (%)
- Graduates, ISCED 7 (%)
- Political stability and absence of violence/terrorism
- Pupil-teacher ratio, tertiary (HC)

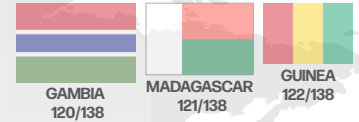
The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	RANK	VALUE	Icon
	PRE-UNIVERSITY EDUCATION	91	54.5	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	89	46.7	
	HIGHER EDUCATION	101	31.8	
	RESEARCH, DEVELOPMENT & INNOVATION	40	27.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	59	58.5	
	ECONOMY	48	46.7	
	GENERAL ENABLING ENVIRONMENT	91	53.4	





**34.387** GDP US\$ billions | **45,741,000** Population | **0.528** HDI



WORLD AVERAGE 46.7

### COUNTRY PERFORMANCE SUMMARY

Uganda is a weak performer in terms of its knowledge infrastructure. It ranks 119<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 5<sup>th</sup> out of the 22 countries with low human development.

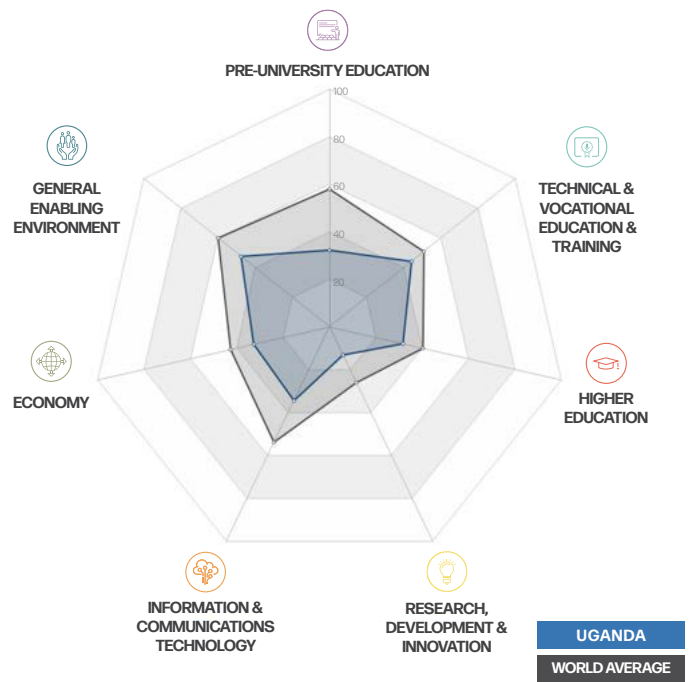
#### + AREAS OF STRENGTH

- + Renewable energy consumption (% of total final energy consumption)
- + Labour freedom
- + Total CO2 emissions per capita
- + Restrictive labour regulations
- + Unemployment rate (%)

#### - AREAS OF IMPROVEMENT

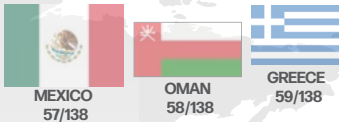
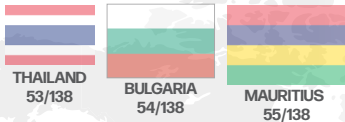
- Survival rate, last grade of lower secondary (%)
- Government expenditure, secondary (% of GDP)
- Total computer software spending (% of GDP)
- Gross graduation ratio, upper secondary (%)
- Labour force with advanced education (%)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



### SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	128	32.3
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	104	44.2
HIGHER EDUCATION	103	31.7
RESEARCH, DEVELOPMENT & INNOVATION	120	13.1
INFORMATION & COMMUNICATIONS TECHNOLOGY	113	34.4
ECONOMY	108	32.7
GENERAL ENABLING ENVIRONMENT	112	47.6



# UKRAINE

**153.781** GDP US\$ billions | **43,733,759** Population | **0.75** HDI



GKI SCORE 47.6  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Ukraine is a moderate performer in terms of its knowledge infrastructure. It ranks 56<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 6<sup>th</sup> out of the 36 countries with high human development.

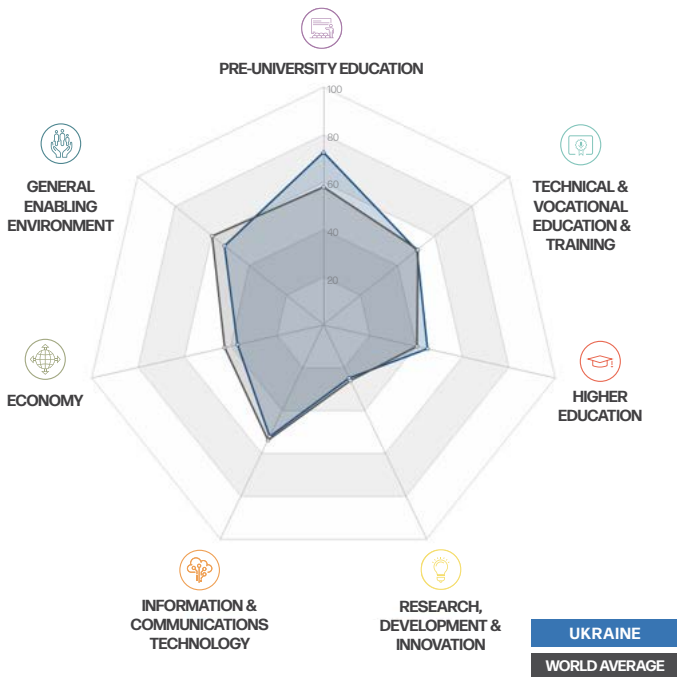
### + AREAS OF STRENGTH

- + Adult literacy rate (%)
- + Labour force with advanced education (%)
- + Trademark applications (per billion PPP\$ GDP)
- + Gross enrolment ratio, ECE (%)
- + Poor work ethic in the labour force

### - AREAS OF IMPROVEMENT

- Enrolment in tertiary education, ISCED 6 (%)
- Soundness of banks
- Political stability and absence of violence/terrorism
- Energy intensity level of primary energy (MJ/2011 PPP\$)
- Citations per document

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	22	72.6
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	61	50.3
HIGHER EDUCATION	47	44.9
RESEARCH, DEVELOPMENT & INNOVATION	55	24.8
INFORMATION & COMMUNICATIONS TECHNOLOGY	77	52.1
ECONOMY	86	37.1
GENERAL ENABLING ENVIRONMENT	94	53.3



# UNITED ARAB EMIRATES

**421,142** GDP US\$ billions | **9,890,400** Population | **0.866** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

United Arab Emirates is a leading performer in terms of its knowledge infrastructure. It ranks 15<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 15<sup>th</sup> out of the 56 countries with very high human development.

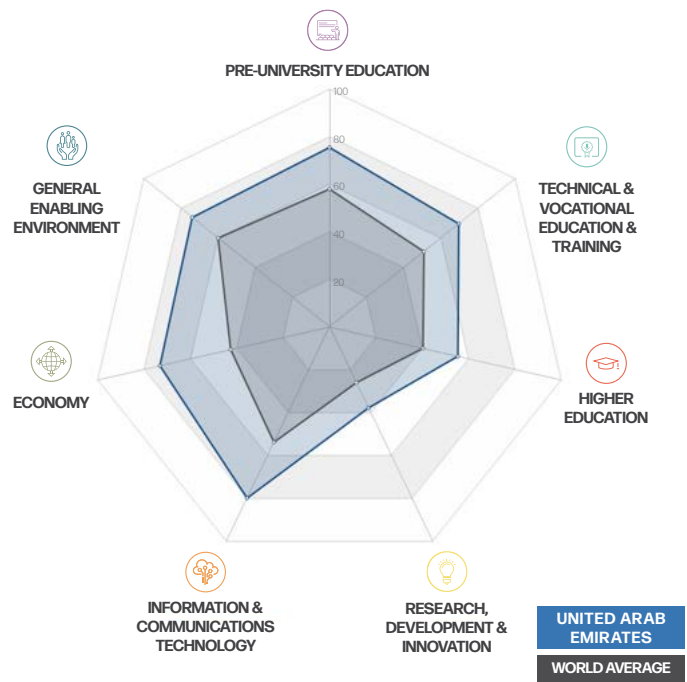
### + AREAS OF STRENGTH

- + Intensity of local competition
- + Active mobile-broadband subscriptions (per 100 inhabitants)
- + Researchers (HC) in business enterprise (%)
- + Women-to-men ratio in parliament (%)
- + FDI, net inflows (% of GDP)

### - AREAS OF IMPROVEMENT

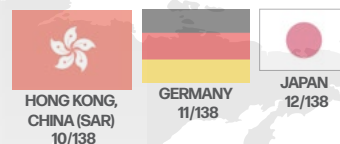
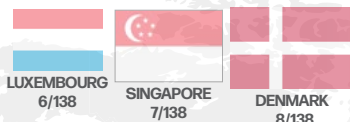
- Labour force participation rate, female-to-male ratio
- Restrictive labour regulations
- Industrial design applications (per billion PPP\$ GDP)
- Renewable energy consumption (% of total final energy consumption)
- Total CO2 emissions per capita

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	10	75.5
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	11	69.6
HIGHER EDUCATION	19	55.4
RESEARCH, DEVELOPMENT & INNOVATION	29	37.8
INFORMATION & COMMUNICATIONS TECHNOLOGY	14	79.9
ECONOMY	2	73.2
GENERAL ENABLING ENVIRONMENT	27	73.9



# UNITED KINGDOM

**2,827,113** GDP US\$ billions | **67,886,004** Population | **0.92** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

United Kingdom is a leading performer in terms of its knowledge infrastructure. It ranks 9<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 9<sup>th</sup> out of the 56 countries with very high human development.

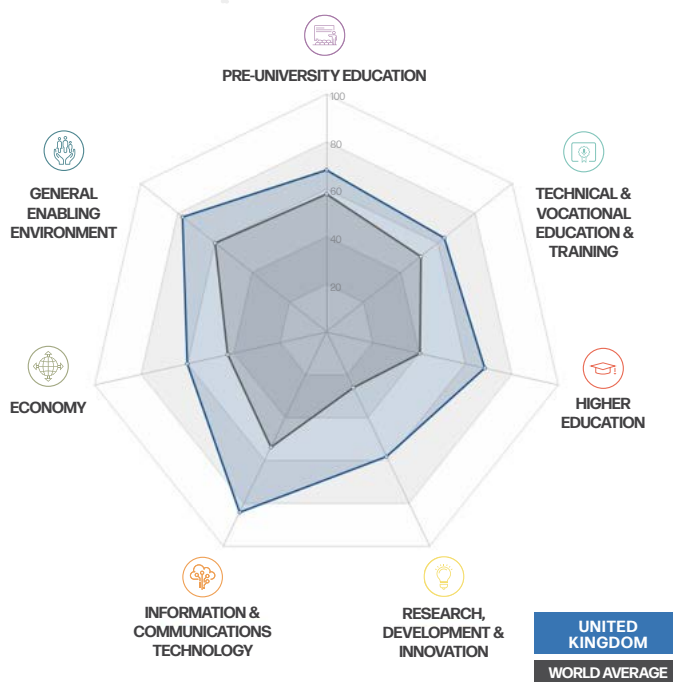
### + AREAS OF STRENGTH

- + Citable documents H index
- + Business-to-consumer Internet use
- + Globally-ranked universities
- + Quality of research institutions
- + Extent of marketing

### - AREAS OF IMPROVEMENT

- Total CO2 emissions per capita
- Manufacturing, value added (% of GDP)
- Renewable energy consumption (% of total final energy consumption)
- Poor work ethic in the labour force
- Gross fixed capital formation (% of GDP)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	40	68.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	18	63.4
HIGHER EDUCATION	2	68.3
RESEARCH, DEVELOPMENT & INNOVATION	9	58.2
INFORMATION & COMMUNICATIONS TECHNOLOGY	7	84.2
ECONOMY	11	60.1
GENERAL ENABLING ENVIRONMENT	19	77.5





# UNITED STATES

**21,374.419** | **331,002,647** | **0.92**  
**GDP** US\$ billions | **Population** | **HDI**



## COUNTRY PERFORMANCE SUMMARY

United States is a leading performer in terms of its knowledge infrastructure. It ranks 2<sup>nd</sup> out of 138 countries in the Global Knowledge Index 2020 and 2<sup>nd</sup> out of the 56 countries with very high human development.

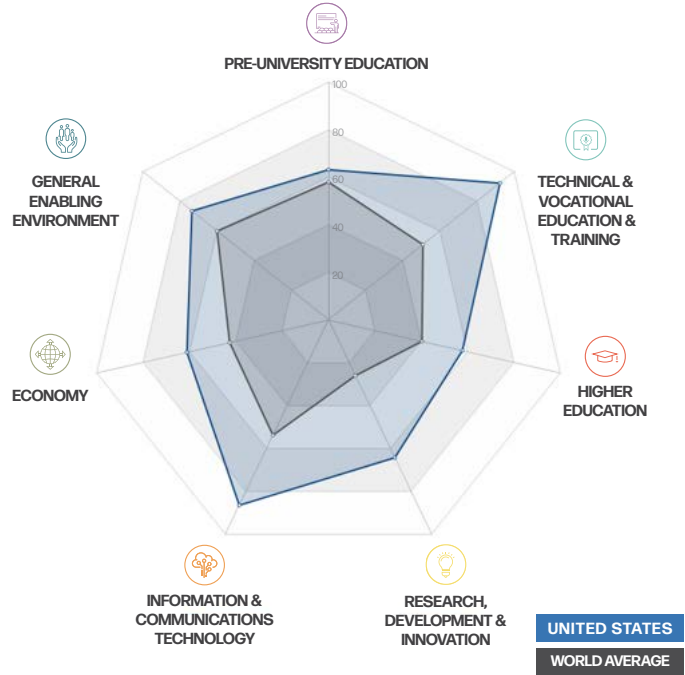
### + AREAS OF STRENGTH

- + Extent of marketing
- + Laws relating to ICTs
- + Firm-level technology absorption
- + Global Entrepreneurship Index
- + Venture capital availability

### - AREAS OF IMPROVEMENT

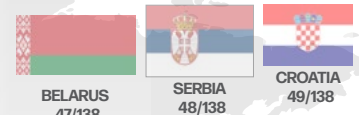
- Renewable energy consumption (% of total final energy consumption)
- Total CO2 emissions per capita
- Enrolment in tertiary education, ISCED 6 (%)
- Investment in telecom services (% of GDP)
- Trade (% of GDP)

*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Image	Category	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	57	63.2	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	1	92.3	
	HIGHER EDUCATION	8	57.8	
	RESEARCH, DEVELOPMENT & INNOVATION	4	64.3	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	1	86.5	
	ECONOMY	9	61.1	
	GENERAL ENABLING ENVIRONMENT	31	73.5	



# URUGUAY

**56.046** GDP US\$ billions | **3,473,727** Population | **0.808** HDI



GKI SCORE 50.3  
WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Uruguay is a strong performer in terms of its knowledge infrastructure. It ranks 46<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 44<sup>th</sup> out of the 56 countries with very high human development.

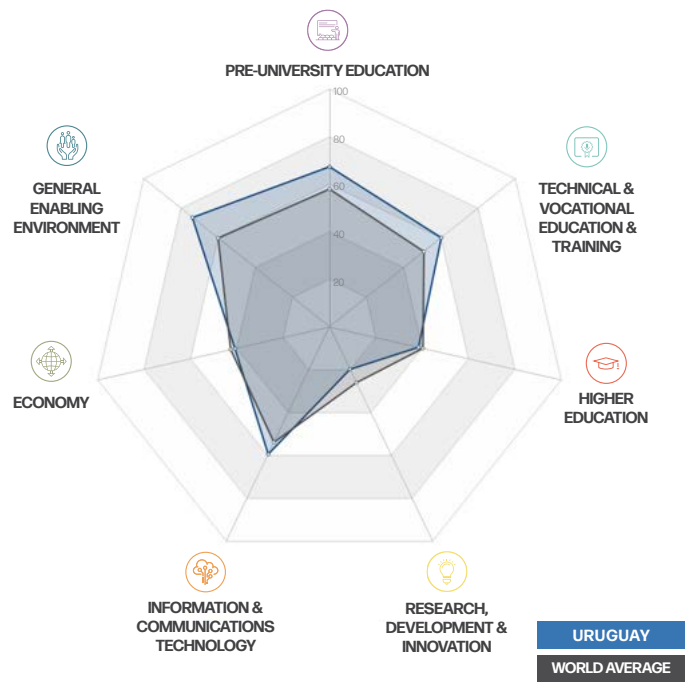
### + AREAS OF STRENGTH

- + Pupil-teacher ratio, secondary vocational (HC)
- + Educational attainment: at least completed upper secondary, 25+ years, GPI
- + Pupil-teacher ratio, tertiary (HC)
- + Investment in telecom services (% of GDP)
- + Out-of-school children (%)

### - AREAS OF IMPROVEMENT

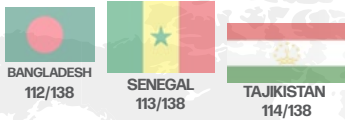
- Researchers (HC) in business enterprise (%)
- Creative services exports (% of total trade in services)
- Restrictive labour regulations
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	43	67.4	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	25	60.2	
	HIGHER EDUCATION	78	38.4	
	RESEARCH, DEVELOPMENT & INNOVATION	79	19.8	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	56	59.4	
	ECONOMY	71	40.8	
	GENERAL ENABLING ENVIRONMENT	29	73.8	



# VENEZUELA

(BOLIVARIAN REPUBLIC OF)

**482.359** GDP US\$ billions | **28,435,943** Population | **0.726** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Venezuela (Bolivarian Republic of) is a weak performer in terms of its knowledge infrastructure. It ranks 115<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 36<sup>th</sup> out of the 36 countries with high human development.

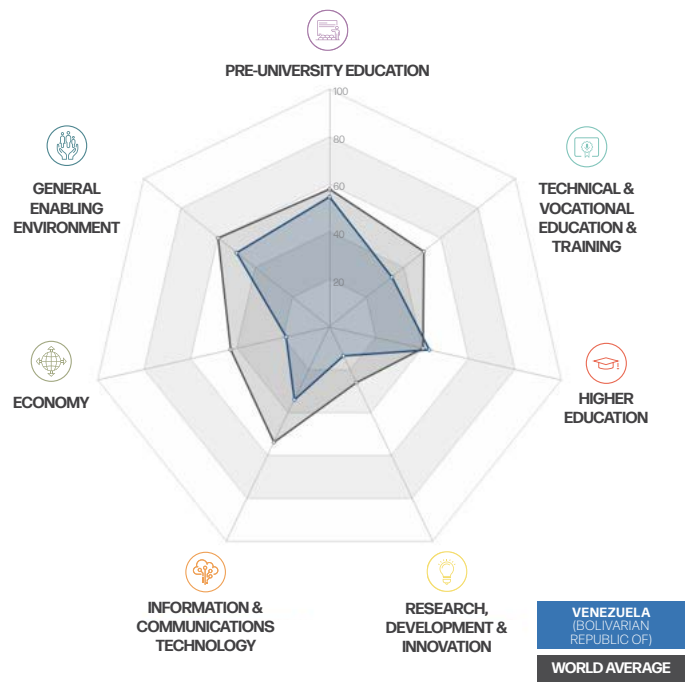
### + AREAS OF STRENGTH

- + Poor work ethic in the labour force
- + Educational attainment: at least completed upper secondary, 25+ years, GPI
- + Firms offering formal training (%)
- + Government expenditure, tertiary (% of GDP)
- + Government expenditure, primary (% of GDP)

### - AREAS OF IMPROVEMENT

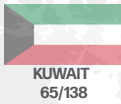
- Labour freedom
- FDI and technology transfer
- Ease of starting a business
- Intensity of local competition
- Business impact of rules on FDI

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.

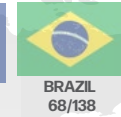


## SECTORAL INDICES

Image	Sector	Rank	Value	Icon
	PRE-UNIVERSITY EDUCATION	89	54.7	
	TECHNICAL & VOCATIONAL EDUCATION & TRAINING	130	33.6	
	HIGHER EDUCATION	52	43.1	
	RESEARCH, DEVELOPMENT & INNOVATION	116	13.5	
	INFORMATION & COMMUNICATIONS TECHNOLOGY	115	34	
	ECONOMY	137	18.7	
	GENERAL ENABLING ENVIRONMENT	105	50	



# VIET NAM



**261.921** GDP US\$ billions | **97,338,583** Population | **0.693** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Viet Nam is a moderate performer in terms of its knowledge infrastructure. It ranks 66<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 1<sup>st</sup> out of the 24 countries with medium human development.

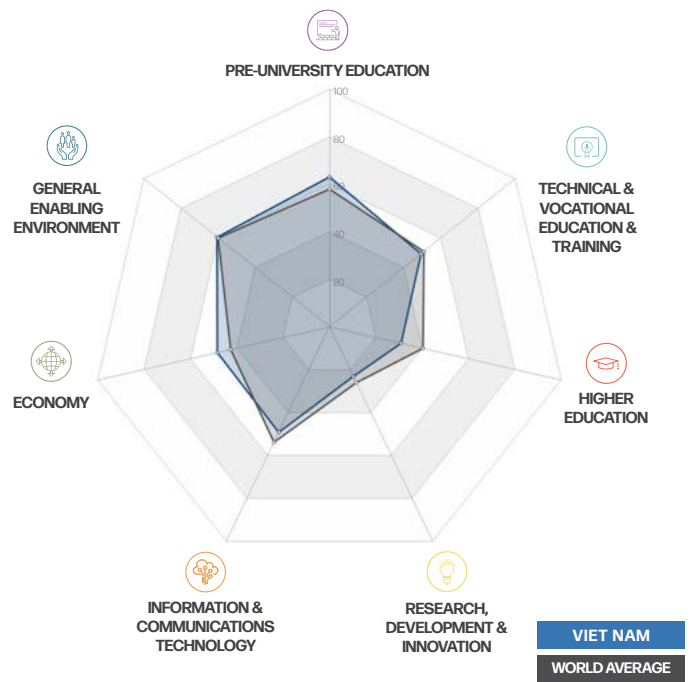
### + AREAS OF STRENGTH

- + ICT goods imported (% of total imports)
- + ICT goods exported (% of total exports)
- + High-technology net exports (% of total trade)
- + High-technology net imports (% of total trade)
- + Trade (% of GDP)

### - AREAS OF IMPROVEMENT

- Internet and telephony level of competition
- Average documents per researcher
- World Press Freedom Index
- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)

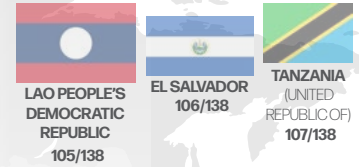
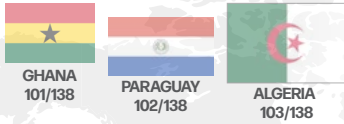
*The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.*



## SECTORAL INDICES

Category	Rank	Value
PRE-UNIVERSITY EDUCATION	59	63.1
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	67	49.3
HIGHER EDUCATION	109	30.9
RESEARCH, DEVELOPMENT & INNOVATION	57	23.1
INFORMATION & COMMUNICATIONS TECHNOLOGY	84	49.2
ECONOMY	45	48.4
GENERAL ENABLING ENVIRONMENT	63	60.5





# ZIMBABWE

**21.441** GDP US\$ billions | **14,862,927** Population | **0.563** HDI



WORLD AVERAGE 46.7

## COUNTRY PERFORMANCE SUMMARY

Zimbabwe is a modest performer in terms of its knowledge infrastructure. It ranks 104<sup>th</sup> out of 138 countries in the Global Knowledge Index 2020 and 13<sup>th</sup> out of the 24 countries with medium human development.

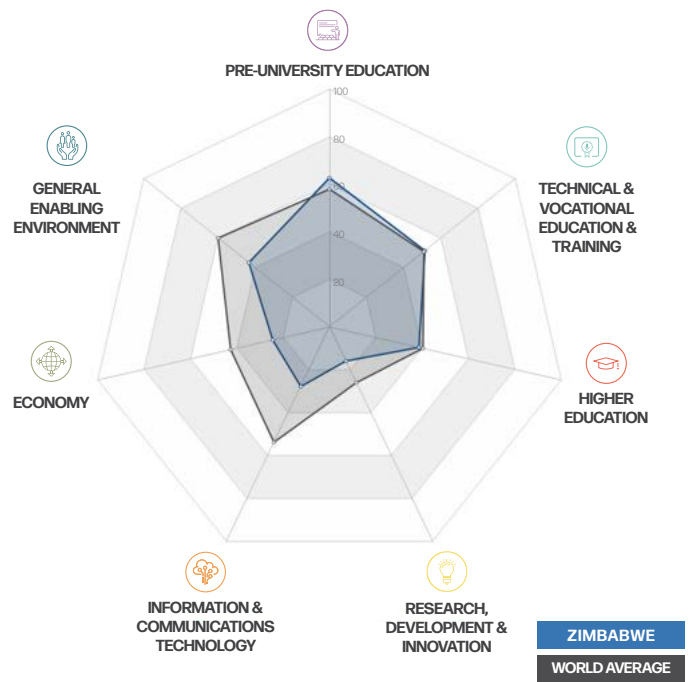
### + AREAS OF STRENGTH

- + Graduates, ISCED 8 (%)
- + Government expenditure, primary (% of GDP)
- + Poor work ethic in the labour force
- + Renewable energy consumption (% of total final energy consumption)
- + Researchers in higher education (%)

### - AREAS OF IMPROVEMENT

- Globally-ranked universities
- Enrolment in globally-ranked universities (% of tertiary students)
- Unlicensed software installation rates
- Gross fixed capital formation (% of GDP)
- Energy intensity level of primary energy (MJ/2011 PPP\$)

The areas of strength and improvement were determined by computing the percentile ranks of the variables. Other statistical methods were used to reduce the number of identified variables to five as needed.



## SECTORAL INDICES

Category	RANK	VALUE
PRE-UNIVERSITY EDUCATION	61	62.7
TECHNICAL & VOCATIONAL EDUCATION & TRAINING	56	51.4
HIGHER EDUCATION	76	38.6
RESEARCH, DEVELOPMENT & INNOVATION	100	15.9
INFORMATION & COMMUNICATIONS TECHNOLOGY	124	27.8
ECONOMY	134	24.5
GENERAL ENABLING ENVIRONMENT	120	43.4





