



The Business School
for the World®



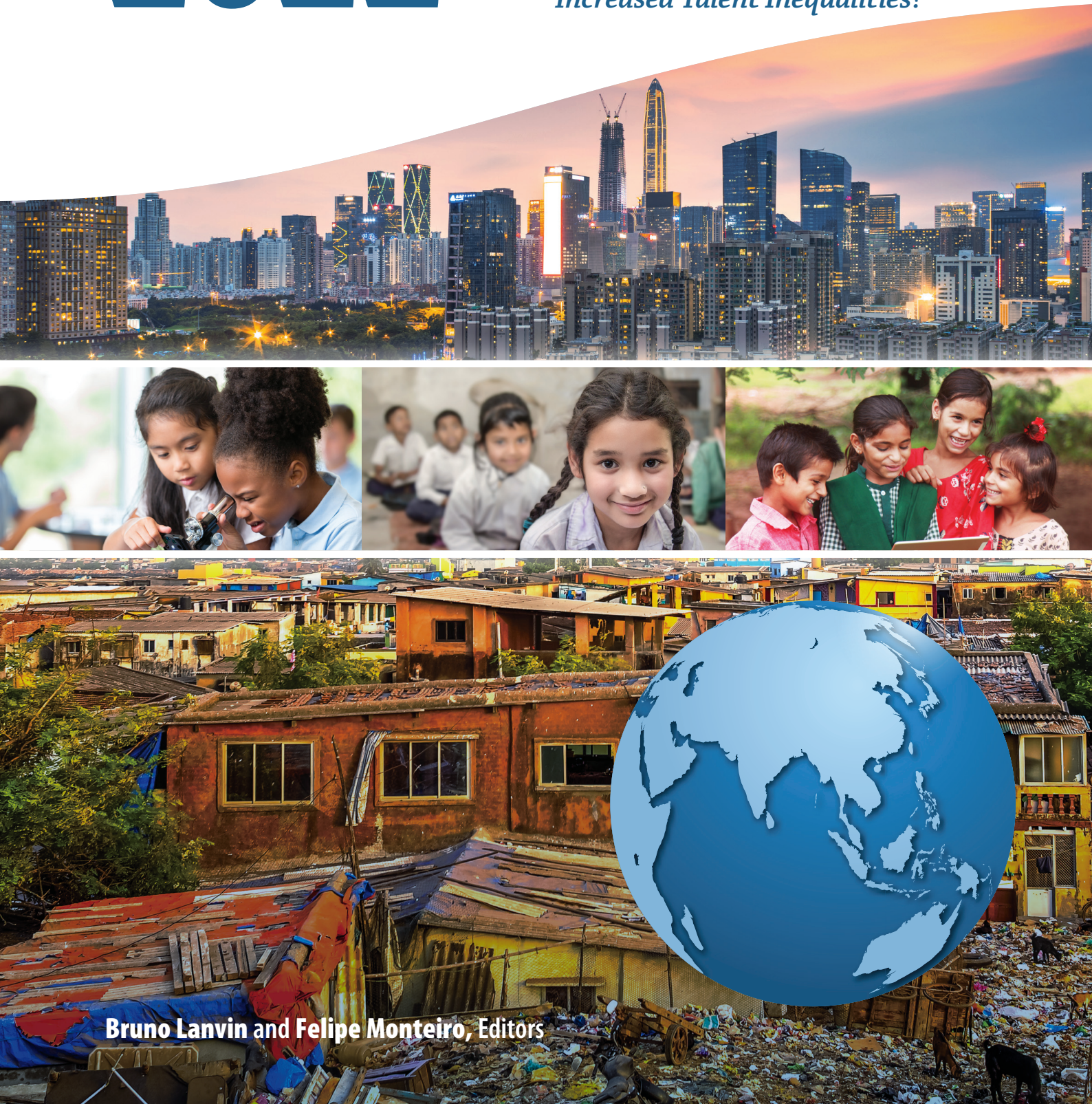
human
capital
leadership
institute



PORTULANS
— INSTITUTE —

The Global Talent Competitiveness Index 2022

*The Tectonics of Talent:
Is the World Drifting Towards
Increased Talent Inequalities?*



Bruno Lanvin and Felipe Monteiro, Editors



The Business School
for the World®



human
capital
leadership
institute



PORTULANS
— INSTITUTE —

The Global Talent Competitiveness Index 2022

*The Tectonics of Talent:
Is the World Drifting Towards
Increased Talent Inequalities?*

Bruno Lanvin
Felipe Monteiro
Editors

INSEAD (2022): *The Global Talent Competitiveness Index 2022: The Tectonics of Talent: Is the World Drifting Towards Increased Talent Inequalities?* Fontainebleau, France.

Disclaimer: No representation or warranty, either express or implied, is provided in relation to the information contained herein and with regard to its fitness, sufficiency, or applicability for any particular purpose. The information contained in this report is provided for personal non-commercial use and information purposes only and may be reviewed and revised based on new information and data. INSEAD, Portulans Institute, and the Human Capital Leadership Institute disclaim all liability relating to the content and use of the report and the information contained therein, and the report should not be used as a basis for any decision that may affect the business and financial interests of the reader or any other party. The index's methodology and the rankings do not necessarily present the views of INSEAD, Portulans Institute, or the Human Capital Leadership Institute. The same applies to the substantive chapters in this report, which are the responsibility of the authors.

© 2022 by INSEAD, Portulans Institute, and the Human Capital Leadership Institute

The information contained herein is proprietary in nature and no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of INSEAD, Portulans Institute, and the Human Capital Leadership Institute.

ISBN: 978-2-8399-3757-3

Designed by Kenneth Benson, edited by Hope Steele, and published by INSEAD, Fontainebleau, France.

Contents

Preface	v
Co-Founder and Director, Portulans Institute; INSEAD Distinguished Fellow Academic Director of the Global Talent Competitiveness Index; Senior Affiliate Professor of Strategy, INSEAD	
Human Capital Leadership Institute Foreword	vii
Doris Sohmen-Pao, Chief Executive Officer, Human Capital Leadership Institute	
INSEAD & Portulans Institute GTCI Team	ix

CHAPTERS

Chapter 1: Is Talent Competitiveness Becoming More Unequal?	3
Bruno Lanvin, Portulans Institute and INSEAD; Felipe Monteiro, INSEAD; and Michael Bratt, Portulans Institute	
Statistical Annex to Chapter 1	29
Chapter 2: JRC Statistical Audit of the Global Talent Competitiveness Index 2022	47
Michaela Saisana, Giulio Caperna, Ana Rita Neves, and Carlos Moura, European Commission Joint Research Centre	
Chapter 3: Does Talent Competition Make Cities More Unequal?	61
Bruno Lanvin, Portulans Institute and INSEAD; and Michael Bratt, Portulans Institute	
Cities and Regions Annexes to Chapter 3	75

COUNTRY PROFILES

How to Read the Country Profiles	85
Index of Countries	87
Country Profiles	89

DATA TABLES

How to Read the Data Tables	225
Index of Data Tables	227
Data Tables	229

APPENDICES

Appendix I: Technical Notes	309
Appendix II: Sources and Definitions	311
Appendix III: About the Contributors and Partners	321

Preface

This is the ninth edition of the *Global Talent Competitiveness Index* (GTCI). It is being released in a period of high uncertainty, and against the background of many changes that could deeply affect the global talent scene.

The theme of this year's report, however, is one that we could have selected for any of the previous nine years: inequalities remain high in today's world, particularly on the global talent scene. However, COVID taught us many important lessons in this regard. One of them is that in times of crises, the weakest are the ones who suffer most. Another is that, under extreme conditions, what looked impossible sometimes becomes feasible, and our view of the future changes in the process.

Our views on talent inequalities are hence different from the one we might have had a few years ago. It is both more dramatic and more thought-provoking.

As we approach celebrating the 10th anniversary of the GTCI, we are happy to welcome a new sponsor—one who is also a historic sponsor: Singapore's Human Capital Leadership Institute (HCLI) was indeed one of the early sponsors of the GTCI (2013–17), and we are happy to see this fruitful association renewed in 2022.

From a practical and logistical point of view, we are continuing with our strategy of minimising the environmental impact of GTCI production and dissemination, hence the report is again produced almost exclusively in electronic format. It also remains accessible for free through dedicated websites hosted by INSEAD and Portulans Institute.

From a methodological point of view, the GTCI framework has not changed significantly from previous years, although some indicators have been added or modified, partly as a result of the discontinuation of a few data sources and new types of data being available. While continuity in this respect is important to benefit from solid time series (which has become a core basis of the GTCI's analyses), we always strive to keep the index current, so it benefits from the best available data sources. With its global coverage and wide range of variables, the GTCI continues to broaden its readership and to be used as a reference of choice by governments, business, and talent experts around the world.

Its city component is also rapidly gathering a large audience. This year's edition includes 133 countries in the GTCI, while coverage in the city index has increased to 175 cities (up from 155 cities last year).

Once again, the purpose of the GTCI is to be a tool for action. It continues to be our hope that the data, inputs, and considerations contained in the following pages can be of value to the decision-makers of private and public organisations involved in talent and job creation.

As in previous years, we wish to direct special thanks to the European Commission Joint Research Centre (JRC), which has continued its highly professional and constructive evaluation of the strengths and weaknesses of the GTCI model. Finally, we acknowledge with gratitude the continued support of our prestigious Advisory Board.

The GTCI continues to be a work in progress, fed by the reactions, suggestions, and criticisms received from its increasing circle of readers and users. We hence look forward to hearing more from you about the report and how we can make it even better in the future.



Bruno Lanvin

*Co-Founder and Director, Portulans Institute;
INSEAD Distinguished Fellow*



Felipe Monteiro

*Academic Director of the Global Talent Competitiveness Index;
Senior Affiliate Professor of Strategy, INSEAD*

Human Capital Leadership Institute | Foreword

The COVID-19 pandemic has fundamentally shifted the ways in which people live, work, and interact. Notably, the global race for talent has intensified. Although the effects of the pandemic are easing, significant geopolitical and economic uncertainties are causing certain countries to adopt more inward-looking policies to safeguard their workforce, while others have launched more open initiatives to compete for global talent.

Talent shortages have also resulted in companies having difficulty hiring and matching the right people to jobs. A survey by PwC in March 2022 with 52,000 respondents from 44 countries found that one in five employees were planning to resign within this year, with 71% of them citing pay as the main reason for leaving.

Yet, compensation and benefits alone are not sufficient for retaining employees. Purpose of work and job fulfilment were other reasons that employees were considering a job change. Developing talent and establishing the right conditions for employees to thrive in their roles—these have become key goals for many companies post-pandemic.

Furthermore, as lockdowns are slowly lifted and the concern about COVID-19 eases all around the globe, companies are beginning to raise questions about how the nature of work may shift post-pandemic.

At the Human Capital Leadership Institute, we have been focusing on delivering high-quality programmes and evidence-based research on human capital and talent management. The aims are twofold: (1) equipping individuals with skills, competences, values, and attitudes that better prepare them to navigate through uncertainties and lead their companies to meet the various demands of the future; (2) empowering human resource (HR) leaders with best practices and strategies for recruiting, managing, and retaining their talent.

Our recent study on cross-border remote working suggests that its growing adoption by companies all over the world has created many new considerations in the areas of human capital development and global talent hiring.

As the function responsible for the organisation's talent infrastructure, HR leaders need to align and calibrate their employee management strategies. As the GTCI report suggests, there are measures that we could put in place to improve talent retention and the sustainability of our workforce. In light of this, each economy must ensure its commitment to retaining its local and foreign skilled workforce. This has triggered fundamental shifts in public policies among economies, including developing comprehensive strategies in immigration, employment, and education so as to attract global talent while investing in reskilling and upskilling their local workforce.

An important aspect of the GTCI is that it allows for the monitoring of a trend over time. Countries that consistently

perform well can provide more assurance to decision-makers and global talent themselves, especially as the global context rapidly changes. In this year's GTCI 2022 report, Switzerland and Singapore have maintained their lead, and many European economies, especially Nordic countries, rank well. Chile is in the top quartile for the second year running and China continues to climb the rankings, demonstrating the growth of talent markets in Latin America and Asia.

For Singapore, developing local talent and attracting global talent have been key drivers of our economy. Notably, the city-state is a global leader in Global Knowledge Skills, where it ranks at the top in both sub-pillars: High-Level Skills and Talent Impact.

Aligned with this goal of developing and attracting talent, Singapore's key investments centred on human capital development have helped ensure the smooth calibration of our talent pool and helped tide us over the pandemic and volatility of the markets. In particular, we are reaping benefits from our continued investment in education and lifelong learning, coming in 1st globally in Formal Education and 2nd in Lifelong Learning.

While this mandate is not new, it has been brought into sharper focus in the past year. Prior to the pandemic, plans towards transforming the economy and the upskilling/reskilling of the workforce were already underway. Accelerated by the current waves of events, these shifts will continue to be shaped and sharpened, which warrants our continued attention on establishing and concretising Singapore's position as a global talent hub.

In the emerging post-COVID economy, international inequalities have started to widen. If these developments are not swiftly attended to, they could result in bigger gaps in economic well-being, equality, diversity, and inclusion efforts.

It is our intention that the GTCI help decision-makers across governments, business, and civil society to understand the challenges and opportunities that the talent landscape presents. The index provides crucial insights to help leaders develop better-informed policy, business decisions, and talent strategies that can help economies and businesses stay competitive in the global marketplace. In our view, this will mean careful calibration of policies targeted at nurturing the ecosystem as a structure focused on human capital development and value creation.

Our partnership with Portulans Institute and INSEAD continues to grow strong as we come together in our collective commitment towards our understanding of the global talent landscape. We are proud to be part of the team dedicated to the sustained efforts and untiring rigor in producing this latest edition of the index.

Doris Sohmen-Pao

Chief Executive Officer

Human Capital Leadership Institute (HCLI)

INSEAD & Portulans Institute GTCI Team

INSEAD & Portulans Institute GTCI Team

Bruno Lanvin

Co-Founder of Portulans Institute,
and INSEAD Distinguished Fellow

Felipe Monteiro

Academic Director of the Global Talent Competitiveness Index;
Senior Affiliate Professor of Strategy, INSEAD

Michael Bratt

Lead Researcher, Portulans Institute

Anna Henry

Senior Project Manager, Portulans Institute

Editing Team

Kenneth Benson

Graphic Designer, Pegasus Type

Hope Steele

Editor, Steele Editorial Services

Chapters

CHAPTER 1

Is Talent Competitiveness Becoming More Unequal?

Bruno Lanvin, Felipe Monteiro, and Michael Bratt

I believe that virtually all the problems in the world come from inequality of one kind or another.

— Amartya Sen

The main force pushing toward reduction in inequality has always been the diffusion of knowledge and the diffusion of education.

— Thomas Piketty

Gender equality is more than a goal in itself. It is a precondition for meeting the challenge of reducing poverty, promoting sustainable development and building good governance.

— Kofi Annan

Last year, the *Global Talent Competitiveness Index* report (GTCI 2021) warned that post-COVID recovery could deepen inequalities for talents and jobs. It particularly emphasised the possibility of a K-shaped recovery—that is, one in which production resumes at an accelerated pace but has very different impacts on the labour force of different sectors. It predicted that workers employable in sectors fuelled by the recovery such as technology, retail, or software services would find more employment opportunities (and better remuneration) than those locked in other (often distressed) activities such as travel or entertainment.

GTCI 2021 also stressed that post-COVID recovery packages might create a greater divergence between growth rates in advanced, rich countries and those prevailing in low-income countries both because of uneven budgetary flexibility and because new protectionist tendencies (sometimes under the

guise of resilience) would harm smaller and dependent economies more than larger ones.

Clearly, those predictions have proved right. Moreover, they have been accentuated by the combination of several elements, all pointing at increasing inequalities in the labour and talent scene. COVID has not gone away; the virus mutations suggest that it may be with us for a long time, although in probably less lethal and more manageable forms. Over the last few months, scourges that might have been seen as long extinguished have made a spectacular comeback. International tensions and inflation have also experienced a dramatic resurgence.

This year again, GTCI data show that the international talent scene remains a dynamic one, within which some remarkable successes call for attention. Despite shocks and uncertainties, countries such as Switzerland and Singapore have maintained

Bruno Lanvin is Co-Founder and Director of Portulans Institute and an INSEAD Distinguished Fellow. Felipe Monteiro is Senior Affiliate Professor of Strategy at INSEAD. Michael Bratt is Lead Researcher at Portulans Institute.

their lead, and many European economies (especially Nordic ones) continue to occupy a significant proportion of GTCI's top 10 ranks. Two notable features of this year's rankings are that the region of Latin America and the Caribbean is, for the second year running, represented in the top quartile of the GTCI (by Chile), and that China continues to climb the rankings and is now the most talent-competitive upper-middle-income country in the world. Australia, Canada, New Zealand, Israel, Japan, and the United Arab Emirates all figure among the top 25 of global talent competitiveness. Their successes cannot be denied, and they deserve both acknowledgement and consideration as they have the potential to inspire others. However, the performances of talent champions (see Figure 14) cannot hide the worrying signs that start to permeate the global talent scene.

Because of understandable data lags, GTCI 2022 cannot provide the precise metrics needed to quantify the deepening of talent inequalities within and among different parts of the world. Some slight indications (weak signals), however, about possible dangerous tendencies on the employment and talent fronts are beginning to perceptibly emerge.

The last two years have seen an increase in the global number of poor people. The World Bank estimates that the twin evils of COVID and the war in Ukraine mean that at least an additional 70 million people are now living in extreme poverty than would otherwise have been the case.¹ What is more, global inequality has risen. This is a devastating setback, occurring after almost three decades of continuing success in poverty reduction. Growing income inequalities naturally entail all sorts of inequalities in multiple other areas, due both to lack of investment and opportunities and also to a reordering of priorities that inevitably occurs when feeding one's family becomes a more immediate concern than allowing children to get an education, for example.

The war in Ukraine has also created additional tensions in food and energy markets, for both of which many poor and emerging economies have to rely on external supplies. Available data show that inequalities of all kinds that increased sharply during the COVID peak years (2020–2022) have been reinforced as a result. A 2022 report by UNDP underlined that *'soaring food and energy prices could push up to 71 million people into poverty, with clear hotspots in the Caspian Basin, the Balkans, and Sub-Saharan Africa (particularly in the Sahel).'*²

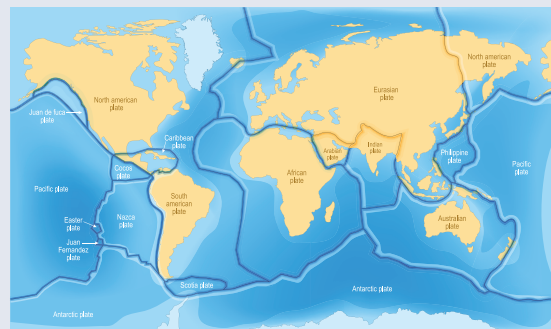
All these elements, by elevating the global level of inequalities, have important consequences on the global talent scene, where growing inequalities are often linked to irreversible phenomena and could stand in the way of realising some of the Sustainable Development Goal (SDG) key targets.

Many talent-related phenomena become apparent only in the longer run. Changes in educational systems, for instance, might take years to implement, and their impact on society may take a generation to become measurable. The same is true for many labour laws or employment regulations, not to mention social perceptions vis-à-vis certain professions. In this respect, the global talent scene is quite comparable to the geographical and seismic configuration on our planet: the current configuration of continents is the result of eons of drifting and reconfigurations.

BOX 1: GLOBAL TECTONICS ILLUSTRATED

'Tectonics: (noun) A branch of geology concerned with the structure of the crust of a planet (such as the earth) or moon and especially with the formation of folds and faults in it'

(Merriam-Webster online dictionary, 2022).



Source: iStock.

The current volcanic eruptions, earthquakes, and tsunamis comprise the part we can witness in present times. One can consider that the recent COVID crisis—and the resulting crises of other types—are the equivalent of such geophysical phenomena, and a much broader and deeper game of tectonics is reshaping the global talent landscape (see Box 1). It is one of the objectives of GTCI to use the most recently available data, as well as some of the weak signals that surround them, to identify how such movements are oriented and how powerful they are likely to be.

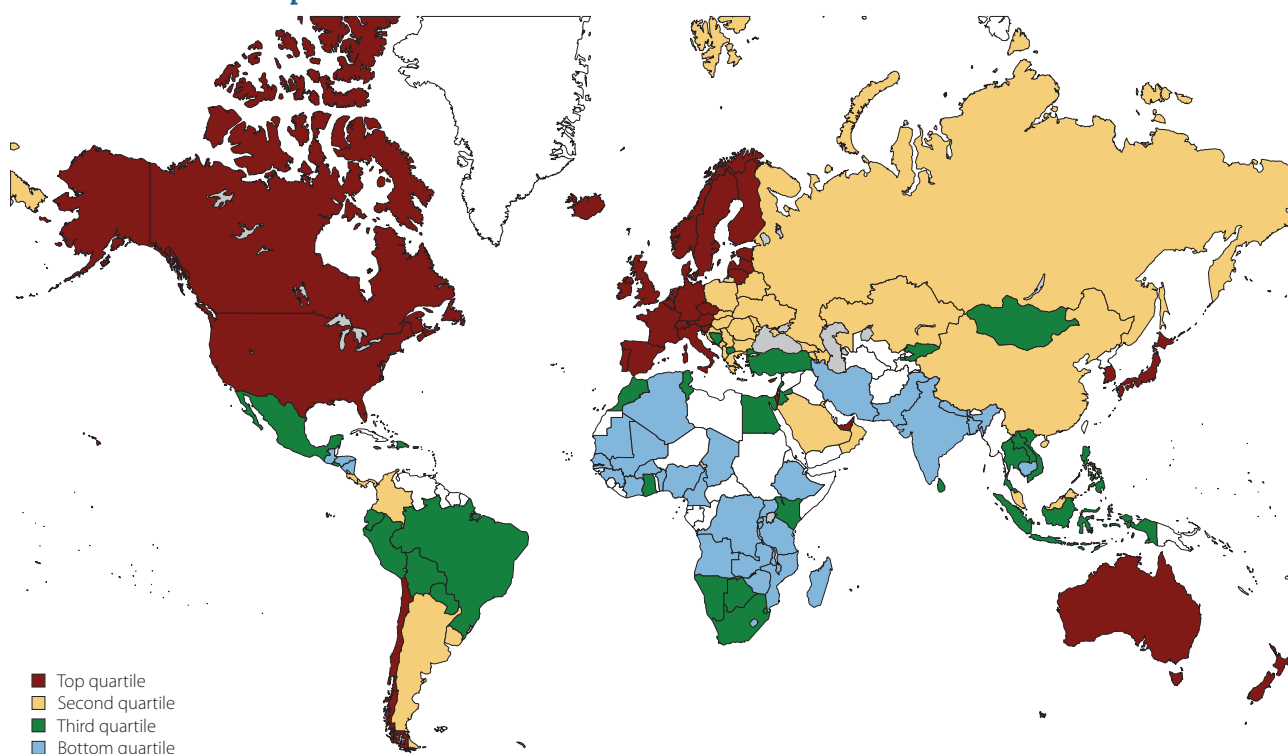
If we project on a world map the main differences detected in terms of talent performance, we can identify some of the fault lines of current talent tectonics. Figure 1 shows that most of Africa, as well as significant parts of both Latin America and Central Asia, concentrate countries that are on the wrong side of the talent divide.

GLOBAL TALENT COMPETITION LARGELY REMAINS AN UNFAIR GAME

Since its very first edition in 2013, the GTCI has highlighted the strong correlation that binds income per capita on one hand and talent performance on the other. This year is no exception, as evidenced in the bubble chart of Figure 12 on page 20: rich countries constitute most of the talent champions, and most talent laggards happen to be poor economies. It has also been a constant core message of the GTCI that this correlation is not cast in stone: well-balanced and economically sound strategies can allow all types of economies to improve their abilities to grow, attract, and retain talent.

However, crises like the ones that the world is currently facing are a sharp reminder that this remains an uphill battle—and one in which consistency and continuity are key ingredients of success. This means that talent advantages tend to be cumulative, and that talent mishaps or missteps can quickly become part of a self-aggravating spiral.

Figure 1

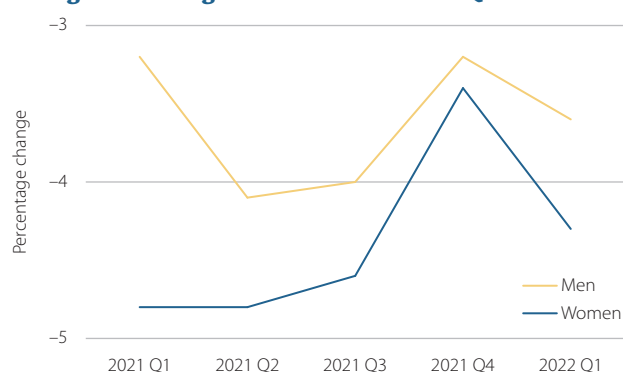
Global tectonics of talent performance

Source: Authors' computations.
Note: Countries without data are white.

COVID ignited new education, talent, and employment divides

Recent data from the International Labour Organization (ILO) show that, after a quick recovery in 2021, the world's total number of working hours slumped again in 2022 (see Figure 2). Further analysis of the same data show that (1) at the end of 2021, three in five workers lived in countries where labour incomes had not returned to the level seen in the fourth quarter of 2019; (2) the gender gap in hours worked also grew during the pandemic;

Figure 2

Change in working hours relative to 2019 Q4

Source: ILOSTAT, <https://ilostat ilo.org/topics/working-time/>
Note: Adjusted for population aged 15–64.

(3) women in informal employment have been most affected; and (4) talent/employment effects of COVID tend to be stronger and last longer in poorer economies.

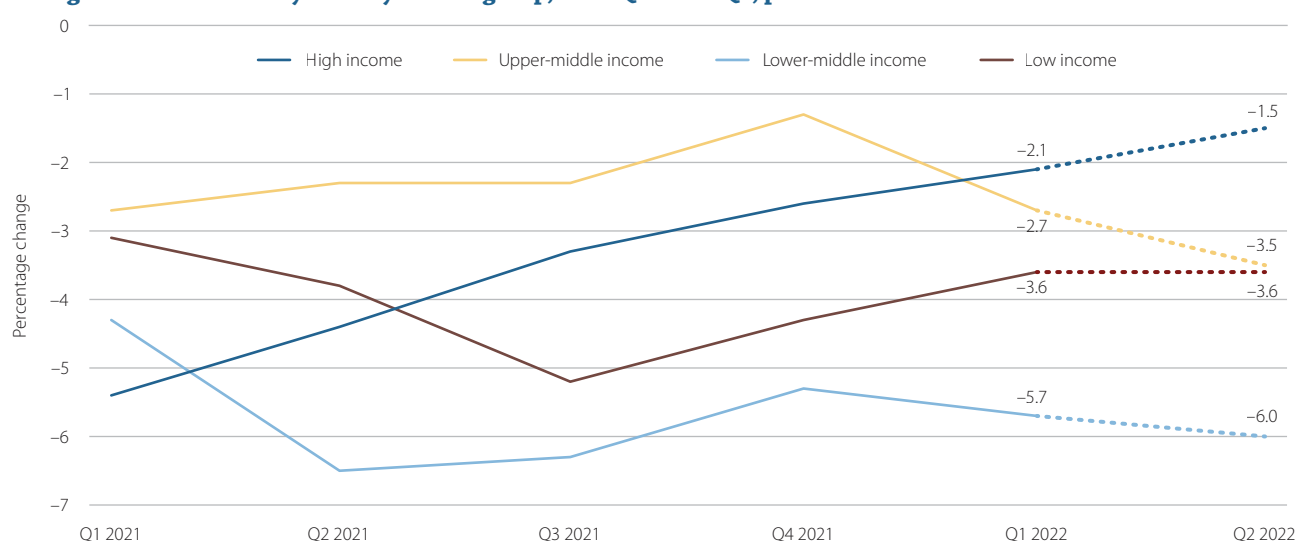
Such aggregate data, however, take on a rather dramatic meaning when considered against the variety of situations per income groups. As noted by ILO analysts, the labour markets of high-income economies have not yet fully bounced back from COVID, although latest trends are upward-sloping and the high-income group is on the path towards recovery (see Figure 3).

One may add that recent phenomena such as 'quiet quitting' and the growing appetite of younger generations for part-time jobs and gigs have made the talent scene more fluid in such economies. The trends are more negative for other income groups, however, with low-income, lower-middle-income, and upper-middle-income economies suffering setbacks in their recovery at the start of 2022.

The ILO data show that, by the end of 2021, employment levels had recovered in most high-income countries while deficits remained significant in most middle-income economies. Although low-income and lower-middle-income countries were clearly the most durably affected, they offer a picture of high contrasts: the situation in lower-middle-income countries seems to be even worse than it is in the poorest countries, but that may be a statistical distortion due to the relative size of their informal sector.

The impact of COVID on children's education in poor countries has been devastating, leading to the 'the worst shock to

Figure 3

Change in hours worked by country income group, 2019 Q4–2022 Q1, percent

Source: Authors, based on ILO data, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/briefingnote/wcms_845642.pdf

Note: Estimates up to 2022 Q1 are based on data from the ILO nowcasting model; estimates based on the projection model are depicted as a dashed line.

education and learning in a century, according to the World Bank.³ More precisely, the percentage of children in low- and middle-income countries unable to read and understand a simple text by the age of 10 has risen from 53% to 70%.⁴

The signs are clear: the great divergence between richer and poorer economies continues to be a feature of global talent competition, and current signs indicate that it is more likely to grow than to diminish in the coming years. Moreover, it is interesting to note that talent inequalities are also increasing within income groups. In the diagrams presented in Figure 15 on page 25, the boxes relevant to each income group are getting longer in the case of high-income countries, upper-middle-income countries, and lower-middle-income countries.

The striking example of talent's gender divides

GTCI 2021 had also underlined that *'Data seem to indicate that, worldwide, jobs held by women have generally been 19% more threatened by COVID adjustments (including layoffs) than jobs held by men. In many cases, this trend may be difficult to reverse.'*⁵

The data used for this year's report show that, in spite of encouraging signals, gender divides remain prominent on the talent scene and COVID has annihilated part of the recent progress made on that front. Clearly, efforts to reduce talent-related gender divides have shown significant success in a number of countries. This is the case in Nordic economies (Iceland, Finland, Denmark, Norway, and Sweden in particular), but also in New Zealand and Albania, for example (see Table 1).

Such positive signs, however, seem to remain primarily a characteristic of richer societies: the performance of gender equality variables related to talent increases with income per capita (see Table 2).

The mere fact that all gender-related variables used in the GTCI correlate positively with GTCI score can hence be attributed (at least in part) to the fact that income per capita

remains a strong explanatory factor for both talent performance and gender-focused strategies and environments. We hence need to look a bit deeper in considering available data in that context.

The GTCI 2022 uses three indicators on gender inequality:

Table 1

The three gender equality variables in the GTCI 2022, top 20

RANK	COUNTRY	GENDER-RELATED TALENT SCORE
1	Iceland	98.22
2	Finland	97.08
3	Denmark	95.16
4	Norway	93.14
5	Sweden	92.36
6	New Zealand	90.74
7	Albania	88.99
8	Ireland	88.79
9	Australia	87.35
10	Luxembourg	86.82
11	Belgium	86.54
12	Slovenia	86.48
13	Estonia	85.45
14	Germany	84.36
15	United States	84.31
16	United Kingdom	84.07
17	Netherlands	83.54
18	France	83.48
19	Portugal	82.88
20	Austria	82.62

Note: The scores are normalised scores out of a maximum of 100 (best).

Table 2

Gender-related talent score by income group

INCOME GROUP	GENDER-RELATED TALENT SCORE
High income	75.97
Upper-middle income	67.25
Lower-middle income	52.69
Low income	48.37

Note: First, the mean of the three gender-related talent indicators included in the GTCI was calculated; second, this aggregate measure was used to calculate the mean by income group.

- 2.2.4 Economic empowerment of women (new indicator this year; from the World Bank's Women, Business and the Law index)
- 2.2.5 Gender parity in high-skilled jobs (new indicator last year; from ILO's ILOSTAT)
- 2.2.6 Leadership opportunities for women (indicator has been there since GTCI 2017; from the World Economic Forum [WEF]'s Executive Opinion Survey [EOS])

Plotting each of those variables against countries' aggregate GTCI scores reveals a few interesting realities that are often

in stark contrast to what can be seen in richer economies in general, as discussed in the following sections.

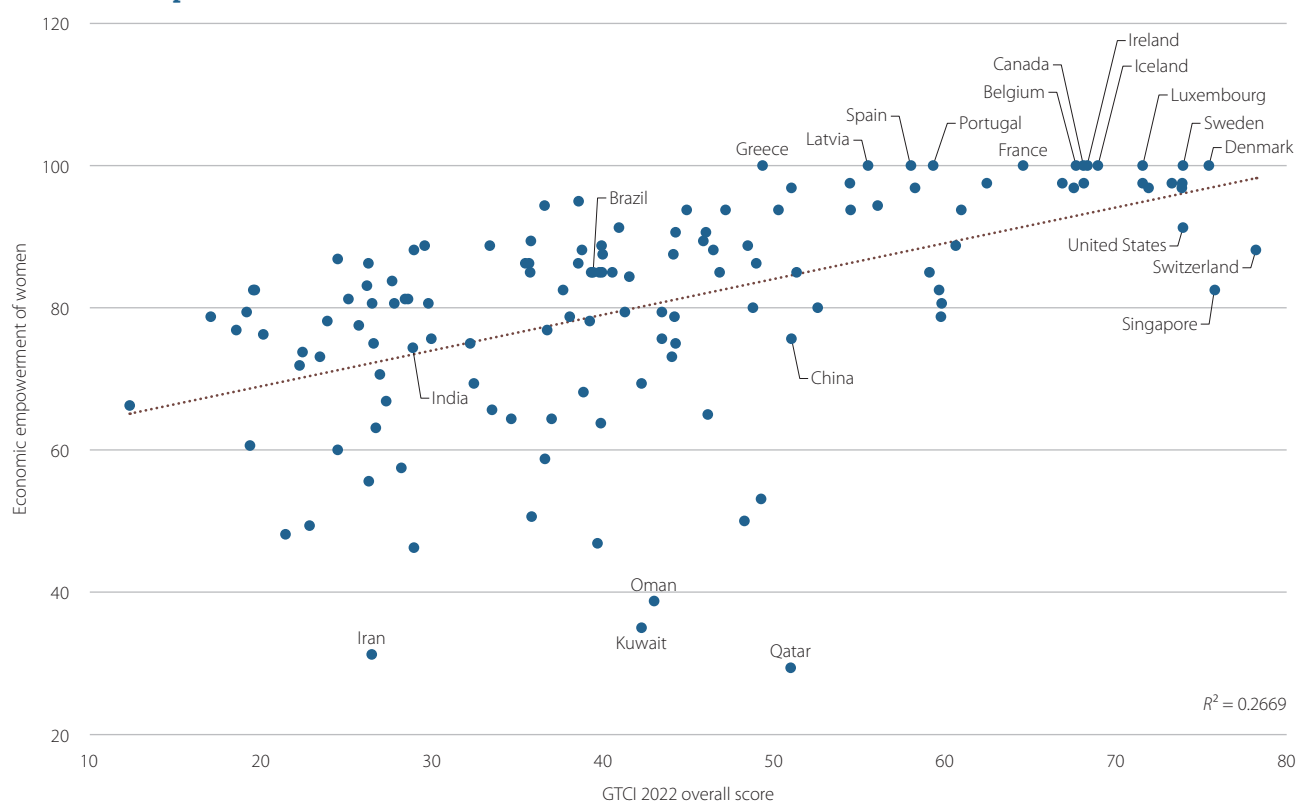
Economic empowerment of women

Figure 4 shows how the GTCI correlates with indicator 2.2.4, Economic empowerment of women. This variable refers to the Women, Business and the Law index developed by the World Bank. It is thus a composite indicator, which provides a measure of the degree of gender equality with respect to women's legal rights in economic participation, where a score of 0 implies that women do not have legal economic rights equal to those of men and a score of 100 signifies that women and men have equal economic opportunities. As can be seen in the figure, greater economic empowerment of women is strongly associated with higher talent competitiveness. In fact, half of the 12 countries that achieve the highest possible score are in the top 15 of the GTCI 2022; all of these countries have been identified as talent champions based on their current strong performances and recent upward trends. There is a particular opportunity for countries in Western Asia (notably, Iran, Kuwait, Oman, and Qatar) to raise their talent competitiveness by strengthening the legal rights of women to participate and engage in economic activities.

Gender parity in high-skilled jobs

Figure 5 illustrates the relationship between talent competitiveness and gender equality in high-skilled jobs, such as managerial

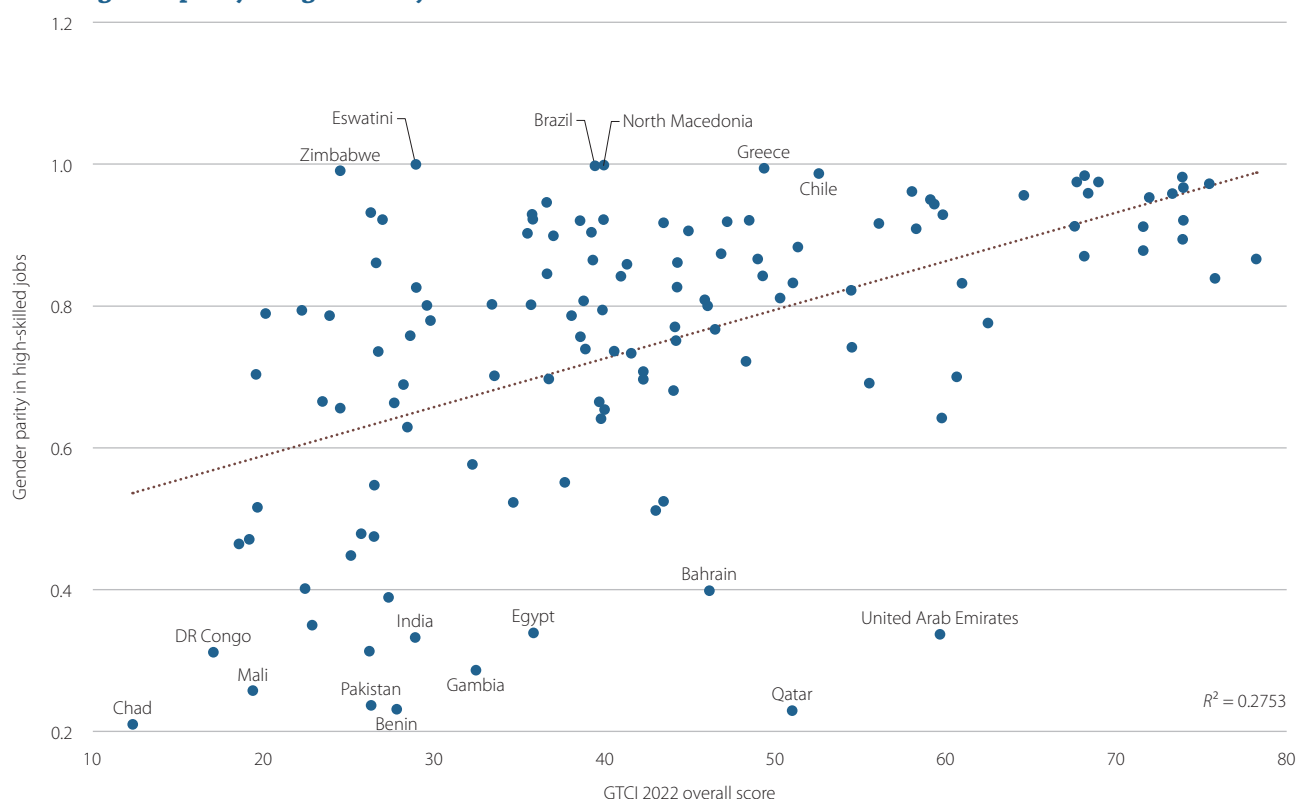
Figure 4

GTCI vs the empowerment of women

Source: Authors' computations.

Note: Economic empowerment of women is measured by the World Bank's Women, Business and the Law index.

Figure 5

GTCI vs gender parity in high-skilled jobs

Source: Authors' computations.

and professional positions. Perfect gender equality results where the ratio of women to men in high-skilled jobs is equal to 1 (which is also the highest possible score). Again, there is a strong, positive correlation, with greater gender parity being associated with a higher GTCI score. It is nonetheless interesting to note that the countries that are closest to perfect equality (for example, Brazil, Eswatini, and North Macedonia) do not achieve high ranks in the GTCI. That said, the gender parity in countries such as Belgium, Germany, and Norway—which are among the top performers in the GTCI—is almost as high. Among the countries with the lowest gender parity in high-skilled jobs, it is telling that they include three of the lowest-ranked countries in the GTCI (Chad, the Democratic Republic of Congo, and Mali). It also shows the scope there is for strong performers in the GTCI such as Qatar and the United Arab Emirates to increase their talent competitiveness further by breaking the glass ceiling.

Leadership opportunities for women

Figure 6 shows how more leadership opportunities for women is associated with greater talent competitiveness. In addition to expected strong performers in northern Europe, including Denmark, Finland, and Iceland, noteworthy is the extent to which companies in all three Baltic states (Estonia, Latvia, and Lithuania) often provide women with leadership opportunities equal to those for men. Albania stands out in the many leadership opportunities provided for women, but its relative strength in gender

equality in the talent arena is yet to be fully translated into higher talent competitiveness. Countries that would gain from increasing leadership opportunities for women include Lesotho, India, and Iran, but also such talent champions as Italy and Japan.

This quick overview of the gender dimensions of GTCI shows that, despite encouraging signs, efforts are still needed to make the talent scene less unfair in the future.

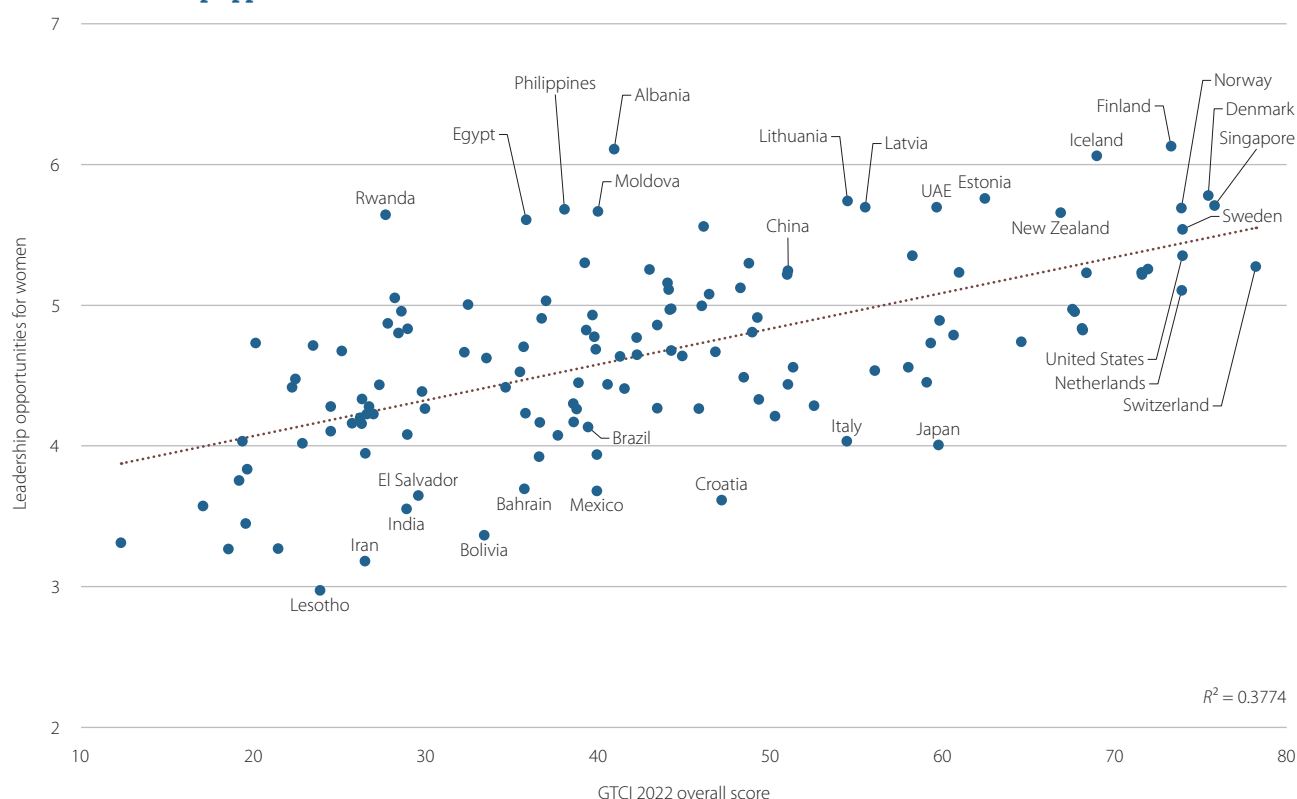
TALENT DISPARITIES COULD GET WORSE: WHAT CAN BE DONE ABOUT IT?

In order to identify practical and efficient ways to reduce talent inequalities, it is important to consider four critical aspects of this complex issue, namely: (1) how do talent inequalities relate to income inequalities? (2) How could the current context, with its combination of crises, make it worse? (3) What can be done concretely about talent inequalities at this point in time? And (4), in case of insufficient or belated action, how could talent inequalities become a roadblock for the timely implementation of SDGs?

Income inequalities vs talent inequalities

As mentioned above, it has been a constant feature of the GTCI to show, year after year, how talent performance and income per capita remain strongly and positively correlated. In other words, the GTCI has consistently demonstrated that rich countries are more talent competitive than less rich countries.

Figure 6

GTCI vs leadership opportunities for women

Source: Authors' computations.

But what can be said about a possible correlation between income inequalities and talent performance? Are more equal societies more talent competitive? Using 2022 data, a simple plotting exercise provides a few interesting results (see Figure 7).

First, it is clear from the figure that internal inequalities and talent performance correlate negatively: by and large, countries that rank higher in the GTCI (at the right of the scatter plot in the figure) tend to be those with the lower Gini coefficients (hence the less unequal ones). As highlighted earlier, one cannot exclude the possibility that both variables could be strongly dependent on income (since rich countries are both more talent competitive and tend to be more equal, thanks especially to widespread progressive taxation).

Second, this approach reveals interesting cases. For example, some countries located at the top of this figure (i.e., countries with relatively high levels of income inequalities) are not among the worst performers of the GTCI 2022. These countries are found towards the middle of the rankings—or, at any rate, above the bottom quartile. This group includes several countries in Latin America (Brazil, 73rd in the GTCI 2022; Colombia, 63rd; Costa Rica, 42nd; and Panama, 64th) but also some in Southern Africa (Botswana, 70th; Eswatini, 100th; Namibia, 90th; and South Africa, 77th).

Among GTCI champions, the inequality story is also ambivalent: the United States is clearly more unequal than any Nordic country, for example. And, although to a lesser degree, the

United Kingdom and Switzerland are above the inequality/talent performance regression line, while Denmark and Finland are below it.

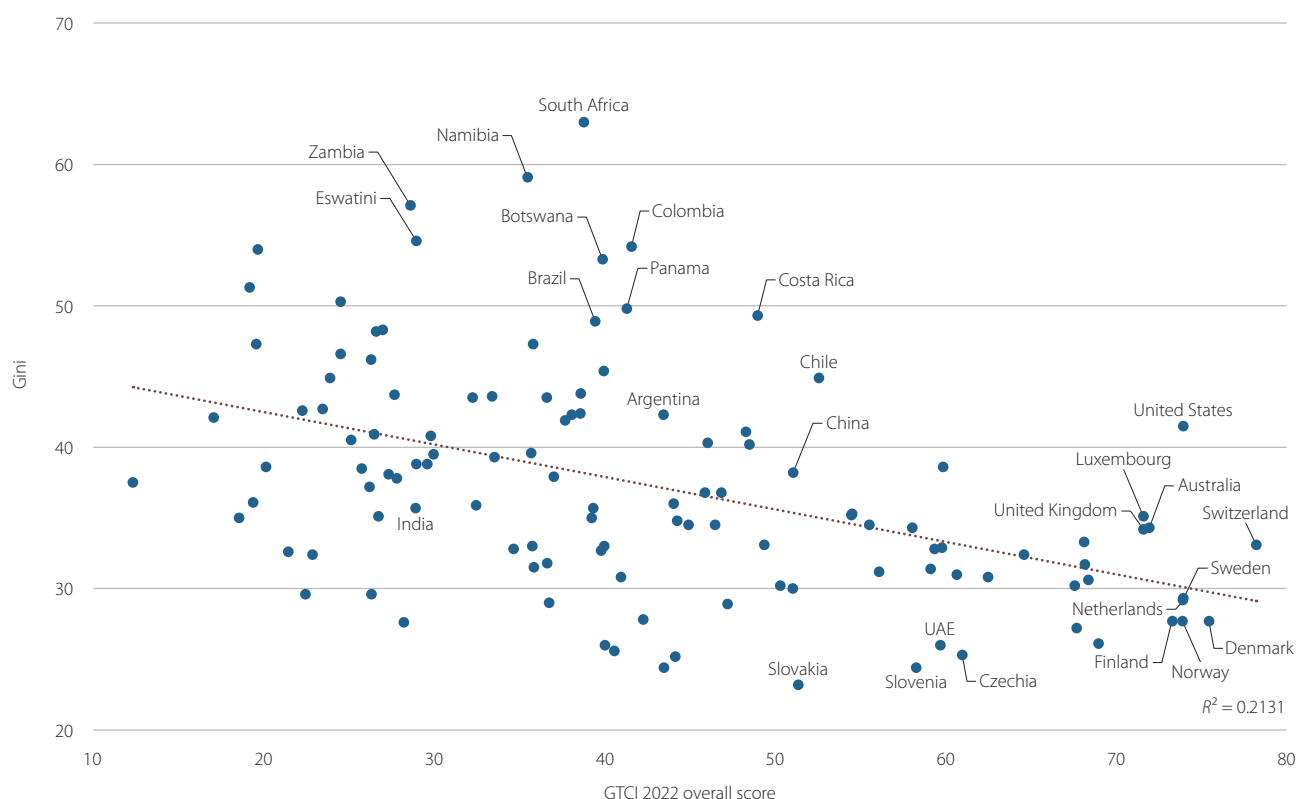
The analysis of long-term GTCI trends (discussed later in this chapter) provides additional insights (for regions and income groups in particular) on the dynamics of the complex relationship between inequalities and talents.

Can current crises create a perfect storm for talents?

Previous sections of this chapter have underlined the severe impact that the pandemic has had on education, gender gaps, employment, and the dynamics of labour markets worldwide. Some of the shocks created by the COVID crisis may be irreversible. One striking example is that of children (especially girls) who were prevented from attending school for one or two years. Many of them may never return to a classroom. It seems evident that COVID has had a particularly strong impact on girls' education because, as in other health crises, girls, particularly adolescent girls—are *'the most affected as they are more likely to experience pressure to perform household chores, and to be married off'*.⁶

As emphasised earlier, the COVID crisis is far from being entirely behind us. Talent mobility remains heavily constrained in regions that had to go back to lockdown measures; it is also strictly limited in war-torn areas. Other crises have emerged over the recent months, and these may compound the pandemic's

Figure 7
GTCI scores vs Gini index



Source: Authors' computations.

effects on talent growth and mobility as well as the provision of meaningful job opportunities for available talents. The return of inflation and of international tensions generally are among them.

As flagged by the ILO, inflationary pressures—especially in food and energy prices, disruptions to global supply chains, heightened financial stress, and monetary policy tightening—are yet fully to impact labour markets around the world. In contrast to the immediate and direct effects on hours worked as a result of COVID lockdown measures, declines in economic activity due to financial and other shocks generally translate fully into such losses only after a time lag. Therefore, there is a growing risk of a further drop in hours worked over 2022. The ILO's latest projection for the second quarter of 2022 shows that the number of hours worked is expected to be 4.2% below the pre-pandemic level—the equivalent of 123 million full-time jobs.

Such a combination of risks is particularly detrimental to poorer and emerging economies, which have been less able to leverage the fiscal measures and deploy the vaccination campaigns that allowed other economies to mitigate or offset the effects of COVID. Already fragilised, their economies now have to face the compounded effect of financial, food, and energy shocks. Action is hence urgently required to prevent a catastrophic shift in global talent tectonics.

Preventing, mitigating, correcting divides

Clearly, mounting talent inequalities could jeopardise local and collective efforts to mitigate current negative trends, including

those that emerged or re-emerged recently from geopolitical tensions, the collapse of multilateral disciplines and cooperation, and inflation. Such inequalities would also stand in the way of local and collective efforts to prepare for new economic and social opportunities.

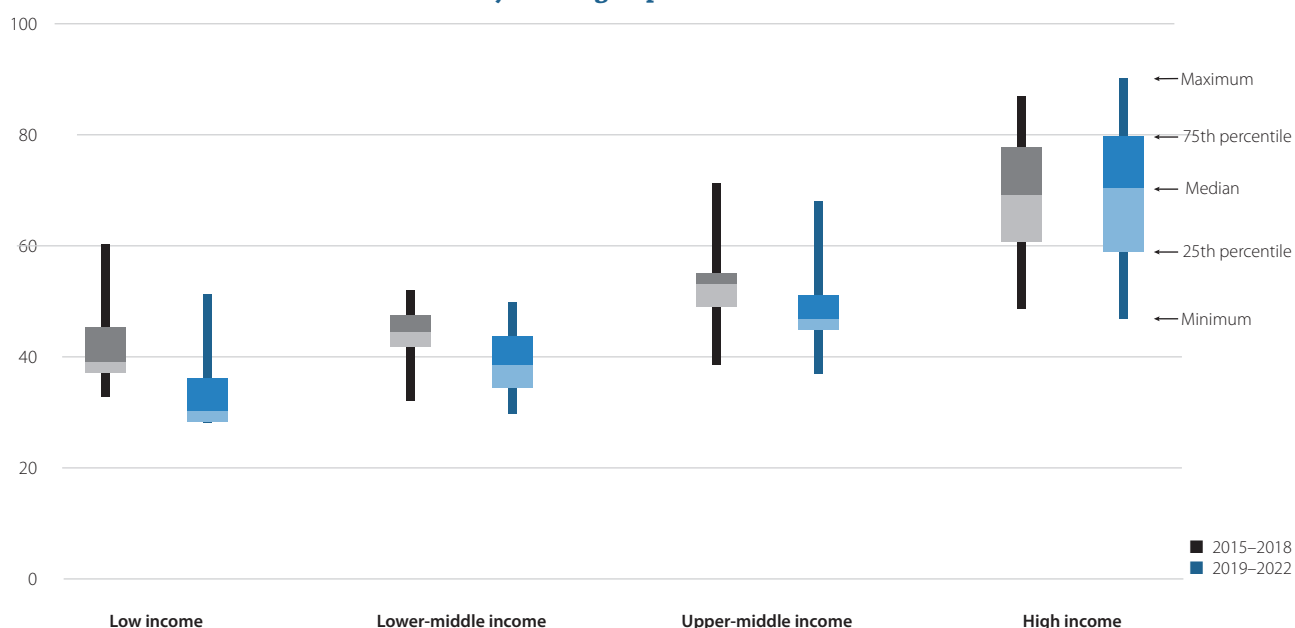
It is interesting to look at GTCI data with such a perspective. If we consider such data at the pillar level, we can easily see that inequalities across income level groups have increased primarily in two pillars of the GTCI model: Enable and Grow (see Figures 8 and 9, respectively).

This simple observation points to two areas in which action is most urgently required to prevent an aggravation of current imbalances: education/skilling reforms and institutional reforms. Education reforms should include in particular an acceleration (sometimes a resumption) of the fight against illiteracy as well as new efforts to provide better jobs and employment opportunities to younger generations (e.g., through upskilling efforts and apprenticeship programs). Institutional reforms should focus on providing a positive environment for innovators and business creators (in particular, small, medium, and micro enterprises, or SMMEs).

Can talent inequalities be a roadblock for the SDGs?

Even before the war in Ukraine started and inflation became a key concern for the world economy, the Secretary-General of the United Nations had warned that the world was unlikely to

Figure 8

Enable scores in 2015–2018 and 2019–2022 by income group

Note: Narrow bars indicate maximum and minimum values; wide bars indicate 25th, 50th, and 75th percentiles.

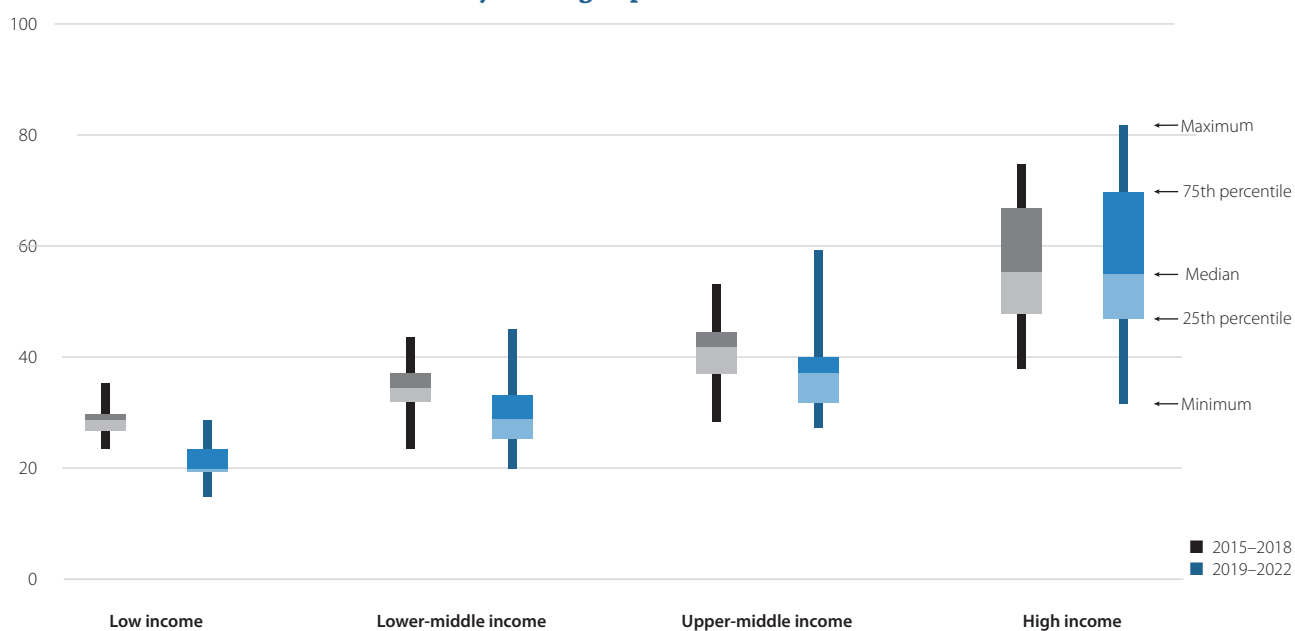
reach its 2030 objectives regarding the SDGs, when he declared in July 2021 that ‘between 720 and 811 million people in the world faced hunger in 2020—some 161 million more than for 2019’, and stressed that these ‘new, tragic data’ indicated that the world was ‘tremendously off track to achieve the Sustainable Development Goals (SDGs) by 2030’.⁷

Against such a background, the perspective of growing talent inequalities becomes a significant potential roadblock to

changing the course of key trends. Talent inequalities are likely to have negative effects on our collective ability to resume and accelerate efforts to reach SDGs and some of their key targets.

Out of the list of 17 SDGs (see Box 2), and in light of the GTCL-specific concerns identified earlier in this chapter, four key areas require special attention. These correspond to SDGs 4 (quality education), 5 (gender equality), 8 (decent work and economic growth), and 10 (reduced inequalities).

Figure 9

Grow scores in 2015–2018 and 2019–2022 by income group

Note: Narrow bars indicate maximum and minimum values; wide bars indicate 25th, 50th, and 75th percentiles.

BOX 2: SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

The 17 SDGs are integrated—they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.



Source: UNDP (2022b).

Gender and income inequalities have been addressed in detail earlier in this chapter; they will also be considered further in subsequent sections. It is of course important to keep in mind that these dimensions are heavily interdependent. For example, it is often emphasised that gender divides start with early education. An equal number of boys and girls enrolled in school has been achieved only in 66% of countries for primary education, 50% for lower secondary education, and a mere 25% for upper secondary education.⁸ In a world where conflicts abound, it is striking that in conflict-affected countries, twice as many girls are out of school than the global averages.⁹

Let us take a closer look at education (goal 4) and decent work (goal 8), which both are of central importance in the architecture and purpose of GTCI.

In the SDGs, **Goal 4 (Quality education)** includes 10 targets that are measured by 11 indicators. The 7 ‘outcome-oriented targets are: free primary and secondary education; equal access to quality pre-primary education; affordable technical, vocational and higher education; increased number of people with relevant skills for financial success; elimination of all discrimination in education; universal literacy and numeracy; and education for sustainable development and global citizenship. The 3 means

of achieving targets are: build and upgrade inclusive and safe schools, expand higher education scholarships for developing countries, and increase the supply of qualified teachers in developing countries.

It is easy to see how the large majority of such targets could be negatively affected by the mere pursuance of current talent inequality trends. A recent report by the investment banking company UBS summarised in a rather striking way some of the barriers that currently prevent 258 million children from attending school (see Figure 10).¹⁰

Only 28% of the poorest children in low-income countries are completing their primary education, preventing them from obtaining decent jobs and contributing to their communities’ well-being.

In that same list of SDGs, **Goal 8 (Decent work and economic growth)** is articulated around 12 targets in total to be achieved by 2030. The first 10 are outcome targets: sustainable economic growth; diversify, innovate and upgrade for economic productivity; promote policies to support job creation and growing enterprises; improve resource efficiency in consumption and production; full employment and decent work with equal pay; promote youth employment, education and training;

Figure 10

Barriers to access to education

Out-of-school children are disproportionately located in **low, lower-middle income, and conflict-affected countries**



Children from **the poorest 20% of households** dominate the out-of-school populations and are far less likely than higher-income children to ever enroll



Children with disabilities are **2.5 times more likely** than their non-disabled peers **to have never been in school**

Source: Authors, based on UBS (2022).

end modern slavery, trafficking, and child labour; protect labour rights and promote safe working environments; promote beneficial and sustainable tourism; and universal access to banking, insurance and financial services. In addition, there are also 2 targets for means of achieving, which are increase aid for trade support and develop a global youth employment strategy.

GTCL data make it crystal clear that reducing talent inequalities will be a necessary condition for achieving targets such as full employment, decent work, and equal pay, and for combating child labour, for example. The same data also stress the importance of deploying the economic reforms that will allow young generations to contribute through higher levels of entrepreneurship, innovation, and productivity.

KEY MESSAGES OF THE GTCL 2022

- **Message 1: Despite continuing imbalances, the global talent competitiveness scene remains dynamic and carries encouraging signs.** Smaller economies continue to display top-notch talent performance. This year, for example, Denmark outpaces the United States and enters the top 3 of the index. Middle-income countries continue to show remarkable individual and regional performances: China continues to climb the rankings (moving up from 37 to 36 this year, after progressing from 42 in GTCL 2020) and is now the most talent-competitive upper-middle-income country in the world. Latin America and the Caribbean also offers an interesting picture, as, for the second year running, the region is represented in the top quartile of the GTCL by Chile.
- **Message 2: Recent and current crises could have a negative and sometimes irreversible impact on the talent situation of poorer economies.** COVID is not over; the virus mutations suggest that it may be with us for a long time in one way or another. Over the last few months, old scourges that many thought long extinguished have made a spectacular comeback, including international tensions and inflation. Resulting limitations to the circulation of goods, services, and people may be deepened by the continuing crisis in multilateralism, which will have a significant impact on labour markets, not only internationally but also locally. Poorer economies would then be disproportionately affected and global talent inequalities would grow.
- **Message 3: Even in higher-income economies, labour markets may become more fragmented and hence generate new types of inequalities.** The prospect explored in the GTCL 2021 of a K-shaped recovery has taken on new potency in 2022 because of additional international tensions, disrupted supply chains, and a return of nationalistic and protectionist policies. New working habits and attitudes towards employment (such as 'quiet quitting' and younger generations' increased attraction towards gigs and part-time jobs) are also shattering long-established implicit rules and calling for new ways to grow, attract, and retain talents at the enterprise level.
- **Message 4: Gender divides call for renewed efforts.** Over the last few decades, significant progress has been registered in several key areas of gender-related talent inequalities. Such improvements have been largely confined to richer economies. Even in those more privileged environments, the situation remains imbalanced. Data related to women's empowerment, gender parity in high-skilled jobs, and the presence of women in leadership roles show that success remains limited. It also remains fragile when faced with massive shocks such as those resulting from COVID, inflation, or international tensions. In many parts of the world, such crises have worsened the overall condition of women.
- **Message 5: A more unequal global talent landscape would significantly diminish our collective ability to meet some key targets of the SDGs.** Local and collective efforts are urgently required to reduce those talent inequalities that are the most likely to prevent the world

from reaching specific SDGs and their targets. This is particularly the case for goals 4 (Quality education), 5 (Gender equality), 8 (Decent work and economic growth), and 10 (Reduced inequalities). Education reforms (including efforts to fight illiteracy; campaigns to support returning to school after COVID disruptions; reskilling and upskilling initiatives to allow younger generations to obtain decent work and seize development opportunities; and apprenticeship programs) should be accompanied by visible efforts to provide a supportive economic environment for innovation, in particular for start-ups and SMEs.

- **Message 6: Cities can play a central role in reducing inequalities by adopting the right talent policies.**

At the city level, talent (including access to education and meaningful working opportunities) is a clear divider between rich and poor. International evidence also underlines that those cities that have granted priority to growing, attracting, and retaining talents have done better in providing their citizens with better lives. As the world enters times of higher economic, social, and political uncertainty, talent hubs will be better equipped to weather the storm. Cities that appear well positioned to be future-ready include medium-sized cities (between 200,000 and 2 million population), as well as those that will prove agile enough to align and mobilise their resources along key lines such as digital transformation, offering attractive work environments to younger generations, and contributing to reaching SDGs.

THE GTCI CONCEPTUAL FRAMEWORK

As underlined in the previous editions of the GTCI, countries are competing globally to grow better talent; attract the talent they need; and retain those workers who contribute to competitiveness, innovation, and growth. Countries seek to put economic and social policies in place that will facilitate this. In such a context, governments, businesses, and various other stakeholders need quantitative instruments that can inform their decisions (as investors, employers, employees, or jobseekers) and can help them design and implement better policies in areas such as education, employment, and immigration, to name a few. This is the purpose of the GTCI.

Who Is Expected to Use the GTCI and Why?

Decisions regarding the development, attraction, and empowerment of talent are remarkably complex and multi-layered. They involve a multi-disciplinary endeavour to tackle talent dilemmas that have been raised in the fields of economics, education, human resource management and organisational behaviour, entrepreneurship, innovation, and strategy. At the policy level, this complexity is compounded by emotional dimensions and the international consequences of choices to be made in terms of immigration, social equity, and fiscal incentives, among other issues.

Faced with such intricate issues, decision-makers—both public and private—need quantitative tools that will enable

them to benchmark the efforts made and results obtained in different socioeconomic environments in terms of talent management and talent competitiveness. The GTCI has been designed to help address this challenge by providing a composite view of talent competitiveness applicable to a large number of countries (133 this year). Although several composite indices concerning skills, talent, and human capital have been developed in recent years, both private and public players in the field see the need for a neutral, global, and respected index that would enable them to assess the effectiveness of talent-related policies and practices, identify priorities for action in relevant areas, and inform international and local debate in this arena.

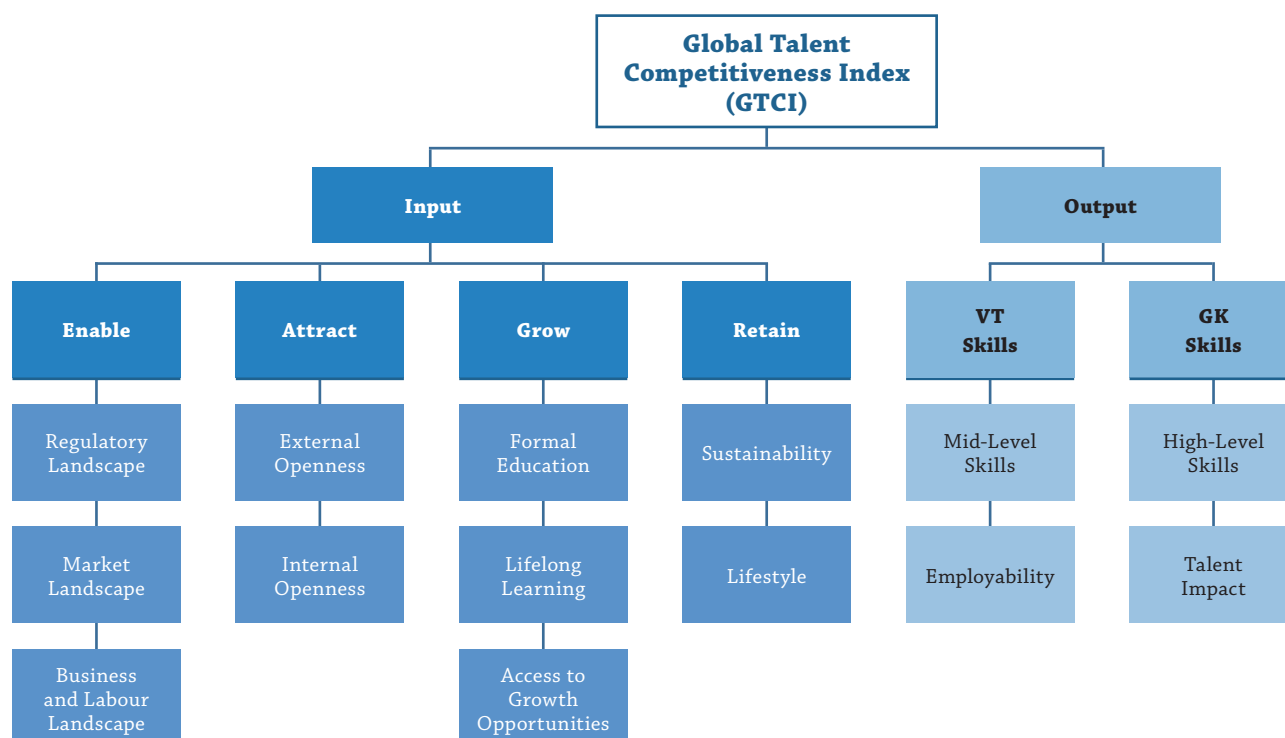
The Structure of the GTCI Model

In the context of the GTCI, *talent competitiveness* refers to the set of policies and practices that enable a country to develop, attract, and empower the human capital that contributes to productivity and prosperity. The GTCI is an Input-Output model (see Figure 11) in the sense that it combines an assessment of what countries do to produce and acquire talents (Input) and the kind of skills that are available to them as a result (Output). Feedback received on previous editions, additional research, and the availability of new data have allowed refinements to the model, though its basic structure is robust and unchanged.

The Input pillars of the GTCI are inspired by the Attract-Grow-Retain framework used by corporations to steer talent management. Multinational corporations frame talent management in these terms, defining talent management as an organisation's efforts to attract, select, develop, and retain talented employees to meet their strategic needs.¹¹ The GTCI focuses on efforts by countries and thus the model is fed by macroeconomic and country-level variables. **Attracting** talent, in the context of national competitiveness, is viewed from two perspectives: (1) as a draw towards external (i.e., foreign) valuable resources—both productive businesses (through foreign direct investment and the like) and creative people (through high-skilled migration)—and (2) as an internal attraction that is focused on removing barriers to entering the talent pool for groups such as those from underprivileged backgrounds, women, and non-native people. **Growing** talent has traditionally meant education, but its definition should be broadened to include apprenticeships, training, and continuous education as well as experience and access to growth opportunities (although we may acknowledge that most skill development occurs through experience, much remains to be done to conceptualise and measure its role). **Retaining** talent is necessary because the more talented the person, the wider the global opportunities he or she can find elsewhere. Two key components of retention are sustainability (both personal and national) and quality of life. In addition, the regulatory, market, business, and labour landscapes within a country facilitate or impede talent attraction and growth; the GTCI classifies these elements as parts of the **Enable** pillar. Together, Enable, Attract, Grow, and Retain constitute the four Input pillars of the GTCI model.

Regarding Output, the GTCI differentiates between two levels of talent, which can be broadly thought of as mid-level

Figure 11
The GTCI 2022 model



Note: GK Skills = Global Knowledge Skills; VT Skills = Vocational and Technical Skills.

and high-level skills. Mid-level skills, labelled *Vocational and Technical Skills* (or VT Skills), describes skills that have a technical or professional base acquired through vocational or professional training and experience. The impact of VT Skills is measured by the degree of employability to which they lead. Employability is measured by indicators of skills gaps and labour market mismatches and by the adequacy of education systems. High-level skills, labelled *Global Knowledge Skills* (or GK Skills), deal with knowledge workers in professional, managerial, or leadership roles that require creativity and problem solving. Their economic impact is evaluated by indicators of innovation, entrepreneurship, and the development of high-value industries. Together, VT Skills and GK Skills constitute the two Output pillars of the GTCI model.

The GTCI attempts to offer an approach to talent competitiveness issues that is comprehensive, action-oriented, analytical, and practical. As described earlier, the GTCI is a composite index, relying on a simple but robust Input-Output model, composed of six pillars (four on the Input side and two on the Output side), as illustrated in Figure 11. As such, the GTCI generates three main indices that are the most visible focus for analysis, namely:

1. **The Talent Competitiveness Input sub-index**, which is composed of four pillars describing the policies, resources, and efforts that a particular country can harness to foster its talent competitiveness. Enable (Pillar 1) reflects the extent to which the regulatory and business environment—including

issues about competition, management practices, and the functioning of labour markets—create a favourable climate for talent to develop and thrive. The other three pillars describe the three levers of talent competitiveness, which focus respectively on what countries are doing to Attract (Pillar 2), Grow (Pillar 3), and Retain (Pillar 4) talent. The Input sub-index is the simple arithmetic average of the scores registered on these four pillars.

2. **The Talent Competitiveness Output sub-index**, which aims to describe and measure the quality of talent in a country that results from the above policies, resources, and efforts. It is composed of two pillars describing the current situation of a particular country in terms of Vocational and Technical Skills (Pillar 5) and Global Knowledge Skills (Pillar 6). The Output sub-index is the simple arithmetic average of the scores obtained on these two pillars.
3. **The Global Talent Competitiveness Index (GTCI)**, which is computed as the simple arithmetic average of the scores registered on each of the six pillars described above.

The GTCI model has been refined in this 2022 edition with respect to last year. Four notable changes have been made. First, five indicators from the Executive Opinion Survey (EOS) carried out by the World Economic Forum (WEF) have been replaced because they have been discontinued. These changes are as follows:

- 1.3.5 Technology utilisation has been replaced by Enterprise software.
- 1.3.6 Investment in emerging technologies has been replaced by Cloud computing.
- 2.1.1 FDI and technology transfer has been replaced by FDI regulatory restrictiveness.
- 2.1.2 Prevalence of foreign ownership has been replaced by Financial globalisation.
- 6.1.6 Availability of scientists and engineers has been replaced by Digital skills.

Second, the *Doing Business* report of the World Bank was discontinued in 2021 because of data irregularities.¹² Indicator 1.2.2 Ease of doing business has therefore been replaced by Domestic credit to the private sector, which similarly relates to the market environment and also has wide country coverage. Third, indicator 5.2.4 Highly educated unemployment has been added to the GTCI in the Employability sub-pillar (in the VT Skills pillar) because it complements the existing survey-based variables from the WEF and the skills mismatch variable from the International Labour Organization (ILO). Fourth, three additional indicators have been replaced, namely:

- Indicator 2.2.4 Women in tertiary education has been replaced by an indicator that provides a measure of the extent to which the regulatory environment is conducive for women to fulfil their economic potential. The new indicator is Economic empowerment of women.
- Indicator 3.2.1 Business and economics subject ranking has been replaced by an indicator that is more directly concerned with master's degrees in business and, hence, lifelong learning. The new variable is based on our own computation derived from the scores and rankings on MBA and business masters programmes by QS Quacquarelli Symonds. The new indicator is Business masters education.
- Indicator 6.2.3 New product entrepreneurial activity. The collection of this variable has been paused and it has therefore been replaced by another indicator that provides a measure of talent impact: Software development.

All in all, this year's model includes 69 variables, which is one more than the 68 indicators used in the GTCI 2021. Country coverage in the GTCI has decreased slightly—from 134 to 133 countries—representing almost 98% of the world's GDP and more than 93% of its population. The audit carried out by the Joint Research Centre (JRC) of the European Commission (see Chapter 2) has confirmed that the model remains solid and robust notwithstanding the changes discussed above. Further details of the variable definitions and the method of calculation can be found in the Sources and Definitions and Technical Notes

appendices. Improvements will continue to be made to the GTCI model in the future, based on further discussions with academics and business and government leaders, as well as feedback from users of the GTCI.

GLOBAL TALENT COMPETITIVENESS INDEX 2022: MAIN FINDINGS

The top positions in the ranking of the GTCI scores continue to be dominated by developed, high-income countries (see Table 3 on pages 17–19), and there is a high correlation between GDP per capita and GTCI scores (see Figure 12 on pages 20–21). The Statistical Annex to this chapter presents more detailed information on country performance for the different sub-pillars and variables. European countries continue to dominate the GTCI rankings; 17 of them are in the top 25. Switzerland maintains its position at the top again this year, followed by Singapore and Denmark, while the United States (4th) drops out of the top 3 for the first time since 2017, when it came in 4th out of 118 countries. The other non-European countries that make it into the top 25 are Australia, Canada, New Zealand, Israel, Japan, and the United Arab Emirates. Two notable features in this year's rankings are that the region of Latin America and the Caribbean is, for the second year running, represented in the top quartile of the GTCI (by Chile) and that China continues to climb the rankings and is now the most talent-competitive upper-middle-income country.

An assessment of the top 15 countries in this ranking can be found in the Statistical Annex, along with an analysis and commentary on performances in the GTCI by income group and by region.

LONGER-TERM TRENDS IN TALENT COMPETITIVENESS

This fourth time-series analysis of the GTCI reaffirms the longer-term trends identified in the previous reports. Above all, it underlines that the most talent-competitive countries are not only better at developing, attracting, and empowering human capital, but these trends also seem to indicate that they are also pulling away from less talent-competitive countries. In a word, talent inequalities are widening.

The approach used to analyse how talent competitiveness has changed over time follows the general approach of previous editions—that is, it compares performances in the GTCI over two periods. However, because there are now nine GTCI editions, the comparison is made with respect to two *four*-year periods (rather than two *three*-year periods as in the previous edition): 2015–2018 against 2019–2022.¹³ Focusing on these two averages yields several advantages. For instance, it can make it easier to spot general trends that might be missed in a year-by-year analysis. In addition, it allows for some smoothing of annual fluctuations in the data that, in turn, results in more reliable conclusions. Related to this is that the aggregation absorbs year-to-year changes because of improvements in the methodology of GTCI.¹⁴

In terms of country coverage, countries that have been included in two of the four years that make up a period have been included in the time-series analysis. For this edition, this means that a total of 113 countries are covered. These countries

Table 3

Global Talent Competitiveness Index 2022 rankings

COUNTRY	SCORE	OVERALL RANK	INCOME GROUP	REGIONAL GROUP	REGIONAL GROUP RANK
Switzerland	78.20	1	High income	Europe	1
Singapore	75.80	2	High income	Eastern, Southeastern Asia and Oceania	1
Denmark	75.44	3	High income	Europe	2
United States of America	73.93	4	High income	Northern America	1
Sweden	73.93	5	High income	Europe	3
Netherlands	73.90	6	High income	Europe	4
Norway	73.88	7	High income	Europe	5
Finland	73.28	8	High income	Europe	6
Australia	71.93	9	High income	Eastern, Southeastern Asia and Oceania	2
United Kingdom	71.59	10	High income	Europe	7
Luxembourg	71.58	11	High income	Europe	8
Iceland	68.96	12	High income	Europe	9
Ireland	68.36	13	High income	Europe	10
Germany	68.15	14	High income	Europe	11
Canada	68.11	15	High income	Northern America	2
Belgium	67.67	16	High income	Europe	12
Austria	67.56	17	High income	Europe	13
New Zealand	66.88	18	High income	Eastern, Southeastern Asia and Oceania	3
France	64.58	19	High income	Europe	14
Estonia	62.47	20	High income	Europe	15
Czech Republic	60.96	21	High income	Europe	16
Malta	60.64	22	High income	Europe	17
Israel	59.83	23	High income	Northern Africa and Western Asia	1
Japan	59.77	24	High income	Eastern, Southeastern Asia and Oceania	4
United Arab Emirates	59.67	25	High income	Northern Africa and Western Asia	2
Portugal	59.33	26	High income	Europe	18
Korea, Rep.	59.10	27	High income	Eastern, Southeastern Asia and Oceania	5
Slovenia	58.27	28	High income	Europe	19
Spain	58.03	29	High income	Europe	20
Cyprus	56.08	30	High income	Northern Africa and Western Asia	3
Latvia	55.51	31	High income	Europe	21
Lithuania	54.51	32	High income	Europe	22
Italy	54.45	33	High income	Europe	23
Chile	52.56	34	High income	Latin America and the Caribbean	1
Slovakia	51.34	35	High income	Europe	24
China	51.04	36	Upper-middle income	Eastern, Southeastern Asia and Oceania	6
Hungary	51.03	37	High income	Europe	25
Qatar	50.99	38	High income	Northern Africa and Western Asia	4
Poland	50.28	39	High income	Europe	26
Greece	49.34	40	High income	Europe	27
Brunei Darussalam	49.26	41	High income	Eastern, Southeastern Asia and Oceania	7
Costa Rica	48.97	42	Upper-middle income	Latin America and the Caribbean	2
Saudi Arabia	48.78	43	High income	Northern Africa and Western Asia	5
Uruguay	48.47	44	High income	Latin America and the Caribbean	3
Malaysia	48.28	45	Upper-middle income	Eastern, Southeastern Asia and Oceania	8

(continued on next page)

Table 3 (continued)

Global Talent Competitiveness Index 2022 rankings

COUNTRY	SCORE	OVERALL RANK	INCOME GROUP	REGIONAL GROUP	REGIONAL GROUP RANK
Croatia	47.19	46	High income	Europe	28
Montenegro	46.83	47	Upper-middle income	Europe	29
Georgia	46.47	48	Upper-middle income	Northern Africa and Western Asia	6
Bahrain	46.15	49	High income	Northern Africa and Western Asia	7
Bulgaria	46.04	50	Upper-middle income	Europe	30
Mauritius	45.87	51	Upper-middle income	Sub-Saharan Africa	1
Serbia	44.91	52	Upper-middle income	Europe	31
Trinidad and Tobago	44.27	53	High income	Latin America and the Caribbean	4
Romania	44.25	54	High income	Europe	32
Azerbaijan	44.18	55	Upper-middle income	Northern Africa and Western Asia	8
Armenia	44.12	56	Upper-middle income	Northern Africa and Western Asia	9
Russian Federation	44.05	57	Upper-middle income	Europe	33
Belarus	43.46	58	Upper-middle income	Europe	34
Argentina	43.45	59	Upper-middle income	Latin America and the Caribbean	5
Oman	43.00	60	High income	Northern Africa and Western Asia	10
Kuwait	42.28	61	High income	Northern Africa and Western Asia	11
Kazakhstan	42.26	62	Upper-middle income	Central and Southern Asia	1
Colombia	41.56	63	Upper-middle income	Latin America and the Caribbean	6
Panama	41.30	64	High income	Latin America and the Caribbean	7
Albania	40.95	65	Upper-middle income	Europe	35
Ukraine	40.56	66	Lower-middle income	Europe	36
Moldova, Rep.	40.00	67	Upper-middle income	Europe	37
North Macedonia	39.95	68	Upper-middle income	Europe	38
Mexico	39.93	69	Upper-middle income	Latin America and the Caribbean	8
Botswana	39.88	70	Upper-middle income	Sub-Saharan Africa	2
Mongolia	39.79	71	Lower-middle income	Eastern, Southeastern Asia and Oceania	9
Jordan	39.68	72	Upper-middle income	Northern Africa and Western Asia	12
Brazil	39.43	73	Upper-middle income	Latin America and the Caribbean	9
Viet Nam	39.31	74	Lower-middle income	Eastern, Southeastern Asia and Oceania	10
Thailand	39.23	75	Upper-middle income	Eastern, Southeastern Asia and Oceania	11
Jamaica	38.87	76	Upper-middle income	Latin America and the Caribbean	10
South Africa	38.77	77	Upper-middle income	Sub-Saharan Africa	3
Peru	38.59	78	Upper-middle income	Latin America and the Caribbean	11
Cabo Verde	38.57	79	Lower-middle income	Sub-Saharan Africa	4
Philippines	38.06	80	Lower-middle income	Eastern, Southeastern Asia and Oceania	12
Türkiye	37.67	81	Upper-middle income	Northern Africa and Western Asia	13
Indonesia	37.00	82	Lower-middle income	Eastern, Southeastern Asia and Oceania	13
Kyrgyzstan	36.74	83	Lower-middle income	Central and Southern Asia	2
Lebanon	36.62	84	Lower-middle income	Northern Africa and Western Asia	14
Paraguay	36.59	85	Upper-middle income	Latin America and the Caribbean	12
Egypt	35.84	86	Lower-middle income	Northern Africa and Western Asia	15
Ecuador	35.79	87	Upper-middle income	Latin America and the Caribbean	13
Bosnia and Herzegovina	35.74	88	Upper-middle income	Europe	39
Dominican Republic	35.68	89	Upper-middle income	Latin America and the Caribbean	14
Namibia	35.47	90	Upper-middle income	Sub-Saharan Africa	5

(continued on next page)

Table 3 (continued)

Global Talent Competitiveness Index 2022 rankings

COUNTRY	SCORE	OVERALL RANK	INCOME GROUP	REGIONAL GROUP	REGIONAL GROUP RANK
Tunisia	34.64	91	Lower-middle income	Northern Africa and Western Asia	16
Sri Lanka	33.53	92	Lower-middle income	Central and Southern Asia	3
Bolivia, Plurinational St.	33.40	93	Lower-middle income	Latin America and the Caribbean	15
Gambia	32.46	94	Low income	Sub-Saharan Africa	6
Ghana	32.24	95	Lower-middle income	Sub-Saharan Africa	7
Morocco	29.96	96	Lower-middle income	Northern Africa and Western Asia	17
Kenya	29.80	97	Lower-middle income	Sub-Saharan Africa	8
El Salvador	29.58	98	Lower-middle income	Latin America and the Caribbean	16
Lao PDR	28.95	99	Lower-middle income	Eastern, Southeastern Asia and Oceania	14
Eswatini	28.94	100	Lower-middle income	Sub-Saharan Africa	9
India	28.90	101	Lower-middle income	Central and Southern Asia	4
Zambia	28.60	102	Low income	Sub-Saharan Africa	10
Cambodia	28.43	103	Lower-middle income	Eastern, Southeastern Asia and Oceania	15
Algeria	28.21	104	Lower-middle income	Northern Africa and Western Asia	18
Benin	27.81	105	Lower-middle income	Sub-Saharan Africa	11
Rwanda	27.67	106	Low income	Sub-Saharan Africa	12
Senegal	27.32	107	Lower-middle income	Sub-Saharan Africa	13
Guatemala	26.97	108	Upper-middle income	Latin America and the Caribbean	17
Nigeria	26.73	109	Lower-middle income	Sub-Saharan Africa	14
Honduras	26.59	110	Lower-middle income	Latin America and the Caribbean	18
Nepal	26.50	111	Lower-middle income	Central and Southern Asia	5
Iran, Islamic Rep.	26.48	112	Lower-middle income	Central and Southern Asia	6
Pakistan	26.30	113	Lower-middle income	Central and Southern Asia	7
Nicaragua	26.28	114	Lower-middle income	Latin America and the Caribbean	19
Côte d'Ivoire	26.20	115	Lower-middle income	Sub-Saharan Africa	15
Malawi	25.73	116	Low income	Sub-Saharan Africa	16
Tanzania, United Rep.	25.12	117	Lower-middle income	Sub-Saharan Africa	17
Zimbabwe	24.50	118	Lower-middle income	Sub-Saharan Africa	18
Cameroon	24.50	119	Lower-middle income	Sub-Saharan Africa	19
Lesotho	23.88	120	Lower-middle income	Sub-Saharan Africa	20
Uganda	23.46	121	Low income	Sub-Saharan Africa	21
Bangladesh	22.85	122	Lower-middle income	Central and Southern Asia	8
Guinea	22.44	123	Low income	Sub-Saharan Africa	22
Madagascar	22.26	124	Low income	Sub-Saharan Africa	23
Mauritania	21.43	125	Lower-middle income	Sub-Saharan Africa	24
Burundi	20.13	126	Low income	Sub-Saharan Africa	25
Mozambique	19.65	127	Low income	Sub-Saharan Africa	26
Burkina Faso	19.57	128	Low income	Sub-Saharan Africa	27
Mali	19.37	129	Low income	Sub-Saharan Africa	28
Angola	19.17	130	Lower-middle income	Sub-Saharan Africa	29
Ethiopia	18.55	131	Low income	Sub-Saharan Africa	30
Congo, Dem. Rep.	17.07	132	Low income	Sub-Saharan Africa	31
Chad	12.32	133	Low income	Sub-Saharan Africa	32

Figure 12
GTCI scores versus GDP per capita

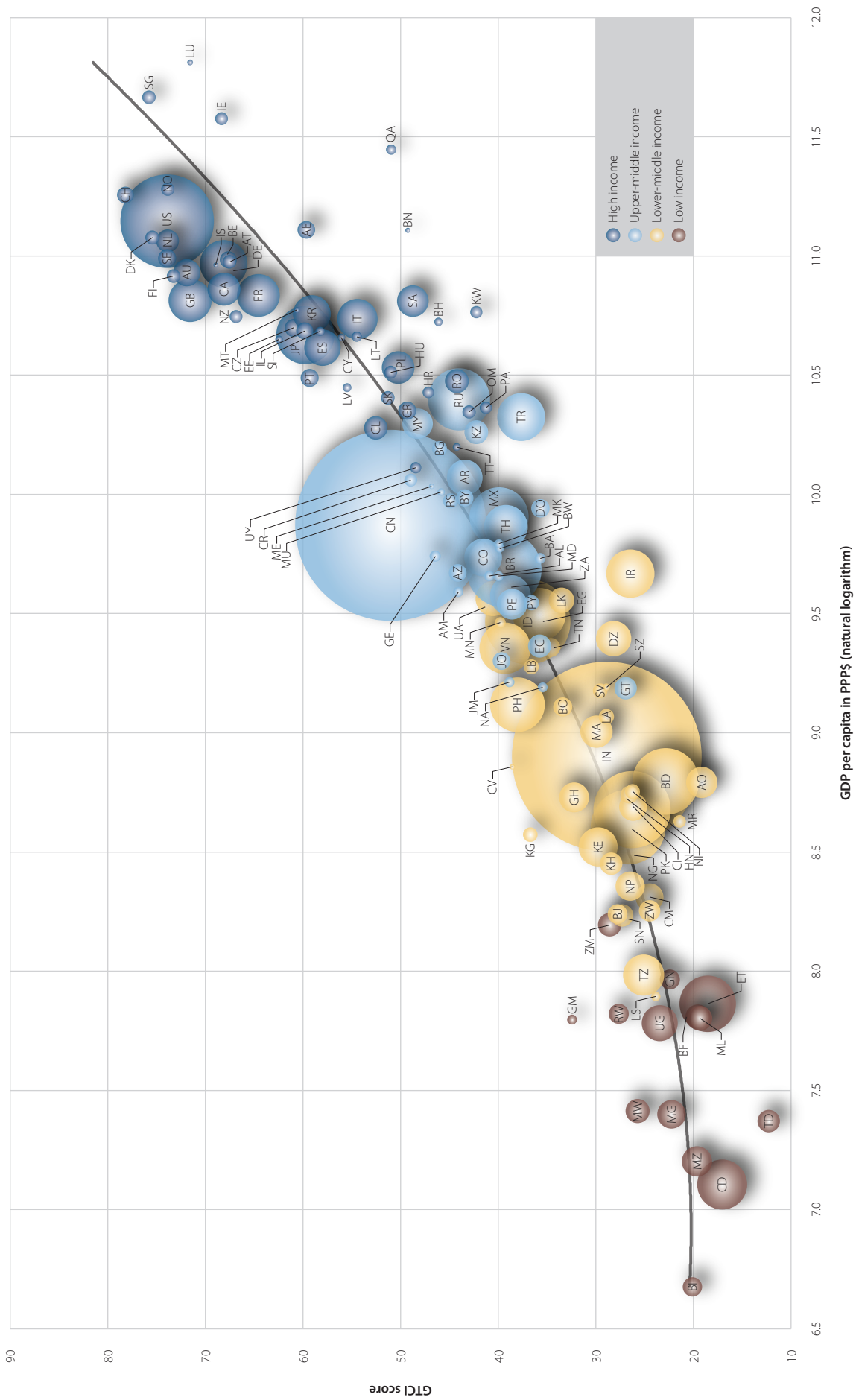


Figure 12 (continued)
GTCI scores versus GDP per capita: ISO-2 country codes

CODE	COUNTRY	CODE	COUNTRY	CODE	COUNTRY	CODE	COUNTRY	CODE	COUNTRY
AE	United Arab Emirates	CN	China	ID	Indonesia	MK	North Macedonia	RS	Serbia
AL	Albania	CO	Colombia	IE	Ireland	ML	Mali	RU	Russian Federation
AM	Armenia	CR	Costa Rica	IL	Israel	MN	Mongolia	RW	Rwanda
AO	Angola	CV	Cabo Verde	IN	India	MR	Mauritania	SA	Saudi Arabia
AR	Argentina	CY	Cyprus	IR	Iran, Islamic Rep.	MT	Malta	SE	Sweden
AT	Austria	CZ	Czech Republic	IS	Iceland	MU	Mauritius	SG	Singapore
AU	Australia	DE	Germany	IT	Italy	MW	Malawi	SI	Slovenia
AZ	Azerbaijan	DK	Denmark	JM	Jamaica	MX	Mexico	SK	Slovakia
BA	Bosnia and Herzegovina	DO	Dominican Republic	JO	Jordan	MY	Malaysia	SN	Senegal
BD	Bangladesh	DZ	Algeria	JP	Japan	MZ	Mozambique	SV	El Salvador
BE	Belgium	EC	Ecuador	KE	Kenya	NA	Namibia	SZ	Eswatini
BF	Burkina Faso	EE	Estonia	KG	Kyrgyzstan	NG	Nigeria	TD	Chad
BG	Bulgaria	EG	Egypt	KH	Cambodia	NI	Nicaragua	TH	Thailand
BH	Bahrain	ES	Spain	KR	Korea, Rep.	NL	Netherlands	TN	Tunisia
BI	Burundi	ET	Ethiopia	KW	Kuwait	NO	Norway	TR	Türkiye
BJ	Benin	FI	Finland	KZ	Kazakhstan	NP	Nepal	TT	Trinidad and Tobago
BN	Brunei Darussalam	FR	France	LA	Lao PDR	NZ	New Zealand	TZ	Tanzania, United Rep.
BO	Bolivia, Plurinational St.	GB	United Kingdom	LB	Lebanon	OM	Oman	UA	Ukraine
BR	Brazil	GE	Georgia	LK	Sri Lanka	PA	Panama	UG	Uganda
BW	Botswana	GH	Ghana	LS	Lesotho	PE	Peru	US	United States of America
BY	Belarus	GM	Gambia	LT	Lithuania	PH	Philippines	UY	Uruguay
CA	Canada	GN	Guinea	LU	Luxembourg	PK	Pakistan	VN	Viet Nam
CD	Congo, Dem. Rep.	GR	Greece	LV	Latvia	PL	Poland	ZA	South Africa
CH	Switzerland	GT	Guatemala	MA	Morocco	PT	Portugal	ZM	Zambia
CI	Côte d'Ivoire	HN	Honduras	MD	Moldova, Rep.	PY	Paraguay	ZW	Zimbabwe
CL	Chile	HR	Croatia	ME	Montenegro	QA	Qatar		
CM	Cameroon	HU	Hungary	MG	Madagascar	RO	Romania		

represent all four income groups: 48 are classified as high-income countries, 31 are upper-middle-income countries, 27 are lower-middle-income countries, and 7 are low-income countries. The regional breakdown, meanwhile, is the following: 7 are in Central and Southern Asia; 13 in Eastern, Southeastern Asia and Oceania; 38 in Europe; 18 in Latin America and the Caribbean; 18 in Northern Africa and Western Asia; 2 in Northern America; and 17 in Sub-Saharan Africa.

The calculation of the averages of the two four-year periods is based on the GTCI scores that the countries have achieved. More specifically, the calculation comprises two steps: (1) averaging overall GTCI scores for 2015–2018 and 2019–2022, respectively, and (2) computing country rankings based on the resulting averages. The advantage of this approach is that it is straightforward and yields distinct rankings for each country. The drawback is that the scores are not necessarily fully comparable from one year to the next because of changes in data or methodological improvements. An alternative approach, whereby four-year average rankings are computed based on the ranks (rather than scores) of countries in different GTCI editions, is used to corroborate the findings.¹⁵

Talent Champions Pulling Away from the Rest

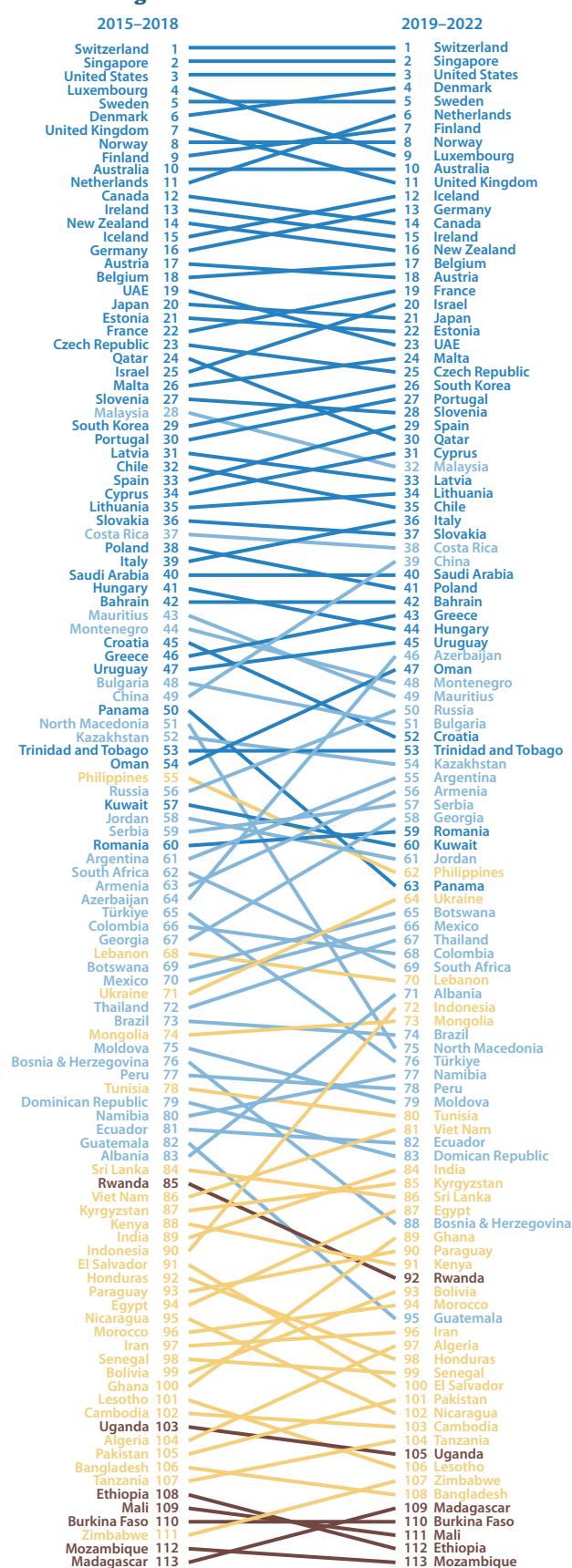
Figure 13 depicts visually how the relative positions of countries in the GTCI have changed in the two periods 2015–2018 and 2019–2022. The left-hand and right-hand columns of the figure rank the countries according to their GTCI scores in the earlier and later periods, respectively. Hence, an upward (downward) slope implies an improvement (deterioration) in the ranking over the two periods, which in turn suggests strengthening (weakening) talent competitiveness.

A cursory glance at the figure from top to bottom is sufficient to draw two main conclusions. First, countries with higher income levels—depicted in shades of blue—tend to have higher rankings in both periods and, consequently, are consistently more talent competitive than countries with lower income levels. Second, the talent competitiveness of higher-ranked countries is more stable and tends to fluctuate less than that of lower-ranked countries. For instance, comparing the top 30 and bottom 30 of the 2019–2022 period shows that only one country in the former group moved more than five ranks over the two periods, which is in contrast to the 10 countries of the latter group that moved by as much.

As would be expected, Switzerland (the top country in every GTCI edition) and Singapore (right behind Switzerland in all editions but one) are the two most talent-competitive countries in both periods. The United States is also in the top 3 in both periods. Luxembourg, which dropped from 4th in the earlier period to 9th in the later, is the country with the largest movement in the top 10, although it should be mentioned that this was the result of other countries outperforming it and that Luxembourg actually improved its GTCI score over the two periods. The only country to drop out of the top 10 over the long term is the United Kingdom, which slipped from 7th to 11th. At its expense, the Netherlands made it into the top 10, climbing from 11th to 6th.

Figure 13

GTCI rankings in 2015–2018 and 2019–2022



Note: Colours refer to income groups, which range from dark blue (high income) to light blue (upper-middle income), light brown (lower-middle income), and dark brown (low income).

The two countries that enjoyed the greatest improvement over time are Azerbaijan and Indonesia, both of which surged by 18 positions over the two periods. Both countries made particular strides with respect to Vocational and Technical Skills. In addition, Azerbaijan (which jumped from 64th to 46th) saw noteworthy improvements in its ability to Attract talent, whereas Indonesia (climbing from 90th to 72nd) also importantly strengthened its enabling environment. Three other countries improved their rankings by 10 positions or more: Albania, China, and Ghana. All three have in common that their showing on the pillar related to Vocational and Technical Skills improved significantly. Albania (83rd to 71st) also saw particular progress in its ability to Attract talent, whereas China (49th to 39th) also notably strengthened its capacity to Grow talent and Ghana (100th to 89th) made additional gains in the pillars Attract and Retain.

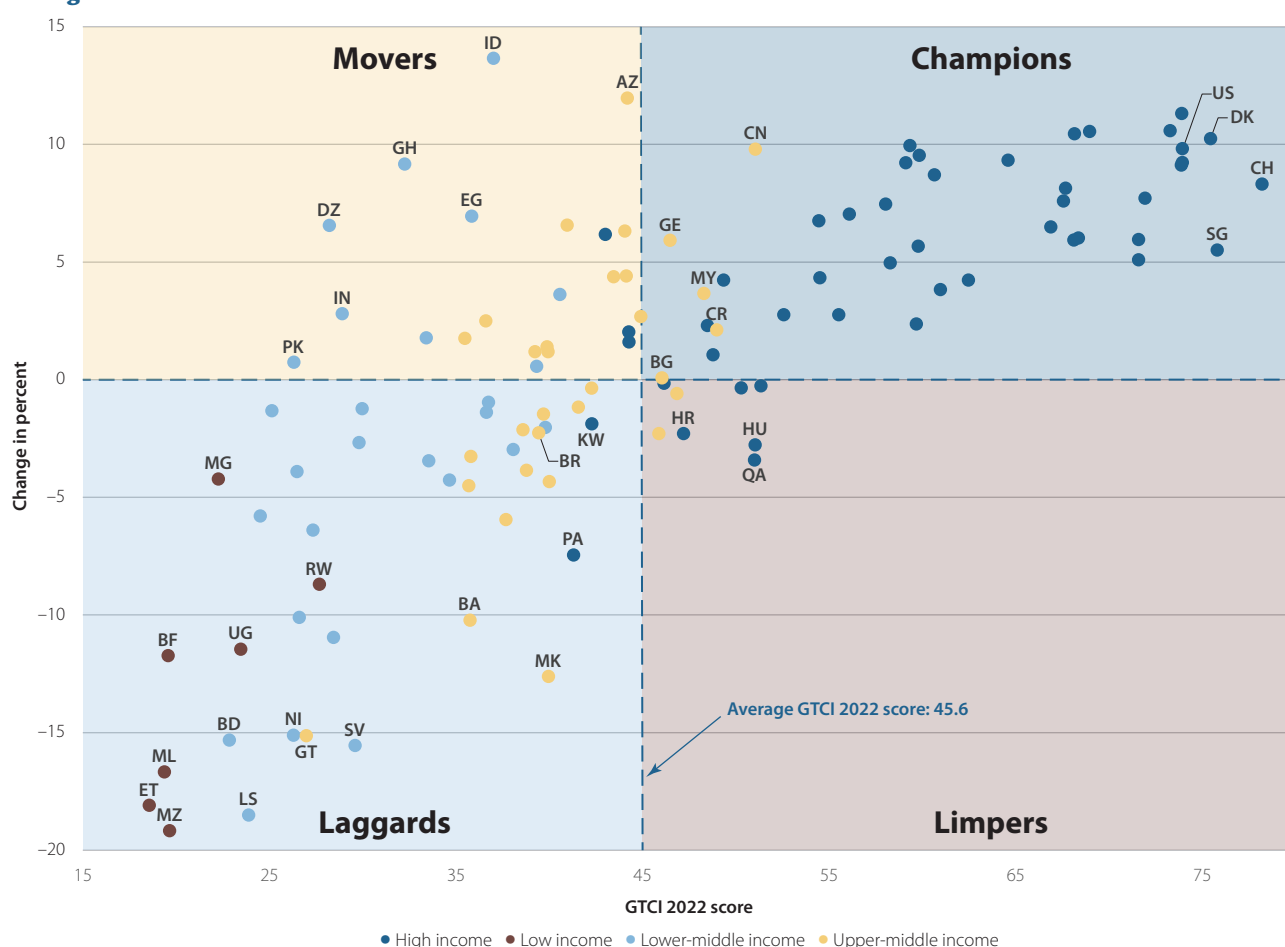
The country that has experienced the biggest drop across the two periods is North Macedonia, which plunged from 51st in the 2015–2018 period to 75th in the 2019–2022 period. Particularly disappointing have been the country's weakening enabling environment and its ability to Grow talent. The ranks of both Guatemala and Panama fell by 13 positions over the two periods. Guatemala (82nd to 95th) was primarily affected by poorer

performances in the four Input-related pillars (Enable, Attract, Grow, and Retain), while the regression of Panama (50th to 63rd) was mainly due to a lower capacity to Grow talent and a weaker pool of Global Knowledge Skills.

Figure 13 shows how ranks over the two four-year periods have changed, but it does not provide any information about how scores have evolved. Figure 14 does so by showing two aspects of each country's scores: (1) the change (in percent) of its average GTCI scores from 2015–2018 to 2019–2022 and (2) what score it achieved in this year's ranking. Plotting this information yields a growth-performance matrix that shows how countries fare against a combined benchmark of, on one hand, no change (i.e., neither increase nor decrease) in scores over the two four-year periods and, on the other hand, the average 2022 score (45.6) for this set of countries. The resulting four quadrants are meant to indicate whether a country is primarily a *talent champion* (with an improved score over the two periods and a high score in the GTCI 2022), a *talent mover* (an improved score over time, but a lower-than-average score this year), a *talent limper* (a worsened score over time, but a higher-than-average score this year), or a *talent laggard* (a worsened score over time and a lower-than-average score this year).

Figure 14

Change in scores for 2015–2018 vs 2019–2022 and GTCI 2022 score



Note: A complete ISO-2 country code key can be found as part of Figure 12, page 21.

It is visually clear from the figure that most talent champions are high-income countries. That is, not only do these countries have GTCI scores that are above average—something that is implied by the strong association between GTCI score and income levels (Figure 12)—but most (40 out of 48) high-income countries have improved their scores over time. Indeed, some countries that have slipped in the rankings—for example, Luxembourg, the United Kingdom, and Canada—have nevertheless increased their GTCI scores over time and are, hence, considered talent champions. Two high-income countries find themselves in the quadrant of talent laggards: Kuwait and Panama. Panama's weaker performance, as mentioned above, can primarily be attributed to poorer showings in the pillars Grow and Global Knowledge Skills, while Kuwait was affected by lower abilities to Enable, Grow, and Retain talent.

Five upper-middle-income countries are regarded as talent champions: Bulgaria, China, Costa Rica, Georgia, and Malaysia. All five countries experienced improvements in the pillars related to Attract, Retain, and Vocational and Technical Skills. Georgia and Malaysia also enjoyed rising Global Knowledge Skills over the two periods. Eleven countries in the upper-middle-income group are talent movers, where Azerbaijan—backed by its stronger ability to Attract talent and its higher level of Vocational and Technical Skills—made the most gains. Montenegro and Mauritius are the two upper-middle-income countries that find themselves in the talent limper quadrant, which in both cases can be partly attributed to a weakening enabling environment and a lower ability to Grow talent. The remaining 13 upper-middle-income countries are talent laggards, where Bosnia and Herzegovina, Guatemala, and North Macedonia experienced considerable declines in GTCI scores over the two periods. As discussed above, the performance drops of the latter two countries is partly due to weaker capacities to Enable and Grow talent. The same can be said about Bosnia and Herzegovina, which has also seen scores reduce significantly in the pillar related to retaining talent.

One-third of the lower-middle-income countries are positioned in the talent mover quadrant, whereas the remaining two-thirds are talent laggards due to the combination of lower-than-average GTCI 2022 scores and scores that decreased over the two four-year periods. The talent mover *par excellence* is Indonesia, which—as seen above—is one of two countries (the other is Azerbaijan) that has made the greatest gains in talent competitiveness over the long term. Another talent mover in the income group that stands out is Ghana, which has made particular strides in attracting and retaining talent and in expanding Vocational and Technical Skills. Among the weakest performers in the lower-middle-income group are Bangladesh, El Salvador, Lesotho, and Nicaragua, all of which have seen their scores worsen across the board over the two four-year periods (the only exception is Lesotho's ability to Retain talent).

All seven low-income countries are found in the quadrant of talent laggards. In fact, all but two of them have seen GTCI scores decrease by more than 10% over the two periods. The two more positive cases are Madagascar and Rwanda, both of which enjoyed improvements in their ability to Retain talent and in their pool of Global Knowledge Skills. Madagascar also

increased its average score with respect to attracting talent. As for the other five low-income countries, there are various reasons to explain their underwhelming performances, but they all have in common a deteriorating enabling environment and worsening ability to Grow talent.

Growing Talent Gaps among and within Groups

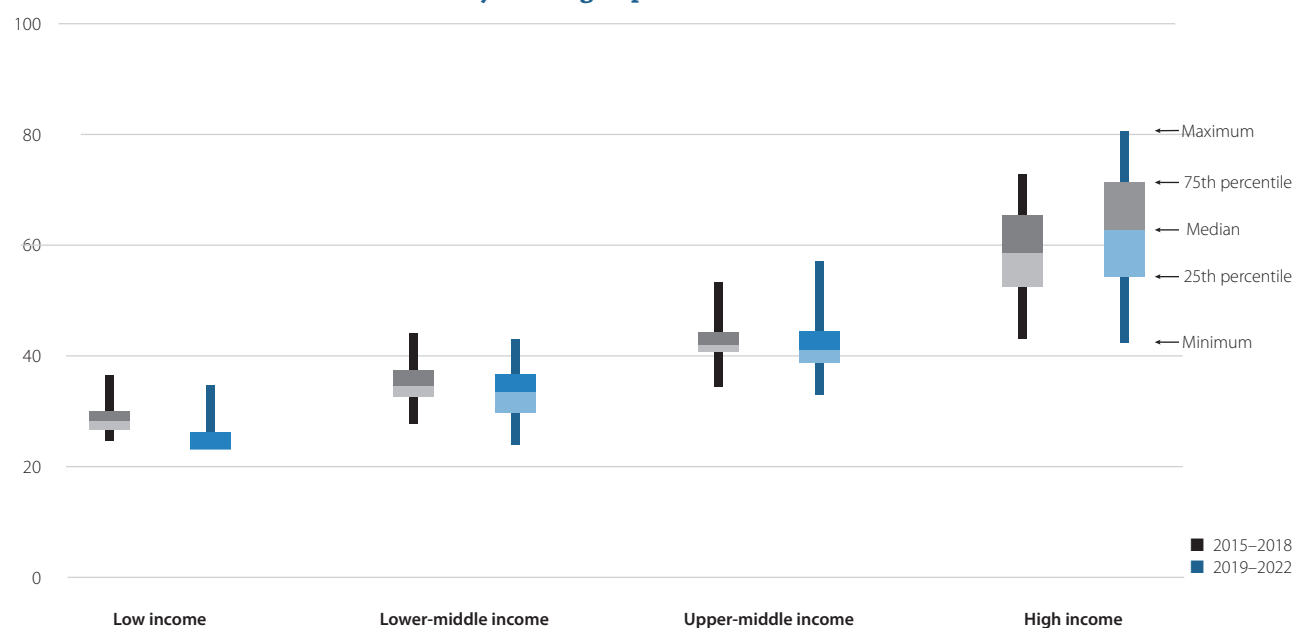
The discussion thus far has centred on the evolution of talent competitiveness at the level of the individual country; it is apparent that the gap between more talent-competitive countries and less talent-competitive countries is, if anything, widening. It has also pointed out that this trend is consistent with differences in income levels and that GTCI scores in higher-income countries have increased, while the opposite has occurred in lower-income countries.

That there appears to have been a divergence of talent competitiveness between higher-income countries and lower-income countries is evident from Figure 15, which summarises the performances of the four income groups in the two four-year periods. The figure illustrates clearly that, whereas high-income countries have improved their GTCI scores over both periods in virtually all percentiles, the converse can be observed with respect to the other three income groups. Within the income groups, it is noteworthy that the boxes in Figure 15 have become longer (the dispersion of GTCI scores has increased, as seen in the Y axis) for high-income countries, upper-middle-income countries, and lower-middle-income countries, which indicates that the talent gap has increased within these groups.

Bearing in mind that some GTCI indicators have changed over the years (which might impact GTCI scores simply because of their different distributions), it is interesting to take a closer look at the evolution of scores at the pillar level for all four income groups. Such an analysis suggests that the two dimensions that—more than any others—have caused the talent divide to widen further are Enable and Grow. Whereas the high-income countries have increased their average scores in both pillars, the other three income groups have seen their average scores in them both drop significantly. It is also telling that the average scores of the high-income group have increased in all six pillars, while they have increased in four pillars in the case of the upper-middle-income group (Attract, Retain, Vocational and Technical Skills, and Global Knowledge Skills), three pillars in the case of the lower-middle-income group (Retain, Vocational and Technical Skills, and Global Knowledge Skills), and in just two pillars in the case of the low-income group (Retain and Vocational and Technical Skills).

Figure 16 shows how talent competitiveness has evolved in different regions. In several ways it tells a similar story insofar as the regions with the greatest shares of talent-competitive countries—Europe and Northern America, but also Eastern, South-eastern Asia and Oceania—have improved their scores at most percentiles between 2015–2018 and 2019–2022. This is in contrast to regions such as Central and Southern Asia and Sub-Saharan Africa, where GTCI scores have tended to decrease over the two periods. Also similar is the seeming trend of greater intra-regional divergence in talent competitiveness. All but one region (Central

Figure 15

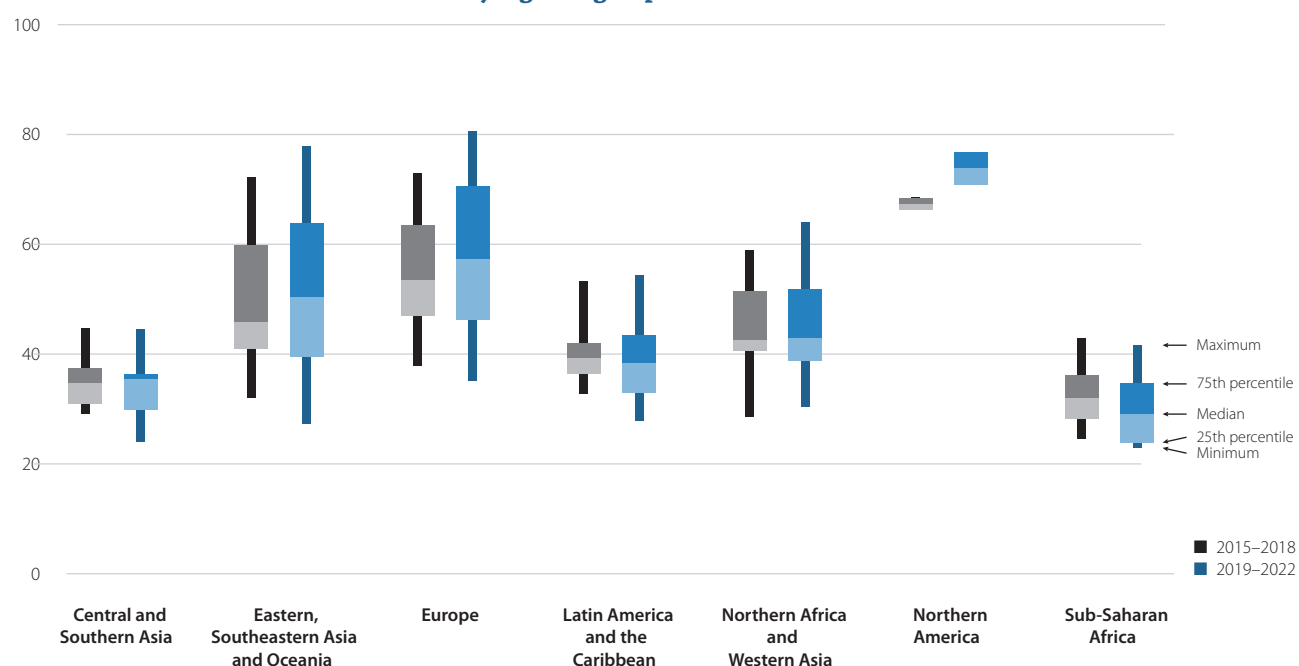
GTCI scores in 2015–2018 and 2019–2022 by income group

Note: Narrow bars indicate maximum and minimum values; wide bars indicate 25th, 50th, and 75th percentiles. Black bars indicate 2015–2018 values and blue bars indicate 2019–2022 values.

and Southern Asia) have seen differences in scores between the 25th percentile and 75th percentile widen in the long term. In the case of the region comprising Northern Africa and Western Asia, this implies that the former sub-region is lagging further behind the latter.

The greater heterogeneity of talent competitiveness in regions than in income groups makes it less clear what dimensions might be primarily driving the divergence in talent among the regions, although average scores with respect to the enabling environment have risen in the top 3 highest scoring

Figure 16

GTCI scores in 2015–2018 and 2019–2022 by regional group

Note: Narrow bars indicate maximum and minimum values; wide bars indicate 25th, 50th, and 75th percentiles. Black bars indicate 2015–2018 values and blue bars indicate 2019–2022 values. The plots for Northern America are without wide bars because they only contain two countries: Canada and the United States.

regions and dropped in the rest. It is also interesting to note that most regions have seen differences in scores widen in most pillars over the two four-year periods.

It is still too soon to say what effect COVID might have on talent competitiveness in the long run. However, as data from 2020 and 2021 have started to be disseminated and analysed, there is good reason to be concerned that talent inequalities—which may already have been growing prior to the pandemic—are being further exacerbated. As this report makes clear, addressing these talent inequalities is imperative for our collective future prosperity and well-being.

ENDNOTES

- 1 World Bank (2022).
- 2 UNDP (2022a).
- 3 See World Bank et al. (2022).
- 4 World Bank et al. (2022).
- 5 See ILO (2021a), cited in Lanvin & Monteiro (2021, p. 6).
- 6 UBS (2022).
- 7 UN (2021).
- 8 World Bank et al. (2022).
- 9 UBS (2022).
- 10 UBS (2022).
- 11 See Cappelli & Keller (2014); Stahl et al. (2012).
- 12 World Bank (2021b).
- 13 The years 2015 and 2016 refer to the results reported in, respectively, *The Global Talent Competitiveness Index 2014* and *The Global Talent Competitiveness Index 2015–16*. The years of the subsequent editions correspond to their titles (e.g., 2017 for *The Global Talent Competitiveness Index 2017*, 2018 for *The Global Talent Competitiveness Index 2018*, and so on). The reason for the apparent year discrepancy is as follows. The GTCI reports are always printed towards the end of the calendar year. The first two editions of the GTCI referred to this in their titles (*The Global Talent Competitiveness Index 2013* and *The Global Talent Competitiveness Index 2014*). However, because the launch of the report used to be held in January, a change was made in the third edition, whereby the title would refer to the launch year. Thus, the third edition became *The Global Talent Competitiveness Index 2015–16* and subsequent editions have had the launch year included in the title.
- 14 One caveat to the results discussed in this section is that the GTCI model has evolved over the years, with the possible implication that a score that changes from one year to the next might primarily reflect a methodological adjustment rather than new data. This potential problem is addressed by averaging the scores across four years (as it implies some smoothing of modifications to the GTCI model) and by focusing the analysis on aggregate overall GTCI scores (which entails a degree of cancelling-out effects).
- 15 More concretely, the country with the best average rank for a four-year period would be ranked 1st, the country with the next-best rank would be ranked 2nd, and so on.

REFERENCES AND FURTHER READINGS

- Akhtar, A. (2020). Meet the 'K-shaped' recession, where professional workers are largely fine and everyone else is doing awful. *Business Insider* 30 September 2020, available at <https://www.businessinsider.com/what-is-a-k-shaped-recovery-coronavirus-pandemic?r=US&IR=T>
- Bianchi, F., Bianchi, G., & Song, D. (2021). The long-term impact of the COVID-19 unemployment shock on life expectancy and mortality rates, NBER Working Paper, No. 28304, available at <http://www.nber.org/papers/w28304>

- Cappelli, P., & Keller, J.R. (2014). Talent management: Conceptual approaches and practical challenges. *Annual Review of Organizational Psychology and Organizational Behavior* 1:305–331.
- Dutta, S., & Lanvin, B. (2023, forthcoming). *Digital sapiens*, Penguin.
- Edelberg, W., & Sheiner, L. (2021). The macroeconomic implications of Biden's \$1.9 trillion fiscal package, Brookings, 28 January 2021, available at <https://www.brookings.edu/blog/up-front/2021/01/28/the-macroeconomic-implications-of-bidens-1-9-trillion-fiscal-package/>
- EC (European Commission). (2020). *Recovery plan for Europe*, available at https://ec.europa.eu/info/strategy/recovery-plan-europe_en
- EC (European Commission). 2021. Commission to invest €14.7 billion from Horizon Europe for a healthier, greener and more digital Europe. Press Release 16 June 2021, available at https://ec.europa.eu/commission/presscorner/detail/en/IP_21_2993
- Evans, P., Rodriguez-Montemayor, E., & Lanvin, B. (2021a). Talent competitiveness, a framework for macro talent management. In *The Routledge companion to talent management*, Tarique, I. (ed.). New York: Routledge.
- Evans, P., Rodriguez-Montemayor, E., & Lanvin, B. (2021b). The Global Talent Competitiveness Index: An empirical assessment and lessons for macro talent management. In *The Routledge companion to talent management*, Tarique, I. (ed.). New York: Routledge.
- German Ministry of Finance. (2020). A stimulus package for everyone in Germany, accessed 25 September 2021, available at <https://www.bundesfinanzministerium.de/Web/EN/Issues/Public-Finances/stimulus-package-for-everyone/stimulus-package-for-everyone.html>
- ILO (International Labour Organization). (2021a). *ILO Monitor: COVID-19 and the world of work*, 7th edition. Updated estimates and analysis, 21 January 2021, available at https://www.ilo.org/wcmsp5/groups/public/-/-dgreports/-/-dcomm/documents/briefingnote/wcms_767028.pdf
- ILO (International Labour Organization). (2021b). *Teleworking arrangements during the COVID-19 crisis and beyond*, available at https://www.ilo.org/global/about-the-ilo/how-the-ilo-works/multilateral-system/g20/reports/WCMS_791858/lang--en/index.htm
- ILO (International Labour Organization). (2022). COVID-19 and labour statistics, available at <https://ilostat.ilo.org/topics/covid-19/#>
- IMF (International Monetary Fund). (2021). Fault lines widen in the global recovery. *Economic Outlook Update* (July 2021). Washington, DC: IMF.
- KPMG. (2020). Brazil: Government and institution measures in response to COVID-19, available at <https://home.kpmg/xx/en/home/insights/2020/04/brazil-government-and-institution-measures-in-response-to-covid.html>
- Lanvin, B., & Evans, P. (eds.) (2017). *The global talent competitiveness index 2017: Talent and technology*. Fontainebleau: INSEAD.
- Lanvin, B., & Evans, P. (eds.) (2018). *The global talent competitiveness index 2018: Diversity for competitiveness*. Fontainebleau: INSEAD.
- Lanvin, B., & Monteiro, F. (eds.) (2019). *The global talent competitiveness index 2019: Entrepreneurial talent and global competitiveness*. Fontainebleau: INSEAD.
- Lanvin, B., & Monteiro, F. (eds.) (2020). *The global talent competitiveness index 2020: Global talent in the age of artificial intelligence*. Fontainebleau: INSEAD.
- Lanvin, B., & Monteiro, F. (eds.) (2021). *The global talent competitiveness index 2021: Talent competitiveness in times of COVID*. Fontainebleau: INSEAD.
- Lanvin, B., & Sultan, O. (2022). *The future is young*. Lausanne: IMD.
- Lasserre, P. & Monteiro, F. (2022, forthcoming). *Global strategic management*, 5th edition, UK: Bloomsbury Publishing.
- Merriam Webster. (n.d.). 'Tectonics'. *Merriam-Webster online dictionary*, retrieved 2022, available at <https://www.merriam-webster.com/dictionary/tectonics>
- OECD (Organisation for Economic Co-operation and Development). (2020a). Insolvency and debt overhang following the COVID-19 outbreak: Assessment of risks and policy responses. *OECD Economic Outlook - Issue Note 2*, available at <https://www.oecd.org/coronavirus/policy-responses/insolvency-and-debt-overhang-following-the-covid-19-outbreak-assessment-of-risks-and-policy-responses-7806f078/>

- OECD (Organisation for Economic Co-operation and Development). (2020b). *Productivity gains from teleworking in the post COVID-19 era: How can public policies make it happen?* OECD, updated 7 September 2020, available at <https://www.oecd.org/coronavirus/policy-responses/productivity-gains-from-teleworking-in-the-post-covid-19-era-a5d52e99/>
- Powell, Chair J. H. 2021. Monetary policy in the time of COVID. Speech delivered at the Macroeconomic Policy in an Uneven Economy economic policy symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming (via webcast), 27 August 2021, available at <https://www.federalreserve.gov/newsevents/speech/powell20210827a.htm>
- Stahl, G. K., Björkman, I., Farndale, E., Morris, S., Paauwe, J., Stiles, P. & Wright, P.M. (2012). Six principles of effective global talent management. *Sloan Management Review*, 53, 25–42 (January 2012).
- Statista. (2020). *Remote work could double permanently*, 16 December 2020, available at <https://www.statista.com/chart/23781/remote-work-teams-departments/>
- Tang, F. (2020). Coronavirus: China unveils US\$500 billion fiscal stimulus, *South China Morning Post*, 22 May 2020, available at <https://www.scmp.com/economy/china-economy/article/3085654/coronavirus-china-unveils-us500-billion-fiscal-stimulus>
- UBS. (2022). Learning for life: A guide for philanthropists and changemakers to bring quality education to all. UBS Philanthropy Services, available at <https://www.ubs.com/global/en/ubs-society/philanthropy/experiences/learning-for-life.html>
- UN (United Nations). (2021). 'Tremendously off track' to meet 2030 SDGs: UN chief. *UN News*, 12 July 2021, available at <https://news.un.org/en/story/2021/07/1095722>
- UNDP (United Nations Development Programme). (2022a). *Addressing the cost-of-living crisis in developing countries: Poverty and vulnerability projections and policy responses*, UNDP, New York, available at <https://www.undp.org/publications/addressing-cost-living-crisis-developing-countries-poverty-and-vulnerability-projections-and-policy-responses>
- UNDP (United Nations Development Programme). (2022b). Home / Sustainable Development Goals / The SDGs in action, available at <https://www.undp.org/sustainable-development-goals>
- Younger, J. (2020). The coronavirus pandemic is driving huge growth in remote freelance work, *Forbes*, 29 March 2020, available at <https://www.forbes.com/sites/jonyounger/2020/03/29/this-pandemic-is-driving-huge-growth-in-remote-freelance-work/?sh=52d325d07747>
- World Bank (2021a). Understanding Poverty: Overview, 15 April 2021, available at <https://www.worldbank.org/en/topic/poverty/overview#1>
- World Bank (2021b). *World Bank Group to discontinue Doing Business Report*. Press Release 16 September 2021, available at <https://www.worldbank.org/en/news/statement/2021/09/16/world-bank-group-to-discontinue-doing-business-report>
- World Bank (2022). *Poverty and shared prosperity 2022: Correcting course*. Washington, DC: World Bank. Available at <https://www.worldbank.org/en/publication/poverty-and-shared-prosperity>
- World Bank, UNICEF, FCDO, USAID, the Bill & Melinda Gates Foundation, in partnership with UNESCO (2022). *The state of global learning poverty: 2022 update*, available at <https://thedocs.worldbank.org/en/doc/e52f55322528903b27f1b7e61238e416-0200022022/original/Learning-poverty-report-2022-06-21-final-V7-0-conferenceEdition.pdf>

Statistical Annex to Chapter 1

OVERVIEW

The statistics in this annex analyse country performance in the GTCI 2022 in terms of its overall score and also in terms of its pillars and sub-pillars. Performance data are broken down in different ways: by top performers (the top 15 GTCI score leaders) and by region and income group (high, upper-middle, lower-middle, and low income).¹

In total, there are 133 countries included in this year's GTCI, down from last year's 134. Of these, 49 are high-income countries, 33 are upper-middle-income countries, 37 are lower-middle-income countries, and 14 are low-income countries. The regional distribution, meanwhile, is as follows: 8 countries from Central and Southern Asia, 15 countries from Eastern, Southeastern Asia and Oceania, 39 countries from Europe, 19 countries from Latin America and the Caribbean, 18 countries from Northern Africa and Western Asia, 2 countries from Northern America, and 32 countries from Sub-Saharan Africa. Two of the covered countries are new since the GTCI 2021 (Benin and Mauritania), while three countries (Tajikistan, the Bolivarian Republic of Venezuela, and Yemen) have dropped out of this year's index because of a lack of available data.

Figure A1 presents the dispersion of GTCI scores by income group and region. Both panels reflect the strong, positive

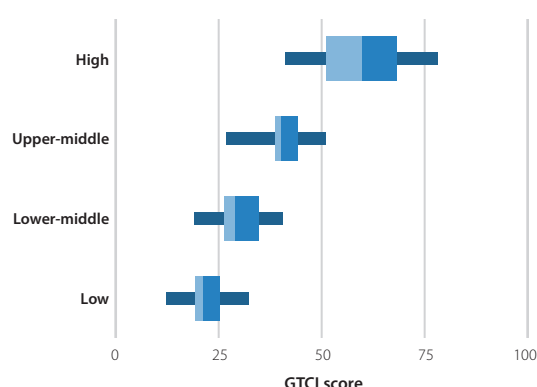
relationship between talent competitiveness and income. Thus, the left panel of the figure clearly shows how higher-income country groups outperform lower-income country groups. This pattern holds true across all distributions: a higher-income country group, at any given quantile, always has higher GTCI scores than a lower-income country group. Indeed, even the worst performers of the high-income countries outscore the median of countries in the upper-middle-income country group. The right panel of Figure A1, which presents score dispersion by region, similarly illustrates the positive relationship between GTCI score and GDP per capita. However, it does so less clearly because regions (Northern America excepted) encompass countries with more wide-ranging income levels. The dispersion of scores consequently tends to be greater among regions than among income groups. As would be expected, those regions with the highest number of countries and with the greatest diversity of countries at different income levels (e.g., Eastern, Southeastern Asia and Oceania) are those that have the highest variation of GTCI scores.

At the country level, year-on-year changes in rankings are to be expected given data updates and the refinements to the GTCI model. Typically, these changes tend to be small and only a few countries experience dramatic climbs or drops in

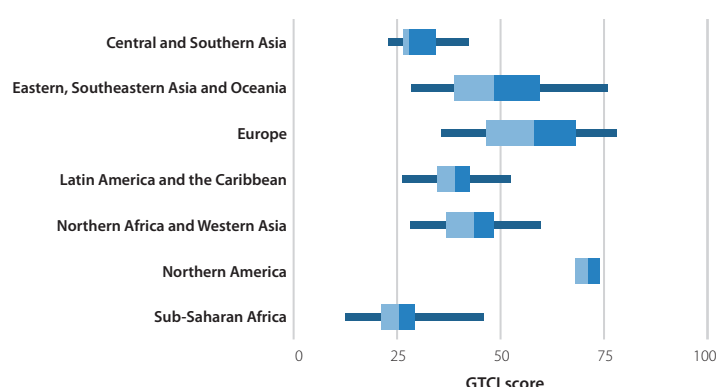
Figure A1

Country dispersion of GTCI scores

By income group



By region



Minimum 25th percentile Median 75th percentile Maximum

Note: The figure for Northern America has only two bars because it contains only two countries: Canada and the United States.

the rankings. However, recent years have been different in two respects. First, the COVID pandemic has upset labour markets—or, more broadly, economies and societies—around the world. Second, quite a few indicators that were used to compute the GTCI have been discontinued; it has therefore been necessary to either remove or, where possible, replace them. The upshot is that the last two editions of the GTCI have seen more changes in the rankings than usual. That said, these movements have by no means been uniform, and some countries have been more affected than others by COVID and/or methodological changes. For instance, whereas the group of countries in the top 25 has stayed identical in the past two years—albeit with permutations within the group—there are 16 countries in the second and third quartiles that have moved 10 positions or more compared with the GTCI 2021 rankings. The expectation is that the GTCI rankings will stabilise from now on.

The top 25 in the GTCI 2022 rankings predominantly consists of European countries, including the world's most talent-competitive country: Switzerland. All Nordic countries but one make it into the top 10 (Denmark, 3rd; Sweden, 5th; Norway, 7th; Finland, 8th; and Iceland, 12th), while Western European countries such as the Netherlands (6th), the United Kingdom (10th), and Luxembourg (11th) are also among the top performers.

Four other regions are also represented in the top 25: Northern America (the United States of America, 4th; Canada, 15th), Eastern and Southeastern Asia (Singapore, 2nd; Japan, 24th), Oceania (Australia, 9th; New Zealand, 18th), and Western Asia (Israel, 23rd; the United Arab Emirates, 25th).

Analysing scores by pillar sheds some light on what might be driving these overall results. Figure A2 therefore depicts the dispersion of GTCI scores by the six key dimensions that make up talent competitiveness. For instance, the Retain pillar has a longer box than the other pillars, which indicates that variability

is greater in that particular dimension than in the others. The Attract pillar box, on the other hand, is not as long as the others. In other words, the performance of countries in retaining talent differs much more than their capacity in attracting skills. Statistical analysis bears out this conclusion.

A detailed overview of country-level performances is provided by the heatmap of Figure A3 on pages 32–33, which presents the overall rankings in the GTCI and those in each pillar, coloured by the quartile to which the rankings of each of the 133 countries belong. A quick glance at the heatmap is sufficient to suggest that countries often have similar rankings in several pillars. For instance, countries ranked in the top quartile overall are, more often than not, also ranked in the top quartile in each of the six pillars. This is particularly the case in the Enable and Global Knowledge Skills pillars, where all but one country is positioned in the top quartile.

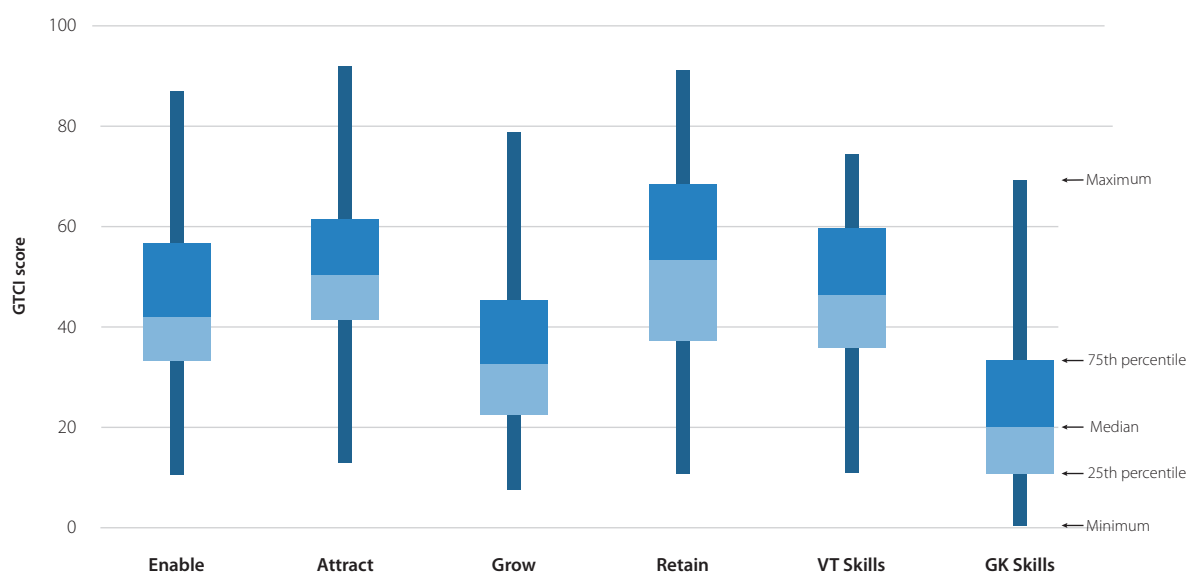
TOP 15 COUNTRIES IN THE GTCI 2022

For the first time since 2018, there is a new country in the top 3 of the GTCI. Switzerland remains the most talent-competitive country in the world, as it has been ever since the first GTCI was launched in 2013. Singapore still occupies 2nd place, a position it has held in every edition apart from GTCI 2020. The United States, however, drops out of the top 3 and finds itself in 4th place in the GTCI 2022. In its stead, Denmark completes the top 3 countries this year, climbing one position compared with last year. This means that the top 3 of GTCI 2022 is identical to that of the first edition in 2013 and that Denmark this year again reaches the highest rank it has achieved so far in talent competitiveness.

The countries that make it into the top 15 in the GTCI 2022 are almost unchanged from last year. The exceptions are Ireland (13th) and New Zealand (18th). Ireland returns to the top 15 after ranking just outside it in the previous edition. New Zealand,

Figure A2

Dispersion of country scores for each pillar



Note: Narrow bars indicate maximum and minimum values; wide bars indicate 25th, 50th, and 75th percentiles. GK Skills = Global Knowledge Skills; VT Skills = Vocational and Technical Skills.

meanwhile, falls three places compared with last year and, for the second time in five years, is once again outside the top 15. Apart from Ireland, the leading talent-competitive countries that improve their ranks the most are Norway (7th), Australia (9th), and the United Kingdom (10th), which all climb two spots in the GTCI 2022. By contrast, Luxembourg (11th) drops three positions, while Iceland (12th) and Canada (15th) are both ranked two places lower than they were last year.

The top 15 performers are not only the most talent-competitive countries overall; they also dominate all the key dimensions of the GTCI. More specifically, the top 3 countries in each pillar also feature among the top 15 countries in the overall index (Table A1). As would be expected, it is the most talent-competitive countries that do well across pillars. Thus, Switzerland and Singapore each make it into the top 3 in four of the six pillars, while the United States features in the top 3 in three pillars and Denmark is a top 3 performer in two pillars. Five other top 15 countries in the overall index have one top 3 rank at the pillar level: Netherlands, Finland, the United Kingdom, Luxembourg, and Iceland.

Another indication of the dominance of the top 15 countries across all dimensions of talent competitiveness is the extent to which they also feature in the top 15 in each pillar. For instance, 13 of the top 15 countries in the overall index count among the top 15 countries in the Attract pillar. The case of the four pillars Enable, Grow, Retain, and Global Knowledge Skills is similar: 12 countries in the top 15 of the overall index are also among the top 15 countries in those pillars. The pillar where the strongest overall GTCI performers are least represented among the highest-ranked countries is Vocational and Technical Skills, which features 10 of the top 15 countries in the overall index.

A few countries outside the top 15 overall are notable for their strong performances in specific dimensions. Above all, New Zealand and Austria (17th) stand out in that they make it into the top 10 in three and two pillars, respectively. Both France (19th) and China (36th) are among the better performers when it comes to growing talent, while Japan features in the top 10 countries in the Enable pillar and the United Arab Emirates (25th) is one of the world's leaders in terms of attracting talent.

Switzerland (1st) remains firmly at the top of the GTCI rankings. As in previous years, the comprehensiveness of its talent competitiveness is particularly impressive, and it features in the top 10 in all six pillars. The country is the global leader when it comes to enabling and retaining talent on the back of excellent performances in all related sub-pillars (including 1st in Sustainability). Switzerland has an impressive pool of Vocational and Technical Skills (2nd) and it also features in the global top 3 in the pillar related to attracting (3rd) talent. The latter pillar would improve even further with greater gender parity, which is the main reason that the country ranks outside the top 10 in the Internal Openness (12th) sub-pillar. Switzerland is outside the top 10 in only two other sub-pillars: Access to Growth Opportunities (16th) and High-Level Skills (15th); but the country's excellent Formal Education (4th), Lifelong Learning (3rd), and Talent Impact (3rd) ensure that it has a strength in growing (4th) talent and in generating Global Knowledge Skills (7th).

Table A1

Countries with highest scores, by pillar

PILLAR	TOP-RANKING COUNTRIES
Enable	Switzerland, Denmark, United States
Attract	Luxembourg, Singapore, Switzerland
Grow	United States, Singapore, Netherlands
Retain	Switzerland, Finland, Denmark
Vocational and Technical (VT) Skills	United States, Switzerland, Singapore
Global Knowledge (GK) Skills	Singapore, United Kingdom, Iceland

Singapore (2nd) retains its position as the second-most talent-competitive country in the world. Above all, it is a global leader in Global Knowledge Skills, where it ranks at the top in both sub-pillars: High-Level Skills and Talent Impact. The city-state also makes it into the top 3 in the pillars related to Attract (2nd), Grow (2nd), and Vocational and Technical Skills (3rd). Of particular note is its world-class Formal Education (1st), Lifelong Learning (2nd), External Openness (4th) towards overseas business and talent, and high degree of Employability (6th). Singapore also impresses with its enabling (5th) environment, where it is the world's best performer when it comes to Regulatory Landscape. The country's main weakness remains its ability to Retain (36th) talent, where it also registers its lowest sub-pillar ranks. Expanding pension coverage and social protection are among the measures that would improve Sustainability (41st), while strengthening personal rights and increasing physician density would boost its rank in the Lifestyle (37th) sub-pillar.

Denmark (3rd) makes it into the top 3 of the GTCI for the first time since the index was launched in 2013, when it also ranked 3rd. Its high rank is the result of consistently strong performances across the board. In fact, along with Switzerland, it is the only country to achieve top 10 positions in each of the six pillars. Denmark reaches its highest rank in the Enable (2nd) pillar, with excellent performances in all three sub-pillars. The country also achieves a top 3 rank in the Retain (3rd) pillar, where its world-class environmental performance and social welfare contribute to high Sustainability (3rd). In the other two Input-related pillars—Attract and Grow (7th in both)—it enjoys considerable Access to Growth Opportunities (3rd) and high Internal Openness (6th), whereas there is particular opportunity to increase External Openness (19th) towards overseas investment and talent. As for the Output-related pillars, Denmark's Vocational and Technical Skills (5th) benefits from an education system that is in tune with the labour market, thereby boosting Employability (7th), while its pool of Global Knowledge Skills (8th) partly rests on a digitally advanced economy and society.

The United States (4th) finds itself outside the top 3 of the GTCI for the first time since the 2017 edition. This drop is in spite of it being the global leader in two pillars: Grow and Vocational and Technical Skills. The country's ability to grow talent is primarily founded on its superior tertiary educational institutions and programmes (Formal Education, 3rd; Lifelong Learning,

Figure A3

Heatmap: Rankings on the GTCI overall and by pillar

COUNTRY	GTCI RANKING	ENABLE	ATTRACT	GROW	RETAIN	VT SKILLS	GK SKILLS
Countries ABOVE the median in the overall GTCI score							
Switzerland	1	1	3	4	1	2	7
Singapore	2	5	2	2	36	3	1
Denmark	3	2	7	7	3	5	8
United States	4	3	21	1	23	1	9
Sweden	5	6	11	12	4	11	5
Netherlands	6	7	10	3	7	12	12
Norway	7	8	14	11	5	4	4
Finland	8	4	9	15	2	6	14
Australia	9	16	5	6	10	34	6
United Kingdom	10	13	13	5	12	36	2
Luxembourg	11	11	1	21	9	21	11
Iceland	12	18	15	23	11	10	3
Ireland	13	19	6	14	15	16	16
Germany	14	15	19	16	8	7	22
Canada	15	14	12	10	19	29	18
Belgium	16	17	17	13	13	14	19
Austria	17	12	16	18	6	9	24
New Zealand	18	10	8	17	14	70	10
France	19	20	25	9	21	22	21
Estonia	20	21	24	29	27	19	13
Czech Republic	21	25	30	25	20	8	23
Malta	22	28	20	28	16	47	20
Israel	23	24	47	32	26	20	15
Japan	24	9	48	22	18	42	34
United Arab Emirates	25	22	4	19	51	38	31
Portugal	26	29	18	24	22	48	25
South Korea	27	23	55	31	25	24	17
Slovenia	28	33	33	26	24	15	27
Spain	29	26	26	20	17	54	32
Cyprus	30	38	22	37	28	43	26
Latvia	31	34	34	30	34	27	28
Lithuania	32	32	32	38	32	46	29
Italy	33	30	42	27	29	28	44
Chile	34	37	35	34	37	40	41
Slovakia	35	43	53	44	33	31	38
China	36	31	87	8	66	52	39
Hungary	37	45	49	40	42	23	35
Qatar	38	27	23	39	74	32	67
Poland	39	41	75	48	45	17	36
Greece	40	51	45	41	31	62	37
Brunei Darussalam	41	50	51	53	43	18	50
Costa Rica	42	40	31	35	35	69	73
Saudi Arabia	43	44	37	33	81	25	52
Uruguay	44	35	29	50	30	71	77
Malaysia	45	36	73	45	55	50	33
Croatia	46	60	72	54	44	37	42
Montenegro	47	61	36	69	50	30	53
Georgia	48	48	40	80	47	35	63
Bahrain	49	47	28	36	71	68	65
Bulgaria	50	53	85	56	41	44	46
Mauritius	51	39	38	90	38	53	78
Serbia	52	69	52	58	70	26	56
Trinidad and Tobago	53	75	43	83	40	39	72
Romania	54	65	77	70	46	33	61
Azerbaijan	55	64	44	79	60	13	84
Armenia	56	59	39	88	48	64	45
Russia	57	77	83	49	73	45	40
Belarus	58	100	82	60	49	41	43
Argentina	59	83	64	51	39	56	76
Oman	60	42	50	61	65	59	91
Kuwait	61	58	27	71	57	93	68
Kazakhstan	62	95	60	67	54	85	30
Colombia	63	68	79	43	80	66	59
Panama	64	72	41	77	64	91	47
Albania	65	63	65	59	68	58	85
Ukraine	66	86	59	75	52	82	51
Moldova	67	94	57	85	72	57	58

(continued on next page)

Figure A3 (continued)

Heatmap: Rankings on the GTCI overall and by pillar

COUNTRY	GTCI RANKING	ENABLE	ATTRACT	GROW	RETAIN	VT SKILLS	GK SKILLS
Countries BELOW the median in the overall GTCI score							
North Macedonia	68	74	78	74	59	61	70
Mexico	69	78	97	42	62	73	69
Botswana	70	52	76	92	53	97	57
Mongolia	71	73	70	73	61	98	48
Jordan	72	46	74	78	58	84	88
Brazil	73	66	91	57	69	77	71
Viet Nam	74	57	67	63	95	65	74
Thailand	75	62	92	62	78	76	66
Jamaica	76	49	54	87	83	72	86
South Africa	77	55	56	81	84	102	60
Peru	78	76	66	47	88	78	87
Cabo Verde	79	54	68	110	56	79	79
Philippines	80	90	102	46	102	63	49
Türkiye	81	80	106	52	79	86	64
Indonesia	82	56	109	66	87	60	100
Kyrgyzstan	83	103	58	94	75	67	89
Lebanon	84	92	80	68	100	74	55
Paraguay	85	97	63	64	76	95	96
Egypt	86	87	112	76	90	51	80
Ecuador	87	98	96	65	67	83	99
Bosnia and Herzegovina	88	91	94	84	85	55	94
Dominican Republic	89	70	71	99	91	75	83
Namibia	90	71	61	103	77	94	101
Tunisia	91	81	119	93	63	105	62
Sri Lanka	92	85	121	105	89	49	97
Bolivia	93	113	117	55	82	100	90
Gambia	94	93	46	116	93	88	127
Ghana	95	67	90	101	101	81	111
Morocco	96	79	115	97	97	115	93
Kenya	97	101	104	96	113	89	92
El Salvador	98	109	116	91	103	87	105
Lao PDR	99	88	99	117	116	103	82
Eswatini	100	102	89	108	99	117	98
India	101	89	130	72	96	118	81
Zambia	102	106	62	122	119	99	104
Cambodia	103	104	69	102	118	104	120
Algeria	104	99	123	95	98	111	95
Benin	105	84	81	124	122	80	129
Rwanda	106	82	86	118	105	125	107
Senegal	107	96	88	125	94	119	125
Guatemala	108	108	124	82	106	107	110
Nigeria	109	117	110	106	123	120	54
Honduras	110	118	118	89	107	106	113
Nepal	111	123	127	120	86	101	109
Iran	112	107	133	98	104	96	75
Pakistan	113	111	126	86	108	110	108
Nicaragua	114	120	101	104	110	108	112
Côte d'Ivoire	115	110	84	107	115	122	118
Malawi	116	115	113	111	109	109	122
Tanzania	117	105	100	113	112	127	123
Zimbabwe	118	128	105	114	128	90	106
Cameroon	119	122	120	100	120	114	103
Lesotho	120	127	111	128	92	123	116
Uganda	121	116	95	112	127	121	126
Bangladesh	122	119	128	119	111	112	115
Guinea	123	114	114	109	131	126	117
Madagascar	124	124	107	121	121	116	124
Mauritania	125	126	125	130	125	92	119
Burundi	126	131	98	115	130	128	133
Mozambique	127	125	108	132	114	129	131
Burkina Faso	128	121	93	133	124	131	114
Mali	129	112	122	127	117	133	130
Angola	130	129	103	126	129	132	102
Ethiopia	131	130	131	123	126	124	121
Congo, Dem. Rep.	132	132	132	129	132	113	128
Chad	133	133	129	131	133	130	132

Note: The darkest colour means the country belongs to the 1st quartile (best performers); medium colour = 2nd quartile; pale colour = 3rd quartile; palest colour = 4th quartile (worst performers). GK Skills = Global Knowledge Skills; VT Skills = Vocational and Technical Skills.

1st), whereas the latter pillar is mainly boosted by its strength in matching people's education and skills with the needs of the economy (Employability, 5th). The United States also features in the top 3 when it comes to enabling (3rd) talent, where it can boast of a world-beating Market Landscape and Business and Labour Landscape, but its Regulatory Landscape (24th) would improve with greater political stability. The country's pool of Global Knowledge Skills (9th) remains excellent thanks to an innovative, digitally advanced economy that results in strong High-Level Skills (7th) and considerable Talent Impact (11th). The two weakest pillars are Attract (21st) and Retain (23rd), where the former would benefit from greater External Openness (24th) towards overseas business and talent and the latter would gain from an improved Lifestyle (45th), including through better personal safety.

Sweden (5th) makes it into the top 10 in three pillars: Retain (4th), Global Knowledge Skills (5th), and Enable (6th). The ability to retain talent is a result of the country's high levels of Sustainability (5th) and Lifestyle (10th), which can be partly attributed to the generous social welfare system. Its strong level of Global Knowledge Skills is reflected in both sub-pillars—High-Level Skills (8th) and Talent Impact (4th)—on the back of a digitally skilled population and an economy founded on research and innovation. The enabling environment, meanwhile, is supported by excellent showings in all three sub-pillars. Favourable social inclusion and gender equality makes Internal Openness (3rd) the highest-ranked sub-pillar. However, the country's ability to Attract (11th) talent is hampered by its lowest-ranked sub-pillar, External Openness (23rd). Sweden is ranked just outside the top 10 in the two remaining pillars—Vocational and Technical Skills (11th) and Grow (12th)—where boosting Employability (18th) by addressing skills gaps should be a priority.

The Netherlands (6th) ranks higher in the Input-related pillars than in the two Output-related pillars. It features in the top 3 when it comes to growing (3rd) talent, thanks to excellent Access to Growth Opportunities (3rd) and its world-class Formal Education (6th) and Lifelong Learning (7th). The Netherlands achieves the same rank in both the Enable and Retain (7th) pillars, where the former dimension is boosted by a Business and Labour Landscape (5th) marked by favourable management practices and high technology adoption among firms, while the latter dimension primarily benefits from strong Sustainability (6th). The final Input-related pillar—Attract (10th)—rests on high degrees of both External Openness (11th), especially towards foreign business, and Internal Openness (14th). As for the Output-related pillars, they are both ranked in the same position (12th). In the case of Vocational and Technical Skills, strong Employability (8th) is offset by lower Mid-Level Skills (26th). As for Global Knowledge Skills, the country boasts an innovative economy founded on strong research capabilities that contribute to a notable Talent Impact (12th).

Norway (7th) achieves its highest ranks in the two Output-related pillars: Vocational and Technical Skills and Global Knowledge Skills (4th in both). In the former pillar, it is the global leader in Employability as a result of its ability to match workforce supply and labour market demand. In the latter pillar, its strengths

in research and digital readiness are factors in its strong Talent Impact (5th) and set of High-Level Skills (6th). Among the Input-related pillars, Norway has a particular advantage in retaining (5th) talent because of its superior Lifestyle (2nd) and Sustainability (8th). It also features in the top 10 when it comes to enabling (8th) talent, with strong performances in all three sub-pillars. Excellent Access to Growth Opportunities (6th) and Formal Education (10th) are the key factors that boost the country's ability to Grow (11th) talent. As in previous years, Norway's main weakness relates to attracting (14th) talent. Its level of Internal Openness (7th) is high, especially in terms of gender equality and tolerance towards minorities, but there is scope to increase the inflow of overseas business and talent, which would raise its degree of External Openness (27th).

Finland's (8th) strongest asset is its ability to Retain (2nd) talent, which is primarily the result of the contributions of its social protection system and its natural environment to Sustainability (2nd). The country is also a leader when it comes to enabling (4th) talent and has a particularly impressive Regulatory Landscape and Business and Labour Landscape (3rd in both), including a high level of technology adoption among firms. Finland also boasts an impressive pool of Vocational and Technical Skills (6th)—mainly due to the high Employability (9th) of its domestic talent—and a strong ability to Attract (9th) talent, although its high level of Internal Openness (2nd, the country's best-ranked sub-pillar along with Sustainability) stands in contrast to its relatively inferior level of External Openness (28th, its lowest-ranked sub-pillar). As for its weakest dimensions—Global Knowledge Skills (14th) and Grow (15th)—Finland's renowned Formal Education (8th) contributes to a high Talent Impact (13th), notably in digital innovation, but there is scope to strengthen Lifelong Learning (22nd).

Australia (9th) returns to the top 10 in the GTCI 2022. It is a top country in the Attract (5th) pillar, which is a result of combining good External and Internal Openness (9th in both sub-pillars)—especially towards talent from overseas. Its excellent level of Formal Education (7th) and strength in High-Level Skills (4th) are two prominent factors behind the country's high ranks in the pillars related to, respectively, Grow and Global Knowledge Skills (6th in both). Australia also benefits from a favourable Lifestyle (8th), which contributes to its ability to Retain (10th) talent. The Enable (16th) pillar is also solid thanks to robust performance in all three sub-pillars (Regulatory Landscape, 12th; Market Landscape, 19th; Business and Labour Landscape, 15th). The country's weakest pillar remains Vocational and Technical Skills (34th), where expanding its number of technicians and associate professionals and addressing issues of skills gaps and skills matching would go some way to improve Mid-Level Skills (36th) and Employability (34th).

The United Kingdom (10th) is one of the top countries in terms of Global Knowledge Skills (2nd). Above all, it has a significant Talent Impact (2nd) thanks to its highly innovative and entrepreneurial economy, and it also has a strong pool of High-Level Skills (9th). Its level of Global Knowledge Skills can be partly traced to the country's superior ability to Grow (5th) talent and, especially, the role of its institutions and programmes at the

tertiary level to develop and nurture skills (5th in both Formal Education and Lifelong Learning). The United Kingdom ranks just outside the top 10 in three pillars: Retain (12th), Enable (13th), and Attract (13th). In retaining talent, the country primarily enjoys a high degree of Sustainability (7th), whereas its Business and Labour Landscape (7th) and External Openness (8th) towards overseas business in particular boost the latter two pillars. Its impressive level of Global Knowledge Skills stands in stark contrast to the country's weak Vocational and Technical Skills (36th), where there is considerable scope to raise Mid-Level Skills (41st) and improve its ability to match workforce supply and labour market demand (28th in Employability).

Luxembourg (11th) is the global leader in attracting talent. Impressively, it makes it into the top 5 in all five indicators that capture the degree of External Openness (1st) towards overseas business and people. The country also boasts a high level of Sustainability (4th), which has a positive impact on its ability to Retain (9th) talent. The two pillars Enable and Global Knowledge Skills (11th in both) are solid, where the former is led by a strong Regulatory Landscape (7th) and the latter benefits from a highly skilled workforce (High-Level Skills, 10th) with a considerable Talent Impact (14th). Luxembourg's weakest pillars are Grow and Vocational and Technical Skills (21st in both). In the case of growing talent, the country's scarce supply of tertiary educational institutions and programmes dampens Formal Education (26th) and Lifelong Learning (23rd). In Vocational and Technical Skills, Luxembourg primarily needs to address skills gaps and improve the Employability (29th) of domestic talent in the private sector.

Iceland (12th) has a clear strength in the Output-related pillars: Global Knowledge Skills (3rd) Vocational and Technical Skills (10th). Its digitally advanced society and economy contribute to the dimensions of the former pillar (High-Level Skills, 2nd; Talent Impact, 7th), while the latter pillar is primarily boosted by the country's exceptional Employability (2nd) of talent. Iceland's best-performing pillar is Retain (11th), which can be mainly attributed to its desirable Lifestyle (5th). The country is second to none in its level of Internal Openness towards domestic talent, including gender equality, and its Access to Growth Opportunities, but the scores of the associated pillars—Attract (15th) and Grow (23rd)—are dampened by its lower levels of External Openness (46th), Formal Education (39th), and Lifelong Learning (49th). As for the enabling (18th) environment, Iceland impresses with its Regulatory Landscape (10th), whereas stimulating greater domestic competition would improve its Market Landscape (28th).

Ireland (13th) features in the top 10 in one pillar: Attract (6th). The country boasts high levels of both External and Internal Openness (ranked 13th and 5th, respectively), which can be traced to its attractiveness to overseas business and a society marked by inclusion and gender equality. Ireland also has a strength in growing (14th) and retaining (15th) talent, led by strong showings in Access to Growth Opportunities (9th) and Sustainability (16th). It ranks 16th in both Output-related pillars: Vocational and Technical Skills and Global Knowledge Skills. In the former case, the relevance of the education system to the economy (14th in Employability) is offset by weaker Mid-Level Skills (31st). In the latter pillar, it puts in robust performances in

both pillars (High-Level Skills, 17th; Talent Impact, 15th). When it comes to enabling (19th) talent, Ireland has a good Regulatory Landscape (16th) and Business and Labour Landscape (17th), whereas its Market Landscape (31st) could be strengthened primarily by promoting greater credit to the private sector.

Germany (14th) is one of the leaders in Mid-Level Skills (2nd), which makes Vocational and Technical Skills (7th) one of two pillars where the country ranks in the top 10. More could be done to address skills gaps and improve Employability (27th), however. The other pillar in which Germany has a particularly strong showing is Retain (8th), as a result of its excellent performances in both sub-pillars (Sustainability, 10th; Lifestyle, 6th). The outstanding Mid-Level Skills stand in contrast to the weaker pool of High-Level Skills (37th), which is Germany's lowest-ranked sub-pillar and stymies Global Knowledge Skills (22nd). The country's Talent Impact (20th) primarily stems from its innovative capacity, whereas there is scope to expand entrepreneurship. The high quality of its tertiary institutions and programmes underpin Formal Education (13th) and Lifelong Learning (10th) in Germany and translate into a good ability to Grow (16th) talent. The remaining two pillars—Enable (15th) and Attract (19th)—achieve their rankings because of consistently solid performances in all related sub-pillars.

Canada (15th) is one of the top 10 performers for growing (10th) talent, which is mainly a result of its formal and non-formal Lifelong Learning (8th) and its good Access to Growth Opportunities (13th). The country also does well in attracting (12th) talent, where the multicultural society contributes to a high level of External and Internal Openness (15th and 11th, respectively) towards foreign talent as well as minorities and immigrants. Canada has a good ability to Enable (14th) talent, which is underpinned by solid performances in all three sub-pillars. The final Input-related pillar—Retain (19th)—benefits from good social Sustainability (18th) but is found wanting when it comes to ecological sustainability. As for the Output-related pillars, Canada's impressive pool of High-Level Skills (5th) boosts its Global Knowledge Skills (18th), although the overall pillar performance is lowered by a Talent Impact (21st) that would rise with greater entrepreneurship. Vocational and Technical Skills (29th) remains its weakest pillar and there is wide scope to expand Mid-Level Skills (42nd).

ANALYSIS BY INCOME AND REGIONAL GROUPS

Given the strong, positive relationship between talent competitiveness and income, it is not surprising to find that the top regional performers almost always belong to higher-income country groups (Table A2). For instance, the only upper-middle-income country in Central and Southern Asia—Kazakhstan (the rest are lower-middle-income countries)—is also the highest-ranked country in the region. The main exception is Costa Rica, which is an upper-middle-income country and finds itself wedged in between two high-income countries—Chile and Uruguay—in the top 3 of the Latin America and the Caribbean region.

The dominance of high-income countries in the GTCI 2022 is such that all of them are placed in the upper half of the

Table A2

Countries with the highest GTCI scores, by income and regional groups

COMPARISON GROUP	TOP 3 SCORERS OF THE GROUP
By region	
Central and Southern Asia	Kazakhstan, Kyrgyzstan, Sri Lanka
Eastern, Southeastern Asia and Oceania	Singapore, Australia, New Zealand
Europe	Switzerland, Denmark, Sweden
Latin America and the Caribbean	Chile, Costa Rica, Uruguay
Northern Africa and Western Asia	Israel, United Arab Emirates, Cyprus
Northern America	United States, Canada
Sub-Saharan Africa	Mauritius, Botswana, South Africa
By income group	
High-income countries	Switzerland, Singapore, Denmark
Upper-middle-income countries	China, Costa Rica, Malaysia
Lower-middle-income countries	Ukraine, Mongolia, Viet Nam
Low-income countries	Gambia, Zambia, Rwanda

rankings and they occupy all positions in the top quartile. Most upper-middle-income countries are ranked in the second and third quartiles (17 and 15 countries, respectively), with China (36th), Costa Rica (42nd), and Malaysia (45th) being the top performers. Only one upper-middle-income country—Guatemala (108th)—is ranked in the bottom quartile. Ukraine (66th) is the sole lower-middle-income country that makes it into upper half of the GTCI 2022. The remaining lower-middle-income countries are found in the third quartile (18 countries) and the bottom quartile (18 countries). All the low-income countries are ranked in the lower half of the rankings, with only one of them—Gambia (94th)—positioned in the third quartile. The remaining 13 low-income countries are found in the bottom quartile.

Europe is the region that features most countries in the top quartile of the GTCI 2022 rankings: 23 out of a total of 33. The remaining European countries are primarily found in the second quartile (14 countries), while two countries—North Macedonia (68th) and Bosnia and Herzegovina (88th)—are positioned in the third quartile. The region comprising Eastern, Southeastern Asia and Oceania features five countries in the top quartile, two of which (Australia and New Zealand) are in Oceania. Three countries from the region that are ranked in the second quartile, while six countries are in the third quartile. Cambodia (103rd) is the only country from the region that is positioned in the bottom quartile. There is a clear distinction between the two geographical areas that make up Northern Africa and Western Asia. All three countries from the region that feature in the top quartile are in Western Asia (Israel, 23rd; the United Arab Emirates, 25th; Cyprus, 30th), as are the eight countries positioned in the second quartile. An additional three Western Asian countries are in the third quartile, but the remaining, lowest-ranked countries are all located in Northern Africa (three of which are in the third quartile and one of which is in the bottom quartile). Chile (34th) is the sole country in the region of Latin America

and the Caribbean that makes it into the top quartile of the GTCI 2022. Six countries from the region are in the second quartile, whereas nine countries are represented in the third quartile. The remaining three countries—all located in Central America—are ranked in the bottom quartile. Neither Central and Southern Asia nor Sub-Saharan Africa are represented in the top quartile. In fact, both regions feature only one country in the upper half of the rankings: Kazakhstan (62nd) and Mauritius (51st). Three countries in Central and Southern Asia are in the third quartile, while four are ranked in the bottom quartile. As for Sub-Saharan Africa, eight countries in the region are positioned in the third quartile and 23 countries are in the bottom quartile. The region with the fewest numbers of countries is Northern America, which consists of the United States and Canada—two top 15 countries.

Income Groups

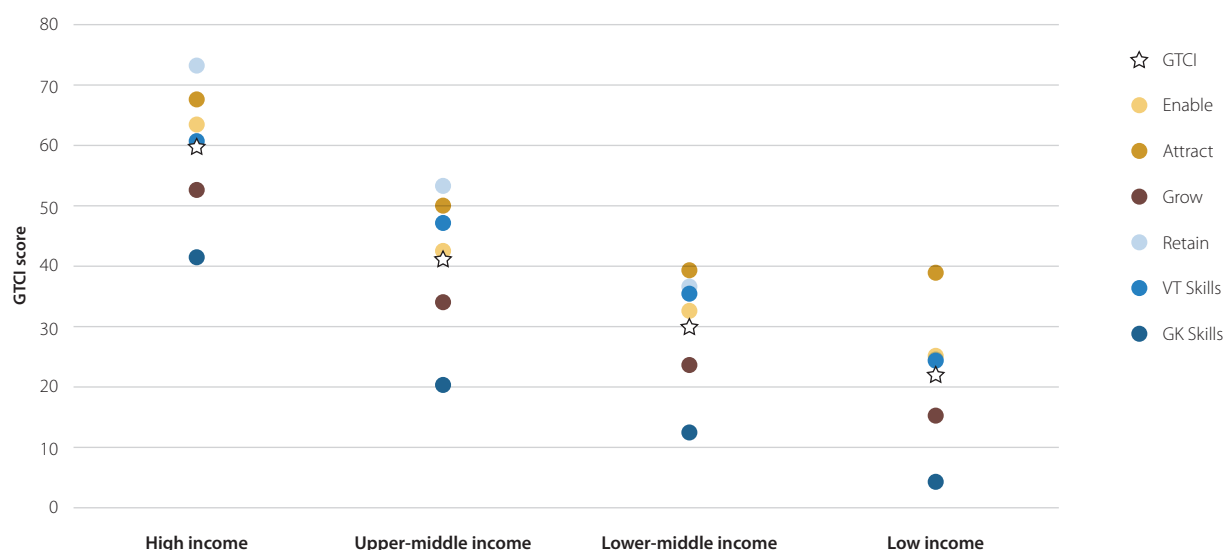
The considerable dominance of high-income countries in the GTCI 2022 rankings is also obvious at the pillar level. This can be seen in Figure A4, which depicts the average score of each income group in each pillar and illustrates clearly that the gaps between high-income countries and other income groups across all six dimensions are particularly wide, especially in the pillars Enable and Retain.

A certain amount of prudence is necessary when comparing scores across pillars because these reflect, to an extent, methodological choices. For instance, the fact that the Grow and Global Knowledge Skills pillars are the ones with the lowest scores in all income groups is a result of the distributions of the indicators that populate these dimensions. That said, it is nonetheless interesting (and valid) to consider how some pillars differ in performance within each income group. Two points stand out from such an analysis. First, it is notable that low-income countries have a relatively high average score in the Attract pillar. Within the low-income country group, the average score in Attract is considerably higher than this group's average scores of the other pillars. Compared with other income groups, the average score in Attract for low-income countries is almost on a par with that of the lower-middle-income country group. Consequently, low-income countries appear to have a relative strength in attracting talent compared with other aspects of talent competitiveness. Second, the Retain pillar is the strongest dimension in high-income countries and upper-middle-income countries, but not in the other two income groups, which suggests that the former two income groups have a particular advantage in this dimension.

One of the strengths of the best-performing countries is that they do well in many, if not all, dimensions of talent competitiveness. A clear example of this is that the top 3 countries—Switzerland, Singapore, and Denmark—feature in the top 10 in all six pillars (with one exception: Singapore in the Retain pillar). The same type of concurrence can be seen among the top performers of the other three income groups (see Table A3a–A3d on pages 38–39). For instance, the most talent-competitive countries in each income group—China, Ukraine, and Gambia—are in the top 3 within their income group in at least three of the

Figure A4

Average pillar scores, by income group



Note: The figure shows the average scores for each pillar of all countries within each group. GK Skills = Global Knowledge Skills; VT Skills = Vocational and Technical Skills.

six pillars. The conclusion to be drawn is that there is a degree of complementarity across the various dimensions of talent competitiveness and that there are positive (or negative, as the case may be) feedback loops among them.

As for country-level performances in each income group, the previous section analysed in detail the top 15 countries, all of which are high-income countries. At the other end of the scale, one finds only five high-income countries outside the top 50: **Trinidad and Tobago** (53rd) **Romania** (54th), **Oman** (60th), **Kuwait** (61st), and **Panama** (64th). Most of these perform better in the pillars related to attracting and retaining talent. The main advantage of Trinidad and Tobago and Romania lies in their pool of Vocational and Technical Skills (39th and 33rd, respectively), although they should ensure this can be maintained by improving their ability to Grow (83rd and 70th, respectively) talent. Kuwait and Panama, in contrast, need to up their Vocational and Technical Skills (93rd and 91st, respectively), especially when it comes to addressing skills gaps and strengthening the Employability (106th and 126th, respectively) of talent. As for Oman, its enabling (42nd) environment is a key advantage, whereas there is particular scope to expand Global Knowledge Skills (91st), including by encouraging tertiary education.

For the first time in the GTCI, **China** (36th) is the foremost upper-middle-income country in the rankings, so we begin our discussion of this income group with China, the highest-ranked BRICS (Brazil, Russia, India, China, and South Africa) member. Above all, it owes its prominent rank to its ability to Grow (8th) talent and, in particular, to its world-class Formal Education (2nd) and impressive Lifelong Learning (6th). China also features in the first quartile when it comes to enabling (31st) talent, where a favourable Market Landscape (10th) characterised by high competition is offset by a weaker Regulatory Landscape (61st). The country is one of the global leaders when it comes to the

Employability (3rd) of talent, but the associated pillar—Vocational and Technical Skills (52nd)—is hampered by low Mid-Level Skills (96th), including a disappointing level of labour productivity. China enjoys a stronger pool of Global Knowledge Skills (39th), which can be mainly attributed to the Talent Impact (25th) of its innovative, entrepreneurial economy. The widespread social security system ensures a solid level of Sustainability (28th)—despite the poor ecological sustainability—while more should be done to improve Lifestyle (97th) in order to raise its ability to Retain (66th) talent. The country's weakest pillar remains its ability to Attract (87th) talent, which would primarily rise with greater External Openness (102nd) towards foreign business and people.

China is followed by the **Russian Federation** (57th), which has a clear strength in the Output-related pillars. In the case of Global Knowledge Skills (40th), the country enjoys a good pool of High-Level Skills (35th) drawn from a highly educated, professional workforce. There is, however, scope to raise digital skills, which would arguably increase Talent Impact (53rd). As for Vocational and Technical Skills (45th), Russia performs consistently well in both sub-pillars (Mid-Level Skills, 46th; Employability, 44th). The country's key strength with respect to the Input-related pillars is its ability to Grow (49th) talent, where the solid Formal Education (31st) stands out. Russia finds itself in the third quartile in the other three pillars: Retain (73rd), Enable (77th), and Attract (83rd). As for retaining talent, strengthening personal rights and safety is needed to improve its Lifestyle (84th). Its enabling environment suffers from a dismal Regulatory Landscape (101st) and Business and Labour Landscape (96th), while the focus should be on raising both External Openness (82nd) and Internal Openness (73rd) to Attract talent.

Brazil (73rd) is the third-best-performing BRICS member in the GTCI 2022. It features in the upper half of the rankings in the

Table A3a

Best performers by income group (rank): High-income countries (49 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE
Switzerland (1)	Switzerland (1)	Luxembourg (1)	United States (1)	Switzerland (1)	United States (1)	Singapore (1)
Singapore (2)	Denmark (2)	Singapore (2)	Singapore (2)	Finland (2)	Switzerland (2)	United Kingdom (2)
Denmark (3)	United States (3)	Switzerland (3)	Netherlands (3)	Denmark (3)	Singapore (3)	Iceland (3)
United States (4)	Finland (4)	UAE (4)	Switzerland (4)	Sweden (4)	Norway (4)	Norway (4)
Sweden (5)	Singapore (5)	Australia (5)	United Kingdom (5)	Norway (5)	Denmark (5)	Sweden (5)
Netherlands (6)	Sweden (6)	Ireland (6)	Australia (6)	Austria (6)	Finland (6)	Australia (6)
Norway (7)	Netherlands (7)	Denmark (7)	Denmark (7)	Netherlands (7)	Germany (7)	Switzerland (7)
Finland (8)	Norway (8)	New Zealand (8)	France (9)	Germany (8)	Czech Republic (8)	Denmark (8)
Australia (9)	Japan (9)	Finland (9)	Canada (10)	Luxembourg (9)	Austria (9)	United States (9)
United Kingdom (10)	New Zealand (10)	Netherlands (10)	Norway (11)	Australia (10)	Iceland (10)	New Zealand (10)

Note: Numbers in parentheses are global ranks in the associated dimension.

Grow (57th) and Enable (66th) pillars. The former dimension benefits from a good Access to Growth Opportunities (43rd), whereas the latter pillar is primarily boosted by a solid Market Landscape (35th). Brazil also performs relatively well in the Retain pillar (69th), where the country's level of Sustainability (53rd) is offset by a Lifestyle (80th) that would improve with greater personal safety. The two Output-related pillars—Vocational and Technical Skills (77th) and Global Knowledge Skills (71st)—include one sub-pillar each where Brazil is positioned in the upper half of the rankings (Mid-Level Skills, 64th; Talent Impact, 59th), while the country's greatest challenge is to improve its ability to match labour supply and market demand (100th in Employability). The country's weakest dimension relates to attracting (91st) talent, where there is a clear need to stimulate greater External Openness (108th), especially towards people from overseas.

South Africa (77th) is the next BRICS member found in the GTCI rankings and makes it into the upper half in three pillars: Enable (55th), Attract (56th), and Global Knowledge Skills (60th). The enabling environment includes the country's highest-ranked sub-pillar—Business and Labour Landscape (43rd)—which benefits from a relatively high technology adoption among firms. The ability to Attract talent rests on solid performances in both sub-pillars, while Global Knowledge Skills is boosted by the Talent Impact (46th) of a fairly entrepreneurial economy. There is considerable room for improvement in most aspects that pertain to the Grow (81st) and Retain (84th) pillars, although the most pressing need is to tackle the lack of personal safety, which would improve Lifestyle (90th). South Africa finds itself in the bottom quartile with respect to Vocational and Technical Skills (102nd), which include contrasting performances in the

Table A3b

Best performers by income group (rank): Upper-middle-income countries (33 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE
China (36)	China (31)	Costa Rica (31)	China (8)	Costa Rica (35)	Azerbaijan (13)	Kazakhstan (30)
Costa Rica (42)	Malaysia (36)	Montenegro (36)	Costa Rica (35)	Mauritius (38)	Serbia (26)	Malaysia (33)
Malaysia (45)	Mauritius (39)	Mauritius (38)	Mexico (42)	Argentina (39)	Montenegro (30)	China (39)
Montenegro (47)	Costa Rica (40)	Armenia (39)	Colombia (43)	Bulgaria (41)	Georgia (35)	Russia (40)
Georgia (48)	Jordan (46)	Georgia (40)	Malaysia (45)	Georgia (47)	Belarus (41)	Belarus (43)
Bulgaria (50)	Georgia (48)	Azerbaijan (44)	Peru (47)	Armenia (48)	Bulgaria (44)	Armenia (45)
Mauritius (51)	Jamaica (49)	Serbia (52)	Russia (49)	Belarus (49)	Russia (45)	Bulgaria (46)
Serbia (52)	Botswana (52)	Jamaica (54)	Argentina (51)	Montenegro (50)	Malaysia (50)	Montenegro (53)
Azerbaijan (55)	Bulgaria (53)	South Africa (56)	Türkiye (52)	Botswana (53)	China (52)	Serbia (56)
Armenia (56)	South Africa (55)	Moldova (57)	Bulgaria (56)	Kazakhstan (54)	Mauritius (53)	Botswana (57)

Note: Numbers in parentheses are global ranks in the associated dimension.

Table A3c

Best performers by income group (rank): Lower-middle-income countries (37 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE
Ukraine (66)	Cabo Verde (54)	Kyrgyzstan (58)	Philippines (46)	Ukraine (52)	Sri Lanka (49)	Mongolia (48)
Mongolia (71)	Indonesia (56)	Ukraine (59)	Bolivia (55)	Cabo Verde (56)	Egypt (51)	Philippines (49)
Viet Nam (74)	Viet Nam (57)	Viet Nam (67)	Viet Nam (63)	Mongolia (61)	Indonesia (60)	Ukraine (51)
Cabo Verde (79)	Ghana (67)	Cabo Verde (68)	Indonesia (66)	Tunisia (63)	Philippines (63)	Nigeria (54)
Philippines (80)	Mongolia (73)	Cambodia (69)	Lebanon (68)	Kyrgyzstan (75)	Viet Nam (65)	Lebanon (55)
Indonesia (82)	Morocco (79)	Mongolia (70)	India (72)	Bolivia (82)	Kyrgyzstan (67)	Tunisia (62)
Kyrgyzstan (83)	Tunisia (81)	Lebanon (80)	Mongolia (73)	Nepal (86)	Lebanon (74)	Viet Nam (74)
Lebanon (84)	Benin (84)	Benin (81)	Ukraine (75)	Indonesia (87)	Cabo Verde (79)	Iran (75)
Egypt (86)	Sri Lanka (85)	Côte d'Ivoire (84)	Egypt (76)	Sri Lanka (89)	Benin (80)	Cabo Verde (79)
Tunisia (91)	Ukraine (86)	Senegal (88)	Pakistan (86)	Egypt (90)	Ghana (81)	Egypt (80)

Note: Numbers in parentheses are global ranks in the associated dimension.

sub-pillars. Whereas the country has a fair level of Mid-Level Skills (54th), it is one of the world's poorest performers when it comes to matching the skills of people with the needs of the economy (130th in Employability).

India (101st) remains the lowest-ranked BRICS member. What is more, it is one of the countries with the largest drop in rankings this year. A major reason for the lower ranking is that business sentiment has plummeted in the past year or two, which presumably is due to a COVID effect. Its talent competitiveness builds primarily on its strength in tertiary education and programmes, which supports Formal Education (73rd) and Lifelong Learning (38th), and, ultimately, the ability to Grow (72nd) talent. The country's advantage in tertiary education is also reflected in its Global Knowledge Skills (81st), especially the Talent Impact (70th) of its innovative economy. A sub-optimal

Business and Labour Landscape (116th) hampers the enabling (89th) environment, while efforts should be focused on improving both Sustainability and Lifestyle (94th in both) in order to raise its ability to Retain (96th) talent. The greatest challenges facing India, however, is to lift its Vocational and Technical Skills (118th) and increase its attraction (130th) of talent. The country is positioned in the bottom quartile of the rankings in all four sub-pillars of these two dimensions.

We turn now to the rest of the middle-income countries. **Costa Rica** (42nd) follows China as the most talent-competitive country in the upper-middle-income country group. Its strengths clearly lie in the Input-related pillars, especially with respect to attracting (31st) talent, which mainly benefits from a high level of Internal Openness (21st). Costa Rica also makes it into the upper half in the three pillars related to Enable (40th),

Table A3d

Best performers by income group (rank): Low-income countries (14 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE
Gambia (94)	Rwanda (82)	Gambia (46)	Guinea (109)	Gambia (93)	Gambia (88)	Zambia (104)
Zambia (102)	Gambia (93)	Zambia (62)	Malawi (111)	Rwanda (105)	Zambia (99)	Rwanda (107)
Rwanda (106)	Zambia (106)	Rwanda (86)	Uganda (112)	Malawi (109)	Malawi (109)	Burkina Faso (114)
Malawi (116)	Mali (112)	Burkina Faso (93)	Burundi (115)	Mozambique (114)	DR Congo (113)	Guinea (117)
Uganda (121)	Guinea (114)	Uganda (95)	Gambia (116)	Mali (117)	Madagascar (116)	Ethiopia (121)
Guinea (123)	Malawi (115)	Burundi (98)	Rwanda (118)	Zambia (119)	Uganda (121)	Malawi (122)
Madagascar (124)	Uganda (116)	Madagascar (107)	Madagascar (121)	Madagascar (121)	Ethiopia (124)	Madagascar (124)
Burundi (126)	Burkina Faso (121)	Mozambique (108)	Zambia (122)	Burkina Faso (124)	Rwanda (125)	Uganda (126)
Mozambique (127)	Madagascar (124)	Malawi (113)	Ethiopia (123)	Ethiopia (126)	Guinea (126)	Gambia (127)
Burkina Faso (128)	Mozambique (125)	Guinea (114)	Mali (127)	Uganda (127)	Burundi (128)	DR Congo (128)

Note: Numbers in parentheses are global ranks in the associated dimension.

Grow (35th), and Retain (35th), with solid performances in all associated sub-pillars. The country finds itself in the lower half of the rankings with respect to the two Output-related pillars (Vocational and Technical Skills, 69th; Global Knowledge Skills, 73rd). Further efforts should primarily be made to raise Mid-Level Skills (78th) and High-Level Skills (88th), including by increasing the education level of the workforce. **Malaysia** (45th) saw its rank decrease significantly over the past year, which is largely due to a dramatic drop in business sentiment. For instance, private sector concerns regarding skills gaps have increased, with an adverse effect on Employability (69th) and, in turn, Vocational and Technical Skills (50th). Similarly, the country's ability to Attract (73rd) talent has fallen partly as a result of fewer opportunities for domestic talent to raise their socioeconomic status (Internal Openness, 103rd). Malaysia's two strongest pillars are Global Knowledge Skills (33rd) and Enable (36th), where the former dimension is boosted by an encouraging Talent Impact (26th) and where the favourable Market Landscape (27th) stands out in the latter pillar.

Ukraine (66th) remains the best-performing lower-middle-income country and the only economy of its income group that is positioned in the upper half of the GTCI 2022 rankings (albeit only just). It should, however, be noted that most data used for the computation of the index predates the Russian invasion of Ukraine. One of the country's key strengths is the level of its tertiary education, which is an important factor for its best-performing sub-pillars High-Level Skills (45th) and Formal Education (51st). However, whereas the former sub-pillar is accompanied by a solid Talent Impact (56th) that together contribute to high Global Knowledge Skills (51st), the latter's support to Grow (75th) talent is cancelled out by a disappointing level of Lifelong Learning (113th)—Ukraine's lowest-ranked sub-pillar.

Mongolia (71st) has two widely contrasting performances in the Output-related pillars. On the one hand, it achieves its best pillar-level ranking in Global Knowledge Skills (48th), which is primarily due to solid High-Level Skills (47th) and Talent Impact (51st). On the other hand, its lowest-ranked pillar is Vocational and Technical Skills (98th), where increasing the number of technicians and associate professionals would enlarge the pool of Mid-Level Skills (89th) and improving the relevance of the education system to the economy would raise Employability (95th). In terms of sub-pillars, Mongolia's strongest and weakest dimensions are both in the Enable (73rd) pillar. Whereas its Business and Labour Landscape (41st) is marked by robust labour rights and technology adoption, the country's Market Landscape (108th) is characterised by low levels of competition and weak ICT infrastructure.

Viet Nam (74th) achieves its highest marks in the Enable (57th) pillar, where the intensity of competition, access to credit, and ICT infrastructure are key reasons for its conducive Market Landscape (41st). The country's most impressive sub-pillar is Employability (17th), but the associated pillar—Vocational and Technical Skills (65th)—is weakened by disappointing Mid-Level Skills (100th), including a lack of technicians and associate professionals. The dimension that checks Viet Nam's overall talent competitiveness the most is its poor ability to Retain (95th) talent, a weakness that stems primarily from the negative impact of the

dismal environmental record on Sustainability (96th) and of the low level of personal rights on Lifestyle (87th).

The best performer of the low-income-country group in the GTCI 2022 is **Gambia** (94th). Above all, the country impresses with its ability to Attract (46th) talent, which is primarily due to its high External and Internal Openness (37th and 68th, respectively) towards foreign and domestic talent, although there is ample room for improvement with respect to gender equality. One of the greatest challenges facing Gambia is the need to expand tertiary education. For one thing, increased tertiary enrolment and investment would be a boon to Formal Education (132nd) and, by extension, the ability to Grow (116th) talent. For another, it would raise High-Level Skills (116th) and Talent Impact (130th), which would increase Global Knowledge Skills (127th). **Zambia** (102nd) finds itself in the upper half of the rankings with respect to attracting (62nd) talent as a result of solid External (69th) and Internal (55th) Openness. The country also has a relative strength in skills matching (64th in Employability), but its low Mid-Level Skills (113th) have a dampening effect on overall Vocational and Technical Skills (99th). Its lowest-ranked pillar relates to growing (122nd) talent, where more needs to be done on all fronts (Formal Education, 133rd; Lifelong Learning, 108th; Access to Growth Opportunities, 113th). The greatest asset of **Rwanda** (106th)—the third-highest-ranking low-income country, is its ability to Enable (82nd) and Attract (86th) talent. Its Regulatory Landscape (52nd) remains a strong point in the former dimension, whereas the latter pillar is primarily lifted by the level of External (84th) and Internal (78th) Openness towards, respectively, foreign and domestic talent. A key priority should be to expand secondary and tertiary education in order to boost Mid-Level Skills (124th) and High-Level Skills (118th), which would, in turn, increase the pools of Vocational and Technical Skills (125th) and Global Knowledge Skills (107th), respectively.

Regional Groups

As discussed at the beginning of this annex with respect to Figure A1, the performances of different regions reflect, to an extent, their respective composition of income groups. For instance, Northern America (which contains only two countries, both of which are in the top 15) and Europe (where almost three-quarters of the countries are high-income countries) clearly outscore Sub-Saharan Africa, which is dominated by low-income and lower-middle-income countries.

This is simply a function of the strong, positive association between talent competitiveness and income level, and it is not surprising to find that this relationship is carried over at the pillar level. Thus, as can be seen in Figure A5, the best-performing regions overall are likewise the top-scoring regions at each pillar (and vice versa for the lowest-ranked regions). In fact, a region's relative rank against other regions in each pillar matches that of the overall GTCI rank in all cases but one. The exception is the ranks of Central and Southern Asia and Sub-Saharan Africa in the Attract pillar: whereas the two regions rank sixth and seventh, respectively, in the GTCI and in all other pillars, they swap places in Attract—with the implication that Sub-Saharan African countries tend to have the edge when it comes to attracting talent.

Further analysis suggests that Sub-Saharan Africa enjoys, on average, both greater External and Internal Openness than the region comprising Central and Southern Asia.

Table A4 lists the top 10 performers by regional group. The remainder of this section looks at each in turn, with a focus on the top-ranked countries in each group.

Central and Southern Asia (8 countries): Seven countries in this region are classified as belonging to the lower-middle-income group, whereas one belongs to the upper-middle-income category. As might be expected, it is the region's sole upper-middle-income country that is its best performer: **Kazakhstan** (62nd). Above all, it boasts a strong pool of High-Level Skills (14th), which is mainly due to its highly educated workforce and which contributes to a position in the top quartile when it comes to Global Knowledge Skills (30th). The country's Mid-Level Skills (79th), on the other hand, need to be expanded, which—coupled with strengthened Employability (87th)—would improve its Vocational and Technical Skills (85th). Its weakest pillar is Enable (95th), where the focus should be on increasing competition and access to credit for a better Market Landscape (102nd) and on improving its labour market, management practices, and technology adoption in the private sector for a more conducive Business and Labour Landscape (104th). **Kyrgyzstan** (83rd) achieves its highest rank in the pillar Attract (58th), which is primarily due to its solid level of External Openness (53rd) towards foreign business and talent. It also makes it into the upper half of the rankings with respect to its pool of Vocational and Technical Skills (67th), where the high share of secondary-educated labour in the workforce stands out and contributes to comparatively good Mid-Level Skills (59th). At the lowest end of the rankings, Kyrgyzstan finds itself in the bottom quartile in one pillar—Enable (103rd)—where its main priority

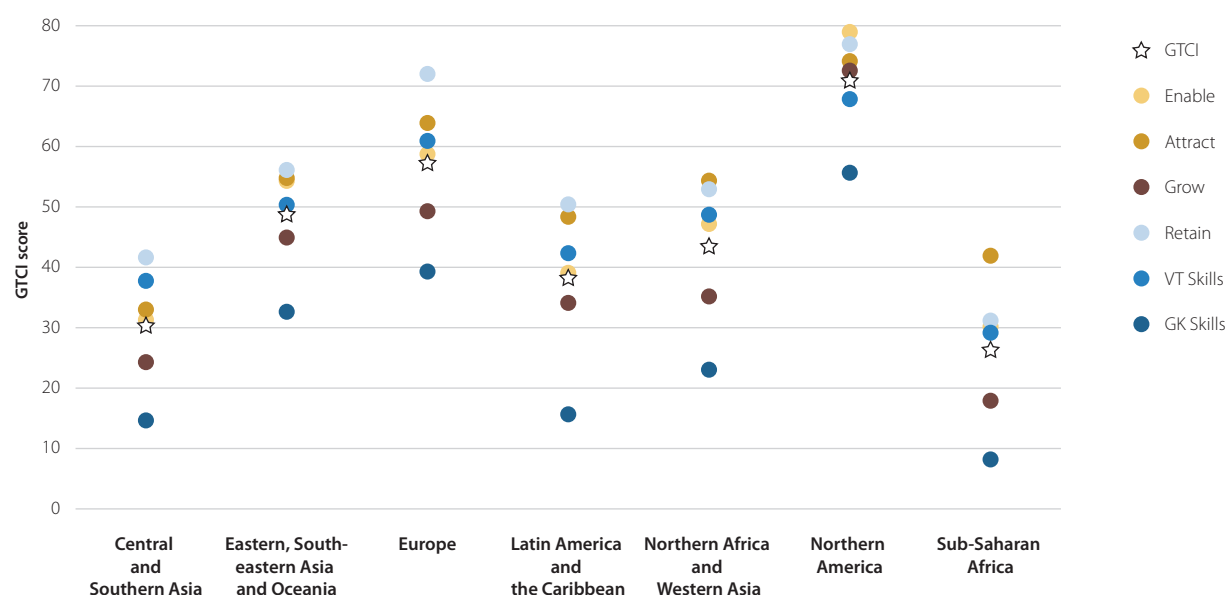
should be on strengthening the Regulatory Landscape (108th) and the Market Landscape (115th). **Sri Lanka** (92nd) has the third-highest score in the region. Of particular note is the country's strength in Vocational and Technical Skills (49th), where robust Mid-Level Skills (49th) combine with a decent ability to match workforce supply and labour market demand (53rd in Employability). The country's weakest dimensions relate to growing (105th) and attracting (121st) talent. The former pillar is primarily held back by discouraging levels of Formal Education (102nd) and Lifelong Learning (115th). Both sub-pillars of the latter dimension are in need of an overhaul and further efforts should be made to raise External Openness (128th) by encouraging a greater inflow of foreign talent and to increase Internal Openness (108th) through greater tolerance towards minorities and better gender equality.

Eastern, Southeastern Asia and Oceania (15 countries):

This is one of the more heterogeneous regions in the GTCI, with 6 high-income countries, 3 upper-middle-income countries, and 6 lower-middle-income countries. Two of the countries—Singapore (2nd) and Australia (11th)—feature in the top 15 and have therefore been discussed above. They are followed by **New Zealand** (18th), a top 10 performer in three pillars: Enable (10th), Attract (8th), and Global Knowledge Skills (10th). Three of the best-performing sub-pillars in these dimensions are one of the world's foremost Regulatory Landscapes (2nd) (including top marks in terms of political stability and lack of corruption); a high level of Internal Openness (4th) to domestic talent; and a considerable Talent Impact (9th), founded on a digitally advanced, entrepreneurial economy. The country's weakest pillar is, as before, its pool of Vocational and Technical Skills (70th). There is considerable scope to expand Mid-Level Skills (38th), but what really drags the pillar down is the sub-pillar related to

Figure A5

Average pillar scores, by regional group



Note: The figure shows the average scores for each pillar of all countries within each group. GK Skills = Global Knowledge Skills; VT Skills = Vocational and Technical Skills.

Table A4

Ten best performers by regional group

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE
Central and Southern Asia (8 countries)						
Kazakhstan (62)	Sri Lanka (85)	Kyrgyzstan (58)	Kazakhstan (67)	Kazakhstan (54)	Sri Lanka (49)	Kazakhstan (30)
Kyrgyzstan (83)	India (89)	Kazakhstan (60)	India (72)	Kyrgyzstan (75)	Kyrgyzstan (67)	Iran (75)
Sri Lanka (92)	Kazakhstan (95)	Sri Lanka (121)	Pakistan (86)	Nepal (86)	Kazakhstan (85)	India (81)
India (101)	Kyrgyzstan (103)	Pakistan (126)	Kyrgyzstan (94)	Sri Lanka (89)	Iran (96)	Kyrgyzstan (89)
Nepal (111)	Iran (107)	Nepal (127)	Iran (98)	India (96)	Nepal (101)	Sri Lanka (97)
Iran (112)	Pakistan (111)	Bangladesh (128)	Sri Lanka (105)	Iran (104)	Pakistan (110)	Pakistan (108)
Pakistan (113)	Bangladesh (119)	India (130)	Bangladesh (119)	Pakistan (108)	Bangladesh (112)	Nepal (109)
Bangladesh (122)	Nepal (123)	Iran (133)	Nepal (120)	Bangladesh (111)	India (118)	Bangladesh (115)
Eastern, Southeastern Asia and Oceania (15 countries)						
Singapore (2)	Singapore (5)	Singapore (2)	Singapore (2)	Australia (10)	Singapore (3)	Singapore (1)
Australia (9)	Japan (9)	Australia (5)	Australia (6)	New Zealand (14)	Brunei Darussalam (18)	Australia (6)
New Zealand (18)	New Zealand (10)	New Zealand (8)	China (8)	Japan (18)	South Korea (24)	New Zealand (10)
Japan (24)	Australia (16)	Japan (48)	New Zealand (17)	South Korea (25)	Australia (34)	South Korea (17)
South Korea (27)	South Korea (23)	Brunei Darussalam (51)	Japan (22)	Singapore (36)	Japan (42)	Malaysia (33)
China (36)	China (31)	South Korea (55)	South Korea (31)	Brunei Darussalam (43)	Malaysia (50)	Japan (34)
Brunei Darussalam (41)	Malaysia (36)	Viet Nam (67)	Malaysia (45)	Malaysia (55)	China (52)	China (39)
Malaysia (45)	Brunei Darussalam (50)	Cambodia (69)	Philippines (46)	Mongolia (61)	Indonesia (60)	Mongolia (48)
Mongolia (71)	Indonesia (56)	Mongolia (70)	Brunei Darussalam (53)	China (66)	Philippines (63)	Philippines (49)
Viet Nam (74)	Viet Nam (57)	Malaysia (73)	Thailand (62)	Thailand (78)	Viet Nam (65)	Brunei Darussalam (50)
Europe (39 countries)						
Switzerland (1)	Switzerland (1)	Luxembourg (1)	Netherlands (3)	Switzerland (1)	Switzerland (2)	United Kingdom (2)
Denmark (3)	Denmark (2)	Switzerland (3)	Switzerland (4)	Finland (2)	Norway (4)	Iceland (3)
Sweden (5)	Finland (4)	Ireland (6)	United Kingdom (5)	Denmark (3)	Denmark (5)	Norway (4)
Netherlands (6)	Sweden (6)	Denmark (7)	Denmark (7)	Sweden (4)	Finland (6)	Sweden (5)
Norway (7)	Netherlands (7)	Finland (9)	France (9)	Norway (5)	Germany (7)	Switzerland (7)
Finland (8)	Norway (8)	Netherlands (10)	Norway (11)	Austria (6)	Czech Republic (8)	Denmark (8)
United Kingdom (10)	Luxembourg (11)	Sweden (11)	Sweden (12)	Netherlands (7)	Austria (9)	Luxembourg (11)
Luxembourg (11)	Austria (12)	United Kingdom (13)	Belgium (13)	Germany (8)	Iceland (10)	Netherlands (12)
Iceland (12)	United Kingdom (13)	Norway (14)	Ireland (14)	Luxembourg (9)	Sweden (11)	Estonia (13)
Ireland (13)	Germany (15)	Iceland (15)	Finland (15)	Iceland (11)	Netherlands (12)	Finland (14)

(continued on next page)

Table A4 (continued)

Ten best performers by regional group

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE
Latin America and the Caribbean (19 countries)						
Chile (34)	Uruguay (35)	Uruguay (29)	Chile (34)	Uruguay (30)	Trinidad and Tobago (39)	Chile (41)
Costa Rica (42)	Chile (37)	Costa Rica (31)	Costa Rica (35)	Costa Rica (35)	Chile (40)	Panama (47)
Uruguay (44)	Costa Rica (40)	Chile (35)	Mexico (42)	Chile (37)	Argentina (56)	Colombia (59)
Trinidad and Tobago (53)	Jamaica (49)	Panama (41)	Colombia (43)	Argentina (39)	Colombia (66)	Mexico (69)
Argentina (59)	Brazil (66)	Trinidad and Tobago (43)	Peru (47)	Trinidad and Tobago (40)	Costa Rica (69)	Brazil (71)
Colombia (63)	Colombia (68)	Jamaica (54)	Uruguay (50)	Mexico (62)	Uruguay (71)	Trinidad and Tobago (72)
Panama (64)	Dominican Rep. (70)	Paraguay (63)	Argentina (51)	Panama (64)	Jamaica (72)	Costa Rica (73)
Mexico (69)	Panama (72)	Argentina (64)	Bolivia (55)	Ecuador (67)	Mexico (73)	Argentina (76)
Brazil (73)	Trinidad and Tobago (75)	Peru (66)	Brazil (57)	Brazil (69)	Dominican Rep. (75)	Uruguay (77)
Jamaica (76)	Peru (76)	Dominican Rep. (71)	Paraguay (64)	Paraguay (76)	Brazil (77)	Dominican Rep. (83)
Northern Africa and Western Asia (18 countries)						
Israel (23)	UAE (22)	UAE (4)	UAE (19)	Israel (26)	Azerbaijan (13)	Israel (15)
UAE (25)	Israel (24)	Cyprus (22)	Israel (32)	Cyprus (28)	Israel (20)	Cyprus (26)
Cyprus (30)	Qatar (27)	Qatar (23)	Saudi Arabia (33)	Georgia (47)	Saudi Arabia (25)	UAE (31)
Qatar (38)	Cyprus (38)	Kuwait (27)	Bahrain (36)	Armenia (48)	Qatar (32)	Armenia (45)
Saudi Arabia (43)	Oman (42)	Bahrain (28)	Cyprus (37)	UAE (51)	Georgia (35)	Saudi Arabia (52)
Georgia (48)	Saudi Arabia (44)	Saudi Arabia (37)	Qatar (39)	Kuwait (57)	UAE (38)	Lebanon (55)
Bahrain (49)	Jordan (46)	Armenia (39)	Türkiye (52)	Jordan (58)	Cyprus (43)	Tunisia (62)
Azerbaijan (55)	Bahrain (47)	Georgia (40)	Oman (61)	Azerbaijan (60)	Egypt (51)	Georgia (63)
Armenia (56)	Georgia (48)	Azerbaijan (44)	Lebanon (68)	Tunisia (63)	Oman (59)	Türkiye (64)
Oman (60)	Kuwait (58)	Israel (47)	Kuwait (71)	Oman (65)	Armenia (64)	Bahrain (65)
Northern America (2 countries)						
United States (4)	United States (3)	Canada (12)	United States (1)	Canada (19)	United States (1)	United States (9)
Canada (15)	Canada (14)	United States (21)	Canada (10)	United States (23)	Canada (29)	Canada (18)
Sub-Saharan Africa (32 countries)						
Mauritius (51)	Mauritius (39)	Mauritius (38)	South Africa (81)	Mauritius (38)	Mauritius (53)	Nigeria (54)
Botswana (70)	Botswana (52)	Gambia (46)	Mauritius (90)	Botswana (53)	Cabo Verde (79)	Botswana (57)
South Africa (77)	Cabo Verde (54)	South Africa (56)	Botswana (92)	Cabo Verde (56)	Benin (80)	South Africa (60)
Cabo Verde (79)	South Africa (55)	Namibia (61)	Kenya (96)	Namibia (77)	Ghana (81)	Mauritius (78)
Namibia (90)	Ghana (67)	Zambia (62)	Cameroon (100)	South Africa (84)	Gambia (88)	Cabo Verde (79)
Gambia (94)	Namibia (71)	Cabo Verde (68)	Ghana (101)	Lesotho (92)	Kenya (89)	Kenya (92)
Ghana (95)	Rwanda (82)	Botswana (76)	Namibia (103)	Gambia (93)	Zimbabwe (90)	Eswatini (98)
Kenya (97)	Benin (84)	Benin (81)	Nigeria (106)	Senegal (94)	Mauritania (92)	Namibia (101)
Eswatini (100)	Gambia (93)	Côte d'Ivoire (84)	Côte d'Ivoire (107)	Eswatini (99)	Namibia (94)	Angola (102)
Zambia (102)	Senegal (96)	Rwanda (86)	Eswatini (108)	Ghana (101)	Botswana (97)	Cameroon (103)

Note: Numbers in parentheses are global ranks in the associated dimension.

Employability (124th), which has slumped compared with previous years. This may, however, well be a temporary blip due to the impact of COVID and finding skilled employees might become easier with the lifting of restrictions. **Japan** (24th) makes it into the top 10 with respect to enabling (9th) talent, which can be mainly attributed to it having a Market Landscape (2nd) that is one of the most favourable in the world. It also enjoys a superior pool of Mid-Level Skills (5th), but the associated pillar—Vocational and Technical Skills (42nd)—is dragged down by a sub-par performance in the Employability (102nd) sub-pillar. As with New Zealand, the dramatic drop in the ease of finding skilled employees might primarily be a temporary impact from COVID. Japan's weakest pillar remains Attract (48th), where there is scope to boost External Openness (56th) towards foreign talent and more efforts to improve gender equality would increase Internal Openness (46th). The ability to Attract (55th) talent is also the main challenge facing the **Republic of Korea (South Korea, 27th)**, where a key priority should be to encourage greater External Openness (75th) towards overseas business and talent. Its strongest pillar is Global Knowledge Skills (17th), which can be attributed to excellent High-Level Skills (18th) and an innovative economy with a significant Talent Impact (16th). Supported by a highly research-intensive climate and a strong ICT infrastructure, South Korea boasts a very conducive Market Landscape (6th). The associated pillar—Enable (23rd)—is, however, held back by a lacklustre Business and Labour Landscape (48th).

Europe (39 countries): The region with the most countries in the GTCI, Europe includes 29 high-income countries, 9 upper-middle-income countries, and 1 lower-middle-income country in this year's edition. Eleven of these feature in the top 15 and have therefore been discussed above. A further three make it into the top 20. The high levels of personal rights and physician density make **Belgium** (16th) the global leader in terms of Lifestyle, although its ability to Retain (13th) talent—one of the country's two strongest pillars—would be even higher with greater Sustainability (19th), including environmental performance. Its other, equally strong pillar is Grow (13th), primarily a result of impressive Formal Education (9th) and Lifelong Learning (11th). At the sub-pillar level, Belgium also makes it into the top 10 with respect to Market Landscape (9th), but its ability to Enable (17th) talent is hampered by a Regulatory Landscape (19th) that would benefit from greater government effectiveness and political stability and a Business and Labour Landscape (18th) that would improve with better labour-employer cooperation. **Austria** (17th) has a clear advantage in the ability to Retain (6th) talent, thanks to the country's social welfare system (9th in Sustainability) and its high level of medical services (3rd in Lifestyle). The country also features in the top 10 with respect to Vocational and Technical Skills (9th), but its strong pool of Mid-Level Skills (6th) is offset by a weaker ability to match labour market demand and workforce supply (24th in Employability). Austria's main challenge, however, is to strengthen its Global Knowledge Skills (24th), where a higher share of senior officials and managers would boost High-Level Skills (27th) and more efforts to foster entrepreneurship would raise Talent Impact (27th). **France** (19th) is a top 10 performer when it comes to growing (9th) talent. Above all, it is one of

the global leaders in Lifelong Learning (4th), but it also enjoys a high-quality Formal Education (15th) and good Access to Growth Opportunities (19th). A high share of technicians and associate professionals boost Mid-Level Skills (20th) in the country, but the associated pillar—Vocational and Technical Skills (22nd)—would rise by addressing concerns related to skills gaps and the difficulty of finding skilled employees (43rd in Employability). The ability to Attract (25th) talent remains France's lowest-ranked pillar, which would improve with greater External Openness (22nd) towards foreign talent and increased Internal Openness (26th) through a higher tolerance towards minorities and immigrants.

Latin America and the Caribbean (19 countries): This region consists primarily of upper-middle-income countries: 11 in total. The 8 remaining countries consist of 4 high-income countries and 4 lower-middle-income countries. **Chile** (34th) remains in the top quartile of the GTCI rankings, albeit only just. As in previous years, the country is noteworthy because of its solid all-round performances, ranging from 34th in the Grow pillar to 41st in the Global Knowledge Skills pillar. Its ability to Grow talent rests primarily on good Access to Growth Opportunities (28th), including by the potential of collaboration through virtual social and professional networks. Chile's highest-ranked sub-pillar is Internal Openness (27th), but greater External Openness (50th) towards foreign talent in particular would raise the ability to Attract (35th) talent further. Costa Rica (42nd) is the region's second-best performer, which, as already discussed in the previous section, is mainly due to its strength in attracting (31st) talent, which itself is primarily a result of its high level of Internal Openness (21st). **Uruguay** (44th) has a clear advantage in the Input-related pillars. It makes it into the top quartile in two of them: Attract (29th) and Retain (30th). In the former dimension, it primarily enjoys a high level of Internal Openness (20th), especially in terms of social inclusion. In the latter dimension, it mainly benefits from a good Lifestyle (26th) that can be traced to solid personal rights and medical services. The two Output-related pillars—Vocational and Technical Skills (71st) and Global Knowledge Skills (77th)—are the country's two weakest dimensions. Among the key priorities are expanding the share of the workforce with secondary and tertiary education, which would result in stronger pools of Mid-Level Skills (95th) and High-Level Skills (87th), respectively. Both economic powerhouses of the region, Brazil (73rd) and **Mexico** (69th), are below the median in terms of GTCI score. Mexico, like Brazil (already discussed above in the context of BRICS), has a relative strength in the Grow pillar (42nd), where its level of Formal Education (44th) and Lifelong Learning (34th) is particularly encouraging. The greatest challenges facing Mexico relate to attracting (97th) talent, mainly as a result of a lack of External Openness (107th) towards foreign business and talent and weak Internal Openness (80th) on issues of social mobility and leadership opportunities for women.

Northern Africa and Western Asia (18 countries): One of the more heterogeneous regions in terms of income group representation, it includes 8 high-income economies, 5 upper-middle-income economies, and 5 lower-middle-income economies. The best performer in the region is **Israel** (23rd), which performs particularly well in the two Output-related dimensions:

Vocational and Technical Skills (20th) and Global Knowledge Skills (15th). In the former pillar, it has a strength in matching people's education and skills with the needs of the economy (15th in Employability). In the latter pillar, its highly educated and skilled workforce result in a world-class pool of High-Level Skills (3rd). The country's highest-ranked Input-related pillar is Enable (24th), where its research-intensive climate contribute to a conducive Market Landscape (13th) and its strong labour rights support the Business and Labour Landscape (21st). The Achilles' heel of Israel's talent competitiveness remains its ability to Attract (47th) talent, which also includes the country's lowest-ranked sub-pillars (External Openness, 43rd; Internal Openness, 59th). By contrast, the key asset of **the United Arab Emirates** (UAE, 25th) is its ability to Attract (4th) talent. Of particular note is its high level of External Openness (2nd) towards foreign talent. The country also ranks in the top 10 in the sub-pillar Access to Growth Opportunities (5th) and has good Lifelong Learning (14th) possibilities, but its performance in the associated pillar—Grow (19th)—is tempered by a weaker Formal Education (52nd), including low vocational enrolment. This weakness is also reflected in mediocre Mid-Level Skills (63rd), although the pillar related to Vocational and Technical Skills (38th) is boosted by how well workforce supply matches labour market demand (10th in Employability). Its most lacklustre performance relates to Retain (51st), where the priority should be on improving Lifestyle (71st) indicators, including on personal rights and safety. **Cyprus** (30th) is still the country with the third-highest rank in the region. It makes it into the top quartile in three pillars: Attract (22nd), Global Knowledge Skills (26th), and Retain (28th). Its ability to Attract talent primarily rests on its External Openness (10th) towards foreign business and human capital, while its strong pool of Global Knowledge Skills is mainly a result of the Talent Impact (23rd) of its entrepreneurial economy. As for retaining talent, its ranks stems from solid performances in both sub-pillars (Sustainability, 27th; Lifestyle, 32nd). The country's main weakness relates to Vocational and Technical Skills (43rd), where there is a need to increase Mid-Level Skills (43rd) and to address concerns of skills gaps and skills matching (51st in Employability).

Northern America (2 countries): Both Northern American economies—the United States (4th) and Canada (15th)—feature in the top 15 high performers of this year's GTCI and have been discussed in detail above. In terms of relative performance, the United States outperforms its northern neighbour in four of the six pillars, with Canada achieving higher scores in the dimensions related to attracting and retaining talent.

Sub-Saharan Africa (32 countries): The region with the weakest performance on average is also the only one that includes low-income countries in its group: 14 in total. Four of the countries in the region are classified in the upper-middle-income group, while another 14 are lower-middle-income countries. As in previous years, the region is headed by **Mauritius** (51st); the only Sub-Saharan African country to make it into the

upper half of the GTCI 2022 rankings. It achieves its highest ranks in the pillars related to attracting and retaining talent (38th in both). The former dimension is primarily lifted by a high level of Internal Openness (30th), while the latter benefits from robust showings in both sub-pillars (42nd in both Sustainability and Lifestyle). The main priority should be to strengthen its ability to Grow (90th) talent, which would be boosted if the quality of tertiary education and programmes were to improve (97th in both Formal Education and Lifelong Learning). The second-best performer in the region is **Botswana** (70th), which achieves its highest rank in the Enable (52nd) pillar, in no small part because of the positive impact of the political stability on its Regulatory Landscape (41st). It also performs well with respect to retaining (53rd) talent, although its solid Sustainability (39th)—Botswana's highest-ranked sub-pillar—is offset by a sub-par Lifestyle (79th) that would improve with better personal safety and medical services. A weak tertiary education has a negative impact on its ability to Grow (92nd) talent and means that the country finds itself in the bottom quartile with respect to one sub-pillar: Formal Education (106th). Botswana's lowest-ranked pillar, however, is Vocational and Technical Skills (97th), where secondary education needs to be expanded to raise Mid-Level Skills (98th). South Africa (77th) is the region's third-best performer. As detailed above in the context of the discussion on BRICS members, the country's strengths include the ability to Enable (55th) and Attract (56th) talent, whereas it faces a challenge in improving the Employability (130th) of its workforce, which would raise Vocational and Technical Skills (102nd). South Africa is followed by **Cabo Verde** (79th), which makes it into the upper half of the rankings in two pillars: Enable (54th) and Retain (56th). The former dimension is boosted by a Regulatory Landscape (44th) that is characterised by strong political stability and a Business and Labour Landscape (47th) that primarily benefits from solid labour rights. As for the latter pillar, a relatively good social safety net and high personal safety contribute to robust levels of Sustainability (52nd) and Lifestyle (66th) that play a role in retaining talent. Going forward, the country primarily needs to focus its efforts on growing (110th) talent, as there is considerable scope for improvement in all associated sub-pillars (Formal Education, 115th; Lifelong Learning, 111th; Access to Growth Opportunities, 93rd).

ENDNOTE

- 1 Countries are grouped according to the World Bank Income Classifications. Economies are divided based on their 2021 gross national income (GNI) per capita, calculated using the World Bank Atlas method (see <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>). The groups are: low income; lower-middle income; upper-middle income; and high income. Regional groups are based on United Nations Regional Classifications: Central and Southern Asia; Eastern, Southeastern Asia and Oceania; Europe; Latin America and the Caribbean; Northern Africa and Western Asia; Northern America; and Sub-Saharan Africa.

CHAPTER 2

JRC Statistical Audit of the Global Talent Competitiveness Index 2022

Michaela Saisana, Giulio Caperna, Ana Rita Neves, and Carlos Moura

European Commission Joint Research Centre

Individual skills and talents, more than capital, are the driving forces that guide human beings towards the future. From 2013 through 2020, the business school INSEAD advanced the Global Talent Competitiveness Index (GTCI); since 2021, it has been released by Portulans Institute. The index aims to summarise complex and versatile concepts related to human capital and talent competitiveness at the national scale worldwide. In so doing, it raises conceptual and practical challenges that are discussed in the GTCI 2022 report. This chapter focuses on the practical challenges related to the data quality and the methodological choices made in the grouping of 69 variables into 14 sub-pillars, six pillars, two sub-indices, and an overall index for 133 countries.

The GTCI 2022 has a very high statistical reliability (it has a Cronbach's alpha value of 0.97) and captures the single latent phenomenon underlying the six main dimensions of the GTCI conceptual framework. Country ranks are also robust to methodological choices related to the treatment of missing values,

weighting, and aggregation rule (with a shift less than or equal to ± 3 positions with respect to the simulated median in 93% of the countries). The added value of the GTCI lies in its ability to summarise different aspects of talent competitiveness in a more efficient and parsimonious manner than is possible with the variables and pillars taken separately. In fact, the overall ranking differs from any of the six pillar rankings by 10 positions or more in at least 32% (and up to 57%) of the countries included in this year's GTCI.

The European Commission's Competence Centre on Composite Indicators and Scoreboards (COIN) at the Joint Research Centre (JRC) has been invited to assess the statistical properties of the GTCI each year since its first release in 2013. This audit represents the ninth analysis of the GTCI performed by the JRC. Overall, the JRC concluded that the GTCI 2022 framework is robust and reliable, with a statistically coherent and balanced multi-level structure. The analysis has been performed in order to ensure the transparency and reliability of the GTCI and thus

to enable policymakers to derive more accurate and meaningful conclusions about human capital and national competitiveness, and potentially to guide their choices on priority setting and policy formulation.

As in the previous audits, the present JRC assessment of the 2022 edition of the GTCI focuses on two main issues: (1) the statistical coherence of the GTCI structure and (2) the impact of key modelling assumptions on the GTCI scores and ranks.¹ The JRC analysis complements the reported country rankings for the GTCI, and for the Input and Output sub-indices, with confidence intervals in order to better appreciate the robustness of these ranks to the computation methodology (in particular, the missing data estimation, weights, and aggregation formula). Furthermore, the JRC analysis includes an assessment of the added value of the GTCI and a comparison with other global measures of attractiveness, competitiveness, and innovation. The version of the GTCI model presented in 2022 is consistent with other international indicator frameworks measuring global innovation, global competitiveness, and global attractiveness at the national level. Furthermore, the GTCI 2022 is proven to offer additional insights into nations' human capital and competitiveness compared to the other indices.

The practical items addressed in this chapter relate to the statistical soundness of the GTCI, which should be considered a necessary (though not necessarily sufficient) condition for a sound index. Given that the present statistical analysis of the GTCI will mostly, though not exclusively, be based on correlations, the correspondence of the GTCI to a real-world phenomenon needs to be critically addressed because *'correlations need not necessarily represent the real influence of the individual indicators on the phenomenon being measured'*.² The point is that the validity of the GTCI relies on the combination of both statistical and conceptual soundness. In this respect, the GTCI has been developed following an iterative process that went back and forth between the theoretical understanding of human capital and talent competitiveness on the one hand, and empirical observations on the other.

STATISTICAL COHERENCE IN THE GTCI FRAMEWORK

The JRC undertook an initial assessment of the GTCI 2022 data set in July–September 2022. The latest GTCI model provided by the development team largely incorporated the issues identified and discussed in previous editions of the audit, with particular attention to the substitution of variables that were previously proven to be not influential on the final values of the index. No critical issues were identified in the 2022 model during this preliminary phase of the audit.

The underlying concepts and indicator framework that are used to describe global talent competitiveness in the GTCI 2022 have remained largely the same as those in the previous edition, although there are some adjustments in this year's GTCI edition (see the Technical Notes for details). Following the iterative process during which the index was fine-tuned, the current assessment of the statistical coherence in this final version of the GTCI 2022 followed four steps:

Step 1: Relevance

Variables were selected for their relevance to a specific pillar on the basis of the literature review, expert opinion, country coverage, and timeliness. To represent a fair picture of country differences, variables were scaled either at the source or by the GTCI team as appropriate and where needed.

Step 2: Data Checks

The data used are the most recently released. The cut-off year was set to 2011. Countries were included if data availability was at least 80% at the index level and at least 40% at the sub-pillar level. As a result, the GTCI 2022 data set comprises 133 countries and 69 variables and has 93.3% data coverage. Data availability is at least 80% at the Input sub-index level and 63% at the Output sub-index level. Potentially problematic variables that could bias the overall results were identified by the GTCI development team as those having absolute skewness greater than 2 and kurtosis greater than 3.5,³ and were treated either by Winsorisation or by taking the natural logarithm (in the case of five or more outliers). These criteria have been adopted since the first release of the GTCI, following the JRC-COIN recommendation.

Step 3: Statistical Coherence

This section presents the JRC's analysis of the statistical coherence of the GTCI 2022, which consists of a principal component analysis to study the structure of the data, a multi-level analysis of the correlations of variables, and a comparison of GTCI rankings with its pillars and with other similar indices. This latter investigation demonstrates the added value of the GTCI both in comparison with its component pillars and vis-à-vis other relevant indices on attractiveness, competitiveness, and innovation.

1. Principal Component Analysis and Reliability Item Analysis

Principal component analysis (PCA) was used to assess the extent to which the conceptual framework is compatible with statistical properties of the data. PCA confirms the presence of a single statistical dimension (i.e., one principal component with an eigenvalue significantly greater than 1.0) in all 14 sub-pillars, which captures 42% (Internal Openness) to 90% (Regulatory Landscape) of the total variance in the underlying variables. A more detailed analysis of the correlation structure within and across the six GTCI pillars confirms the expectation that the sub-pillars are more correlated with their own pillar than with any other. This result suggests that the allocation of sub-pillars to pillars in the GTCI is consistent from both conceptual and statistical perspectives. Furthermore, all correlations within a pillar are positive and similar, and well above 0.7, which suggests that roughly 50% (or more) of the variance in the GTCI pillar scores can be explained by an underlying sub-pillar (see Table 1). These results suggest that the GTCI conceptual grouping of sub-pillars into pillars is statistically confirmed and that the six pillars are statistically well balanced.

The six pillars also share a single statistical dimension that summarises 87% of the total variance, and the six loadings (correlation coefficients) are quite high and very similar to each other,

Table 1

Statistical coherence in the GTCI: Correlations between sub-pillars and pillars

	SUB-PILLAR	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
INPUT	1.1 Regulatory Landscape	0.95	0.88	0.84	0.90	0.78	0.86
	1.2 Market Landscape	0.92	0.73	0.89	0.80	0.77	0.82
	1.3 Business and Labour Landscape	0.94	0.84	0.85	0.83	0.76	0.84
	2.1 External Openness	0.77	0.93	0.71	0.72	0.66	0.72
	2.2 Internal Openness	0.83	0.89	0.77	0.81	0.70	0.77
	3.1 Formal Education	0.84	0.69	0.94	0.84	0.80	0.86
	3.2 Lifelong Learning	0.83	0.72	0.93	0.72	0.67	0.79
	3.3 Access to Growth Opportunities	0.90	0.84	0.93	0.86	0.83	0.87
	4.1 Sustainability	0.90	0.83	0.86	0.95	0.80	0.86
	4.2 Lifestyle	0.83	0.76	0.78	0.95	0.82	0.81
OUTPUT	5.1 Mid-Level Skills	0.74	0.66	0.73	0.83	0.91	0.75
	5.2 Employability	0.69	0.63	0.69	0.61	0.82	0.61
	6.1 High-Level Skills	0.82	0.77	0.84	0.83	0.78	0.95
	6.2 Talent Impact	0.89	0.78	0.88	0.84	0.75	0.96

Source: European Commission, Joint Research Centre (2022).

Note: The values are the bivariate Pearson correlation coefficients ($n = 133$). Shaded values represent the coefficients between sub-pillars and the respective pillar based on the GTCI conceptual framework. Values greater than 0.70 within the shaded areas are desirable as they imply that the pillar captures at least 50% ($\approx 0.70 \times 0.70$) of the variation in the underlying sub-pillars and vice-versa.

ranging from 0.89 (Vocational and Technical Skills pillar) to 0.97 (Enable pillar). The latter suggests that the six pillars contribute in a balanced way to the variation of the GTCI scores, as envisaged by the development team: all six pillars are assigned equal weights. The reliability of the GTCI, measured by the Cronbach's alpha value, is very high at 0.97—well above the 0.70 threshold for a reliable aggregate.⁴

An important part of the analysis relates to clarifying the importance of the Input and Output sub-indices with respect to the variation of the GTCI scores. As mentioned above, the GTCI is built as the simple arithmetic average of the six pillars (four Input sub-pillars and the two Output sub-pillars), which implies that the Input sub-index has a weight of 4/6 versus a weight of 2/6 for the Output sub-index. Yet this does not translate into the Input sub-index being twice as important as the Output sub-pillar in determining the variation of the GTCI scores. In fact, the correlation coefficient between the GTCI scores and the Input or Output sub-index is 0.99 and 0.97, respectively, which suggests that the sub-indices are effectively placed on an equal footing, as envisaged by the developers. Overall, the tests so far show that the grouping of variables into sub-pillars, pillars, and an overall index is statistically coherent, and that the GTCI has a balanced structure, whereby all six pillars are equally important in determining the variation in the GTCI scores.

2. Importance of the Variables in the GTCI Framework

The GTCI and its components are built as the simple arithmetic averages of the underlying variables. Developers and users of composite indicators often consider that the weights assigned to the variables coincide with the variables' importance in the index. However, in practice, the correlation structure of the

variables and their different variances do not always allow the weights assigned to the variables to be considered equivalent to their importance.

This section assesses the importance of all 69 variables at the various levels of aggregation in the GTCI structure. The squared Pearson correlation coefficient (otherwise known as the *coefficient of determination* R^2) is used as a statistical measure of the importance of variables in an index. The importance of the selected variables is taken to be equivalent to the contribution of those variables to the variation of the aggregate scores, whether those are sub-pillars, pillars, sub-indices, or the overall GTCI. The overarching consideration made by the GTCI development team was that all variables should be important at all levels of aggregation. The results of this analysis appear in Table 2. Examining the importance measures of the 69 variables, all variables are important at all levels of aggregation.

For example, country variations in 1.1.1 Government effectiveness scores can capture 94% of the variance in the respective sub-pillar score (Regulatory Landscape), 91% of the variance in the respective pillar (Enable), 88% of the variance in the Input sub-index, and 87% of the variance in the overall GTCI scores. Similarly, country variations in 2.1.2 Financial globalisation scores can capture 73%, 71%, 58%, and 56% of the variance in the External Openness sub-pillar, Attract pillar, Input sub-index, and GTCI scores, respectively.

It is reassuring that all 69 variables in this 2022 edition are found to have a noteworthy impact on the GTCI variance (i.e., at least 10%). The only exception is the 5.2.1 Ease of finding skilled employees indicator: while influential at the sub-pillar pillar where it explains 34% of the variation of the Employability scores, it can explain only 5% of the variation of the GTCI scores.

Table 2

Importance measures for the variables at the various levels of the GTCI structure

	PILLAR	SUB-PILLAR	VARIABLE	SUB-PILLAR	PILLAR	INPUT/OUTPUT	GTCI
INPUT	1. Enable	1.1 Regulatory Landscape	1.1.1 Government effectiveness	94%	91%	88%	87%
			1.1.2 Rule of law	96%	89%	86%	84%
			1.1.3. Political stability	75%	58%	59%	56%
			1.1.4 Regulatory quality	93%	87%	87%	86%
			1.1.5 Corruption	93%	88%	84%	81%
		1.2 Market Landscape	1.2.1 Extent of market dominance	66%	54%	44%	43%
			1.2.2 Domestic credit to private sector	61%	53%	47%	46%
			1.2.3 Cluster development	71%	58%	48%	47%
			1.2.4 R&D expenditure	62%	59%	51%	54%
			1.2.5 ICT infrastructure	80%	73%	74%	76%
			1.2.6 Urbanisation	55%	46%	50%	49%
		1.3 Business Landscape	1.3.1 Labour rights	31%	27%	24%	23%
			1.3.2 Labour-employer cooperation	57%	56%	49%	47%
			1.3.3 Professional management	69%	67%	59%	59%
			1.3.4 Relationship of pay to productivity	50%	54%	48%	49%
			1.3.5 Enterprise software	41%	28%	25%	25%
			1.3.6 Cloud computing	66%	58%	54%	54%
			1.3.7 Firms with website	62%	64%	70%	70%
	2. Attract	2.1 External Openness	2.1.1 FDI regulatory restrictiveness	24%	18%	11%	11%
			2.1.2 Financial globalisation	73%	71%	58%	56%
			2.1.3 Migrant stock	67%	52%	39%	37%
			2.1.4 International students	69%	55%	40%	39%
			2.1.5 Brain gain	36%	35%	25%	23%
		2.2 Internal Openness	2.2.1 Tolerance of minorities	51%	39%	31%	28%
			2.2.2 Tolerance of immigrants	26%	23%	15%	12%
			2.2.3 Social Mobility	54%	60%	63%	62%
			2.2.4 Economic empowerment of women	45%	27%	27%	27%
			2.2.5 Gender parity in high-skilled jobs	40%	20%	27%	28%
			2.2.6 Leadership opportunities for women	39%	42%	37%	38%

(continued on next page)

The impact of the pandemic may partially explain this outcome. Overall, the fact that practically all variables are found to be influential at levels of aggregation in the GTCI 2022 is the direct result of the careful revision of the GTCI framework undertaken by the developers.

3. Added Value of the GTCI

A very high statistical reliability among the main components of an index can be the result of redundancy of information. This is not the case in the GTCI. In fact, the overall GTCI 2022 ranking differs from any of the six pillar rankings by 10 positions or more in at least 32% of the 133 countries included in the 2022 edition, peaking at 57% of the countries in the case of the Attract pillar (see Table 3). This is a desired outcome because it evidences

the added value of the GTCI ranking, which helps to highlight other components of human capital and talent competitiveness that do not emerge directly by looking into the six pillars separately. At the same time, this result also points towards the value of duly taking into account the individual pillars, sub-pillars, and variables on their own merit. By doing so, country-specific strengths and bottlenecks in human capital and talent competitiveness can be identified and serve as an input for evidence-based policymaking.

In addition, the GTCI 2022 is compared with three relevant international indices⁵—the World Intellectual Property Organization (WIPO)'s 2022 Global Innovation Index; the European House Ambrosetti's 2022 Global Attractiveness Index; and the International Institute for Management Development (IMD)'s 2022

Table 2 (continued)

Importance measures for the variables at the various levels of the GTCI structure

	PILLAR	SUB-PILLAR	VARIABLE	SUB-PILLAR	PILLAR	INPUT/OUTPUT	GTCI
INPUT	3. Grow	3.1 Formal Education	3.1.1 Vocational enrolment	44%	24%	20%	22%
			3.1.2 Tertiary enrolment	65%	57%	56%	58%
			3.1.3 Tertiary education expenditure	50%	53%	56%	56%
			3.1.4 Reading, maths, and science	76%	59%	56%	59%
			3.1.5 University ranking	66%	67%	51%	51%
		3.2 Lifelong Learning	3.2.1 Business school ranking	64%	53%	35%	34%
			3.2.2 Prevalence of training in firms	40%	24%	15%	13%
			3.2.3 Employee development	59%	63%	64%	63%
			3.2.4 Formal and non-formal studies	74%	73%	71%	71%
		3.3 Access to Growth Opportunities	3.3.1 Delegation of authority	65%	56%	60%	60%
			3.3.2 Youth inclusion	47%	44%	36%	37%
			3.3.3 Use of virtual social networks	69%	56%	60%	60%
			3.3.4 Use of virtual professional networks	75%	67%	70%	68%
	4. Retain	4.1 Sustainability	4.1.1 Pension coverage	64%	65%	45%	46%
			4.1.2 Social protection	73%	63%	72%	67%
			4.1.3 Brain retention	40%	26%	41%	39%
			4.1.4 Environmental performance	69%	71%	67%	67%
		4.2 Lifestyle	4.2.1 Personal rights	57%	47%	37%	35%
			4.2.2 Personal safety	70%	66%	63%	63%
			4.2.3 Physician density	76%	70%	59%	61%
			4.2.4 Sanitation	62%	59%	50%	52%
OUTPUT	5. Vocational and Technical Skills	5.1 Mid-Level Skills	5.1.1 Workforce with secondary education	66%	50%	36%	26%
			5.1.2 Population with secondary education	77%	55%	40%	31%
			5.1.3 Technicians and associate professionals	76%	68%	72%	69%
			5.1.4 Labour productivity per employee	62%	65%	77%	80%
		5.2 Employability	5.2.1 Ease of finding skilled employees	34%	7%	5%	5%
			5.2.2 Relevance of education system to the economy	69%	45%	47%	50%
			5.2.3 Skills matching	41%	65%	55%	49%
			5.2.4 Highly educated unemployment	36%	17%	14%	12%
	6. Global Knowledge Skills	6.1 Higher-Level Skills	6.1.1 Workforce with tertiary education	79%	71%	69%	64%
			6.1.2 Population with tertiary education	78%	64%	60%	56%
			6.1.3 Professionals	79%	79%	79%	77%
			6.1.4 Researchers	69%	78%	74%	74%
			6.1.5 Senior officials and managers	51%	41%	35%	29%
			6.1.6 Digital skills	28%	16%	14%	18%
		6.2 Talent Impact	6.2.1 Innovation output	81%	75%	74%	75%
			6.2.2 High-value exports	37%	30%	23%	20%
			6.2.3 Software development	81%	77%	69%	72%
			6.2.4 New business density	47%	40%	31%	33%
			6.2.5 Scientific journal articles	84%	83%	77%	78%

Source: European Commission Joint Research Centre (2022).

Note: The values are the squared Pearson correlation coefficients, expressed as percentages ($n = 133$ countries). It is reassuring that almost all 69 variables in this 2022 edition are found to have a noteworthy impact (i.e., at least 10%) on the GTCI variance and the variances of the respective sub-indices, pillars, and sub-pillars. The single variable (5.2.2 Ease of finding skilled employees) for which the coefficients are less than 10% are shaded in white.

Table 3

Distribution of differences between pillar and GTCI rankings

Rank differences with respect to the GTCI 2022	GTCI INPUT SUB-INDEX				GTCI OUTPUT SUB-INDEX	
	Enable	Attract	Grow	Retain	Vocational and Technical Skills	Global Knowledge Skills
30 or more positions	2%	7%	6%	3%	5%	6%
20 to 29 positions	11%	23%	11%	8%	15%	8%
10 to 19 positions	20%	27%	23%	22%	29%	23%
10 or more positions*	33%	57%	40%	32%	50%	36%
5 to 9 positions	25%	20%	29%	26%	19%	29%
Less than 5 positions	36%	17%	29%	35%	29%	31%
0 positions	6%	6%	2%	6%	2%	5%
Total	100%	100%	100%	100%	100%	100%

Source: European Commission Joint Research Centre (2022).

Note: * This row is the sum of the prior three rows.

Table 4

Rank differences between the GTCI 2022 and other international rankings

Rank differences with respect to the GTCI 2022	Global Innovation Index 2022 (Cornell, INSEAD, WIPO)	Global Attractiveness Index 2022 (The European House Ambrosetti)	World Competitiveness Index 2022 (IMD)
More than 30 positions	6%	11%	0%
20 to 29 positions	9%	19%	7%
10 to 19 positions	27%	30%	22%
More than 10 positions*	42%	60%	28%
5 to 9 positions	27%	18%	23%
Less than 5 positions	29%	19%	43%
0 positions	2%	3%	5%
Total	100%	100%	100%
Pearson correlation coefficient with the GTCI	0.93	0.84	0.84
Spearman rank correlation coefficient with the GTCI	0.91	0.87	0.85
Common countries with the GTCI	124	130	60

Source: European Commission Joint Research Centre (2022).

Notes: The comparison between the GTCI and the other indices was based on the common set of countries. *This row is the sum of the prior three rows.

World Competitiveness Index—using the most recent rankings extracted from these projects' websites (see Table 4). The rank correlation between the GTCI 2022 and all three indices is substantially high (correlation ≈ 0.9), which suggests that the GTCI framework is consistent with the frameworks on global innovation, global attractiveness, and global competitiveness. At the same time, looking at the shifts in rankings, 42%, 60%, and 28% of the countries included in the GTCI 2022 that feature in the other three indices differ in ranking by more than 10 positions when comparing the GTCI 2022 with the three selected international indices. This indicates that the GTCI 2022 offers additional insights into nations' human capital and competitiveness compared to the 2022 Global Innovation Index, the 2022 Global Attractiveness Index, and the 2022 World Competitiveness Index.

Step 4: Qualitative Review

Finally, the GTCI results, including overall country classifications and relative performances in terms of the Input and Output sub-indices, were evaluated by the development team and external experts to verify that the overall results are, to a great extent,

consistent with current evidence, existing research, or prevailing theory.

Notwithstanding these statistical tests and the positive outcomes regarding the statistical soundness of the GTCI, it is important to mention that the GTCI has to remain open to future improvements as better data, more comprehensive surveys and assessments, and new relevant research studies and data become available.

IMPACT OF MODELLING ASSUMPTIONS ON THE GTCI RESULTS

Every country score on the overall GTCI and its two sub-indices depends on modelling choices: the six-pillar structure, the selected variables, the imputation or not of missing data, and the weights and aggregation method, among other elements. These choices are based on expert opinion (e.g., selection of variables) or common practice (e.g., min-max normalisation in the [0,100] range) and driven by statistical analysis (e.g., treatment of outliers) or simplicity (e.g., no imputation of missing data). The robustness analysis aims at assessing the simultaneous and joint

impact of these modelling choices on the rankings. The data are assumed to be error-free since potential outliers and any errors and typos were corrected during the computation phase.

As suggested in the relevant literature on composite indicators,⁶ the robustness assessment of the GTCI was based on a combination of a Monte Carlo experiment and a multi-modelling approach that dealt with three issues: pillar weights, missing data, and the aggregation formula. In general, the uncertainty analysis aims to respond to some extent to possible criticisms that the country scores associated with aggregate measures are generally not calculated under conditions of certainty, even though they are frequently presented as such.

While the term *multi-modelling* refers to testing alternative assumptions—that is, alternative aggregation methods and missing data estimation methods—the Monte Carlo simulation explored the issue of weighting and comprised 1,000 runs, each corresponding to a different set of weights for the six pillars, randomly sampled from uniform continuous distributions centred in the reference values. The choice of the range for the weights' variation was driven by two opposite needs: to ensure a wide enough interval to have meaningful robustness checks, and to respect the rationale of the GTCI that places equal importance on all six pillars. Given these considerations, the limit values of uncertainty intervals for the pillar weights are 15% to 35% for the four Input pillars for the calculation of the Input sub-index, and 40% to 60% for the two Output pillars for the calculation of the Output sub-index (see Table 5). For the calculation of the GTCI, the limit values of uncertainty intervals for all six pillar weights are 6% to 26%. In all simulations, sampled weights are rescaled so that they always sum to 1.

The GTCI development team, for transparency and replicability, opted not to estimate the missing data (only 6.7% of data were missing in the data set of 133 countries for all 69 variables). The 'no imputation' choice, which is common in similar contexts, might encourage countries not to report low data values. The consequence of the 'no imputation' choice in an arithmetic

average is that it is equivalent to replacing an indicator's missing value for a given country with the respective mean of the other indicators that are being aggregated. Hence the available data (indicators) in the incomplete pillar may dominate, sometimes biasing the ranks up or down. To test the impact of this assumption, the JRC also estimated missing data using the Expectation Maximisation (EM) algorithm.⁷

Regarding the aggregation formula, decision-theory practitioners have challenged the use of simple arithmetic averages because of their fully compensatory nature, in which a comparatively high advantage for a few variables can compensate for a comparative disadvantage for many variables.⁸ Despite the arithmetic averaging formula receiving statistical support for the development of the GTCI, as discussed in the previous section, the geometric average was considered as a possible alternative. This alternative average is a partially compensatory approach that rewards countries with similar performance in all pillars; it motivates those countries with uneven performance to improve in those pillars in which they perform poorly, and not just in any pillar.

Four models were tested based on the combination of no imputation versus EM imputation, and arithmetic versus geometric average, combined with 1,000 simulations per model (random weights versus fixed weights), for a total of 4,000 simulations for the GTCI and each of the two sub-indices (see Table 5 for a summary of the uncertainties considered in the GTCI 2022).

Uncertainty Analysis Results

The main results of the robustness analysis are shown in Figures 1a–1c, with median ranks and 90% confidence intervals computed across the 4,000 Monte Carlo simulations for the GTCI and the two sub-indices. Countries are ordered from best to worst according to their reference rank, the blue dot being the simulated median rank. Error bars represent, for each country, the 90% interval across all simulations. Table 6 reports the published rankings and the 90% confidence intervals that account for

Table 5

Uncertainty analysis for the GTCI 2022: Missing data, aggregation, and pillar weights

		REFERENCE	ALTERNATIVE
I. Uncertainty in the treatment of missing values		No estimation of missing data	Expectation Maximisation (EM)
II. Uncertainty in the aggregation formula at pillar level		Arithmetic average	Geometric average
III. Uncertainty in the weights			
GTCI sub-index	Pillar	Reference value for the weight (within the sub-index)	Distribution assigned for robustness analysis (within the sub-index)
Input	Enable	0.25	U[0.15, 0.35]
	Attract	0.25	U[0.15, 0.35]
	Grow	0.25	U[0.15, 0.35]
	Retain	0.25	U[0.15, 0.35]
Output	Vocational and Technical Skills	0.50	U[0.40, 0.60]
	Global Knowledge Skills	0.50	U[0.40, 0.60]
		Reference value for the weight (when calculating the overall GTCI)	Distribution assigned for robustness analysis (when calculating the overall GTCI)
Overall GTCI	All six pillars	0.16	U[0.06, 0.26]

Source: European Commission Joint Research Centre (2022).

Figure 1a

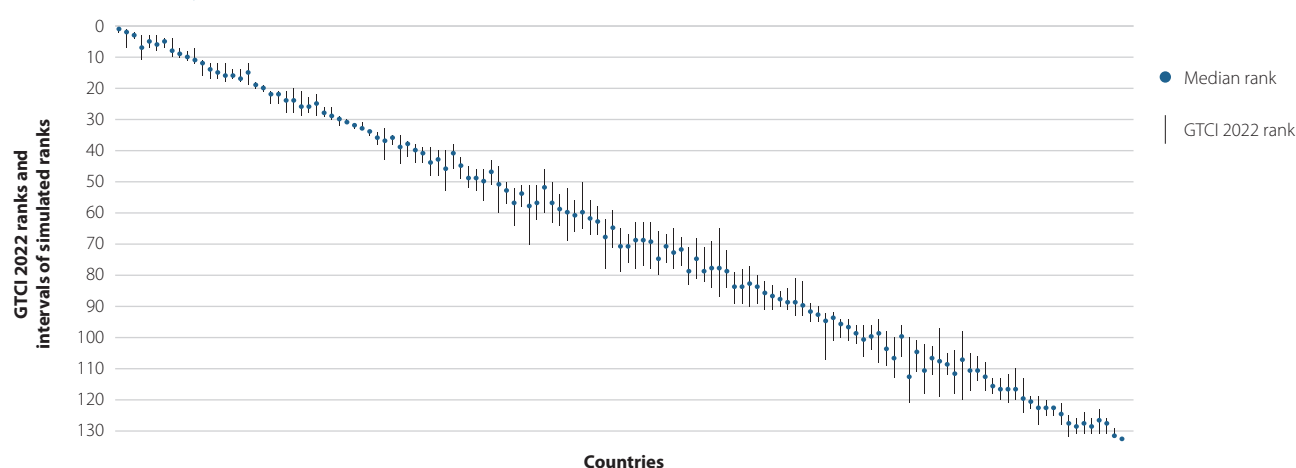
Robustness analysis (GTCI rank vs. median rank, 90% confidence intervals)

Figure 1b

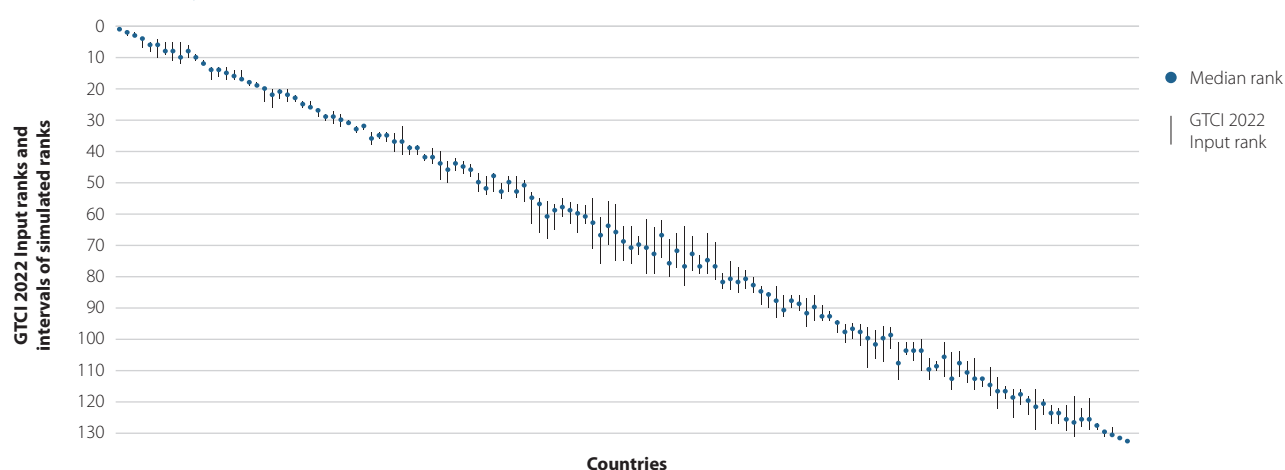
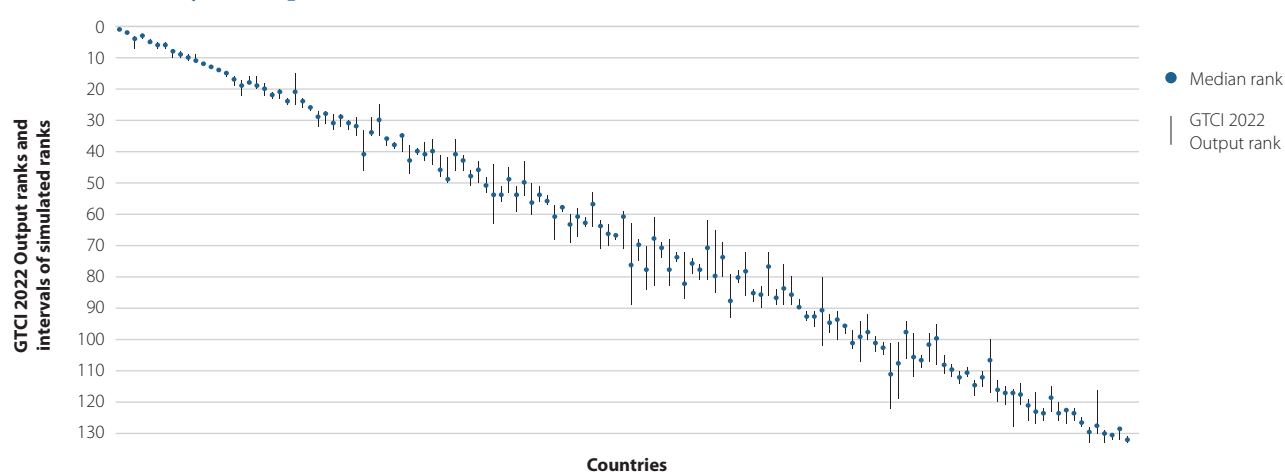
Robustness analysis (Input rank vs. median rank, 90% confidence intervals)

Figure 1c

Robustness analysis (Output rank vs. median rank, 90% confidence intervals)

Source: European Commission Joint Research Centre (2022).

Notes: The Spearman rank correlation between the median rank and the GTCI 2022 rank is 0.999 ($n = 133$); between the median rank and the GTCI 2022 Input rank it is 0.999; and between the median rank and the GTCI 2022 Output rank it is 0.997. Median ranks and intervals are calculated over 4,000 simulated scenarios combining random weights, imputation versus no imputation of missing values, and geometric versus arithmetic average at the pillar level.

Table 6

Country ranks and 90% confidence intervals for the GTCI 2022 and its Input/Output sub-indices

	GTCI 2022		INPUT SUB-INDEX		OUTPUT SUB-INDEX	
	RANK	INTERVAL	RANK	INTERVAL	RANK	INTERVAL
Switzerland	1	[1, 2]	1	[1, 1]	2	[2, 2]
Singapore	2	[1, 7]	6	[4, 10]	1	[1, 1]
Denmark	3	[2, 4]	2	[2, 3]	6	[5, 7]
United States	4	[3, 11]	9	[5, 12]	3	[3, 7]
Sweden	5	[3, 7]	5	[5, 8]	7	[5, 7]
Netherlands	6	[3, 8]	3	[2, 3]	10	[9, 11]
Norway	7	[4, 7]	10	[6, 10]	4	[3, 4]
Finland	8	[4, 10]	4	[4, 7]	8	[8, 10]
Australia	9	[7, 10]	7	[5, 9]	11	[9, 11]
United Kingdom	10	[8, 11]	11	[9, 11]	9	[8, 10]
Luxembourg	11	[7, 12]	8	[5, 11]	12	[12, 12]
Iceland	12	[11, 16]	18	[18, 19]	5	[4, 5]
Ireland	13	[12, 17]	17	[14, 17]	14	[14, 14]
Germany	14	[12, 17]	13	[13, 17]	19	[16, 20]
Canada	15	[12, 18]	15	[13, 17]	17	[17, 22]
Belgium	16	[14, 17]	16	[14, 17]	18	[16, 18]
Austria	17	[14, 18]	14	[13, 16]	21	[21, 23]
New Zealand	18	[12, 19]	12	[11, 12]	24	[15, 25]
France	19	[18, 20]	19	[18, 19]	22	[20, 23]
Estonia	20	[19, 21]	25	[24, 26]	13	[13, 13]
Czech Republic	21	[21, 25]	26	[24, 26]	20	[18, 22]
Malta	22	[21, 25]	23	[20, 24]	25	[23, 26]
Israel	23	[21, 28]	28	[28, 30]	15	[15, 16]
Japan	24	[20, 28]	20	[20, 24]	35	[25, 35]
United Arab Emirates	25	[21, 29]	21	[20, 26]	31	[30, 33]
Portugal	26	[23, 28]	24	[22, 24]	30	[28, 32]
South Korea	27	[22, 29]	29	[27, 31]	16	[16, 19]
Slovenia	28	[26, 29]	27	[27, 29]	23	[23, 25]
Spain	29	[26, 30]	22	[20, 23]	45	[36, 46]
Cyprus	30	[29, 32]	30	[28, 32]	28	[27, 31]
Latvia	31	[30, 31]	33	[32, 33]	26	[26, 27]
Lithuania	32	[32, 33]	32	[32, 34]	32	[29, 35]
Italy	33	[31, 33]	31	[30, 31]	36	[36, 38]
Chile	34	[34, 35]	36	[34, 37]	40	[39, 41]
Slovakia	35	[34, 38]	40	[38, 41]	34	[29, 35]
China	36	[33, 43]	38	[32, 41]	48	[43, 50]
Hungary	37	[35, 38]	41	[41, 43]	29	[28, 33]
Qatar	38	[35, 44]	37	[34, 40]	51	[51, 56]
Poland	39	[37, 42]	46	[43, 47]	27	[27, 32]
Greece	40	[38, 44]	39	[38, 41]	52	[45, 53]
Brunei Darussalam	41	[39, 44]	45	[42, 46]	33	[33, 46]
Costa Rica	42	[39, 48]	35	[34, 36]	69	[68, 75]
Saudi Arabia	43	[40, 48]	44	[43, 50]	39	[38, 47]
Uruguay	44	[40, 53]	34	[34, 38]	77	[76, 81]

(continued on next page)

Table 6 (continued)

Country ranks and 90% confidence intervals for the GTCI 2022 and its Input/Output sub-indices

	GTCI 2022		INPUT SUB-INDEX		OUTPUT SUB-INDEX	
	RANK	INTERVAL	RANK	INTERVAL	RANK	INTERVAL
Malaysia	45	[38, 46]	47	[44, 48]	38	[34, 40]
Croatia	46	[42, 49]	52	[48, 53]	37	[37, 39]
Montenegro	47	[45, 52]	51	[50, 55]	43	[41, 48]
Georgia	48	[46, 53]	48	[47, 53]	49	[48, 53]
Bahrain	49	[46, 56]	42	[39, 44]	65	[63, 70]
Bulgaria	50	[43, 51]	54	[49, 56]	46	[41, 46]
Mauritius	51	[45, 60]	43	[40, 49]	60	[60, 69]
Serbia	52	[50, 57]	59	[55, 61]	44	[42, 50]
Trinidad and Tobago	53	[52, 64]	56	[55, 66]	53	[51, 59]
Romania	54	[51, 58]	60	[56, 63]	47	[46, 51]
Azerbaijan	55	[51, 70]	58	[57, 65]	50	[44, 63]
Armenia	56	[51, 62]	55	[53, 63]	55	[50, 60]
Russia	57	[46, 60]	65	[56, 70]	42	[36, 44]
Belarus	58	[50, 63]	73	[68, 80]	41	[37, 43]
Argentina	59	[54, 64]	53	[48, 55]	64	[62, 71]
Oman	60	[52, 69]	50	[47, 53]	73	[68, 83]
Kuwait	61	[56, 66]	49	[48, 54]	86	[72, 86]
Kazakhstan	62	[50, 65]	67	[64, 75]	54	[43, 54]
Colombia	63	[56, 67]	63	[55, 71]	59	[57, 59]
Panama	64	[58, 67]	61	[57, 66]	67	[59, 71]
Albania	65	[62, 78]	62	[57, 63]	70	[70, 84]
Ukraine	66	[59, 71]	68	[64, 76]	63	[53, 64]
Moldova	67	[65, 79]	80	[79, 84]	57	[54, 57]
North Macedonia	68	[67, 76]	77	[73, 79]	62	[61, 64]
Mexico	69	[63, 78]	66	[57, 75]	74	[72, 75]
Botswana	70	[63, 77]	64	[61, 76]	78	[62, 81]
Mongolia	71	[63, 78]	69	[67, 73]	71	[61, 83]
Jordan	72	[66, 80]	57	[56, 68]	90	[87, 90]
Brazil	73	[67, 76]	72	[62, 74]	76	[74, 79]
Viet Nam	74	[65, 78]	79	[69, 81]	66	[66, 68]
Thailand	75	[68, 77]	76	[67, 78]	72	[69, 74]
Jamaica	76	[71, 83]	71	[64, 79]	85	[83, 90]
South Africa	77	[68, 81]	74	[66, 77]	83	[72, 86]
Peru	78	[71, 82]	70	[62, 79]	87	[84, 89]
Cabo Verde	79	[69, 84]	75	[64, 83]	82	[78, 82]
Philippines	80	[65, 87]	87	[83, 93]	56	[51, 56]
Türkiye	81	[72, 84]	81	[75, 84]	80	[69, 80]
Indonesia	82	[79, 89]	84	[80, 85]	81	[79, 93]
Kyrgyzstan	83	[78, 89]	85	[83, 89]	79	[65, 85]
Lebanon	84	[77, 90]	90	[86, 91]	61	[58, 67]
Paraguay	85	[80, 89]	78	[66, 79]	96	[96, 98]
Egypt	86	[82, 91]	94	[91, 94]	58	[57, 68]
Ecuador	87	[83, 91]	83	[78, 84]	92	[91, 96]
Bosnia and Herzegovina	88	[85, 90]	89	[86, 90]	75	[72, 87]
Dominican Republic	89	[84, 91]	86	[85, 90]	84	[84, 88]

(continued on next page)

Table 6 (continued)

Country ranks and 90% confidence intervals for the GTCI 2022 and its Input/Output sub-indices

	GTCI 2022		INPUT SUB-INDEX		OUTPUT SUB-INDEX	
	RANK	INTERVAL	RANK	INTERVAL	RANK	INTERVAL
Namibia	90	[81, 93]	82	[77, 85]	99	[92, 100]
Tunisia	91	[82, 93]	88	[86, 93]	88	[76, 89]
Sri Lanka	92	[89, 95]	97	[95, 100]	68	[63, 89]
Bolivia	93	[90, 95]	92	[86, 94]	94	[92, 98]
Gambia	94	[92, 107]	91	[87, 96]	103	[101, 119]
Ghana	95	[92, 101]	93	[89, 94]	98	[94, 107]
Morocco	96	[94, 100]	95	[94, 98]	107	[98, 107]
Kenya	97	[94, 101]	104	[101, 105]	91	[91, 94]
El Salvador	98	[96, 102]	102	[96, 103]	97	[97, 103]
Laos	99	[96, 106]	107	[106, 113]	95	[91, 100]
Eswatini	100	[96, 104]	96	[95, 101]	115	[100, 117]
India	101	[94, 108]	101	[96, 107]	108	[95, 108]
Zambia	102	[98, 109]	103	[101, 113]	101	[101, 105]
Cambodia	103	[100, 113]	100	[97, 106]	113	[113, 118]
Algeria	104	[96, 106]	106	[100, 110]	104	[94, 106]
Benin	105	[100, 121]	110	[104, 116]	102	[101, 122]
Rwanda	106	[101, 111]	98	[95, 102]	119	[114, 121]
Senegal	107	[102, 118]	99	[96, 109]	122	[122, 126]
Guatemala	108	[103, 112]	109	[101, 112]	112	[109, 112]
Nigeria	109	[97, 119]	118	[116, 125]	93	[80, 102]
Honduras	110	[105, 112]	111	[104, 112]	111	[110, 114]
Nepal	111	[104, 118]	115	[109, 118]	106	[105, 109]
Iran	112	[98, 120]	121	[116, 129]	89	[80, 89]
Pakistan	113	[105, 117]	113	[106, 116]	110	[108, 112]
Nicaragua	114	[106, 114]	112	[107, 114]	114	[110, 115]
Côte d'Ivoire	115	[108, 117]	105	[101, 107]	121	[117, 127]
Malawi	116	[113, 118]	114	[112, 115]	117	[115, 121]
Tanzania	117	[113, 120]	108	[107, 110]	127	[125, 128]
Zimbabwe	118	[112, 121]	124	[122, 127]	100	[99, 104]
Cameroon	119	[110, 120]	119	[116, 121]	109	[105, 111]
Lesotho	120	[113, 124]	116	[112, 122]	123	[115, 123]
Uganda	121	[119, 123]	117	[115, 119]	125	[123, 127]
Bangladesh	122	[119, 128]	125	[121, 129]	116	[113, 120]
Guinea	123	[120, 125]	120	[118, 124]	124	[120, 126]
Madagascar	124	[122, 125]	122	[119, 124]	120	[119, 126]
Mauritania	125	[121, 128]	130	[130, 131]	105	[98, 112]
Burundi	126	[125, 132]	127	[122, 128]	128	[128, 133]
Mozambique	127	[126, 131]	128	[119, 129]	130	[129, 133]
Burkina Faso	128	[124, 131]	126	[118, 131]	132	[129, 132]
Mali	129	[126, 131]	123	[121, 127]	133	[131, 133]
Angola	130	[123, 131]	129	[127, 129]	129	[116, 130]
Ethiopia	131	[126, 131]	131	[128, 131]	126	[122, 126]
Democratic Republic of the Congo	132	[129, 132]	132	[132, 132]	118	[116, 128]
Chad	133	[133, 133]	133	[133, 133]	131	[130, 132]

Source: European Commission Joint Research Centre (2022).

uncertainties in the missing data estimation, the pillar weights, and the aggregation formula. All published country ranks lay within the simulated intervals, and these are narrow enough for most countries (less than or equal to 10 positions) to allow meaningful inferences to be drawn.

GTCL ranks are shown to be both representative of a plurality of scenarios and robust to changes in the imputation method, the pillar weights, and the aggregation formula. If one considers the median rank across the simulated scenarios as being representative of these scenarios, then the fact that the GTCL rank is close to the median rank (differing by three positions or less) for 93% of the countries suggests that the GTCL is a suitable summary measure. Furthermore, the narrow confidence intervals for the majority of the countries' ranks (less than or equal to 10 positions for 71% of the countries) imply that the GTCL ranks are also, for the vast majority of the countries, robust to changes in the pillar weights, the imputation method, and the aggregation formula.

Results for the Input and Output sub-indices are also robust and representative of the plurality of scenarios considered. The Input rank is close to the median rank (less than or equal to three positions away) for 98% of the countries, and the rank intervals are less than or equal to 10 positions for 82% of the countries. Similarly, the Output rank is close to the median rank (less than or equal to three positions away) for 79% of the countries, and the rank intervals are less than or equal to 10 positions for 79% of the countries.

Overall, country ranks in the GTCL and its two sub-indices are fairly robust to changes in the pillar weights, the imputation method, and the aggregation formula for the majority of the countries considered. For full transparency and information, Table 6 reports the GTCL country ranks (and those of the sub-indices) together with the simulated intervals (90% of the 4,000 scenarios) in order to better appreciate the robustness of these ranks to the computation methodology.

Sensitivity Analysis Results

Complementary to the uncertainty analysis, sensitivity analysis has been used to identify which of the modelling assumptions have the highest impact on certain country ranks. Figure 2 plots the GTCL and both sub-index rankings versus one-at-a-time changes of either the EM imputation method or the geometric aggregation formula (assuming equal weights for the six pillars as in the GTCL).

The most influential methodological assumption turns out to be the choice of not imputing missing data, particularly in the case of the Output sub-index (given that a lower rank correlation indicates greater sensitivity). This choice has a greater impact on differences in ranking for the Output sub-index; it has less impact on differences for the Input sub-index or the overall GTCL 2022. For example, in the most extreme cases, by estimating missing data with the EM algorithm, Mongolia falls by 10 positions in the Output ranking (from 71 down to 81); Kyrgyzstan improves by 14 positions (from rank 79 up to 65). Note, however, that these assumptions—on the weights, aggregation method, and missing data estimation—primarily concern methodological choices

and might overall be less influential than choices related to the background assumptions in the conceptual framework.⁹

Overall, the ranges of uncertainty in the final rankings are fairly modest. Consequently, the JRC recommendation is not to alter the GTCL methodology, but to consider country ranks in the GTCL 2022 and in the Input and Output sub-indices within the 90% confidence intervals, as reported in Table 6, in order to better appreciate to what degree a country's rank depends on the modelling choices. It is reassuring that, for an overwhelming majority of the countries included in the GTCL, their ranks in the overall GTCL 2022 and the Input and Output sub-indices are the result of the underlying data and not of modelling choices.¹⁰

CONCLUSIONS

This ninth edition of the Global Talent Competitiveness Index (GTCL) intends to bring attention to the growing challenges of talent attraction, development, and retention faced by countries worldwide. The JRC statistical audit has investigated the workings of the GTCL framework to assess the statistical properties of the data and the methodology used in constructing the index. The JRC analysis suggests that the conceptualised structure on multiple levels of the GTCL 2022 is statistically coherent and balanced. It is not dominated by any pillar or sub-pillar; all variables contribute to the variation of the respective Input/Output sub-indices and to the overall GTCL. Furthermore, the analysis has offered statistical justification for the use of equal weights and arithmetic averaging at the various levels of aggregation. It has shown that the GTCL is statistically reliable in its current form as the simple average of the six pillars (as measured by a very high Cronbach's alpha value of 0.97, well above the recommended 0.70 threshold for a reliable aggregate).

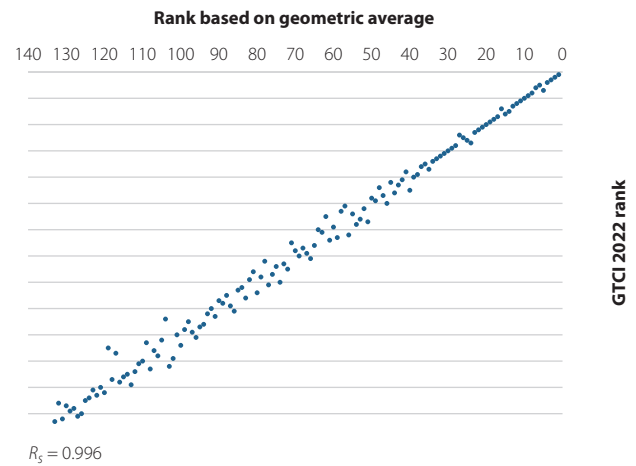
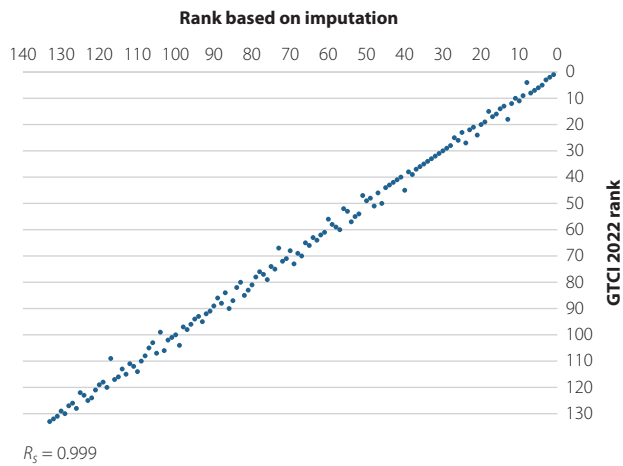
It is reassuring that all 69 variables in this 2022 edition are found to have a noteworthy impact on the GTCL variance (i.e., at least 10%); the only exception—the 5.2.1 Ease of finding skilled employees (which can explain only 5% of the GTCL variance)—may be due to the influence of the pandemic. Overall, the fact that practically all variables are found to be influential at levels of aggregation in the GTCL 2022 is the direct result of the careful revision of the GTCL framework undertaken by the developers.

The GTCL and both sub-index country ranks are relatively robust to methodological assumptions related to the estimation of missing data, weighting, and the aggregation formula. It is reassuring that for a large majority of the countries included in the GTCL, the overall rank and those in the Input and Output sub-indices are the result of the underlying data and not of the modelling choices. Consequently, inferences can be drawn for most countries in the GTCL. Note that perfect robustness would have been undesirable because this would have implied that the GTCL components are perfectly correlated and hence redundant, which is not the case for the GTCL 2022. In fact, one way in which the GTCL helps to highlight other components of human capital and talent competitiveness is by pinpointing the differences in rankings that emerge from a comparison between the GTCL and each of the six pillars. In the analysis, the GTCL ranking differs from any of the six pillar rankings by 10 positions or more for at least 32% (up to almost 57%) of the countries. This outcome both

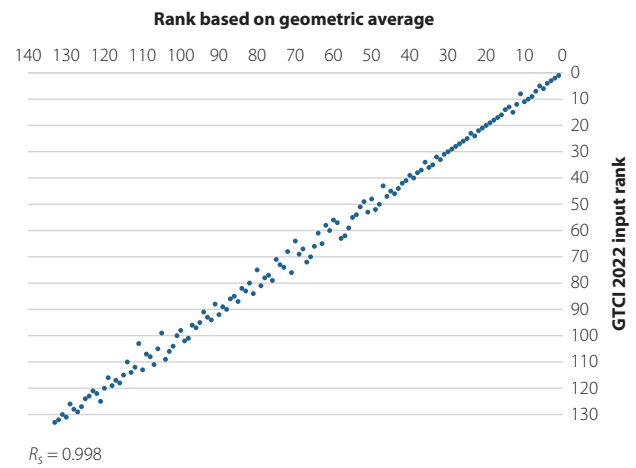
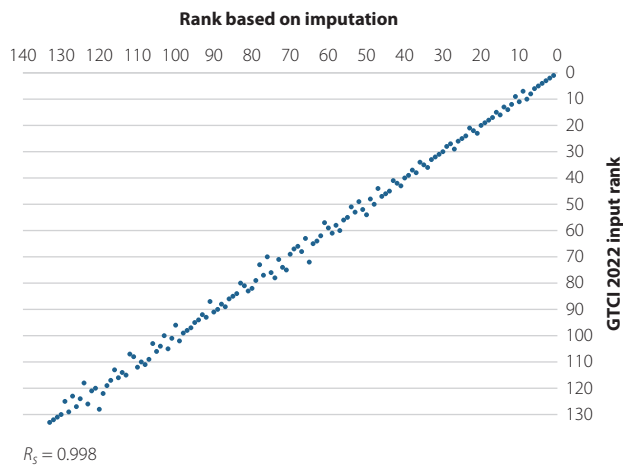
Figure 2

Sensitivity analysis: Impact of modelling choices

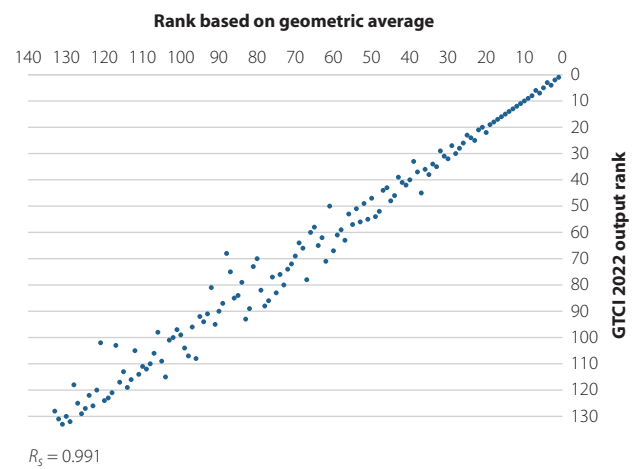
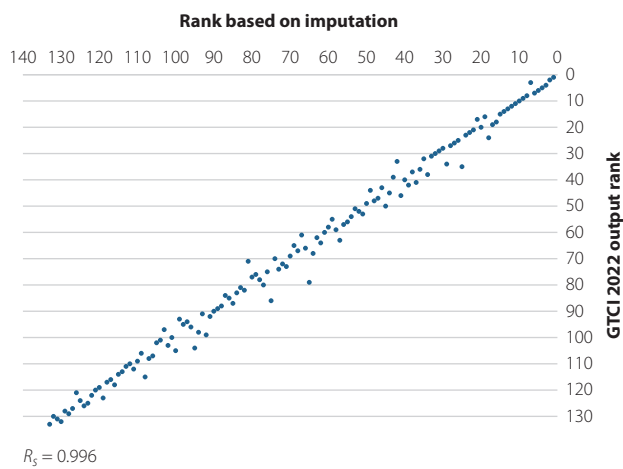
Global Talent Competitiveness 2022



GTCI 2022 Input sub-index



GTCI 2022 Output sub-index



Source: European Commission Joint Research Centre (2022).

Note: R_s represents the Spearman rank correlation coefficient ($n = 133$).

evidences the added value of the GTCI ranking and points to the importance of taking into account the individual pillars, sub-pillars, and variables on their own merit. By doing so, country-specific strengths and bottlenecks in human capital and talent competitiveness can be identified and serve as an input for evidence-based policymaking.

The auditing conducted herein has shown the potential of the GTCI 2022 for reliably identifying weaknesses and best practices and ultimately monitoring national performance in human capital and competitiveness issues around the world. Readers and policy analysts should also go beyond the overall GTCI scores and ranks and duly consider the individual indicators and pillars on their own merit. By doing so, country-specific strengths and challenges in attracting, developing, and retaining talent can be identified and serve as an input for data-informed policy analysis. The GTCI cannot possibly serve as the ultimate and definitive yardstick of monitoring progress and performance on talent and competitiveness. Instead, the GTCI best represents an ongoing attempt by Portulans Institute and INSEAD to contribute to policy discussions on the very many challenges that national systems face in a world that is increasingly dependent on talent, continuously adapting the GTCI framework to reflect improved and new data sources and the theoretical advances on how to leverage talent as a tool for competitiveness.

ENDNOTES

- 1 The JRC analysis was based on the recommendations of the OECD & EC JRC (2008) *Handbook on Constructing Composite Indicators* and on more recent research from the JRC. The JRC auditing studies of composite indicators are available at https://knowledge4policy.ec.europa.eu/composite-indicators_en and <https://composite-indicators.jrc.ec.europa.eu> (all audits were carried out upon request of the index developers).
- 2 OECD & EC JRC (2008).
- 3 Groeneveld & Meeden (1984) set the criteria for absolute skewness above 1 and kurtosis above 3.5. The skewness criterion was relaxed herein to account for the small sample (133 countries).
- 4 See Nunnally (1978).
- 5 In 2021 the GTCI used two indices—the World Bank's Human Capital Index and the World Economic Forum's Global Competitiveness Index—that have not been updated recently, so this year they have been replaced with the Global Attractiveness Index and the World Competitiveness Index.
- 6 Becker et al. (2017); Paruolo et al. (2013); Montalto et al. (2019); Saisana et al. (2005), (2011); Saisana & Saltelli (2011); Saltelli et al. (2008); Vértésy (2016); Vértésy & Deiss (2016).
- 7 The Expectation-Maximization (EM) algorithm (Little & Rubin, 2002) is an iterative procedure that finds the maximum likelihood estimates of the parameter vector by repeating two steps: (1) The expectation E-step: Given a set of parameter estimates, such as a mean vector and covariance matrix for a multivariate normal distribution, the E-step calculates the conditional expectation of the complete-data log likelihood given the observed data and the parameter estimates. (2) The maximization M-step: Given a complete-data log likelihood, the M-step finds the parameter estimates to maximize the complete-data log likelihood from the E-step. The two steps are iterated until the iterations converge.
- 8 Munda (2008).

9 Saltelli & Funtowicz (2014).

- 10 As already mentioned in the uncertainty analysis, about 93% of the simulated median ranks for the GTCI are fewer than three positions away from the reported 2022 rank—this percentage is at 98% in the Input sub-index and drops to 79% in the Output sub-index.

REFERENCES

- Becker, W., Saisana, M., Paruolo, P., & Vandecasteele, I. (2017). Weights and importance in composite indicators: Closing the gap. *Ecological Indicators* 80: 12–22.
- European House Ambrosetti (2022). *The Global Attractiveness Index: The thermometer of a Country's attractiveness*. Milan: The European House Ambrosetti.
- Groeneveld, R. A. & Meeden, G. (1984). Measuring skewness and kurtosis. *Journal of the Royal Statistical Society, Series D (The Statistician)*, 33, 391–399.
- IMD (International Institute for Management Development). (2022). *IMD World Competitiveness Yearbook 2022*. Lausanne: IMD.
- Little, R. J. A. & Rubin, D. B. (2002). *Statistical analysis with missing data* (2nd ed.). New York: John Wiley & Sons.
- Montalto, V., Tacao Moura, C. J., Langedijk, S., & Saisana, M. (2019). Culture counts: An empirical approach to measure the cultural and creative vitality of European cities. *Cities*, 89, 167–185. Available at <https://doi.org/10.1016/j.cities.2019.01.014>
- Munda, G. (2008). *Social multi-criteria evaluation for a sustainable economy*. Berlin Heidelberg: Springer-Verlag.
- Nunnally, J. (1978). *Psychometric theory*. New York: McGraw-Hill.
- OECD & EC JRC (Organisation for Economic Co-operation and Development and European Commission Joint Research Centre). (2008). *Handbook on constructing composite indicators: Methodology and user guide*. Paris: OECD. Available at <http://www.oecd.org/std/42495745.pdf>
- Paruolo, P., Saisana, M., & Saltelli, A. (2013). Ratings and rankings: Voodoo or science? *Journal of the Royal Statistical Society, A* 176 (3), 609–634.
- Saisana, M., D'Hombres, B., & Saltelli, A. (2011). Rickety numbers: Volatility of university rankings and policy implications. *Research Policy*, 40 (1): 165–177.
- Saisana, M. & Saltelli, A. (2011). Rankings and ratings: Instructions for use. *Hague Journal on the Rule of Law*, 3 (2), 247–268.
- Saisana, M., Saltelli, A., & Tarantola, S. (2005). Uncertainty and sensitivity analysis techniques as tools for the analysis and validation of composite indicators. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 168 (2), 307–323.
- Saltelli, A. & Funtowicz, S. (2014). When all models are wrong. *Issues in Science and Technology*, Winter 2014, 79–85.
- Saltelli, A., Ratto, M., Andres, T., Campolongo, F., Cariboni, J., Gatelli, D., Saisana, M., & Tarantola, S. (2008). *Global sensitivity analysis: The primer*. Chichester, England: John Wiley & Sons.
- Schneider, T. (2001). Analysis of incomplete climate data: Estimation of mean values and covariance matrices and imputation of missing values. *Journal of Climate*, 14, 853–871.
- Vértésy, D. (2016, July). A Critical Assessment of Quality and Validity of Composite Indicators of Innovation. Paper presented at the OECD Blue Sky III Forum on Science and Innovation Indicators. Ghent, 19–21 September 2016.
- Vértésy, D. & Deiss, R. (2016). The Innovation Output Indicator 2016. Methodology Update. EUR 27880. European Commission, Joint Research Centre.
- WIPO (World Intellectual Property Organization). (2022). *Global Innovation Index 2022: What is the future of innovation-driven growth?* Geneva: WIPO. DOI 10.34667/tind.46596

CHAPTER 3

Does Talent Competition Make Cities More Unequal?

Bruno Lanvin and Michael Bratt

Portulans Institute

It has often been emphasised that cities are generally more unequal than other parts of national territories. For example, in their recent book about cities and inequalities, Clémentine Côtineau and Denise Pumain remind us that *‘Cities have become the major habitat for human societies. They are also the places where the starkest social inequalities show up. Income, social, land and housing inequalities shape the built environment and living conditions of different neighbourhoods of cities, and in return, unequal access to services, environmental quality and favourable health conditions in different neighbourhoods and cities fuel the reproduction of interpersonal inequalities.’*¹

Admittedly, the nature, patterns, and distribution of inequalities exhibit stark variations among cities. The issues faced by modern metropolises such as London, San Francisco, and Tokyo are clearly different from those encountered in Lagos, Manila, and Sao Paulo. For the first group, debates would rage around gentrification and housing prices, for example, while for

the second group, criminality, transport infrastructure, or access to basic services would take central stage. Yet all cities in the world present significant inequality challenges. As Ricky Burdett recently stressed, *‘While there are stark differences in patterns of urban growth across the globe, there are equally stark differences in the distribution patterns of inequality. All cities display some level of inequality. Some are more pronounced than others, depending on their national and regional contexts, and the level of economic development and informalisation.’*²

How much do talent inequalities and talent policies explain overall inequalities at the city level? Available evidence shows that they are quite central. The same data also suggest that talent-related policies can help address some key dimensions of inequalities within and among cities. In a 2014 article entitled *‘Urbanisation makes the world more unequal’*, Kristian Behrens and Frédéric Robert-Nicoud argued that *‘skill-biased technological change was one of the reasons most often considered to explain*

Bruno Lanvin is Co-Founder and Director of Portulans Institute and an INSEAD Distinguished Fellow. Michael Bratt is Lead Researcher at Portulans Institute.

the phenomenon'.³ The same explanation emerges from the case studies carried out by Richard MacGahey in his upcoming book *Unequal Cities*.⁴

Since available evidence also shows that cities are critical sources of innovation and economies of scale, social scientists have already been hard at work for some time to identify ways to reconcile the positives of urbanisation with its effects as an accelerator of inequalities. They highlight in particular the importance of adopting policies that support inclusive prosperity at the city level.⁵

From the point of view of talent and talent competitiveness, the efficiency/equity trade-off is still underexplored and under-measured. This year's GCTCI data, however, provide some interesting indications of what may be happening in this area. Some of the changes that the pandemic generated at the level of cities also yield important indications regarding the possible evolution of talent inequalities within and among cities.

GCTCI DATA CONFIRM SEVERAL CITY PARADOXES

GCTCI data can be combined in different ways to track some of the dimensions of talent inequalities across cities. Four specific dimensions have been selected for this purpose and then compared to cities' overall talent performance (GCTCI index), namely (1) income inequalities, (2) diversity, (3) the ability to use information technologies, and (4) population size.

Like countries, cities' talent performance is strongly correlated to income, but talent policies can make a difference

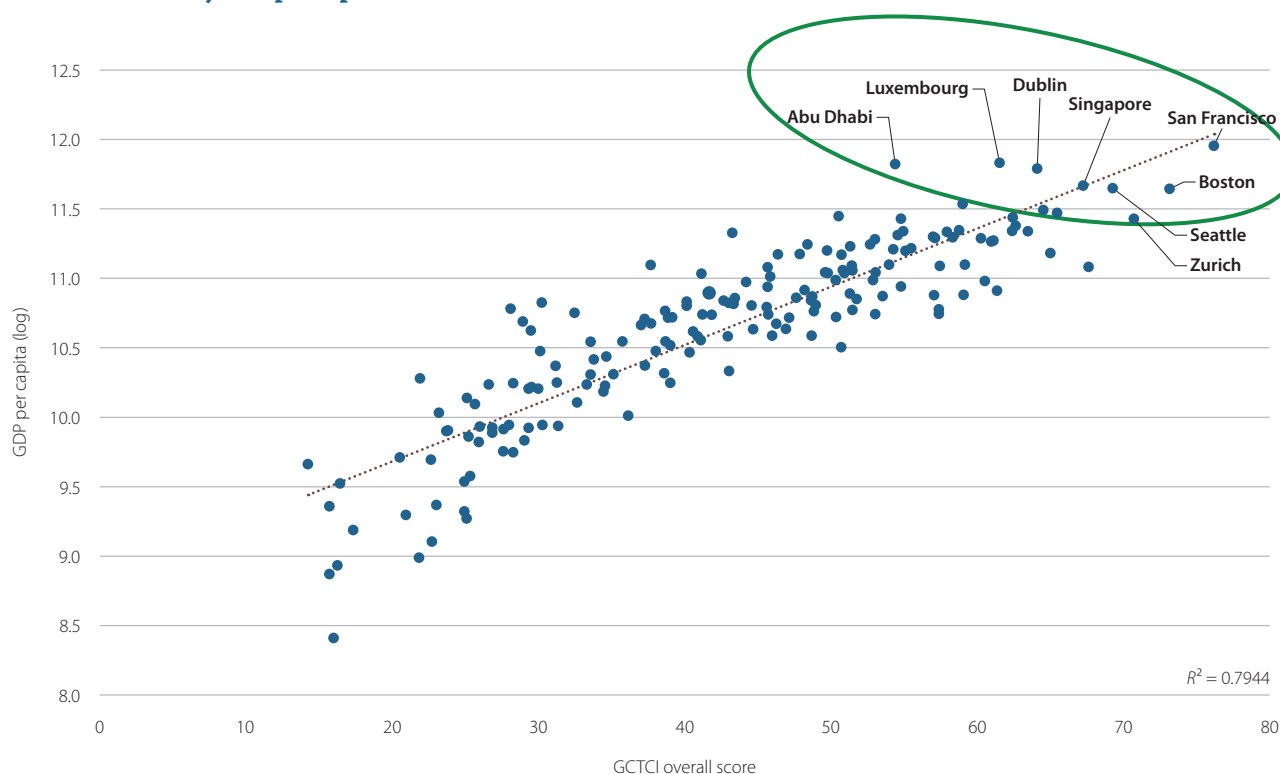
Figure 1 illustrates how talent performance (horizontal axis) correlates with income per capita (vertical axis) at the city level. Unsurprisingly, the correlation is both positive and strong, as it is in the case of national economies (see Chapter 1).

It is interesting, however, to note that—contrary to what can be seen in the case of national economies—the dispersion of talent performance does not vary significantly with income levels. If we take, for example, the case of richer cities, we see that talent performance can be significantly above the regression line (for Abu Dhabi, Dublin, and Luxembourg, for example), or under that same line (as is the case for Boston, San Francisco, Seattle, and Zurich, for example). This indicates that, whatever the average income level in a particular city, talent policies matter—even if the income/talent performance relationship continues to provide a cumulative advantage for richer cities.

Diversity and openness remain strong advantages for talent competitiveness, but richer cities do not always leverage them fully

Figure 2 shows how talent performance (the vertical axis) correlates with population diversity (approximated here through the proportion of foreign-born population living in the city

Figure 1
GCTCI score vs city GDP per capita



Source: Authors' computations.

Note: The green oval highlights the variation of talent competitiveness among rich cities.

considered). As in the case of income, (discussed in the previous section) the correlation is positive, but it is not as strong.

This representation allows for the identification of two particular groups of cities.

Towards the right of the scatter plot in Figure 2, GCTCI champions stand towards the middle of the diversity distribution: cities such as San Francisco, Singapore, Zurich, (and, even more noticeably, Geneva and Lausanne), stand out as having both a highly diverse population (at least in terms of geographical origin) and a high talent performance.

At the top of the figure, high-income cities in the Middle East (Abu Dhabi, Doha, Dubai, and Kuwait City in particular) display a high proportion of foreign-born population, yet only one of them (Abu Dhabi) has a GCTCI score that places it in the top quartile in the GCTCI ranking. This suggests that those cities still have room to better leverage their diversity advantage, possibly by translating their talent attraction performance into higher levels of talent retention.

Adapting a city to the new realities of the future of work offers a powerful shortcut to reducing talent inequalities

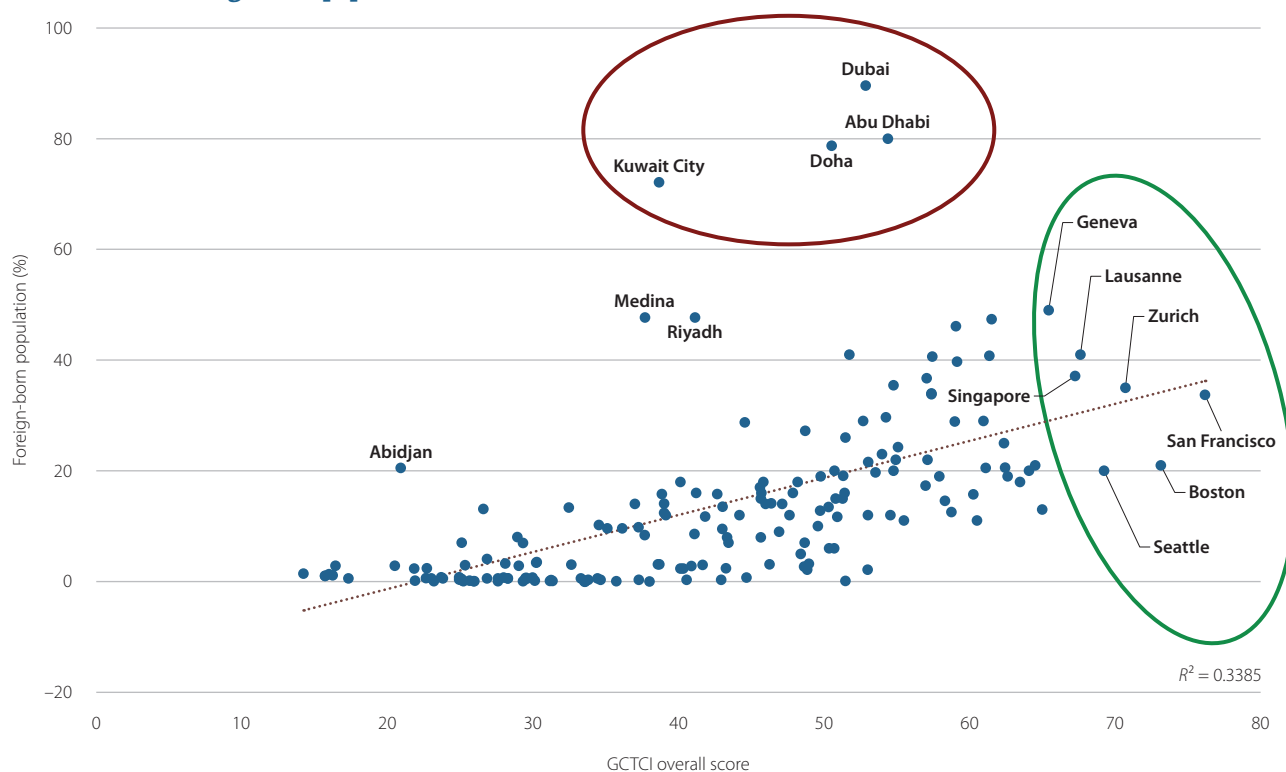
One of the features of the future of work will be that it will rely more and more systematically on distant cooperation, virtual teams, and online communications. It is therefore likely that new talent inequalities might arise from differences in connectivity.

Figure 3 offers a way to compare talent performance (and hence inequalities) to the availability of modern communications (approximated here by the speed of Internet connections). Once again, the correlation is positive and strong. Moreover, the graphic representation used here underlines a significant (and possibly growing) gap between talent champions and others: Hong Kong, San Francisco, Washington, DC—and (even more noticeably) Seattle and Singapore—are clearly ahead of the pack in terms of both talent competitiveness and Internet speed.

But high-quality connectivity is not the only way in which cities can compensate for talent inequalities. Opportunities to engage in the future of work will naturally be higher for cities that engage in addressing all types of inequalities (gender, underprivileged minorities, etc.). If, however, we remain in the context of the possibilities offered by information networks, it is clear that better connectivity and online cooperation offer new opportunities for cities' talent strategies. Interesting examples (and counter examples) emerge from this same diagram.

The case of cities in the Republic of Korea (South Korea) is rather intriguing. Since South Korea is often described as the world champion of broadband, it is not surprising to find that the South Korean cities of Busan, and Daegu, and Seoul are among the top 15 cities in terms of Internet speed close to the middle of the scatter plot. What is surprising, however, is that this strength does not necessarily have a great bearing on talent

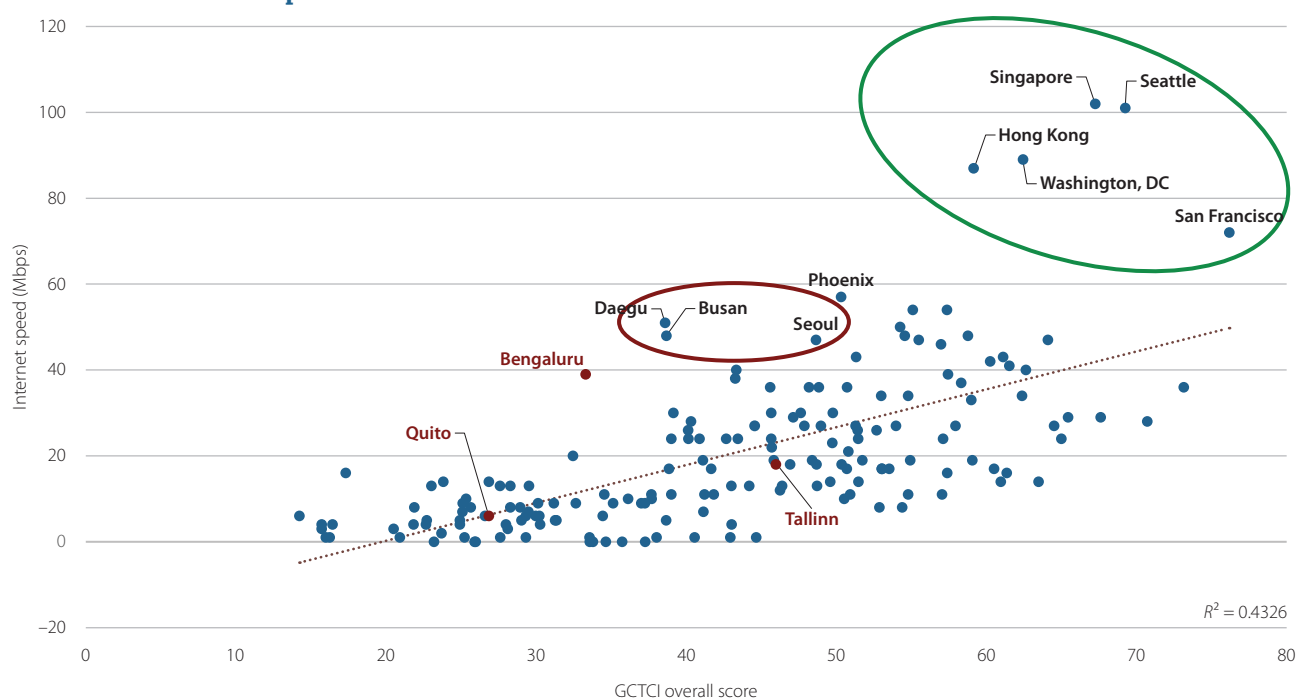
Figure 2
GCTCI score vs foreign-born population



Source: Authors' computations.

Note: The green oval highlights the share of foreign-born population in the most talent-competitive cities. The red oval shows cities in the Middle East with high shares of foreign-born population with scope to better leverage their diversity advantage.

Figure 3

GCTCI score vs Internet speed

Source: Authors' computations.

Note: The green oval highlights talent-competitive cities that enjoy high Internet speeds. The red oval points to South Korean cities where high Internet speeds do not necessarily translate to strong talent competitiveness.

competitiveness. This may be an indication that these cities still have to address other kinds of talent obstacles before they can fully leverage their connectivity advantage.

From the point of view of talent inequalities, higher Internet speed and better connectivity is clearly not a panacea. The case of Bengaluru (one of the better-connected Indian cities) shows that—as in the case of South Korean cities—other obstacles need to be addressed.

Finally, it is important to note that better connectivity is not the only tool that cities can use to align their resources to take advantage of the trends that will shape the future of work. The examples of national strategies to provide e-passports to digital nomads (Ecuador, Estonia, Singapore) are worth watching in that context. This is why Quito and Tallinn have also been highlighted in this figure.

Being a large city can be a curse; medium-sized cities may hold the key to reducing talent inequalities

Figure 4 represents cities ordered by population size (vertical axis) and plotted against GCTCI scores (horizontal axis). This time the correlation is clearly negative, even if not as pronounced as in previous cases.

This means that large urban concentrations may carry more problems than advantages in terms of talent competitiveness. The example of cities such as Abuja, Addis Ababa, Dar Es Salaam, Dhaka, Lagos, Lahore, and Surat (all in the red oval at the left of

the figure) offer ample evidence of a situation in which diseconomies of scale are significant and local inequalities compound talent disadvantages.

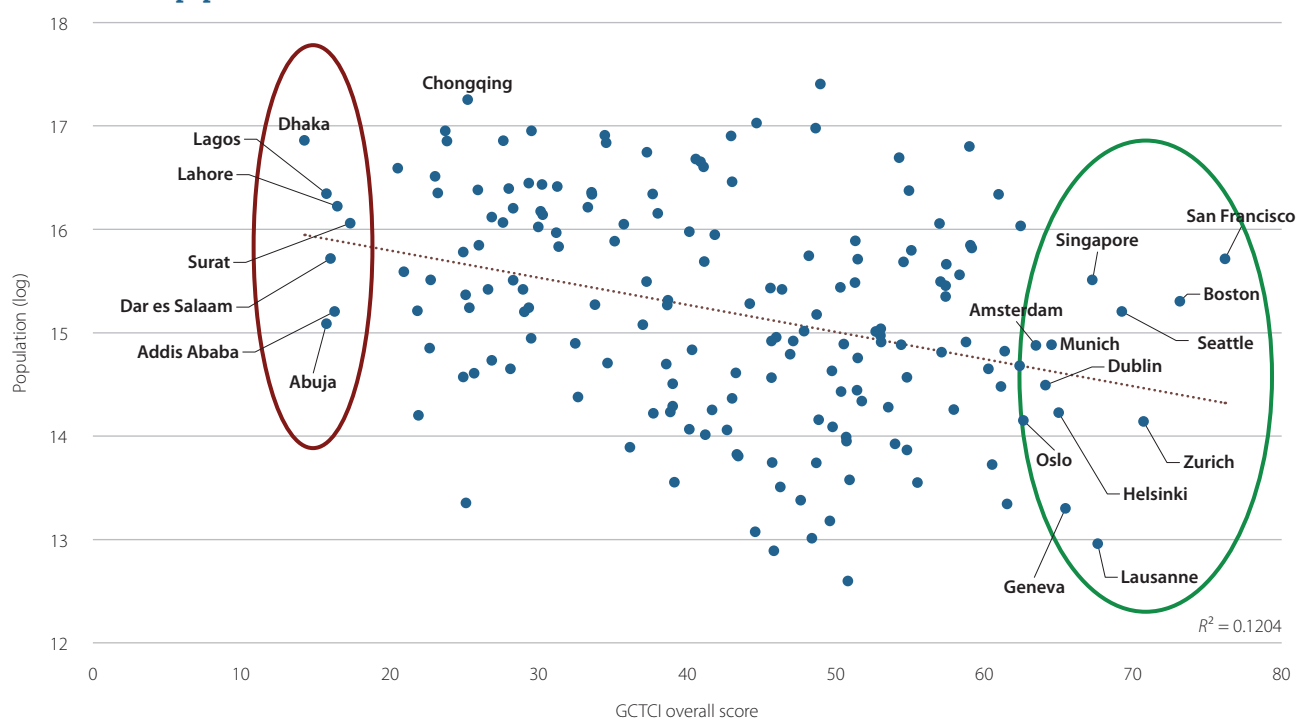
The same data, however, offer encouraging news about how cities that are less densely populated can perform well in terms of talents and compensate for some of their disadvantages in terms of talent equality. Those cities included in the green oval at the right of the scatter plot include not only cities with several million inhabitants (Singapore, San Francisco, Seattle) but also some much smaller cities (with fewer than 1 million inhabitants) such as Lausanne or Geneva, for example.

IN THE CURRENT STORMY CONTEXT, TALENT HUBS WILL DO BETTER

Contextual evidence, combined with the data and analyses above, allow us to identify four main methods or actions to take in order to mitigate talent inequalities and use talent strategies as a tool to reduce other types of *inequalities between cities*. These four methods are to:

- Accelerate the digital transformation of cities by providing online services that not only respond to citizens' needs but that also allow cities to function with less energy and more sustainable strategies—for example, by developing smart grids (this includes energy, transport, water distribution, and other grids). The examples of GCTCI champions (such as San Francisco or Singapore)

Figure 4

GCTCI score vs population size

Source: Authors' computations.

Note: The green oval highlights the variation of population size among the most talent-competitive cities. The red oval shows the least-talent-competitive cities and points to the potential talent disadvantages of large metropolitan areas.

can be replicated in advanced countries. They can also be a guide for poorer ones, as exemplified by cities such as Bengaluru or Kigali.

- Design and implement city- or region-centric strategies that offer a unique combination of the comparative advantages available locally. Local talents can find better ways of contributing to the local economy if their work allows them to combine local resources and specificities that convey a strong branding to their respective cities. The examples of Bilbao (with its combination of culture, gastronomy, and innovation, supported by a dynamic talent agency—Bizkaia Talent) or Dubai (where the global transport advantage created by Emirates Airways has been meshed with the development of medical services into a medical tourism proposition) are worth considering in that context.
- Be future-ready. The future of work will not be based on broadband and smart grids alone. Free agents and gig workers (those working part time for multiple employers) and digital nomads will also be part of this future. Offering local working and collaboration opportunities to these types of talents can include the provision of affordable/shared working spaces, following the examples of cities such as Boston/Kendall Square or Paris/Station F. The approach taken in Quito (Ecuador), Tallinn (Estonia), and

Singapore has allowed global digital nomads to benefit from special e-residency permits, which are starting to show benefits for those countries and cities.

- Be smart in your own way. In a global economy that allows high-level talents (typically those described through the Global Knowledge Skills of the GTCI model), inequalities can be reduced among cities by those policies and strategies that will combine local advantages in agile and adaptive ways. This approach does not need to be technology-centric, nor even technology-driven: the attractiveness of cities in Northern Europe (Amsterdam, Copenhagen, Helsinki, Stockholm) vis-à-vis younger talents owes as much to the development of bicycle lanes and innovative mobility solutions as to advanced communication tools.

What about inequalities within cities?

Spatial disparities are often growing with the size of cities. These disparities can be considered one of the key diseconomies of scale that plague large urban concentrations (such as Addis Ababa, Dhaka, Lagos, and Manila, for example). Differences in access to education and meaningful working opportunities often mark the border between well-off residential areas (often characterised by the multiplication of gated communities) and underequipped suburbs. Policies that favour diversity in housing and schooling will clearly help reduce local inequalities.

The elements, data, and analyses above lead to the conclusion that, as the world enters further into turbulent waters, talent hubs (i.e., those cities that grant priority to growing their own talent, attracting the types of talent they lack, and retaining them all) will be better equipped to face the future and to reduce inequalities both locally and internationally.

CAN TALENT POLICIES AT THE CITY LEVEL HELP EFFORTS TO REACH THE SDGs?

GCTCI data and analyses emphasise that the contribution of cities to the Sustainable Development Goals (SDGs) should not be seen just through the targets attached to SDG 11 (Sustainable cities and communities). Cities can also contribute in many other different ways to reduce talent inequalities, locally and internationally, hence offering a major contribution to the pursuit of SDG 10 (Reduced inequalities).

Moreover, the GCTCI shows that all cities (whatever their size or level of development) can offer innovative and valuable contributions to SDG-related efforts by enhancing their own talent strategies.

In particular, GCTCI data show how a growing number of medium-sized cities (typically between 200,000 and 2 million population) are aiming to combine talent and investment attraction strategies with the pursuit of key SDGs. This is clearly the case for SDG 6 (Clean water and sanitation), SDG 7 (Affordable and clean energy), SDG 8 (Decent work and economic growth), SDG 9 (Industry, innovation and infrastructure), SDG 11 (Sustainable cities and communities), SDG 12 (Responsible consumption and production), and SDG 13 (Climate action). A remarkable example of such an approach can be found in the efforts put in place by such cities to attract carbon-neutral industries, as well as activities that can best contribute to offering innovative ways to accelerate the pursuit of SDGs.

Recognising that talent can be a roadblock on the road to achieving the SDGs is a first step in drawing the lessons that can be learned from observing the efforts made by cities to grow, attract, and retain the talents they need.

Architecture of the GCTCI Model

The underlying GCTCI model for the 2022 index is unchanged. This means that the methodology is similar to that of the GTCI and that it is based on an input-output framework. Indeed, the input-related pillars are identical to the GTCI model in that they measure how cities (1) Enable, (2) Attract, (3) Grow, and (4) Retain talent. The output-related pillar is referred to as *Global Knowledge Skills* and focuses on talent impact and the degree of internationalisation of cities.

This year's index has been computed based on 17 indicators in total, with each pillar including at least three variables (the Retain and Global Knowledge Skills pillars each have four variables). Two variables are new in GCTCI 2022: 1.3 Unemployment and 5.4 Software development. The former indicator is included on the grounds that a low unemployment rate is reflective of a conducive enabling environment. It replaces the variable Ease of doing business because the World Bank decided to discontinue the Doing Business project as a result of data irregularities.⁶

Figure 5 presents the architecture of the GCTCI 2022 model and the indicators populating it.

Data sources for populating the GCTCI 2022 include the following:⁷

- The Organisation for Economic Co-operation and Development (OECD)'s database on metropolitan areas is a key source for statistics on cities in OECD countries.
- If OECD data were unavailable, then Eurostat was frequently used for cities in the European Union (EU) and the American Community Survey was frequently used as the data source for those in the United States.
- Publicly available global rankings and data sets were used for all cities for certain variables or to obtain specific values (e.g., UN-Habitat, Forbes Global 2000, fDi Markets, and the TomTom Traffic Index).
- Local sources, including government agency websites, reports, and related press releases, were consulted to obtain and/or verify specific values.

GCTCI 2022 takes a different approach to missing values than last year's edition in that the default position is to use regional or national estimates rather than denoting them as 'n/a'. There is usually a high correlation between city-level values and regional/national values, so filling missing values by the latter is often a good approximation of the true values. Keeping them as missing—hence, excluding them from the computation—might, on the other hand, skew the results. As a matter of fact, some indicators in previous editions were already proxied by regional or national estimates (e.g., 4.1 Safety and 4.4 Happiness) and it was deemed that doing so consistently throughout the GCTCI would yield more accurate rankings.

This year again, the computation of the GCTCI involved seven main steps. First, data were collected at the city level. Second, data not available at the city level were, preferably, proxied by regional or national values or—when no such estimates were available—kept as missing (designated 'n/a'). Third, the data set was tested for missing data points using the double threshold approach. More specifically, each city had to have data points for at least 50% of all variables and for at least two indicators per pillar, while each variable had to include observations for at least 50% of all cities. Fourth, using the same methodology as the GTCI, the presence of outliers in the data set was tested and, where needed, the outliers were treated (see Appendix I for details on the detection and treatment of outliers). Fifth, the resulting data set was normalised. Sixth, pillar scores and ranks were computed by averaging their respective variables. Seventh, the overall GCTCI score and rank were calculated by averaging the scores of the five pillars.

The Definition of a City

As opposed to countries (barring a few exceptions), the definition of what constitutes a city presents a considerable challenge.

Figure 5

GCTCI 2022 model and indicators



The GCTCI primarily understands a city in terms of a *functional urban area* (FUA), which is a concept that has been developed and defined by the OECD and the European Commission (EC). The FUA encompasses both the core city and its surrounding commuting zone, which results in an urban area that is an integrated labour market.⁸ The relevant OECD and EC webpages include files with detailed information on what municipalities are part of any given FUA.⁹ However, the FUAs covered in these sources are located in OECD and EU member countries. For cities in other countries, the GCTCI primarily looks for data relevant at the metropolitan level.

Even when the boundaries of a city are clearly delineated, the challenge of identifying reliable data remains. Again, the OECD and EC provide much data for the FUAs that they cover, but there are GCTCI indicators for which these sources do not provide data. In these cases, data have been collected in line with the FUA definitions and, for other countries, the metropolitan areas (e.g., in the collection of patent data for indicator 5.3 Patents). In a few cases, values at the municipality level have had to serve as estimates for the cities in question (e.g., data on FDI flows in indicators 2.3 FDI projects and 3.3 FDI jobs created).

City Coverage

This sixth edition of the GCTCI increases the city coverage from 155 last year to 175 cities located in 79 economies (Figure 6). All seven regions are represented by the additional 20 cities: two are in Central and Southern Asia, four are in Eastern, Southeastern Asia and Oceania, seven are in Europe, two are in Latin America and the Caribbean, one is in Northern Africa and Western Asia, two are in Northern America, and two are in Sub-Saharan Africa.

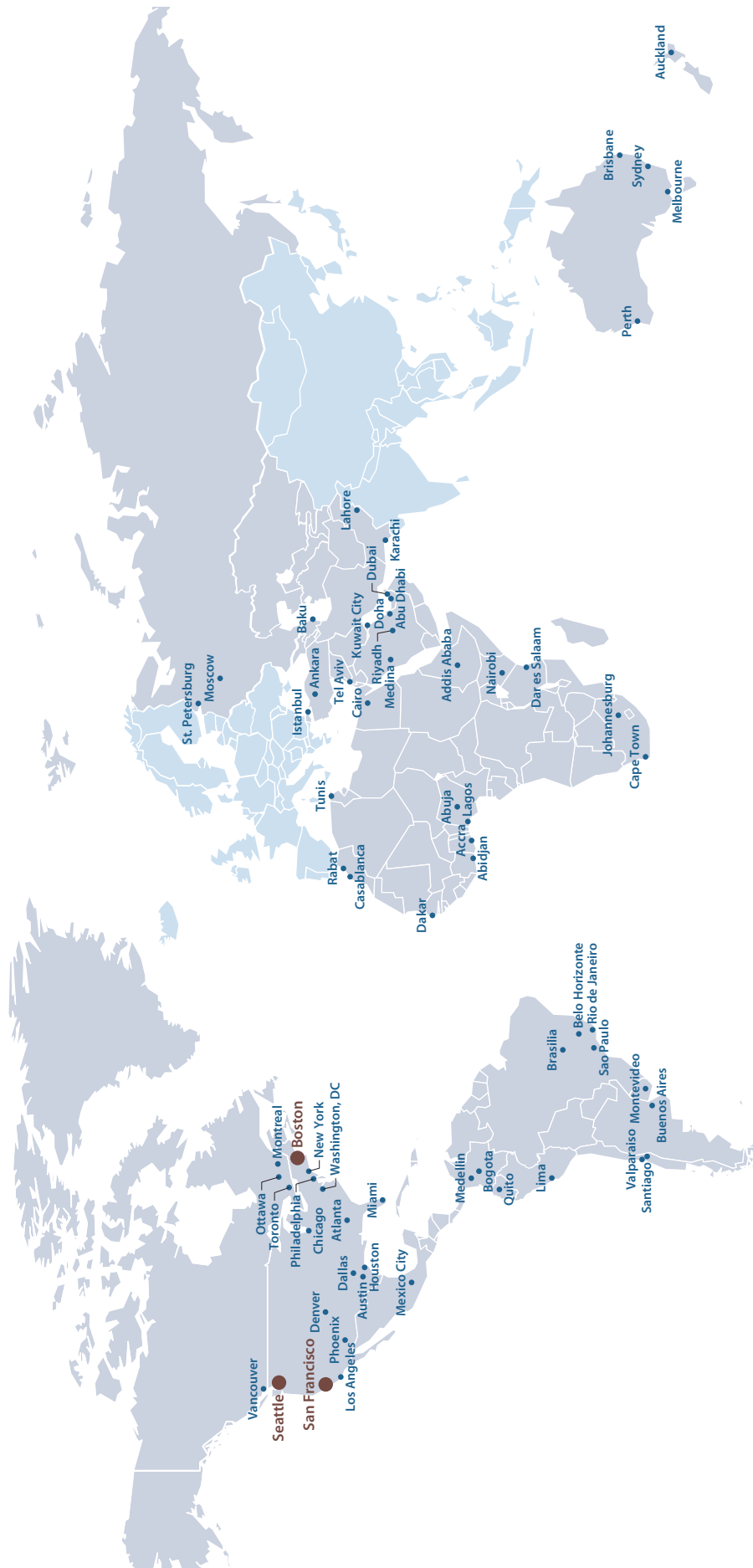
The index continues to be dominated by European cities, which account for more than one-third of the total coverage (68 out of 175; Figure 7). As explained in previous editions of the GCTCI, the over-representation of Europe is primarily due to (1) the high ‘urban density’ of the continent (the result of a combination of geographical and historical factors) and (2) the high quality and coverage of city-related data (largely a result of the EC’s statistical efforts of the last few decades). The geographic breakdown this year for non-European cities is as follows: 11 cities in Central and Southern Asia; 40 in Eastern, Southeastern Asia and Oceania; 13 in Latin America and the Caribbean; 14 in Northern Africa and Western Asia; 19 in Northern America; and 10 in Sub-Saharan Africa.

In terms of income group, high-income economies are home to a majority of all cities included in the index, accounting for 105 out of the 175 cities. As for the other income groups, 39 cities are located in upper-middle-income countries, 30 cities are in lower-middle-income countries, and 1 (Addis Ababa in Ethiopia) is in a low-income country.

The cities included in the GCTCI represent a mix of large and small urban centres, some of which are national capitals or leading urban areas while others can be seen as secondary hubs or even remote locations. The cities were identified on the basis of their reputation and growing footprint in attracting global talent rather than as a function of their size or national-capital status. The availability and comparability of data obviously also played a key role in the selection process.

Figure 8 shows the Asian cities that appear in this year’s GCTCI. Out of them all, Singapore is the only one in the top 10 of the 2022 index.

Figure 6
Cities included in GCTCI 2022*



Note: Highlighted cities are those in the top 10 of this year's GCTCI.
*European and Asian cities are displayed separately (see Figures 7 and 8 below).

Figure 7

A closer look at European cities



Note: Highlighted cities are those in the top 10 of this year's GCTCI.

Figure 8

A closer look at Asian cities



Note: Highlighted cities are those in the top 10 of this year's GCTCI.

GCTCI DETAILED FINDINGS

For the second year running, greater San Francisco is the top-ranked city in the GCTCI (Table 1). It is followed by another US city—Boston—which climbs one position compared with last year. The top 3 is completed by Zurich, which likewise is one better than in last year's rankings. Geneva, which was 2nd in GCTCI 2021, drops to 7th and is now only the third-best Swiss city in the index because Lausanne (a new entrant this year) is ranked ahead of it in 5th position. The remaining cities in the top 10 are Seattle (4th), Singapore (6th), Helsinki (8th), Munich (9th), and Dublin (10th).

The most talent-competitive cities in this year's index are very similar to those of last year: eight cities feature in the top 10 in both editions. This underscores the stability of the index notwithstanding the replacement of one variable and the addition of another. The two cities that dropped out of the top 10 this year are London (18th, down from 9th) and Luxembourg (15th, down from 5th). To an extent, their fall in the rankings can be explained by the methodological change to favour regional or national estimates over disregarding missing values in the computation (by denoting them 'n/a'). The two cities that have entered the top 10 this year are Lausanne (a new city in the GCTCI) and Munich (up from 15th).

Overall, the GCTCI 2022 rankings paint a picture of talent competitiveness similar to that of the previous editions (which is also reflective of the country rankings)—namely, that cities in high-income economies in Eastern and Southeastern Asia, Europe, Northern America, and Oceania dominate. One illustration of this is that the top performers in the city index are based in the best-performing countries in the country index. For instance, both Switzerland (the most talent-competitive country) and the United States (4th in this year's country rankings) have three cities each in the top 10 of the GCTCI 2022, and Singapore (2nd in this year's country rankings) ranks 6th in the city index. Another clear manifestation of the dominance of high-income economies in these regions is their almost exclusive monopoly of **the top quartile of GCTCI 2022 (i.e., cities ranked 44th or better)**. More specifically, the top quartile includes 21 cities located in Europe, 17 in Northern America, 3 in Australia, and 2 in Eastern and Southeastern Asia. The only city from another region that is also present in the top quartile is Abu Dhabi (39th) in Western Asia.

European cities are even more dominant in **the second quartile (cities ranked between 45th and 88th)**, where they account for three-quarters of the cities (33 out of 44). The rest are located in Eastern Asia (4 cities), Western Asia (3), Oceania (2), and the United States (2). Three of the four cities in Eastern Asia are the megacities Seoul (68th), Shanghai (83rd), and Tokyo (64th)—the fourth is Taipei (50th)—where Shanghai's position (83rd) means that it is the only Chinese city and the sole representative of a city from an upper-middle-income country that is in the upper-half of the rankings.

The third quartile (cities ranked between 89th and 132nd) shows a greater variation with respect to income levels. Whereas all but one city in the first two quartiles are located in

high-income countries, the majority of cities in the third quartile are in upper-middle-income countries (21 in total). The share of cities from high-income countries is still sizeable (18), while the remainder are based in lower-middle-income countries (5). As for regions, the third quartile includes the best-performing cities from Latin America (including Buenos Aires, 89th; Valparaíso, 116th; and Santiago, 118th) and from Southern Asia (Bengaluru, 125th). The breakdown by region is as follows: 16 cities are located in Eastern Asia, 13 in Europe, 7 in Latin America, 4 in Western Asia, 3 in Southeastern Asia, and 1 in Southern Asia.

The bottom quartile (cities ranked 133rd through 175th) is the only quartile that includes cities situated in Northern Africa and Sub-Saharan Africa. The index covers four Northern African cities, where Rabat (156th) leads the way for this region, followed by Casablanca (157th), Cairo (160th), and Tunis (164th). As for the 10 cities in Sub-Saharan Africa, they are spearheaded by the South African cities Cape Town (137th) and Johannesburg (149th). As for the other regions, there are 10 cities located in Southern Asia, 6 in Eastern Asia, 6 in Latin America, 4 in Southeastern Asia, 2 in Western Asia, and 1 in Europe (Skopje, 155th). The majority of cities in this quartile are found in lower-middle-income countries (25 in total). Upper-middle-income countries make up an additional 17 cities in the quartile, whereas the GCTCI's sole representative from a low-income country (Addis Ababa, 171st) is also found in the bottom quartile.

One of the distinguishing features of the top performers in both the city rankings and the country rankings is that they tend to perform well in several talent dimensions (Table 2). Indeed, the most talent-competitive city—San Francisco—is the only city in the GCTCI 2022 that makes it into the top 10 in four of the five pillars (including taking the top spot in the Global Knowledge Skills pillar). Similarly, seven other countries in the top 10 in the overall city rankings this year also feature in the top 10 in two or more pillars. Above all, they share a strength in Global Knowledge Skills, as eight of the top 10 cities overall are also in the top 10 in this particular pillar. This makes sense because, although cities can have different advantages in terms of Input-related aspects of talent, these would be expected to lead towards the same objectives: greater skills and higher talent impact. Three cities that are not in the top 10 in this year's city index but that are notable performers in particular pillars are Eindhoven (33rd in the GCTCI), Hong Kong (21st in the GCTCI), and Luxembourg (15th in the GCTCI). All three cities enjoy a favourable enabling environment (9th, 6th, and 5th, respectively). In addition, Hong Kong and Luxembourg are stellar performers when it comes to attracting talent (8th and 1st, respectively), while Eindhoven has a strength in retaining talent (7th).

The talent inequality among cities around the world has already been discussed in the context of Table 1. Figure 9 visualises the disparities among them even more clearly by showing the quartile distribution of city scores in the GCTCI when categorised in their respective income group (the low-income group is missing because there is only one city in the GCTCI that is located in a low-income country, Addis Ababa). As can be seen, the basic story told by the figure corroborates that of the

Table 1

Global Cities Talent Competitiveness Index rankings and overall scores

RANK	CITY	OVERALL SCORE	RANK	CITY	OVERALL SCORE	RANK	CITY	OVERALL SCORE
1	<i>San Francisco (United States)</i>	76.2	60	<i>Phoenix (United States)</i>	50.3	119	<i>Zhuhai (China)</i>	34.6
2	<i>Boston (United States)</i>	73.1	61	<i>Hanover (Germany)</i>	49.8	120	<i>Mexico City (Mexico)</i>	34.5
3	<i>Zurich (Switzerland)</i>	70.7	62	<i>Prague (Czech Republic)</i>	49.7	121	<i>Sao Paulo (Brazil)</i>	34.4
4	<i>Seattle (United States)</i>	69.2	63	<i>Vilnius (Lithuania)</i>	49.6	122	<i>Xiamen (China)</i>	33.8
5	<i>Lausanne (Switzerland)</i>	67.6	64	<i>Tokyo (Japan)</i>	49.0	123	<i>Wuhan (China)</i>	33.6
6	<i>Singapore (Singapore)</i>	67.2	65	<i>Krakov (Poland)</i>	48.8	124	<i>Suzhou (China)</i>	33.6
7	<i>Geneva (Switzerland)</i>	65.4	66	<i>Tel Aviv (Israel)</i>	48.7	125	<i>Bengaluru (India)</i>	33.3
8	<i>Helsinki (Finland)</i>	65.0	67	<i>Cardiff (United Kingdom)</i>	48.7	126	<i>Montevideo (Uruguay)</i>	32.6
9	<i>Munich (Germany)</i>	64.5	68	<i>Seoul (South Korea)</i>	48.6	127	<i>Kyiv (Ukraine)</i>	32.5
10	<i>Dublin (Ireland)</i>	64.1	69	<i>Bratislava (Slovakia)</i>	48.4	128	<i>Hanoi (Viet Nam)</i>	31.3
11	<i>Amsterdam (Netherlands)</i>	63.5	70	<i>Madrid (Spain)</i>	48.2	129	<i>Manila (Philippines)</i>	31.3
12	<i>Oslo (Norway)</i>	62.6	71	<i>Hamburg (Germany)</i>	47.9	130	<i>Ho Chi Minh City (Viet Nam)</i>	31.2
13	<i>Washington, DC (United States)</i>	62.4	72	<i>Kiel (Germany)</i>	47.6	131	<i>Lima (Peru)</i>	30.3
14	<i>Stockholm (Sweden)</i>	62.4	73	<i>Lisbon (Portugal)</i>	47.1	132	<i>Istanbul (Türkiye)</i>	30.2
15	<i>Luxembourg (Luxembourg)</i>	61.5	74	<i>Leeds (United Kingdom)</i>	46.9	133	<i>Jakarta (Indonesia)</i>	30.1
16	<i>Vancouver (Canada)</i>	61.4	75	<i>Milan (Italy)</i>	46.4	134	<i>Bogota (Colombia)</i>	30.0
17	<i>Copenhagen (Denmark)</i>	61.1	76	<i>Brno (Czech Republic)</i>	46.2	135	<i>Mumbai (India)</i>	29.5
18	<i>London (United Kingdom)</i>	60.9	77	<i>Birmingham (United Kingdom)</i>	46.0	136	<i>Brasilia (Brazil)</i>	29.5
19	<i>Edinburgh (United Kingdom)</i>	60.5	78	<i>Tallinn (Estonia)</i>	45.8	137	<i>Cape Town (South Africa)</i>	29.3
20	<i>Austin (United States)</i>	60.3	79	<i>Riga (Latvia)</i>	45.7	138	<i>Tianjin (China)</i>	29.3
21	<i>Hong Kong (SAR, China)</i>	59.1	80	<i>Lyon (France)</i>	45.7	139	<i>Medellin (Colombia)</i>	29.0
22	<i>Toronto (Canada)</i>	59.1	81	<i>Budapest (Hungary)</i>	45.7	140	<i>Ankara (Türkiye)</i>	28.9
23	<i>New York (United States)</i>	59.0	82	<i>Barcelona (Spain)</i>	45.6	141	<i>Belo Horizonte (Brazil)</i>	28.3
24	<i>Denver (United States)</i>	58.8	83	<i>Shanghai (China)</i>	44.7	142	<i>Chennai (India)</i>	28.3
25	<i>Atlanta (United States)</i>	58.3	84	<i>Valletta (Malta)</i>	44.6	143	<i>Baku (Azerbaijan)</i>	28.1
26	<i>Dusseldorf (Germany)</i>	57.9	85	<i>Rome (Italy)</i>	44.2	144	<i>Rio de Janeiro (Brazil)</i>	28.0
27	<i>Miami (United States)</i>	57.4	86	<i>Nantes (France)</i>	43.4	145	<i>Chengdu (China)</i>	27.6
28	<i>Montreal (Canada)</i>	57.4	87	<i>Bilbao (Spain)</i>	43.3	146	<i>Pune (India)</i>	27.6
29	<i>Melbourne (Australia)</i>	57.4	88	<i>Bucharest (Romania)</i>	43.3	147	<i>Hyderabad (India)</i>	26.8
30	<i>Frankfurt (Germany)</i>	57.1	89	<i>Buenos Aires (Argentina)</i>	43.0	148	<i>Quito (Ecuador)</i>	26.8
31	<i>Sydney (Australia)</i>	57.0	90	<i>Turin (Italy)</i>	43.0	149	<i>Johannesburg (South Africa)</i>	26.6
32	<i>Chicago (United States)</i>	57.0	91	<i>Beijing (China)</i>	42.9	150	<i>Shenyang (China)</i>	26.0
33	<i>Eindhoven (Netherlands)</i>	55.5	92	<i>Bordeaux (France)</i>	42.7	151	<i>Xi'an (China)</i>	25.9
34	<i>Houston (United States)</i>	55.1	93	<i>Kuala Lumpur (Malaysia)</i>	41.8	152	<i>Medan (Indonesia)</i>	25.6
35	<i>Paris (France)</i>	54.9	94	<i>Sofia (Bulgaria)</i>	41.7	153	<i>Nairobi (Kenya)</i>	25.3
36	<i>Gothenburg (Sweden)</i>	54.8	95	<i>Zagreb (Croatia)</i>	41.2	154	<i>Chongqing (China)</i>	25.2
37	<i>Perth (Australia)</i>	54.8	96	<i>Riyadh (Saudi Arabia)</i>	41.1	155	<i>Skopje (North Macedonia)</i>	25.1
38	<i>Philadelphia (United States)</i>	54.6	97	<i>Bangkok (Thailand)</i>	41.1	156	<i>Rabat (Morocco)</i>	25.1
39	<i>Abu Dhabi (United Arab Emirates)</i>	54.4	98	<i>Osaka (Japan)</i>	40.9	157	<i>Casablanca (Morocco)</i>	24.9
40	<i>Los Angeles (United States)</i>	54.3	99	<i>Shenzhen (China)</i>	40.6	158	<i>Phnom Penh (Cambodia)</i>	24.9
41	<i>The Hague (Netherlands)</i>	54.0	100	<i>Fukuoka (Japan)</i>	40.3	159	<i>Delhi (India)</i>	23.8
42	<i>Ottawa (Canada)</i>	53.5	101	<i>Marseille (France)</i>	40.1	160	<i>Cairo (Egypt)</i>	23.7
43	<i>Vienna (Austria)</i>	53.0	102	<i>Nagoya (Japan)</i>	40.1	161	<i>Zhengzhou (China)</i>	23.2
44	<i>Manchester (United Kingdom)</i>	53.0	103	<i>Zaragoza (Spain)</i>	39.1	162	<i>Kolkata (India)</i>	23.0
45	<i>Warsaw (Poland)</i>	53.0	104	<i>Belgrade (Serbia)</i>	39.0	163	<i>Accra (Ghana)</i>	22.7
46	<i>Dubai (United Arab Emirates)</i>	52.9	105	<i>Minsk (Belarus)</i>	39.0	164	<i>Tunis (Tunisia)</i>	22.7
47	<i>Brussels (Belgium)</i>	52.7	106	<i>Lille (France)</i>	38.9	165	<i>Makassar (Indonesia)</i>	21.9
48	<i>Auckland (New Zealand)</i>	51.7	107	<i>Busan (South Korea)</i>	38.7	166	<i>Dakar (Senegal)</i>	21.8
49	<i>Brisbane (Australia)</i>	51.5	108	<i>Kuwait City (Kuwait)</i>	38.7	167	<i>Abidjan (Côte d'Ivoire)</i>	20.9
50	<i>Taipei (Taiwan)</i>	51.5	109	<i>Daegu (South Korea)</i>	38.6	168	<i>Karachi (Pakistan)</i>	20.5
51	<i>Rotterdam (Netherlands)</i>	51.4	110	<i>Hangzhou (China)</i>	38.0	169	<i>Surat (India)</i>	17.3
52	<i>Dallas (United States)</i>	51.3	111	<i>Medina (Saudi Arabia)</i>	37.7	170	<i>Lahore (Pakistan)</i>	16.4
53	<i>Berlin (Germany)</i>	51.3	112	<i>Moscow (Russia)</i>	37.7	171	<i>Addis Ababa (Ethiopia)</i>	16.2
54	<i>Bologna (Italy)</i>	50.9	113	<i>Guangzhou (China)</i>	37.3	172	<i>Dar es Salaam (Tanzania)</i>	16.0
55	<i>Ljubljana (Slovenia)</i>	50.8	114	<i>St. Petersburg (Russia)</i>	37.2	173	<i>Lagos (Nigeria)</i>	15.7
56	<i>Antwerp (Belgium)</i>	50.7	115	<i>Athens (Greece)</i>	37.0	174	<i>Abuja (Nigeria)</i>	15.7
57	<i>Newcastle upon Tyne (United Kingdom)</i>	50.7	116	<i>Valparaíso (Chile)</i>	36.1	175	<i>Dhaka (Bangladesh)</i>	14.2
58	<i>Doha (Qatar)</i>	50.5	117	<i>Nanjing (China)</i>	35.7			
59	<i>Glasgow (United Kingdom)</i>	50.4	118	<i>Santiago (Chile)</i>	35.1			

Note: Non-European cities are italicised. Colours indicate quartile and range from dark (the top quartile) to light (the bottom quartile).

Table 2

Top 10 city rankings and scores, by GCTCI pillar

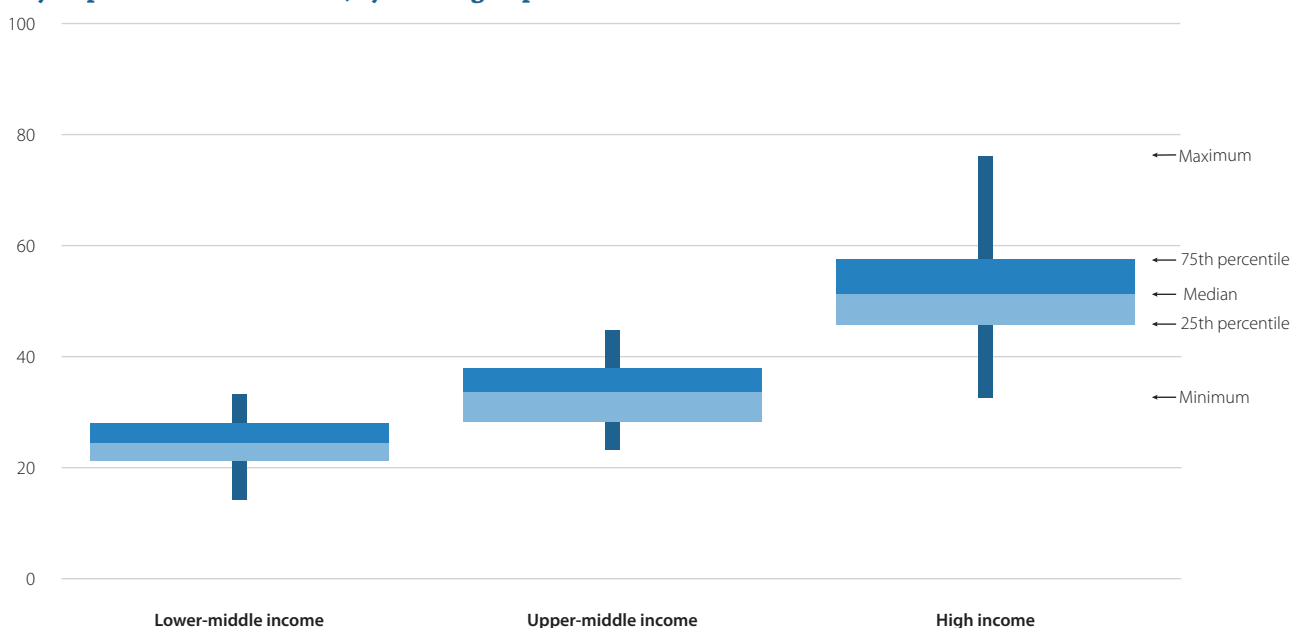
Pillar 1: Enable			Pillar 2: Attract			Pillar 3: Grow			Pillar 4: Retain			Pillar 5: Global Knowledge Skills		
RANK	CITY	SCORE	RANK	CITY	SCORE	RANK	CITY	SCORE	RANK	CITY	SCORE	RANK	CITY	SCORE
1	Singapore	86.5	1	Luxembourg	82.1	1	Boston	90.7	1	Helsinki	93.1	1	San Francisco	80.7
2	Seattle	83.8	2	Dubai	73.2	2	Manchester	80.9	2	Lausanne	89.0	2	Seattle	75.4
3	San Francisco	82.6	3	Zurich	72.0	3	Buenos Aires	78.9	3	Oslo	89.0	3	Boston	73.7
4	Washington, DC	74.7	4	Geneva	68.9	4	Lausanne	78.9	4	Valletta	87.9	4	Geneva	72.7
5	Luxembourg	68.6	5	Abu Dhabi	68.8	5	Newcastle upon Tyne	78.3	5	Gothenburg	87.8	5	Lausanne	68.9
6	Hong Kong	67.1	6	San Francisco	65.7	6	Edinburgh	77.4	6	Ottawa	86.9	6	Stockholm	65.6
7	Dublin	62.7	7	Dublin	64.7	7	Zurich	76.9	7	Eindhoven	86.9	7	Helsinki	65.6
8	Boston	61.6	8	Hong Kong	64.5	8	San Francisco	74.2	8	Bilbao	86.6	8	Zurich	64.9
9	Eindhoven	59.6	9	Doha	63.1	9	Vancouver	73.1	9	Perth	86.4	9	Munich	63.3
10	Denver	58.9	10	Miami	58.6	10	Los Angeles	70.8	10	Copenhagen	86.1	10	Austin	61.8

dispersion of scores by income group for countries (Statistical Annex to Chapter 1, Figure A1): cities in high-income countries outperform those in upper-middle-income countries, which, in turn, are more talent-competitive than those in lower-middle-income countries.

Something similar can be said about cities in terms of region (Figure 10). Just as with the regional distribution of scores in the country index, cities in Northern America and Europe tend to have higher scores in the various quartiles than cities in other

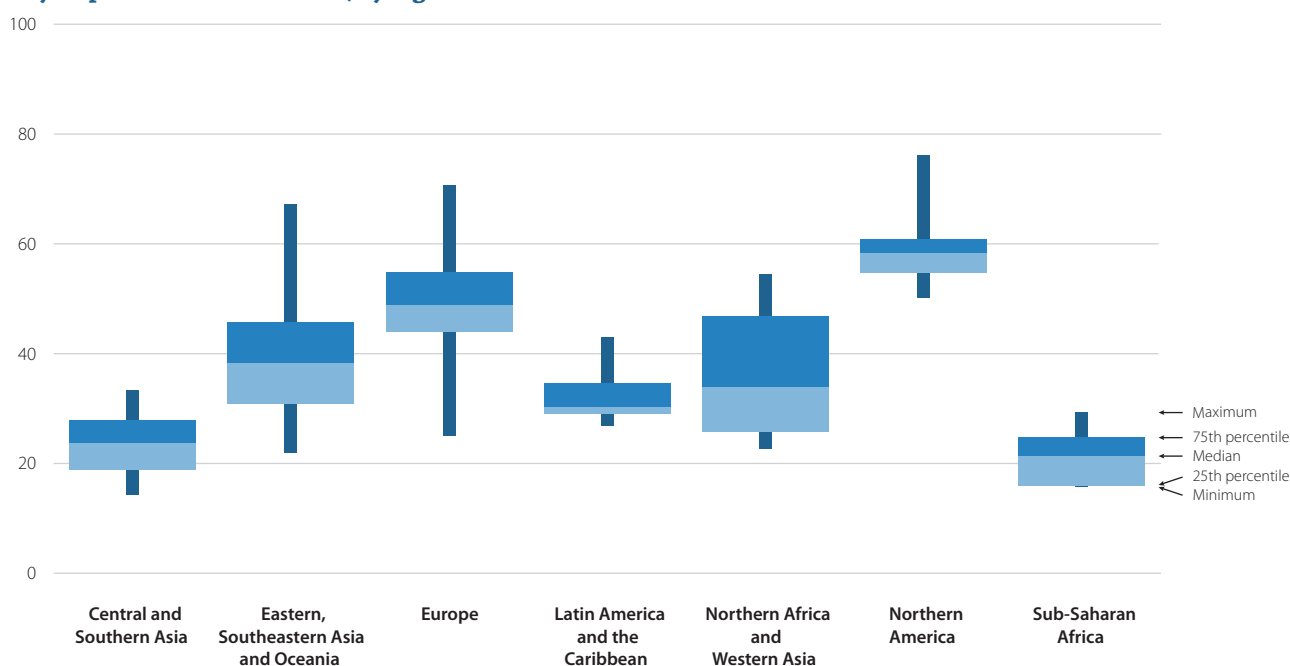
regions. It is nonetheless interesting to note that the dispersion of scores among cities in Northern Africa and Western Asia is particularly wide and that Sub-Saharan African cities are almost on a par with cities in Central and Southern Asia. The obvious point should be made, however, that the distributions are a function of the cities included in the GCTCI and that a clearer picture of interregional and intraregional inequalities should emerge as city coverage of the index increases.

Figure 9

City dispersion of GCTCI scores, by income group

Note: There is only one city in a low-income country included in the GCTCI 2022, so that income group has been excluded. Narrow bars indicate maximum and minimum values; wide bars indicate 25th, 50th, and 75th percentiles.

Figure 10

City dispersion of GCTCI scores, by region

Note: Narrow bars indicate maximum and minimum values; wide bars indicate 25th, 50th, and 75th percentiles.

ENDNOTES

- 1 Cottineau & Pumain (2022).
- 2 Burdett (2016).
- 3 Behrens & Robert-Nicoud (2014).
- 4 MacGahey (2023, forthcoming).
- 5 In 2019, the city of Bilbao hosted the first international Prosperity and Inclusion at City Level Seals and Awards (PICSA). Interrupted by COVID, this effort is expected to resume soon.
- 6 World Bank (2021).
- 7 A complete list of sources is provided in Annex 1 at the end of the chapter.
- 8 See Dijkstra et al. (2019).
- 9 For detailed information on the municipalities included in a given FUA, see <https://www.oecd.org/cfe/regionaldevelopment/functionalurbanareasbycountry.htm> and <https://ec.europa.eu/eurostat/web/regions-and-cities>

REFERENCES AND FURTHER READINGS

- Behrens, K., & Robert-Nicoud, F. (2014). Urbanisation makes the world more unequal. *VoxEU*, 24 July 2014, available at <https://cepr.org/voxeu/columns/urbanisation-makes-world-more-unequal>
- Burdett, R. (2016). Inequality and urban growth, OECD Forum, available at <https://www.oecd.org/social/inequality-urban-growth.htm>
- Burdett, R., & Sudjic, D. (2011). *Living in the endless city*. London: Phaidon Press.
- Cottineau, C., & Pumain, D. (eds.) (2022). *Cities at the heart of inequalities*. London and Hoboken, NJ: Wiley.
- Dijkstra, L., Poelman, H., & Veneri, P. (2019). The EU-OECD definition of a functional urban area. OECD Regional Development Working Papers 2019/11, available at <https://dx.doi.org/10.1787/d58cb34d-en>
- Euromonitor International. (2013). The world's largest cities are the most unequal, available at <https://www.euromonitor.com/article/the-worlds-largest-cities-are-the-most-unequal>
- Glaeser, E.L., Resseger, M., & Tobio, K. (2009). Inequality in cities. *Journal of Regional Science* 49 (4), 617–646, available at <https://doi.org/10.1111/j.1467-9787.2009.00627.x>
- MacGahey, R. (2023, forthcoming). *Unequal cities*. New York: Columbia University Press.
- UN-Habitat. (2010). *State of the world's cities 2010/2011: Bridging the urban divide*. London: Earthscan.
- World Bank. (2021). World Bank Group to discontinue Doing Business Report. Press Release 16 September 2021, available at <https://www.worldbank.org/en/news/statement/2021/09/16/world-bank-group-to-discontinue-doing-business-report>

Annexes to Chapter 3

Annex 1

Definition and sources of GCTCI variables

PILLAR	VARIABLE	SOURCE
Enable	1.1 GDP per capita, PPP (current international \$)	OECD Metropolitan Database, UN World Urbanization Prospects: The 2018 Revision, Eurostat, local and national statistics and studies, World Development Indicators
	1.2 Internet speed (average megabits per second, Mbps)	Nomad List
	1.3 Unemployment (% of labour force above 15 years old who are unemployed)	OECD Metropolitan Database, Eurostat, local and national statistics and studies, World Development Indicators
Attract	2.1 Presence of Forbes Global 2000 companies (HQ presence, % of population)	Forbes
	2.2 Foreign-born population (% of total)	Eurostat, American Community Survey, World Cities Culture Forum, New York City Global Partners database
	2.3 FDI projects (% of population)	fDi Markets, a service from the Financial Times Ltd
Grow	3.1 Major universities (top-scoring university per city)	QS World University Ranking 2023
	3.2 Tertiary enrolment (%)	Eurostat, American Community Survey, New York City Global Partners database
	3.3 FDI jobs created (% of population)	fDi Markets, a service from the Financial Times Ltd
Retain	4.1 Safety (homicide rate per 100,000 inhabitants)	United Nations Office on Drugs and Crime, UN-Habitat, Eurostat, FBI
	4.2 Environmental quality (annual mean of PM2.5 concentrations)	WHO Air Quality Database 2022; OECD and European Commission, Cities in the world (http://www.worldciestool.org/)
	4.3 Traffic travel times	TomTom Traffic Index
	4.4 Happiness	The Gallup World Poll (2005–2019), sourced from Helliwell, John F., Richard Layard, Jeffrey Sachs, and Jan-Emmanuel De Neve, eds. 2020. <i>World Happiness Report 2020</i> . New York: Sustainable Development Solutions Network
Global Knowledge Skills	5.1 Population with tertiary education (%)	Eurostat, local and national statistics, UNESCO UIS, New York City Global Partners database
	5.2 Patent applications (% of population)	Patentscope database (World Intellectual Property Organization)
	5.3 Airport connectivity (total number of passengers, % of population)	anna.aero, Airports Council International, national statistics
	5.4 Software development (GitHub commits, % of population)	Gousios, G. (2013), The GHTorrent dataset and tool suite. Proceedings of the 10th Working Conference on Mining Software Repositories (MSR), 233–236 (https://dl.acm.org/doi/10.5555/2487085.2487132). Data accessed through Google BigQuery (https://cloud.google.com/bigquery).

Note: FBI = Federal Bureau of Investigation (United States); FDI = foreign direct investment; OECD = Organisation for Economic Co-operation and Development; UNESCO UIS = UNESCO (United Nations Educational, Scientific and Cultural Organization) Institute for Statistics; WHO = World Health Organization.

Annex 2

GCTCI rankings and scores: Overall and by variable

Rank	City	GCTCI OVERALL	1. ENABLE			2. ATTRACT		
			1.1 GDP per capita	1.2 Internet speed	1.3 Unemployment	2.1 Presence of Forbes Global 2000 companies	2.2 Foreign-born population	2.3 FDI projects
1	San Francisco	76.2	100.0	70.6	77.3	84.0	42.1	71.0
2	Boston	73.1	72.7	35.3	76.9	58.9	26.2	79.9
3	Zurich	70.7	57.9	27.5	82.1	100.0	43.8	72.3
4	Seattle	69.2	73.0	99.0	79.5	45.3	25.0	57.3
5	Lausanne	67.6	40.1	28.4	69.4	60.2	51.2	54.4
6	Singapore	67.2	74.3	100.0	85.2	41.8	46.4	78.9
7	Geneva	65.4	60.5	28.4	59.0	77.7	61.3	67.7
8	Helsinki	65.0	44.7	23.5	66.8	67.2	16.3	89.9
9	Munich	64.5	61.9	26.5	87.8	54.0	26.3	79.9
10	Dublin	64.1	84.4	46.1	57.6	83.8	25.0	85.2
11	Amsterdam	63.5	52.7	13.7	80.8	56.6	22.5	89.8
12	Oslo	62.6	54.9	39.2	77.7	57.5	23.8	64.2
13	Washington, DC	62.4	58.6	87.3	78.2	43.1	25.7	60.0
14	Stockholm	62.4	52.9	33.3	72.5	83.6	31.3	55.6
15	Luxembourg	61.5	88.3	40.2	77.3	87.1	59.3	100.0
16	Vancouver	61.4	33.3	15.7	72.1	30.8	51.0	75.6
17	Copenhagen	61.1	49.1	42.2	69.9	56.3	25.6	73.7
18	London	60.9	48.7	13.7	77.7	61.8	36.3	73.5
19	Edinburgh	60.5	35.9	16.7	84.7	25.2	13.8	75.4
20	Austin	60.3	49.9	41.2	82.5	28.4	19.7	64.5
21	Hong Kong	59.1	40.8	85.3	75.1	76.1	49.6	67.7
22	Toronto	59.1	32.3	18.6	65.5	51.2	57.6	67.1
23	New York	59.0	64.9	32.4	68.6	57.5	36.1	58.5
24	Denver	58.8	53.1	47.1	76.4	55.6	15.7	63.0
25	Atlanta	58.3	50.3	36.3	83.4	40.6	18.2	72.6
26	Dusseldorf	57.9	52.5	26.5	83.4	49.5	23.8	93.4
27	Miami	57.4	40.4	38.2	79.0	36.4	50.8	88.7
28	Montreal	57.4	27.8	15.7	73.8	45.9	42.5	64.6
29	Melbourne	57.4	28.8	52.9	78.6	34.5	42.3	53.3
30	Frankfurt	57.1	50.1	23.5	82.5	35.8	27.5	86.2
31	Sydney	57.0	32.2	10.8	81.7	50.7	45.9	59.5
32	Chicago	57.0	50.6	45.1	73.4	55.0	21.7	56.1
33	Eindhoven	55.5	46.3	46.1	86.5	0.0	13.8	59.1
34	Houston	55.1	45.4	52.9	72.5	48.0	30.4	56.1
35	Paris	54.9	52.8	18.6	65.5	57.3	27.5	61.3
36	Gothenburg	54.8	34.5	33.3	71.6	46.4	25.0	50.1
37	Perth	54.8	58.0	10.8	73.8	36.2	44.3	46.5
38	Philadelphia	54.6	51.2	47.1	73.4	48.5	15.0	37.8
39	Abu Dhabi	54.4	87.4	7.8	77.7	29.5	100.0	76.8
40	Los Angeles	54.3	45.9	49.0	65.5	23.8	37.1	51.1
41	The Hague	54.0	40.9	26.5	78.2	58.7	28.7	47.7
42	Ottawa	53.5	31.9	16.7	67.2	16.5	24.6	36.4
43	Vienna	53.0	38.5	16.7	69.9	41.4	27.0	58.9
44	Manchester	53.0	27.7	16.7	78.2	0.0	15.0	77.1
45	Warsaw	53.0	49.6	33.3	90.8	36.3	2.7	75.3
46	Dubai	52.9	36.2	7.8	98.3	31.4	100.0	88.2
47	Brussels	52.7	47.7	25.5	65.5	35.4	36.3	65.8
48	Auckland	51.7	31.2	18.6	77.3	0.0	51.2	60.7
49	Brisbane	51.5	28.7	13.7	74.2	11.1	32.5	43.5
50	Taipei	51.5	39.0	23.5	83.8	61.6	0.1	46.8
51	Rotterdam	51.4	40.5	25.5	78.2	24.7	20.0	57.8
52	Dallas	51.3	47.0	42.2	78.2	45.6	23.9	50.2
53	Berlin	51.3	32.6	26.5	75.5	15.2	18.8	73.6
54	Bologna	50.9	38.2	10.8	78.2	28.0	14.6	41.5
55	Ljubljana	50.8	39.1	20.6	65.5	0.0	18.8	60.3
56	Antwerp	50.7	44.1	35.3	78.6	0.0	25.0	77.5
57	Newcastle upon Tyne	50.7	21.2	16.7	73.4	0.0	7.5	66.5
58	Doha	50.5	59.1	9.8	100.0	38.2	98.4	52.6

3. GROW			4. RETAIN				5. GLOBAL KNOWLEDGE SKILLS			
3.1 Major universities	3.2 Tertiary enrolment	3.3 FDI jobs created	4.1 Safety	4.2 Environmental quality	4.3 Traffic travel times	4.4 Happiness	5.1 Tertiary educated population	5.2 Patent applications	5.3 Airport connectivity	5.4 Software development
98.5	40.6	83.4	59.1	97.6	75.0	79.1	90.0	90.8	41.9	100.0
100.0	85.2	86.7	74.3	99.1	82.7	82.7	89.2	83.9	34.3	87.6
93.6	60.8	76.3	87.2	93.6	61.5	93.3	60.4	68.1	73.0	58.3
64.7	54.2	73.9	69.0	97.8	75.0	79.1	85.6	75.9	40.1	100.0
89.2	81.0	66.4	93.7	95.6	73.1	93.7	60.4	83.6		62.7
92.7	17.5	85.2	95.6	92.2	63.5	68.6	73.9	61.5	39.2	21.0
54.5	34.0	74.3	81.0	92.0	61.5	93.7	60.4	76.3	100.0	54.3
57.8	51.1	81.6	87.2	96.7	88.5	100.0	84.2	86.0	43.0	49.1
76.4	45.3	80.4	75.1	92.5	69.2	82.3	70.7	89.5	52.7	40.2
59.1	24.6	93.9	83.3	94.1	50.0	82.8	85.4	56.9	51.6	31.5
71.1	36.1	91.4	71.9	92.0	84.6	91.1	73.6	44.0	81.6	44.2
58.7	41.3	70.3	87.2	96.5	80.8	91.4	79.2	48.1	67.6	51.5
85.1	51.8	75.3	46.7	93.4	78.8	84.9	91.1	48.0	27.3	25.3
62.1	28.1	64.0	83.3	98.4	69.2	89.3	82.3	87.8	45.4	47.1
0.0	4.1	92.5	84.5	94.6	65.4	86.1	72.0	75.4	19.6	1.1
77.0	54.1	88.1	76.0	98.9	55.8	86.0	93.6	50.1	30.3	72.9
64.1	28.1	74.6	78.8	91.8	80.8	93.0	79.5	68.9	51.6	33.0
97.0	20.1	79.2	79.9	91.7	55.8	75.4	85.0	48.2	47.2	58.5
89.5	63.2	79.5	85.8	97.9	51.9	84.4	88.9	50.2	50.5	55.3
67.4	44.8	79.7	64.1	96.2	80.8	79.1	87.3	59.9	20.6	79.5
87.0	20.0	80.9	91.9	81.4	53.8	44.0	35.0	56.6	33.7	9.8
81.5	38.8	80.8	72.6	96.4	73.1	87.5	98.6	40.6	21.2	33.3
89.2	37.3	76.4	64.7	95.9	51.9	79.7	77.5	54.9	22.8	37.9
27.1	37.9	80.2	61.0	98.1	84.6	79.1	84.5	44.7	70.6	44.4
49.5	64.6	85.5	49.2	92.5	76.9	81.3	76.7	41.1	62.4	18.2
16.0	47.0	85.5	75.1	91.5	88.5	82.3	52.1	71.1	54.5	6.8
35.4	47.6	95.5	53.9	97.5	65.4	81.2	68.7	48.1	45.0	6.3
81.9	44.2	82.9	83.3	96.7	73.1	86.0	83.9	41.6	13.3	30.6
81.6	22.3	75.2	82.1	97.0	71.2	87.5	94.4	37.8	23.6	28.1
32.9	48.8	85.6	60.5	91.4	80.8	82.3	53.2	53.9	81.9	7.8
79.6	38.8	76.6	82.1	91.9	65.4	83.7	95.8	36.4	27.7	23.8
93.2	37.8	75.4	41.3	92.6	73.1	81.3	73.2	39.6	37.3	23.4
52.7	33.8	71.4	88.9	84.9	82.7	91.1	69.8	100.0	25.2	21.0
58.8	36.2	73.7	49.2	91.5	80.8	83.1	65.3	66.5	25.5	8.1
83.8	20.5	68.0	81.0	86.7	50.0	72.0	74.7	61.1	27.9	38.2
54.5	40.7	62.6	80.5	97.7	90.4	82.4	67.5	65.0	22.0	31.9
61.7	37.0	75.2	84.9	97.3	76.9	86.5	95.1	33.8	19.9	9.7
90.6	40.9	64.0	47.0	94.8	76.9	80.6	75.4	54.6	15.6	21.8
45.6	19.5	85.8	90.8	51.4	98.1	76.0	23.2	17.4	23.3	0.4
97.0	43.4	72.1	56.2	94.7	55.8	79.5	67.5	45.9	18.7	20.4
54.1	23.4	66.9	81.0	95.1	69.2	91.1	77.8	72.2	3.5	22.7
39.4	95.7	67.5	78.8	98.3	84.6	86.0	100.0	47.5	10.3	37.2
50.6	54.0	75.1	90.2	90.3	63.5	80.5	67.9	48.7	28.0	15.8
82.3	75.8	84.4	70.4	91.6	73.1	84.4	63.5	27.9	28.0	11.9
36.1	57.4	100.0	71.1	83.4	48.1	61.4	87.0	23.9	18.2	24.8
29.9	5.3	91.1	84.5	48.4	80.8	73.2	15.5	8.1	91.6	4.3
42.5	52.2	72.4	78.8	87.5	53.8	72.9	76.2	40.1	33.6	19.6
62.7	27.0	77.8	87.2	98.7	59.6	86.0	55.6	40.8	39.9	24.7
74.8	37.0	69.5	84.6	96.5	71.2	88.5	93.3	32.5	30.9	18.5
65.7	55.8	72.9	85.6	87.3	51.9	69.2	76.8	26.8	26.1	6.2
70.0	27.5	74.6	79.9	90.9	78.8	91.1	59.8	57.0	2.0	10.6
23.5	29.1	69.6	56.6	95.4	86.5	84.2	69.6	42.2	35.8	10.5
55.8	26.9	74.8	65.8	88.9	61.5	82.3	59.8	40.6	21.5	72.5
47.5	94.8	60.1	89.1	87.3	75.0	66.1	47.0	55.1	35.7	11.4
19.5	83.3	89.0	84.5	85.8	76.9	61.2	72.1	51.6	19.4	36.1
36.5	55.7	83.5	76.0	89.9	69.2	77.3	62.1	46.4	0.6	11.3
54.8	100.0	80.2	84.5	94.9	76.9	84.4	55.6	30.1	15.1	12.2
42.6	4.9	73.3	90.2	65.3	82.7	63.1	n/a	11.1	41.3	0.6

(continued on next page)

Annex 2 (continued)

GCTCI rankings and scores: Overall and by variable

Rank	City	GCTCI OVERALL	1. ENABLE			2. ATTRACT		
			1.1 GDP per capita	1.2 Internet speed	1.3 Unemployment	2.1 Presence of Forbes Global 2000 companies	2.2 Foreign-born population	2.3 FDI projects
59	Glasgow	50.4	27.1	17.6	80.8	0.0	7.5	64.5
60	Phoenix	50.3	36.2	55.9	80.8	29.6	16.8	36.2
61	Hanover	49.8	38.3	29.4	80.3	40.7	23.8	51.0
62	Prague	49.7	45.6	22.5	83.0	12.4	16.0	59.6
63	Vilnius	49.6	38.5	13.7	83.0	0.0	12.5	77.5
64	Tokyo	49.0	29.7	26.5	85.2	54.9	4.0	44.0
65	Krakow	48.8	28.4	35.3	86.5	0.0	2.7	71.7
66	Tel Aviv	48.7	31.8	12.7	69.0	48.4	34.0	80.0
67	Cardiff	48.7	23.3	17.6	83.0	24.9	8.8	55.4
68	Seoul	48.6	30.9	46.1	85.6	39.4	3.4	32.1
69	Bratislava	48.4	47.7	18.6	82.1	0.0	6.3	64.9
70	Madrid	48.2	33.5	35.3	17.5	39.7	22.5	61.8
71	Hamburg	47.9	44.3	26.5	83.4	8.9	20.0	67.9
72	Kiel	47.6	31.6	29.4	84.7	0.0	15.0	44.4
73	Lisbon	47.1	27.0	28.4	71.2	23.5	17.5	63.9
74	Leeds	46.9	24.6	17.6	82.1	0.0	11.3	58.8
75	Milan	46.4	44.2	12.7	71.2	37.8	17.6	56.2
76	Brno	46.2	25.7	11.8	70.7	0.0	3.9	48.8
77	Birmingham	46.0	23.3	17.6	72.9	0.0	17.5	56.3
78	Tallinn	45.8	37.3	18.6	71.2	0.0	22.5	64.8
79	Riga	45.7	27.6	21.6	77.7	0.0	20.0	63.0
80	Lyon	45.7	40.0	23.5	69.0	0.0	18.8	48.3
81	Budapest	45.7	34.4	29.4	88.2	17.3	10.0	58.0
82	Barcelona	45.6	29.3	35.3	13.1	26.7	21.3	66.7
83	Shanghai	44.7	24.6	1.0	88.5	32.2	0.9	46.8
84	Valletta	44.6	29.7	26.5	85.2	0.0	35.9	37.1
85	Rome	44.2	35.6	12.7	58.5	32.9	15.0	36.8
86	Nantes	43.4	31.5	23.5	74.2	0.0	8.8	55.9
87	Bilbao	43.3	30.1	39.2	24.9	23.4	10.0	49.6
88	Bucharest	43.3	52.0	37.3	85.2	0.0	3.0	64.4
89	Buenos Aires	43.0	17.4	3.9	68.6	4.5	16.9	43.4
90	Turin	43.0	30.3	12.7	59.4	26.1	11.9	37.4
91	Beijing	42.9	23.2	1.0	89.3	50.5	0.4	28.0
92	Bordeaux	42.7	30.8	23.5	67.2	0.0	19.7	47.9
93	Kuala Lumpur	41.8	27.5	10.8	83.0	26.6	14.7	64.0
94	Sofia	41.7	32.7	16.7	85.2	0.0	3.8	62.5
95	Zagreb	41.2	27.6	10.8	78.6	0.0	20.0	54.4
96	Riyadh	41.1	38.1	6.9	81.7	35.8	59.6	36.9
97	Bangkok	41.1	22.4	18.6	90.8	22.2	10.8	34.6
98	Osaka	40.9	23.2	23.5	82.5	29.1	3.5	16.7
99	Shenzhen	40.6	24.1	1.0	89.7	26.8	0.4	40.9
100	Fukuoka	40.3	20.3	27.5	81.7	25.0	2.9	18.0
101	Marseille	40.1	30.6	23.5	65.1	0.0	22.5	41.7
102	Nagoya	40.1	29.6	25.5	88.2	27.9	2.9	20.5
103	Zaragoza	39.1	27.0	29.4	9.6	0.0	15.0	51.3
104	Belgrade	39.0	21.5	23.5	67.7	0.0	15.5	52.1
105	Minsk	39.0	15.7	10.8	100.0	0.0	17.6	26.3
106	Lille	38.9	26.9	16.7	60.7	0.0	19.7	37.4
107	Busan	38.7	22.2	47.1	87.3	6.8	3.9	15.9
108	Kuwait City	38.7	28.4	4.9	90.8	18.0	90.1	20.3
109	Daegu	38.6	17.1	50.0	87.3	27.6	3.9	6.4
110	Hangzhou	38.0	20.5	1.0	88.3	21.2	0.0	15.2
111	Medina	37.7	25.7	9.8	69.9	0.0	59.6	15.6
112	Moscow	37.7	40.7	10.8	76.0	25.6	10.5	29.6
113	Guangzhou	37.3	18.2	0.0	89.7	17.9	0.4	23.2
114	St. Petersburg	37.2	26.7	8.8	76.0	18.9	12.3	24.6
115	Athens	37.0	25.4	8.8	48.5	30.1	17.5	39.7
116	Valparaiso	36.1	11.8	9.8	56.8	0.0	12.0	45.6

3. GROW			4. RETAIN				5. GLOBAL KNOWLEDGE SKILLS			
3.1 Major universities	3.2 Tertiary enrolment	3.3 FDI jobs created	4.1 Safety	4.2 Environmental quality	4.3 Traffic travel times	4.4 Happiness	5.1 Tertiary educated population	5.2 Patent applications	5.3 Airport connectivity	5.4 Software development
64.6	63.7	81.6	73.4	97.7	76.9	84.4	72.9	29.0	18.3	11.2
41.8	31.6	71.9	55.4	98.0	90.4	79.1	67.1	41.6	30.6	9.4
20.8	47.6	67.2	64.1	94.0	80.8	82.3	45.7	71.4	15.2	9.7
36.0	52.2	85.0	77.9	88.5	67.3	71.6	53.1	23.4	23.3	39.7
28.4	55.1	90.4	67.1	89.1	67.3	60.9	90.0	29.9	24.4	31.1
85.3	29.7	66.9	87.2	89.9	36.5	56.8	n/a	84.5	11.8	9.2
35.6	69.5	96.8	74.3	75.4	38.5	61.4	73.1	27.9	14.1	43.7
37.9	25.4	87.9	58.2	76.2	36.5	91.4	56.2	60.8	18.2	7.1
47.8	64.9	68.1	85.8	93.2	73.1	84.4	66.2	27.3	5.2	13.1
82.2	23.0	53.9	79.9	80.0	n/a	55.8	61.4	75.7	12.5	6.8
18.4	66.6	97.3	71.1	89.1	75.0	66.0	69.6	27.4	14.8	18.9
42.2	23.0	78.5	90.2	93.6	84.6	68.8	76.8	29.7	26.6	21.3
40.7	30.4	68.9	64.7	91.6	59.6	82.3	48.2	48.6	18.1	23.0
23.5	77.0	60.1	82.1	90.8	76.9	82.3	48.5	39.7	n/a	11.3
31.9	39.6	81.6	90.2	92.9	76.9	49.0	57.8	18.9	30.3	13.7
62.8	43.6	77.7	85.8	90.6	76.9	84.4	62.6	20.4	5.1	7.8
52.4	16.2	74.3	84.5	80.1	65.4	66.1	40.7	44.0	30.4	6.1
22.3	92.5	82.6	81.0	86.9	73.1	78.4	45.7	19.8	2.0	60.5
61.1	39.0	78.4	79.9	94.0	73.1	84.4	51.2	26.3	14.1	8.4
16.7	28.6	86.4	69.0	100.0	67.3	49.5	78.7	38.3	22.9	29.4
15.8	58.6	92.0	63.0	90.8	76.9	61.1	70.7	13.6	22.4	13.7
56.6	20.5	64.8	82.1	91.5	63.5	72.6	72.5	32.1	16.6	26.9
17.0	46.5	84.2	85.8	88.1	61.5	48.6	63.5	20.2	14.8	17.3
45.8	23.0	82.1	87.2	83.9	69.2	66.0	67.3	33.6	32.2	14.7
81.5	17.9	76.7	96.4	59.6	76.9	55.5	32.5	51.4	15.3	12.2
13.2	34.4	57.2	100.0	88.5	n/a	75.2	46.8	23.4	43.4	0.5
46.8	37.8	68.9	87.2	89.8	55.8	66.1	45.9	35.8	37.3	6.0
11.3	20.5	69.0	85.8	93.3	71.2	72.6	64.0	32.6	18.9	37.3
17.8	23.0	74.3	91.2	94.5	94.2	66.5	79.8	30.9	16.8	2.8
9.6	44.2	98.0	85.8	76.6	23.1	56.4	61.5	0.8	19.8	16.4
68.9	92.5	75.3	57.8	93.1	59.6	64.7	53.1	2.8	5.4	2.2
33.1	61.4	66.4	89.1	79.5	76.9	66.1	33.7	42.9	8.1	12.3
91.3	18.0	61.1	96.4	60.4	73.1	38.9	6.0	67.5	15.8	16.9
23.3	20.5	71.8	79.9	94.2	57.7	72.6	61.7	46.6	16.6	17.6
67.9	18.8	83.5	59.1	71.1	78.8	42.6	30.0	18.9	5.5	1.7
21.8	16.5	86.2	75.2	94.8	61.5	46.8	74.3	16.4	14.2	16.3
13.5	54.0	73.5	79.9	86.3	n/a	46.1	65.1	11.1	8.5	13.1
39.4	24.0	63.3	80.2	20.3	75.0	63.4	57.6	2.2	9.7	0.3
41.4	63.7	65.2	68.3	77.4	59.6	64.8	30.2	5.7	20.8	2.2
68.2	15.2	52.2	83.3	88.2	50.0	54.0	n/a	81.9	8.6	2.1
41.2	6.4	70.3	89.8	80.6	75.0	36.4	25.2	87.6	8.8	7.0
53.5	15.2	52.2	85.8	89.0	n/a	54.0	n/a	46.5	29.5	3.8
24.5	20.5	64.7	61.5	92.1	51.9	72.6	56.8	45.2	24.0	7.8
56.3	15.2	52.2	87.2	91.7	53.8	54.0	n/a	63.4	4.4	0.9
22.1	26.9	79.1	85.8	93.9	92.3	66.5	63.7	25.8	1.8	5.8
10.0	17.7	85.9	83.3	78.0	n/a	58.7	58.8	12.3	11.3	12.6
36.0	19.6	57.9	65.2	86.2	n/a	50.3	93.3	2.6	2.9	33.8
15.4	20.5	61.6	78.8	91.1	76.9	72.6	52.6	32.8	4.1	22.8
20.0	31.3	48.9	75.1	84.9	n/a	47.3	61.4	45.0	12.4	0.8
17.2	14.9	56.6	81.0	47.9	82.7	64.3	27.2	3.6	10.9	0.5
23.9	31.3	42.5	74.3	81.2	n/a	48.7	61.4	46.1	4.9	0.7
79.3	18.0	51.5	89.8	58.4	80.8	36.4	n/a	50.6	11.6	13.9
12.9	24.0	64.3	80.2	51.6	100.0	70.9	57.6	0.0	17.8	0.0
66.8	20.3	67.3	55.8	88.5	1.9	57.7	20.2	24.4	22.0	19.7
37.3	51.6	71.2	89.8	61.1	73.1	51.4	1.7	39.4	11.9	4.3
37.2	36.3	69.5	57.0	92.6	23.1	56.9	64.0	15.0	10.2	12.6
27.3	18.3	71.6	87.2	82.1	48.1	41.6	62.9	5.0	21.0	9.3
15.7	35.9	79.6	69.7	88.9	n/a	62.4	32.8	20.1	n/a	0.9

(continued on next page)

Annex 2 (continued)

GCTCI rankings and scores: Overall and by variable

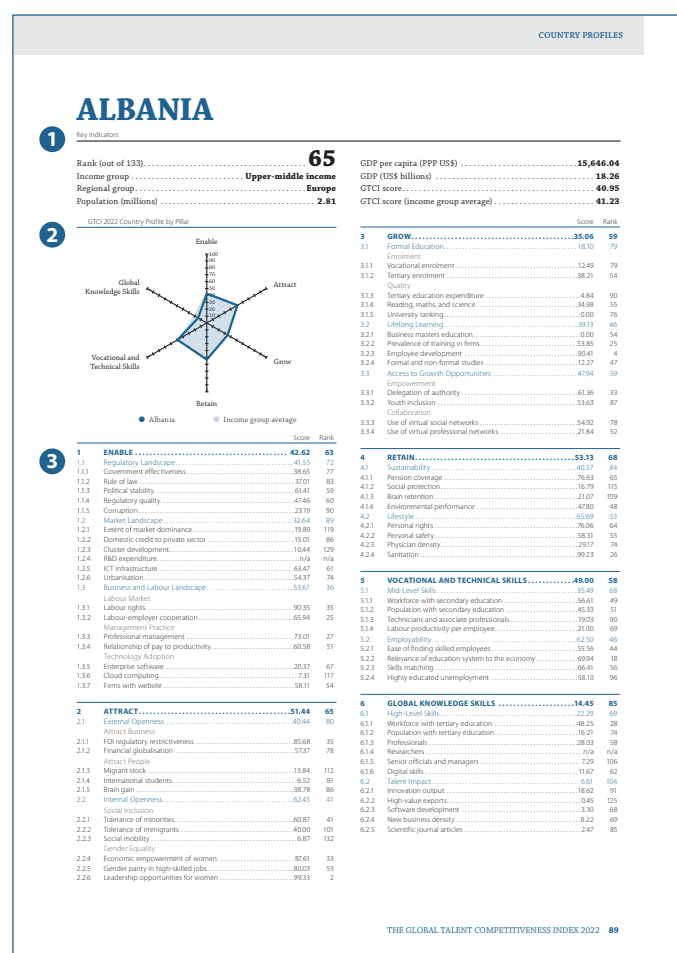
Rank	City	GCTCI OVERALL	1. ENABLE			2. ATTRACT		
			1.1 GDP per capita	1.2 Internet speed	1.3 Unemployment	2.1 Presence of Forbes Global 2000 companies	2.2 Foreign-born population	2.3 FDI projects
117	Nanjing	35.7	22.2	0.0	86.5	14.5	0.1	15.9
118	Santiago	35.1	16.9	8.8	47.6	10.8	12.0	35.2
119	Zhuhai	34.6	19.6	0.0	89.7	20.3	0.4	24.7
120	Mexico City	34.5	15.3	10.8	78.6	9.9	12.8	43.9
121	Sao Paulo	34.4	14.6	5.9	62.4	12.6	0.7	32.8
122	Xiamen	33.8	19.2	0.0	85.9	18.0	0.4	8.9
123	Wuhan	33.6	16.9	0.0	87.4	7.3	0.1	14.3
124	Suzhou	33.6	22.2	1.0	86.5	4.9	0.0	28.8
125	Bengaluru	33.3	15.5	38.2	83.8	10.5	0.7	45.3
126	Montevideo	32.6	13.3	8.8	67.2	0.0	3.8	34.3
127	Kyiv	32.5	28.0	19.6	71.2	0.0	16.7	42.9
128	Hanoi	31.3	10.7	4.9	70.6	14.4	0.1	45.8
129	Manila	31.3	15.8	4.9	70.3	14.2	0.3	50.7
130	Ho Chi Minh City	31.2	18.2	8.8	79.5	0.0	0.1	38.8
131	Lima	30.3	10.8	3.9	68.6	6.0	4.4	26.4
132	Istanbul	30.2	30.4	5.9	36.2	15.6	4.3	28.7
133	Jakarta	30.1	20.5	8.8	63.3	10.8	0.2	26.2
134	Bogota	30.0	15.0	5.9	62.9	12.3	0.9	38.7
135	Mumbai	29.5	15.2	12.7	83.0	26.5	0.7	30.2
136	Brasilia	29.5	24.3	6.9	50.2	9.4	0.7	14.6
137	Cape Town	29.3	10.6	5.9	0.0	13.3	8.7	72.2
138	Tianjin	29.3	15.0	1.0	84.6	8.5	0.1	13.2
139	Medellin	29.0	9.4	4.9	59.0	7.5	3.6	36.9
140	Ankara	28.9	26.1	7.8	35.8	0.0	10.0	19.5
141	Belo Horizonte	28.3	8.4	7.8	59.0	5.7	0.7	20.9
142	Chennai	28.3	15.7	12.7	82.5	2.9	0.7	37.7
143	Baku	28.1	28.9	2.9	68.1	0.0	4.1	32.6
144	Rio de Janeiro	28.0	10.8	3.9	57.6	8.9	0.9	19.2
145	Chengdu	27.6	10.4	1.0	84.6	4.5	0.1	9.0
146	Pune	27.6	8.4	12.7	83.0	9.2	0.7	46.9
147	Hyderabad	26.8	10.6	13.7	64.2	0.0	0.7	38.8
148	Quito	26.8	10.1	5.9	57.2	0.0	5.1	22.3
149	Johannesburg	26.6	15.5	5.9	0.0	27.0	16.4	44.0
150	Shenyang	26.0	10.7	0.0	80.3	4.1	0.1	7.8
151	Xi'an	25.9	9.2	0.0	85.3	7.0	0.1	6.7
152	Medan	25.6	13.1	7.8	53.5	0.0	0.2	6.8
153	Nairobi	25.3	6.6	9.8	19.7	7.2	3.7	45.4
154	Chongqing	25.2	9.7	1.0	87.8	3.1	0.1	3.9
155	Skopje	25.1	13.8	8.8	2.2	0.0	8.8	44.2
156	Rabat	25.1	4.1	6.9	47.2	0.0	0.4	39.4
157	Casablanca	24.9	6.2	4.9	36.7	8.3	0.4	39.7
158	Phnom Penh	24.9	4.4	3.9	84.3	0.0	0.9	26.8
159	Delhi	23.8	10.3	13.7	58.5	13.2	0.7	25.2
160	Cairo	23.7	10.2	2.0	48.5	1.4	1.0	30.2
161	Zhengzhou	23.2	12.1	0.0	85.6	4.9	0.1	3.9
162	Kolkata	23.0	4.8	12.7	86.0	4.2	0.7	18.8
163	Accra	22.7	3.0	4.9	47.2	0.0	3.0	37.5
164	Tunis	22.7	7.8	3.9	22.7	0.0	0.8	40.1
165	Makassar	21.9	16.3	7.8	30.9	0.0	0.2	0.0
166	Dakar	21.8	2.3	3.9	26.6	0.0	2.9	35.3
167	Abidjan	20.9	4.3	1.0	62.9	0.0	25.6	30.5
168	Karachi	20.5	8.0	2.9	75.5	0.0	3.6	6.7
169	Surat	17.3	3.5	15.7	93.4	0.0	0.7	0.0
170	Lahore	16.4	6.1	3.9	58.1	0.0	3.6	3.0
171	Addis Ababa	16.2	2.0	1.0	3.9	0.0	1.4	21.6
172	Dar es Salaam	16.0	0.0	1.0	10.9	0.0	1.6	12.7
173	Lagos	15.7	4.7	2.9	15.7	2.6	1.3	22.1
174	Abuja	15.7	1.7	3.9	0.0	0.0	1.3	19.4
175	Dhaka	14.2	7.4	5.9	0.0	0.0	1.8	9.9

Note: n/a = not available.

3. GROW			4. RETAIN				5. GLOBAL KNOWLEDGE SKILLS			
3.1 Major universities	3.2 Tertiary enrolment	3.3 FDI jobs created	4.1 Safety	4.2 Environmental quality	4.3 Traffic travel times	4.4 Happiness	5.1 Tertiary educated population	5.2 Patent applications	5.3 Airport connectivity	5.4 Software development
53.9	18.0	59.3	89.8	57.2	75.0	36.4	n/a	56.5	10.4	4.9
54.9	35.9	63.1	67.1	74.6	44.2	75.1	32.8	17.3	9.1	1.9
0.0	18.0	63.4	89.8	73.6	67.3	36.4	n/a	65.5	15.7	1.9
58.0	18.8	69.8	31.4	77.9	46.2	73.3	27.7	2.8	7.3	0.4
56.1	44.0	58.9	48.4	85.3	59.6	66.0	24.2	6.7	8.8	5.8
27.3	18.0	54.5	89.8	78.1	76.9	36.4	n/a	40.4	19.5	3.8
44.3	18.0	52.4	89.8	51.9	88.5	36.4	n/a	51.7	6.2	5.2
19.0	18.0	71.2	89.8	47.6	88.5	36.4	n/a	52.4	1.8	1.1
49.5	12.7	82.2	65.2	66.1	26.9	0.0	13.8	17.4	7.7	17.6
26.2	25.0	74.9	40.5	91.0	76.9	67.7	19.7	7.7	3.9	7.3
18.5	17.5	67.4	65.2	77.1	11.5	34.7	n/a	6.3	12.1	45.1
11.3	39.0	79.0	88.3	42.0	n/a	38.1	19.4	0.5	10.3	4.3
27.7	16.4	82.3	53.9	70.2	36.5	52.6	22.9	0.4	10.6	1.4
0.0	27.7	74.8	79.9	73.1	n/a	37.2	19.4	1.5	15.2	3.4
30.2	23.4	61.0	47.5	68.8	38.5	61.8	65.6	1.1	7.0	2.1
24.9	51.2	56.8	67.7	78.9	0.0	43.9	12.7	35.6	23.7	3.4
38.7	14.8	59.4	93.7	49.0	53.8	40.2	15.5	0.0	22.2	4.0
41.6	8.2	70.2	35.0	90.1	13.5	71.4	31.1	6.1	10.5	1.0
46.7	12.7	68.1	84.5	56.8	17.3	0.0	13.8	14.3	6.9	2.5
14.5	21.8	48.0	25.9	98.6	90.4	65.9	24.2	3.3	18.7	9.0
39.4	9.1	85.4	0.0	87.5	76.9	39.8	23.7	7.0	8.7	16.9
34.4	18.0	59.7	89.8	32.1	78.8	36.4	n/a	21.7	5.0	0.8
19.3	24.2	68.8	23.8	79.5	n/a	60.9	33.6	7.8	6.3	2.7
24.0	15.2	49.7	69.1	84.3	53.8	51.1	28.5	27.4	10.8	2.8
17.9	21.8	64.8	23.3	97.5	65.4	65.9	24.2	4.0	6.4	3.1
22.1	12.7	81.3	65.2	61.7	n/a	0.0	13.8	14.5	6.0	4.1
9.5	10.9	54.1	65.2	61.7	n/a	47.0	38.0	3.0	6.4	1.3
32.1	22.0	52.1	31.4	91.7	50.0	65.9	24.2	8.6	6.5	4.6
28.0	18.0	43.6	89.8	45.4	65.4	36.4	n/a	27.4	8.0	1.6
22.4	12.7	82.6	65.2	43.5	38.5	0.0	13.8	11.4	2.6	5.3
21.2	12.7	86.3	65.2	56.6	n/a	0.0	13.8	17.5	5.7	6.6
11.0	22.5	58.5	50.2	81.4	n/a	67.3	n/a	2.8	6.5	1.9
27.7	8.1	63.9	15.9	62.3	82.7	42.0	20.2	13.5	14.5	2.7
0.0	18.0	48.2	89.8	57.3	65.4	36.4	n/a	25.5	7.6	0.6
35.1	18.0	47.2	89.8	18.9	n/a	36.4	n/a	22.0	10.9	1.9
0.0	14.8	60.9	87.8	75.7	n/a	40.2	15.5	0.0	15.4	0.6
9.0	10.3	66.2	52.5	98.4	n/a	37.1	n/a	0.4	5.6	8.2
18.1	18.0	45.2	89.8	60.0	38.5	36.4	n/a	18.3	4.1	0.5
0.0	14.2	71.7	77.9	52.5	n/a	40.6	32.6	7.2	10.0	5.8
3.1	15.8	67.0	72.6	79.7	n/a	35.8	n/a	3.9	0.1	0.2
0.0	15.8	67.1	73.4	79.3	n/a	37.8	n/a	2.4	1.6	0.2
0.0	5.3	66.0	75.1	78.9	n/a	20.4	6.9	0.0	1.4	2.0
46.5	13.7	66.3	66.0	0.0	26.9	10.3	13.8	12.8	10.3	5.4
27.5	12.5	65.1	70.4	65.8	51.9	12.1	7.9	0.5	0.1	0.7
14.2	18.0	41.3	89.8	21.9	n/a	36.4	n/a	12.7	6.4	0.5
17.0	12.7	69.3	65.2	37.5	n/a	0.0	13.8	2.2	4.2	1.3
6.5	7.7	70.9	79.9	38.5	n/a	39.8	n/a	0.0	1.3	0.7
7.3	10.7	66.6	66.4	85.5	n/a	20.7	n/a	0.0	6.8	0.4
0.0	14.8	0.0	86.3	95.9	n/a	40.2	15.5	0.0	31.6	0.6
0.0	4.9	57.7	94.3	54.3	n/a	39.5	4.6	0.6	2.1	0.2
0.0	0.0	59.0	38.1	61.3	n/a	29.9	n/a	0.0	1.0	0.2
7.2	4.4	39.2	60.0	51.6	n/a	43.7	4.8	0.0	1.1	0.5
0.0	12.7	0.0	65.2	56.8	n/a	0.0	13.8	1.5	0.0	0.3
20.8	4.4	40.7	60.0	0.0	n/a	40.8	4.8	0.0	1.2	0.7
0.0	2.0	61.0	47.8	80.6	n/a	14.4	0.0	0.0	10.3	0.4
0.0	1.4	43.5	63.6	93.8	n/a	9.1	1.3	0.0	1.0	0.5
0.0	2.9	53.4	26.0	72.1	n/a	27.0	n/a	0.1	1.8	3.0
0.0	2.9	53.5	66.4	53.8	n/a	27.0	n/a	0.0	4.5	1.1
14.5	9.9	46.1	70.6	0.0	n/a	29.6	21.0	0.1	0.8	1.8

Country Profiles

How to Read the Country Profiles



1 The first section introduces the country's key indicators. It comprises its rank within the GTCI (out of 133 countries), its income group (based on the World Bank's Income Group Classification as of July 2022), and its regional group (based on the United Nations' sub-regional groups). Additionally, basic country statistics are presented. These include population (in millions), GDP per capita (PPP US\$), and GDP (current US\$ in billions) from the World Bank's World Development Indicators. Finally, the section presents the country's GTCI score and income group average GTCI score.

2 The second section presents a radar chart that outlines the respective country's performance along the six pillars of the GTCI and its position with respect to its income group peers. The dark blue line plots the country's score on each of the six pillars, while the shaded area represents the average scores for its corresponding income group.

3 The third section lays out the country's normalised scores and ranks across all pillars, sub-pillars, and variables. The pillars are identified by a bold single-digit notation (e.g., 1 ENABLE) and sub-pillars by a two-digit notation (e.g., 1.2 Market Landscape). Under selected sub-pillars, components are provided in grey. There are no values attached to the components, as they only contextualise the theoretical framework. The 69 variables are indicated by a three-digit notation (e.g., 1.2.3 Cluster development).

For more information about the method of calculation and variable definitions, please refer to Appendix I: Technical Notes and Appendix II: Sources and Definitions, respectively.

The country profiles provide more granular information on how each of the 133 countries performs in the various dimensions of the Global Talent Competitiveness Index (GTCI).

Each country profile consists of three parts:

- 1** Key indicators,
- 2** Radar chart, and
- 3** Scores and Ranks.

Index of Countries

COUNTRY	PAGE
Albania	89
Algeria	90
Angola	91
Argentina	92
Armenia	93
Australia	94
Austria	95
Azerbaijan	96
Bahrain	97
Bangladesh	98
Belarus	99
Belgium	100
Benin	101
Bolivia, Plurinational St.	102
Bosnia and Herzegovina	103
Botswana	104
Brazil	105
Brunei Darussalam	106
Bulgaria	107
Burkina Faso	108
Burundi	109
Cabo Verde	110
Cambodia	111
Cameroon	112
Canada	113
Chad	114
Chile	115
China	116
Colombia	117
Congo, Dem. Rep.	118
Costa Rica	119
Côte d'Ivoire	120
Croatia	121
Cyprus	122
Czech Republic	123
Denmark	124
Dominican Republic	125
Ecuador	126
Egypt	127
El Salvador	128
Estonia	129
Eswatini	130
Ethiopia	131
Finland	132
France	133

COUNTRY	PAGE
Gambia	134
Georgia	135
Germany	136
Ghana	137
Greece	138
Guatemala	139
Guinea	140
Honduras	141
Hungary	142
Iceland	143
India	144
Indonesia	145
Iran, Islamic Rep.	146
Ireland	147
Israel	148
Italy	149
Jamaica	150
Japan	151
Jordan	152
Kazakhstan	153
Kenya	154
Korea, Rep.	155
Kuwait	156
Kyrgyzstan	157
Lao PDR	158
Latvia	159
Lebanon	160
Lesotho	161
Lithuania	162
Luxembourg	163
Madagascar	164
Malawi	165
Malaysia	166
Mali	167
Malta	168
Mauritania	169
Mauritius	170
Mexico	171
Moldova, Rep.	172
Mongolia	173
Montenegro	174
Morocco	175
Mozambique	176
Namibia	177
Nepal	178

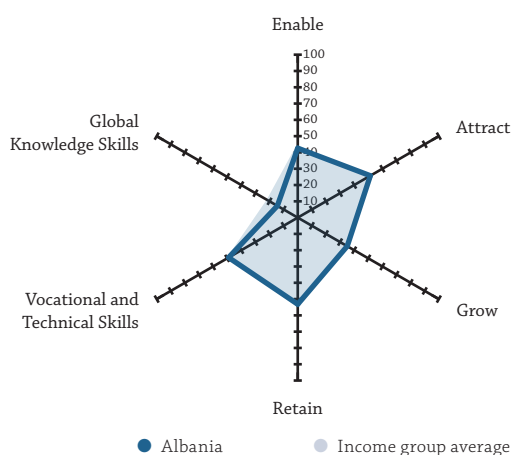
COUNTRY	PAGE
Netherlands	179
New Zealand	180
Nicaragua	181
Nigeria	182
North Macedonia	183
Norway	184
Oman	185
Pakistan	186
Panama	187
Paraguay	188
Peru	189
Philippines	190
Poland	191
Portugal	192
Qatar	193
Romania	194
Russian Federation	195
Rwanda	196
Saudi Arabia	197
Senegal	198
Serbia	199
Singapore	200
Slovakia	201
Slovenia	202
South Africa	203
Spain	204
Sri Lanka	205
Sweden	206
Switzerland	207
Tanzania, United Rep.	208
Thailand	209
Trinidad and Tobago	210
Tunisia	211
Türkiye	212
Uganda	213
Ukraine	214
United Arab Emirates	215
United Kingdom	216
United States of America	217
Uruguay	218
Viet Nam	219
Zambia	220
Zimbabwe	221

ALBANIA

Key Indicators

Rank (out of 133)	65
Income group	Upper-middle income
Regional group	Europe
Population (millions)	2.81

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	42.62	63
1.1 Regulatory Landscape	41.55	72
1.1.1 Government effectiveness	38.65	77
1.1.2 Rule of law	37.01	83
1.1.3 Political stability	61.41	59
1.1.4 Regulatory quality	47.46	60
1.1.5 Corruption	23.19	90
1.2 Market Landscape	32.64	89
1.2.1 Extent of market dominance	19.89	119
1.2.2 Domestic credit to private sector	15.01	86
1.2.3 Cluster development	10.44	129
1.2.4 R&D expenditure	n/a	n/a
1.2.5 ICT infrastructure	63.47	61
1.2.6 Urbanisation	54.37	74
1.3 Business and Labour Landscape	53.67	36
Labour Market		
1.3.1 Labour rights	90.35	35
1.3.2 Labour-employer cooperation	65.94	25
Management Practice		
1.3.3 Professional management	73.01	27
1.3.4 Relationship of pay to productivity	60.58	51
Technology Adoption		
1.3.5 Enterprise software	20.37	67
1.3.6 Cloud computing	7.31	117
1.3.7 Firms with website	58.11	54
2 ATTRACT	51.44	65
2.1 External Openness	40.44	80
Attract Business		
2.1.1 FDI regulatory restrictiveness	85.68	35
2.1.2 Financial globalisation	57.37	78
Attract People		
2.1.3 Migrant stock	13.84	112
2.1.4 International students	6.52	81
2.1.5 Brain gain	38.78	86
2.2 Internal Openness	62.45	41
Social Inclusion		
2.2.1 Tolerance of minorities	60.87	41
2.2.2 Tolerance of immigrants	40.00	101
2.2.3 Social mobility	6.87	132
Gender Equality		
2.2.4 Economic empowerment of women	87.61	33
2.2.5 Gender parity in high-skilled jobs	80.03	53
2.2.6 Leadership opportunities for women	99.33	2

GDP per capita (PPP US\$)	15,646.04
GDP (US\$ billions)	18.26
GTCI score	40.95
GTCI score (income group average)	41.23

	Score	Rank
3 GROW	35.06	59
3.1 Formal Education	18.10	79
Enrolment		
3.1.1 Vocational enrolment	12.49	79
3.1.2 Tertiary enrolment	38.21	54
Quality		
3.1.3 Tertiary education expenditure	4.84	90
3.1.4 Reading, maths, and science	34.98	55
3.1.5 University ranking	0.00	76
3.2 Lifelong Learning	39.13	46
3.2.1 Business masters education	0.00	54
3.2.2 Prevalence of training in firms	53.85	25
3.2.3 Employee development	90.41	4
3.2.4 Formal and non-formal studies	12.27	47
3.3 Access to Growth Opportunities	47.94	59
Empowerment		
3.3.1 Delegation of authority	61.36	33
3.3.2 Youth inclusion	53.63	87
Collaboration		
3.3.3 Use of virtual social networks	54.92	78
3.3.4 Use of virtual professional networks	21.84	52

4 RETAIN	53.13	68
4.1 Sustainability	40.57	84
4.1.1 Pension coverage	76.63	65
4.1.2 Social protection	16.79	115
4.1.3 Brain retention	21.07	109
4.1.4 Environmental performance	47.80	48
4.2 Lifestyle	65.69	53
4.2.1 Personal rights	76.06	64
4.2.2 Personal safety	58.31	55
4.2.3 Physician density	29.17	74
4.2.4 Sanitation	99.23	26

5 VOCATIONAL AND TECHNICAL SKILLS	49.00	58
5.1 Mid-Level Skills	35.49	68
5.1.1 Workforce with secondary education	56.61	49
5.1.2 Population with secondary education	45.33	51
5.1.3 Technicians and associate professionals	19.03	90
5.1.4 Labour productivity per employee	21.00	69
5.2 Employability	62.50	46
5.2.1 Ease of finding skilled employees	55.56	44
5.2.2 Relevance of education system to the economy	69.94	18
5.2.3 Skills matching	66.41	56
5.2.4 Highly educated unemployment	58.10	96

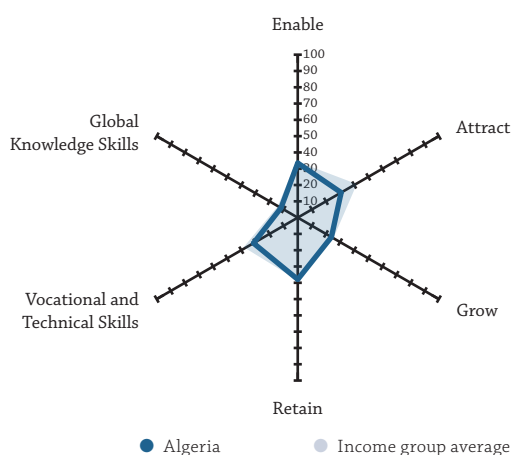
6 GLOBAL KNOWLEDGE SKILLS	14.45	85
6.1 High-Level Skills	22.29	69
6.1.1 Workforce with tertiary education	48.25	28
6.1.2 Population with tertiary education	16.21	74
6.1.3 Professionals	28.03	58
6.1.4 Researchers	n/a	n/a
6.1.5 Senior officials and managers	7.29	106
6.1.6 Digital skills	11.67	62
6.2 Talent Impact	6.61	104
6.2.1 Innovation output	18.62	91
6.2.2 High-value exports	0.45	125
6.2.3 Software development	3.30	68
6.2.4 New business density	8.22	69
6.2.5 Scientific journal articles	2.47	85

ALGERIA

Key Indicators

Rank (out of 133).....	104
Income group.....	Lower-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	44.62

GTCI 2022 Country Profile by Pillar



	Score	Rank
1	ENABLE.....33.49	99
1.1	Regulatory Landscape.....23.49	118
1.1.1	Government effectiveness.....28.97	98
1.1.2	Rule of law.....26.11	112
1.1.3	Political stability.....35.43	113
1.1.4	Regulatory quality.....6.66	130
1.1.5	Corruption.....20.29	96
1.2	Market Landscape.....39.83	70
1.2.1	Extent of market dominance.....53.54	44
1.2.2	Domestic credit to private sector.....11.06	95
1.2.3	Cluster development.....45.50	65
1.2.4	R&D expenditure.....9.66	57
1.2.5	ICT infrastructure.....50.68	80
1.2.6	Urbanisation.....68.53	49
1.3	Business and Labour Landscape.....37.14	98
	Labour Market	
1.3.1	Labour rights.....66.76	80
1.3.2	Labour-employer cooperation.....38.71	76
	Management Practice	
1.3.3	Professional management.....29.57	115
1.3.4	Relationship of pay to productivity.....49.77	78
	Technology Adoption	
1.3.5	Enterprise software.....22.14	60
1.3.6	Cloud computing.....15.89	64
1.3.7	Firms with website.....n/a	n/a
2	ATTRACT.....30.75	123
2.1	External Openness.....17.33	131
	Attract Business	
2.1.1	FDI regulatory restrictiveness.....28.65	75
2.1.2	Financial globalisation.....16.29	126
	Attract People	
2.1.3	Migrant stock.....11.64	117
2.1.4	International students.....2.04	97
2.1.5	Brain gain.....28.02	107
2.2	Internal Openness.....44.17	109
	Social Inclusion	
2.2.1	Tolerance of minorities.....27.17	92
2.2.2	Tolerance of immigrants.....38.46	103
2.2.3	Social mobility.....33.02	101
	Gender Equality	
2.2.4	Economic empowerment of women.....39.82	121
2.2.5	Gender parity in high-skilled jobs.....60.68	92
2.2.6	Leadership opportunities for women.....65.87	36

GDP per capita (PPP US\$).....	12,037.48
GDP (US\$ billions).....	167.98
GTCI score.....	28.21
GTCI score (income group average).....	30.02

	Score	Rank
3	GROW.....23.86	95
3.1	Formal Education.....14.67	88
	Enrolment	
3.1.1	Vocational enrolment.....12.83	78
3.1.2	Tertiary enrolment.....34.59	60
	Quality	
3.1.3	Tertiary education expenditure.....n/a	n/a
3.1.4	Reading, maths, and science.....11.28	76
3.1.5	University ranking.....0.00	76
3.2	Lifelong Learning.....21.54	105
3.2.1	Business masters education.....0.00	54
3.2.2	Prevalence of training in firms.....n/a	n/a
3.2.3	Employee development.....43.08	96
3.2.4	Formal and non-formal studies.....n/a	n/a
3.3	Access to Growth Opportunities.....35.36	94
	Empowerment	
3.3.1	Delegation of authority.....18.81	120
3.3.2	Youth inclusion.....63.59	71
	Collaboration	
3.3.3	Use of virtual social networks.....49.51	85
3.3.4	Use of virtual professional networks.....9.53	90

4	RETAIN.....37.93	98
4.1	Sustainability.....25.52	108
4.1.1	Pension coverage.....n/a	n/a
4.1.2	Social protection.....40.18	64
4.1.3	Brain retention.....18.26	117
4.1.4	Environmental performance.....18.14	114
4.2	Lifestyle.....50.34	86
4.2.1	Personal rights.....40.52	105
4.2.2	Personal safety.....49.58	73
4.2.3	Physician density.....26.68	76
4.2.4	Sanitation.....84.59	85

5	VOCATIONAL AND TECHNICAL SKILLS.....31.36	111
5.1	Mid-Level Skills.....25.34	93
5.1.1	Workforce with secondary education.....31.80	89
5.1.2	Population with secondary education.....n/a	n/a
5.1.3	Technicians and associate professionals.....19.04	89
5.1.4	Labour productivity per employee.....25.18	61
5.2	Employability.....37.39	118
5.2.1	Ease of finding skilled employees.....40.19	79
5.2.2	Relevance of education system to the economy.....34.58	87
5.2.3	Skills matching.....n/a	n/a
5.2.4	Highly educated unemployment.....n/a	n/a

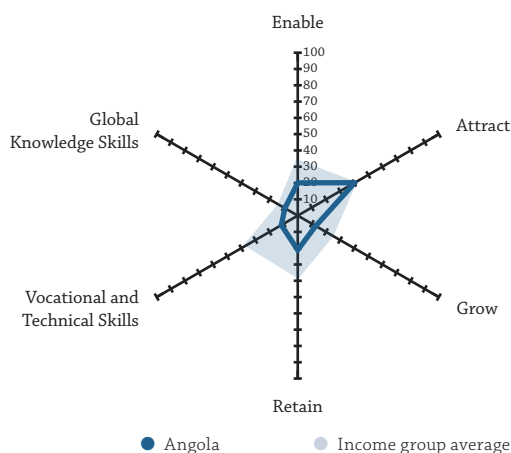
6	GLOBAL KNOWLEDGE SKILLS.....11.88	95
6.1	High-Level Skills.....20.79	77
6.1.1	Workforce with tertiary education.....22.55	78
6.1.2	Population with tertiary education.....n/a	n/a
6.1.3	Professionals.....22.63	71
6.1.4	Researchers.....9.29	55
6.1.5	Senior officials and managers.....18.65	74
6.1.6	Digital skills.....30.82	26
6.2	Talent Impact.....2.97	122
6.2.1	Innovation output.....6.38	123
6.2.2	High-value exports.....1.50	114
6.2.3	Software development.....0.33	113
6.2.4	New business density.....1.74	104
6.2.5	Scientific journal articles.....4.90	77

ANGOLA

Key Indicators

Rank (out of 133).....	130
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	33.93

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....20.10 129		
1.1 Regulatory Landscape.....22.04 120		
1.1.1 Government effectiveness.....12.68 129		
1.1.2 Rule of law.....21.38 122		
1.1.3 Political stability.....44.77 95		
1.1.4 Regulatory quality.....16.88 124		
1.1.5 Corruption.....14.49 110		
1.2 Market Landscape.....16.06 124		
1.2.1 Extent of market dominance.....0.00 133		
1.2.2 Domestic credit to private sector.....3.05 123		
1.2.3 Cluster development.....9.02 131		
1.2.4 R&D expenditure.....0.40 112		
1.2.5 ICT infrastructure.....23.56 112		
1.2.6 Urbanisation.....60.35 66		
1.3 Business and Labour Landscape.....22.18 130		
Labour Market		
1.3.1 Labour rights.....69.57 76		
1.3.2 Labour-employer cooperation.....13.26 123		
Management Practice		
1.3.3 Professional management.....9.19 131		
1.3.4 Relationship of pay to productivity.....15.76 132		
Technology Adoption		
1.3.5 Enterprise software.....17.94 83		
1.3.6 Cloud computing.....7.36 116		
1.3.7 Firms with website.....n/a n/a		
2 ATTRACT.....40.41 103		
2.1 External Openness.....48.79 63		
Attract Business		
2.1.1 FDI regulatory restrictiveness.....n/a n/a		
2.1.2 Financial globalisation.....66.21 54		
Attract People		
2.1.3 Migrant stock.....35.61 76		
2.1.4 International students.....n/a n/a		
2.1.5 Brain gain.....44.54 73		
2.2 Internal Openness.....32.03 126		
Social Inclusion		
2.2.1 Tolerance of minorities.....17.39 109		
2.2.2 Tolerance of immigrants.....46.15 90		
2.2.3 Social mobility.....0.00 133		
Gender Equality		
2.2.4 Economic empowerment of women.....70.80 82		
2.2.5 Gender parity in high-skilled jobs.....33.05 111		
2.2.6 Leadership opportunities for women.....24.80 120		

GDP per capita (PPP US\$).....	6,581.04
GDP (US\$ billions).....	72.55
GTCI score.....	19.17
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....12.72 126		
3.1 Formal Education.....9.12 101		
Enrolment		
3.1.1 Vocational enrolment.....22.16 55		
3.1.2 Tertiary enrolment.....5.19 111		
Quality		
3.1.3 Tertiary education expenditure.....n/a n/a		
3.1.4 Reading, maths, and science.....n/a n/a		
3.1.5 University ranking.....0.00 76		
3.2 Lifelong Learning.....13.85 126		
3.2.1 Business masters education.....0.00 54		
3.2.2 Prevalence of training in firms.....n/a n/a		
3.2.3 Employee development.....23.06 126		
3.2.4 Formal and non-formal studies.....18.48 45		
3.3 Access to Growth Opportunities.....15.19 129		
Empowerment		
3.3.1 Delegation of authority.....4.22 131		
3.3.2 Youth inclusion.....49.38 93		
Collaboration		
3.3.3 Use of virtual social networks.....4.17 126		
3.3.4 Use of virtual professional networks.....3.00 115		

4 RETAIN.....21.08 129		
4.1 Sustainability.....15.58 129		
4.1.1 Pension coverage.....13.11 108		
4.1.2 Social protection.....10.43 123		
4.1.3 Brain retention.....19.13 116		
4.1.4 Environmental performance.....19.66 110		
4.2 Lifestyle.....26.59 123		
4.2.1 Personal rights.....40.87 104		
4.2.2 Personal safety.....15.92 124		
4.2.3 Physician density.....2.62 110		
4.2.4 Sanitation.....46.93 109		

5 VOCATIONAL AND TECHNICAL SKILLS.....11.64 132		
5.1 Mid-Level Skills.....13.83 114		
5.1.1 Workforce with secondary education.....16.07 111		
5.1.2 Population with secondary education.....17.25 81		
5.1.3 Technicians and associate professionals.....14.43 102		
5.1.4 Labour productivity per employee.....7.59 95		
5.2 Employability.....9.46 133		
5.2.1 Ease of finding skilled employees.....11.44 131		
5.2.2 Relevance of education system to the economy.....0.94 132		
5.2.3 Skills matching.....15.98 97		
5.2.4 Highly educated unemployment.....n/a n/a		

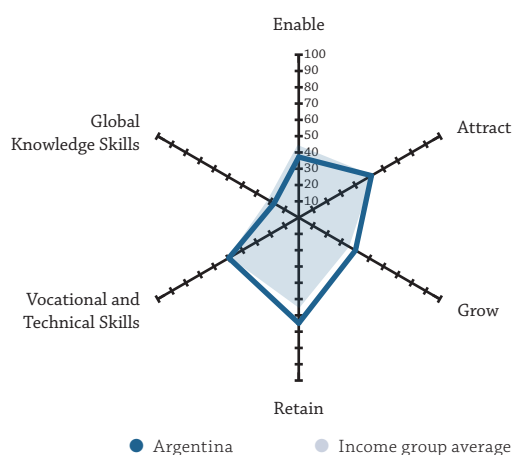
6 GLOBAL KNOWLEDGE SKILLS.....9.10 102		
6.1 High-Level Skills.....5.95 119		
6.1.1 Workforce with tertiary education.....3.97 121		
6.1.2 Population with tertiary education.....2.12 96		
6.1.3 Professionals.....12.52 101		
6.1.4 Researchers.....0.09 106		
6.1.5 Senior officials and managers.....11.03 97		
6.1.6 Digital skills.....n/a n/a		
6.2 Talent Impact.....12.24 73		
6.2.1 Innovation output.....1.42 124		
6.2.2 High-value exports.....47.46 13		
6.2.3 Software development.....0.09 122		
6.2.4 New business density.....n/a n/a		
6.2.5 Scientific journal articles.....0.00 133		

ARGENTINA

Key Indicators

Rank (out of 133)	59
Income group	Upper-middle income
Regional group	Latin America and the Caribbean
Population (millions)	45.81

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	37.19	83
1.1 Regulatory Landscape	36.88	83
1.1.1 Government effectiveness	36.64	83
1.1.2 Rule of law	34.14	93
1.1.3 Political stability	60.10	61
1.1.4 Regulatory quality	25.99	103
1.1.5 Corruption	27.54	76
1.2 Market Landscape	39.65	71
1.2.1 Extent of market dominance	38.16	78
1.2.2 Domestic credit to private sector	4.52	115
1.2.3 Cluster development	31.18	106
1.2.4 R&D expenditure	8.23	64
1.2.5 ICT infrastructure	65.15	56
1.2.6 Urbanisation	90.65	9
1.3 Business and Labour Landscape	35.03	108
Labour Market		
1.3.1 Labour rights	61.39	83
1.3.2 Labour-employer cooperation	21.86	118
Management Practice		
1.3.3 Professional management	47.40	75
1.3.4 Relationship of pay to productivity	29.71	125
Technology Adoption		
1.3.5 Enterprise software	8.70	117
1.3.6 Cloud computing	7.06	119
1.3.7 Firms with website	69.09	38
2 ATTRACT	51.52	64
2.1 External Openness	41.13	77
Attract Business		
2.1.1 FDI regulatory restrictiveness	65.68	57
2.1.2 Financial globalisation	57.92	76
Attract People		
2.1.3 Migrant stock	43.11	62
2.1.4 International students	13.34	61
2.1.5 Brain gain	25.59	114
2.2 Internal Openness	61.91	45
Social Inclusion		
2.2.1 Tolerance of minorities	64.13	37
2.2.2 Tolerance of immigrants	83.08	21
2.2.3 Social mobility	22.89	119
Gender Equality		
2.2.4 Economic empowerment of women	70.80	82
2.2.5 Gender parity in high-skilled jobs	89.59	31
2.2.6 Leadership opportunities for women	40.99	95

GDP per capita (PPP US\$)	23,627.39
GDP (US\$ billions)	491.49
GTCI score	43.45
GTCI score (income group average)	41.23

	Score	Rank
3 GROW	40.19	51
3.1 Formal Education	34.99	38
Enrolment		
3.1.1 Vocational enrolment	n/a	n/a
3.1.2 Tertiary enrolment	63.84	5
Quality		
3.1.3 Tertiary education expenditure	6.88	79
3.1.4 Reading, maths, and science	24.86	68
3.1.5 University ranking	44.38	28
3.2 Lifelong Learning	32.33	58
3.2.1 Business masters education	25.93	35
3.2.2 Prevalence of training in firms	45.45	33
3.2.3 Employee development	49.35	74
3.2.4 Formal and non-formal studies	8.59	51
3.3 Access to Growth Opportunities	53.24	42
Empowerment		
3.3.1 Delegation of authority	35.78	92
3.3.2 Youth inclusion	73.46	52
Collaboration		
3.3.3 Use of virtual social networks	73.65	21
3.3.4 Use of virtual professional networks	30.09	35

4 RETAIN	64.78	39
4.1 Sustainability	54.92	49
4.1.1 Pension coverage	89.63	57
4.1.2 Social protection	45.14	55
4.1.3 Brain retention	47.26	48
4.1.4 Environmental performance	37.63	69
4.2 Lifestyle	74.65	39
4.2.1 Personal rights	91.42	32
4.2.2 Personal safety	48.12	77
4.2.3 Physician density	64.08	24
4.2.4 Sanitation	94.97	62

5 VOCATIONAL AND TECHNICAL SKILLS	49.55	56
5.1 Mid-Level Skills	43.90	56
5.1.1 Workforce with secondary education	61.51	39
5.1.2 Population with secondary education	n/a	n/a
5.1.3 Technicians and associate professionals	43.10	47
5.1.4 Labour productivity per employee	27.07	58
5.2 Employability	55.19	70
5.2.1 Ease of finding skilled employees	43.10	73
5.2.2 Relevance of education system to the economy	28.98	96
5.2.3 Skills matching	76.23	39
5.2.4 Highly educated unemployment	72.47	75

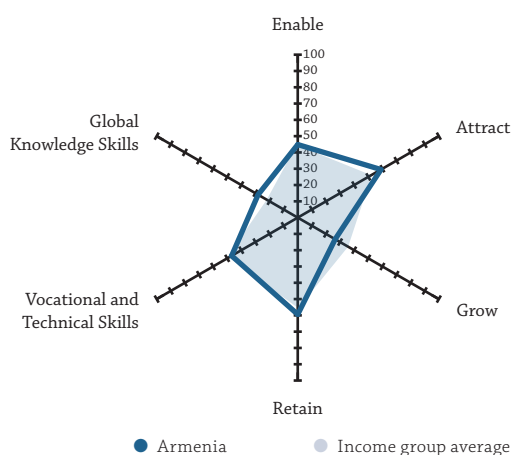
6 GLOBAL KNOWLEDGE SKILLS	17.48	76
6.1 High-Level Skills	23.91	65
6.1.1 Workforce with tertiary education	30.06	61
6.1.2 Population with tertiary education	n/a	n/a
6.1.3 Professionals	22.72	70
6.1.4 Researchers	14.02	49
6.1.5 Senior officials and managers	28.83	55
6.1.6 Digital skills	n/a	n/a
6.2 Talent Impact	11.05	76
6.2.1 Innovation output	26.06	70
6.2.2 High-value exports	12.25	69
6.2.3 Software development	8.22	51
6.2.4 New business density	0.88	112
6.2.5 Scientific journal articles	7.85	63

ARMENIA

Key Indicators

Rank (out of 133).....	56
Income group.....	Upper-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	2.97

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 44.84 59		
1.1 Regulatory Landscape.....	43.54	66
1.1.1 Government effectiveness.....	38.94	76
1.1.2 Rule of law.....	44.12	65
1.1.3 Political stability.....	43.38	97
1.1.4 Regulatory quality.....	47.80	59
1.1.5 Corruption.....	43.48	47
1.2 Market Landscape.....	40.01	68
1.2.1 Extent of market dominance.....	50.94	48
1.2.2 Domestic credit to private sector.....	31.29	48
1.2.3 Cluster development.....	35.56	88
1.2.4 R&D expenditure.....	3.67	89
1.2.5 ICT infrastructure.....	60.97	67
1.2.6 Urbanisation.....	57.63	70
1.3 Business and Labour Landscape.....	50.98	42
Labour Market		
1.3.1 Labour rights.....	81.23	55
1.3.2 Labour-employer cooperation.....	52.46	49
Management Practice		
1.3.3 Professional management.....	56.70	56
1.3.4 Relationship of pay to productivity.....	64.90	43
Technology Adoption		
1.3.5 Enterprise software.....	26.83	47
1.3.6 Cloud computing.....	19.26	48
1.3.7 Firms with website.....	55.45	58
2 ATTRACT..... 58.99 39		
2.1 External Openness.....	54.21	47
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	95.95	9
2.1.2 Financial globalisation.....	63.78	60
Attract People		
2.1.3 Migrant stock.....	48.71	51
2.1.4 International students.....	22.60	42
2.1.5 Brain gain.....	40.03	82
2.2 Internal Openness.....	63.76	35
Social Inclusion		
2.2.1 Tolerance of minorities.....	47.83	60
2.2.2 Tolerance of immigrants.....	56.92	71
2.2.3 Social mobility.....	56.81	42
Gender Equality		
2.2.4 Economic empowerment of women.....	82.30	48
2.2.5 Gender parity in high-skilled jobs.....	70.97	74
2.2.6 Leadership opportunities for women.....	67.75	33

GDP per capita (PPP US\$).....	14,630.24
GDP (US\$ billions).....	13.86
GTGI score.....	44.12
GTGI score (income group average).....	41.23

	Score	Rank
3 GROW..... 26.52 88		
3.1 Formal Education.....	12.32	94
Enrolment		
3.1.1 Vocational enrolment.....	12.91	77
3.1.2 Tertiary enrolment.....	33.44	63
Quality		
3.1.3 Tertiary education expenditure.....	2.94	101
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	26.05	80
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	27.69	62
3.2.3 Employee development.....	50.47	67
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	41.19	78
Empowerment		
3.3.1 Delegation of authority.....	37.10	88
3.3.2 Youth inclusion.....	57.68	82
Collaboration		
3.3.3 Use of virtual social networks.....	58.30	73
3.3.4 Use of virtual professional networks.....	11.67	78

4 RETAIN..... 59.42 48		
4.1 Sustainability.....	45.43	74
4.1.1 Pension coverage.....	64.63	73
4.1.2 Social protection.....	35.47	73
4.1.3 Brain retention.....	31.79	85
4.1.4 Environmental performance.....	49.83	45
4.2 Lifestyle.....	73.41	44
4.2.1 Personal rights.....	76.49	63
4.2.2 Personal safety.....	54.24	62
4.2.3 Physician density.....	69.56	15
4.2.4 Sanitation.....	93.34	65

5 VOCATIONAL AND TECHNICAL SKILLS..... 46.83 64		
5.1 Mid-Level Skills.....	42.68	58
5.1.1 Workforce with secondary education.....	61.77	37
5.1.2 Population with secondary education.....	66.13	22
5.1.3 Technicians and associate professionals.....	21.70	83
5.1.4 Labour productivity per employee.....	21.12	67
5.2 Employability.....	50.98	79
5.2.1 Ease of finding skilled employees.....	39.34	82
5.2.2 Relevance of education system to the economy.....	28.89	97
5.2.3 Skills matching.....	77.39	35
5.2.4 Highly educated unemployment.....	58.32	94

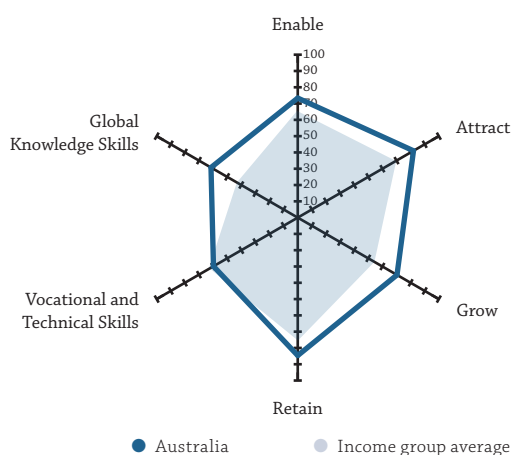
6 GLOBAL KNOWLEDGE SKILLS..... 28.11 45		
6.1 High-Level Skills.....	40.33	32
6.1.1 Workforce with tertiary education.....	62.38	9
6.1.2 Population with tertiary education.....	57.99	10
6.1.3 Professionals.....	25.43	64
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	15.50	84
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	15.90	63
6.2.1 Innovation output.....	36.17	55
6.2.2 High-value exports.....	12.42	67
6.2.3 Software development.....	8.35	50
6.2.4 New business density.....	15.59	48
6.2.5 Scientific journal articles.....	7.00	66

AUSTRALIA

Key Indicators

Rank (out of 133).....	9
Income group	High income
Regional group	Eastern, Southeastern Asia and Oceania
Population (millions)	25.74

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....73.37	16	
1.1 Regulatory Landscape.....	84.30	12
1.1.1 Government effectiveness.....	82.22	11
1.1.2 Rule of law.....	88.95	13
1.1.3 Political stability.....	82.46	25
1.1.4 Regulatory quality.....	89.62	5
1.1.5 Corruption.....	78.26	17
1.2 Market Landscape.....	66.45	19
1.2.1 Extent of market dominance.....	58.72	35
1.2.2 Domestic credit to private sector.....	64.65	11
1.2.3 Cluster development.....	57.86	34
1.2.4 R&D expenditure.....	33.53	20
1.2.5 ICT infrastructure.....	100.00	1
1.2.6 Urbanisation.....	83.92	22
1.3 Business and Labour Landscape.....	69.36	15
Labour Market		
1.3.1 Labour rights.....	90.75	31
1.3.2 Labour-employer cooperation.....	59.56	37
Management Practice		
1.3.3 Professional management.....	91.57	6
1.3.4 Relationship of pay to productivity.....	65.34	38
Technology Adoption		
1.3.5 Enterprise software.....	47.25	18
1.3.6 Cloud computing.....	49.14	12
1.3.7 Firms with website.....	81.87	20
2 ATTRACT.....82.03	5	
2.1 External Openness.....	78.28	9
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	60.81	62
2.1.2 Financial globalisation.....	77.70	32
Attract People		
2.1.3 Migrant stock.....	79.56	10
2.1.4 International students.....	99.75	5
2.1.5 Brain gain.....	73.58	17
2.2 Internal Openness.....	85.79	9
Social Inclusion		
2.2.1 Tolerance of minorities.....	71.74	26
2.2.2 Tolerance of immigrants.....	93.85	6
2.2.3 Social mobility.....	87.10	9
Gender Equality		
2.2.4 Economic empowerment of women.....	95.58	20
2.2.5 Gender parity in high-skilled jobs.....	94.12	17
2.2.6 Leadership opportunities for women.....	72.35	23

GDP per capita (PPP US\$)	55,807.44
GDP (US\$ billions)	1,542.66
GTCI score.....	71.93
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....70.34	6	
3.1 Formal Education.....	58.78	7
Enrolment		
3.1.1 Vocational enrolment.....	46.33	21
3.1.2 Tertiary enrolment.....	76.61	3
Quality		
3.1.3 Tertiary education expenditure.....	21.50	31
3.1.4 Reading, maths, and science.....	67.32	19
3.1.5 University ranking.....	82.17	5
3.2 Lifelong Learning.....	75.08	9
3.2.1 Business masters education.....	79.02	7
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	71.89	31
3.2.4 Formal and non-formal studies.....	74.32	12
3.3 Access to Growth Opportunities.....	77.16	10
Empowerment		
3.3.1 Delegation of authority.....	81.11	7
3.3.2 Youth inclusion.....	88.14	20
Collaboration		
3.3.3 Use of virtual social networks.....	70.45	31
3.3.4 Use of virtual professional networks.....	68.95	7

4 RETAIN.....84.64	10	
4.1 Sustainability.....	80.07	12
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	78.57	16
4.1.3 Brain retention.....	71.86	18
4.1.4 Environmental performance.....	69.83	17
4.2 Lifestyle.....	89.21	8
4.2.1 Personal rights.....	97.81	10
4.2.2 Personal safety.....	93.86	4
4.2.3 Physician density.....	65.19	21
4.2.4 Sanitation.....	99.99	9

5 VOCATIONAL AND TECHNICAL SKILLS.....59.72	34	
5.1 Mid-Level Skills.....	54.19	36
5.1.1 Workforce with secondary education.....	56.02	51
5.1.2 Population with secondary education.....	47.13	49
5.1.3 Technicians and associate professionals.....	52.98	35
5.1.4 Labour productivity per employee.....	60.65	18
5.2 Employability.....	65.25	34
5.2.1 Ease of finding skilled employees.....	35.05	96
5.2.2 Relevance of education system to the economy.....	67.90	21
5.2.3 Skills matching.....	76.90	37
5.2.4 Highly educated unemployment.....	81.17	52

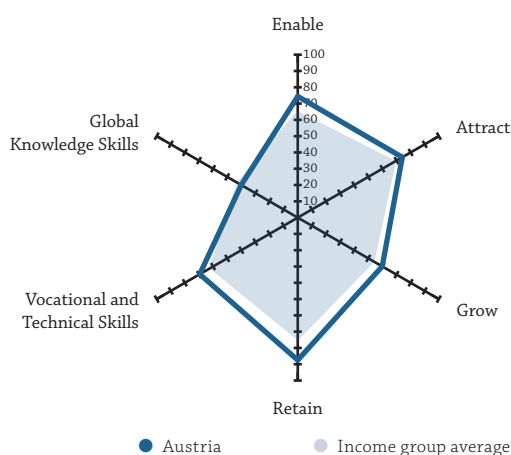
6 GLOBAL KNOWLEDGE SKILLS.....61.48	6	
6.1 High-Level Skills.....	59.93	4
6.1.1 Workforce with tertiary education.....	56.09	16
6.1.2 Population with tertiary education.....	62.29	9
6.1.3 Professionals.....	54.42	17
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	66.93	8
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	63.03	8
6.2.1 Innovation output.....	51.06	32
6.2.2 High-value exports.....	38.61	21
6.2.3 Software development.....	61.22	13
6.2.4 New business density.....	78.78	6
6.2.5 Scientific journal articles.....	85.46	4

AUSTRIA

Key Indicators

Rank (out of 133).....	17
Income group.....	High income
Regional group.....	Europe
Population (millions).....	8.96

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....74.41	12	
1.1 Regulatory Landscape.....	83.39	13
1.1.1 Government effectiveness.....	83.11	9
1.1.2 Rule of law.....	93.06	7
1.1.3 Political stability.....	82.55	23
1.1.4 Regulatory quality.....	78.53	17
1.1.5 Corruption.....	79.71	12
1.2 Market Landscape.....	67.44	17
1.2.1 Extent of market dominance.....	83.58	5
1.2.2 Domestic credit to private sector.....	41.32	32
1.2.3 Cluster development.....	79.08	11
1.2.4 R&D expenditure.....	58.82	7
1.2.5 ICT infrastructure.....	89.81	19
1.2.6 Urbanisation.....	52.05	79
1.3 Business and Labour Landscape.....	72.41	10
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	83.48	7
Management Practice		
1.3.3 Professional management.....	76.35	21
1.3.4 Relationship of pay to productivity.....	77.19	12
Technology Adoption		
1.3.5 Enterprise software.....	38.20	30
1.3.6 Cloud computing.....	37.49	20
1.3.7 Firms with website.....	94.14	6
2 ATTRACT.....74.10	16	
2.1 External Openness.....	71.03	16
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	72.43	51
2.1.2 Financial globalisation.....	86.91	18
Attract People		
2.1.3 Migrant stock.....	68.83	21
2.1.4 International students.....	67.66	10
2.1.5 Brain gain.....	59.33	33
2.2 Internal Openness.....	77.18	16
Social Inclusion		
2.2.1 Tolerance of minorities.....	63.04	38
2.2.2 Tolerance of immigrants.....	66.15	51
2.2.3 Social mobility.....	86.01	11
Gender Equality		
2.2.4 Economic empowerment of women.....	95.58	20
2.2.5 Gender parity in high-skilled jobs.....	88.96	33
2.2.6 Leadership opportunities for women.....	63.31	41

GDP per capita (PPP US\$).....	58,427.50
GDP (US\$ billions).....	477.08
GTCI score.....	67.56
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....59.88	18	
3.1 Formal Education.....	54.14	12
Enrolment		
3.1.1 Vocational enrolment.....	55.40	12
3.1.2 Tertiary enrolment.....	57.73	15
Quality		
3.1.3 Tertiary education expenditure.....	48.79	7
3.1.4 Reading, maths, and science.....	64.07	27
3.1.5 University ranking.....	44.68	26
3.2 Lifelong Learning.....	63.12	19
3.2.1 Business masters education.....	34.63	29
3.2.2 Prevalence of training in firms.....	48.81	29
3.2.3 Employee development.....	87.90	7
3.2.4 Formal and non-formal studies.....	81.13	7
3.3 Access to Growth Opportunities.....	62.39	24
Empowerment		
3.3.1 Delegation of authority.....	67.65	22
3.3.2 Youth inclusion.....	89.06	17
Collaboration		
3.3.3 Use of virtual social networks.....	69.30	36
3.3.4 Use of virtual professional networks.....	23.55	49

4 RETAIN.....87.46	6	
4.1 Sustainability.....	84.20	9
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	95.79	4
4.1.3 Brain retention.....	60.32	34
4.1.4 Environmental performance.....	80.68	8
4.2 Lifestyle.....	90.72	3
4.2.1 Personal rights.....	91.20	33
4.2.2 Personal safety.....	87.92	14
4.2.3 Physician density.....	83.80	4
4.2.4 Sanitation.....	99.97	10

5 VOCATIONAL AND TECHNICAL SKILLS.....69.46	9	
5.1 Mid-Level Skills.....	70.53	6
5.1.1 Workforce with secondary education.....	70.74	23
5.1.2 Population with secondary education.....	72.36	19
5.1.3 Technicians and associate professionals.....	75.41	8
5.1.4 Labour productivity per employee.....	63.63	14
5.2 Employability.....	68.39	24
5.2.1 Ease of finding skilled employees.....	43.37	72
5.2.2 Relevance of education system to the economy.....	70.57	17
5.2.3 Skills matching.....	76.07	41
5.2.4 Highly educated unemployment.....	83.53	45

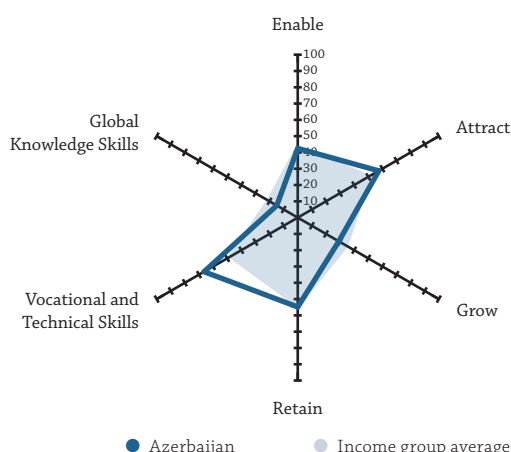
6 GLOBAL KNOWLEDGE SKILLS.....40.05	24	
6.1 High-Level Skills.....	43.07	27
6.1.1 Workforce with tertiary education.....	44.40	36
6.1.2 Population with tertiary education.....	39.52	34
6.1.3 Professionals.....	46.59	28
6.1.4 Researchers.....	65.96	10
6.1.5 Senior officials and managers.....	29.00	54
6.1.6 Digital skills.....	32.98	24
6.2 Talent Impact.....	37.02	27
6.2.1 Innovation output.....	60.28	23
6.2.2 High-value exports.....	21.94	39
6.2.3 Software development.....	44.48	21
6.2.4 New business density.....	2.72	95
6.2.5 Scientific journal articles.....	55.67	17

AZERBAIJAN

Key Indicators

Rank (out of 133).....	55
Income group.....	Upper-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	10.15

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 42.48 64		
1.1 Regulatory Landscape.....	30.80	98
1.1.1 Government effectiveness.....	37.80	81
1.1.2 Rule of law.....	28.42	107
1.1.3 Political stability.....	39.14	105
1.1.4 Regulatory quality.....	32.73	92
1.1.5 Corruption.....	15.94	104
1.2 Market Landscape.....	43.64	58
1.2.1 Extent of market dominance.....	78.11	10
1.2.2 Domestic credit to private sector.....	9.32	103
1.2.3 Cluster development.....	67.22	24
1.2.4 R&D expenditure.....	3.94	87
1.2.5 ICT infrastructure.....	54.20	75
1.2.6 Urbanisation.....	49.04	87
1.3 Business and Labour Landscape.....	52.99	38
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	60.65	33
Management Practice		
1.3.3 Professional management.....	68.65	33
1.3.4 Relationship of pay to productivity.....	75.42	14
Technology Adoption		
1.3.5 Enterprise software.....	30.64	36
1.3.6 Cloud computing.....	17.10	60
1.3.7 Firms with website.....	65.50	44
2 ATTRACT..... 57.43 44		
2.1 External Openness.....	54.58	44
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	80.27	44
2.1.2 Financial globalisation.....	76.05	35
Attract People		
2.1.3 Migrant stock.....	31.23	82
2.1.4 International students.....	8.96	73
2.1.5 Brain gain.....	76.40	14
2.2 Internal Openness.....	60.28	51
Social Inclusion		
2.2.1 Tolerance of minorities.....	39.13	75
2.2.2 Tolerance of immigrants.....	53.85	78
2.2.3 Social mobility.....	67.10	30
Gender Equality		
2.2.4 Economic empowerment of women.....	69.91	85
2.2.5 Gender parity in high-skilled jobs.....	68.51	78
2.2.6 Leadership opportunities for women.....	63.17	42

GDP per capita (PPP US\$).....	15,842.89
GDP (US\$ billions).....	54.62
GTGI score.....	44.18
GTGI score (income group average).....	41.23

	Score	Rank
3 GROW..... 29.09 79		
3.1 Formal Education.....	17.44	81
Enrolment		
3.1.1 Vocational enrolment.....	20.11	58
3.1.2 Tertiary enrolment.....	22.84	79
Quality		
3.1.3 Tertiary education expenditure.....	7.44	75
3.1.4 Reading, maths, and science.....	27.81	64
3.1.5 University ranking.....	9.02	71
3.2 Lifelong Learning.....	35.55	50
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	36.64	49
3.2.3 Employee development.....	70.02	33
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	34.28	100
Empowerment		
3.3.1 Delegation of authority.....	53.62	45
3.3.2 Youth inclusion.....	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks.....	42.06	94
3.3.4 Use of virtual professional networks.....	7.17	98

4 RETAIN..... 54.86 60		
4.1 Sustainability.....	58.19	43
4.1.1 Pension coverage.....	72.36	68
4.1.2 Social protection.....	60.01	38
4.1.3 Brain retention.....	67.01	26
4.1.4 Environmental performance.....	33.39	79
4.2 Lifestyle.....	51.52	85
4.2.1 Personal rights.....	17.83	126
4.2.2 Personal safety.....	42.67	84
4.2.3 Physician density.....	49.83	39
4.2.4 Sanitation.....	95.75	60

5 VOCATIONAL AND TECHNICAL SKILLS..... 66.39 13		
5.1 Mid-Level Skills.....	59.11	28
5.1.1 Workforce with secondary education.....	91.26	6
5.1.2 Population with secondary education.....	90.27	3
5.1.3 Technicians and associate professionals.....	38.29	53
5.1.4 Labour productivity per employee.....	16.62	79
5.2 Employability.....	73.66	13
5.2.1 Ease of finding skilled employees.....	61.02	27
5.2.2 Relevance of education system to the economy.....	69.52	19
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	90.45	18

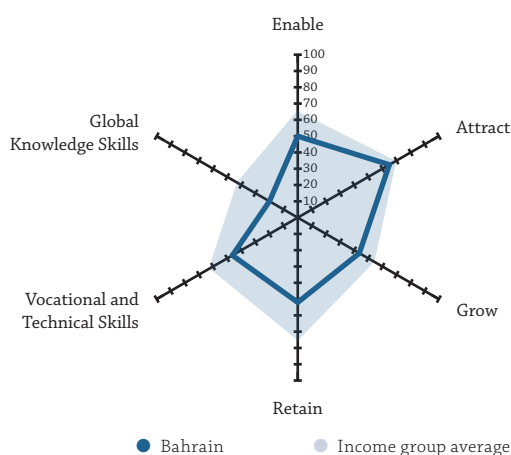
6 GLOBAL KNOWLEDGE SKILLS..... 14.86 84		
6.1 High-Level Skills.....	20.93	76
6.1.1 Workforce with tertiary education.....	33.84	52
6.1.2 Population with tertiary education.....	33.38	41
6.1.3 Professionals.....	28.59	54
6.1.4 Researchers.....	19.81	42
6.1.5 Senior officials and managers.....	7.05	108
6.1.6 Digital skills.....	2.91	77
6.2 Talent Impact.....	8.78	88
6.2.1 Innovation output.....	20.21	90
6.2.2 High-value exports.....	12.54	65
6.2.3 Software development.....	1.17	98
6.2.4 New business density.....	6.98	76
6.2.5 Scientific journal articles.....	3.01	83

BAHRAIN

Key Indicators

Rank (out of 133)	49
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	1.75

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	49.97	47
1.1 Regulatory Landscape	49.13	53
1.1.1 Government effectiveness	52.67	45
1.1.2 Rule of law	58.97	44
1.1.3 Political stability	42.83	98
1.1.4 Regulatory quality	57.83	41
1.1.5 Corruption	33.33	63
1.2 Market Landscape	50.06	42
1.2.1 Extent of market dominance	49.56	54
1.2.2 Domestic credit to private sector	32.10	45
1.2.3 Cluster development	59.67	31
1.2.4 R&D expenditure	1.67	104
1.2.5 ICT infrastructure	69.70	48
1.2.6 Urbanisation	87.68	14
1.3 Business and Labour Landscape	50.72	44
Labour Market		
1.3.1 Labour rights	n/a	n/a
1.3.2 Labour-employer cooperation	76.24	12
Management Practice		
1.3.3 Professional management	67.68	34
1.3.4 Relationship of pay to productivity	76.81	13
Technology Adoption		
1.3.5 Enterprise software	19.14	74
1.3.6 Cloud computing	13.74	80
1.3.7 Firms with website	n/a	n/a
2 ATTRACT	64.89	28
2.1 External Openness	79.04	7
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	89.17	15
Attract People		
2.1.3 Migrant stock	94.66	4
2.1.4 International students	48.89	14
2.1.5 Brain gain	83.44	9
2.2 Internal Openness	50.74	93
Social Inclusion		
2.2.1 Tolerance of minorities	1.09	131
2.2.2 Tolerance of immigrants	76.92	29
2.2.3 Social mobility	70.18	23
Gender Equality		
2.2.4 Economic empowerment of women	50.44	113
2.2.5 Gender parity in high-skilled jobs	23.89	115
2.2.6 Leadership opportunities for women	81.92	16

GDP per capita (PPP US\$)	45,411.12
GDP (US\$ billions)	38.87
GTCI score	46.15
GTCI score (income group average)	59.85

	Score	Rank
3 GROW	43.65	36
3.1 Formal Education	23.26	67
Enrolment		
3.1.1 Vocational enrolment	10.18	86
3.1.2 Tertiary enrolment	39.91	50
Quality		
3.1.3 Tertiary education expenditure	24.92	28
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking	18.03	59
3.2 Lifelong Learning	49.66	29
3.2.1 Business masters education	24.23	38
3.2.2 Prevalence of training in firms	n/a	n/a
3.2.3 Employee development	75.09	26
3.2.4 Formal and non-formal studies	n/a	n/a
3.3 Access to Growth Opportunities	58.02	36
Empowerment		
3.3.1 Delegation of authority	66.76	24
3.3.2 Youth inclusion	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks	74.98	16
3.3.4 Use of virtual professional networks	32.33	32

4 RETAIN	52.03	71
4.1 Sustainability	62.66	31
4.1.1 Pension coverage	74.70	67
4.1.2 Social protection	72.25	21
4.1.3 Brain retention	64.55	29
4.1.4 Environmental performance	39.15	67
4.2 Lifestyle	41.39	100
4.2.1 Personal rights	14.44	127
4.2.2 Personal safety	37.12	92
4.2.3 Physician density	13.99	90
4.2.4 Sanitation	100.00	1

5 VOCATIONAL AND TECHNICAL SKILLS	46.30	68
5.1 Mid-Level Skills	33.37	73
5.1.1 Workforce with secondary education	13.00	117
5.1.2 Population with secondary education	n/a	n/a
5.1.3 Technicians and associate professionals	25.10	74
5.1.4 Labour productivity per employee	62.01	16
5.2 Employability	59.23	59
5.2.1 Ease of finding skilled employees	59.10	32
5.2.2 Relevance of education system to the economy	59.37	35
5.2.3 Skills matching	n/a	n/a
5.2.4 Highly educated unemployment	n/a	n/a

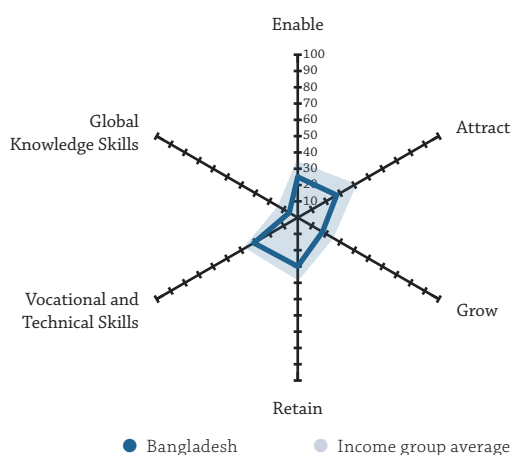
6 GLOBAL KNOWLEDGE SKILLS	20.05	65
6.1 High-Level Skills	29.79	51
6.1.1 Workforce with tertiary education	11.71	96
6.1.2 Population with tertiary education	n/a	n/a
6.1.3 Professionals	17.33	83
6.1.4 Researchers	4.12	74
6.1.5 Senior officials and managers	48.56	22
6.1.6 Digital skills	67.22	6
6.2 Talent Impact	10.31	79
6.2.1 Innovation output	17.20	96
6.2.2 High-value exports	7.81	85
6.2.3 Software development	1.45	92
6.2.4 New business density	17.00	43
6.2.5 Scientific journal articles	8.12	62

BANGLADESH

Key Indicators

Rank (out of 133).....	122
Income group.....	Lower-middle income
Regional group.....	Central and Southern Asia
Population (millions).....	166.30

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....	24.94	119
1.1 Regulatory Landscape.....	23.00	119
1.1.1 Government effectiveness.....	22.46	117
1.1.2 Rule of law.....	31.46	100
1.1.3 Political stability.....	33.85	115
1.1.4 Regulatory quality.....	17.05	123
1.1.5 Corruption.....	10.14	118
1.2 Market Landscape.....	28.91	101
1.2.1 Extent of market dominance.....	24.89	108
1.2.2 Domestic credit to private sector.....	15.57	82
1.2.3 Cluster development.....	36.05	86
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	40.92	93
1.2.6 Urbanisation.....	27.14	112
1.3 Business and Labour Landscape.....	22.93	129
Labour Market		
1.3.1 Labour rights.....	0.00	101
1.3.2 Labour-employer cooperation.....	30.41	101
Management Practice		
1.3.3 Professional management.....	39.60	98
1.3.4 Relationship of pay to productivity.....	49.26	79
Technology Adoption		
1.3.5 Enterprise software.....	12.51	109
1.3.6 Cloud computing.....	9.30	106
1.3.7 Firms with website.....	19.41	98
2 ATTRACT.....	27.58	128
2.1 External Openness.....	24.92	118
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	2.65	130
Attract People		
2.1.3 Migrant stock.....	18.80	104
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	53.32	48
2.2 Internal Openness.....	30.24	130
Social Inclusion		
2.2.1 Tolerance of minorities.....	11.96	116
2.2.2 Tolerance of immigrants.....	56.92	71
2.2.3 Social mobility.....	33.40	100
Gender Equality		
2.2.4 Economic empowerment of women.....	28.32	126
2.2.5 Gender parity in high-skilled jobs.....	17.71	117
2.2.6 Leadership opportunities for women.....	33.13	114

GDP per capita (PPP US\$).....	6,613.01
GDP (US\$ billions).....	416.26
GTCI score.....	22.85
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....	17.51	119
3.1 Formal Education.....	9.26	100
Enrolment		
3.1.1 Vocational enrolment.....	7.53	90
3.1.2 Tertiary enrolment.....	14.38	92
Quality		
3.1.3 Tertiary education expenditure.....	1.86	106
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	13.27	65
3.2 Lifelong Learning.....	16.49	122
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	19.86	74
3.2.3 Employee development.....	29.61	121
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	26.77	119
Empowerment		
3.3.1 Delegation of authority.....	29.70	104
3.3.2 Youth inclusion.....	50.42	91
Collaboration		
3.3.3 Use of virtual social networks.....	23.43	107
3.3.4 Use of virtual professional networks.....	3.53	113

4 RETAIN.....	29.95	111
4.1 Sustainability.....	23.33	114
4.1.1 Pension coverage.....	38.01	86
4.1.2 Social protection.....	15.56	118
4.1.3 Brain retention.....	32.65	83
4.1.4 Environmental performance.....	7.12	131
4.2 Lifestyle.....	36.57	107
4.2.1 Personal rights.....	42.15	103
4.2.2 Personal safety.....	44.57	81
4.2.3 Physician density.....	9.86	99
4.2.4 Sanitation.....	49.68	108

5 VOCATIONAL AND TECHNICAL SKILLS.....	31.08	112
5.1 Mid-Level Skills.....	18.50	105
5.1.1 Workforce with secondary education.....	28.69	95
5.1.2 Population with secondary education.....	30.46	66
5.1.3 Technicians and associate professionals.....	6.85	120
5.1.4 Labour productivity per employee.....	8.00	94
5.2 Employability.....	43.66	105
5.2.1 Ease of finding skilled employees.....	32.75	102
5.2.2 Relevance of education system to the economy.....	30.16	92
5.2.3 Skills matching.....	43.17	84
5.2.4 Highly educated unemployment.....	68.57	80

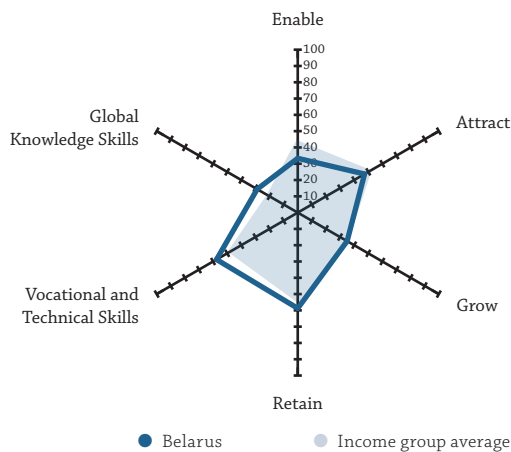
6 GLOBAL KNOWLEDGE SKILLS.....	6.01	115
6.1 High-Level Skills.....	9.44	109
6.1.1 Workforce with tertiary education.....	7.55	106
6.1.2 Population with tertiary education.....	18.45	69
6.1.3 Professionals.....	10.98	108
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	9.35	101
6.1.6 Digital skills.....	0.85	81
6.2 Talent Impact.....	2.59	124
6.2.1 Innovation output.....	10.82	110
6.2.2 High-value exports.....	0.32	128
6.2.3 Software development.....	1.07	99
6.2.4 New business density.....	0.01	120
6.2.5 Scientific journal articles.....	0.74	104

BELARUS

Key Indicators

Rank (out of 133).....	58
Income group.....	Upper-middle income
Regional group.....	Europe
Population (millions).....	9.34

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....	33.34	100
1.1 Regulatory Landscape.....	27.83	109
1.1.1 Government effectiveness.....	23.92	111
1.1.2 Rule of law.....	20.54	123
1.1.3 Political stability.....	39.00	106
1.1.4 Regulatory quality.....	23.79	108
1.1.5 Corruption.....	31.88	67
1.2 Market Landscape.....	32.73	88
1.2.1 Extent of market dominance.....	34.03	88
1.2.2 Domestic credit to private sector.....	12.40	90
1.2.3 Cluster development.....	31.91	103
1.2.4 R&D expenditure.....	9.93	55
1.2.5 ICT infrastructure.....	n/a	n/a
1.2.6 Urbanisation.....	75.39	38
1.3 Business and Labour Landscape.....	39.47	88
Labour Market		
1.3.1 Labour rights.....	0.00	101
1.3.2 Labour-employer cooperation.....	31.68	96
Management Practice		
1.3.3 Professional management.....	43.56	93
1.3.4 Relationship of pay to productivity.....	62.78	46
Technology Adoption		
1.3.5 Enterprise software.....	40.89	26
1.3.6 Cloud computing.....	23.48	34
1.3.7 Firms with website.....	73.94	31
2 ATTRACT.....	47.36	82
2.1 External Openness.....	48.32	66
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	77.84	49
2.1.2 Financial globalisation.....	47.50	93
Attract People		
2.1.3 Migrant stock.....	59.68	40
2.1.4 International students.....	22.53	43
2.1.5 Brain gain.....	34.05	99
2.2 Internal Openness.....	46.40	105
Social Inclusion		
2.2.1 Tolerance of minorities.....	41.30	70
2.2.2 Tolerance of immigrants.....	32.31	115
2.2.3 Social mobility.....	39.72	85
Gender Equality		
2.2.4 Economic empowerment of women.....	65.49	95
2.2.5 Gender parity in high-skilled jobs.....	39.82	105
2.2.6 Leadership opportunities for women.....	59.77	50

GDP per capita (PPP US\$).....	21,698.57
GDP (US\$ billions).....	68.22
GTCI score.....	43.46
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....	34.99	60
3.1 Formal Education.....	32.71	43
Enrolment		
3.1.1 Vocational enrolment.....	18.98	61
3.1.2 Tertiary enrolment.....	57.81	14
Quality		
3.1.3 Tertiary education expenditure.....	10.07	62
3.1.4 Reading, maths, and science.....	56.42	35
3.1.5 University ranking.....	20.26	55
3.2 Lifelong Learning.....	27.49	72
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	33.29	55
3.2.3 Employee development.....	49.19	76
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	44.78	69
Empowerment		
3.3.1 Delegation of authority.....	43.85	71
3.3.2 Youth inclusion.....	87.65	21
Collaboration		
3.3.3 Use of virtual social networks.....	37.98	100
3.3.4 Use of virtual professional networks.....	9.64	88

4 RETAIN.....	58.75	49
4.1 Sustainability.....	60.95	34
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	32.68	77
4.1.3 Brain retention.....	n/a	n/a
4.1.4 Environmental performance.....	50.17	44
4.2 Lifestyle.....	56.54	70
4.2.1 Personal rights.....	24.20	123
4.2.2 Personal safety.....	32.55	98
4.2.3 Physician density.....	71.73	10
4.2.4 Sanitation.....	97.70	46

5 VOCATIONAL AND TECHNICAL SKILLS.....	57.55	41
5.1 Mid-Level Skills.....	51.57	44
5.1.1 Workforce with secondary education.....	91.83	5
5.1.2 Population with secondary education.....	47.78	48
5.1.3 Technicians and associate professionals.....	43.13	46
5.1.4 Labour productivity per employee.....	23.56	64
5.2 Employability.....	63.52	38
5.2.1 Ease of finding skilled employees.....	58.81	33
5.2.2 Relevance of education system to the economy.....	44.01	59
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	87.75	29

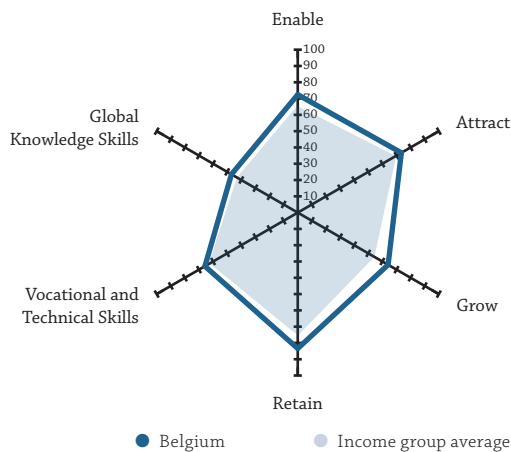
6 GLOBAL KNOWLEDGE SKILLS.....	28.75	43
6.1 High-Level Skills.....	41.66	30
6.1.1 Workforce with tertiary education.....	40.67	41
6.1.2 Population with tertiary education.....	81.84	2
6.1.3 Professionals.....	49.40	22
6.1.4 Researchers.....	16.72	48
6.1.5 Senior officials and managers.....	52.81	17
6.1.6 Digital skills.....	8.53	66
6.2 Talent Impact.....	15.84	64
6.2.1 Innovation output.....	32.09	61
6.2.2 High-value exports.....	8.39	83
6.2.3 Software development.....	27.68	31
6.2.4 New business density.....	6.10	79
6.2.5 Scientific journal articles.....	4.94	75

BELGIUM

Key Indicators

Rank (out of 133).....	16
Income group	High income
Regional group	Europe
Population (millions)	11.59

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....72.41	17	
1.1 Regulatory Landscape.....	76.48	19
1.1.1 Government effectiveness.....	69.94	25
1.1.2 Rule of law.....	81.65	19
1.1.3 Political stability.....	75.36	37
1.1.4 Regulatory quality.....	77.18	19
1.1.5 Corruption.....	78.26	17
1.2 Market Landscape.....	72.88	9
1.2.1 Extent of market dominance.....	79.08	9
1.2.2 Domestic credit to private sector.....	33.00	43
1.2.3 Cluster development.....	73.21	17
1.2.4 R&D expenditure.....	63.90	4
1.2.5 ICT infrastructure.....	90.41	18
1.2.6 Urbanisation.....	97.70	4
1.3 Business and Labour Landscape.....	67.86	18
Labour Market		
1.3.1 Labour rights.....	93.16	26
1.3.2 Labour-employer cooperation.....	59.12	38
Management Practice		
1.3.3 Professional management.....	75.50	22
1.3.4 Relationship of pay to productivity.....	75.31	16
Technology Adoption		
1.3.5 Enterprise software.....	42.78	24
1.3.6 Cloud computing.....	40.05	16
1.3.7 Firms with website.....	89.09	9
2 ATTRACT.....73.42	17	
2.1 External Openness.....	72.02	14
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	90.27	24
2.1.2 Financial globalisation.....	92.47	9
Attract People		
2.1.3 Migrant stock.....	67.05	24
2.1.4 International students.....	38.47	25
2.1.5 Brain gain.....	71.81	18
2.2 Internal Openness.....	74.82	18
Social Inclusion		
2.2.1 Tolerance of minorities.....	60.87	41
2.2.2 Tolerance of immigrants.....	60.00	62
2.2.3 Social mobility.....	68.45	27
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	96.88	9
2.2.6 Leadership opportunities for women.....	62.74	44

GDP per capita (PPP US\$)	58,930.94
GDP (US\$ billions)	599.88
GTCI score.....	67.67
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....64.04	13	
3.1 Formal Education.....	57.26	9
Enrolment		
3.1.1 Vocational enrolment.....	67.93	4
3.1.2 Tertiary enrolment.....	53.41	21
Quality		
3.1.3 Tertiary education expenditure.....	42.66	12
3.1.4 Reading, maths, and science.....	67.69	18
3.1.5 University ranking.....	54.61	16
3.2 Lifelong Learning.....	67.67	11
3.2.1 Business masters education.....	61.33	13
3.2.2 Prevalence of training in firms.....	70.07	11
3.2.3 Employee development.....	78.14	20
3.2.4 Formal and non-formal studies.....	61.16	27
3.3 Access to Growth Opportunities.....	67.19	18
Empowerment		
3.3.1 Delegation of authority.....	59.12	38
3.3.2 Youth inclusion.....	91.25	12
Collaboration		
3.3.3 Use of virtual social networks.....	69.57	35
3.3.4 Use of virtual professional networks.....	48.82	18

4 RETAIN.....83.40	13	
4.1 Sustainability.....	74.47	19
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	74.54	18
4.1.3 Brain retention.....	56.74	36
4.1.4 Environmental performance.....	66.61	21
4.2 Lifestyle.....	92.33	1
4.2.1 Personal rights.....	99.36	4
4.2.2 Personal safety.....	74.19	29
4.2.3 Physician density.....	96.35	2
4.2.4 Sanitation.....	99.44	22

5 VOCATIONAL AND TECHNICAL SKILLS.....65.78	14	
5.1 Mid-Level Skills.....	58.83	29
5.1.1 Workforce with secondary education.....	52.17	57
5.1.2 Population with secondary education.....	50.13	42
5.1.3 Technicians and associate professionals.....	59.67	24
5.1.4 Labour productivity per employee.....	73.34	7
5.2 Employability.....	72.74	16
5.2.1 Ease of finding skilled employees.....	55.47	45
5.2.2 Relevance of education system to the economy.....	71.88	15
5.2.3 Skills matching.....	80.08	24
5.2.4 Highly educated unemployment.....	83.53	44

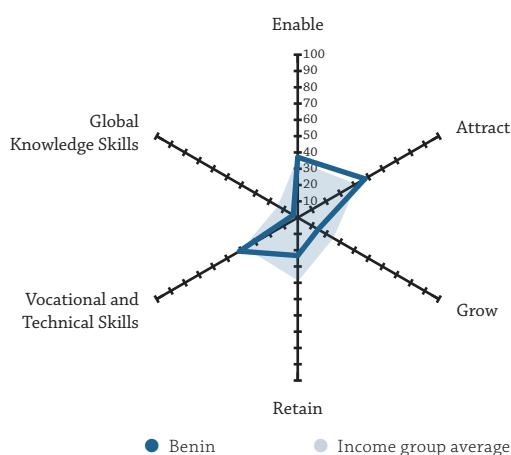
6 GLOBAL KNOWLEDGE SKILLS.....46.99	19	
6.1 High-Level Skills.....	52.12	16
6.1.1 Workforce with tertiary education.....	60.73	13
6.1.2 Population with tertiary education.....	47.66	23
6.1.3 Professionals.....	61.85	7
6.1.4 Researchers.....	65.95	11
6.1.5 Senior officials and managers.....	48.27	24
6.1.6 Digital skills.....	28.30	32
6.2 Talent Impact.....	41.85	24
6.2.1 Innovation output.....	58.69	25
6.2.2 High-value exports.....	27.33	33
6.2.3 Software development.....	42.95	22
6.2.4 New business density.....	25.62	30
6.2.5 Scientific journal articles.....	54.66	20

BENIN

Key Indicators

Rank (out of 133).....	105
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	12.45

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....37.04 84		
1.1 Regulatory Landscape.....34.89	89	
1.1.1 Government effectiveness.....35.47	86	
1.1.2 Rule of law.....27.46	109	
1.1.3 Political stability.....47.00	90	
1.1.4 Regulatory quality.....31.19	94	
1.1.5 Corruption.....33.33	63	
1.2 Market Landscape.....32.40	90	
1.2.1 Extent of market dominance.....65.17	29	
1.2.2 Domestic credit to private sector.....4.32	116	
1.2.3 Cluster development.....20.67	124	
1.2.4 R&D expenditure.....n/a	n/a	
1.2.5 ICT infrastructure.....n/a	n/a	
1.2.6 Urbanisation.....39.42	101	
1.3 Business and Labour Landscape.....43.84	70	
Labour Market		
1.3.1 Labour rights.....88.34	41	
1.3.2 Labour-employer cooperation.....59.73	36	
Management Practice		
1.3.3 Professional management.....57.14	55	
1.3.4 Relationship of pay to productivity.....50.44	73	
Technology Adoption		
1.3.5 Enterprise software.....10.45	113	
1.3.6 Cloud computing.....7.50	115	
1.3.7 Firms with website.....33.27	90	
2 ATTRACT.....47.62 81		
2.1 External Openness.....34.30	95	
Attract Business		
2.1.1 FDI regulatory restrictiveness.....n/a	n/a	
2.1.2 Financial globalisation.....35.32	110	
Attract People		
2.1.3 Migrant stock.....39.73	68	
2.1.4 International students.....11.29	67	
2.1.5 Brain gain.....50.88	58	
2.2 Internal Openness.....60.94	48	
Social Inclusion		
2.2.1 Tolerance of minorities.....77.17	15	
2.2.2 Tolerance of immigrants.....87.69	13	
2.2.3 Social mobility.....65.43	32	
Gender Equality		
2.2.4 Economic empowerment of women.....72.57	76	
2.2.5 Gender parity in high-skilled jobs.....2.66	126	
2.2.6 Leadership opportunities for women.....60.12	49	

GDP per capita (PPP US\$).....	3,789.27
GDP (US\$ billions).....	17.79
GTCI score.....	27.81
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....14.47 124		
3.1 Formal Education.....3.85	120	
Enrolment		
3.1.1 Vocational enrolment.....5.45	96	
3.1.2 Tertiary enrolment.....6.38	106	
Quality		
3.1.3 Tertiary education expenditure.....3.56	94	
3.1.4 Reading, maths, and science.....n/a	n/a	
3.1.5 University ranking.....0.00	76	
3.2 Lifelong Learning.....13.30	129	
3.2.1 Business masters education.....0.00	54	
3.2.2 Prevalence of training in firms.....17.20	82	
3.2.3 Employee development.....22.69	127	
3.2.4 Formal and non-formal studies.....n/a	n/a	
3.3 Access to Growth Opportunities.....26.26	121	
Empowerment		
3.3.1 Delegation of authority.....56.78	40	
3.3.2 Youth inclusion.....34.66	112	
Collaboration		
3.3.3 Use of virtual social networks.....8.78	119	
3.3.4 Use of virtual professional networks.....4.82	110	

4 RETAIN.....23.31 122		
4.1 Sustainability.....16.41	128	
4.1.1 Pension coverage.....9.55	112	
4.1.2 Social protection.....24.69	103	
4.1.3 Brain retention.....13.25	126	
4.1.4 Environmental performance.....18.14	114	
4.2 Lifestyle.....30.22	116	
4.2.1 Personal rights.....74.96	66	
4.2.2 Personal safety.....36.86	93	
4.2.3 Physician density.....0.23	130	
4.2.4 Sanitation.....8.84	129	

5 VOCATIONAL AND TECHNICAL SKILLS.....41.24 80		
5.1 Mid-Level Skills.....15.41	110	
5.1.1 Workforce with secondary education.....19.85	110	
5.1.2 Population with secondary education.....n/a	n/a	
5.1.3 Technicians and associate professionals.....10.97	109	
5.1.4 Labour productivity per employee.....n/a	n/a	
5.2 Employability.....67.08	26	
5.2.1 Ease of finding skilled employees.....100.00	1	
5.2.2 Relevance of education system to the economy.....53.41	43	
5.2.3 Skills matching.....14.90	98	
5.2.4 Highly educated unemployment.....100.00	1	

6 GLOBAL KNOWLEDGE SKILLS.....3.16 129		
6.1 High-Level Skills.....4.50	125	
6.1.1 Workforce with tertiary education.....5.72	115	
6.1.2 Population with tertiary education.....n/a	n/a	
6.1.3 Professionals.....6.72	119	
6.1.4 Researchers.....n/a	n/a	
6.1.5 Senior officials and managers.....1.06	129	
6.1.6 Digital skills.....n/a	n/a	
6.2 Talent Impact.....1.82	127	
6.2.1 Innovation output.....0.00	125	
6.2.2 High-value exports.....4.61	94	
6.2.3 Software development.....0.57	107	
6.2.4 New business density.....3.15	91	
6.2.5 Scientific journal articles.....0.75	103	

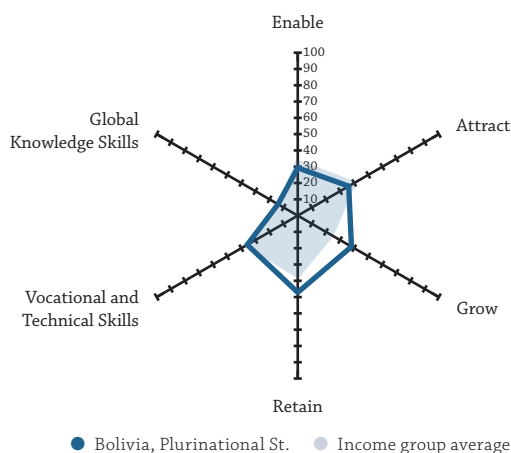
BOLIVIA, PLURINATIONAL ST.

Key Indicators

Rank (out of 133).....	93
Income group.....	Lower-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	11.83

GDP per capita (PPP US\$).....	9,030.39
GDP (US\$ billions).....	40.41
GTCI score.....	33.40
GTCI score (income group average).....	30.02

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....29.31 113		
1.1 Regulatory Landscape.....	24.11	115
1.1.1 Government effectiveness.....	28.07	103
1.1.2 Rule of law.....	16.51	127
1.1.3 Political stability.....	46.23	92
1.1.4 Regulatory quality.....	13.80	128
1.1.5 Corruption.....	15.94	104
1.2 Market Landscape.....	34.67	83
1.2.1 Extent of market dominance.....	22.98	112
1.2.2 Domestic credit to private sector.....	30.82	49
1.2.3 Cluster development.....	21.08	120
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	33.61	102
1.2.6 Urbanisation.....	64.84	54
1.3 Business and Labour Landscape.....	29.15	124
Labour Market		
1.3.1 Labour rights.....	60.59	86
1.3.2 Labour-employer cooperation.....	9.25	128
Management Practice		
1.3.3 Professional management.....	25.96	120
1.3.4 Relationship of pay to productivity.....	22.61	130
Technology Adoption		
1.3.5 Enterprise software.....	23.01	58
1.3.6 Cloud computing.....	16.51	62
1.3.7 Firms with website.....	46.10	67
2 ATTRACT.....36.11 117		
2.1 External Openness.....	22.23	123
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	31.88	115
Attract People		
2.1.3 Migrant stock.....	17.88	106
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	16.93	120
2.2 Internal Openness.....	49.99	94
Social Inclusion		
2.2.1 Tolerance of minorities.....	44.57	64
2.2.2 Tolerance of immigrants.....	58.46	65
2.2.3 Social mobility.....	25.43	116
Gender Equality		
2.2.4 Economic empowerment of women.....	84.07	39
2.2.5 Gender parity in high-skilled jobs.....	75.00	63
2.2.6 Leadership opportunities for women.....	12.43	128

	Score	Rank
3 GROW.....38.08 55		
3.1 Formal Education.....	50.00	16
Enrolment		
3.1.1 Vocational enrolment.....	100.00	1
3.1.2 Tertiary enrolment.....	n/a	n/a
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	21.84	102
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	59.02	21
3.2.3 Employee development.....	21.26	129
3.2.4 Formal and non-formal studies.....	7.08	55
3.3 Access to Growth Opportunities.....	42.39	75
Empowerment		
3.3.1 Delegation of authority.....	15.34	123
3.3.2 Youth inclusion.....	78.41	45
Collaboration		
3.3.3 Use of virtual social networks.....	59.98	69
3.3.4 Use of virtual professional networks.....	15.85	69

4 RETAIN.....47.14 82		
4.1 Sustainability.....	46.36	72
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	26.10	99
4.1.3 Brain retention.....	23.39	104
4.1.4 Environmental performance.....	35.93	75
4.2 Lifestyle.....	47.93	91
4.2.1 Personal rights.....	62.22	79
4.2.2 Personal safety.....	51.43	66
4.2.3 Physician density.....	15.66	88
4.2.4 Sanitation.....	62.41	105
5 VOCATIONAL AND TECHNICAL SKILLS.....35.80 100		
5.1 Mid-Level Skills.....	28.30	87
5.1.1 Workforce with secondary education.....	45.73	70
5.1.2 Population with secondary education.....	38.53	54
5.1.3 Technicians and associate professionals.....	20.51	85
5.1.4 Labour productivity per employee.....	8.41	93
5.2 Employability.....	43.30	107
5.2.1 Ease of finding skilled employees.....	34.01	100
5.2.2 Relevance of education system to the economy.....	15.07	121
5.2.3 Skills matching.....	64.62	58
5.2.4 Highly educated unemployment.....	59.50	91

6 GLOBAL KNOWLEDGE SKILLS.....13.97 90		
6.1 High-Level Skills.....	23.07	68
6.1.1 Workforce with tertiary education.....	21.32	80
6.1.2 Population with tertiary education.....	41.73	32
6.1.3 Professionals.....	20.83	73
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	8.39	102
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	4.87	112
6.2.1 Innovation output.....	11.88	106
6.2.2 High-value exports.....	7.59	87
6.2.3 Software development.....	1.92	81
6.2.4 New business density.....	2.62	97
6.2.5 Scientific journal articles.....	0.32	117

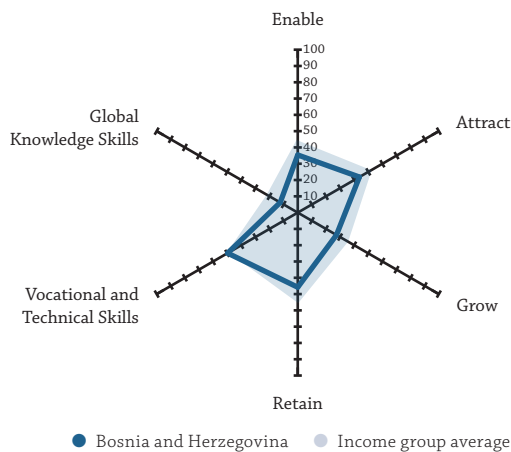
BOSNIA AND HERZEGOVINA

Key Indicators

Rank (out of 133).....	88
Income group.....	Upper-middle income
Regional group.....	Europe
Population (millions).....	3.26

GDP per capita (PPP US\$)	16,846.46
GDP (US\$ billions)	22.57
GTCI score.....	35.74
GTCI score (income group average)	41.23

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....35.39 91		
1.1 Regulatory Landscape.....31.85 94		
1.1.1 Government effectiveness.....17.81 123		
1.1.2 Rule of law.....38.36 79		
1.1.3 Political stability.....44.94 94		
1.1.4 Regulatory quality.....34.92 89		
1.1.5 Corruption.....23.19 90		
1.2 Market Landscape.....31.32 92		
1.2.1 Extent of market dominance.....25.16 106		
1.2.2 Domestic credit to private sector.....24.75 62		
1.2.3 Cluster development.....30.12 108		
1.2.4 R&D expenditure.....3.61 90		
1.2.5 ICT infrastructure.....63.76 60		
1.2.6 Urbanisation.....40.49 100		
1.3 Business and Labour Landscape.....43.01 72		
Labour Market		
1.3.1 Labour rights.....88.07 43		
1.3.2 Labour-employer cooperation.....8.74 129		
Management Practice		
1.3.3 Professional management.....21.90 125		
1.3.4 Relationship of pay to productivity.....41.60 110		
Technology Adoption		
1.3.5 Enterprise software.....49.43 17		
1.3.6 Cloud computing.....23.65 33		
1.3.7 Firms with website.....67.70 41		
2 ATTRACT.....43.69 94		
2.1 External Openness.....36.30 91		
Attract Business		
2.1.1 FDI regulatory restrictiveness.....91.08 23		
2.1.2 Financial globalisation.....49.25 88		
Attract People		
2.1.3 Migrant stock.....16.00 108		
2.1.4 International students.....25.16 40		
2.1.5 Brain gain.....0.00 130		
2.2 Internal Openness.....51.07 90		
Social Inclusion		
2.2.1 Tolerance of minorities.....33.70 85		
2.2.2 Tolerance of immigrants.....55.38 75		
2.2.3 Social mobility.....24.65 118		
Gender Equality		
2.2.4 Economic empowerment of women.....78.76 56		
2.2.5 Gender parity in high-skilled jobs.....91.07 22		
2.2.6 Leadership opportunities for women.....22.87 121		

	Score	Rank
3 GROW.....27.44 84		
3.1 Formal Education.....24.32 64		
Enrolment		
3.1.1 Vocational enrolment.....59.75 7		
3.1.2 Tertiary enrolment.....24.66 76		
Quality		
3.1.3 Tertiary education expenditure.....9.22 65		
3.1.4 Reading, maths, and science.....27.97 62		
3.1.5 University ranking.....0.00 76		
3.2 Lifelong Learning.....19.71 112		
3.2.1 Business masters education.....0.00 54		
3.2.2 Prevalence of training in firms.....42.24 39		
3.2.3 Employee development.....25.00 124		
3.2.4 Formal and non-formal studies.....11.59 48		
3.3 Access to Growth Opportunities.....38.28 87		
Empowerment		
3.3.1 Delegation of authority.....22.05 114		
3.3.2 Youth inclusion.....66.96 65		
Collaboration		
3.3.3 Use of virtual social networks.....52.97 83		
3.3.4 Use of virtual professional networks.....11.13 80		

4 RETAIN.....45.81 85		
4.1 Sustainability.....28.95 100		
4.1.1 Pension coverage.....69.00 71		
4.1.2 Social protection.....12.06 122		
4.1.3 Brain retention.....0.00 132		
4.1.4 Environmental performance.....34.75 77		
4.2 Lifestyle.....62.66 58		
4.2.1 Personal rights.....63.73 75		
4.2.2 Personal safety.....58.24 56		
4.2.3 Physician density.....33.75 72		
4.2.4 Sanitation.....94.93 63		

5 VOCATIONAL AND TECHNICAL SKILLS.....49.71 55		
5.1 Mid-Level Skills.....59.13 27		
5.1.1 Workforce with secondary education.....95.07 3		
5.1.2 Population with secondary education.....79.92 10		
5.1.3 Technicians and associate professionals.....25.06 75		
5.1.4 Labour productivity per employee.....36.47 45		
5.2 Employability.....40.29 116		
5.2.1 Ease of finding skilled employees.....19.26 123		
5.2.2 Relevance of education system to the economy.....10.14 127		
5.2.3 Skills matching.....84.92 16		
5.2.4 Highly educated unemployment.....46.85 110		

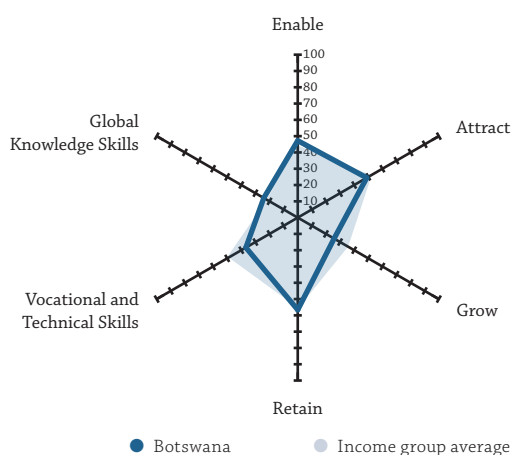
6 GLOBAL KNOWLEDGE SKILLS.....12.43 94		
6.1 High-Level Skills.....14.57 96		
6.1.1 Workforce with tertiary education.....23.22 76		
6.1.2 Population with tertiary education.....16.52 73		
6.1.3 Professionals.....22.83 69		
6.1.4 Researchers.....5.07 70		
6.1.5 Senior officials and managers.....10.37 99		
6.1.6 Digital skills.....9.41 65		
6.2 Talent Impact.....10.29 80		
6.2.1 Innovation output.....22.52 79		
6.2.2 High-value exports.....8.11 84		
6.2.3 Software development.....7.09 55		
6.2.4 New business density.....5.35 81		
6.2.5 Scientific journal articles.....8.40 61		

BOTSWANA

Key Indicators

Rank (out of 133).....	70
Income group.....	Upper-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	2.40

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....47.22	52	
1.1 Regulatory Landscape.....	59.90	41
1.1.1 Government effectiveness.....	48.40	55
1.1.2 Rule of law.....	57.66	46
1.1.3 Political stability.....	89.05	9
1.1.4 Regulatory quality.....	52.23	52
1.1.5 Corruption.....	52.17	37
1.2 Market Landscape.....	37.43	74
1.2.1 Extent of market dominance.....	36.28	82
1.2.2 Domestic credit to private sector.....	15.88	80
1.2.3 Cluster development.....	45.64	63
1.2.4 R&D expenditure.....	9.71	56
1.2.5 ICT infrastructure.....	52.19	78
1.2.6 Urbanisation.....	64.87	53
1.3 Business and Labour Landscape.....	44.32	68
Labour Market		
1.3.1 Labour rights.....	60.99	85
1.3.2 Labour-employer cooperation.....	57.78	40
Management Practice		
1.3.3 Professional management.....	72.44	29
1.3.4 Relationship of pay to productivity.....	46.01	93
Technology Adoption		
1.3.5 Enterprise software.....	21.11	63
1.3.6 Cloud computing.....	7.58	113
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....48.89	76	
2.1 External Openness.....	39.91	83
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	47.57	92
Attract People		
2.1.3 Migrant stock.....	46.09	56
2.1.4 International students.....	8.35	74
2.1.5 Brain gain.....	57.62	38
2.2 Internal Openness.....	57.88	60
Social Inclusion		
2.2.1 Tolerance of minorities.....	63.04	38
2.2.2 Tolerance of immigrants.....	64.62	56
2.2.3 Social mobility.....	42.66	74
Gender Equality		
2.2.4 Economic empowerment of women.....	48.67	116
2.2.5 Gender parity in high-skilled jobs.....	74.01	67
2.2.6 Leadership opportunities for women.....	54.25	65

GDP per capita (PPP US\$).....	17,603.73
GDP (US\$ billions).....	17.61
GTCI score.....	39.88
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....25.75	92	
3.1 Formal Education.....	8.30	106
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	16.60	87
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	27.37	74
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	54.73	55
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	41.57	77
Empowerment		
3.3.1 Delegation of authority.....	73.84	14
3.3.2 Youth inclusion.....	30.48	119
Collaboration		
3.3.3 Use of virtual social networks.....	41.08	96
3.3.4 Use of virtual professional networks.....	20.88	54

4 RETAIN.....56.61	53	
4.1 Sustainability.....	59.75	39
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	34.31	74
4.1.3 Brain retention.....	45.19	49
4.1.4 Environmental performance.....	59.49	33
4.2 Lifestyle.....	53.47	79
4.2.1 Personal rights.....	79.47	55
4.2.2 Personal safety.....	51.08	67
4.2.3 Physician density.....	5.25	106
4.2.4 Sanitation.....	78.07	91

5 VOCATIONAL AND TECHNICAL SKILLS.....36.75	97	
5.1 Mid-Level Skills.....	21.62	98
5.1.1 Workforce with secondary education.....	25.98	99
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	21.28	84
5.1.4 Labour productivity per employee.....	17.59	77
5.2 Employability.....	51.87	76
5.2.1 Ease of finding skilled employees.....	75.46	6
5.2.2 Relevance of education system to the economy.....	50.23	49
5.2.3 Skills matching.....	57.43	71
5.2.4 Highly educated unemployment.....	24.37	116

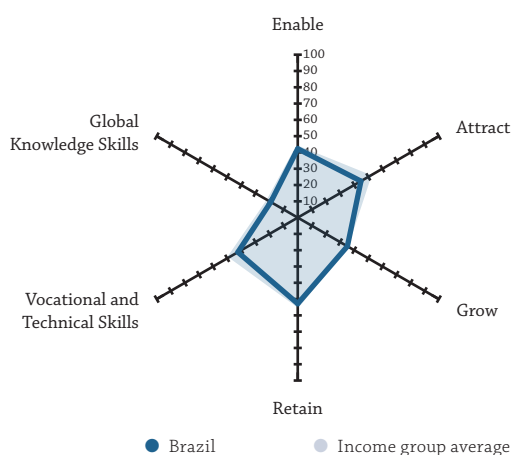
6 GLOBAL KNOWLEDGE SKILLS.....24.07	57	
6.1 High-Level Skills.....	24.38	64
6.1.1 Workforce with tertiary education.....	37.06	45
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	15.87	87
6.1.4 Researchers.....	2.01	80
6.1.5 Senior officials and managers.....	45.64	27
6.1.6 Digital skills.....	21.30	45
6.2 Talent Impact.....	23.76	48
6.2.1 Innovation output.....	11.88	106
6.2.2 High-value exports.....	0.50	124
6.2.3 Software development.....	2.16	80
6.2.4 New business density.....	99.32	3
6.2.5 Scientific journal articles.....	4.92	76

BRAZIL

Key Indicators

Rank (out of 133).....	73
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	213.99

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 42.26 66		
1.1 Regulatory Landscape.....	36.90	82
1.1.1 Government effectiveness.....	30.93	94
1.1.2 Rule of law.....	41.73	71
1.1.3 Political stability.....	47.50	86
1.1.4 Regulatory quality.....	36.81	84
1.1.5 Corruption.....	27.54	76
1.2 Market Landscape.....	51.20	35
1.2.1 Extent of market dominance.....	50.29	50
1.2.2 Domestic credit to private sector.....	30.25	50
1.2.3 Cluster development.....	48.14	49
1.2.4 R&D expenditure.....	22.08	34
1.2.5 ICT infrastructure.....	71.87	45
1.2.6 Urbanisation.....	84.56	19
1.3 Business and Labour Landscape.....	38.67	94
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	25.15	112
Management Practice		
1.3.3 Professional management.....	60.56	49
1.3.4 Relationship of pay to productivity.....	46.37	92
Technology Adoption		
1.3.5 Enterprise software.....	29.01	42
1.3.6 Cloud computing.....	20.82	43
1.3.7 Firms with website.....	50.13	62
2 ATTRACT..... 44.78 91		
2.1 External Openness.....	30.40	108
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	79.19	46
2.1.2 Financial globalisation.....	42.87	97
Attract People		
2.1.3 Migrant stock.....	8.42	123
2.1.4 International students.....	0.83	107
2.1.5 Brain gain.....	20.68	118
2.2 Internal Openness.....	59.17	54
Social Inclusion		
2.2.1 Tolerance of minorities.....	21.74	102
2.2.2 Tolerance of immigrants.....	81.54	24
2.2.3 Social mobility.....	36.45	92
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	99.78	3
2.2.6 Leadership opportunities for women.....	36.76	108

GDP per capita (PPP US\$).....	16,056.02
GDP (US\$ billions).....	1,608.98
GTCI score.....	39.43
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW..... 35.18 57		
3.1 Formal Education.....	25.11	60
Enrolment		
3.1.1 Vocational enrolment.....	6.32	93
3.1.2 Tertiary enrolment.....	36.38	57
Quality		
3.1.3 Tertiary education expenditure.....	11.79	57
3.1.4 Reading, maths, and science.....	26.91	67
3.1.5 University ranking.....	44.17	29
3.2 Lifelong Learning.....	27.27	75
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	54.54	56
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	53.16	43
Empowerment		
3.3.1 Delegation of authority.....	52.67	48
3.3.2 Youth inclusion.....	58.39	80
Collaboration		
3.3.3 Use of virtual social networks.....	67.97	45
3.3.4 Use of virtual professional networks.....	33.62	30

4 RETAIN..... 52.81 69		
4.1 Sustainability.....	52.47	53
4.1.1 Pension coverage.....	91.36	49
4.1.2 Social protection.....	37.88	69
4.1.3 Brain retention.....	38.76	68
4.1.4 Environmental performance.....	41.86	61
4.2 Lifestyle.....	53.15	80
4.2.1 Personal rights.....	70.15	70
4.2.2 Personal safety.....	17.23	123
4.2.3 Physician density.....	36.13	66
4.2.4 Sanitation.....	89.11	76

5 VOCATIONAL AND TECHNICAL SKILLS..... 42.42 77		
5.1 Mid-Level Skills.....	40.09	64
5.1.1 Workforce with secondary education.....	64.42	34
5.1.2 Population with secondary education.....	43.15	52
5.1.3 Technicians and associate professionals.....	34.49	55
5.1.4 Labour productivity per employee.....	18.31	74
5.2 Employability.....	44.75	100
5.2.1 Ease of finding skilled employees.....	30.76	106
5.2.2 Relevance of education system to the economy.....	18.98	112
5.2.3 Skills matching.....	74.06	45
5.2.4 Highly educated unemployment.....	55.21	98

6 GLOBAL KNOWLEDGE SKILLS..... 19.12 71		
6.1 High-Level Skills.....	20.37	79
6.1.1 Workforce with tertiary education.....	28.55	63
6.1.2 Population with tertiary education.....	21.22	65
6.1.3 Professionals.....	28.36	56
6.1.4 Researchers.....	10.08	52
6.1.5 Senior officials and managers.....	21.49	68
6.1.6 Digital skills.....	12.54	61
6.2 Talent Impact.....	17.87	59
6.2.1 Innovation output.....	33.33	58
6.2.2 High-value exports.....	20.28	43
6.2.3 Software development.....	9.43	47
6.2.4 New business density.....	14.92	49
6.2.5 Scientific journal articles.....	11.40	53

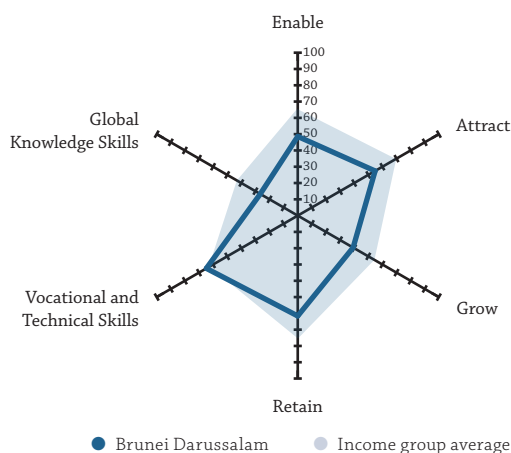
BRUNEI DARUSSALAM

Key Indicators

Rank (out of 133).....	41
Income group	High income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions)	0.44

GDP per capita (PPP US\$)	66,619.87
GDP (US\$ billions)	14.01
GTCI score.....	49.26
GTCI score (income group average)	59.85

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 48.59 50		
1.1 Regulatory Landscape.....	75.91	20
1.1.1 Government effectiveness	77.73	16
1.1.2 Rule of law	70.34	31
1.1.3 Political stability.....	90.03	7
1.1.4 Regulatory quality.....	65.53	34
1.1.5 Corruption	n/a	n/a
1.2 Market Landscape.....	35.19	79
1.2.1 Extent of market dominance.....	35.25	85
1.2.2 Domestic credit to private sector	15.82	81
1.2.3 Cluster development.....	45.67	62
1.2.4 R&D expenditure.....	4.93	82
1.2.5 ICT infrastructure.....	n/a	n/a
1.2.6 Urbanisation	74.28	40
1.3 Business and Labour Landscape.....	34.67	111
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation	49.63	54
Management Practice		
1.3.3 Professional management	46.15	84
1.3.4 Relationship of pay to productivity.....	54.77	61
Technology Adoption		
1.3.5 Enterprise software	13.28	104
1.3.6 Cloud computing	9.53	103
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT..... 54.83 51		
2.1 External Openness	60.05	30
Attract Business		
2.1.1 FDI regulatory restrictiveness	61.62	60
2.1.2 Financial globalisation	85.56	19
Attract People		
2.1.3 Migrant stock	78.84	11
2.1.4 International students.....	14.20	58
2.1.5 Brain gain	n/a	n/a
2.2 Internal Openness.....	49.61	99
Social Inclusion		
2.2.1 Tolerance of minorities.....	34.78	83
2.2.2 Tolerance of immigrants	n/a	n/a
2.2.3 Social mobility	38.13	88
Gender Equality		
2.2.4 Economic empowerment of women.....	33.63	123
2.2.5 Gender parity in high-skilled jobs	80.09	52
2.2.6 Leadership opportunities for women	61.41	46

	Score	Rank
3 GROW..... 39.25 53		
3.1 Formal Education.....	32.05	46
Enrolment		
3.1.1 Vocational enrolment	18.51	62
3.1.2 Tertiary enrolment	20.62	82
Quality		
3.1.3 Tertiary education expenditure	49.46	6
3.1.4 Reading, maths, and science	36.31	52
3.1.5 University ranking.....	35.36	37
3.2 Lifelong Learning.....	21.59	104
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development	62.93	45
3.2.4 Formal and non-formal studies	1.85	73
3.3 Access to Growth Opportunities	64.11	21
Empowerment		
3.3.1 Delegation of authority	63.62	27
3.3.2 Youth inclusion	62.60	75
Collaboration		
3.3.3 Use of virtual social networks	100.00	1
3.3.4 Use of virtual professional networks	30.19	34

4 RETAIN..... 61.59 43		
4.1 Sustainability	62.72	30
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection.....	n/a	n/a
4.1.3 Brain retention	42.74	57
4.1.4 Environmental performance	45.42	55
4.2 Lifestyle.....	60.45	62
4.2.1 Personal rights	n/a	n/a
4.2.2 Personal safety.....	n/a	n/a
4.2.3 Physician density.....	24.91	79
4.2.4 Sanitation.....	95.99	59

5 VOCATIONAL AND TECHNICAL SKILLS..... 64.76 18		
5.1 Mid-Level Skills	66.02	12
5.1.1 Workforce with secondary education	77.52	18
5.1.2 Population with secondary education	70.92	20
5.1.3 Technicians and associate professionals.....	49.61	40
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	63.50	39
5.2.1 Ease of finding skilled employees	41.97	76
5.2.2 Relevance of education system to the economy	63.76	27
5.2.3 Skills matching	73.41	47
5.2.4 Highly educated unemployment	74.87	67

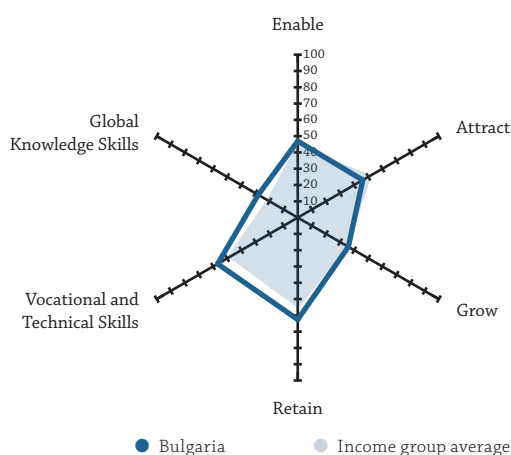
6 GLOBAL KNOWLEDGE SKILLS	26.56	50
6.1 High-Level Skills	43.69	25
6.1.1 Workforce with tertiary education	27.11	68
6.1.2 Population with tertiary education.....	16.59	72
6.1.3 Professionals	36.01	46
6.1.4 Researchers	n/a	n/a
6.1.5 Senior officials and managers.....	38.71	37
6.1.6 Digital skills	100.00	1
6.2 Talent Impact.....	9.43	84
6.2.1 Innovation output	10.64	111
6.2.2 High-value exports.....	2.19	108
6.2.3 Software development	1.74	86
6.2.4 New business density	5.33	82
6.2.5 Scientific journal articles	27.26	39

BULGARIA

Key Indicators

Rank (out of 133)	50
Income group	Upper-middle income
Regional group	Europe
Population (millions)	6.90

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	46.95	53
1.1 Regulatory Landscape	48.93	54
1.1.1 Government effectiveness	40.23	75
1.1.2 Rule of law	44.02	66
1.1.3 Political stability	72.11	42
1.1.4 Regulatory quality	54.98	45
1.1.5 Corruption	33.33	63
1.2 Market Landscape	46.33	52
1.2.1 Extent of market dominance	51.74	47
1.2.2 Domestic credit to private sector	21.56	71
1.2.3 Cluster development	55.83	38
1.2.4 R&D expenditure	15.54	45
1.2.5 ICT infrastructure	62.04	66
1.2.6 Urbanisation	71.26	44
1.3 Business and Labour Landscape	45.58	62
Labour Market		
1.3.1 Labour rights	88.07	43
1.3.2 Labour-employer cooperation	44.68	63
Management Practice		
1.3.3 Professional management	43.39	94
1.3.4 Relationship of pay to productivity	65.26	40
Technology Adoption		
1.3.5 Enterprise software	20.85	64
1.3.6 Cloud computing	14.96	69
1.3.7 Firms with website	41.82	74
2 ATTRACT	46.10	85
2.1 External Openness	34.52	93
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	64.86	57
Attract People		
2.1.3 Migrant stock	23.74	99
2.1.4 International students	27.51	34
2.1.5 Brain gain	21.98	117
2.2 Internal Openness	57.67	61
Social Inclusion		
2.2.1 Tolerance of minorities	59.78	44
2.2.2 Tolerance of immigrants	32.31	115
2.2.3 Social mobility	28.37	113
Gender Equality		
2.2.4 Economic empowerment of women	86.73	35
2.2.5 Gender parity in high-skilled jobs	74.75	66
2.2.6 Leadership opportunities for women	64.07	39

GDP per capita (PPP US\$)	26,705.44
GDP (US\$ billions)	80.27
GTGI score	46.04
GTGI score (income group average)	41.23

	Score	Rank
3 GROW	35.85	56
3.1 Formal Education	34.45	40
Enrolment		
3.1.1 Vocational enrolment	51.53	17
3.1.2 Tertiary enrolment	48.81	29
Quality		
3.1.3 Tertiary education expenditure	11.94	56
3.1.4 Reading, maths, and science	37.78	49
3.1.5 University ranking	22.19	50
3.2 Lifelong Learning	25.26	85
3.2.1 Business masters education	0.00	54
3.2.2 Prevalence of training in firms	17.20	82
3.2.3 Employee development	50.67	66
3.2.4 Formal and non-formal studies	33.18	38
3.3 Access to Growth Opportunities	47.84	61
Empowerment		
3.3.1 Delegation of authority	41.56	80
3.3.2 Youth inclusion	77.76	46
Collaboration		
3.3.3 Use of virtual social networks	54.57	79
3.3.4 Use of virtual professional networks	17.45	65

4 RETAIN	62.55	41
4.1 Sustainability	50.44	59
4.1.1 Pension coverage	93.90	45
4.1.2 Social protection	32.08	81
4.1.3 Brain retention	19.84	114
4.1.4 Environmental performance	55.93	35
4.2 Lifestyle	74.66	38
4.2.1 Personal rights	80.54	51
4.2.2 Personal safety	67.00	38
4.2.3 Physician density	66.44	18
4.2.4 Sanitation	84.67	84

5 VOCATIONAL AND TECHNICAL SKILLS	56.78	44
5.1 Mid-Level Skills	47.86	51
5.1.1 Workforce with secondary education	77.96	17
5.1.2 Population with secondary education	n/a	n/a
5.1.3 Technicians and associate professionals	39.60	51
5.1.4 Labour productivity per employee	26.02	60
5.2 Employability	65.70	31
5.2.1 Ease of finding skilled employees	35.21	95
5.2.2 Relevance of education system to the economy	48.27	55
5.2.3 Skills matching	91.22	5
5.2.4 Highly educated unemployment	88.09	28

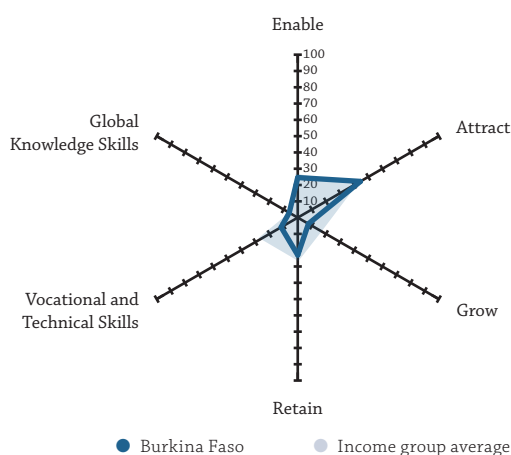
6 GLOBAL KNOWLEDGE SKILLS	28.00	46
6.1 High-Level Skills	29.01	54
6.1.1 Workforce with tertiary education	39.89	42
6.1.2 Population with tertiary education	n/a	n/a
6.1.3 Professionals	42.45	36
6.1.4 Researchers	27.48	34
6.1.5 Senior officials and managers	30.24	49
6.1.6 Digital skills	4.97	71
6.2 Talent Impact	27.00	43
6.2.1 Innovation output	58.33	26
6.2.2 High-value exports	20.18	44
6.2.3 Software development	30.16	27
6.2.4 New business density	7.57	73
6.2.5 Scientific journal articles	18.74	46

BURKINA FASO

Key Indicators

Rank (out of 133).....	128
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	21.50

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	24.59	121
1.1 Regulatory Landscape.....	28.12	107
1.1.1 Government effectiveness	25.40	106
1.1.2 Rule of law	35.47	91
1.1.3 Political stability.....	16.40	126
1.1.4 Regulatory quality.....	29.99	96
1.1.5 Corruption	33.33	63
1.2 Market Landscape.....	15.47	125
1.2.1 Extent of market dominance.....	33.96	89
1.2.2 Domestic credit to private sector	10.42	97
1.2.3 Cluster development.....	10.09	130
1.2.4 R&D expenditure.....	4.38	85
1.2.5 ICT infrastructure.....	15.21	118
1.2.6 Urbanisation	18.77	121
1.3 Business and Labour Landscape.....	30.17	120
Labour Market		
1.3.1 Labour rights.....	90.75	31
1.3.2 Labour-employer cooperation	25.10	113
Management Practice		
1.3.3 Professional management	19.58	128
1.3.4 Relationship of pay to productivity.....	19.99	131
Technology Adoption		
1.3.5 Enterprise software	18.84	77
1.3.6 Cloud computing	6.76	120
1.3.7 Firms with website	n/a	n/a
2 ATTRACT.....	44.44	93
2.1 External Openness	33.65	96
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	56.66	80
Attract People		
2.1.3 Migrant stock	43.89	59
2.1.4 International students.....	7.78	76
2.1.5 Brain gain	26.26	113
2.2 Internal Openness.....	55.23	72
Social Inclusion		
2.2.1 Tolerance of minorities.....	56.52	48
2.2.2 Tolerance of immigrants	78.46	27
2.2.3 Social mobility	43.56	69
Gender Equality		
2.2.4 Economic empowerment of women.....	75.22	68
2.2.5 Gender parity in high-skilled jobs	62.51	86
2.2.6 Leadership opportunities for women	15.11	127

GDP per capita (PPP US\$)	2,461.94
GDP (US\$ billions)	19.74
GTGI score.....	19.57
GTGI score (income group average)	22.09

	Score	Rank
3 GROW.....	7.58	133
3.1 Formal Education.....	5.60	116
Enrolment		
3.1.1 Vocational enrolment	3.74	102
3.1.2 Tertiary enrolment	4.17	113
Quality		
3.1.3 Tertiary education expenditure	14.49	45
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	8.28	133
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development	16.56	132
3.2.4 Formal and non-formal studies	n/a	n/a
3.3 Access to Growth Opportunities	8.87	131
Empowerment		
3.3.1 Delegation of authority	5.14	130
3.3.2 Youth inclusion	22.59	121
Collaboration		
3.3.3 Use of virtual social networks	6.03	123
3.3.4 Use of virtual professional networks	1.71	125

4 RETAIN.....	22.98	124
4.1 Sustainability	20.75	122
4.1.1 Pension coverage	4.47	120
4.1.2 Social protection.....	21.86	107
4.1.3 Brain retention	28.52	96
4.1.4 Environmental performance	28.14	92
4.2 Lifestyle	25.21	126
4.2.1 Personal rights	59.25	86
4.2.2 Personal safety.....	26.89	110
4.2.3 Physician density.....	0.70	125
4.2.4 Sanitation	14.00	127

5 VOCATIONAL AND TECHNICAL SKILLS.....	11.78	131
5.1 Mid-Level Skills	6.73	123
5.1.1 Workforce with secondary education	2.86	126
5.1.2 Population with secondary education	2.95	95
5.1.3 Technicians and associate professionals.....	19.01	91
5.1.4 Labour productivity per employee.....	2.10	107
5.2 Employability.....	16.83	132
5.2.1 Ease of finding skilled employees	31.71	104
5.2.2 Relevance of education system to the economy	16.73	119
5.2.3 Skills matching	2.04	104
5.2.4 Highly educated unemployment	n/a	n/a

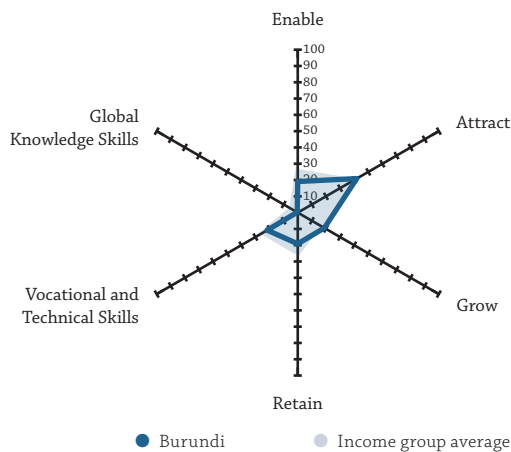
6 GLOBAL KNOWLEDGE SKILLS	6.03	114
6.1 High-Level Skills	8.87	112
6.1.1 Workforce with tertiary education	3.15	123
6.1.2 Population with tertiary education.....	2.17	95
6.1.3 Professionals	12.61	100
6.1.4 Researchers	n/a	n/a
6.1.5 Senior officials and managers.....	17.52	77
6.1.6 Digital skills	n/a	n/a
6.2 Talent Impact.....	3.20	120
6.2.1 Innovation output	7.98	119
6.2.2 High-value exports.....	5.95	90
6.2.3 Software development	0.01	131
6.2.4 New business density	1.60	106
6.2.5 Scientific journal articles	0.47	111

BURUNDI

Key Indicators

Rank (out of 133).....	126
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	12.26

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....19.08 131		
1.1 Regulatory Landscape.....	11.44	131
1.1.1 Government effectiveness.....	10.76	131
1.1.2 Rule of law.....	12.25	132
1.1.3 Political stability.....	20.26	124
1.1.4 Regulatory quality.....	13.93	127
1.1.5 Corruption.....	0.00	131
1.2 Market Landscape.....	14.30	129
1.2.1 Extent of market dominance.....	36.72	81
1.2.2 Domestic credit to private sector.....	7.65	110
1.2.3 Cluster development.....	32.34	102
1.2.4 R&D expenditure.....	3.74	88
1.2.5 ICT infrastructure.....	5.37	127
1.2.6 Urbanisation.....	0.00	133
1.3 Business and Labour Landscape.....	31.51	117
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	44.09	65
Management Practice		
1.3.3 Professional management.....	32.93	112
1.3.4 Relationship of pay to productivity.....	29.37	126
Technology Adoption		
1.3.5 Enterprise software.....	64.07	11
1.3.6 Cloud computing.....	0.00	125
1.3.7 Firms with website.....	18.60	100
2 ATTRACT.....41.77 98		
2.1 External Openness.....	30.83	106
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	18.86	123
Attract People		
2.1.3 Migrant stock.....	38.82	72
2.1.4 International students.....	18.21	50
2.1.5 Brain gain.....	47.43	66
2.2 Internal Openness.....	52.70	84
Social Inclusion		
2.2.1 Tolerance of minorities.....	26.09	94
2.2.2 Tolerance of immigrants.....	53.85	78
2.2.3 Social mobility.....	40.89	81
Gender Equality		
2.2.4 Economic empowerment of women.....	66.37	94
2.2.5 Gender parity in high-skilled jobs.....	73.35	69
2.2.6 Leadership opportunities for women.....	55.67	62

GDP per capita (PPP US\$)	793.24
GDP (US\$ billions)	2.90
GTCI score.....	20.13
GTCI score (income group average)	22.09

	Score	Rank
3 GROW.....18.83 115		
3.1 Formal Education.....	5.98	114
Enrolment		
3.1.1 Vocational enrolment.....	13.79	74
3.1.2 Tertiary enrolment.....	2.21	124
Quality		
3.1.3 Tertiary education expenditure.....	7.94	73
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	18.18	117
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	33.99	51
3.2.3 Employee development.....	36.90	109
3.2.4 Formal and non-formal studies.....	1.85	74
3.3 Access to Growth Opportunities.....	32.31	106
Empowerment		
3.3.1 Delegation of authority.....	32.67	99
3.3.2 Youth inclusion.....	93.76	7
Collaboration		
3.3.3 Use of virtual social networks.....	2.48	128
3.3.4 Use of virtual professional networks.....	0.32	129

4 RETAIN.....19.15 130		
4.1 Sustainability.....	20.24	124
4.1.1 Pension coverage.....	2.44	124
4.1.2 Social protection.....	41.02	63
4.1.3 Brain retention.....	17.84	119
4.1.4 Environmental performance.....	19.66	110
4.2 Lifestyle.....	18.06	131
4.2.1 Personal rights.....	9.38	129
4.2.2 Personal safety.....	22.08	114
4.2.3 Physician density.....	0.35	129
4.2.4 Sanitation.....	40.42	113

5 VOCATIONAL AND TECHNICAL SKILLS.....21.59 128		
5.1 Mid-Level Skills.....	4.11	128
5.1.1 Workforce with secondary education.....	2.81	127
5.1.2 Population with secondary education.....	3.66	93
5.1.3 Technicians and associate professionals.....	5.85	123
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	39.07	117
5.2.1 Ease of finding skilled employees.....	58.55	34
5.2.2 Relevance of education system to the economy.....	41.76	67
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	16.89	119

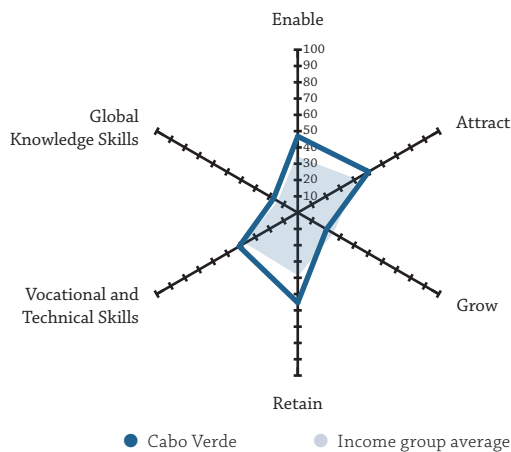
6 GLOBAL KNOWLEDGE SKILLS.....0.39 133		
6.1 High-Level Skills.....	0.74	133
6.1.1 Workforce with tertiary education.....	0.62	128
6.1.2 Population with tertiary education.....	0.75	100
6.1.3 Professionals.....	0.85	129
6.1.4 Researchers.....	0.15	104
6.1.5 Senior officials and managers.....	1.36	127
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	0.04	133
6.2.1 Innovation output.....	n/a	n/a
6.2.2 High-value exports.....	0.07	129
6.2.3 Software development.....	0.01	130
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	0.04	130

CABO VERDE

Key Indicators

Rank (out of 133).....	79
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	0.56

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....	46.80	54
1.1 Regulatory Landscape.....	57.25	44
1.1.1 Government effectiveness.....	48.16	56
1.1.2 Rule of law.....	58.88	45
1.1.3 Political stability.....	83.34	20
1.1.4 Regulatory quality.....	39.37	76
1.1.5 Corruption.....	56.52	32
1.2 Market Landscape.....	33.41	86
1.2.1 Extent of market dominance.....	34.89	86
1.2.2 Domestic credit to private sector.....	31.76	46
1.2.3 Cluster development.....	34.80	94
1.2.4 R&D expenditure.....	1.15	106
1.2.5 ICT infrastructure.....	37.24	96
1.2.6 Urbanisation.....	60.60	65
1.3 Business and Labour Landscape.....	49.73	47
Labour Market		
1.3.1 Labour rights.....	95.71	19
1.3.2 Labour-employer cooperation.....	35.76	86
Management Practice		
1.3.3 Professional management.....	27.55	118
1.3.4 Relationship of pay to productivity.....	39.89	116
Technology Adoption		
1.3.5 Enterprise software.....	n/a	n/a
1.3.6 Cloud computing.....	n/a	n/a
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....	50.23	68
2.1 External Openness.....	37.53	86
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	68.29	52
Attract People		
2.1.3 Migrant stock.....	36.20	75
2.1.4 International students.....	5.43	84
2.1.5 Brain gain.....	40.18	81
2.2 Internal Openness.....	62.93	39
Social Inclusion		
2.2.1 Tolerance of minorities.....	73.91	23
2.2.2 Tolerance of immigrants.....	n/a	n/a
2.2.3 Social mobility.....	28.20	114
Gender Equality		
2.2.4 Economic empowerment of women.....	80.53	51
2.2.5 Gender parity in high-skilled jobs.....	89.98	29
2.2.6 Leadership opportunities for women.....	42.05	91

GDP per capita (PPP US\$).....	7,028.05
GDP (US\$ billions).....	1.94
GTCI score.....	38.57
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....	20.43	110
3.1 Formal Education.....	5.96	115
Enrolment		
3.1.1 Vocational enrolment.....	2.90	106
3.1.2 Tertiary enrolment.....	14.91	91
Quality		
3.1.3 Tertiary education expenditure.....	6.04	84
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	19.82	111
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	39.63	103
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	35.50	93
Empowerment		
3.3.1 Delegation of authority.....	30.58	103
3.3.2 Youth inclusion.....	49.19	94
Collaboration		
3.3.3 Use of virtual social networks.....	44.99	90
3.3.4 Use of virtual professional networks.....	17.24	66

4 RETAIN.....	55.28	56
4.1 Sustainability.....	52.91	52
4.1.1 Pension coverage.....	84.55	61
4.1.2 Social protection.....	47.55	50
4.1.3 Brain retention.....	40.56	62
4.1.4 Environmental performance.....	38.98	68
4.2 Lifestyle.....	57.65	66
4.2.1 Personal rights.....	89.24	37
4.2.2 Personal safety.....	51.82	65
4.2.3 Physician density.....	12.48	92
4.2.4 Sanitation.....	77.07	93

5 VOCATIONAL AND TECHNICAL SKILLS.....	41.51	79
5.1 Mid-Level Skills.....	33.19	74
5.1.1 Workforce with secondary education.....	64.81	33
5.1.2 Population with secondary education.....	12.90	85
5.1.3 Technicians and associate professionals.....	21.87	81
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	49.83	81
5.2.1 Ease of finding skilled employees.....	50.43	57
5.2.2 Relevance of education system to the economy.....	42.82	62
5.2.3 Skills matching.....	56.23	75
5.2.4 Highly educated unemployment.....	n/a	n/a

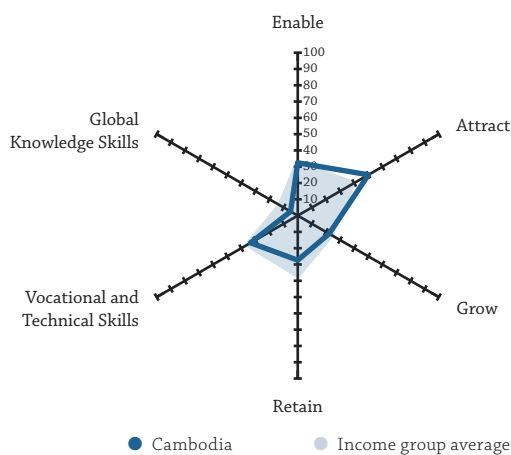
6 GLOBAL KNOWLEDGE SKILLS.....	17.16	79
6.1 High-Level Skills.....	15.47	94
6.1.1 Workforce with tertiary education.....	17.05	89
6.1.2 Population with tertiary education.....	11.92	79
6.1.3 Professionals.....	18.82	77
6.1.4 Researchers.....	1.30	86
6.1.5 Senior officials and managers.....	20.19	71
6.1.6 Digital skills.....	23.57	38
6.2 Talent Impact.....	18.85	57
6.2.1 Innovation output.....	20.57	87
6.2.2 High-value exports.....	0.43	126
6.2.3 Software development.....	0.67	106
6.2.4 New business density.....	71.99	8
6.2.5 Scientific journal articles.....	0.60	106

CAMBODIA

Key Indicators

Rank (out of 133)	103
Income group	Lower-middle income
Regional group	Eastern, Southeastern Asia and Oceania
Population (millions)	16.95

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	32.41	104
1.1 Regulatory Landscape	27.31	110
1.1.1 Government effectiveness	31.61	92
1.1.2 Rule of law	21.83	120
1.1.3 Political stability	52.61	74
1.1.4 Regulatory quality	24.68	105
1.1.5 Corruption	5.80	126
1.2 Market Landscape	34.48	85
1.2.1 Extent of market dominance	39.11	75
1.2.2 Domestic credit to private sector	63.37	12
1.2.3 Cluster development	45.62	64
1.2.4 R&D expenditure	1.99	102
1.2.5 ICT infrastructure	44.89	88
1.2.6 Urbanisation	11.91	126
1.3 Business and Labour Landscape	35.44	105
Labour Market		
1.3.1 Labour rights	39.14	96
1.3.2 Labour-employer cooperation	49.10	55
Management Practice		
1.3.3 Professional management	45.33	88
1.3.4 Relationship of pay to productivity	62.00	49
Technology Adoption		
1.3.5 Enterprise software	20.69	65
1.3.6 Cloud computing	14.85	70
1.3.7 Firms with website	16.98	101
2 ATTRACT	50.10	69
2.1 External Openness	56.16	40
Attract Business		
2.1.1 FDI regulatory restrictiveness	86.49	33
2.1.2 Financial globalisation	72.30	45
Attract People		
2.1.3 Migrant stock	11.19	121
2.1.4 International students	n/a	n/a
2.1.5 Brain gain	54.69	46
2.2 Internal Openness	44.04	110
Social Inclusion		
2.2.1 Tolerance of minorities	39.13	75
2.2.2 Tolerance of immigrants	9.23	127
2.2.3 Social mobility	31.40	106
Gender Equality		
2.2.4 Economic empowerment of women	73.45	73
2.2.5 Gender parity in high-skilled jobs	53.10	101
2.2.6 Leadership opportunities for women	57.91	56

GDP per capita (PPP US\$)	4,683.00
GDP (US\$ billions)	26.96
GTCI score	28.43
GTCI score (income group average)	30.02

	Score	Rank
3 GROW	22.23	102
3.1 Formal Education	2.33	129
Enrolment		
3.1.1 Vocational enrolment	0.47	115
3.1.2 Tertiary enrolment	8.87	99
Quality		
3.1.3 Tertiary education expenditure	0.00	113
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking	0.00	76
3.2 Lifelong Learning	18.23	116
3.2.1 Business masters education	0.00	54
3.2.2 Prevalence of training in firms	20.28	72
3.2.3 Employee development	51.28	62
3.2.4 Formal and non-formal studies	1.38	75
3.3 Access to Growth Opportunities	46.12	67
Empowerment		
3.3.1 Delegation of authority	33.64	95
3.3.2 Youth inclusion	84.46	28
Collaboration		
3.3.3 Use of virtual social networks	62.64	61
3.3.4 Use of virtual professional networks	3.75	112

4 RETAIN	27.37	118
4.1 Sustainability	22.87	118
4.1.1 Pension coverage	5.08	118
4.1.2 Social protection	24.55	104
4.1.3 Brain retention	42.87	55
4.1.4 Environmental performance	18.98	113
4.2 Lifestyle	31.86	113
4.2.1 Personal rights	26.03	121
4.2.2 Personal safety	33.42	97
4.2.3 Physician density	2.28	113
4.2.4 Sanitation	65.71	101

5 VOCATIONAL AND TECHNICAL SKILLS	33.41	104
5.1 Mid-Level Skills	11.12	117
5.1.1 Workforce with secondary education	25.41	102
5.1.2 Population with secondary education	3.43	94
5.1.3 Technicians and associate professionals	13.10	104
5.1.4 Labour productivity per employee	2.57	104
5.2 Employability	55.69	68
5.2.1 Ease of finding skilled employees	36.41	92
5.2.2 Relevance of education system to the economy	42.76	63
5.2.3 Skills matching	46.54	81
5.2.4 Highly educated unemployment	97.04	2

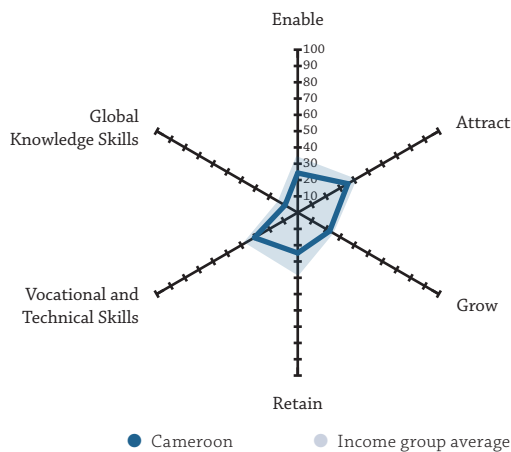
6 GLOBAL KNOWLEDGE SKILLS	5.08	120
6.1 High-Level Skills	5.66	120
6.1.1 Workforce with tertiary education	7.49	107
6.1.2 Population with tertiary education	6.04	85
6.1.3 Professionals	8.56	115
6.1.4 Researchers	0.23	101
6.1.5 Senior officials and managers	8.34	103
6.1.6 Digital skills	3.28	75
6.2 Talent Impact	4.51	114
6.2.1 Innovation output	14.54	101
6.2.2 High-value exports	3.89	98
6.2.3 Software development	1.01	100
6.2.4 New business density	2.79	94
6.2.5 Scientific journal articles	0.32	118

CAMEROON

Key Indicators

Rank (out of 133).....	119
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	27.22

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....24.31 122		
1.1 Regulatory Landscape.....	16.95	125
1.1.1 Government effectiveness.....	20.10	119
1.1.2 Rule of law.....	16.65	126
1.1.3 Political stability.....	17.07	125
1.1.4 Regulatory quality.....	19.32	120
1.1.5 Corruption.....	11.59	115
1.2 Market Landscape.....	29.82	99
1.2.1 Extent of market dominance.....	47.98	56
1.2.2 Domestic credit to private sector.....	3.92	119
1.2.3 Cluster development.....	33.02	101
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	14.36	120
1.2.6 Urbanisation.....	49.84	84
1.3 Business and Labour Landscape.....	26.16	126
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	29.04	104
Management Practice		
1.3.3 Professional management.....	36.24	106
1.3.4 Relationship of pay to productivity.....	48.31	83
Technology Adoption		
1.3.5 Enterprise software.....	16.44	91
1.3.6 Cloud computing.....	11.80	87
1.3.7 Firms with website.....	15.13	102
2 ATTRACT.....35.51 120		
2.1 External Openness.....	28.66	112
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	29.65	118
Attract People		
2.1.3 Migrant stock.....	29.93	85
2.1.4 International students.....	10.70	70
2.1.5 Brain gain.....	44.34	74
2.2 Internal Openness.....	42.37	114
Social Inclusion		
2.2.1 Tolerance of minorities.....	10.87	120
2.2.2 Tolerance of immigrants.....	61.54	59
2.2.3 Social mobility.....	46.11	58
Gender Equality		
2.2.4 Economic empowerment of women.....	43.36	119
2.2.5 Gender parity in high-skilled jobs.....	56.48	97
2.2.6 Leadership opportunities for women.....	35.88	109

GDP per capita (PPP US\$).....	4,064.47
GDP (US\$ billions).....	45.24
GTCI score.....	24.50
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....22.63 100		
3.1 Formal Education.....	10.98	98
Enrolment		
3.1.1 Vocational enrolment.....	34.19	32
3.1.2 Tertiary enrolment.....	8.54	100
Quality		
3.1.3 Tertiary education expenditure.....	1.20	110
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	30.31	67
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	41.82	40
3.2.3 Employee development.....	49.11	78
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	26.59	120
Empowerment		
3.3.1 Delegation of authority.....	17.66	121
3.3.2 Youth inclusion.....	71.64	55
Collaboration		
3.3.3 Use of virtual social networks.....	11.71	116
3.3.4 Use of virtual professional networks.....	5.35	106

4 RETAIN.....24.79 120		
4.1 Sustainability.....	20.18	125
4.1.1 Pension coverage.....	16.97	103
4.1.2 Social protection.....	21.10	108
4.1.3 Brain retention.....	23.49	103
4.1.4 Environmental performance.....	19.15	112
4.2 Lifestyle.....	29.39	119
4.2.1 Personal rights.....	51.75	97
4.2.2 Personal safety.....	25.34	112
4.2.3 Physician density.....	1.26	120
4.2.4 Sanitation.....	39.22	115

5 VOCATIONAL AND TECHNICAL SKILLS.....30.72 114		
5.1 Mid-Level Skills.....	12.00	116
5.1.1 Workforce with secondary education.....	20.45	108
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	11.17	108
5.1.4 Labour productivity per employee.....	4.39	102
5.2 Employability.....	49.44	84
5.2.1 Ease of finding skilled employees.....	55.21	47
5.2.2 Relevance of education system to the economy.....	36.10	83
5.2.3 Skills matching.....	38.53	90
5.2.4 Highly educated unemployment.....	67.95	81

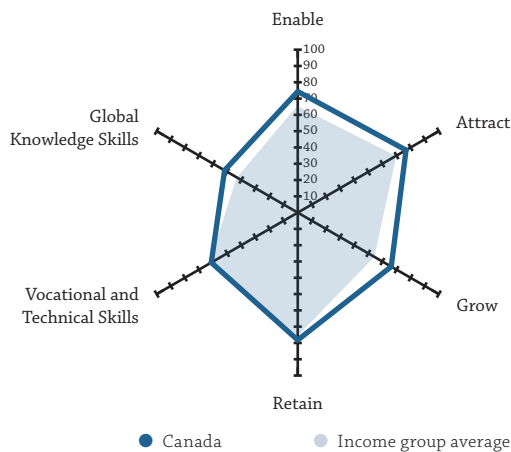
6 GLOBAL KNOWLEDGE SKILLS.....9.03 103		
6.1 High-Level Skills.....	12.02	102
6.1.1 Workforce with tertiary education.....	7.32	109
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	11.48	105
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	17.28	79
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	6.04	106
6.2.1 Innovation output.....	9.93	114
6.2.2 High-value exports.....	12.47	66
6.2.3 Software development.....	0.44	110
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	1.34	94

CANADA

Key Indicators

Rank (out of 133).....	15
Income group.....	High income
Regional group.....	Northern America
Population (millions).....	38.25

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....74.33 14		
1.1 Regulatory Landscape.....84.99	11	
1.1.1 Government effectiveness.....82.85	10	
1.1.2 Rule of law.....89.05	12	
1.1.3 Political stability.....89.63	8	
1.1.4 Regulatory quality.....83.72	10	
1.1.5 Corruption.....79.71	12	
1.2 Market Landscape.....68.25 14		
1.2.1 Extent of market dominance.....66.54	24	
1.2.2 Domestic credit to private sector.....n/a	n/a	
1.2.3 Cluster development.....71.98	18	
1.2.4 R&D expenditure.....31.10	23	
1.2.5 ICT infrastructure.....92.99	10	
1.2.6 Urbanisation.....78.63	30	
1.3 Business and Labour Landscape.....69.74 14		
Labour Market		
1.3.1 Labour rights.....85.66	49	
1.3.2 Labour-employer cooperation.....58.42	39	
Management Practice		
1.3.3 Professional management.....74.80	24	
1.3.4 Relationship of pay to productivity.....73.87	18	
Technology Adoption		
1.3.5 Enterprise software.....60.15	14	
1.3.6 Cloud computing.....51.76	10	
1.3.7 Firms with website.....83.53	18	
2 ATTRACT.....76.74 12		
2.1 External Openness.....71.30 15		
Attract Business		
2.1.1 FDI regulatory restrictiveness.....57.57	63	
2.1.2 Financial globalisation.....85.06	20	
Attract People		
2.1.3 Migrant stock.....72.27	18	
2.1.4 International students.....62.20	11	
2.1.5 Brain gain.....79.39	11	
2.2 Internal Openness.....82.18 11		
Social Inclusion		
2.2.1 Tolerance of minorities.....81.52	7	
2.2.2 Tolerance of immigrants.....98.46	2	
2.2.3 Social mobility.....70.45	22	
Gender Equality		
2.2.4 Economic empowerment of women.....100.00	1	
2.2.5 Gender parity in high-skilled jobs.....83.62	44	
2.2.6 Leadership opportunities for women.....59.02	51	

GDP per capita (PPP US\$).....	52,085.04
GDP (US\$ billions).....	1,990.76
GTCI score.....	68.11
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....66.26 10		
3.1 Formal Education.....49.56 17		
Enrolment		
3.1.1 Vocational enrolment.....6.80	91	
3.1.2 Tertiary enrolment.....50.39	25	
Quality		
3.1.3 Tertiary education expenditure.....34.92	18	
3.1.4 Reading, maths, and science.....74.55	6	
3.1.5 University ranking.....81.16	6	
3.2 Lifelong Learning.....75.41 8		
3.2.1 Business masters education.....72.32	9	
3.2.2 Prevalence of training in firms.....n/a	n/a	
3.2.3 Employee development.....75.72	24	
3.2.4 Formal and non-formal studies.....78.20	9	
3.3 Access to Growth Opportunities.....73.81 13		
Empowerment		
3.3.1 Delegation of authority.....76.04	13	
3.3.2 Youth inclusion.....79.96	43	
Collaboration		
3.3.3 Use of virtual social networks.....74.36	17	
3.3.4 Use of virtual professional networks.....64.88	11	

4 RETAIN.....78.20 19		
4.1 Sustainability.....74.57 18		
4.1.1 Pension coverage.....100.00	1	
4.1.2 Social protection.....68.66	26	
4.1.3 Brain retention.....76.93	15	
4.1.4 Environmental performance.....52.71	42	
4.2 Lifestyle.....81.82 20		
4.2.1 Personal rights.....97.05	12	
4.2.2 Personal safety.....93.07	6	
4.2.3 Physician density.....38.23	61	
4.2.4 Sanitation.....98.94	35	

5 VOCATIONAL AND TECHNICAL SKILLS.....61.30 29		
5.1 Mid-Level Skills.....52.38 42		
5.1.1 Workforce with secondary education.....32.81	85	
5.1.2 Population with secondary education.....48.89	44	
5.1.3 Technicians and associate professionals.....69.86	13	
5.1.4 Labour productivity per employee.....57.96	23	
5.2 Employability.....70.22 20		
5.2.1 Ease of finding skilled employees.....61.55	26	
5.2.2 Relevance of education system to the economy.....71.43	16	
5.2.3 Skills matching.....n/a	n/a	
5.2.4 Highly educated unemployment.....77.68	60	

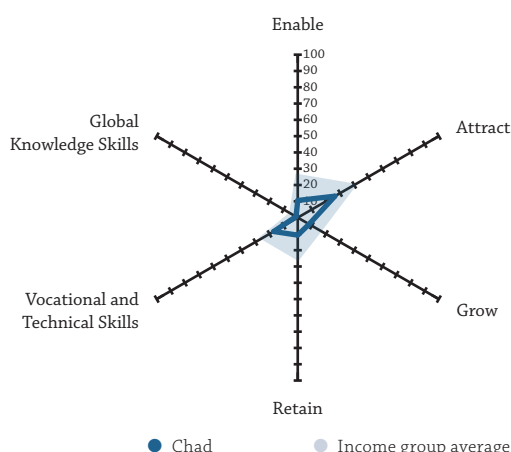
6 GLOBAL KNOWLEDGE SKILLS.....51.85 18		
6.1 High-Level Skills.....58.85 5		
6.1.1 Workforce with tertiary education.....84.17	2	
6.1.2 Population with tertiary education.....66.71	4	
6.1.3 Professionals.....42.66	34	
6.1.4 Researchers.....51.77	22	
6.1.5 Senior officials and managers.....48.92	20	
6.1.6 Digital skills.....n/a	n/a	
6.2 Talent Impact.....44.86 21		
6.2.1 Innovation output.....61.17	22	
6.2.2 High-value exports.....27.43	32	
6.2.3 Software development.....70.30	9	
6.2.4 New business density.....0.98	110	
6.2.5 Scientific journal articles.....64.42	10	

CHAD

Key Indicators

Rank (out of 133).....	133
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	16.91

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....10.52 133		
1.1 Regulatory Landscape.....	10.97	132
1.1.1 Government effectiveness	5.78	132
1.1.2 Rule of law	12.54	131
1.1.3 Political stability.....	24.30	123
1.1.4 Regulatory quality.....	10.75	129
1.1.5 Corruption	1.45	129
1.2 Market Landscape.....	7.16	133
1.2.1 Extent of market dominance.....	8.48	130
1.2.2 Domestic credit to private sector	1.34	127
1.2.3 Cluster development.....	5.48	132
1.2.4 R&D expenditure.....	5.35	79
1.2.5 ICT infrastructure.....	10.79	123
1.2.6 Urbanisation	11.53	127
1.3 Business and Labour Landscape.....	13.45	133
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation	20.10	119
Management Practice		
1.3.3 Professional management	0.00	133
1.3.4 Relationship of pay to productivity.....	33.46	121
Technology Adoption		
1.3.5 Enterprise software	15.78	92
1.3.6 Cloud computing	11.33	88
1.3.7 Firms with website	0.00	113
2 ATTRACT.....26.31 129		
2.1 External Openness	25.64	117
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	8.20	127
Attract People		
2.1.3 Migrant stock	43.29	61
2.1.4 International students.....	15.32	55
2.1.5 Brain gain	35.75	95
2.2 Internal Openness.....	26.99	132
Social Inclusion		
2.2.1 Tolerance of minorities.....	18.48	105
2.2.2 Tolerance of immigrants	60.00	62
2.2.3 Social mobility	20.51	122
Gender Equality		
2.2.4 Economic empowerment of women.....	52.21	111
2.2.5 Gender parity in high-skilled jobs	0.00	128
2.2.6 Leadership opportunities for women	10.72	129

GDP per capita (PPP US\$)	1,590.55
GDP (US\$ billions)	11.78
GTCI score.....	12.32
GTCI score (income group average)	22.09

	Score	Rank
3 GROW.....8.07 131		
3.1 Formal Education.....	2.56	128
Enrolment		
3.1.1 Vocational enrolment	1.72	111
3.1.2 Tertiary enrolment	1.04	126
Quality		
3.1.3 Tertiary education expenditure	7.50	74
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	13.97	125
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	21.26	71
3.2.3 Employee development	20.64	130
3.2.4 Formal and non-formal studies	n/a	n/a
3.3 Access to Growth Opportunities	7.67	132
Empowerment		
3.3.1 Delegation of authority	0.00	133
3.3.2 Youth inclusion	30.67	118
Collaboration		
3.3.3 Use of virtual social networks	0.00	133
3.3.4 Use of virtual professional networks	0.00	131

4 RETAIN.....10.75 133		
4.1 Sustainability	10.29	133
4.1.1 Pension coverage	0.00	128
4.1.2 Social protection.....	5.08	129
4.1.3 Brain retention	20.48	112
4.1.4 Environmental performance	15.59	124
4.2 Lifestyle	11.22	132
4.2.1 Personal rights	37.71	108
4.2.2 Personal safety.....	3.53	131
4.2.3 Physician density.....	0.18	131
4.2.4 Sanitation	3.46	132

5 VOCATIONAL AND TECHNICAL SKILLS.....17.05 130		
5.1 Mid-Level Skills	3.02	131
5.1.1 Workforce with secondary education	6.22	121
5.1.2 Population with secondary education	n/a	n/a
5.1.3 Technicians and associate professionals.....	1.55	130
5.1.4 Labour productivity per employee.....	1.29	111
5.2 Employability.....	31.08	128
5.2.1 Ease of finding skilled employees	38.28	87
5.2.2 Relevance of education system to the economy	19.34	110
5.2.3 Skills matching	12.46	100
5.2.4 Highly educated unemployment	54.24	101

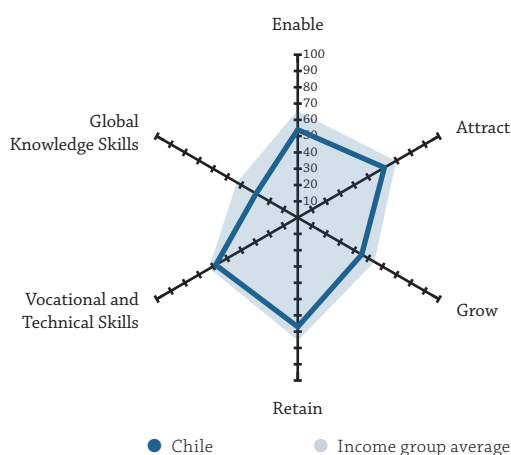
6 GLOBAL KNOWLEDGE SKILLS 1.23 132		
6.1 High-Level Skills	2.33	128
6.1.1 Workforce with tertiary education	3.40	122
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals	4.65	125
6.1.4 Researchers	0.54	95
6.1.5 Senior officials and managers.....	0.74	130
6.1.6 Digital skills	n/a	n/a
6.2 Talent Impact.....	0.14	132
6.2.1 Innovation output	n/a	n/a
6.2.2 High-value exports.....	n/a	n/a
6.2.3 Software development	0.00	132
6.2.4 New business density	0.41	118
6.2.5 Scientific journal articles	0.00	132

CHILE

Key Indicators

Rank (out of 133).....	34
Income group	High income
Regional group	Latin America and the Caribbean
Population (millions)	19.21

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....53.95	37	
1.1 Regulatory Landscape.....	68.05	32
1.1.1 Government effectiveness.....	66.57	31
1.1.2 Rule of law.....	73.87	24
1.1.3 Political stability.....	61.05	60
1.1.4 Regulatory quality.....	69.21	30
1.1.5 Corruption.....	69.57	23
1.2 Market Landscape.....	46.95	49
1.2.1 Extent of market dominance.....	27.41	103
1.2.2 Domestic credit to private sector.....	56.22	17
1.2.3 Cluster development.....	40.37	76
1.2.4 R&D expenditure.....	6.09	74
1.2.5 ICT infrastructure.....	65.92	53
1.2.6 Urbanisation.....	85.70	17
1.3 Business and Labour Landscape.....	46.85	56
Labour Market		
1.3.1 Labour rights.....	64.08	82
1.3.2 Labour-employer cooperation.....	48.83	56
Management Practice		
1.3.3 Professional management.....	58.09	54
1.3.4 Relationship of pay to productivity.....	65.89	36
Technology Adoption		
1.3.5 Enterprise software.....	29.91	38
1.3.6 Cloud computing.....	14.31	76
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....61.39	35	
2.1 External Openness.....	53.56	50
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	85.68	35
2.1.2 Financial globalisation.....	72.85	44
Attract People		
2.1.3 Migrant stock.....	51.78	49
2.1.4 International students.....	2.09	96
2.1.5 Brain gain.....	55.43	45
2.2 Internal Openness.....	69.22	27
Social Inclusion		
2.2.1 Tolerance of minorities.....	70.65	27
2.2.2 Tolerance of immigrants.....	67.69	48
2.2.3 Social mobility.....	65.29	33
Gender Equality		
2.2.4 Economic empowerment of women.....	71.68	80
2.2.5 Gender parity in high-skilled jobs.....	98.40	6
2.2.6 Leadership opportunities for women.....	41.63	92

GDP per capita (PPP US\$)	29,104.06
GDP (US\$ billions)	317.06
GTGI score.....	52.56
GTGI score (income group average)	59.85

	Score	Rank
3 GROW.....45.35	34	
3.1 Formal Education.....	35.64	37
Enrolment		
3.1.1 Vocational enrolment.....	18.02	63
3.1.2 Tertiary enrolment.....	62.24	7
Quality		
3.1.3 Tertiary education expenditure.....	12.48	53
3.1.4 Reading, maths, and science.....	42.32	45
3.1.5 University ranking.....	43.16	30
3.2 Lifelong Learning.....	38.81	47
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	52.68	60
3.2.4 Formal and non-formal studies.....	63.73	22
3.3 Access to Growth Opportunities.....	61.61	28
Empowerment		
3.3.1 Delegation of authority.....	50.19	56
3.3.2 Youth inclusion.....	72.93	53
Collaboration		
3.3.3 Use of virtual social networks.....	79.41	8
3.3.4 Use of virtual professional networks.....	43.90	21

4 RETAIN.....67.03	37	
4.1 Sustainability.....	60.09	38
4.1.1 Pension coverage.....	71.04	69
4.1.2 Social protection.....	46.30	51
4.1.3 Brain retention.....	75.91	16
4.1.4 Environmental performance.....	47.12	51
4.2 Lifestyle.....	73.97	41
4.2.1 Personal rights.....	92.11	30
4.2.2 Personal safety.....	59.27	51
4.2.3 Physician density.....	44.51	50
4.2.4 Sanitation.....	100.00	1

5 VOCATIONAL AND TECHNICAL SKILLS.....58.11	40	
5.1 Mid-Level Skills.....	52.80	40
5.1.1 Workforce with secondary education.....	73.05	21
5.1.2 Population with secondary education.....	52.40	36
5.1.3 Technicians and associate professionals.....	50.59	39
5.1.4 Labour productivity per employee.....	35.16	46
5.2 Employability.....	63.43	40
5.2.1 Ease of finding skilled employees.....	66.79	14
5.2.2 Relevance of education system to the economy.....	41.48	68
5.2.3 Skills matching.....	77.61	32
5.2.4 Highly educated unemployment.....	67.82	82

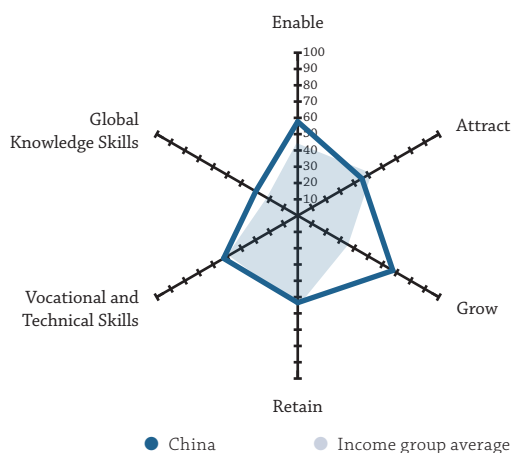
6 GLOBAL KNOWLEDGE SKILLS.....29.53	41	
6.1 High-Level Skills.....	29.10	53
6.1.1 Workforce with tertiary education.....	29.55	62
6.1.2 Population with tertiary education.....	28.76	50
6.1.3 Professionals.....	35.02	48
6.1.4 Researchers.....	5.74	66
6.1.5 Senior officials and managers.....	23.80	65
6.1.6 Digital skills.....	51.70	9
6.2 Talent Impact.....	29.96	37
6.2.1 Innovation output.....	32.27	60
6.2.2 High-value exports.....	28.33	29
6.2.3 Software development.....	7.29	54
6.2.4 New business density.....	66.80	10
6.2.5 Scientific journal articles.....	15.11	49

CHINA

Key Indicators

Rank (out of 133).....	36
Income group.....	Upper-middle income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions).....	1,412.36

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....57.67	31	
1.1 Regulatory Landscape.....	46.12	61
1.1.1 Government effectiveness.....	58.11	40
1.1.2 Rule of law.....	44.73	63
1.1.3 Political stability.....	51.09	79
1.1.4 Regulatory quality.....	38.97	77
1.1.5 Corruption.....	37.68	54
1.2 Market Landscape.....	72.49	10
1.2.1 Extent of market dominance.....	82.26	6
1.2.2 Domestic credit to private sector.....	83.96	3
1.2.3 Cluster development.....	89.27	2
1.2.4 R&D expenditure.....	44.06	13
1.2.5 ICT infrastructure.....	82.35	30
1.2.6 Urbanisation.....	53.03	76
1.3 Business and Labour Landscape.....	54.41	32
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	62.71	31
Management Practice		
1.3.3 Professional management.....	78.98	16
1.3.4 Relationship of pay to productivity.....	91.15	3
Technology Adoption		
1.3.5 Enterprise software.....	9.31	116
1.3.6 Cloud computing.....	18.90	51
1.3.7 Firms with website.....	65.39	45
2 ATTRACT.....45.49	87	
2.1 External Openness.....	32.46	102
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	43.24	70
2.1.2 Financial globalisation.....	33.00	114
Attract People		
2.1.3 Migrant stock.....	0.00	133
2.1.4 International students.....	1.61	100
2.1.5 Brain gain.....	84.43	7
2.2 Internal Openness.....	58.52	58
Social Inclusion		
2.2.1 Tolerance of minorities.....	28.26	88
2.2.2 Tolerance of immigrants.....	58.46	65
2.2.3 Social mobility.....	68.43	28
Gender Equality		
2.2.4 Economic empowerment of women.....	65.49	95
2.2.5 Gender parity in high-skilled jobs.....	n/a	n/a
2.2.6 Leadership opportunities for women.....	71.97	25

GDP per capita (PPP US\$).....	19,338.23
GDP (US\$ billions).....	17,734.06
GTCI score.....	51.04
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....67.39	8	
3.1 Formal Education.....	63.87	2
Enrolment		
3.1.1 Vocational enrolment.....	28.11	43
3.1.2 Tertiary enrolment.....	38.62	51
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	100.00	1
3.1.5 University ranking.....	88.75	3
3.2 Lifelong Learning.....	79.46	6
3.2.1 Business masters education.....	58.87	15
3.2.2 Prevalence of training in firms.....	100.00	1
3.2.3 Employee development.....	79.52	18
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	58.82	34
Empowerment		
3.3.1 Delegation of authority.....	60.24	35
3.3.2 Youth inclusion.....	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks.....	57.41	75
3.3.4 Use of virtual professional networks.....	n/a	n/a

4 RETAIN.....53.42	66	
4.1 Sustainability.....	64.12	28
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	78.27	17
4.1.3 Brain retention.....	62.12	32
4.1.4 Environmental performance.....	16.10	119
4.2 Lifestyle.....	42.72	97
4.2.1 Personal rights.....	1.77	131
4.2.2 Personal safety.....	42.71	83
4.2.3 Physician density.....	34.78	68
4.2.4 Sanitation.....	91.63	72

5 VOCATIONAL AND TECHNICAL SKILLS.....52.52	52	
5.1 Mid-Level Skills.....	23.93	96
5.1.1 Workforce with secondary education.....	n/a	n/a
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	29.75	63
5.1.4 Labour productivity per employee.....	18.11	76
5.2 Employability.....	81.10	3
5.2.1 Ease of finding skilled employees.....	68.54	12
5.2.2 Relevance of education system to the economy.....	79.43	8
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	95.33	4

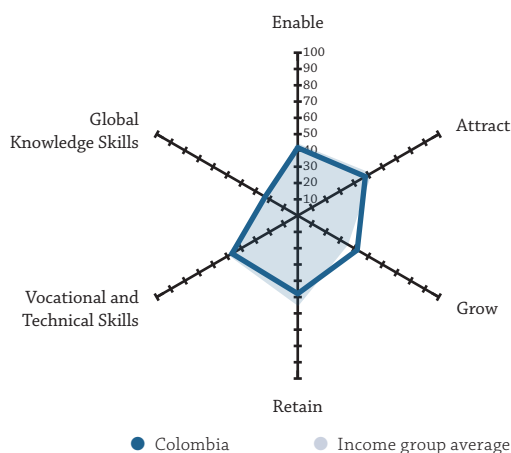
6 GLOBAL KNOWLEDGE SKILLS.....29.76	39	
6.1 High-Level Skills.....	18.50	86
6.1.1 Workforce with tertiary education.....	n/a	n/a
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	7.64	116
6.1.4 Researchers.....	18.09	47
6.1.5 Senior officials and managers.....	29.76	51
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	41.02	25
6.2.1 Innovation output.....	83.16	7
6.2.2 High-value exports.....	56.32	9
6.2.3 Software development.....	3.39	66
6.2.4 New business density.....	47.29	17
6.2.5 Scientific journal articles.....	14.97	50

COLOMBIA

Key Indicators

Rank (out of 133).....	63
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	51.27

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....41.65 68		
1.1 Regulatory Landscape.....	39.15	80
1.1.1 Government effectiveness.....	43.02	67
1.1.2 Rule of law.....	33.58	95
1.1.3 Political stability.....	40.56	104
1.1.4 Regulatory quality.....	49.59	56
1.1.5 Corruption.....	28.99	70
1.2 Market Landscape.....	41.74	65
1.2.1 Extent of market dominance.....	38.00	79
1.2.2 Domestic credit to private sector.....	22.77	67
1.2.3 Cluster development.....	49.11	46
1.2.4 R&D expenditure.....	5.12	80
1.2.5 ICT infrastructure.....	57.51	70
1.2.6 Urbanisation.....	77.90	32
1.3 Business and Labour Landscape.....	44.06	69
Labour Market		
1.3.1 Labour rights.....	35.12	98
1.3.2 Labour-employer cooperation.....	50.66	51
Management Practice		
1.3.3 Professional management.....	55.42	61
1.3.4 Relationship of pay to productivity.....	51.24	72
Technology Adoption		
1.3.5 Enterprise software.....	27.80	45
1.3.6 Cloud computing.....	20.81	44
1.3.7 Firms with website.....	67.36	43
2 ATTRACT.....47.90 79		
2.1 External Openness.....	44.20	72
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	94.05	16
2.1.2 Financial globalisation.....	59.50	69
Attract People		
2.1.3 Migrant stock.....	29.12	87
2.1.4 International students.....	0.72	109
2.1.5 Brain gain.....	37.59	88
2.2 Internal Openness.....	51.61	86
Social Inclusion		
2.2.1 Tolerance of minorities.....	23.91	101
2.2.2 Tolerance of immigrants.....	60.00	62
2.2.3 Social mobility.....	36.22	93
Gender Equality		
2.2.4 Economic empowerment of women.....	77.88	65
2.2.5 Gender parity in high-skilled jobs.....	66.26	83
2.2.6 Leadership opportunities for women.....	45.40	87

GDP per capita (PPP US\$).....	16,893.82
GDP (US\$ billions).....	314.32
GTCI score.....	41.56
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....42.17 43		
3.1 Formal Education.....	23.95	65
Enrolment		
3.1.1 Vocational enrolment.....	12.02	82
3.1.2 Tertiary enrolment.....	35.77	58
Quality		
3.1.3 Tertiary education expenditure.....	5.62	85
3.1.4 Reading, maths, and science.....	29.15	61
3.1.5 University ranking.....	37.18	35
3.2 Lifelong Learning.....	53.26	25
3.2.1 Business masters education.....	29.09	34
3.2.2 Prevalence of training in firms.....	77.34	7
3.2.3 Employee development.....	53.35	57
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	49.30	57
Empowerment		
3.3.1 Delegation of authority.....	49.81	59
3.3.2 Youth inclusion.....	50.68	90
Collaboration		
3.3.3 Use of virtual social networks.....	69.21	37
3.3.4 Use of virtual professional networks.....	27.52	39

4 RETAIN.....47.92 80		
4.1 Sustainability.....	43.13	80
4.1.1 Pension coverage.....	49.80	81
4.1.2 Social protection.....	42.97	60
4.1.3 Brain retention.....	39.92	64
4.1.4 Environmental performance.....	39.83	64
4.2 Lifestyle.....	52.71	81
4.2.1 Personal rights.....	62.10	80
4.2.2 Personal safety.....	19.30	119
4.2.3 Physician density.....	36.39	65
4.2.4 Sanitation.....	93.06	67

5 VOCATIONAL AND TECHNICAL SKILLS.....46.56 66		
5.1 Mid-Level Skills.....	43.40	57
5.1.1 Workforce with secondary education.....	48.02	67
5.1.2 Population with secondary education.....	42.74	53
5.1.3 Technicians and associate professionals.....	61.85	22
5.1.4 Labour productivity per employee.....	21.00	68
5.2 Employability.....	49.72	82
5.2.1 Ease of finding skilled employees.....	65.95	16
5.2.2 Relevance of education system to the economy.....	39.77	73
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	43.44	112

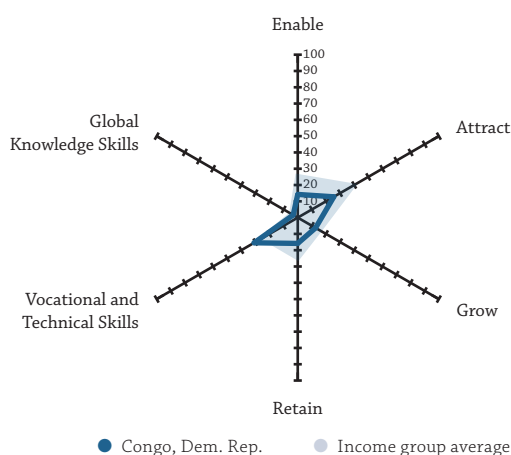
6 GLOBAL KNOWLEDGE SKILLS.....23.12 59		
6.1 High-Level Skills.....	33.62	44
6.1.1 Workforce with tertiary education.....	36.64	47
6.1.2 Population with tertiary education.....	29.45	48
6.1.3 Professionals.....	19.82	75
6.1.4 Researchers.....	0.89	91
6.1.5 Senior officials and managers.....	88.01	3
6.1.6 Digital skills.....	26.91	36
6.2 Talent Impact.....	12.63	72
6.2.1 Innovation output.....	24.65	74
6.2.2 High-value exports.....	17.69	51
6.2.3 Software development.....	4.40	58
6.2.4 New business density.....	10.66	62
6.2.5 Scientific journal articles.....	5.73	69

CONGO, DEM. REP.

Key Indicators

Rank (out of 133).....	132
Income group	Low income
Regional group.....	Sub-Saharan Africa
Population (millions)	92.38

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....14.23 132		
1.1 Regulatory Landscape.....	2.42	133
1.1.1 Government effectiveness.....	0.00	133
1.1.2 Rule of law.....	0.00	133
1.1.3 Political stability.....	12.09	129
1.1.4 Regulatory quality.....	0.00	133
1.1.5 Corruption.....	0.00	131
1.2 Market Landscape.....	10.97	132
1.2.1 Extent of market dominance.....	14.64	126
1.2.2 Domestic credit to private sector.....	0.47	129
1.2.3 Cluster development.....	0.00	133
1.2.4 R&D expenditure.....	7.30	67
1.2.5 ICT infrastructure.....	7.25	126
1.2.6 Urbanisation.....	36.14	104
1.3 Business and Labour Landscape.....	29.32	123
Labour Market		
1.3.1 Labour rights.....	57.64	87
1.3.2 Labour-employer cooperation.....	24.91	114
Management Practice		
1.3.3 Professional management.....	31.39	113
1.3.4 Relationship of pay to productivity.....	23.98	128
Technology Adoption		
1.3.5 Enterprise software.....	n/a	n/a
1.3.6 Cloud computing.....	n/a	n/a
1.3.7 Firms with website.....	8.66	111
2 ATTRACT.....25.56 132		
2.1 External Openness.....	20.62	127
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	n/a	n/a
Attract People		
2.1.3 Migrant stock.....	23.43	100
2.1.4 International students.....	1.58	101
2.1.5 Brain gain.....	36.87	92
2.2 Internal Openness.....	30.50	129
Social Inclusion		
2.2.1 Tolerance of minorities.....	3.26	127
2.2.2 Tolerance of immigrants.....	46.15	90
2.2.3 Social mobility.....	31.75	104
Gender Equality		
2.2.4 Economic empowerment of women.....	69.91	85
2.2.5 Gender parity in high-skilled jobs.....	12.87	122
2.2.6 Leadership opportunities for women.....	19.04	125

GDP per capita (PPP US\$)	1,218.77
GDP (US\$ billions)	53.96
GTCI score.....	17.07
GTCI score (income group average)	22.09

	Score	Rank
3 GROW.....12.62 129		
3.1 Formal Education.....	8.62	103
Enrolment		
3.1.1 Vocational enrolment.....	29.75	42
3.1.2 Tertiary enrolment.....	3.32	118
Quality		
3.1.3 Tertiary education expenditure.....	1.41	108
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	9.66	132
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	13.01	91
3.2.3 Employee development.....	22.01	128
3.2.4 Formal and non-formal studies.....	3.62	64
3.3 Access to Growth Opportunities.....	19.59	126
Empowerment		
3.3.1 Delegation of authority.....	13.88	125
3.3.2 Youth inclusion.....	62.75	74
Collaboration		
3.3.3 Use of virtual social networks.....	1.51	131
3.3.4 Use of virtual professional networks.....	0.21	130

4 RETAIN.....15.84 132		
4.1 Sustainability.....	20.50	123
4.1.1 Pension coverage.....	n/a	n/a
4.1.2 Social protection.....	9.10	126
4.1.3 Brain retention.....	21.88	107
4.1.4 Environmental performance.....	30.51	87
4.2 Lifestyle.....	11.18	133
4.2.1 Personal rights.....	23.42	124
4.2.2 Personal safety.....	9.01	129
4.2.3 Physician density.....	5.20	107
4.2.4 Sanitation.....	7.11	130

5 VOCATIONAL AND TECHNICAL SKILLS.....30.92 113		
5.1 Mid-Level Skills.....	25.09	94
5.1.1 Workforce with secondary education.....	53.30	54
5.1.2 Population with secondary education.....	24.46	76
5.1.3 Technicians and associate professionals.....	22.43	78
5.1.4 Labour productivity per employee.....	0.19	114
5.2 Employability.....	36.75	120
5.2.1 Ease of finding skilled employees.....	25.80	116
5.2.2 Relevance of education system to the economy.....	6.50	131
5.2.3 Skills matching.....	39.87	89
5.2.4 Highly educated unemployment.....	74.84	69

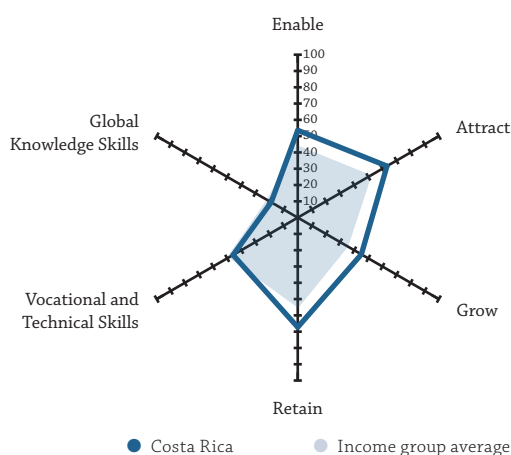
6 GLOBAL KNOWLEDGE SKILLS.....3.23 128		
6.1 High-Level Skills.....	6.29	117
6.1.1 Workforce with tertiary education.....	7.42	108
6.1.2 Population with tertiary education.....	11.02	81
6.1.3 Professionals.....	5.47	122
6.1.4 Researchers.....	0.00	108
6.1.5 Senior officials and managers.....	7.54	105
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	0.18	131
6.2.1 Innovation output.....	n/a	n/a
6.2.2 High-value exports.....	0.69	122
6.2.3 Software development.....	0.00	133
6.2.4 New business density.....	0.00	121
6.2.5 Scientific journal articles.....	0.03	131

COSTA RICA

Key Indicators

Rank (out of 133).....	42
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	5.14

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 53.60 40		
1.1 Regulatory Landscape.....	60.35	40
1.1.1 Government effectiveness.....	51.02	51
1.1.2 Rule of law.....	61.00	41
1.1.3 Political stability.....	80.06	27
1.1.4 Regulatory quality.....	53.14	50
1.1.5 Corruption.....	56.52	32
1.2 Market Landscape.....	46.59	50
1.2.1 Extent of market dominance.....	57.10	37
1.2.2 Domestic credit to private sector.....	25.66	57
1.2.3 Cluster development.....	53.01	41
1.2.4 R&D expenditure.....	6.66	70
1.2.5 ICT infrastructure.....	60.88	68
1.2.6 Urbanisation.....	76.24	36
1.3 Business and Labour Landscape.....	53.87	33
Labour Market		
1.3.1 Labour rights.....	74.40	71
1.3.2 Labour-employer cooperation.....	71.10	17
Management Practice		
1.3.3 Professional management.....	63.61	41
1.3.4 Relationship of pay to productivity.....	65.23	41
Technology Adoption		
1.3.5 Enterprise software.....	26.03	51
1.3.6 Cloud computing.....	22.84	38
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT..... 63.24 31		
2.1 External Openness.....	52.84	52
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	92.70	19
2.1.2 Financial globalisation.....	58.26	73
Attract People		
2.1.3 Migrant stock.....	56.38	44
2.1.4 International students.....	4.36	87
2.1.5 Brain gain.....	52.50	51
2.2 Internal Openness.....	73.64	21
Social Inclusion		
2.2.1 Tolerance of minorities.....	72.83	24
2.2.2 Tolerance of immigrants.....	78.46	27
2.2.3 Social mobility.....	68.80	25
Gender Equality		
2.2.4 Economic empowerment of women.....	80.53	51
2.2.5 Gender parity in high-skilled jobs.....	83.09	46
2.2.6 Leadership opportunities for women.....	58.14	55

GDP per capita (PPP US\$).....	23,387.13
GDP (US\$ billions).....	64.28
GTCI score.....	48.97
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW..... 45.08 35		
3.1 Formal Education.....	28.95	55
Enrolment		
3.1.1 Vocational enrolment.....	40.43	27
3.1.2 Tertiary enrolment.....	38.11	55
Quality		
3.1.3 Tertiary education expenditure.....	17.77	42
3.1.4 Reading, maths, and science.....	32.95	58
3.1.5 University ranking.....	15.50	62
3.2 Lifelong Learning.....	48.99	30
3.2.1 Business masters education.....	30.86	30
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	67.11	36
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	57.30	38
Empowerment		
3.3.1 Delegation of authority.....	58.29	39
3.3.2 Youth inclusion.....	67.59	64
Collaboration		
3.3.3 Use of virtual social networks.....	68.41	43
3.3.4 Use of virtual professional networks.....	34.90	28

4 RETAIN..... 67.26 35		
4.1 Sustainability.....	59.73	40
4.1.1 Pension coverage.....	55.49	79
4.1.2 Social protection.....	74.06	19
4.1.3 Brain retention.....	62.92	31
4.1.4 Environmental performance.....	46.44	53
4.2 Lifestyle.....	74.78	36
4.2.1 Personal rights.....	96.74	15
4.2.2 Personal safety.....	52.74	63
4.2.3 Physician density.....	51.95	36
4.2.4 Sanitation.....	97.71	45

5 VOCATIONAL AND TECHNICAL SKILLS..... 45.82 69		
5.1 Mid-Level Skills.....	32.08	78
5.1.1 Workforce with secondary education.....	34.90	82
5.1.2 Population with secondary education.....	25.19	74
5.1.3 Technicians and associate professionals.....	39.27	52
5.1.4 Labour productivity per employee.....	28.95	56
5.2 Employability.....	59.56	56
5.2.1 Ease of finding skilled employees.....	70.47	10
5.2.2 Relevance of education system to the economy.....	53.35	44
5.2.3 Skills matching.....	67.07	55
5.2.4 Highly educated unemployment.....	47.35	108

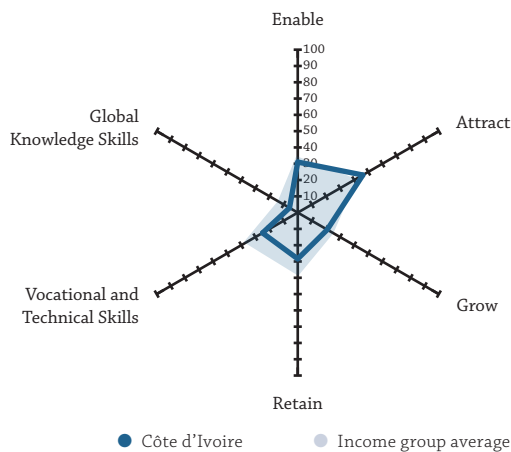
6 GLOBAL KNOWLEDGE SKILLS..... 18.83 73		
6.1 High-Level Skills.....	17.64	88
6.1.1 Workforce with tertiary education.....	24.34	73
6.1.2 Population with tertiary education.....	29.11	49
6.1.3 Professionals.....	26.28	62
6.1.4 Researchers.....	3.84	76
6.1.5 Senior officials and managers.....	4.62	114
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	20.02	54
6.2.1 Innovation output.....	38.12	48
6.2.2 High-value exports.....	28.11	30
6.2.3 Software development.....	10.05	46
6.2.4 New business density.....	19.78	39
6.2.5 Scientific journal articles.....	4.00	78

CÔTE D'IVOIRE

Key Indicators

Rank (out of 133).....	115
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	27.05

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....31.03 110		
1.1 Regulatory Landscape.....	30.30	102
1.1.1 Government effectiveness.....	30.09	97
1.1.2 Rule of law.....	30.78	102
1.1.3 Political stability.....	32.23	116
1.1.4 Regulatory quality.....	33.77	90
1.1.5 Corruption.....	24.64	85
1.2 Market Landscape.....	27.21	109
1.2.1 Extent of market dominance.....	38.39	77
1.2.2 Domestic credit to private sector.....	6.99	112
1.2.3 Cluster development.....	37.86	82
1.2.4 R&D expenditure.....	1.11	107
1.2.5 ICT infrastructure.....	35.52	100
1.2.6 Urbanisation.....	43.40	96
1.3 Business and Labour Landscape.....	35.58	102
Labour Market		
1.3.1 Labour rights.....	90.35	35
1.3.2 Labour-employer cooperation.....	41.64	67
Management Practice		
1.3.3 Professional management.....	39.15	100
1.3.4 Relationship of pay to productivity.....	45.13	97
Technology Adoption		
1.3.5 Enterprise software.....	13.33	103
1.3.6 Cloud computing.....	9.57	102
1.3.7 Firms with website.....	9.94	110
2 ATTRACT.....46.14 84		
2.1 External Openness.....	46.19	67
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	46.33	94
Attract People		
2.1.3 Migrant stock.....	67.69	23
2.1.4 International students.....	9.26	72
2.1.5 Brain gain.....	61.46	30
2.2 Internal Openness.....	46.09	106
Social Inclusion		
2.2.1 Tolerance of minorities.....	26.09	94
2.2.2 Tolerance of immigrants.....	76.92	29
2.2.3 Social mobility.....	45.47	60
Gender Equality		
2.2.4 Economic empowerment of women.....	76.11	67
2.2.5 Gender parity in high-skilled jobs.....	13.05	121
2.2.6 Leadership opportunities for women.....	38.89	103

GDP per capita (PPP US\$).....	5,939.76
GDP (US\$ billions).....	69.76
GTCI score.....	26.20
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....20.91 107		
3.1 Formal Education.....	6.60	111
Enrolment		
3.1.1 Vocational enrolment.....	7.69	89
3.1.2 Tertiary enrolment.....	5.58	110
Quality		
3.1.3 Tertiary education expenditure.....	13.12	50
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	22.32	100
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	38.88	47
3.2.3 Employee development.....	46.63	84
3.2.4 Formal and non-formal studies.....	3.78	63
3.3 Access to Growth Opportunities.....	33.81	104
Empowerment		
3.3.1 Delegation of authority.....	26.78	111
3.3.2 Youth inclusion.....	84.32	30
Collaboration		
3.3.3 Use of virtual social networks.....	17.83	110
3.3.4 Use of virtual professional networks.....	6.32	101

4 RETAIN.....28.38 115		
4.1 Sustainability.....	27.70	106
4.1.1 Pension coverage.....	n/a	n/a
4.1.2 Social protection.....	28.43	92
4.1.3 Brain retention.....	31.11	88
4.1.4 Environmental performance.....	23.56	100
4.2 Lifestyle.....	29.05	120
4.2.1 Personal rights.....	56.71	91
4.2.2 Personal safety.....	29.55	104
4.2.3 Physician density.....	1.79	116
4.2.4 Sanitation.....	28.17	120

5 VOCATIONAL AND TECHNICAL SKILLS.....24.94 122		
5.1 Mid-Level Skills.....	8.35	119
5.1.1 Workforce with secondary education.....	5.44	122
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	10.71	111
5.1.4 Labour productivity per employee.....	8.90	92
5.2 Employability.....	41.53	110
5.2.1 Ease of finding skilled employees.....	58.49	36
5.2.2 Relevance of education system to the economy.....	27.70	99
5.2.3 Skills matching.....	6.98	103
5.2.4 Highly educated unemployment.....	72.94	73

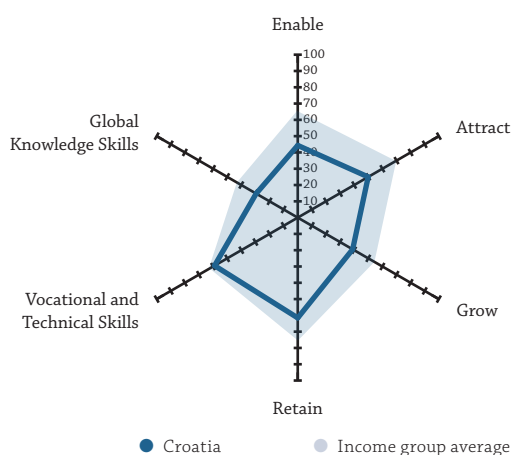
6 GLOBAL KNOWLEDGE SKILLS.....5.83 118		
6.1 High-Level Skills.....	4.92	122
6.1.1 Workforce with tertiary education.....	5.82	114
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	8.75	114
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	2.30	122
6.1.6 Digital skills.....	2.79	78
6.2 Talent Impact.....	6.75	101
6.2.1 Innovation output.....	9.04	117
6.2.2 High-value exports.....	20.07	45
6.2.3 Software development.....	0.16	119
6.2.4 New business density.....	4.10	87
6.2.5 Scientific journal articles.....	0.36	116

CROATIA

Key Indicators

Rank (out of 133).....	46
Income group	High income
Regional group.....	Europe
Population (millions)	3.90

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 44.33 60		
1.1 Regulatory Landscape.....	55.18	48
1.1.1 Government effectiveness.....	52.89	44
1.1.2 Rule of law.....	53.88	51
1.1.3 Political stability.....	75.82	36
1.1.4 Regulatory quality.....	52.71	51
1.1.5 Corruption.....	40.58	52
1.2 Market Landscape.....	34.98	80
1.2.1 Extent of market dominance.....	29.22	99
1.2.2 Domestic credit to private sector.....	25.38	61
1.2.3 Cluster development.....	17.23	126
1.2.4 R&D expenditure.....	22.82	32
1.2.5 ICT infrastructure.....	64.75	57
1.2.6 Urbanisation.....	50.50	83
1.3 Business and Labour Landscape.....	42.84	73
Labour Market		
1.3.1 Labour rights.....	84.99	52
1.3.2 Labour-employer cooperation.....	12.49	124
Management Practice		
1.3.3 Professional management.....	36.60	105
1.3.4 Relationship of pay to productivity.....	38.50	117
Technology Adoption		
1.3.5 Enterprise software.....	30.15	37
1.3.6 Cloud computing.....	21.64	40
1.3.7 Firms with website.....	75.56	29
2 ATTRACT..... 49.92 72		
2.1 External Openness.....	48.47	65
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	91.89	22
2.1.2 Financial globalisation.....	64.76	58
Attract People		
2.1.3 Migrant stock.....	62.81	30
2.1.4 International students.....	13.31	63
2.1.5 Brain gain.....	9.60	127
2.2 Internal Openness.....	51.36	87
Social Inclusion		
2.2.1 Tolerance of minorities.....	52.17	54
2.2.2 Tolerance of immigrants.....	23.08	123
2.2.3 Social mobility.....	31.64	105
Gender Equality		
2.2.4 Economic empowerment of women.....	91.15	28
2.2.5 Gender parity in high-skilled jobs.....	89.78	30
2.2.6 Leadership opportunities for women.....	20.33	124

GDP per capita (PPP US\$)	33,800.55
GDP (US\$ billions)	67.84
GTCI score.....	47.19
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 38.93 54		
3.1 Formal Education.....	37.05	34
Enrolment		
3.1.1 Vocational enrolment.....	59.71	8
3.1.2 Tertiary enrolment.....	44.96	39
Quality		
3.1.3 Tertiary education expenditure.....	14.22	48
3.1.4 Reading, maths, and science.....	56.24	36
3.1.5 University ranking.....	10.13	69
3.2 Lifelong Learning.....	31.87	64
3.2.1 Business masters education.....	23.57	39
3.2.2 Prevalence of training in firms.....	25.87	65
3.2.3 Employee development.....	35.07	116
3.2.4 Formal and non-formal studies.....	42.96	34
3.3 Access to Growth Opportunities.....	47.86	60
Empowerment		
3.3.1 Delegation of authority.....	28.23	107
3.3.2 Youth inclusion.....	80.47	41
Collaboration		
3.3.3 Use of virtual social networks.....	60.25	68
3.3.4 Use of virtual professional networks.....	22.48	51

4 RETAIN..... 61.55 44		
4.1 Sustainability.....	47.50	65
4.1.1 Pension coverage.....	89.63	57
4.1.2 Social protection.....	27.43	95
4.1.3 Brain retention.....	2.92	130
4.1.4 Environmental performance.....	70.00	16
4.2 Lifestyle.....	75.60	35
4.2.1 Personal rights.....	87.44	42
4.2.2 Personal safety.....	64.14	42
4.2.3 Physician density.....	54.58	34
4.2.4 Sanitation.....	96.23	58

5 VOCATIONAL AND TECHNICAL SKILLS..... 58.95 37		
5.1 Mid-Level Skills.....	66.45	10
5.1.1 Workforce with secondary education.....	90.04	7
5.1.2 Population with secondary education.....	74.72	17
5.1.3 Technicians and associate professionals.....	59.40	25
5.1.4 Labour productivity per employee.....	41.65	41
5.2 Employability.....	51.44	78
5.2.1 Ease of finding skilled employees.....	19.04	124
5.2.2 Relevance of education system to the economy.....	19.36	109
5.2.3 Skills matching.....	92.22	3
5.2.4 Highly educated unemployment.....	75.16	65

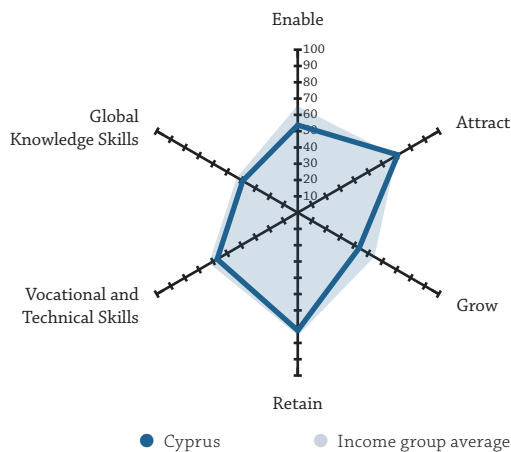
6 GLOBAL KNOWLEDGE SKILLS..... 29.47 42		
6.1 High-Level Skills.....	30.18	50
6.1.1 Workforce with tertiary education.....	34.40	50
6.1.2 Population with tertiary education.....	23.62	63
6.1.3 Professionals.....	39.56	41
6.1.4 Researchers.....	25.39	36
6.1.5 Senior officials and managers.....	27.57	59
6.1.6 Digital skills.....	30.52	27
6.2 Talent Impact.....	28.77	40
6.2.1 Innovation output.....	38.83	47
6.2.2 High-value exports.....	17.27	54
6.2.3 Software development.....	21.73	34
6.2.4 New business density.....	24.36	33
6.2.5 Scientific journal articles.....	41.65	28

CYPRUS

Key Indicators

Rank (out of 133).....	30
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	1.22

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....53.70	38	
1.1 Regulatory Landscape.....	61.91	37
1.1.1 Government effectiveness.....	63.95	35
1.1.2 Rule of law.....	61.29	40
1.1.3 Political stability.....	67.13	48
1.1.4 Regulatory quality.....	67.89	32
1.1.5 Corruption.....	49.28	42
1.2 Market Landscape.....	49.21	44
1.2.1 Extent of market dominance.....	54.78	40
1.2.2 Domestic credit to private sector.....	49.39	21
1.2.3 Cluster development.....	51.27	44
1.2.4 R&D expenditure.....	14.97	46
1.2.5 ICT infrastructure.....	62.98	63
1.2.6 Urbanisation.....	61.84	63
1.3 Business and Labour Landscape.....	49.97	46
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	55.48	45
Management Practice		
1.3.3 Professional management.....	42.54	95
1.3.4 Relationship of pay to productivity.....	57.13	55
Technology Adoption		
1.3.5 Enterprise software.....	13.42	102
1.3.6 Cloud computing.....	9.63	100
1.3.7 Firms with website.....	71.63	34
2 ATTRACT.....70.87	22	
2.1 External Openness.....	78.04	10
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	96.34	7
Attract People		
2.1.3 Migrant stock.....	64.20	29
2.1.4 International students.....	100.00	1
2.1.5 Brain gain.....	51.63	54
2.2 Internal Openness.....	63.69	36
Social Inclusion		
2.2.1 Tolerance of minorities.....	50.00	57
2.2.2 Tolerance of immigrants.....	50.77	81
2.2.3 Social mobility.....	50.46	51
Gender Equality		
2.2.4 Economic empowerment of women.....	92.04	26
2.2.5 Gender parity in high-skilled jobs.....	89.45	32
2.2.6 Leadership opportunities for women.....	49.44	76

GDP per capita (PPP US\$)	42,556.11
GDP (US\$ billions)	27.72
GTCI score.....	56.08
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....43.51	37	
3.1 Formal Education.....	26.92	57
Enrolment		
3.1.1 Vocational enrolment.....	12.93	76
3.1.2 Tertiary enrolment.....	59.10	11
Quality		
3.1.3 Tertiary education expenditure.....	20.15	37
3.1.4 Reading, maths, and science.....	42.42	44
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	41.94	40
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	44.76	35
3.2.3 Employee development.....	57.91	51
3.2.4 Formal and non-formal studies.....	65.10	19
3.3 Access to Growth Opportunities.....	61.66	27
Empowerment		
3.3.1 Delegation of authority.....	43.04	76
3.3.2 Youth inclusion.....	80.21	42
Collaboration		
3.3.3 Use of virtual social networks.....	85.80	4
3.3.4 Use of virtual professional networks.....	37.58	25

4 RETAIN.....72.33	28	
4.1 Sustainability.....	67.06	27
4.1.1 Pension coverage.....	97.76	40
4.1.2 Social protection.....	53.21	44
4.1.3 Brain retention.....	50.99	43
4.1.4 Environmental performance.....	66.27	22
4.2 Lifestyle.....	77.59	32
4.2.1 Personal rights.....	92.31	29
4.2.2 Personal safety.....	69.28	34
4.2.3 Physician density.....	49.44	40
4.2.4 Sanitation.....	99.34	24

5 VOCATIONAL AND TECHNICAL SKILLS.....57.11	43	
5.1 Mid-Level Skills.....	52.22	43
5.1.1 Workforce with secondary education.....	52.83	55
5.1.2 Population with secondary education.....	50.41	41
5.1.3 Technicians and associate professionals.....	57.38	28
5.1.4 Labour productivity per employee.....	48.26	31
5.2 Employability.....	62.00	51
5.2.1 Ease of finding skilled employees.....	50.96	55
5.2.2 Relevance of education system to the economy.....	48.66	53
5.2.3 Skills matching.....	73.44	46
5.2.4 Highly educated unemployment.....	74.94	66

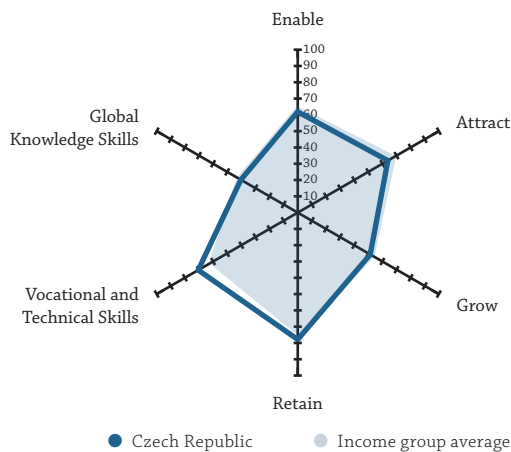
6 GLOBAL KNOWLEDGE SKILLS.....38.98	26	
6.1 High-Level Skills.....	35.49	41
6.1.1 Workforce with tertiary education.....	59.14	14
6.1.2 Population with tertiary education.....	51.55	16
6.1.3 Professionals.....	46.04	30
6.1.4 Researchers.....	19.31	44
6.1.5 Senior officials and managers.....	22.96	67
6.1.6 Digital skills.....	13.96	57
6.2 Talent Impact.....	42.47	23
6.2.1 Innovation output.....	61.52	20
6.2.2 High-value exports.....	21.90	40
6.2.3 Software development.....	14.04	38
6.2.4 New business density.....	73.21	7
6.2.5 Scientific journal articles.....	41.68	27

CZECH REPUBLIC

Key Indicators

Rank (out of 133).....	21
Income group	High income
Regional group.....	Europe
Population (millions)	10.70

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....61.86	25	
1.1 Regulatory Landscape.....	69.80	27
1.1.1 Government effectiveness.....	65.78	32
1.1.2 Rule of law.....	73.67	26
1.1.3 Political stability.....	84.55	18
1.1.4 Regulatory quality.....	74.26	22
1.1.5 Corruption.....	50.72	39
1.2 Market Landscape.....	54.03	30
1.2.1 Extent of market dominance.....	65.60	28
1.2.2 Domestic credit to private sector.....	22.25	69
1.2.3 Cluster development.....	45.26	66
1.2.4 R&D expenditure.....	36.51	18
1.2.5 ICT infrastructure.....	84.69	27
1.2.6 Urbanisation.....	69.86	48
1.3 Business and Labour Landscape.....	61.76	23
Labour Market		
1.3.1 Labour rights.....	97.59	14
1.3.2 Labour-employer cooperation.....	49.72	53
Management Practice		
1.3.3 Professional management.....	74.22	26
1.3.4 Relationship of pay to productivity.....	62.71	47
Technology Adoption		
1.3.5 Enterprise software.....	40.17	27
1.3.6 Cloud computing.....	23.16	36
1.3.7 Firms with website.....	84.73	14
2 ATTRACT.....63.86	30	
2.1 External Openness.....	61.50	29
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	98.38	4
2.1.2 Financial globalisation.....	75.22	38
Attract People		
2.1.3 Migrant stock.....	41.74	65
2.1.4 International students.....	55.07	13
2.1.5 Brain gain.....	37.10	89
2.2 Internal Openness.....	66.23	31
Social Inclusion		
2.2.1 Tolerance of minorities.....	55.43	49
2.2.2 Tolerance of immigrants.....	35.38	108
2.2.3 Social mobility.....	65.07	34
Gender Equality		
2.2.4 Economic empowerment of women.....	91.15	28
2.2.5 Gender parity in high-skilled jobs.....	78.76	56
2.2.6 Leadership opportunities for women.....	71.57	26

GDP per capita (PPP US\$)	44,260.86
GDP (US\$ billions)	282.34
GTCI score.....	60.96
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....51.36	25	
3.1 Formal Education.....	45.40	24
Enrolment		
3.1.1 Vocational enrolment.....	54.79	13
3.1.2 Tertiary enrolment.....	43.50	43
Quality		
3.1.3 Tertiary education expenditure.....	30.32	23
3.1.4 Reading, maths, and science.....	65.89	22
3.1.5 University ranking.....	32.52	40
3.2 Lifelong Learning.....	47.28	33
3.2.1 Business masters education.....	10.24	50
3.2.2 Prevalence of training in firms.....	50.21	27
3.2.3 Employee development.....	66.30	39
3.2.4 Formal and non-formal studies.....	62.38	23
3.3 Access to Growth Opportunities.....	61.38	30
Empowerment		
3.3.1 Delegation of authority.....	64.95	25
3.3.2 Youth inclusion.....	93.09	9
Collaboration		
3.3.3 Use of virtual social networks.....	63.62	59
3.3.4 Use of virtual professional networks.....	23.88	48

4 RETAIN.....77.87	20	
4.1 Sustainability.....	69.47	25
4.1.1 Pension coverage.....	91.16	50
4.1.2 Social protection.....	68.89	25
4.1.3 Brain retention.....	48.32	47
4.1.4 Environmental performance.....	69.49	19
4.2 Lifestyle.....	86.27	16
4.2.1 Personal rights.....	94.16	26
4.2.2 Personal safety.....	86.28	16
4.2.3 Physician density.....	65.58	19
4.2.4 Sanitation.....	99.05	33

5 VOCATIONAL AND TECHNICAL SKILLS.....70.51	8	
5.1 Mid-Level Skills.....	78.64	1
5.1.1 Workforce with secondary education.....	96.73	2
5.1.2 Population with secondary education.....	100.00	1
5.1.3 Technicians and associate professionals.....	69.82	14
5.1.4 Labour productivity per employee.....	48.00	32
5.2 Employability.....	62.39	48
5.2.1 Ease of finding skilled employees.....	13.36	128
5.2.2 Relevance of education system to the economy.....	54.01	41
5.2.3 Skills matching.....	88.61	12
5.2.4 Highly educated unemployment.....	93.57	6

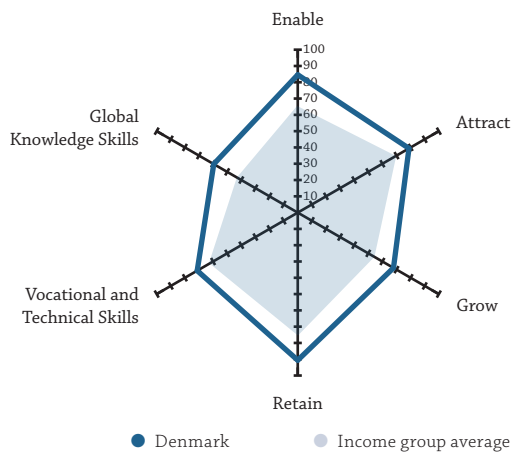
6 GLOBAL KNOWLEDGE SKILLS.....40.31	23	
6.1 High-Level Skills.....	33.15	46
6.1.1 Workforce with tertiary education.....	32.41	57
6.1.2 Population with tertiary education.....	27.36	56
6.1.3 Professionals.....	42.54	35
6.1.4 Researchers.....	47.31	24
6.1.5 Senior officials and managers.....	30.12	50
6.1.6 Digital skills.....	19.17	50
6.2 Talent Impact.....	47.48	18
6.2.1 Innovation output.....	68.62	15
6.2.2 High-value exports.....	40.58	18
6.2.3 Software development.....	49.05	18
6.2.4 New business density.....	20.79	38
6.2.5 Scientific journal articles.....	58.34	15

DENMARK

Key Indicators

Rank (out of 133).....	3
Income group	High income
Regional group	Europe
Population (millions)	5.86

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 84.60	2	
1.1 Regulatory Landscape.....	91.45	5
1.1.1 Government effectiveness.....	88.97	5
1.1.2 Rule of law.....	94.31	5
1.1.3 Political stability.....	85.06	17
1.1.4 Regulatory quality.....	88.93	6
1.1.5 Corruption.....	100.00	1
1.2 Market Landscape.....	76.64	4
1.2.1 Extent of market dominance.....	87.98	3
1.2.2 Domestic credit to private sector.....	74.66	7
1.2.3 Cluster development.....	67.07	25
1.2.4 R&D expenditure.....	54.40	10
1.2.5 ICT infrastructure.....	89.67	20
1.2.6 Urbanisation.....	86.06	16
1.3 Business and Labour Landscape.....	85.70	4
Labour Market		
1.3.1 Labour rights.....	97.45	17
1.3.2 Labour-employer cooperation.....	100.00	1
Management Practice		
1.3.3 Professional management.....	92.97	4
1.3.4 Relationship of pay to productivity.....	73.63	19
Technology Adoption		
1.3.5 Enterprise software.....	69.77	7
1.3.6 Cloud computing.....	69.91	6
1.3.7 Firms with website.....	96.20	2
2 ATTRACT..... 78.83	7	
2.1 External Openness.....	69.21	19
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	92.16	21
2.1.2 Financial globalisation.....	88.73	16
Attract People		
2.1.3 Migrant stock.....	59.46	41
2.1.4 International students.....	40.19	22
2.1.5 Brain gain.....	65.52	23
2.2 Internal Openness.....	88.45	6
Social Inclusion		
2.2.1 Tolerance of minorities.....	65.22	36
2.2.2 Tolerance of immigrants.....	84.62	16
2.2.3 Social mobility.....	95.40	4
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	96.57	11
2.2.6 Leadership opportunities for women.....	88.91	4

GDP per capita (PPP US\$)	64,651.22
GDP (US\$ billions)	397.10
GTCI score.....	75.44
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 67.86	7	
3.1 Formal Education.....	54.16	11
Enrolment		
3.1.1 Vocational enrolment.....	32.44	34
3.1.2 Tertiary enrolment.....	54.57	19
Quality		
3.1.3 Tertiary education expenditure.....	57.96	4
3.1.4 Reading, maths, and science.....	68.16	16
3.1.5 University ranking.....	57.65	15
3.2 Lifelong Learning.....	66.83	13
3.2.1 Business masters education.....	64.55	12
3.2.2 Prevalence of training in firms.....	46.01	32
3.2.3 Employee development.....	88.52	6
3.2.4 Formal and non-formal studies.....	68.22	18
3.3 Access to Growth Opportunities.....	82.58	3
Empowerment		
3.3.1 Delegation of authority.....	100.00	1
3.3.2 Youth inclusion.....	91.94	11
Collaboration		
3.3.3 Use of virtual social networks.....	72.76	23
3.3.4 Use of virtual professional networks.....	65.63	10

4 RETAIN..... 90.60	3	
4.1 Sustainability.....	92.85	3
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	100.00	1
4.1.3 Brain retention.....	71.40	21
4.1.4 Environmental performance.....	100.00	1
4.2 Lifestyle.....	88.36	12
4.2.1 Personal rights.....	98.87	7
4.2.2 Personal safety.....	88.27	13
4.2.3 Physician density.....	66.72	17
4.2.4 Sanitation.....	99.56	20

5 VOCATIONAL AND TECHNICAL SKILLS..... 71.25	5	
5.1 Mid-Level Skills.....	65.09	17
5.1.1 Workforce with secondary education.....	57.97	45
5.1.2 Population with secondary education.....	58.83	28
5.1.3 Technicians and associate professionals.....	76.19	6
5.1.4 Labour productivity per employee.....	67.37	10
5.2 Employability.....	77.41	7
5.2.1 Ease of finding skilled employees.....	64.39	19
5.2.2 Relevance of education system to the economy.....	77.03	10
5.2.3 Skills matching.....	81.50	23
5.2.4 Highly educated unemployment.....	86.70	31

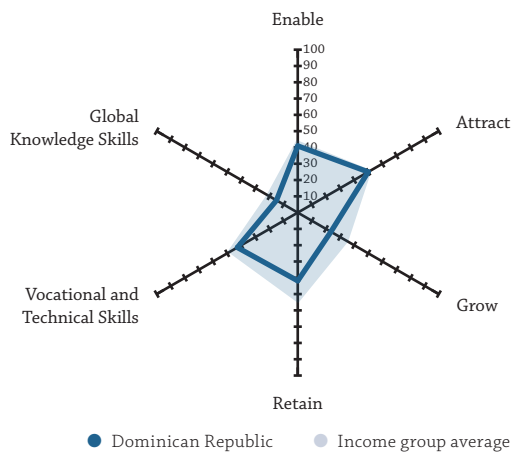
6 GLOBAL KNOWLEDGE SKILLS..... 59.53	8	
6.1 High-Level Skills.....	54.80	12
6.1.1 Workforce with tertiary education.....	47.98	29
6.1.2 Population with tertiary education.....	50.33	18
6.1.3 Professionals.....	62.86	5
6.1.4 Researchers.....	88.26	3
6.1.5 Senior officials and managers.....	16.13	82
6.1.6 Digital skills.....	63.21	7
6.2 Talent Impact.....	64.26	6
6.2.1 Innovation output.....	74.65	11
6.2.2 High-value exports.....	23.58	36
6.2.3 Software development.....	71.76	7
6.2.4 New business density.....	55.22	13
6.2.5 Scientific journal articles.....	96.09	2

DOMINICAN REPUBLIC

Key Indicators

Rank (out of 133).....	89
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	10.95

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 40.93 70		
1.1 Regulatory Landscape.....	38.73	81
1.1.1 Government effectiveness.....	33.81	87
1.1.2 Rule of law.....	39.45	76
1.1.3 Political stability.....	63.71	54
1.1.4 Regulatory quality.....	40.76	74
1.1.5 Corruption.....	15.94	104
1.2 Market Landscape.....	41.64	66
1.2.1 Extent of market dominance.....	32.59	95
1.2.2 Domestic credit to private sector.....	11.45	93
1.2.3 Cluster development.....	46.77	54
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	39.16	95
1.2.6 Urbanisation.....	78.24	31
1.3 Business and Labour Landscape.....	42.41	74
Labour Market		
1.3.1 Labour rights.....	80.56	58
1.3.2 Labour-employer cooperation.....	56.67	42
Management Practice		
1.3.3 Professional management.....	46.84	79
1.3.4 Relationship of pay to productivity.....	46.73	89
Technology Adoption		
1.3.5 Enterprise software.....	15.78	93
1.3.6 Cloud computing.....	12.75	85
1.3.7 Firms with website.....	37.55	82
2 ATTRACT..... 49.94 71		
2.1 External Openness.....	37.51	87
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	40.60	103
Attract People		
2.1.3 Migrant stock.....	47.15	54
2.1.4 International students.....	6.52	80
2.1.5 Brain gain.....	55.78	43
2.2 Internal Openness.....	62.36	42
Social Inclusion		
2.2.1 Tolerance of minorities.....	55.43	49
2.2.2 Tolerance of immigrants.....	67.69	48
2.2.3 Social mobility.....	40.69	82
Gender Equality		
2.2.4 Economic empowerment of women.....	80.53	51
2.2.5 Gender parity in high-skilled jobs.....	74.95	64
2.2.6 Leadership opportunities for women.....	54.89	64

GDP per capita (PPP US\$).....	20,769.18
GDP (US\$ billions).....	94.24
GTCI score.....	35.68
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW..... 23.51 99		
3.1 Formal Education.....	14.50	89
Enrolment		
3.1.1 Vocational enrolment.....	17.52	65
3.1.2 Tertiary enrolment.....	40.49	47
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	0.00	78
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	19.91	109
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	21.96	70
3.2.3 Employee development.....	49.38	73
3.2.4 Formal and non-formal studies.....	8.30	52
3.3 Access to Growth Opportunities.....	36.12	91
Empowerment		
3.3.1 Delegation of authority.....	38.88	86
3.3.2 Youth inclusion.....	29.32	120
Collaboration		
3.3.3 Use of virtual social networks.....	58.39	72
3.3.4 Use of virtual professional networks.....	17.88	63

4 RETAIN..... 41.86 91		
4.1 Sustainability.....	28.72	101
4.1.1 Pension coverage.....	9.86	110
4.1.2 Social protection.....	32.57	79
4.1.3 Brain retention.....	32.95	81
4.1.4 Environmental performance.....	39.49	66
4.2 Lifestyle.....	55.00	75
4.2.1 Personal rights.....	79.59	54
4.2.2 Personal safety.....	32.08	100
4.2.3 Physician density.....	22.40	81
4.2.4 Sanitation.....	85.92	80

5 VOCATIONAL AND TECHNICAL SKILLS..... 42.78 75		
5.1 Mid-Level Skills.....	32.94	76
5.1.1 Workforce with secondary education.....	49.50	63
5.1.2 Population with secondary education.....	36.90	58
5.1.3 Technicians and associate professionals.....	21.83	82
5.1.4 Labour productivity per employee.....	23.55	65
5.2 Employability.....	52.62	75
5.2.1 Ease of finding skilled employees.....	49.51	58
5.2.2 Relevance of education system to the economy.....	17.43	118
5.2.3 Skills matching.....	69.97	50
5.2.4 Highly educated unemployment.....	73.56	71

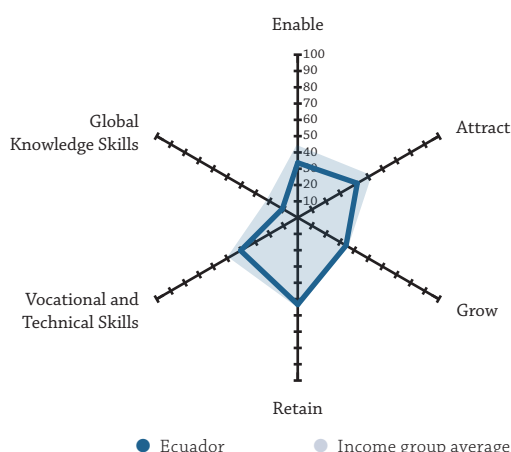
6 GLOBAL KNOWLEDGE SKILLS..... 15.07 83		
6.1 High-Level Skills.....	21.35	72
6.1.1 Workforce with tertiary education.....	16.36	91
6.1.2 Population with tertiary education.....	28.67	51
6.1.3 Professionals.....	17.70	80
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	13.90	89
6.1.6 Digital skills.....	30.11	28
6.2 Talent Impact.....	8.80	87
6.2.1 Innovation output.....	17.20	96
6.2.2 High-value exports.....	15.76	57
6.2.3 Software development.....	2.94	71
6.2.4 New business density.....	7.97	71
6.2.5 Scientific journal articles.....	0.15	127

ECUADOR

Key Indicators

Rank (out of 133).....	87
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	17.89

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 33.66 98		
1.1 Regulatory Landscape.....	30.88	97
1.1.1 Government effectiveness.....	31.13	93
1.1.2 Rule of law.....	32.11	97
1.1.3 Political stability.....	49.07	83
1.1.4 Regulatory quality.....	17.48	122
1.1.5 Corruption.....	24.64	85
1.2 Market Landscape.....	30.04	96
1.2.1 Extent of market dominance.....	23.45	110
1.2.2 Domestic credit to private sector.....	19.47	75
1.2.3 Cluster development.....	26.15	114
1.2.4 R&D expenditure.....	7.97	65
1.2.5 ICT infrastructure.....	44.81	90
1.2.6 Urbanisation.....	58.40	68
1.3 Business and Labour Landscape.....	40.05	84
Labour Market		
1.3.1 Labour rights.....	41.02	93
1.3.2 Labour-employer cooperation.....	40.16	72
Management Practice		
1.3.3 Professional management.....	39.13	101
1.3.4 Relationship of pay to productivity.....	42.68	106
Technology Adoption		
1.3.5 Enterprise software.....	22.77	59
1.3.6 Cloud computing.....	15.09	68
1.3.7 Firms with website.....	79.48	24
2 ATTRACT..... 42.18 96		
2.1 External Openness.....	26.93	116
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	38.47	105
Attract People		
2.1.3 Migrant stock.....	35.12	77
2.1.4 International students.....	2.92	92
2.1.5 Brain gain.....	31.23	101
2.2 Internal Openness.....	57.43	64
Social Inclusion		
2.2.1 Tolerance of minorities.....	39.13	75
2.2.2 Tolerance of immigrants.....	58.46	65
2.2.3 Social mobility.....	31.94	103
Gender Equality		
2.2.4 Economic empowerment of women.....	84.96	37
2.2.5 Gender parity in high-skilled jobs.....	90.24	24
2.2.6 Leadership opportunities for women.....	39.89	99

GDP per capita (PPP US\$).....	11,661.19
GDP (US\$ billions).....	106.17
GTCI score.....	35.79
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW..... 34.22 65		
3.1 Formal Education.....	18.55	77
Enrolment		
3.1.1 Vocational enrolment.....	22.15	56
3.1.2 Tertiary enrolment.....	31.48	65
Quality		
3.1.3 Tertiary education expenditure.....	7.41	76
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	13.17	66
3.2 Lifelong Learning.....	34.38	53
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	92.31	2
3.2.3 Employee development.....	40.92	98
3.2.4 Formal and non-formal studies.....	4.29	61
3.3 Access to Growth Opportunities.....	49.72	55
Empowerment		
3.3.1 Delegation of authority.....	33.06	98
3.3.2 Youth inclusion.....	68.64	61
Collaboration		
3.3.3 Use of virtual social networks.....	69.03	39
3.3.4 Use of virtual professional networks.....	28.16	38

4 RETAIN..... 53.33 67		
4.1 Sustainability.....	46.88	70
4.1.1 Pension coverage.....	59.96	76
4.1.2 Social protection.....	42.78	61
4.1.3 Brain retention.....	38.01	70
4.1.4 Environmental performance.....	46.78	52
4.2 Lifestyle.....	59.78	63
4.2.1 Personal rights.....	78.35	57
4.2.2 Personal safety.....	35.38	96
4.2.3 Physician density.....	34.68	69
4.2.4 Sanitation.....	90.70	73

5 VOCATIONAL AND TECHNICAL SKILLS..... 40.49 83		
5.1 Mid-Level Skills.....	26.70	91
5.1.1 Workforce with secondary education.....	50.30	60
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	16.88	95
5.1.4 Labour productivity per employee.....	12.92	84
5.2 Employability.....	54.28	72
5.2.1 Ease of finding skilled employees.....	49.10	59
5.2.2 Relevance of education system to the economy.....	29.21	95
5.2.3 Skills matching.....	61.10	67
5.2.4 Highly educated unemployment.....	77.71	59

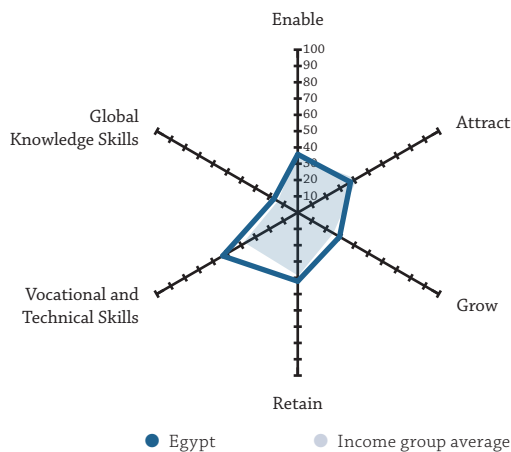
6 GLOBAL KNOWLEDGE SKILLS..... 10.85 99		
6.1 High-Level Skills.....	13.40	100
6.1.1 Workforce with tertiary education.....	18.41	84
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	16.27	85
6.1.4 Researchers.....	4.47	71
6.1.5 Senior officials and managers.....	5.17	112
6.1.6 Digital skills.....	22.69	41
6.2 Talent Impact.....	8.30	92
6.2.1 Innovation output.....	18.26	93
6.2.2 High-value exports.....	7.51	88
6.2.3 Software development.....	2.46	75
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	4.96	74

EGYPT

Key Indicators

Rank (out of 133).....	86
Income group.....	Lower-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	104.26

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....35.78 87		
1.1 Regulatory Landscape.....26.88	112	
1.1.1 Government effectiveness.....28.49	100	
1.1.2 Rule of law.....36.98	85	
1.1.3 Political stability.....25.87	122	
1.1.4 Regulatory quality.....22.75	112	
1.1.5 Corruption.....20.29	96	
1.2 Market Landscape.....46.24	53	
1.2.1 Extent of market dominance.....69.11	21	
1.2.2 Domestic credit to private sector.....9.83	102	
1.2.3 Cluster development.....84.50	6	
1.2.4 R&D expenditure.....17.54	41	
1.2.5 ICT infrastructure.....62.36	65	
1.2.6 Urbanisation.....34.12	106	
1.3 Business and Labour Landscape.....34.21	112	
Labour Market		
1.3.1 Labour rights.....0.00	101	
1.3.2 Labour-employer cooperation.....66.50	23	
Management Practice		
1.3.3 Professional management.....55.91	58	
1.3.4 Relationship of pay to productivity.....62.23	48	
Technology Adoption		
1.3.5 Enterprise software.....6.90	123	
1.3.6 Cloud computing.....9.91	97	
1.3.7 Firms with website.....38.01	80	
2 ATTRACT.....37.42 112		
2.1 External Openness.....36.31	90	
Attract Business		
2.1.1 FDI regulatory restrictiveness.....69.46	53	
2.1.2 Financial globalisation.....40.91	102	
Attract People		
2.1.3 Migrant stock.....11.34	120	
2.1.4 International students.....6.94	79	
2.1.5 Brain gain.....52.90	49	
2.2 Internal Openness.....38.54	122	
Social Inclusion		
2.2.1 Tolerance of minorities.....15.22	113	
2.2.2 Tolerance of immigrants.....43.08	94	
2.2.3 Social mobility.....43.14	72	
Gender Equality		
2.2.4 Economic empowerment of women.....30.09	124	
2.2.5 Gender parity in high-skilled jobs.....16.29	118	
2.2.6 Leadership opportunities for women.....83.42	15	

GDP per capita (PPP US\$).....	13,316.24
GDP (US\$ billions).....	404.14
GTCI score.....	35.84
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....29.66 76		
3.1 Formal Education.....27.25	56	
Enrolment		
3.1.1 Vocational enrolment.....34.83	31	
3.1.2 Tertiary enrolment.....25.33	75	
Quality		
3.1.3 Tertiary education expenditure.....n/a	n/a	
3.1.4 Reading, maths, and science.....n/a	n/a	
3.1.5 University ranking.....21.58	51	
3.2 Lifelong Learning.....25.22	86	
3.2.1 Business masters education.....36.99	27	
3.2.2 Prevalence of training in firms.....0.28	98	
3.2.3 Employee development.....62.94	44	
3.2.4 Formal and non-formal studies.....0.67	81	
3.3 Access to Growth Opportunities.....36.51	89	
Empowerment		
3.3.1 Delegation of authority.....50.93	53	
3.3.2 Youth inclusion.....44.69	105	
Collaboration		
3.3.3 Use of virtual social networks.....40.46	97	
3.3.4 Use of virtual professional networks.....9.96	86	

4 RETAIN.....42.13 90		
4.1 Sustainability.....42.59	81	
4.1.1 Pension coverage.....56.91	78	
4.1.2 Social protection.....55.55	41	
4.1.3 Brain retention.....29.77	92	
4.1.4 Environmental performance.....28.14	92	
4.2 Lifestyle.....41.67	98	
4.2.1 Personal rights.....26.47	120	
4.2.2 Personal safety.....32.01	101	
4.2.3 Physician density.....11.13	96	
4.2.4 Sanitation.....97.06	56	

5 VOCATIONAL AND TECHNICAL SKILLS.....53.16 51		
5.1 Mid-Level Skills.....49.94	47	
5.1.1 Workforce with secondary education.....51.45	59	
5.1.2 Population with secondary education.....87.29	4	
5.1.3 Technicians and associate professionals.....28.22	69	
5.1.4 Labour productivity per employee.....32.79	50	
5.2 Employability.....56.38	67	
5.2.1 Ease of finding skilled employees.....60.27	30	
5.2.2 Relevance of education system to the economy.....39.47	75	
5.2.3 Skills matching.....61.36	66	
5.2.4 Highly educated unemployment.....64.44	86	

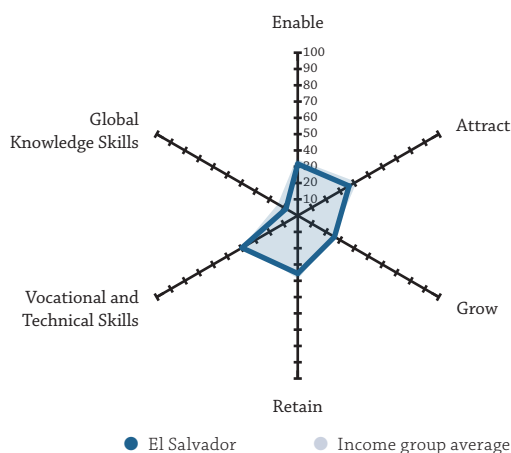
6 GLOBAL KNOWLEDGE SKILLS.....16.88 80		
6.1 High-Level Skills.....27.08	59	
6.1.1 Workforce with tertiary education.....30.21	60	
6.1.2 Population with tertiary education.....6.97	84	
6.1.3 Professionals.....26.99	60	
6.1.4 Researchers.....9.51	54	
6.1.5 Senior officials and managers.....48.06	25	
6.1.6 Digital skills.....40.75	14	
6.2 Talent Impact.....6.68	102	
6.2.1 Innovation output.....21.10	85	
6.2.2 High-value exports.....4.61	95	
6.2.3 Software development.....1.23	96	
6.2.4 New business density.....1.10	108	
6.2.5 Scientific journal articles.....5.36	71	

EL SALVADOR

Key Indicators

Rank (out of 133).....	98
Income group.....	Lower-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	6.52

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....31.71 109		
1.1 Regulatory Landscape.....	36.11	85
1.1.1 Government effectiveness.....	33.17	91
1.1.2 Rule of law.....	26.61	111
1.1.3 Political stability.....	58.44	67
1.1.4 Regulatory quality.....	40.61	75
1.1.5 Corruption.....	21.74	95
1.2 Market Landscape.....	28.44	103
1.2.1 Extent of market dominance.....	21.18	116
1.2.2 Domestic credit to private sector.....	26.49	56
1.2.3 Cluster development.....	21.11	119
1.2.4 R&D expenditure.....	3.03	93
1.2.5 ICT infrastructure.....	31.01	105
1.2.6 Urbanisation.....	67.83	50
1.3 Business and Labour Landscape.....	30.56	118
Labour Market		
1.3.1 Labour rights.....	40.75	94
1.3.2 Labour-employer cooperation.....	30.69	100
Management Practice		
1.3.3 Professional management.....	37.53	103
1.3.4 Relationship of pay to productivity.....	33.48	120
Technology Adoption		
1.3.5 Enterprise software.....	19.41	73
1.3.6 Cloud computing.....	13.93	79
1.3.7 Firms with website.....	38.12	79
2 ATTRACT.....36.37 116		
2.1 External Openness.....	21.70	124
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	46.15	95
Attract People		
2.1.3 Migrant stock.....	13.02	113
2.1.4 International students.....	1.32	103
2.1.5 Brain gain.....	26.31	112
2.2 Internal Openness.....	51.04	91
Social Inclusion		
2.2.1 Tolerance of minorities.....	45.65	63
2.2.2 Tolerance of immigrants.....	66.15	51
2.2.3 Social mobility.....	14.21	125
Gender Equality		
2.2.4 Economic empowerment of women.....	84.07	39
2.2.5 Gender parity in high-skilled jobs.....	74.79	65
2.2.6 Leadership opportunities for women.....	21.37	123

GDP per capita (PPP US\$).....	9,668.73
GDP (US\$ billions).....	28.74
GTGI score.....	29.58
GTGI score (income group average).....	30.02

	Score	Rank
3 GROW.....26.03 91		
3.1 Formal Education.....	11.69	96
Enrolment		
3.1.1 Vocational enrolment.....	25.45	50
3.1.2 Tertiary enrolment.....	19.21	83
Quality		
3.1.3 Tertiary education expenditure.....	2.12	105
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	27.55	71
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	64.48	16
3.2.3 Employee development.....	43.19	95
3.2.4 Formal and non-formal studies.....	2.53	69
3.3 Access to Growth Opportunities.....	38.84	84
Empowerment		
3.3.1 Delegation of authority.....	29.29	105
3.3.2 Youth inclusion.....	51.75	88
Collaboration		
3.3.3 Use of virtual social networks.....	59.54	70
3.3.4 Use of virtual professional networks.....	14.78	73

4 RETAIN.....35.54 103		
4.1 Sustainability.....	22.77	119
4.1.1 Pension coverage.....	18.80	99
4.1.2 Social protection.....	20.86	111
4.1.3 Brain retention.....	14.31	125
4.1.4 Environmental performance.....	37.12	72
4.2 Lifestyle.....	48.31	88
4.2.1 Personal rights.....	61.73	81
4.2.2 Personal safety.....	5.69	130
4.2.3 Physician density.....	45.07	48
4.2.4 Sanitation.....	80.73	89

5 VOCATIONAL AND TECHNICAL SKILLS.....39.50 87		
5.1 Mid-Level Skills.....	33.05	75
5.1.1 Workforce with secondary education.....	50.30	61
5.1.2 Population with secondary education.....	32.64	63
5.1.3 Technicians and associate professionals.....	16.19	96
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	45.95	94
5.2.1 Ease of finding skilled employees.....	37.84	88
5.2.2 Relevance of education system to the economy.....	10.75	124
5.2.3 Skills matching.....	56.25	74
5.2.4 Highly educated unemployment.....	78.94	55

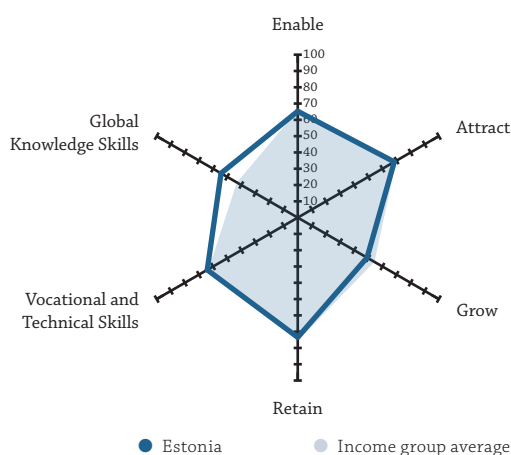
6 GLOBAL KNOWLEDGE SKILLS.....8.36 105		
6.1 High-Level Skills.....	9.47	108
6.1.1 Workforce with tertiary education.....	9.37	101
6.1.2 Population with tertiary education.....	12.08	78
6.1.3 Professionals.....	14.70	91
6.1.4 Researchers.....	0.72	92
6.1.5 Senior officials and managers.....	10.48	98
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	7.25	98
6.2.1 Innovation output.....	20.39	88
6.2.2 High-value exports.....	11.32	72
6.2.3 Software development.....	2.17	79
6.2.4 New business density.....	2.12	102
6.2.5 Scientific journal articles.....	0.24	120

ESTONIA

Key Indicators

Rank (out of 133).....	20
Income group	High income
Regional group	Europe
Population (millions)	1.33

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 65.28 21		
1.1 Regulatory Landscape.....	79.57	18
1.1.1 Government effectiveness.....	75.37	20
1.1.2 Rule of law.....	82.00	18
1.1.3 Political stability.....	78.65	28
1.1.4 Regulatory quality.....	82.11	13
1.1.5 Corruption.....	79.71	12
1.2 Market Landscape.....	51.69	33
1.2.1 Extent of market dominance.....	49.78	52
1.2.2 Domestic credit to private sector.....	27.79	55
1.2.3 Cluster development.....	46.16	60
1.2.4 R&D expenditure.....	32.85	21
1.2.5 ICT infrastructure.....	89.34	22
1.2.6 Urbanisation.....	64.22	57
1.3 Business and Labour Landscape.....	64.57	20
Labour Market		
1.3.1 Labour rights.....	97.99	12
1.3.2 Labour-employer cooperation.....	75.84	13
Management Practice		
1.3.3 Professional management.....	85.29	12
1.3.4 Relationship of pay to productivity.....	72.75	20
Technology Adoption		
1.3.5 Enterprise software.....	20.51	66
1.3.6 Cloud computing.....	18.40	56
1.3.7 Firms with website.....	81.21	21
2 ATTRACT..... 68.42 24		
2.1 External Openness.....	69.30	18
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	96.22	7
2.1.2 Financial globalisation.....	79.90	29
Attract People		
2.1.3 Migrant stock.....	65.78	27
2.1.4 International students.....	42.48	19
2.1.5 Brain gain.....	62.15	29
2.2 Internal Openness.....	67.54	29
Social Inclusion		
2.2.1 Tolerance of minorities.....	25.00	100
2.2.2 Tolerance of immigrants.....	35.38	108
2.2.3 Social mobility.....	88.52	7
Gender Equality		
2.2.4 Economic empowerment of women.....	96.46	13
2.2.5 Gender parity in high-skilled jobs.....	71.69	73
2.2.6 Leadership opportunities for women.....	88.20	5

GDP per capita (PPP US\$)	42,191.51
GDP (US\$ billions)	36.26
GTCI score.....	62.47
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 49.12 29		
3.1 Formal Education.....	41.19	29
Enrolment		
3.1.1 Vocational enrolment.....	35.16	30
3.1.2 Tertiary enrolment.....	49.39	27
Quality		
3.1.3 Tertiary education expenditure.....	22.16	29
3.1.4 Reading, maths, and science.....	78.15	3
3.1.5 University ranking.....	21.07	52
3.2 Lifelong Learning.....	44.60	37
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	46.15	31
3.2.3 Employee development.....	72.71	29
3.2.4 Formal and non-formal studies.....	59.53	28
3.3 Access to Growth Opportunities.....	61.58	29
Empowerment		
3.3.1 Delegation of authority.....	68.34	20
3.3.2 Youth inclusion.....	84.09	31
Collaboration		
3.3.3 Use of virtual social networks.....	67.44	47
3.3.4 Use of virtual professional networks.....	26.45	42

4 RETAIN..... 73.47 27		
4.1 Sustainability.....	67.62	26
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	57.64	39
4.1.3 Brain retention.....	40.83	60
4.1.4 Environmental performance.....	72.03	14
4.2 Lifestyle.....	79.31	29
4.2.1 Personal rights.....	95.40	24
4.2.2 Personal safety.....	68.10	37
4.2.3 Physician density.....	54.69	33
4.2.4 Sanitation.....	99.06	32

5 VOCATIONAL AND TECHNICAL SKILLS..... 64.14 19		
5.1 Mid-Level Skills.....	62.10	21
5.1.1 Workforce with secondary education.....	68.31	27
5.1.2 Population with secondary education.....	65.69	24
5.1.3 Technicians and associate professionals.....	66.69	17
5.1.4 Labour productivity per employee.....	47.69	33
5.2 Employability.....	66.19	30
5.2.1 Ease of finding skilled employees.....	38.58	85
5.2.2 Relevance of education system to the economy.....	65.86	24
5.2.3 Skills matching.....	77.55	34
5.2.4 Highly educated unemployment.....	82.77	47

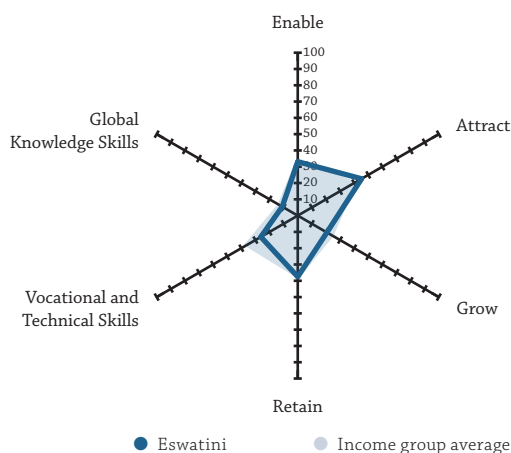
6 GLOBAL KNOWLEDGE SKILLS..... 54.38 13		
6.1 High-Level Skills.....	47.44	21
6.1.1 Workforce with tertiary education.....	50.74	24
6.1.2 Population with tertiary education.....	52.74	13
6.1.3 Professionals.....	53.61	18
6.1.4 Researchers.....	44.07	26
6.1.5 Senior officials and managers.....	51.78	18
6.1.6 Digital skills.....	31.69	25
6.2 Talent Impact.....	61.32	10
6.2.1 Innovation output.....	64.18	19
6.2.2 High-value exports.....	36.66	23
6.2.3 Software development.....	63.17	11
6.2.4 New business density.....	100.00	1
6.2.5 Scientific journal articles.....	42.60	26

ESWATINI

Key Indicators

Rank (out of 133).....	100
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	1.17

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....33.10 102		
1.1 Regulatory Landscape.....	31.29	96
1.1.1 Government effectiveness.....	22.95	114
1.1.2 Rule of law.....	32.56	96
1.1.3 Political stability.....	55.83	71
1.1.4 Regulatory quality.....	26.26	101
1.1.5 Corruption.....	18.84	101
1.2 Market Landscape.....	14.23	130
1.2.1 Extent of market dominance.....	17.87	122
1.2.2 Domestic credit to private sector.....	7.04	111
1.2.3 Cluster development.....	34.05	98
1.2.4 R&D expenditure.....	4.74	84
1.2.5 ICT infrastructure.....	9.31	124
1.2.6 Urbanisation.....	12.38	124
1.3 Business and Labour Landscape.....	53.77	35
Labour Market		
1.3.1 Labour rights.....	67.83	78
1.3.2 Labour-employer cooperation.....	31.60	97
Management Practice		
1.3.3 Professional management.....	62.42	43
1.3.4 Relationship of pay to productivity.....	45.79	95
Technology Adoption		
1.3.5 Enterprise software.....	n/a	n/a
1.3.6 Cloud computing.....	n/a	n/a
1.3.7 Firms with website.....	61.23	50
2 ATTRACT.....45.22 89		
2.1 External Openness.....	35.75	92
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	65.76	55
Attract People		
2.1.3 Migrant stock.....	38.41	73
2.1.4 International students.....	1.85	98
2.1.5 Brain gain.....	36.98	91
2.2 Internal Openness.....	54.70	74
Social Inclusion		
2.2.1 Tolerance of minorities.....	81.52	7
2.2.2 Tolerance of immigrants.....	58.46	65
2.2.3 Social mobility.....	29.18	111
Gender Equality		
2.2.4 Economic empowerment of women.....	23.89	129
2.2.5 Gender parity in high-skilled jobs.....	100.00	1
2.2.6 Leadership opportunities for women.....	35.13	110

GDP per capita (PPP US\$).....	9,815.81
GDP (US\$ billions).....	4.94
GTCI score.....	28.94
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....20.67 108		
3.1 Formal Education.....	8.62	104
Enrolment		
3.1.1 Vocational enrolment.....	5.72	94
3.1.2 Tertiary enrolment.....	3.42	117
Quality		
3.1.3 Tertiary education expenditure.....	25.33	26
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	23.24	96
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	39.72	43
3.2.3 Employee development.....	50.37	68
3.2.4 Formal and non-formal studies.....	2.87	68
3.3 Access to Growth Opportunities.....	30.16	110
Empowerment		
3.3.1 Delegation of authority.....	47.37	65
3.3.2 Youth inclusion.....	33.92	115
Collaboration		
3.3.3 Use of virtual social networks.....	27.77	103
3.3.4 Use of virtual professional networks.....	11.56	79

4 RETAIN.....37.53 99		
4.1 Sustainability.....	48.55	62
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	19.37	114
4.1.3 Brain retention.....	30.75	90
4.1.4 Environmental performance.....	44.07	58
4.2 Lifestyle.....	26.51	125
4.2.1 Personal rights.....	12.68	128
4.2.2 Personal safety.....	31.10	103
4.2.3 Physician density.....	1.47	119
4.2.4 Sanitation.....	60.80	106

5 VOCATIONAL AND TECHNICAL SKILLS.....26.15 117		
5.1 Mid-Level Skills.....	8.40	118
5.1.1 Workforce with secondary education.....	0.68	130
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	16.12	97
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	43.90	103
5.2.1 Ease of finding skilled employees.....	35.30	94
5.2.2 Relevance of education system to the economy.....	30.01	93
5.2.3 Skills matching.....	63.24	61
5.2.4 Highly educated unemployment.....	47.06	109

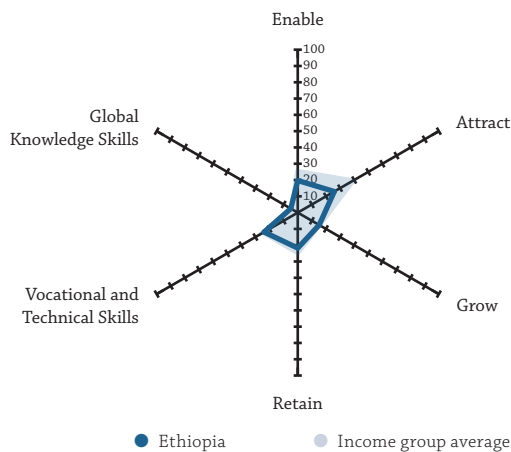
6 GLOBAL KNOWLEDGE SKILLS.....10.99 98		
6.1 High-Level Skills.....	14.53	97
6.1.1 Workforce with tertiary education.....	17.93	85
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	27.19	59
6.1.4 Researchers.....	1.51	85
6.1.5 Senior officials and managers.....	11.48	95
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	7.44	97
6.2.1 Innovation output.....	n/a	n/a
6.2.2 High-value exports.....	0.38	127
6.2.3 Software development.....	4.31	59
6.2.4 New business density.....	23.91	34
6.2.5 Scientific journal articles.....	1.15	95

ETHIOPIA

Key Indicators

Rank (out of 133).....	131
Income group.....	Low income
Regional group.....	Sub-Saharan Africa
Population (millions).....	117.88

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....19.70 130		
1.1 Regulatory Landscape.....	24.03	116
1.1.1 Government effectiveness.....	28.32	102
1.1.2 Rule of law.....	35.99	88
1.1.3 Political stability.....	11.26	130
1.1.4 Regulatory quality.....	15.57	125
1.1.5 Corruption.....	28.99	70
1.2 Market Landscape.....	14.42	128
1.2.1 Extent of market dominance.....	23.94	109
1.2.2 Domestic credit to private sector.....	n/a	n/a
1.2.3 Cluster development.....	26.36	113
1.2.4 R&D expenditure.....	4.87	83
1.2.5 ICT infrastructure.....	8.05	125
1.2.6 Urbanisation.....	8.89	128
1.3 Business and Labour Landscape.....	20.66	131
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	3.82	132
Management Practice		
1.3.3 Professional management.....	22.24	124
1.3.4 Relationship of pay to productivity.....	41.90	109
Technology Adoption		
1.3.5 Enterprise software.....	18.38	81
1.3.6 Cloud computing.....	8.40	111
1.3.7 Firms with website.....	29.23	92
2 ATTRACT.....25.90 131		
2.1 External Openness.....	19.57	129
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	7.68	128
Attract People		
2.1.3 Migrant stock.....	15.31	109
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	35.74	96
2.2 Internal Openness.....	32.23	125
Social Inclusion		
2.2.1 Tolerance of minorities.....	2.17	130
2.2.2 Tolerance of immigrants.....	72.31	39
2.2.3 Social mobility.....	10.08	129
Gender Equality		
2.2.4 Economic empowerment of women.....	67.26	92
2.2.5 Gender parity in high-skilled jobs.....	32.24	112
2.2.6 Leadership opportunities for women.....	9.33	131

GDP per capita (PPP US\$).....	2,599.74
GDP (US\$ billions).....	111.27
GTGI score.....	18.55
GTGI score (income group average).....	22.09

	Score	Rank
3 GROW.....15.19 123		
3.1 Formal Education.....	6.60	110
Enrolment		
3.1.1 Vocational enrolment.....	10.69	84
3.1.2 Tertiary enrolment.....	5.93	107
Quality		
3.1.3 Tertiary education expenditure.....	9.79	64
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	15.47	123
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	18.32	78
3.2.3 Employee development.....	38.92	106
3.2.4 Formal and non-formal studies.....	4.63	59
3.3 Access to Growth Opportunities.....	23.49	124
Empowerment		
3.3.1 Delegation of authority.....	6.76	129
3.3.2 Youth inclusion.....	84.99	24
Collaboration		
3.3.3 Use of virtual social networks.....	1.77	130
3.3.4 Use of virtual professional networks.....	0.43	128

4 RETAIN.....21.77 126		
4.1 Sustainability.....	23.05	115
4.1.1 Pension coverage.....	2.34	125
4.1.2 Social protection.....	29.10	89
4.1.3 Brain retention.....	38.89	66
4.1.4 Environmental performance.....	21.86	104
4.2 Lifestyle.....	20.48	127
4.2.1 Personal rights.....	49.58	99
4.2.2 Personal safety.....	31.47	102
4.2.3 Physician density.....	0.89	124
4.2.4 Sanitation.....	0.00	133

5 VOCATIONAL AND TECHNICAL SKILLS.....23.83 124		
5.1 Mid-Level Skills.....	7.13	120
5.1.1 Workforce with secondary education.....	8.04	118
5.1.2 Population with secondary education.....	9.20	86
5.1.3 Technicians and associate professionals.....	9.89	113
5.1.4 Labour productivity per employee.....	1.38	109
5.2 Employability.....	40.54	114
5.2.1 Ease of finding skilled employees.....	24.58	119
5.2.2 Relevance of education system to the economy.....	40.48	71
5.2.3 Skills matching.....	22.94	96
5.2.4 Highly educated unemployment.....	74.16	70

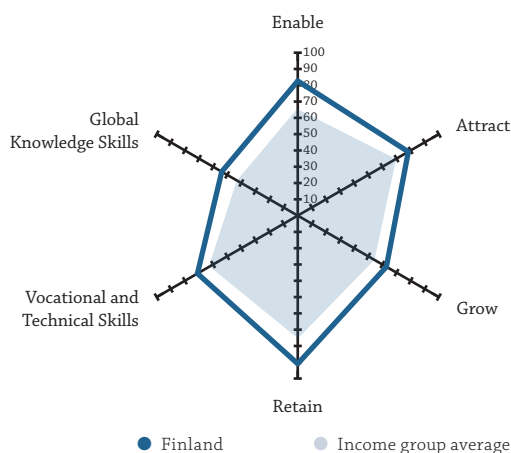
6 GLOBAL KNOWLEDGE SKILLS.....4.93 121		
6.1 High-Level Skills.....	2.09	129
6.1.1 Workforce with tertiary education.....	1.04	127
6.1.2 Population with tertiary education.....	0.00	101
6.1.3 Professionals.....	5.90	121
6.1.4 Researchers.....	0.92	89
6.1.5 Senior officials and managers.....	2.60	121
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	7.77	94
6.2.1 Innovation output.....	12.06	104
6.2.2 High-value exports.....	23.44	37
6.2.3 Software development.....	0.06	125
6.2.4 New business density.....	2.62	96
6.2.5 Scientific journal articles.....	0.69	105

FINLAND

Key Indicators

Rank (out of 133).....	8
Income group	High income
Regional group	Europe
Population (millions)	5.54

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 82.62 4		
1.1 Regulatory Landscape..... 93.23 3		
1.1.1 Government effectiveness..... 90.41 3		
1.1.2 Rule of law..... 100.00 1		
1.1.3 Political stability..... 85.10 16		
1.1.4 Regulatory quality..... 90.64 3		
1.1.5 Corruption..... 100.00 1		
1.2 Market Landscape..... 67.47 16		
1.2.1 Extent of market dominance..... 62.42 33		
1.2.2 Domestic credit to private sector..... 44.62 28		
1.2.3 Cluster development..... 68.72 23		
1.2.4 R&D expenditure..... 53.92 11		
1.2.5 ICT infrastructure..... 91.97 12		
1.2.6 Urbanisation..... 83.19 23		
1.3 Business and Labour Landscape..... 87.17 3		
Labour Market		
1.3.1 Labour rights..... 100.00 1		
1.3.2 Labour-employer cooperation..... 68.57 21		
Management Practice		
1.3.3 Professional management..... 100.00 1		
1.3.4 Relationship of pay to productivity..... 67.87 31		
Technology Adoption		
1.3.5 Enterprise software..... 84.53 4		
1.3.6 Cloud computing..... 89.23 2		
1.3.7 Firms with website..... 100.00 1		
2 ATTRACT..... 78.36 9		
2.1 External Openness..... 62.21 28		
Attract Business		
2.1.1 FDI regulatory restrictiveness..... 95.95 9		
2.1.2 Financial globalisation..... 89.50 14		
Attract People		
2.1.3 Migrant stock..... 47.11 55		
2.1.4 International students..... 30.83 32		
2.1.5 Brain gain..... 47.65 65		
2.2 Internal Openness..... 94.51 2		
Social Inclusion		
2.2.1 Tolerance of minorities..... 98.91 3		
2.2.2 Tolerance of immigrants..... 76.92 29		
2.2.3 Social mobility..... 100.00 1		
Gender Equality		
2.2.4 Economic empowerment of women..... 96.46 13		
2.2.5 Gender parity in high-skilled jobs..... 94.78 15		
2.2.6 Leadership opportunities for women..... 100.00 1		

GDP per capita (PPP US\$)	55,006.65
GDP (US\$ billions)	299.16
GTCI score.....	73.28
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 62.81 15		
3.1 Formal Education..... 58.46 8		
Enrolment		
3.1.1 Vocational enrolment..... 70.30 2		
3.1.2 Tertiary enrolment..... 62.14 8		
Quality		
3.1.3 Tertiary education expenditure..... 34.97 17		
3.1.4 Reading, maths, and science..... 74.44 7		
3.1.5 University ranking..... 50.46 17		
3.2 Lifelong Learning..... 57.80 22		
3.2.1 Business masters education..... 7.45 52		
3.2.2 Prevalence of training in firms..... 59.44 20		
3.2.3 Employee development..... 91.05 3		
3.2.4 Formal and non-formal studies..... 73.25 13		
3.3 Access to Growth Opportunities..... 72.16 15		
Empowerment		
3.3.1 Delegation of authority..... 90.30 4		
3.3.2 Youth inclusion..... 90.78 15		
Collaboration		
3.3.3 Use of virtual social networks..... 72.67 24		
3.3.4 Use of virtual professional networks..... 34.90 28		

4 RETAIN..... 90.92 2		
4.1 Sustainability..... 92.94 2		
4.1.1 Pension coverage..... 100.00 1		
4.1.2 Social protection..... 96.70 2		
4.1.3 Brain retention..... 77.44 13		
4.1.4 Environmental performance..... 97.63 3		
4.2 Lifestyle..... 88.91 11		
4.2.1 Personal rights..... 97.58 11		
4.2.2 Personal safety..... 85.29 18		
4.2.3 Physician density..... 73.36 9		
4.2.4 Sanitation..... 99.39 23		
5 VOCATIONAL AND TECHNICAL SKILLS..... 71.07 6		
5.1 Mid-Level Skills..... 65.43 15		
5.1.1 Workforce with secondary education..... 65.76 30		
5.1.2 Population with secondary education..... 57.93 29		
5.1.3 Technicians and associate professionals..... 77.75 5		
5.1.4 Labour productivity per employee..... 60.28 20		
5.2 Employability..... 76.71 9		
5.2.1 Ease of finding skilled employees..... 56.41 40		
5.2.2 Relevance of education system to the economy..... 90.26 3		
5.2.3 Skills matching..... 81.62 22		
5.2.4 Highly educated unemployment..... 78.57 57		

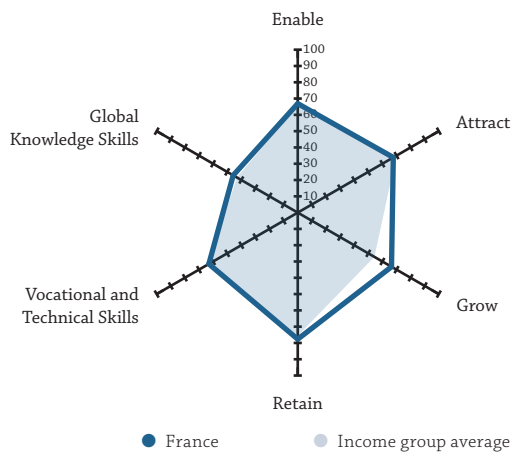
6 GLOBAL KNOWLEDGE SKILLS..... 53.87 14		
6.1 High-Level Skills..... 50.11 20		
6.1.1 Workforce with tertiary education..... 50.18 25		
6.1.2 Population with tertiary education..... 48.60 22		
6.1.3 Professionals..... 59.39 11		
6.1.4 Researchers..... 86.37 4		
6.1.5 Senior officials and managers..... 14.15 88		
6.1.6 Digital skills..... 41.97 13		
6.2 Talent Impact..... 57.62 13		
6.2.1 Innovation output..... 78.19 9		
6.2.2 High-value exports..... 17.81 50		
6.2.3 Software development..... 83.27 4		
6.2.4 New business density..... 32.32 26		
6.2.5 Scientific journal articles..... 76.52 8		

FRANCE

Key Indicators

Rank (out of 133).....	19
Income group.....	High income
Regional group.....	Europe
Population (millions).....	67.50

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 66.90 20		
1.1 Regulatory Landscape.....	73.94	21
1.1.1 Government effectiveness.....	73.00	23
1.1.2 Rule of law.....	80.58	21
1.1.3 Political stability.....	67.70	47
1.1.4 Regulatory quality.....	73.05	24
1.1.5 Corruption.....	75.36	21
1.2 Market Landscape.....	64.18	22
1.2.1 Extent of market dominance.....	55.02	39
1.2.2 Domestic credit to private sector.....	55.21	18
1.2.3 Cluster development.....	62.47	30
1.2.4 R&D expenditure.....	43.22	14
1.2.5 ICT infrastructure.....	91.68	15
1.2.6 Urbanisation.....	77.51	33
1.3 Business and Labour Landscape.....	62.58	22
Labour Market		
1.3.1 Labour rights.....	93.16	26
1.3.2 Labour-employer cooperation.....	48.39	57
Management Practice		
1.3.3 Professional management.....	84.06	14
1.3.4 Relationship of pay to productivity.....	59.21	52
Technology Adoption		
1.3.5 Enterprise software.....	43.17	21
1.3.6 Cloud computing.....	39.62	19
1.3.7 Firms with website.....	70.47	36
2 ATTRACT..... 67.72 25		
2.1 External Openness.....	65.95	22
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	88.92	27
2.1.2 Financial globalisation.....	87.78	17
Attract People		
2.1.3 Migrant stock.....	62.13	36
2.1.4 International students.....	35.14	28
2.1.5 Brain gain.....	55.77	44
2.2 Internal Openness.....	69.50	26
Social Inclusion		
2.2.1 Tolerance of minorities.....	35.87	81
2.2.2 Tolerance of immigrants.....	61.54	59
2.2.3 Social mobility.....	69.17	24
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	94.46	16
2.2.6 Leadership opportunities for women.....	55.97	60

GDP per capita (PPP US\$).....	50,728.67
GDP (US\$ billions).....	2,937.47
GTGI score.....	64.58
GTGI score (income group average).....	59.85

	Score	Rank
3 GROW..... 66.46 9		
3.1 Formal Education.....	50.23	15
Enrolment		
3.1.1 Vocational enrolment.....	27.40	46
3.1.2 Tertiary enrolment.....	45.39	36
Quality		
3.1.3 Tertiary education expenditure.....	35.29	16
3.1.4 Reading, maths, and science.....	65.14	24
3.1.5 University ranking.....	77.91	8
3.2 Lifelong Learning.....	83.45	4
3.2.1 Business masters education.....	99.11	2
3.2.2 Prevalence of training in firms.....	84.20	3
3.2.3 Employee development.....	81.06	14
3.2.4 Formal and non-formal studies.....	69.45	17
3.3 Access to Growth Opportunities.....	65.69	19
Empowerment		
3.3.1 Delegation of authority.....	62.85	29
3.3.2 Youth inclusion.....	84.81	26
Collaboration		
3.3.3 Use of virtual social networks.....	68.32	44
3.3.4 Use of virtual professional networks.....	46.79	19

4 RETAIN..... 77.67 21		
4.1 Sustainability.....	75.01	17
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	85.84	10
4.1.3 Brain retention.....	40.32	63
4.1.4 Environmental performance.....	73.90	12
4.2 Lifestyle.....	80.34	25
4.2.1 Personal rights.....	95.57	21
4.2.2 Personal safety.....	75.74	26
4.2.3 Physician density.....	51.52	38
4.2.4 Sanitation.....	98.52	39

5 VOCATIONAL AND TECHNICAL SKILLS..... 63.00 22		
5.1 Mid-Level Skills.....	63.25	20
5.1.1 Workforce with secondary education.....	58.91	42
5.1.2 Population with secondary education.....	56.53	31
5.1.3 Technicians and associate professionals.....	73.13	9
5.1.4 Labour productivity per employee.....	64.42	13
5.2 Employability.....	62.76	43
5.2.1 Ease of finding skilled employees.....	42.74	75
5.2.2 Relevance of education system to the economy.....	55.45	40
5.2.3 Skills matching.....	76.00	42
5.2.4 Highly educated unemployment.....	76.83	62

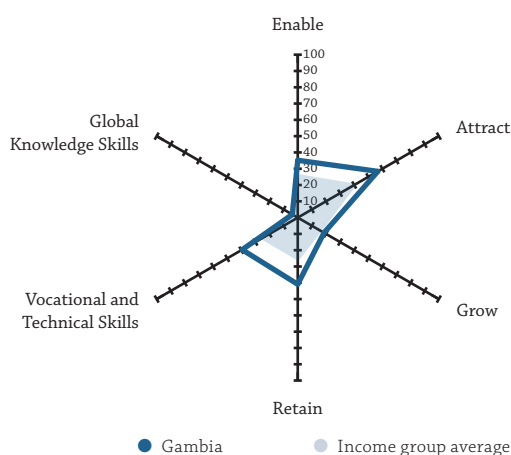
6 GLOBAL KNOWLEDGE SKILLS..... 45.75 21		
6.1 High-Level Skills.....	44.63	24
6.1.1 Workforce with tertiary education.....	53.79	19
6.1.2 Population with tertiary education.....	42.68	31
6.1.3 Professionals.....	52.35	19
6.1.4 Researchers.....	56.48	17
6.1.5 Senior officials and managers.....	40.65	35
6.1.6 Digital skills.....	21.85	44
6.2 Talent Impact.....	46.86	19
6.2.1 Innovation output.....	76.06	10
6.2.2 High-value exports.....	41.60	15
6.2.3 Software development.....	48.41	19
6.2.4 New business density.....	28.86	28
6.2.5 Scientific journal articles.....	39.36	30

GAMBIA

Key Indicators

Rank (out of 133).....	94
Income group	Low income
Regional group.....	Sub-Saharan Africa
Population (millions)	2.49

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....35.19 93		
1.1 Regulatory Landscape.....	35.37	87
1.1.1 Government effectiveness.....	25.34	107
1.1.2 Rule of law.....	36.82	86
1.1.3 Political stability.....	65.85	50
1.1.4 Regulatory quality.....	22.78	111
1.1.5 Corruption.....	26.09	82
1.2 Market Landscape.....	30.73	94
1.2.1 Extent of market dominance.....	49.71	53
1.2.2 Domestic credit to private sector.....	0.77	128
1.2.3 Cluster development.....	47.00	52
1.2.4 R&D expenditure.....	1.09	108
1.2.5 ICT infrastructure.....	30.38	106
1.2.6 Urbanisation.....	55.47	73
1.3 Business and Labour Landscape.....	39.45	89
Labour Market		
1.3.1 Labour rights.....	78.02	61
1.3.2 Labour-employer cooperation.....	55.04	46
Management Practice		
1.3.3 Professional management.....	56.19	57
1.3.4 Relationship of pay to productivity.....	71.97	21
Technology Adoption		
1.3.5 Enterprise software.....	0.00	126
1.3.6 Cloud computing.....	0.00	125
1.3.7 Firms with website.....	14.90	104
2 ATTRACT.....56.76 46		
2.1 External Openness.....	56.55	37
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	42.08	99
Attract People		
2.1.3 Migrant stock.....	62.48	31
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	65.09	25
2.2 Internal Openness.....	56.97	68
Social Inclusion		
2.2.1 Tolerance of minorities.....	77.17	15
2.2.2 Tolerance of immigrants.....	89.23	12
2.2.3 Social mobility.....	44.76	66
Gender Equality		
2.2.4 Economic empowerment of women.....	56.64	107
2.2.5 Gender parity in high-skilled jobs.....	9.68	123
2.2.6 Leadership opportunities for women.....	64.36	38

GDP per capita (PPP US\$)	2,433.90
GDP (US\$ billions)	2.08
GTCI score.....	32.46
GTCI score (income group average)	22.09

	Score	Rank
3 GROW.....18.62 116		
3.1 Formal Education.....	1.22	132
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	0.68	127
Quality		
3.1.3 Tertiary education expenditure.....	2.99	100
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	22.96	98
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	24.48	67
3.2.3 Employee development.....	44.41	90
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	31.68	108
Empowerment		
3.3.1 Delegation of authority.....	60.55	34
3.3.2 Youth inclusion.....	46.35	101
Collaboration		
3.3.3 Use of virtual social networks.....	13.31	114
3.3.4 Use of virtual professional networks.....	6.53	100

4 RETAIN.....40.92 93		
4.1 Sustainability.....	35.47	91
4.1.1 Pension coverage.....	15.65	104
4.1.2 Social protection.....	38.47	68
4.1.3 Brain retention.....	58.08	35
4.1.4 Environmental performance.....	29.66	89
4.2 Lifestyle.....	46.37	92
4.2.1 Personal rights.....	77.93	58
4.2.2 Personal safety.....	65.38	40
4.2.3 Physician density.....	0.51	128
4.2.4 Sanitation.....	41.67	112
5 VOCATIONAL AND TECHNICAL SKILLS.....39.40 88		
5.1 Mid-Level Skills.....	20.07	101
5.1.1 Workforce with secondary education.....	26.96	98
5.1.2 Population with secondary education.....	20.20	79
5.1.3 Technicians and associate professionals.....	13.04	106
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	58.74	63
5.2.1 Ease of finding skilled employees.....	55.96	43
5.2.2 Relevance of education system to the economy.....	59.78	34
5.2.3 Skills matching.....	28.07	93
5.2.4 Highly educated unemployment.....	91.15	14

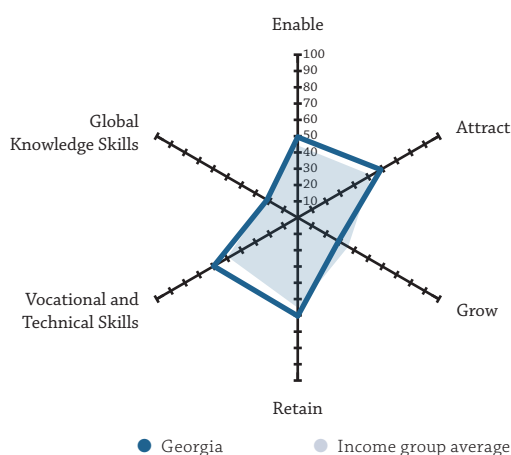
6 GLOBAL KNOWLEDGE SKILLS.....3.84 127		
6.1 High-Level Skills.....	6.98	116
6.1.1 Workforce with tertiary education.....	8.34	103
6.1.2 Population with tertiary education.....	8.80	83
6.1.3 Professionals.....	14.35	93
6.1.4 Researchers.....	0.49	96
6.1.5 Senior officials and managers.....	2.93	119
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	0.71	130
6.2.1 Innovation output.....	n/a	n/a
6.2.2 High-value exports.....	1.37	116
6.2.3 Software development.....	0.20	117
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	0.55	108

GEORGIA

Key Indicators

Rank (out of 133)	48
Income group	Upper-middle income
Regional group	Northern Africa and Western Asia
Population (millions)	3.71

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	49.44	48
1.1 Regulatory Landscape	57.08	45
1.1.1 Government effectiveness	61.57	38
1.1.2 Rule of law	53.66	52
1.1.3 Political stability	47.25	89
1.1.4 Regulatory quality	70.72	27
1.1.5 Corruption	52.17	37
1.2 Market Landscape	42.24	62
1.2.1 Extent of market dominance	48.63	55
1.2.2 Domestic credit to private sector	34.95	42
1.2.3 Cluster development	48.99	47
1.2.4 R&D expenditure	5.35	78
1.2.5 ICT infrastructure	63.07	62
1.2.6 Urbanisation	52.43	77
1.3 Business and Labour Landscape	48.99	49
Labour Market		
1.3.1 Labour rights	88.47	40
1.3.2 Labour-employer cooperation	44.64	64
Management Practice		
1.3.3 Professional management	61.84	45
1.3.4 Relationship of pay to productivity	65.66	37
Technology Adoption		
1.3.5 Enterprise software	19.89	69
1.3.6 Cloud computing	14.27	77
1.3.7 Firms with website	48.18	65
2 ATTRACT	58.84	40
2.1 External Openness	55.94	41
Attract Business		
2.1.1 FDI regulatory restrictiveness	96.22	7
2.1.2 Financial globalisation	81.53	27
Attract People		
2.1.3 Migrant stock	23.24	101
2.1.4 International students	33.40	30
2.1.5 Brain gain	45.32	69
2.2 Internal Openness	61.73	47
Social Inclusion		
2.2.1 Tolerance of minorities	26.09	94
2.2.2 Tolerance of immigrants	72.31	39
2.2.3 Social mobility	51.58	50
Gender Equality		
2.2.4 Economic empowerment of women	83.19	44
2.2.5 Gender parity in high-skilled jobs	70.55	75
2.2.6 Leadership opportunities for women	66.66	35

GDP per capita (PPP US\$)	16,997.15
GDP (US\$ billions)	18.70
GTCI score	46.47
GTCI score (income group average)	41.23

	Score	Rank
3 GROW	28.91	80
3.1 Formal Education	14.90	87
Enrolment		
3.1.1 Vocational enrolment	5.43	97
3.1.2 Tertiary enrolment	44.25	40
Quality		
3.1.3 Tertiary education expenditure	3.35	97
3.1.4 Reading, maths, and science	21.46	69
3.1.5 University ranking	0.00	76
3.2 Lifelong Learning	22.16	101
3.2.1 Business masters education	0.00	54
3.2.2 Prevalence of training in firms	33.99	51
3.2.3 Employee development	52.70	59
3.2.4 Formal and non-formal studies	1.97	72
3.3 Access to Growth Opportunities	49.66	56
Empowerment		
3.3.1 Delegation of authority	56.52	41
3.3.2 Youth inclusion	55.49	85
Collaboration		
3.3.3 Use of virtual social networks	71.87	26
3.3.4 Use of virtual professional networks	14.78	73

4 RETAIN	60.36	47
4.1 Sustainability	47.22	66
4.1.1 Pension coverage	90.75	52
4.1.2 Social protection	29.04	90
4.1.3 Brain retention	34.85	77
4.1.4 Environmental performance	34.24	78
4.2 Lifestyle	73.49	43
4.2.1 Personal rights	77.88	59
4.2.2 Personal safety	50.87	68
4.2.3 Physician density	80.84	5
4.2.4 Sanitation	84.37	86

5 VOCATIONAL AND TECHNICAL SKILLS	59.53	35
5.1 Mid-Level Skills	55.12	33
5.1.1 Workforce with secondary education	84.42	11
5.1.2 Population with secondary education	83.60	7
5.1.3 Technicians and associate professionals	28.01	70
5.1.4 Labour productivity per employee	24.43	63
5.2 Employability	63.94	37
5.2.1 Ease of finding skilled employees	53.99	50
5.2.2 Relevance of education system to the economy	50.43	47
5.2.3 Skills matching	91.19	6
5.2.4 Highly educated unemployment	60.15	90

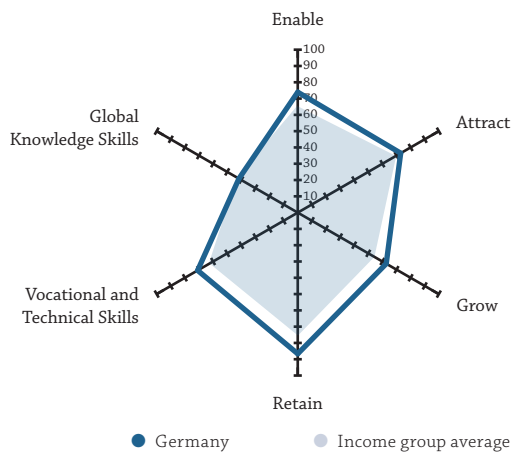
6 GLOBAL KNOWLEDGE SKILLS	21.76	63
6.1 High-Level Skills	27.99	56
6.1.1 Workforce with tertiary education	41.44	38
6.1.2 Population with tertiary education	44.78	29
6.1.3 Professionals	29.36	53
6.1.4 Researchers	19.56	43
6.1.5 Senior officials and managers	29.36	53
6.1.6 Digital skills	3.45	74
6.2 Talent Impact	15.53	66
6.2.1 Innovation output	25.35	73
6.2.2 High-value exports	3.83	99
6.2.3 Software development	1.48	91
6.2.4 New business density	41.14	19
6.2.5 Scientific journal articles	5.85	68

GERMANY

Key Indicators

Rank (out of 133).....	14
Income group	High income
Regional group	Europe
Population (millions)	83.13

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....73.93	15	
1.1 Regulatory Landscape.....	82.34	14
1.1.1 Government effectiveness.....	75.81	19
1.1.2 Rule of law.....	86.54	14
1.1.3 Political stability.....	77.57	31
1.1.4 Regulatory quality.....	83.37	12
1.1.5 Corruption.....	88.41	10
1.2 Market Landscape.....	68.89	12
1.2.1 Extent of market dominance.....	72.58	17
1.2.2 Domestic credit to private sector.....	37.72	36
1.2.3 Cluster development.....	81.99	7
1.2.4 R&D expenditure.....	57.76	9
1.2.5 ICT infrastructure.....	89.34	23
1.2.6 Urbanisation.....	73.91	41
1.3 Business and Labour Landscape.....	70.55	12
Labour Market		
1.3.1 Labour rights.....	94.91	24
1.3.2 Labour-employer cooperation.....	60.04	35
Management Practice		
1.3.3 Professional management.....	74.56	25
1.3.4 Relationship of pay to productivity.....	70.03	23
Technology Adoption		
1.3.5 Enterprise software.....	53.67	16
1.3.6 Cloud computing.....	48.39	13
1.3.7 Firms with website.....	92.28	8
2 ATTRACT.....72.96	19	
2.1 External Openness.....	70.45	17
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	94.86	14
2.1.2 Financial globalisation.....	82.74	23
Attract People		
2.1.3 Migrant stock.....	68.83	20
2.1.4 International students.....	38.73	24
2.1.5 Brain gain.....	67.10	21
2.2 Internal Openness.....	75.48	17
Social Inclusion		
2.2.1 Tolerance of minorities.....	61.96	40
2.2.2 Tolerance of immigrants.....	75.38	34
2.2.3 Social mobility.....	62.45	39
Gender Equality		
2.2.4 Economic empowerment of women.....	96.46	13
2.2.5 Gender parity in high-skilled jobs.....	98.04	7
2.2.6 Leadership opportunities for women.....	58.58	54

GDP per capita (PPP US\$)	57,927.59
GDP (US\$ billions)	4,223.12
GTCI score.....	68.15
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....62.71	16	
3.1 Formal Education.....	53.04	13
Enrolment		
3.1.1 Vocational enrolment.....	30.78	40
3.1.2 Tertiary enrolment.....	48.91	28
Quality		
3.1.3 Tertiary education expenditure.....	44.74	10
3.1.4 Reading, maths, and science.....	67.91	17
3.1.5 University ranking.....	72.85	10
3.2 Lifelong Learning.....	71.64	10
3.2.1 Business masters education.....	64.68	11
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	79.84	17
3.2.4 Formal and non-formal studies.....	70.40	16
3.3 Access to Growth Opportunities.....	63.45	22
Empowerment		
3.3.1 Delegation of authority.....	69.76	19
3.3.2 Youth inclusion.....	91.04	13
Collaboration		
3.3.3 Use of virtual social networks.....	73.82	19
3.3.4 Use of virtual professional networks.....	19.16	59

4 RETAIN.....86.64	8	
4.1 Sustainability.....	83.92	10
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	79.56	15
4.1.3 Brain retention.....	82.40	8
4.1.4 Environmental performance.....	73.73	13
4.2 Lifestyle.....	89.35	6
4.2.1 Personal rights.....	99.73	2
4.2.2 Personal safety.....	88.45	11
4.2.3 Physician density.....	70.08	13
4.2.4 Sanitation.....	99.15	29

5 VOCATIONAL AND TECHNICAL SKILLS.....70.94	7	
5.1 Mid-Level Skills.....	75.43	2
5.1.1 Workforce with secondary education.....	76.39	19
5.1.2 Population with secondary education.....	82.50	8
5.1.3 Technicians and associate professionals.....	84.47	4
5.1.4 Labour productivity per employee.....	58.37	22
5.2 Employability.....	66.46	27
5.2.1 Ease of finding skilled employees.....	42.75	74
5.2.2 Relevance of education system to the economy.....	56.47	39
5.2.3 Skills matching.....	74.94	44
5.2.4 Highly educated unemployment.....	91.67	9

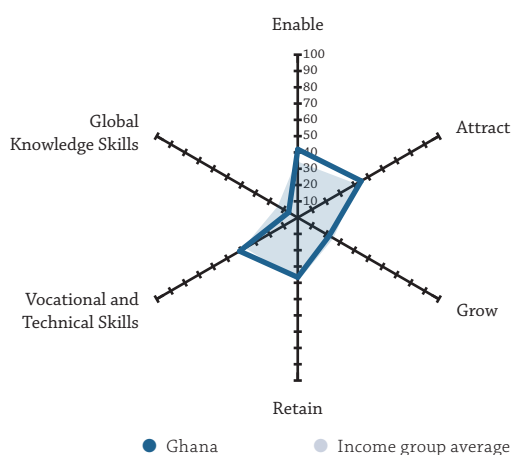
6 GLOBAL KNOWLEDGE SKILLS.....41.69	22	
6.1 High-Level Skills.....	38.26	37
6.1.1 Workforce with tertiary education.....	37.85	43
6.1.2 Population with tertiary education.....	33.85	40
6.1.3 Professionals.....	48.68	24
6.1.4 Researchers.....	61.85	14
6.1.5 Senior officials and managers.....	24.02	64
6.1.6 Digital skills.....	23.30	39
6.2 Talent Impact.....	45.12	20
6.2.1 Innovation output.....	81.74	8
6.2.2 High-value exports.....	27.78	31
6.2.3 Software development.....	58.66	15
6.2.4 New business density.....	7.30	74
6.2.5 Scientific journal articles.....	50.13	23

GHANA

Key Indicators

Rank (out of 133).....	95
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	31.73

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....41.94 67		
1.1 Regulatory Landscape.....44.40	65	
1.1.1 Government effectiveness.....38.23	78	
1.1.2 Rule of law.....45.27	61	
1.1.3 Political stability.....62.57	55	
1.1.4 Regulatory quality.....41.13	72	
1.1.5 Corruption.....34.78	59	
1.2 Market Landscape.....38.22	73	
1.2.1 Extent of market dominance.....50.16	51	
1.2.2 Domestic credit to private sector.....3.19	121	
1.2.3 Cluster development.....53.65	40	
1.2.4 R&D expenditure.....n/a	n/a	
1.2.5 ICT infrastructure.....34.64	101	
1.2.6 Urbanisation.....49.48	86	
1.3 Business and Labour Landscape.....43.19	71	
Labour Market		
1.3.1 Labour rights.....78.28	60	
1.3.2 Labour-employer cooperation.....38.31	80	
Management Practice		
1.3.3 Professional management.....60.37	50	
1.3.4 Relationship of pay to productivity.....56.12	59	
Technology Adoption		
1.3.5 Enterprise software.....26.36	50	
1.3.6 Cloud computing.....15.48	66	
1.3.7 Firms with website.....27.38	94	
2 ATTRACT.....44.98 90		
2.1 External Openness.....32.51	100	
Attract Business		
2.1.1 FDI regulatory restrictiveness.....n/a	n/a	
2.1.2 Financial globalisation.....43.11	96	
Attract People		
2.1.3 Migrant stock.....26.25	92	
2.1.4 International students.....3.91	88	
2.1.5 Brain gain.....56.78	39	
2.2 Internal Openness.....57.45	63	
Social Inclusion		
2.2.1 Tolerance of minorities.....70.65	27	
2.2.2 Tolerance of immigrants.....72.31	39	
2.2.3 Social mobility.....37.10	91	
Gender Equality		
2.2.4 Economic empowerment of women.....64.60	98	
2.2.5 Gender parity in high-skilled jobs.....46.40	102	
2.2.6 Leadership opportunities for women.....53.62	69	

GDP per capita (PPP US\$).....	6,178.29
GDP (US\$ billions).....	77.59
GTGI score.....	32.24
GTGI score (income group average).....	30.02

	Score	Rank
3 GROW.....22.29 101		
3.1 Formal Education.....5.43	117	
Enrolment		
3.1.1 Vocational enrolment.....4.04	100	
3.1.2 Tertiary enrolment.....11.56	97	
Quality		
3.1.3 Tertiary education expenditure.....6.13	82	
3.1.4 Reading, maths, and science.....n/a	n/a	
3.1.5 University ranking.....0.00	76	
3.2 Lifelong Learning.....24.63	90	
3.2.1 Business masters education.....0.00	54	
3.2.2 Prevalence of training in firms.....45.31	34	
3.2.3 Employee development.....50.98	63	
3.2.4 Formal and non-formal studies.....2.21	70	
3.3 Access to Growth Opportunities.....36.80	88	
Empowerment		
3.3.1 Delegation of authority.....51.34	52	
3.3.2 Youth inclusion.....64.75	70	
Collaboration		
3.3.3 Use of virtual social networks.....21.38	108	
3.3.4 Use of virtual professional networks.....9.74	87	

4 RETAIN.....36.65 101		
4.1 Sustainability.....31.70	95	
4.1.1 Pension coverage.....17.68	101	
4.1.2 Social protection.....39.92	65	
4.1.3 Brain retention.....54.29	41	
4.1.4 Environmental performance.....14.92	128	
4.2 Lifestyle.....41.61	99	
4.2.1 Personal rights.....89.80	35	
4.2.2 Personal safety.....58.46	53	
4.2.3 Physician density.....1.92	115	
4.2.4 Sanitation.....16.24	126	
5 VOCATIONAL AND TECHNICAL SKILLS.....41.18 81		
5.1 Mid-Level Skills.....13.17	115	
5.1.1 Workforce with secondary education.....25.98	100	
5.1.2 Population with secondary education.....n/a	n/a	
5.1.3 Technicians and associate professionals.....7.57	118	
5.1.4 Labour productivity per employee.....5.95	99	
5.2 Employability.....69.19	23	
5.2.1 Ease of finding skilled employees.....54.84	49	
5.2.2 Relevance of education system to the economy.....49.16	52	
5.2.3 Skills matching.....88.82	11	
5.2.4 Highly educated unemployment.....83.93	41	

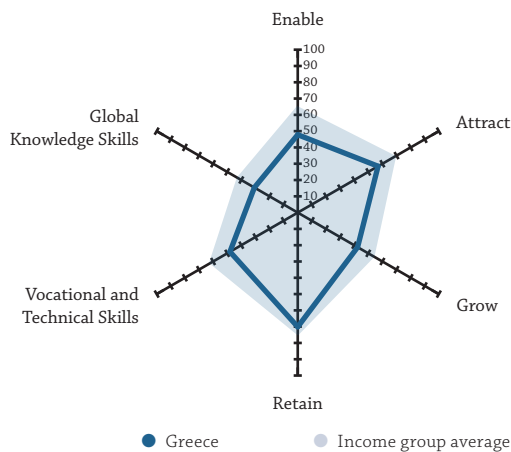
6 GLOBAL KNOWLEDGE SKILLS.....6.42 111		
6.1 High-Level Skills.....7.96	115	
6.1.1 Workforce with tertiary education.....7.90	104	
6.1.2 Population with tertiary education.....n/a	n/a	
6.1.3 Professionals.....13.33	97	
6.1.4 Researchers.....0.90	90	
6.1.5 Senior officials and managers.....9.69	100	
6.1.6 Digital skills.....n/a	n/a	
6.2 Talent Impact.....4.89	111	
6.2.1 Innovation output.....15.60	100	
6.2.2 High-value exports.....1.82	111	
6.2.3 Software development.....0.75	103	
6.2.4 New business density.....4.59	84	
6.2.5 Scientific journal articles.....1.67	92	

GREECE

Key Indicators

Rank (out of 133).....	40
Income group	High income
Regional group.....	Europe
Population (millions)	10.66

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....47.82	51	
1.1 Regulatory Landscape.....	53.89	49
1.1.1 Government effectiveness.....	53.06	43
1.1.2 Rule of law.....	54.55	49
1.1.3 Political stability.....	62.55	56
1.1.4 Regulatory quality.....	55.81	43
1.1.5 Corruption.....	43.48	47
1.2 Market Landscape.....	44.79	56
1.2.1 Extent of market dominance.....	44.21	61
1.2.2 Domestic credit to private sector.....	36.12	39
1.2.3 Cluster development.....	20.91	123
1.2.4 R&D expenditure.....	27.39	27
1.2.5 ICT infrastructure.....	64.19	58
1.2.6 Urbanisation.....	75.92	37
1.3 Business and Labour Landscape.....	44.78	67
Labour Market		
1.3.1 Labour rights.....	88.61	39
1.3.2 Labour-employer cooperation.....	37.30	82
Management Practice		
1.3.3 Professional management.....	46.46	83
1.3.4 Relationship of pay to productivity.....	52.00	71
Technology Adoption		
1.3.5 Enterprise software.....	12.90	107
1.3.6 Cloud computing.....	15.43	67
1.3.7 Firms with website.....	60.73	52
2 ATTRACT.....56.92	45	
2.1 External Openness.....	50.64	58
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	92.43	20
2.1.2 Financial globalisation.....	70.83	49
Attract People		
2.1.3 Migrant stock.....	60.12	38
2.1.4 International students.....	13.34	62
2.1.5 Brain gain.....	16.48	121
2.2 Internal Openness.....	63.19	38
Social Inclusion		
2.2.1 Tolerance of minorities.....	59.78	44
2.2.2 Tolerance of immigrants.....	32.31	115
2.2.3 Social mobility.....	44.76	65
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	99.35	4
2.2.6 Leadership opportunities for women.....	42.96	90

GDP per capita (PPP US\$)	31,295.15
GDP (US\$ billions)	216.24
GTCI score.....	49.34
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....42.42	41	
3.1 Formal Education.....	40.60	30
Enrolment		
3.1.1 Vocational enrolment.....	25.02	51
3.1.2 Tertiary enrolment.....	100.00	1
Quality		
3.1.3 Tertiary education expenditure.....	6.07	83
3.1.4 Reading, maths, and science.....	48.73	42
3.1.5 University ranking.....	23.20	49
3.2 Lifelong Learning.....	34.40	52
3.2.1 Business masters education.....	49.96	19
3.2.2 Prevalence of training in firms.....	19.44	77
3.2.3 Employee development.....	45.73	88
3.2.4 Formal and non-formal studies.....	22.46	44
3.3 Access to Growth Opportunities.....	52.27	45
Empowerment		
3.3.1 Delegation of authority.....	41.87	79
3.3.2 Youth inclusion.....	84.01	32
Collaboration		
3.3.3 Use of virtual social networks.....	60.51	67
3.3.4 Use of virtual professional networks.....	22.70	50

4 RETAIN.....70.12	31	
4.1 Sustainability.....	51.09	55
4.1.1 Pension coverage.....	95.73	43
4.1.2 Social protection.....	30.58	84
4.1.3 Brain retention.....	14.84	124
4.1.4 Environmental performance.....	63.22	28
4.2 Lifestyle.....	89.14	9
4.2.1 Personal rights.....	84.97	47
4.2.2 Personal safety.....	72.71	31
4.2.3 Physician density.....	100.00	1
4.2.4 Sanitation.....	98.90	36

5 VOCATIONAL AND TECHNICAL SKILLS.....48.04	62	
5.1 Mid-Level Skills.....	47.38	52
5.1.1 Workforce with secondary education.....	63.42	35
5.1.2 Population with secondary education.....	54.25	34
5.1.3 Technicians and associate professionals.....	32.12	58
5.1.4 Labour productivity per employee.....	39.72	44
5.2 Employability.....	48.71	86
5.2.1 Ease of finding skilled employees.....	35.35	93
5.2.2 Relevance of education system to the economy.....	26.00	102
5.2.3 Skills matching.....	84.11	19
5.2.4 Highly educated unemployment.....	49.36	106

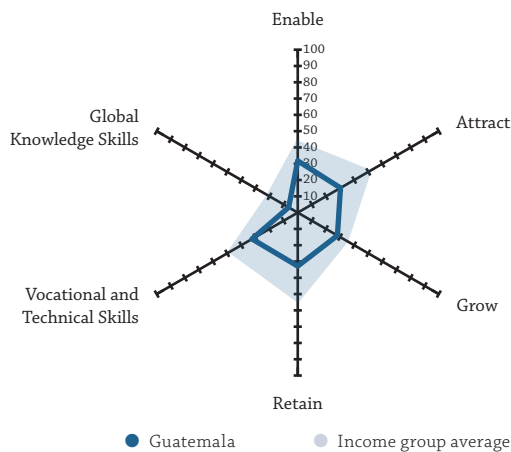
6 GLOBAL KNOWLEDGE SKILLS.....30.74	37	
6.1 High-Level Skills.....	36.58	39
6.1.1 Workforce with tertiary education.....	45.90	32
6.1.2 Population with tertiary education.....	35.32	38
6.1.3 Professionals.....	47.80	26
6.1.4 Researchers.....	45.96	25
6.1.5 Senior officials and managers.....	16.60	81
6.1.6 Digital skills.....	27.92	33
6.2 Talent Impact.....	24.90	45
6.2.1 Innovation output.....	32.62	59
6.2.2 High-value exports.....	23.72	35
6.2.3 Software development.....	18.23	35
6.2.4 New business density.....	9.50	64
6.2.5 Scientific journal articles.....	40.45	29

GUATEMALA

Key Indicators

Rank (out of 133).....	108
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	17.11

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....31.78 108		
1.1 Regulatory Landscape.....	27.29	111
1.1.1 Government effectiveness.....	24.96	108
1.1.2 Rule of law.....	19.06	125
1.1.3 Political stability.....	47.29	88
1.1.4 Regulatory quality.....	36.46	85
1.1.5 Corruption.....	8.70	121
1.2 Market Landscape.....	30.00	97
1.2.1 Extent of market dominance.....	40.76	67
1.2.2 Domestic credit to private sector.....	14.02	88
1.2.3 Cluster development.....	44.26	68
1.2.4 R&D expenditure.....	0.30	113
1.2.5 ICT infrastructure.....	36.94	97
1.2.6 Urbanisation.....	43.72	95
1.3 Business and Labour Landscape.....	38.05	97
Labour Market		
1.3.1 Labour rights.....	27.88	99
1.3.2 Labour-employer cooperation.....	60.37	34
Management Practice		
1.3.3 Professional management.....	45.60	86
1.3.4 Relationship of pay to productivity.....	48.30	84
Technology Adoption		
1.3.5 Enterprise software.....	17.30	87
1.3.6 Cloud computing.....	10.87	91
1.3.7 Firms with website.....	56.03	57
2 ATTRACT.....30.29 124		
2.1 External Openness.....	19.12	130
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	26.10	120
Attract People		
2.1.3 Migrant stock.....	11.56	118
2.1.4 International students.....	0.77	108
2.1.5 Brain gain.....	38.05	87
2.2 Internal Openness.....	41.46	119
Social Inclusion		
2.2.1 Tolerance of minorities.....	3.26	127
2.2.2 Tolerance of immigrants.....	13.85	126
2.2.3 Social mobility.....	43.40	71
Gender Equality		
2.2.4 Economic empowerment of women.....	58.41	106
2.2.5 Gender parity in high-skilled jobs.....	90.16	26
2.2.6 Leadership opportunities for women.....	39.71	101

GDP per capita (PPP US\$).....	9,769.24
GDP (US\$ billions).....	85.99
GTCI score.....	26.97
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....28.11 82		
3.1 Formal Education.....	15.96	84
Enrolment		
3.1.1 Vocational enrolment.....	46.42	20
3.1.2 Tertiary enrolment.....	13.91	93
Quality		
3.1.3 Tertiary education expenditure.....	3.50	95
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	32.45	57
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	67.13	13
3.2.3 Employee development.....	59.34	50
3.2.4 Formal and non-formal studies.....	3.31	65
3.3 Access to Growth Opportunities.....	35.92	92
Empowerment		
3.3.1 Delegation of authority.....	41.19	82
3.3.2 Youth inclusion.....	48.78	96
Collaboration		
3.3.3 Use of virtual social networks.....	43.12	92
3.3.4 Use of virtual professional networks.....	10.60	83

4 RETAIN.....32.82 106		
4.1 Sustainability.....	27.58	107
4.1.1 Pension coverage.....	15.35	105
4.1.2 Social protection.....	30.04	87
4.1.3 Brain retention.....	49.51	44
4.1.4 Environmental performance.....	15.42	126
4.2 Lifestyle.....	38.05	105
4.2.1 Personal rights.....	56.97	89
4.2.2 Personal safety.....	11.43	128
4.2.3 Physician density.....	19.03	84
4.2.4 Sanitation.....	64.79	103

5 VOCATIONAL AND TECHNICAL SKILLS.....32.38 107		
5.1 Mid-Level Skills.....	17.96	106
5.1.1 Workforce with secondary education.....	20.96	107
5.1.2 Population with secondary education.....	26.46	73
5.1.3 Technicians and associate professionals.....	13.09	105
5.1.4 Labour productivity per employee.....	11.33	87
5.2 Employability.....	46.81	90
5.2.1 Ease of finding skilled employees.....	48.81	60
5.2.2 Relevance of education system to the economy.....	11.44	123
5.2.3 Skills matching.....	43.84	83
5.2.4 Highly educated unemployment.....	83.14	46

6 GLOBAL KNOWLEDGE SKILLS.....6.44 110		
6.1 High-Level Skills.....	5.42	121
6.1.1 Workforce with tertiary education.....	5.67	116
6.1.2 Population with tertiary education.....	4.69	90
6.1.3 Professionals.....	11.42	107
6.1.4 Researchers.....	0.04	107
6.1.5 Senior officials and managers.....	5.27	111
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	7.47	96
6.2.1 Innovation output.....	21.99	81
6.2.2 High-value exports.....	10.71	73
6.2.3 Software development.....	1.35	94
6.2.4 New business density.....	3.10	92
6.2.5 Scientific journal articles.....	0.20	122

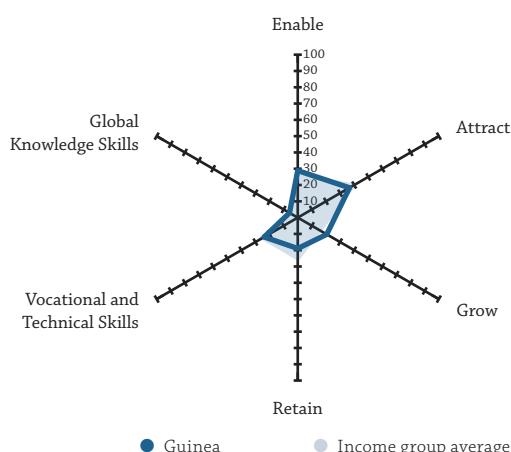
GUINEA

Key Indicators

Rank (out of 133).....	123
Income group	Low income
Regional group.....	Sub-Saharan Africa
Population (millions)	13.50

GDP per capita (PPP US\$)	2,878.59
GDP (US\$ billions)	15.85
GTCI score.....	22.44
GTCI score (income group average)	22.09

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 28.84 114		
1.1 Regulatory Landscape.....	20.52	123
1.1.1 Government effectiveness.....	19.82	120
1.1.2 Rule of law.....	13.62	129
1.1.3 Political stability.....	41.57	101
1.1.4 Regulatory quality.....	18.88	121
1.1.5 Corruption.....	8.70	121
1.2 Market Landscape.....	27.10	111
1.2.1 Extent of market dominance.....	53.46	45
1.2.2 Domestic credit to private sector.....	1.67	126
1.2.3 Cluster development.....	34.51	96
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	19.31	116
1.2.6 Urbanisation.....	26.57	114
1.3 Business and Labour Landscape.....	38.91	92
Labour Market		
1.3.1 Labour rights.....	91.02	30
1.3.2 Labour-employer cooperation.....	56.52	43
Management Practice		
1.3.3 Professional management.....	45.55	87
1.3.4 Relationship of pay to productivity.....	48.16	86
Technology Adoption		
1.3.5 Enterprise software.....	11.73	110
1.3.6 Cloud computing.....	8.42	110
1.3.7 Firms with website.....	10.98	108
2 ATTRACT..... 36.65 114		
2.1 External Openness.....	31.31	104
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	37.25	108
Attract People		
2.1.3 Migrant stock.....	18.39	105
2.1.4 International students.....	3.42	89
2.1.5 Brain gain.....	66.16	22
2.2 Internal Openness.....	42.00	117
Social Inclusion		
2.2.1 Tolerance of minorities.....	4.35	125
2.2.2 Tolerance of immigrants.....	75.38	34
2.2.3 Social mobility.....	37.57	90
Gender Equality		
2.2.4 Economic empowerment of women.....	62.83	102
2.2.5 Gender parity in high-skilled jobs.....	24.24	114
2.2.6 Leadership opportunities for women.....	47.65	79

	Score	Rank
3 GROW..... 20.55 109		
3.1 Formal Education.....	2.83	127
Enrolment		
3.1.1 Vocational enrolment.....	3.43	104
3.1.2 Tertiary enrolment.....	3.61	116
Quality		
3.1.3 Tertiary education expenditure.....	4.27	93
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	23.84	92
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	11.61	93
3.2.3 Employee development.....	59.90	48
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	34.99	97
Empowerment		
3.3.1 Delegation of authority.....	40.83	84
3.3.2 Youth inclusion.....	84.42	29
Collaboration		
3.3.3 Use of virtual social networks.....	12.69	115
3.3.4 Use of virtual professional networks.....	2.03	122

4 RETAIN..... 18.96 131		
4.1 Sustainability.....	19.43	126
4.1.1 Pension coverage.....	n/a	n/a
4.1.2 Social protection.....	15.83	117
4.1.3 Brain retention.....	20.93	111
4.1.4 Environmental performance.....	21.53	106
4.2 Lifestyle.....	18.50	130
4.2.1 Personal rights.....	33.72	113
4.2.2 Personal safety.....	14.57	126
4.2.3 Physician density.....	2.79	109
4.2.4 Sanitation.....	22.91	124

5 VOCATIONAL AND TECHNICAL SKILLS..... 23.76 126		
5.1 Mid-Level Skills.....	2.62	133
5.1.1 Workforce with secondary education.....	1.26	129
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	3.97	127
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	44.90	99
5.2.1 Ease of finding skilled employees.....	45.33	68
5.2.2 Relevance of education system to the economy.....	22.08	107
5.2.3 Skills matching.....	26.26	94
5.2.4 Highly educated unemployment.....	85.95	36

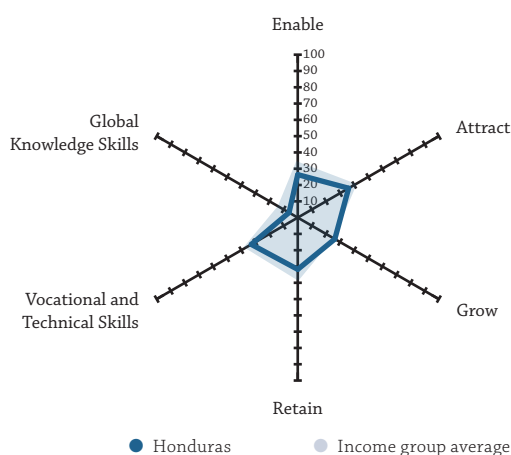
6 GLOBAL KNOWLEDGE SKILLS..... 5.84 117		
6.1 High-Level Skills.....	9.55	107
6.1.1 Workforce with tertiary education.....	12.02	94
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	12.37	102
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	4.25	116
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	2.13	125
6.2.1 Innovation output.....	6.91	121
6.2.2 High-value exports.....	1.39	115
6.2.3 Software development.....	0.03	128
6.2.4 New business density.....	2.27	99
6.2.5 Scientific journal articles.....	0.05	129

HONDURAS

Key Indicators

Rank (out of 133).....	110
Income group.....	Lower-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	10.06

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 26.39 118		
1.1 Regulatory Landscape.....	25.31	113
1.1.1 Government effectiveness.....	27.23	105
1.1.2 Rule of law.....	21.51	121
1.1.3 Political stability.....	44.11	96
1.1.4 Regulatory quality.....	27.90	100
1.1.5 Corruption.....	5.80	126
1.2 Market Landscape.....	23.92	116
1.2.1 Extent of market dominance.....	6.82	131
1.2.2 Domestic credit to private sector.....	30.13	51
1.2.3 Cluster development.....	34.94	92
1.2.4 R&D expenditure.....	0.55	111
1.2.5 ICT infrastructure.....	20.41	115
1.2.6 Urbanisation.....	50.67	82
1.3 Business and Labour Landscape.....	29.93	122
Labour Market		
1.3.1 Labour rights.....	41.82	92
1.3.2 Labour-employer cooperation.....	36.95	84
Management Practice		
1.3.3 Professional management.....	28.54	116
1.3.4 Relationship of pay to productivity.....	33.99	119
Technology Adoption		
1.3.5 Enterprise software.....	19.58	72
1.3.6 Cloud computing.....	9.37	105
1.3.7 Firms with website.....	39.28	77
2 ATTRACT..... 36.06 118		
2.1 External Openness.....	22.94	121
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	54.96	83
Attract People		
2.1.3 Migrant stock.....	7.33	126
2.1.4 International students.....	3.06	91
2.1.5 Brain gain.....	26.43	111
2.2 Internal Openness.....	49.18	100
Social Inclusion		
2.2.1 Tolerance of minorities.....	51.09	56
2.2.2 Tolerance of immigrants.....	38.46	103
2.2.3 Social mobility.....	18.78	123
Gender Equality		
2.2.4 Economic empowerment of women.....	64.60	98
2.2.5 Gender parity in high-skilled jobs.....	82.41	49
2.2.6 Leadership opportunities for women.....	39.73	100

GDP per capita (PPP US\$).....	6,252.57
GDP (US\$ billions).....	28.49
GTCI score.....	26.59
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW..... 26.28 89		
3.1 Formal Education.....	20.12	74
Enrolment		
3.1.1 Vocational enrolment.....	59.23	9
3.1.2 Tertiary enrolment.....	16.17	88
Quality		
3.1.3 Tertiary education expenditure.....	5.06	88
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	24.85	89
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	55.94	23
3.2.3 Employee development.....	39.19	105
3.2.4 Formal and non-formal studies.....	4.27	62
3.3 Access to Growth Opportunities.....	33.88	102
Empowerment		
3.3.1 Delegation of authority.....	33.43	97
3.3.2 Youth inclusion.....	51.63	89
Collaboration		
3.3.3 Use of virtual social networks.....	41.70	95
3.3.4 Use of virtual professional networks.....	8.78	92

4 RETAIN..... 31.77 107		
4.1 Sustainability.....	22.97	116
4.1.1 Pension coverage.....	9.25	114
4.1.2 Social protection.....	12.23	121
4.1.3 Brain retention.....	40.57	61
4.1.4 Environmental performance.....	29.83	88
4.2 Lifestyle.....	40.57	101
4.2.1 Personal rights.....	57.25	87
4.2.2 Personal safety.....	15.65	125
4.2.3 Physician density.....	7.19	103
4.2.4 Sanitation.....	82.19	88

5 VOCATIONAL AND TECHNICAL SKILLS..... 32.89 106		
5.1 Mid-Level Skills.....	28.92	84
5.1.1 Workforce with secondary education.....	31.04	90
5.1.2 Population with secondary education.....	27.03	69
5.1.3 Technicians and associate professionals.....	28.67	66
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	36.87	119
5.2.1 Ease of finding skilled employees.....	30.35	107
5.2.2 Relevance of education system to the economy.....	9.57	129
5.2.3 Skills matching.....	41.46	88
5.2.4 Highly educated unemployment.....	66.11	83

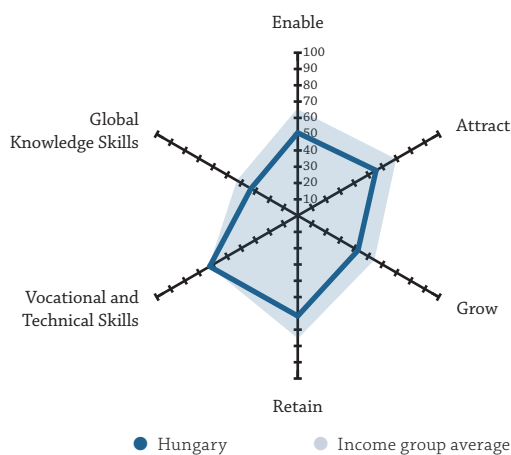
6 GLOBAL KNOWLEDGE SKILLS..... 6.17 113		
6.1 High-Level Skills.....	8.03	114
6.1.1 Workforce with tertiary education.....	7.80	105
6.1.2 Population with tertiary education.....	12.29	76
6.1.3 Professionals.....	6.75	118
6.1.4 Researchers.....	0.28	99
6.1.5 Senior officials and managers.....	13.04	90
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	4.31	116
6.2.1 Innovation output.....	12.59	103
6.2.2 High-value exports.....	3.31	103
6.2.3 Software development.....	1.19	97
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	0.15	126

HUNGARY

Key Indicators

Rank (out of 133).....	37
Income group	High income
Regional group	Europe
Population (millions)	9.71

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....	50.82	45
1.1 Regulatory Landscape.....	57.52	43
1.1.1 Government effectiveness.....	56.45	41
1.1.2 Rule of law.....	59.53	43
1.1.3 Political stability.....	82.88	22
1.1.4 Regulatory quality.....	53.99	48
1.1.5 Corruption.....	34.78	59
1.2 Market Landscape.....	46.18	54
1.2.1 Extent of market dominance.....	29.72	98
1.2.2 Domestic credit to private sector.....	15.04	85
1.2.3 Cluster development.....	46.57	56
1.2.4 R&D expenditure.....	29.44	25
1.2.5 ICT infrastructure.....	89.26	24
1.2.6 Urbanisation.....	67.06	51
1.3 Business and Labour Landscape.....	48.76	50
Labour Market		
1.3.1 Labour rights.....	90.35	35
1.3.2 Labour-employer cooperation.....	40.99	69
Management Practice		
1.3.3 Professional management.....	53.08	66
1.3.4 Relationship of pay to productivity.....	43.21	104
Technology Adoption		
1.3.5 Enterprise software.....	31.62	34
1.3.6 Cloud computing.....	19.77	45
1.3.7 Firms with website.....	62.29	49
2 ATTRACT.....	55.49	49
2.1 External Openness.....	58.25	34
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	93.24	18
2.1.2 Financial globalisation.....	77.86	31
Attract People		
2.1.3 Migrant stock.....	43.45	60
2.1.4 International students.....	48.32	15
2.1.5 Brain gain.....	28.40	104
2.2 Internal Openness.....	52.74	83
Social Inclusion		
2.2.1 Tolerance of minorities.....	66.30	33
2.2.2 Tolerance of immigrants.....	0.00	130
2.2.3 Social mobility.....	29.33	110
Gender Equality		
2.2.4 Economic empowerment of women.....	95.58	20
2.2.5 Gender parity in high-skilled jobs.....	78.84	55
2.2.6 Leadership opportunities for women.....	46.36	83

GDP per capita (PPP US\$)	36,752.52
GDP (US\$ billions)	182.28
GTCI score.....	51.03
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....	42.68	40
3.1 Formal Education.....	38.97	33
Enrolment		
3.1.1 Vocational enrolment.....	59.80	6
3.1.2 Tertiary enrolment.....	34.55	61
Quality		
3.1.3 Tertiary education expenditure.....	21.55	30
3.1.4 Reading, maths, and science.....	59.29	32
3.1.5 University ranking.....	19.66	58
3.2 Lifelong Learning.....	38.30	48
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	30.21	60
3.2.3 Employee development.....	47.59	81
3.2.4 Formal and non-formal studies.....	75.42	11
3.3 Access to Growth Opportunities.....	50.78	50
Empowerment		
3.3.1 Delegation of authority.....	38.82	87
3.3.2 Youth inclusion.....	84.73	27
Collaboration		
3.3.3 Use of virtual social networks.....	64.15	57
3.3.4 Use of virtual professional networks.....	15.42	70

4 RETAIN.....	61.61	42
4.1 Sustainability.....	47.05	67
4.1.1 Pension coverage.....	90.35	55
4.1.2 Social protection.....	15.44	119
4.1.3 Brain retention.....	21.04	110
4.1.4 Environmental performance.....	61.36	31
4.2 Lifestyle.....	76.17	33
4.2.1 Personal rights.....	76.82	62
4.2.2 Personal safety.....	74.55	28
4.2.3 Physician density.....	55.54	31
4.2.4 Sanitation.....	97.79	44

5 VOCATIONAL AND TECHNICAL SKILLS.....	62.41	23
5.1 Mid-Level Skills.....	65.67	14
5.1.1 Workforce with secondary education.....	81.93	13
5.1.2 Population with secondary education.....	78.53	11
5.1.3 Technicians and associate professionals.....	61.38	23
5.1.4 Labour productivity per employee.....	40.86	43
5.2 Employability.....	59.14	61
5.2.1 Ease of finding skilled employees.....	19.67	122
5.2.2 Relevance of education system to the economy.....	35.00	85
5.2.3 Skills matching.....	91.35	4
5.2.4 Highly educated unemployment.....	90.52	17

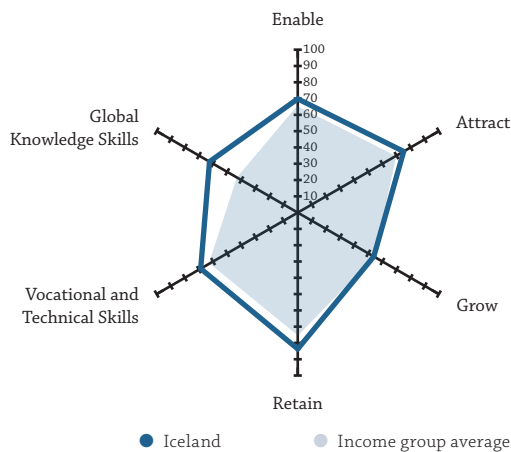
6 GLOBAL KNOWLEDGE SKILLS.....	33.17	35
6.1 High-Level Skills.....	34.97	42
6.1.1 Workforce with tertiary education.....	37.40	44
6.1.2 Population with tertiary education.....	32.83	43
6.1.3 Professionals.....	44.06	33
6.1.4 Researchers.....	49.95	23
6.1.5 Senior officials and managers.....	28.36	56
6.1.6 Digital skills.....	17.18	53
6.2 Talent Impact.....	31.38	31
6.2.1 Innovation output.....	52.48	30
6.2.2 High-value exports.....	31.27	28
6.2.3 Software development.....	23.88	32
6.2.4 New business density.....	22.00	36
6.2.5 Scientific journal articles.....	27.27	38

ICELAND

Key Indicators

Rank (out of 133).....	12
Income group	High income
Regional group	Europe
Population (millions)	0.37

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....69.82 18		
1.1 Regulatory Landscape.....	85.92	10
1.1.1 Government effectiveness.....	79.85	14
1.1.2 Rule of law.....	92.77	9
1.1.3 Political stability.....	97.47	3
1.1.4 Regulatory quality.....	79.78	16
1.1.5 Corruption.....	79.71	12
1.2 Market Landscape.....	57.22	28
1.2.1 Extent of market dominance.....	40.38	71
1.2.2 Domestic credit to private sector.....	44.45	29
1.2.3 Cluster development.....	51.66	43
1.2.4 R&D expenditure.....	45.37	12
1.2.5 ICT infrastructure.....	68.55	50
1.2.6 Urbanisation.....	92.89	7
1.3 Business and Labour Landscape.....	66.33	19
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	78.46	10
Management Practice		
1.3.3 Professional management.....	74.95	23
1.3.4 Relationship of pay to productivity.....	71.02	22
Technology Adoption		
1.3.5 Enterprise software.....	29.21	40
1.3.6 Cloud computing.....	26.21	30
1.3.7 Firms with website.....	84.42	16
2 ATTRACT.....75.07 15		
2.1 External Openness.....	54.32	46
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	55.95	64
2.1.2 Financial globalisation.....	54.51	84
Attract People		
2.1.3 Migrant stock.....	68.47	22
2.1.4 International students.....	32.35	31
2.1.5 Brain gain.....	60.33	31
2.2 Internal Openness.....	95.83	1
Social Inclusion		
2.2.1 Tolerance of minorities.....	100.00	1
2.2.2 Tolerance of immigrants.....	83.08	21
2.2.3 Social mobility.....	97.24	3
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	96.87	10
2.2.6 Leadership opportunities for women.....	97.79	3

GDP per capita (PPP US\$)	57,646.41
GDP (US\$ billions)	25.46
GTGI score.....	68.96
GTGI score (income group average)	59.85

	Score	Rank
3 GROW..... 53.89 23		
3.1 Formal Education.....	34.68	39
Enrolment		
3.1.1 Vocational enrolment.....	27.78	45
3.1.2 Tertiary enrolment.....	51.68	23
Quality		
3.1.3 Tertiary education expenditure.....	33.81	19
3.1.4 Reading, maths, and science.....	60.14	29
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	37.07	49
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	74.14	27
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	89.91	1
Empowerment		
3.3.1 Delegation of authority.....	80.79	9
3.3.2 Youth inclusion.....	96.44	4
Collaboration		
3.3.3 Use of virtual social networks.....	82.43	6
3.3.4 Use of virtual professional networks.....	100.00	1

4 RETAIN..... 83.68 11		
4.1 Sustainability.....	77.51	15
4.1.1 Pension coverage.....	70.93	70
4.1.2 Social protection.....	85.20	11
4.1.3 Brain retention.....	79.51	10
4.1.4 Environmental performance.....	74.41	10
4.2 Lifestyle.....	89.85	5
4.2.1 Personal rights.....	96.24	18
4.2.2 Personal safety.....	99.09	3
4.2.3 Physician density.....	65.39	20
4.2.4 Sanitation.....	98.66	37

5 VOCATIONAL AND TECHNICAL SKILLS..... 68.78 10		
5.1 Mid-Level Skills.....	56.28	32
5.1.1 Workforce with secondary education.....	56.34	50
5.1.2 Population with secondary education.....	49.79	43
5.1.3 Technicians and associate professionals.....	58.45	27
5.1.4 Labour productivity per employee.....	60.55	19
5.2 Employability.....	81.28	2
5.2.1 Ease of finding skilled employees.....	78.32	3
5.2.2 Relevance of education system to the economy.....	75.46	12
5.2.3 Skills matching.....	87.22	14
5.2.4 Highly educated unemployment.....	84.14	39

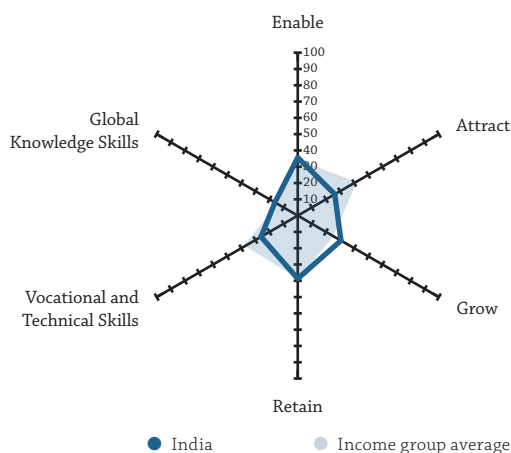
6 GLOBAL KNOWLEDGE SKILLS..... 62.53 3		
6.1 High-Level Skills.....	62.01	2
6.1.1 Workforce with tertiary education.....	47.62	30
6.1.2 Population with tertiary education.....	51.68	15
6.1.3 Professionals.....	57.05	15
6.1.4 Researchers.....	69.83	7
6.1.5 Senior officials and managers.....	78.66	4
6.1.6 Digital skills.....	67.22	5
6.2 Talent Impact.....	63.06	7
6.2.1 Innovation output.....	67.91	16
6.2.2 High-value exports.....	50.30	11
6.2.3 Software development.....	62.66	12
6.2.4 New business density.....	57.55	11
6.2.5 Scientific journal articles.....	76.87	7

INDIA

Key Indicators

Rank (out of 133).....	101
Income group.....	Lower-middle income
Regional group.....	Central and Southern Asia
Population (millions).....	1,393.41

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....35.65 89		
1.1 Regulatory Landscape.....40.14	78	
1.1.1 Government effectiveness.....51.62	48	
1.1.2 Rule of law.....45.82	60	
1.1.3 Political stability.....35.38	114	
1.1.4 Regulatory quality.....37.45	81	
1.1.5 Corruption.....30.43	69	
1.2 Market Landscape.....35.24	78	
1.2.1 Extent of market dominance.....40.82	66	
1.2.2 Domestic credit to private sector.....22.94	66	
1.2.3 Cluster development.....34.90	93	
1.2.4 R&D expenditure.....11.90	52	
1.2.5 ICT infrastructure.....76.73	39	
1.2.6 Urbanisation.....24.14	118	
1.3 Business and Labour Landscape.....31.57	116	
Labour Market		
1.3.1 Labour rights.....n/a	n/a	
1.3.2 Labour-employer cooperation.....17.39	121	
Management Practice		
1.3.3 Professional management.....47.37	76	
1.3.4 Relationship of pay to productivity.....50.10	75	
Technology Adoption		
1.3.5 Enterprise software.....14.24	99	
1.3.6 Cloud computing.....14.80	71	
1.3.7 Firms with website.....45.52	69	
2 ATTRACT.....26.23 130		
2.1 External Openness.....20.80	125	
Attract Business		
2.1.1 FDI regulatory restrictiveness.....45.14	68	
2.1.2 Financial globalisation.....21.91	122	
Attract People		
2.1.3 Migrant stock.....8.37	124	
2.1.4 International students.....0.41	110	
2.1.5 Brain gain.....28.19	106	
2.2 Internal Openness.....31.66	127	
Social Inclusion		
2.2.1 Tolerance of minorities.....16.30	112	
2.2.2 Tolerance of immigrants.....50.77	81	
2.2.3 Social mobility.....25.33	117	
Gender Equality		
2.2.4 Economic empowerment of women.....63.72	101	
2.2.5 Gender parity in high-skilled jobs.....15.47	120	
2.2.6 Leadership opportunities for women.....18.35	126	

GDP per capita (PPP US\$).....	7,333.51
GDP (US\$ billions).....	3,173.40
GTCI score.....	28.90
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....30.61 72		
3.1 Formal Education.....20.13	73	
Enrolment		
3.1.1 Vocational enrolment.....4.57	98	
3.1.2 Tertiary enrolment.....18.88	84	
Quality		
3.1.3 Tertiary education expenditure.....8.86	67	
3.1.4 Reading, maths, and science.....n/a	n/a	
3.1.5 University ranking.....48.23	21	
3.2 Lifelong Learning.....43.47	38	
3.2.1 Business masters education.....54.39	17	
3.2.2 Prevalence of training in firms.....39.44	44	
3.2.3 Employee development.....36.58	111	
3.2.4 Formal and non-formal studies.....n/a	n/a	
3.3 Access to Growth Opportunities.....28.24	116	
Empowerment		
3.3.1 Delegation of authority.....27.58	108	
3.3.2 Youth inclusion.....50.19	92	
Collaboration		
3.3.3 Use of virtual social networks.....26.71	104	
3.3.4 Use of virtual professional networks.....8.46	96	

4 RETAIN.....38.71 96		
4.1 Sustainability.....32.28	94	
4.1.1 Pension coverage.....41.57	83	
4.1.2 Social protection.....16.43	116	
4.1.3 Brain retention.....71.11	23	
4.1.4 Environmental performance.....0.00	133	
4.2 Lifestyle.....45.15	94	
4.2.1 Personal rights.....60.76	84	
4.2.2 Personal safety.....40.42	87	
4.2.3 Physician density.....10.95	97	
4.2.4 Sanitation.....68.46	99	

5 VOCATIONAL AND TECHNICAL SKILLS.....25.98 118		
5.1 Mid-Level Skills.....15.83	108	
5.1.1 Workforce with secondary education.....14.85	112	
5.1.2 Population with secondary education.....22.77	78	
5.1.3 Technicians and associate professionals.....15.25	99	
5.1.4 Labour productivity per employee.....10.44	90	
5.2 Employability.....36.14	121	
5.2.1 Ease of finding skilled employees.....9.87	132	
5.2.2 Relevance of education system to the economy.....32.58	90	
5.2.3 Skills matching.....47.42	80	
5.2.4 Highly educated unemployment.....54.67	100	

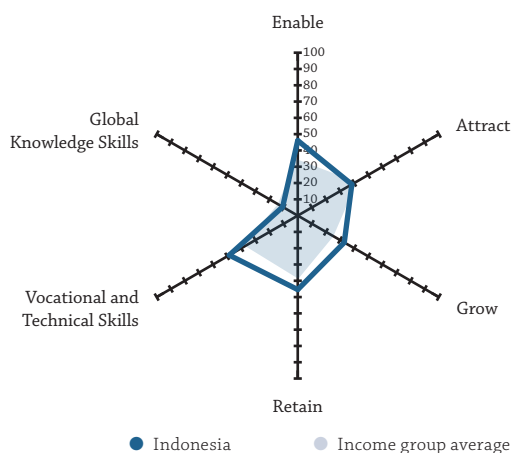
6 GLOBAL KNOWLEDGE SKILLS.....16.19 81		
6.1 High-Level Skills.....18.91	83	
6.1.1 Workforce with tertiary education.....16.98	90	
6.1.2 Population with tertiary education.....12.09	77	
6.1.3 Professionals.....9.75	112	
6.1.4 Researchers.....2.78	79	
6.1.5 Senior officials and managers.....52.96	16	
6.1.6 Digital skills.....n/a	n/a	
6.2 Talent Impact.....13.46	70	
6.2.1 Innovation output.....41.13	44	
6.2.2 High-value exports.....19.71	46	
6.2.3 Software development.....1.89	83	
6.2.4 New business density.....0.63	114	
6.2.5 Scientific journal articles.....3.96	80	

INDONESIA

Key Indicators

Rank (out of 133)	82
Income group	Lower-middle income
Regional group	Eastern, Southeastern Asia and Oceania
Population (millions)	276.36

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	46.08	56
1.1 Regulatory Landscape	40.96	75
1.1.1 Government effectiveness	51.19	50
1.1.2 Rule of law	37.52	81
1.1.3 Political stability	45.34	93
1.1.4 Regulatory quality	43.20	68
1.1.5 Corruption	27.54	76
1.2 Market Landscape	50.92	37
1.2.1 Extent of market dominance	76.47	12
1.2.2 Domestic credit to private sector	15.34	83
1.2.3 Cluster development	81.71	9
1.2.4 R&D expenditure	4.99	81
1.2.5 ICT infrastructure	78.40	38
1.2.6 Urbanisation	48.63	89
1.3 Business and Labour Landscape	46.37	57
Labour Market		
1.3.1 Labour rights	77.21	65
1.3.2 Labour-employer cooperation	62.39	32
Management Practice		
1.3.3 Professional management	78.74	18
1.3.4 Relationship of pay to productivity	80.69	8
Technology Adoption		
1.3.5 Enterprise software	5.33	124
1.3.6 Cloud computing	7.54	114
1.3.7 Firms with website	12.71	106
2 ATTRACT	38.33	109
2.1 External Openness	22.64	122
Attract Business		
2.1.1 FDI regulatory restrictiveness	7.30	77
2.1.2 Financial globalisation	38.77	104
Attract People		
2.1.3 Migrant stock	1.77	131
2.1.4 International students	0.26	111
2.1.5 Brain gain	65.13	24
2.2 Internal Openness	54.01	76
Social Inclusion		
2.2.1 Tolerance of minorities	28.26	88
2.2.2 Tolerance of immigrants	30.77	118
2.2.3 Social mobility	63.04	38
Gender Equality		
2.2.4 Economic empowerment of women	49.56	114
2.2.5 Gender parity in high-skilled jobs	87.26	39
2.2.6 Leadership opportunities for women	65.20	37

GDP per capita (PPP US\$)	12,904.34
GDP (US\$ billions)	1,186.09
GTCI score	37.00
GTCI score (income group average)	30.02

	Score	Rank
3 GROW	32.98	66
3.1 Formal Education	23.82	66
Enrolment		
3.1.1 Vocational enrolment	31.10	38
3.1.2 Tertiary enrolment	23.56	77
Quality		
3.1.3 Tertiary education expenditure	4.93	89
3.1.4 Reading, maths, and science	19.51	71
3.1.5 University ranking	40.02	32
3.2 Lifelong Learning	25.35	84
3.2.1 Business masters education	20.71	43
3.2.2 Prevalence of training in firms	0.00	100
3.2.3 Employee development	79.88	16
3.2.4 Formal and non-formal studies	0.81	79
3.3 Access to Growth Opportunities	49.78	53
Empowerment		
3.3.1 Delegation of authority	70.12	18
3.3.2 Youth inclusion	60.52	78
Collaboration		
3.3.3 Use of virtual social networks	58.21	74
3.3.4 Use of virtual professional networks	10.28	84

4 RETAIN	45.41	87
4.1 Sustainability	35.85	89
4.1.1 Pension coverage	13.41	107
4.1.2 Social protection	48.96	49
4.1.3 Brain retention	65.27	27
4.1.4 Environmental performance	15.76	123
4.2 Lifestyle	54.96	76
4.2.1 Personal rights	61.46	82
4.2.2 Personal safety	64.10	43
4.2.3 Physician density	9.15	100
4.2.4 Sanitation	85.14	83
5 VOCATIONAL AND TECHNICAL SKILLS	48.51	60
5.1 Mid-Level Skills	26.86	90
5.1.1 Workforce with secondary education	45.34	72
5.1.2 Population with secondary education	37.55	57
5.1.3 Technicians and associate professionals	10.90	110
5.1.4 Labour productivity per employee	13.64	82
5.2 Employability	70.15	21
5.2.1 Ease of finding skilled employees	63.55	21
5.2.2 Relevance of education system to the economy	75.47	11
5.2.3 Skills matching	61.96	65
5.2.4 Highly educated unemployment	79.63	54

6 GLOBAL KNOWLEDGE SKILLS	10.70	100
6.1 High-Level Skills	12.58	101
6.1.1 Workforce with tertiary education	15.57	92
6.1.2 Population with tertiary education	13.64	75
6.1.3 Professionals	13.53	96
6.1.4 Researchers	4.42	72
6.1.5 Senior officials and managers	12.59	91
6.1.6 Digital skills	15.70	55
6.2 Talent Impact	8.82	86
6.2.1 Innovation output	21.81	83
6.2.2 High-value exports	15.00	59
6.2.3 Software development	1.68	87
6.2.4 New business density	1.62	105
6.2.5 Scientific journal articles	3.97	79

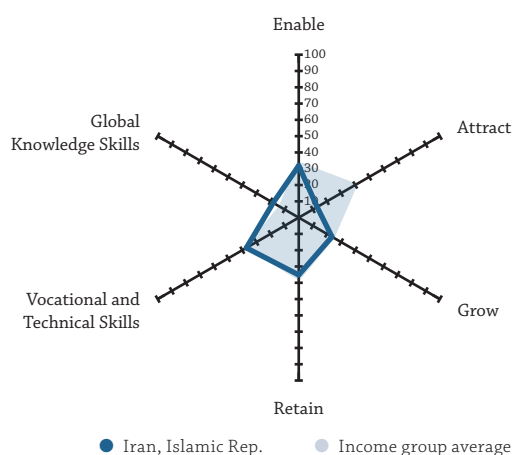
IRAN, ISLAMIC REP.

Key Indicators

Rank (out of 133).....	112
Income group.....	Lower-middle income
Regional group.....	Central and Southern Asia
Population (millions).....	85.03

GDP per capita (PPP US\$)	15,791.16
GDP (US\$ billions)	231.55
GTCI score.....	26.48
GTCI score (income group average)	30.02

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....31.87 107		
1.1 Regulatory Landscape.....	13.08	129
1.1.1 Government effectiveness.....	17.46	124
1.1.2 Rule of law.....	23.87	115
1.1.3 Political stability.....	13.20	128
1.1.4 Regulatory quality.....	2.19	132
1.1.5 Corruption.....	8.70	121
1.2 Market Landscape.....	43.20	59
1.2.1 Extent of market dominance.....	54.22	42
1.2.2 Domestic credit to private sector.....	25.63	58
1.2.3 Cluster development.....	38.39	80
1.2.4 R&D expenditure.....	16.10	44
1.2.5 ICT infrastructure.....	53.72	76
1.2.6 Urbanisation.....	71.14	45
1.3 Business and Labour Landscape.....	39.34	90
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	9.75	126
Management Practice		
1.3.3 Professional management.....	21.73	126
1.3.4 Relationship of pay to productivity.....	29.73	124
Technology Adoption		
1.3.5 Enterprise software.....	85.93	3
1.3.6 Cloud computing.....	49.57	11
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....13.03 133		
2.1 External Openness.....	9.48	133
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	0.00	131
Attract People		
2.1.3 Migrant stock.....	25.77	95
2.1.4 International students.....	2.84	93
2.1.5 Brain gain.....	9.30	128
2.2 Internal Openness.....	16.58	133
Social Inclusion		
2.2.1 Tolerance of minorities.....	4.35	125
2.2.2 Tolerance of immigrants.....	41.54	97
2.2.3 Social mobility.....	10.73	128
Gender Equality		
2.2.4 Economic empowerment of women.....	2.65	132
2.2.5 Gender parity in high-skilled jobs.....	33.55	110
2.2.6 Leadership opportunities for women.....	6.65	132

	Score	Rank
3 GROW.....23.53 98		
3.1 Formal Education.....	24.32	63
Enrolment		
3.1.1 Vocational enrolment.....	24.57	52
3.1.2 Tertiary enrolment.....	38.49	52
Quality		
3.1.3 Tertiary education expenditure.....	7.18	77
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	27.05	46
3.2 Lifelong Learning.....	12.44	130
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	24.88	125
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	33.82	103
Empowerment		
3.3.1 Delegation of authority.....	8.56	128
3.3.2 Youth inclusion.....	46.31	102
Collaboration		
3.3.3 Use of virtual social networks.....	46.58	89
3.3.4 Use of virtual professional networks.....	n/a	n/a

4 RETAIN.....35.18 104		
4.1 Sustainability.....	25.13	109
4.1.1 Pension coverage.....	20.02	97
4.1.2 Social protection.....	32.14	80
4.1.3 Brain retention.....	21.90	105
4.1.4 Environmental performance.....	26.44	96
4.2 Lifestyle.....	45.24	93
4.2.1 Personal rights.....	28.54	118
4.2.2 Personal safety.....	38.57	88
4.2.3 Physician density.....	24.52	80
4.2.4 Sanitation.....	89.31	75

5 VOCATIONAL AND TECHNICAL SKILLS.....37.13 96		
5.1 Mid-Level Skills.....	30.37	80
5.1.1 Workforce with secondary education.....	33.63	84
5.1.2 Population with secondary education.....	34.99	61
5.1.3 Technicians and associate professionals.....	22.02	79
5.1.4 Labour productivity per employee.....	30.84	52
5.2 Employability.....	43.88	104
5.2.1 Ease of finding skilled employees.....	37.25	91
5.2.2 Relevance of education system to the economy.....	14.00	122
5.2.3 Skills matching.....	68.58	54
5.2.4 Highly educated unemployment.....	55.71	97

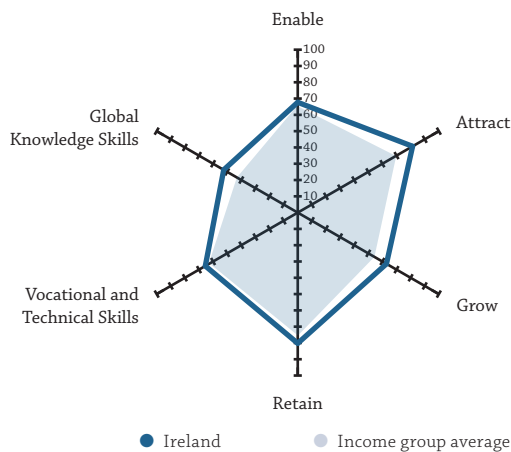
6 GLOBAL KNOWLEDGE SKILLS.....18.14 75		
6.1 High-Level Skills.....	22.08	70
6.1.1 Workforce with tertiary education.....	34.33	51
6.1.2 Population with tertiary education.....	30.17	44
6.1.3 Professionals.....	25.51	63
6.1.4 Researchers.....	18.95	46
6.1.5 Senior officials and managers.....	17.94	76
6.1.6 Digital skills.....	5.59	68
6.2 Talent Impact.....	14.19	69
6.2.1 Innovation output.....	41.67	43
6.2.2 High-value exports.....	1.08	119
6.2.3 Software development.....	1.48	90
6.2.4 New business density.....	3.25	90
6.2.5 Scientific journal articles.....	23.49	41

IRELAND

Key Indicators

Rank (out of 133).....	13
Income group.....	High income
Regional group.....	Europe
Population (millions).....	5.03

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....67.70	19	
1.1 Regulatory Landscape.....	81.98	16
1.1.1 Government effectiveness.....	78.77	15
1.1.2 Rule of law.....	85.01	16
1.1.3 Political stability.....	85.94	14
1.1.4 Regulatory quality.....	80.47	15
1.1.5 Corruption.....	79.71	12
1.2 Market Landscape.....	52.89	31
1.2.1 Extent of market dominance.....	62.65	32
1.2.2 Domestic credit to private sector.....	12.37	91
1.2.3 Cluster development.....	64.44	29
1.2.4 R&D expenditure.....	22.52	33
1.2.5 ICT infrastructure.....	97.73	5
1.2.6 Urbanisation.....	57.65	69
1.3 Business and Labour Landscape.....	68.24	17
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	73.66	14
Management Practice		
1.3.3 Professional management.....	89.19	9
1.3.4 Relationship of pay to productivity.....	77.28	11
Technology Adoption		
1.3.5 Enterprise software.....	18.28	82
1.3.6 Cloud computing.....	35.07	23
1.3.7 Firms with website.....	84.18	17
2 ATTRACT.....81.39	6	
2.1 External Openness.....	73.84	13
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	89.46	26
2.1.2 Financial globalisation.....	98.04	4
Attract People		
2.1.3 Migrant stock.....	66.61	25
2.1.4 International students.....	41.05	21
2.1.5 Brain gain.....	74.03	16
2.2 Internal Openness.....	88.94	5
Social Inclusion		
2.2.1 Tolerance of minorities.....	100.00	1
2.2.2 Tolerance of immigrants.....	93.85	6
2.2.3 Social mobility.....	73.44	21
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	94.84	14
2.2.6 Leadership opportunities for women.....	71.53	28

GDP per capita (PPP US\$).....	106,455.75
GDP (US\$ billions).....	498.56
GTCI score.....	68.36
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....62.87	14	
3.1 Formal Education.....	47.05	20
Enrolment		
3.1.1 Vocational enrolment.....	27.97	44
3.1.2 Tertiary enrolment.....	50.04	26
Quality		
3.1.3 Tertiary education expenditure.....	39.72	14
3.1.4 Reading, maths, and science.....	69.61	9
3.1.5 University ranking.....	47.92	22
3.2 Lifelong Learning.....	64.35	16
3.2.1 Business masters education.....	66.58	10
3.2.2 Prevalence of training in firms.....	72.87	9
3.2.3 Employee development.....	85.04	9
3.2.4 Formal and non-formal studies.....	32.91	39
3.3 Access to Growth Opportunities.....	77.20	9
Empowerment		
3.3.1 Delegation of authority.....	81.08	8
3.3.2 Youth inclusion.....	90.62	16
Collaboration		
3.3.3 Use of virtual social networks.....	67.17	48
3.3.4 Use of virtual professional networks.....	69.91	5

4 RETAIN.....80.22	15	
4.1 Sustainability.....	76.98	16
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	70.83	24
4.1.3 Brain retention.....	71.83	19
4.1.4 Environmental performance.....	65.25	24
4.2 Lifestyle.....	83.45	19
4.2.1 Personal rights.....	98.94	5
4.2.2 Personal safety.....	89.41	10
4.2.3 Physician density.....	54.97	32
4.2.4 Sanitation.....	90.49	74

5 VOCATIONAL AND TECHNICAL SKILLS.....65.50	16	
5.1 Mid-Level Skills.....	57.35	31
5.1.1 Workforce with secondary education.....	49.42	64
5.1.2 Population with secondary education.....	47.89	47
5.1.3 Technicians and associate professionals.....	50.89	37
5.1.4 Labour productivity per employee.....	81.20	3
5.2 Employability.....	73.65	14
5.2.1 Ease of finding skilled employees.....	52.27	53
5.2.2 Relevance of education system to the economy.....	84.99	5
5.2.3 Skills matching.....	76.12	40
5.2.4 Highly educated unemployment.....	81.23	51

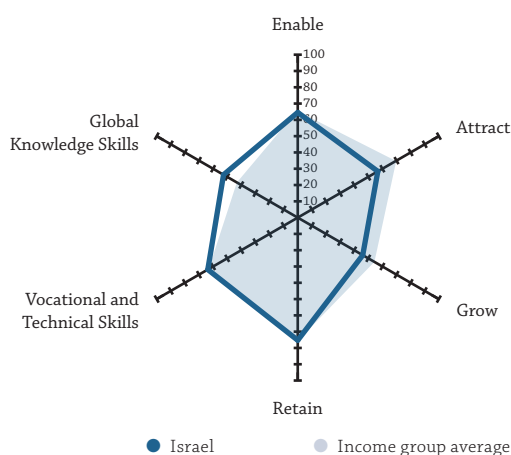
6 GLOBAL KNOWLEDGE SKILLS.....52.47	16	
6.1 High-Level Skills.....	51.46	17
6.1.1 Workforce with tertiary education.....	62.78	8
6.1.2 Population with tertiary education.....	48.84	20
6.1.3 Professionals.....	59.32	12
6.1.4 Researchers.....	54.68	20
6.1.5 Senior officials and managers.....	53.62	15
6.1.6 Digital skills.....	29.51	30
6.2 Talent Impact.....	53.49	15
6.2.1 Innovation output.....	64.72	18
6.2.2 High-value exports.....	46.16	14
6.2.3 Software development.....	60.58	14
6.2.4 New business density.....	37.31	22
6.2.5 Scientific journal articles.....	58.69	13

ISRAEL

Key Indicators

Rank (out of 133).....	23
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	9.36

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....64.54	24	
1.1 Regulatory Landscape.....	61.97	36
1.1.1 Government effectiveness.....	69.24	26
1.1.2 Rule of law.....	72.05	28
1.1.3 Political stability.....	36.31	111
1.1.4 Regulatory quality.....	74.27	21
1.1.5 Corruption.....	57.97	30
1.2 Market Landscape.....	68.87	13
1.2.1 Extent of market dominance.....	45.34	58
1.2.2 Domestic credit to private sector.....	29.57	52
1.2.3 Cluster development.....	59.66	32
1.2.4 R&D expenditure.....	100.00	1
1.2.5 ICT infrastructure.....	87.40	25
1.2.6 Urbanisation.....	91.28	8
1.3 Business and Labour Landscape.....	62.78	21
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	64.38	28
Management Practice		
1.3.3 Professional management.....	77.49	19
1.3.4 Relationship of pay to productivity.....	68.15	29
Technology Adoption		
1.3.5 Enterprise software.....	39.38	29
1.3.6 Cloud computing.....	29.10	28
1.3.7 Firms with website.....	60.94	51
2 ATTRACT.....56.76	47	
2.1 External Openness.....	55.37	43
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	69.19	54
2.1.2 Financial globalisation.....	61.51	67
Attract People		
2.1.3 Migrant stock.....	79.60	9
2.1.4 International students.....	10.56	71
2.1.5 Brain gain.....	55.96	41
2.2 Internal Openness.....	58.15	59
Social Inclusion		
2.2.1 Tolerance of minorities.....	32.61	86
2.2.2 Tolerance of immigrants.....	27.69	121
2.2.3 Social mobility.....	64.21	36
Gender Equality		
2.2.4 Economic empowerment of women.....	72.57	76
2.2.5 Gender parity in high-skilled jobs.....	91.03	23
2.2.6 Leadership opportunities for women.....	60.79	48

GDP per capita (PPP US\$)	43,721.62
GDP (US\$ billions)	481.59
GTCI score.....	59.83
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....46.07	32	
3.1 Formal Education.....	35.74	36
Enrolment		
3.1.1 Vocational enrolment.....	31.63	37
3.1.2 Tertiary enrolment.....	39.92	49
Quality		
3.1.3 Tertiary education expenditure.....	17.35	43
3.1.4 Reading, maths, and science.....	53.53	38
3.1.5 University ranking.....	36.27	36
3.2 Lifelong Learning.....	40.66	42
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	15.24	85
3.2.3 Employee development.....	76.25	23
3.2.4 Formal and non-formal studies.....	71.14	14
3.3 Access to Growth Opportunities.....	61.82	25
Empowerment		
3.3.1 Delegation of authority.....	71.54	16
3.3.2 Youth inclusion.....	71.13	56
Collaboration		
3.3.3 Use of virtual social networks.....	67.79	46
3.3.4 Use of virtual professional networks.....	36.83	27

4 RETAIN.....75.28	26	
4.1 Sustainability.....	71.45	22
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	64.77	32
4.1.3 Brain retention.....	71.36	22
4.1.4 Environmental performance.....	49.66	46
4.2 Lifestyle.....	79.11	30
4.2.1 Personal rights.....	90.09	34
4.2.2 Personal safety.....	69.27	35
4.2.3 Physician density.....	57.15	28
4.2.4 Sanitation.....	99.94	12

5 VOCATIONAL AND TECHNICAL SKILLS.....63.74	20	
5.1 Mid-Level Skills.....	53.87	37
5.1.1 Workforce with secondary education.....	58.35	43
5.1.2 Population with secondary education.....	48.25	46
5.1.3 Technicians and associate professionals.....	53.18	33
5.1.4 Labour productivity per employee.....	55.68	25
5.2 Employability.....	73.62	15
5.2.1 Ease of finding skilled employees.....	64.26	20
5.2.2 Relevance of education system to the economy.....	59.84	33
5.2.3 Skills matching.....	82.19	21
5.2.4 Highly educated unemployment.....	88.18	27

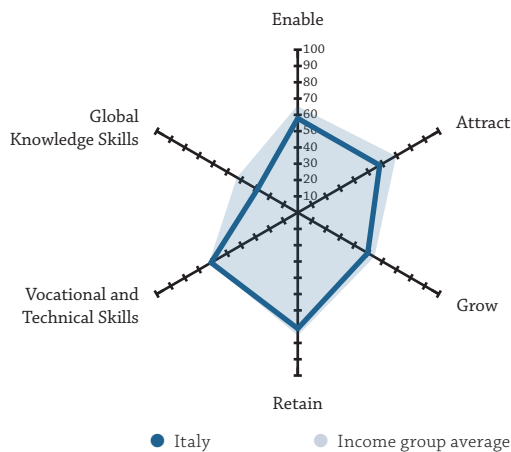
6 GLOBAL KNOWLEDGE SKILLS.....52.60	15	
6.1 High-Level Skills.....	60.45	3
6.1.1 Workforce with tertiary education.....	60.87	12
6.1.2 Population with tertiary education.....	63.15	8
6.1.3 Professionals.....	58.32	14
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	59.47	12
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	44.75	22
6.2.1 Innovation output.....	71.81	12
6.2.2 High-value exports.....	50.74	10
6.2.3 Software development.....	29.61	29
6.2.4 New business density.....	16.76	45
6.2.5 Scientific journal articles.....	54.84	19

ITALY

Key Indicators

Rank (out of 133).....	33
Income group.....	High income
Regional group.....	Europe
Population (millions).....	59.07

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....57.84	30	
1.1 Regulatory Landscape.....	56.77	46
1.1.1 Government effectiveness.....	51.96	47
1.1.2 Rule of law.....	52.50	53
1.1.3 Political stability.....	71.21	44
1.1.4 Regulatory quality.....	54.55	47
1.1.5 Corruption.....	53.62	35
1.2 Market Landscape.....	62.88	23
1.2.1 Extent of market dominance.....	81.93	7
1.2.2 Domestic credit to private sector.....	36.58	37
1.2.3 Cluster development.....	85.03	4
1.2.4 R&D expenditure.....	28.08	26
1.2.5 ICT infrastructure.....	79.67	34
1.2.6 Urbanisation.....	66.01	52
1.3 Business and Labour Landscape.....	53.85	34
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	41.16	68
Management Practice		
1.3.3 Professional management.....	46.75	80
1.3.4 Relationship of pay to productivity.....	53.51	65
Technology Adoption		
1.3.5 Enterprise software.....	27.98	44
1.3.6 Cloud computing.....	32.16	25
1.3.7 Firms with website.....	75.40	30
2 ATTRACT.....58.09	42	
2.1 External Openness.....	52.38	54
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	87.03	31
2.1.2 Financial globalisation.....	74.11	42
Attract People		
2.1.3 Migrant stock.....	55.68	46
2.1.4 International students.....	10.77	69
2.1.5 Brain gain.....	34.29	97
2.2 Internal Openness.....	63.81	34
Social Inclusion		
2.2.1 Tolerance of minorities.....	58.70	46
2.2.2 Tolerance of immigrants.....	73.85	37
2.2.3 Social mobility.....	42.69	73
Gender Equality		
2.2.4 Economic empowerment of women.....	96.46	13
2.2.5 Gender parity in high-skilled jobs.....	77.53	59
2.2.6 Leadership opportunities for women.....	33.60	113

GDP per capita (PPP US\$).....	45,936.00
GDP (US\$ billions).....	2,099.88
GTCI score.....	54.45
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....49.60	27	
3.1 Formal Education.....	45.88	23
Enrolment		
3.1.1 Vocational enrolment.....	51.94	16
3.1.2 Tertiary enrolment.....	43.82	41
Quality		
3.1.3 Tertiary education expenditure.....	25.78	25
3.1.4 Reading, maths, and science.....	58.33	33
3.1.5 University ranking.....	49.54	18
3.2 Lifelong Learning.....	50.88	28
3.2.1 Business masters education.....	82.73	6
3.2.2 Prevalence of training in firms.....	6.85	96
3.2.3 Employee development.....	57.79	52
3.2.4 Formal and non-formal studies.....	56.14	31
3.3 Access to Growth Opportunities.....	52.05	46
Empowerment		
3.3.1 Delegation of authority.....	48.70	62
3.3.2 Youth inclusion.....	66.02	69
Collaboration		
3.3.3 Use of virtual social networks.....	60.60	66
3.3.4 Use of virtual professional networks.....	32.87	31

4 RETAIN.....71.18	29	
4.1 Sustainability.....	61.18	32
4.1.1 Pension coverage.....	94.31	44
4.1.2 Social protection.....	56.88	40
4.1.3 Brain retention.....	27.75	97
4.1.4 Environmental performance.....	65.76	23
4.2 Lifestyle.....	81.17	24
4.2.1 Personal rights.....	96.99	13
4.2.2 Personal safety.....	65.55	39
4.2.3 Physician density.....	62.29	25
4.2.4 Sanitation.....	99.87	17

5 VOCATIONAL AND TECHNICAL SKILLS.....61.40	28	
5.1 Mid-Level Skills.....	61.50	22
5.1.1 Workforce with secondary education.....	65.02	32
5.1.2 Population with secondary education.....	50.48	40
5.1.3 Technicians and associate professionals.....	71.30	11
5.1.4 Labour productivity per employee.....	59.20	21
5.2 Employability.....	61.30	52
5.2.1 Ease of finding skilled employees.....	45.06	69
5.2.2 Relevance of education system to the economy.....	50.31	48
5.2.3 Skills matching.....	76.62	38
5.2.4 Highly educated unemployment.....	73.21	72

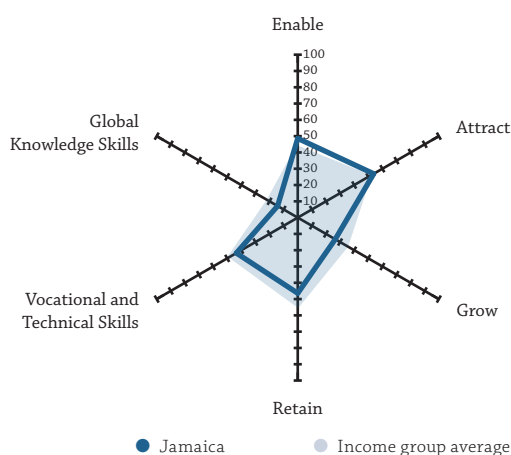
6 GLOBAL KNOWLEDGE SKILLS.....28.59	44	
6.1 High-Level Skills.....	27.08	60
6.1.1 Workforce with tertiary education.....	28.15	64
6.1.2 Population with tertiary education.....	21.25	64
6.1.3 Professionals.....	34.31	49
6.1.4 Researchers.....	30.58	32
6.1.5 Senior officials and managers.....	21.22	69
6.1.6 Digital skills.....	26.97	35
6.2 Talent Impact.....	30.10	36
6.2.1 Innovation output.....	58.87	24
6.2.2 High-value exports.....	16.12	56
6.2.3 Software development.....	12.39	45
6.2.4 New business density.....	16.17	47
6.2.5 Scientific journal articles.....	46.94	24

JAMAICA

Key Indicators

Rank (out of 133).....	76
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	2.97

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 48.62 49		
1.1 Regulatory Landscape.....	47.75	57
1.1.1 Government effectiveness.....	52.31	46
1.1.2 Rule of law.....	40.14	74
1.1.3 Political stability.....	66.55	49
1.1.4 Regulatory quality.....	43.51	67
1.1.5 Corruption.....	36.23	56
1.2 Market Landscape.....	42.02	63
1.2.1 Extent of market dominance.....	40.71	68
1.2.2 Domestic credit to private sector.....	23.74	64
1.2.3 Cluster development.....	42.22	72
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	54.38	74
1.2.6 Urbanisation.....	49.03	88
1.3 Business and Labour Landscape.....	56.10	28
Labour Market		
1.3.1 Labour rights.....	83.51	54
1.3.2 Labour-employer cooperation.....	38.63	77
Management Practice		
1.3.3 Professional management.....	64.80	38
1.3.4 Relationship of pay to productivity.....	48.26	85
Technology Adoption		
1.3.5 Enterprise software.....	81.80	5
1.3.6 Cloud computing.....	19.57	46
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT..... 53.81 54		
2.1 External Openness.....	44.87	70
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	71.81	47
Attract People		
2.1.3 Migrant stock.....	11.41	119
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	51.39	56
2.2 Internal Openness.....	62.75	40
Social Inclusion		
2.2.1 Tolerance of minorities.....	81.52	7
2.2.2 Tolerance of immigrants.....	84.62	16
2.2.3 Social mobility.....	41.68	79
Gender Equality		
2.2.4 Economic empowerment of women.....	54.87	109
2.2.5 Gender parity in high-skilled jobs.....	67.04	80
2.2.6 Leadership opportunities for women.....	46.78	81

GDP per capita (PPP US\$).....	10,025.90
GDP (US\$ billions).....	13.64
GTCI score.....	38.87
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW..... 26.57 87		
3.1 Formal Education.....	8.44	105
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	17.31	86
Quality		
3.1.3 Tertiary education expenditure.....	8.02	72
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	24.61	91
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	49.21	75
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	46.65	65
Empowerment		
3.3.1 Delegation of authority.....	63.20	28
3.3.2 Youth inclusion.....	45.78	103
Collaboration		
3.3.3 Use of virtual social networks.....	49.16	86
3.3.4 Use of virtual professional networks.....	28.48	37

4 RETAIN..... 46.42 83		
4.1 Sustainability.....	36.79	87
4.1.1 Pension coverage.....	39.33	85
4.1.2 Social protection.....	26.58	97
4.1.3 Brain retention.....	36.00	73
4.1.4 Environmental performance.....	45.25	56
4.2 Lifestyle.....	56.06	72
4.2.1 Personal rights.....	87.86	41
4.2.2 Personal safety.....	43.46	82
4.2.3 Physician density.....	7.62	102
4.2.4 Sanitation.....	85.30	82

5 VOCATIONAL AND TECHNICAL SKILLS..... 43.50 72		
5.1 Mid-Level Skills.....	19.71	104
5.1.1 Workforce with secondary education.....	25.33	103
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	22.63	77
5.1.4 Labour productivity per employee.....	11.18	88
5.2 Employability.....	67.29	25
5.2.1 Ease of finding skilled employees.....	46.07	65
5.2.2 Relevance of education system to the economy.....	52.89	45
5.2.3 Skills matching.....	89.73	9
5.2.4 Highly educated unemployment.....	80.48	53

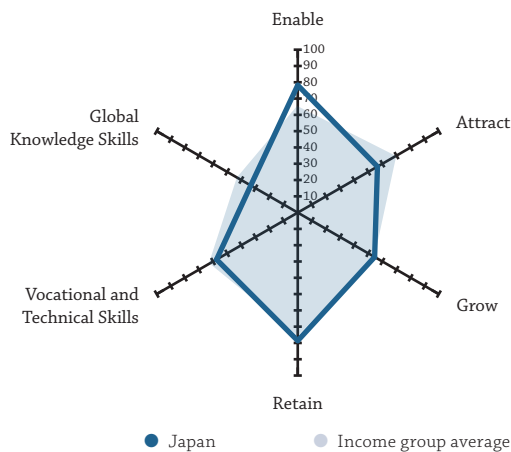
6 GLOBAL KNOWLEDGE SKILLS..... 14.27 86		
6.1 High-Level Skills.....	18.67	84
6.1.1 Workforce with tertiary education.....	7.29	110
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	20.30	74
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	42.64	30
6.1.6 Digital skills.....	4.46	72
6.2 Talent Impact.....	9.86	83
6.2.1 Innovation output.....	28.37	65
6.2.2 High-value exports.....	5.15	92
6.2.3 Software development.....	2.86	72
6.2.4 New business density.....	10.75	61
6.2.5 Scientific journal articles.....	2.19	88

JAPAN

Key Indicators

Rank (out of 133).....	24
Income group.....	High income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions).....	125.68

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....78.19	9	
1.1 Regulatory Landscape.....	82.11	15
1.1.1 Government effectiveness.....	81.65	12
1.1.2 Rule of law.....	85.69	15
1.1.3 Political stability.....	87.69	11
1.1.4 Regulatory quality.....	77.26	18
1.1.5 Corruption.....	78.26	17
1.2 Market Landscape.....	82.44	2
1.2.1 Extent of market dominance.....	87.32	4
1.2.2 Domestic credit to private sector.....	88.68	2
1.2.3 Cluster development.....	74.53	16
1.2.4 R&D expenditure.....	59.96	6
1.2.5 ICT infrastructure.....	93.80	9
1.2.6 Urbanisation.....	90.36	10
1.3 Business and Labour Landscape.....	70.01	13
Labour Market		
1.3.1 Labour rights.....	85.12	51
1.3.2 Labour-employer cooperation.....	91.21	4
Management Practice		
1.3.3 Professional management.....	79.09	15
1.3.4 Relationship of pay to productivity.....	63.41	45
Technology Adoption		
1.3.5 Enterprise software.....	43.84	19
1.3.6 Cloud computing.....	32.22	24
1.3.7 Firms with website.....	95.19	4
2 ATTRACT.....56.49	48	
2.1 External Openness.....	51.23	56
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	87.03	31
2.1.2 Financial globalisation.....	73.18	43
Attract People		
2.1.3 Migrant stock.....	25.78	94
2.1.4 International students.....	20.01	46
2.1.5 Brain gain.....	50.15	61
2.2 Internal Openness.....	61.75	46
Social Inclusion		
2.2.1 Tolerance of minorities.....	78.26	14
2.2.2 Tolerance of immigrants.....	56.92	71
2.2.3 Social mobility.....	77.90	17
Gender Equality		
2.2.4 Economic empowerment of women.....	69.91	85
2.2.5 Gender parity in high-skilled jobs.....	54.74	99
2.2.6 Leadership opportunities for women.....	32.77	115

GDP per capita (PPP US\$).....	42,940.41
GDP (US\$ billions).....	4,937.42
GTCI score.....	59.77
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....54.49	22	
3.1 Formal Education.....	48.70	19
Enrolment		
3.1.1 Vocational enrolment.....	17.88	64
3.1.2 Tertiary enrolment.....	n/a	n/a
Quality		
3.1.3 Tertiary education expenditure.....	20.27	36
3.1.4 Reading, maths, and science.....	75.89	4
3.1.5 University ranking.....	80.75	7
3.2 Lifelong Learning.....	58.06	21
3.2.1 Business masters education.....	40.17	25
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	77.53	22
3.2.4 Formal and non-formal studies.....	56.48	30
3.3 Access to Growth Opportunities.....	56.71	39
Empowerment		
3.3.1 Delegation of authority.....	55.57	42
3.3.2 Youth inclusion.....	100.00	1
Collaboration		
3.3.3 Use of virtual social networks.....	69.03	39
3.3.4 Use of virtual professional networks.....	2.25	120

4 RETAIN.....78.61	18	
4.1 Sustainability.....	73.32	20
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	73.38	20
4.1.3 Brain retention.....	55.01	40
4.1.4 Environmental performance.....	64.92	25
4.2 Lifestyle.....	83.90	17
4.2.1 Personal rights.....	96.88	14
4.2.2 Personal safety.....	100.00	1
4.2.3 Physician density.....	38.83	59
4.2.4 Sanitation.....	99.91	14

5 VOCATIONAL AND TECHNICAL SKILLS.....57.53	42	
5.1 Mid-Level Skills.....	71.03	5
5.1.1 Workforce with secondary education.....	68.60	25
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	100.00	1
5.1.4 Labour productivity per employee.....	44.48	38
5.2 Employability.....	44.03	102
5.2.1 Ease of finding skilled employees.....	41.64	77
5.2.2 Relevance of education system to the economy.....	46.43	56
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	n/a	n/a

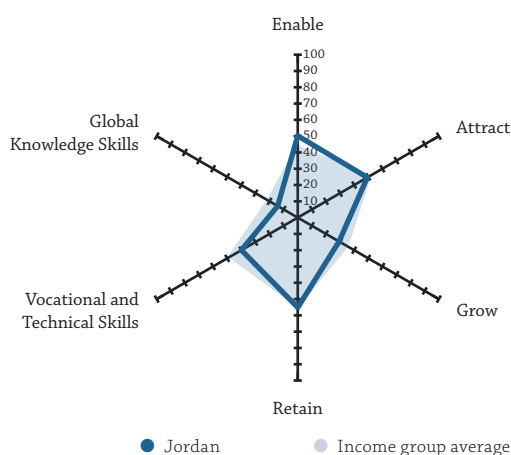
6 GLOBAL KNOWLEDGE SKILLS.....33.31	34	
6.1 High-Level Skills.....	36.44	40
6.1.1 Workforce with tertiary education.....	62.38	10
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	62.55	13
6.1.5 Senior officials and managers.....	11.05	96
6.1.6 Digital skills.....	9.78	64
6.2 Talent Impact.....	30.17	34
6.2.1 Innovation output.....	70.21	14
6.2.2 High-value exports.....	33.39	27
6.2.3 Software development.....	14.00	39
6.2.4 New business density.....	2.27	100
6.2.5 Scientific journal articles.....	31.00	35

JORDAN

Key Indicators

Rank (out of 133).....	72
Income group.....	Upper-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	10.27

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....50.21 46		
1.1 Regulatory Landscape.....	47.50	58
1.1.1 Government effectiveness.....	44.87	63
1.1.2 Rule of law.....	51.77	55
1.1.3 Political stability.....	50.24	80
1.1.4 Regulatory quality.....	47.15	61
1.1.5 Corruption.....	43.48	47
1.2 Market Landscape.....	51.33	34
1.2.1 Extent of market dominance.....	67.29	23
1.2.2 Domestic credit to private sector.....	36.50	38
1.2.3 Cluster development.....	68.80	22
1.2.4 R&D expenditure.....	12.63	50
1.2.5 ICT infrastructure.....	33.11	104
1.2.6 Urbanisation.....	89.63	13
1.3 Business and Labour Landscape.....	51.81	40
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	55.71	44
Management Practice		
1.3.3 Professional management.....	60.57	48
1.3.4 Relationship of pay to productivity.....	70.01	24
Technology Adoption		
1.3.5 Enterprise software.....	28.77	43
1.3.6 Cloud computing.....	17.70	57
1.3.7 Firms with website.....	78.10	26
2 ATTRACT.....49.32 74		
2.1 External Openness.....	55.63	42
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	41.62	71
2.1.2 Financial globalisation.....	63.35	62
Attract People		
2.1.3 Migrant stock.....	76.80	13
2.1.4 International students.....	46.89	17
2.1.5 Brain gain.....	49.48	63
2.2 Internal Openness.....	43.02	112
Social Inclusion		
2.2.1 Tolerance of minorities.....	11.96	116
2.2.2 Tolerance of immigrants.....	56.92	71
2.2.3 Social mobility.....	44.86	62
Gender Equality		
2.2.4 Economic empowerment of women.....	24.78	128
2.2.5 Gender parity in high-skilled jobs.....	57.62	95
2.2.6 Leadership opportunities for women.....	61.99	45

GDP per capita (PPP US\$).....	10,952.01
GDP (US\$ billions).....	45.24
GTCI score.....	39.68
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....29.29 78		
3.1 Formal Education.....	15.43	85
Enrolment		
3.1.1 Vocational enrolment.....	3.99	101
3.1.2 Tertiary enrolment.....	21.68	80
Quality		
3.1.3 Tertiary education expenditure.....	1.70	107
3.1.4 Reading, maths, and science.....	33.44	57
3.1.5 University ranking.....	16.31	61
3.2 Lifelong Learning.....	32.06	59
3.2.1 Business masters education.....	17.30	47
3.2.2 Prevalence of training in firms.....	12.87	92
3.2.3 Employee development.....	66.00	40
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	40.39	82
Empowerment		
3.3.1 Delegation of authority.....	52.06	50
3.3.2 Youth inclusion.....	34.08	114
Collaboration		
3.3.3 Use of virtual social networks.....	56.17	77
3.3.4 Use of virtual professional networks.....	19.27	58

4 RETAIN.....55.15 58		
4.1 Sustainability.....	49.47	60
4.1.1 Pension coverage.....	59.35	77
4.1.2 Social protection.....	53.44	43
4.1.3 Brain retention.....	43.24	53
4.1.4 Environmental performance.....	41.86	61
4.2 Lifestyle.....	60.82	61
4.2.1 Personal rights.....	49.10	101
4.2.2 Personal safety.....	55.64	61
4.2.3 Physician density.....	41.73	54
4.2.4 Sanitation.....	96.80	57

5 VOCATIONAL AND TECHNICAL SKILLS.....39.92 84		
5.1 Mid-Level Skills.....	28.27	88
5.1.1 Workforce with secondary education.....	32.44	87
5.1.2 Population with secondary education.....	38.26	56
5.1.3 Technicians and associate professionals.....	15.78	98
5.1.4 Labour productivity per employee.....	26.60	59
5.2 Employability.....	51.56	77
5.2.1 Ease of finding skilled employees.....	64.98	18
5.2.2 Relevance of education system to the economy.....	59.91	32
5.2.3 Skills matching.....	49.26	79
5.2.4 Highly educated unemployment.....	32.09	114

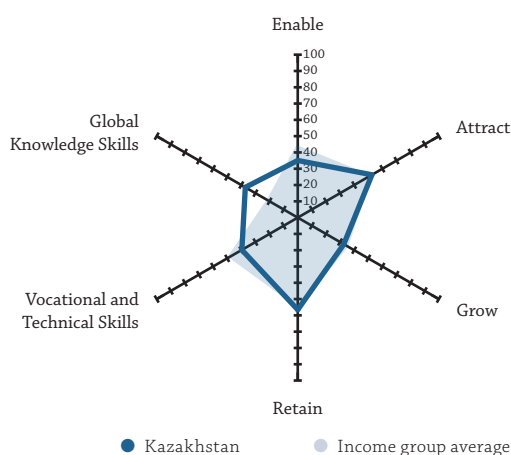
6 GLOBAL KNOWLEDGE SKILLS.....14.21 88		
6.1 High-Level Skills.....	20.61	78
6.1.1 Workforce with tertiary education.....	27.26	66
6.1.2 Population with tertiary education.....	29.65	46
6.1.3 Professionals.....	38.01	43
6.1.4 Researchers.....	6.73	62
6.1.5 Senior officials and managers.....	1.41	126
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	7.81	93
6.2.1 Innovation output.....	22.34	80
6.2.2 High-value exports.....	2.56	105
6.2.3 Software development.....	1.52	89
6.2.4 New business density.....	2.17	101
6.2.5 Scientific journal articles.....	10.47	54

KAZAKHSTAN

Key Indicators

Rank (out of 133)	62
Income group	Upper-middle income
Regional group	Central and Southern Asia
Population (millions)	19.00

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	35.07	95
1.1 Regulatory Landscape	40.96	74
1.1.1 Government effectiveness	45.88	59
1.1.2 Rule of law	36.04	87
1.1.3 Political stability	51.94	77
1.1.4 Regulatory quality	44.85	65
1.1.5 Corruption	26.09	82
1.2 Market Landscape	28.80	102
1.2.1 Extent of market dominance	23.04	111
1.2.2 Domestic credit to private sector	9.13	106
1.2.3 Cluster development	19.46	125
1.2.4 R&D expenditure	2.25	100
1.2.5 ICT infrastructure	67.89	52
1.2.6 Urbanisation	51.05	81
1.3 Business and Labour Landscape	35.45	104
Labour Market		
1.3.1 Labour rights	69.57	76
1.3.2 Labour-employer cooperation	25.61	110
Management Practice		
1.3.3 Professional management	23.35	123
1.3.4 Relationship of pay to productivity	49.14	80
Technology Adoption		
1.3.5 Enterprise software	18.52	79
1.3.6 Cloud computing	14.69	73
1.3.7 Firms with website	47.25	66
2 ATTRACT	52.57	60
2.1 External Openness	58.17	35
Attract Business		
2.1.1 FDI regulatory restrictiveness	70.54	52
2.1.2 Financial globalisation	74.80	40
Attract People		
2.1.3 Migrant stock	73.49	16
2.1.4 International students	21.05	45
2.1.5 Brain gain	50.97	57
2.2 Internal Openness	46.96	104
Social Inclusion		
2.2.1 Tolerance of minorities	18.48	105
2.2.2 Tolerance of immigrants	43.08	94
2.2.3 Social mobility	43.64	68
Gender Equality		
2.2.4 Economic empowerment of women	56.64	107
2.2.5 Gender parity in high-skilled jobs	63.01	85
2.2.6 Leadership opportunities for women	56.93	59

GDP per capita (PPP US\$)	28,599.99
GDP (US\$ billions)	190.81
GTCI score	42.26
GTCI score (income group average)	41.23

	Score	Rank
3 GROW	32.63	67
3.1 Formal Education	26.88	58
Enrolment		
3.1.1 Vocational enrolment	15.28	67
3.1.2 Tertiary enrolment	46.97	32
Quality		
3.1.3 Tertiary education expenditure	5.19	87
3.1.4 Reading, maths, and science	27.87	63
3.1.5 University ranking	39.11	33
3.2 Lifelong Learning	23.79	93
3.2.1 Business masters education	21.73	42
3.2.2 Prevalence of training in firms	19.72	75
3.2.3 Employee development	30.92	120
3.2.4 Formal and non-formal studies	22.79	43
3.3 Access to Growth Opportunities	47.21	64
Empowerment		
3.3.1 Delegation of authority	32.03	100
3.3.2 Youth inclusion	87.02	22
Collaboration		
3.3.3 Use of virtual social networks	61.22	64
3.3.4 Use of virtual professional networks	8.57	95

4 RETAIN	56.54	54
4.1 Sustainability	51.41	54
4.1.1 Pension coverage	99.59	38
4.1.2 Social protection	33.71	75
4.1.3 Brain retention	35.05	76
4.1.4 Environmental performance	37.29	70
4.2 Lifestyle	61.67	59
4.2.1 Personal rights	39.87	107
4.2.2 Personal safety	44.90	80
4.2.3 Physician density	64.26	23
4.2.4 Sanitation	97.66	49

5 VOCATIONAL AND TECHNICAL SKILLS	39.61	85
5.1 Mid-Level Skills	31.17	79
5.1.1 Workforce with secondary education	25.55	101
5.1.2 Population with secondary education	32.30	64
5.1.3 Technicians and associate professionals	33.43	56
5.1.4 Labour productivity per employee	33.41	49
5.2 Employability	48.04	87
5.2.1 Ease of finding skilled employees	34.40	98
5.2.2 Relevance of education system to the economy	23.75	105
5.2.3 Skills matching	n/a	n/a
5.2.4 Highly educated unemployment	85.98	35

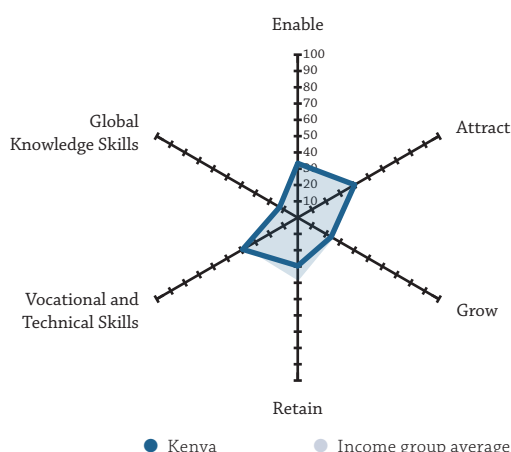
6 GLOBAL KNOWLEDGE SKILLS	37.16	30
6.1 High-Level Skills	53.58	14
6.1.1 Workforce with tertiary education	100.00	1
6.1.2 Population with tertiary education	100.00	1
6.1.3 Professionals	51.64	21
6.1.4 Researchers	7.12	61
6.1.5 Senior officials and managers	36.26	39
6.1.6 Digital skills	26.45	37
6.2 Talent Impact	20.75	52
6.2.1 Innovation output	16.13	98
6.2.2 High-value exports	59.35	8
6.2.3 Software development	4.05	62
6.2.4 New business density	19.10	40
6.2.5 Scientific journal articles	5.12	72

KENYA

Key Indicators

Rank (out of 133).....	97
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	54.99

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....33.31 101		
1.1 Regulatory Landscape.....	28.37	105
1.1.1 Government effectiveness.....	33.23	89
1.1.2 Rule of law.....	31.86	99
1.1.3 Political stability.....	31.48	117
1.1.4 Regulatory quality.....	29.33	99
1.1.5 Corruption.....	15.94	104
1.2 Market Landscape.....	31.19	93
1.2.1 Extent of market dominance.....	34.17	87
1.2.2 Domestic credit to private sector.....	12.23	92
1.2.3 Cluster development.....	47.19	51
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	46.25	86
1.2.6 Urbanisation.....	16.10	123
1.3 Business and Labour Landscape.....	40.39	80
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	35.59	87
Management Practice		
1.3.3 Professional management.....	54.78	63
1.3.4 Relationship of pay to productivity.....	49.84	77
Technology Adoption		
1.3.5 Enterprise software.....	18.54	78
1.3.6 Cloud computing.....	39.91	18
1.3.7 Firms with website.....	43.67	72
2 ATTRACT.....40.29 104		
2.1 External Openness.....	27.35	113
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	16.48	125
Attract People		
2.1.3 Migrant stock.....	29.58	86
2.1.4 International students.....	4.86	86
2.1.5 Brain gain.....	58.49	35
2.2 Internal Openness.....	53.22	79
Social Inclusion		
2.2.1 Tolerance of minorities.....	18.48	105
2.2.2 Tolerance of immigrants.....	67.69	48
2.2.3 Social mobility.....	43.67	67
Gender Equality		
2.2.4 Economic empowerment of women.....	72.57	76
2.2.5 Gender parity in high-skilled jobs.....	72.12	72
2.2.6 Leadership opportunities for women.....	44.81	88

GDP per capita (PPP US\$).....	5,023.51
GDP (US\$ billions).....	110.35
GTCI score.....	29.80
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....23.69 96		
3.1 Formal Education.....	4.02	119
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	5.66	109
Quality		
3.1.3 Tertiary education expenditure.....	6.39	81
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	30.63	66
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	41.54	41
3.2.3 Employee development.....	50.34	69
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	36.43	90
Empowerment		
3.3.1 Delegation of authority.....	54.40	44
3.3.2 Youth inclusion.....	66.20	68
Collaboration		
3.3.3 Use of virtual social networks.....	15.79	112
3.3.4 Use of virtual professional networks.....	9.31	91

4 RETAIN.....29.64 113		
4.1 Sustainability.....	29.44	99
4.1.1 Pension coverage.....	11.79	109
4.1.2 Social protection.....	30.25	86
4.1.3 Brain retention.....	55.54	38
4.1.4 Environmental performance.....	20.17	107
4.2 Lifestyle.....	29.84	118
4.2.1 Personal rights.....	63.69	76
4.2.2 Personal safety.....	27.85	109
4.2.3 Physician density.....	1.70	117
4.2.4 Sanitation.....	26.12	121

5 VOCATIONAL AND TECHNICAL SKILLS.....39.02 89		
5.1 Mid-Level Skills.....	15.53	109
5.1.1 Workforce with secondary education.....	32.63	86
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	8.01	116
5.1.4 Labour productivity per employee.....	5.96	98
5.2 Employability.....	62.50	47
5.2.1 Ease of finding skilled employees.....	78.19	4
5.2.2 Relevance of education system to the economy.....	50.76	46
5.2.3 Skills matching.....	51.67	78
5.2.4 Highly educated unemployment.....	69.38	78

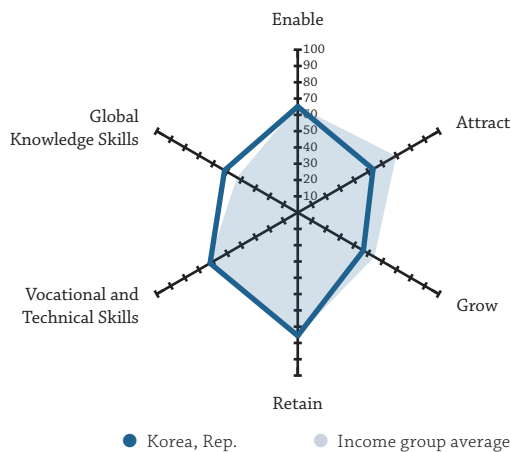
6 GLOBAL KNOWLEDGE SKILLS.....12.85 92		
6.1 High-Level Skills.....	16.81	90
6.1.1 Workforce with tertiary education.....	5.01	119
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	14.91	90
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	30.50	48
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	8.89	85
6.2.1 Innovation output.....	23.58	75
6.2.2 High-value exports.....	9.01	81
6.2.3 Software development.....	2.57	74
6.2.4 New business density.....	8.35	68
6.2.5 Scientific journal articles.....	0.93	100

KOREA, REP.

Key Indicators

Rank (out of 133).....	27
Income group	High income
Regional group	Eastern, Southeastern Asia and Oceania
Population (millions)	51.74

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....65.15	23	
1.1 Regulatory Landscape.....	71.91	23
1.1.1 Government effectiveness.....	77.17	17
1.1.2 Rule of law.....	76.85	23
1.1.3 Political stability.....	74.49	40
1.1.4 Regulatory quality.....	68.71	31
1.1.5 Corruption.....	62.32	26
1.2 Market Landscape.....	74.38	6
1.2.1 Extent of market dominance.....	40.06	73
1.2.2 Domestic credit to private sector.....	75.36	6
1.2.3 Cluster development.....	71.69	19
1.2.4 R&D expenditure.....	88.55	2
1.2.5 ICT infrastructure.....	91.93	13
1.2.6 Urbanisation.....	78.68	29
1.3 Business and Labour Landscape.....	49.16	48
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	23.63	117
Management Practice		
1.3.3 Professional management.....	55.40	62
1.3.4 Relationship of pay to productivity.....	75.35	15
Technology Adoption		
1.3.5 Enterprise software.....	39.39	28
1.3.6 Cloud computing.....	31.91	26
1.3.7 Firms with website.....	69.31	37
2 ATTRACT.....53.35	55	
2.1 External Openness.....	41.35	75
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	64.59	58
2.1.2 Financial globalisation.....	48.62	90
Attract People		
2.1.3 Migrant stock.....	30.32	83
2.1.4 International students.....	12.40	65
2.1.5 Brain gain.....	50.79	59
2.2 Internal Openness.....	65.36	33
Social Inclusion		
2.2.1 Tolerance of minorities.....	80.43	11
2.2.2 Tolerance of immigrants.....	58.46	65
2.2.3 Social mobility.....	33.86	98
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	93.73	18
2.2.6 Leadership opportunities for women.....	46.89	80

GDP per capita (PPP US\$)	46,918.47
GDP (US\$ billions)	1,798.53
GTCI score.....	59.10
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....46.53	31	
3.1 Formal Education.....	49.50	18
Enrolment		
3.1.1 Vocational enrolment.....	14.08	72
3.1.2 Tertiary enrolment.....	65.88	4
Quality		
3.1.3 Tertiary education expenditure.....	14.38	47
3.1.4 Reading, maths, and science.....	75.76	5
3.1.5 University ranking.....	77.41	9
3.2 Lifelong Learning.....	46.15	35
3.2.1 Business masters education.....	25.82	36
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	66.48	38
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	43.93	71
Empowerment		
3.3.1 Delegation of authority.....	46.73	67
3.3.2 Youth inclusion.....	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks.....	77.99	10
3.3.4 Use of virtual professional networks.....	7.07	99

4 RETAIN.....75.58	25	
4.1 Sustainability.....	69.85	24
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	64.22	33
4.1.3 Brain retention.....	67.71	25
4.1.4 Environmental performance.....	47.46	49
4.2 Lifestyle.....	81.32	22
4.2.1 Personal rights.....	93.62	27
4.2.2 Personal safety.....	92.83	7
4.2.3 Physician density.....	38.90	58
4.2.4 Sanitation.....	99.93	13

5 VOCATIONAL AND TECHNICAL SKILLS.....62.11	24	
5.1 Mid-Level Skills.....	54.60	35
5.1.1 Workforce with secondary education.....	45.59	71
5.1.2 Population with secondary education.....	50.86	38
5.1.3 Technicians and associate professionals.....	71.94	10
5.1.4 Labour productivity per employee.....	49.99	29
5.2 Employability.....	69.63	22
5.2.1 Ease of finding skilled employees.....	69.80	11
5.2.2 Relevance of education system to the economy.....	60.50	31
5.2.3 Skills matching.....	58.85	69
5.2.4 Highly educated unemployment.....	89.38	24

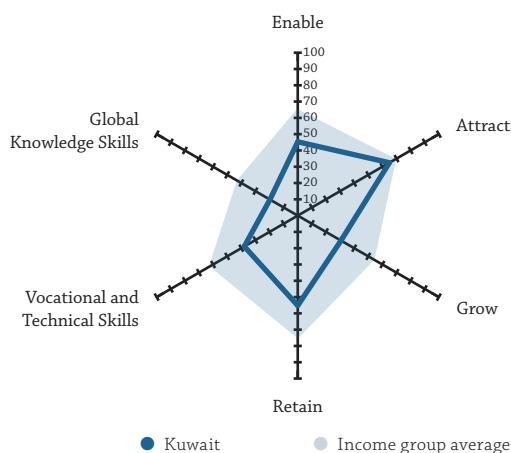
6 GLOBAL KNOWLEDGE SKILLS.....51.88	17	
6.1 High-Level Skills.....	50.36	18
6.1.1 Workforce with tertiary education.....	66.21	4
6.1.2 Population with tertiary education.....	53.85	11
6.1.3 Professionals.....	46.44	29
6.1.4 Researchers.....	100.00	1
6.1.5 Senior officials and managers.....	8.12	104
6.1.6 Digital skills.....	27.52	34
6.2 Talent Impact.....	53.40	16
6.2.1 Innovation output.....	84.57	5
6.2.2 High-value exports.....	64.31	6
6.2.3 Software development.....	13.50	42
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	51.23	22

KUWAIT

Key Indicators

Rank (out of 133).....	61
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	4.33

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 45.29 58		
1.1 Regulatory Landscape.....	48.44	55
1.1.1 Government effectiveness	38.10	80
1.1.2 Rule of law	54.85	48
1.1.3 Political stability.....	65.65	51
1.1.4 Regulatory quality.....	48.81	57
1.1.5 Corruption	34.78	59
1.2 Market Landscape.....	51.02	36
1.2.1 Extent of market dominance.....	40.54	70
1.2.2 Domestic credit to private sector	40.20	33
1.2.3 Cluster development.....	56.48	37
1.2.4 R&D expenditure.....	3.25	92
1.2.5 ICT infrastructure.....	65.67	55
1.2.6 Urbanisation	100.00	1
1.3 Business and Labour Landscape.....	36.40	100
Labour Market		
1.3.1 Labour rights.....	66.35	81
1.3.2 Labour-employer cooperation	47.26	59
Management Practice		
1.3.3 Professional management	34.47	109
1.3.4 Relationship of pay to productivity.....	53.51	66
Technology Adoption		
1.3.5 Enterprise software	10.53	112
1.3.6 Cloud computing	6.30	122
1.3.7 Firms with website	n/a	n/a
2 ATTRACT..... 64.93 27		
2.1 External Openness	80.09	6
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	90.79	11
Attract People		
2.1.3 Migrant stock	96.86	3
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain	52.61	50
2.2 Internal Openness.....	49.77	96
Social Inclusion		
2.2.1 Tolerance of minorities.....	60.87	41
2.2.2 Tolerance of immigrants	69.23	47
2.2.3 Social mobility	45.90	59
Gender Equality		
2.2.4 Economic empowerment of women.....	7.96	131
2.2.5 Gender parity in high-skilled jobs	61.60	90
2.2.6 Leadership opportunities for women	53.07	70

GDP per capita (PPP US\$)	47,303.13
GDP (US\$ billions)	105.96
GTCI score.....	42.28
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 30.66 71		
3.1 Formal Education.....	19.12	76
Enrolment		
3.1.1 Vocational enrolment	3.31	105
3.1.2 Tertiary enrolment	40.47	48
Quality		
3.1.3 Tertiary education expenditure	n/a	n/a
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking.....	13.58	63
3.2 Lifelong Learning.....	25.46	83
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development	50.91	64
3.2.4 Formal and non-formal studies	n/a	n/a
3.3 Access to Growth Opportunities	47.42	63
Empowerment		
3.3.1 Delegation of authority	36.64	89
3.3.2 Youth inclusion	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks	79.59	7
3.3.4 Use of virtual professional networks	26.02	43

4 RETAIN..... 55.20 57		
4.1 Sustainability	44.45	76
4.1.1 Pension coverage	26.42	94
4.1.2 Social protection.....	68.24	28
4.1.3 Brain retention	43.31	52
4.1.4 Environmental performance	39.83	64
4.2 Lifestyle.....	65.96	51
4.2.1 Personal rights	55.24	92
4.2.2 Personal safety.....	71.97	32
4.2.3 Physician density.....	36.62	64
4.2.4 Sanitation	100.00	1

5 VOCATIONAL AND TECHNICAL SKILLS..... 37.87 93		
5.1 Mid-Level Skills	32.35	77
5.1.1 Workforce with secondary education	13.92	116
5.1.2 Population with secondary education	16.46	82
5.1.3 Technicians and associate professionals.....	30.54	61
5.1.4 Labour productivity per employee.....	68.49	9
5.2 Employability.....	43.38	106
5.2.1 Ease of finding skilled employees	45.41	66
5.2.2 Relevance of education system to the economy	41.35	69
5.2.3 Skills matching	n/a	n/a
5.2.4 Highly educated unemployment	n/a	n/a

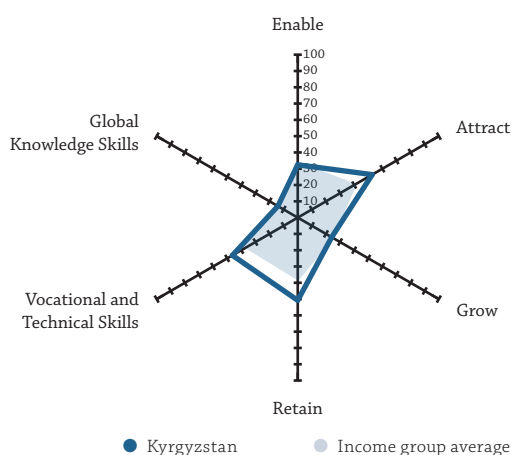
6 GLOBAL KNOWLEDGE SKILLS 19.70 68		
6.1 High-Level Skills	28.03	55
6.1.1 Workforce with tertiary education	27.76	65
6.1.2 Population with tertiary education.....	23.91	62
6.1.3 Professionals	23.81	68
6.1.4 Researchers	1.87	82
6.1.5 Senior officials and managers.....	27.98	58
6.1.6 Digital skills	62.83	8
6.2 Talent Impact.....	11.38	74
6.2.1 Innovation output	25.53	72
6.2.2 High-value exports.....	2.21	107
6.2.3 Software development	1.54	88
6.2.4 New business density	17.98	42
6.2.5 Scientific journal articles	9.63	57

KYRGYZSTAN

Key Indicators

Rank (out of 133).....	83
Income group.....	Lower-middle income
Regional group.....	Central and Southern Asia
Population (millions).....	6.69

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 32.43 103		
1.1 Regulatory Landscape.....	28.04	108
1.1.1 Government effectiveness.....	28.61	99
1.1.2 Rule of law.....	22.33	119
1.1.3 Political stability.....	47.33	87
1.1.4 Regulatory quality.....	30.33	95
1.1.5 Corruption.....	11.59	115
1.2 Market Landscape.....	24.29	115
1.2.1 Extent of market dominance.....	36.06	83
1.2.2 Domestic credit to private sector.....	10.39	98
1.2.3 Cluster development.....	31.60	104
1.2.4 R&D expenditure.....	1.46	105
1.2.5 ICT infrastructure.....	39.41	94
1.2.6 Urbanisation.....	26.81	113
1.3 Business and Labour Landscape.....	44.97	65
Labour Market		
1.3.1 Labour rights.....	95.31	20
1.3.2 Labour-employer cooperation.....	30.69	99
Management Practice		
1.3.3 Professional management.....	31.35	114
1.3.4 Relationship of pay to productivity.....	64.95	42
Technology Adoption		
1.3.5 Enterprise software.....	21.76	62
1.3.6 Cloud computing.....	15.62	65
1.3.7 Firms with website.....	55.11	59
2 ATTRACT..... 52.78 58		
2.1 External Openness.....	52.46	53
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	64.05	59
2.1.2 Financial globalisation.....	61.97	64
Attract People		
2.1.3 Migrant stock.....	39.63	69
2.1.4 International students.....	59.59	12
2.1.5 Brain gain.....	37.07	90
2.2 Internal Openness.....	53.09	81
Social Inclusion		
2.2.1 Tolerance of minorities.....	17.39	109
2.2.2 Tolerance of immigrants.....	66.15	51
2.2.3 Social mobility.....	44.79	64
Gender Equality		
2.2.4 Economic empowerment of women.....	67.26	92
2.2.5 Gender parity in high-skilled jobs.....	61.68	89
2.2.6 Leadership opportunities for women.....	61.28	47

GDP per capita (PPP US\$).....	5,287.79
GDP (US\$ billions).....	8.54
GTCI score.....	36.74
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW..... 24.05 94		
3.1 Formal Education.....	10.71	99
Enrolment		
3.1.1 Vocational enrolment.....	12.13	81
3.1.2 Tertiary enrolment.....	30.47	67
Quality		
3.1.3 Tertiary education expenditure.....	0.24	112
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	26.17	79
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	47.13	30
3.2.3 Employee development.....	31.37	119
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	35.29	95
Empowerment		
3.3.1 Delegation of authority.....	30.82	102
3.3.2 Youth inclusion.....	62.11	76
Collaboration		
3.3.3 Use of virtual social networks.....	44.90	91
3.3.4 Use of virtual professional networks.....	3.32	114

4 RETAIN..... 50.78 75		
4.1 Sustainability.....	43.31	78
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	25.43	102
4.1.3 Brain retention.....	19.32	115
4.1.4 Environmental performance.....	28.47	91
4.2 Lifestyle.....	58.24	64
4.2.1 Personal rights.....	53.03	94
4.2.2 Personal safety.....	47.70	78
4.2.3 Physician density.....	34.57	70
4.2.4 Sanitation.....	97.68	48

5 VOCATIONAL AND TECHNICAL SKILLS..... 46.30 67		
5.1 Mid-Level Skills.....	42.21	59
5.1.1 Workforce with secondary education.....	100.00	1
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	20.33	86
5.1.4 Labour productivity per employee.....	6.30	97
5.2 Employability.....	50.40	80
5.2.1 Ease of finding skilled employees.....	39.16	83
5.2.2 Relevance of education system to the economy.....	18.86	113
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	93.17	7

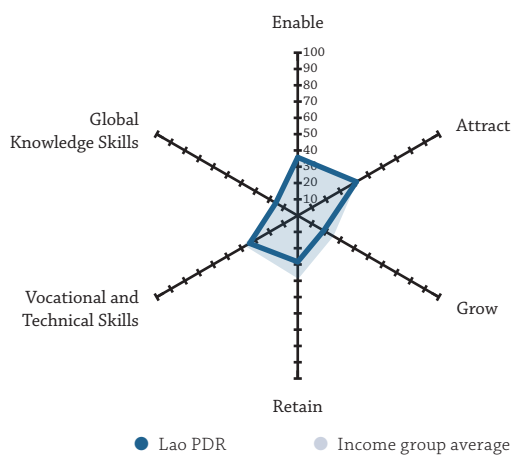
6 GLOBAL KNOWLEDGE SKILLS..... 14.08 89		
6.1 High-Level Skills.....	21.07	75
6.1.1 Workforce with tertiary education.....	27.09	69
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	24.57	66
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	11.57	93
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	7.08	99
6.2.1 Innovation output.....	9.75	116
6.2.2 High-value exports.....	15.58	58
6.2.3 Software development.....	2.39	76
6.2.4 New business density.....	6.84	78
6.2.5 Scientific journal articles.....	0.82	101

LAO PDR

Key Indicators

Rank (out of 133).....	99
Income group.....	Lower-middle income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions).....	7.38

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....35.76 88		
1.1 Regulatory Landscape.....32.15 92		
1.1.1 Government effectiveness.....23.01 112		
1.1.2 Rule of law.....24.32 114		
1.1.3 Political stability.....77.76 30		
1.1.4 Regulatory quality.....19.75 118		
1.1.5 Corruption.....15.94 104		
1.2 Market Landscape.....39.96 69		
1.2.1 Extent of market dominance.....58.16 36		
1.2.2 Domestic credit to private sector.....n/a n/a		
1.2.3 Cluster development.....48.73 48		
1.2.4 R&D expenditure.....n/a n/a		
1.2.5 ICT infrastructure.....27.70 109		
1.2.6 Urbanisation.....25.26 117		
1.3 Business and Labour Landscape.....35.16 106		
Labour Market		
1.3.1 Labour rights.....n/a n/a		
1.3.2 Labour-employer cooperation.....54.70 47		
Management Practice		
1.3.3 Professional management.....47.01 78		
1.3.4 Relationship of pay to productivity.....57.69 53		
Technology Adoption		
1.3.5 Enterprise software.....19.75 71		
1.3.6 Cloud computing.....7.09 118		
1.3.7 Firms with website.....24.72 96		
2 ATTRACT.....41.56 99		
2.1 External Openness.....33.38 98		
Attract Business		
2.1.1 FDI regulatory restrictiveness.....49.19 67		
2.1.2 Financial globalisation.....53.13 86		
Attract People		
2.1.3 Migrant stock.....15.23 110		
2.1.4 International students.....2.11 95		
2.1.5 Brain gain.....47.24 67		
2.2 Internal Openness.....49.75 97		
Social Inclusion		
2.2.1 Tolerance of minorities.....27.17 92		
2.2.2 Tolerance of immigrants.....7.69 129		
2.2.3 Social mobility.....43.56 70		
Gender Equality		
2.2.4 Economic empowerment of women.....83.19 44		
2.2.5 Gender parity in high-skilled jobs.....78.00 58		
2.2.6 Leadership opportunities for women.....58.86 52		

GDP per capita (PPP US\$).....	8,674.03
GDP (US\$ billions).....	18.83
GTCI score.....	28.95
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....18.41 117		
3.1 Formal Education.....2.99 122		
Enrolment		
3.1.1 Vocational enrolment.....1.14 113		
3.1.2 Tertiary enrolment.....8.01 102		
Quality		
3.1.3 Tertiary education expenditure.....2.79 104		
3.1.4 Reading, maths, and science.....n/a n/a		
3.1.5 University ranking.....0.00 76		
3.2 Lifelong Learning.....17.72 119		
3.2.1 Business masters education.....0.00 54		
3.2.2 Prevalence of training in firms.....23.36 68		
3.2.3 Employee development.....46.80 83		
3.2.4 Formal and non-formal studies.....0.72 80		
3.3 Access to Growth Opportunities.....34.52 98		
Empowerment		
3.3.1 Delegation of authority.....39.73 85		
3.3.2 Youth inclusion.....53.67 86		
Collaboration		
3.3.3 Use of virtual social networks.....42.41 93		
3.3.4 Use of virtual professional networks.....2.25 120		

4 RETAIN.....28.36 116		
4.1 Sustainability.....28.12 103		
4.1.1 Pension coverage.....4.78 119		
4.1.2 Social protection.....39.33 66		
4.1.3 Brain retention.....48.38 46		
4.1.4 Environmental performance.....20.00 108		
4.2 Lifestyle.....28.60 121		
4.2.1 Personal rights.....3.18 130		
4.2.2 Personal safety.....28.88 106		
4.2.3 Physician density.....4.86 108		
4.2.4 Sanitation.....77.47 92		

5 VOCATIONAL AND TECHNICAL SKILLS.....34.08 103		
5.1 Mid-Level Skills.....14.72 112		
5.1.1 Workforce with secondary education.....23.36 105		
5.1.2 Population with secondary education.....n/a n/a		
5.1.3 Technicians and associate professionals.....6.09 122		
5.1.4 Labour productivity per employee.....n/a n/a		
5.2 Employability.....53.43 74		
5.2.1 Ease of finding skilled employees.....38.37 86		
5.2.2 Relevance of education system to the economy.....45.82 57		
5.2.3 Skills matching.....41.94 86		
5.2.4 Highly educated unemployment.....87.59 30		

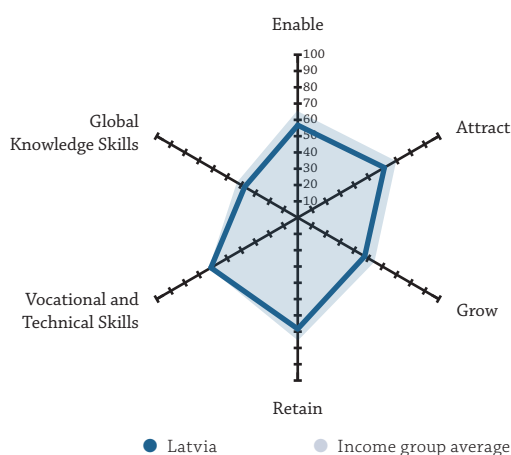
6 GLOBAL KNOWLEDGE SKILLS.....15.55 82		
6.1 High-Level Skills.....21.14 73		
6.1.1 Workforce with tertiary education.....10.76 100		
6.1.2 Population with tertiary education.....n/a n/a		
6.1.3 Professionals.....11.45 106		
6.1.4 Researchers.....n/a n/a		
6.1.5 Senior officials and managers.....41.20 31		
6.1.6 Digital skills.....n/a n/a		
6.2 Talent Impact.....9.97 82		
6.2.1 Innovation output.....11.70 109		
6.2.2 High-value exports.....37.02 22		
6.2.3 Software development.....0.06 126		
6.2.4 New business density.....0.62 115		
6.2.5 Scientific journal articles.....0.45 113		

LATVIA

Key Indicators

Rank (out of 133).....	31
Income group	High income
Regional group	Europe
Population (millions)	1.88

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....56.72	34	
1.1 Regulatory Landscape.....	67.50	34
1.1.1 Government effectiveness.....	63.93	36
1.1.2 Rule of law.....	71.00	30
1.1.3 Political stability.....	71.76	43
1.1.4 Regulatory quality.....	72.83	25
1.1.5 Corruption.....	57.97	30
1.2 Market Landscape.....	45.53	55
1.2.1 Extent of market dominance.....	58.94	34
1.2.2 Domestic credit to private sector.....	13.31	89
1.2.3 Cluster development.....	45.67	61
1.2.4 R&D expenditure.....	12.81	49
1.2.5 ICT infrastructure.....	79.08	35
1.2.6 Urbanisation.....	63.37	59
1.3 Business and Labour Landscape.....	57.14	27
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	67.13	22
Management Practice		
1.3.3 Professional management.....	64.18	39
1.3.4 Relationship of pay to productivity.....	68.40	27
Technology Adoption		
1.3.5 Enterprise software.....	19.13	75
1.3.6 Cloud computing.....	13.73	81
1.3.7 Firms with website.....	67.40	42
2 ATTRACT.....61.40	34	
2.1 External Openness.....	63.20	26
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	95.41	12
2.1.2 Financial globalisation.....	76.69	34
Attract People		
2.1.3 Migrant stock.....	62.37	32
2.1.4 International students.....	39.95	23
2.1.5 Brain gain.....	41.57	79
2.2 Internal Openness.....	59.61	53
Social Inclusion		
2.2.1 Tolerance of minorities.....	15.22	113
2.2.2 Tolerance of immigrants.....	30.77	118
2.2.3 Social mobility.....	64.44	35
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	60.92	91
2.2.6 Leadership opportunities for women.....	86.28	9

GDP per capita (PPP US\$)	34,468.60
GDP (US\$ billions)	38.87
GTCI score.....	55.51
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....47.46	30	
3.1 Formal Education.....	36.20	35
Enrolment		
3.1.1 Vocational enrolment.....	31.86	36
3.1.2 Tertiary enrolment.....	63.44	6
Quality		
3.1.3 Tertiary education expenditure.....	9.98	63
3.1.4 Reading, maths, and science.....	62.57	28
3.1.5 University ranking.....	13.17	66
3.2 Lifelong Learning.....	47.38	32
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	63.22	18
3.2.3 Employee development.....	62.00	46
3.2.4 Formal and non-formal studies.....	64.29	21
3.3 Access to Growth Opportunities.....	58.81	35
Empowerment		
3.3.1 Delegation of authority.....	52.87	47
3.3.2 Youth inclusion.....	88.78	18
Collaboration		
3.3.3 Use of virtual social networks.....	66.28	54
3.3.4 Use of virtual professional networks.....	27.30	41

4 RETAIN.....68.31	34	
4.1 Sustainability.....	60.80	35
4.1.1 Pension coverage.....	91.87	48
4.1.2 Social protection.....	52.48	45
4.1.3 Brain retention.....	27.32	99
4.1.4 Environmental performance.....	71.53	15
4.2 Lifestyle.....	75.83	34
4.2.1 Personal rights.....	95.67	20
4.2.2 Personal safety.....	62.34	47
4.2.3 Physician density.....	53.61	35
4.2.4 Sanitation.....	91.68	70

5 VOCATIONAL AND TECHNICAL SKILLS.....61.53	27	
5.1 Mid-Level Skills.....	63.83	19
5.1.1 Workforce with secondary education.....	73.76	20
5.1.2 Population with secondary education.....	81.37	9
5.1.3 Technicians and associate professionals.....	59.08	26
5.1.4 Labour productivity per employee.....	41.09	42
5.2 Employability.....	59.24	58
5.2.1 Ease of finding skilled employees.....	32.96	101
5.2.2 Relevance of education system to the economy.....	49.56	51
5.2.3 Skills matching.....	78.13	30
5.2.4 Highly educated unemployment.....	76.29	64

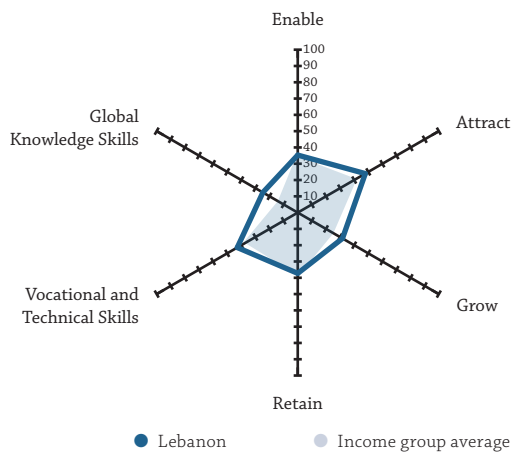
6 GLOBAL KNOWLEDGE SKILLS.....37.64	28	
6.1 High-Level Skills.....	39.60	33
6.1.1 Workforce with tertiary education.....	49.49	26
6.1.2 Population with tertiary education.....	45.16	28
6.1.3 Professionals.....	44.70	31
6.1.4 Researchers.....	24.68	39
6.1.5 Senior officials and managers.....	63.54	9
6.1.6 Digital skills.....	10.01	63
6.2 Talent Impact.....	35.69	29
6.2.1 Innovation output.....	44.68	38
6.2.2 High-value exports.....	35.98	24
6.2.3 Software development.....	30.61	25
6.2.4 New business density.....	37.90	21
6.2.5 Scientific journal articles.....	29.27	37

LEBANON

Key Indicators

Rank (out of 133).....	84
Income group.....	Lower-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	6.77

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....35.31 92		
1.1 Regulatory Landscape.....	16.25	126
1.1.1 Government effectiveness.....	12.98	128
1.1.2 Rule of law.....	22.90	117
1.1.3 Political stability.....	13.81	127
1.1.4 Regulatory quality.....	24.28	107
1.1.5 Corruption.....	7.25	124
1.2 Market Landscape.....	50.44	40
1.2.1 Extent of market dominance.....	26.20	104
1.2.2 Domestic credit to private sector.....	47.65	23
1.2.3 Cluster development.....	34.05	97
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	57.39	71
1.2.6 Urbanisation.....	86.88	15
1.3 Business and Labour Landscape.....	39.26	91
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	34.03	90
Management Practice		
1.3.3 Professional management.....	38.28	102
1.3.4 Relationship of pay to productivity.....	44.97	98
Technology Adoption		
1.3.5 Enterprise software.....	41.15	25
1.3.6 Cloud computing.....	14.77	72
1.3.7 Firms with website.....	62.38	47
2 ATTRACT.....47.89 80		
2.1 External Openness.....	56.31	38
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	61.08	61
2.1.2 Financial globalisation.....	83.23	22
Attract People		
2.1.3 Migrant stock.....	73.25	17
2.1.4 International students.....	36.72	27
2.1.5 Brain gain.....	27.25	109
2.2 Internal Openness.....	39.47	120
Social Inclusion		
2.2.1 Tolerance of minorities.....	19.57	104
2.2.2 Tolerance of immigrants.....	47.69	87
2.2.3 Social mobility.....	9.69	130
Gender Equality		
2.2.4 Economic empowerment of women.....	41.59	120
2.2.5 Gender parity in high-skilled jobs.....	80.48	51
2.2.6 Leadership opportunities for women.....	37.82	105

GDP per capita (PPP US\$).....	10,691.22
GDP (US\$ billions).....	18.08
GTCI score.....	36.62
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....31.70 68		
3.1 Formal Education.....	20.28	71
Enrolment		
3.1.1 Vocational enrolment.....	26.99	47
3.1.2 Tertiary enrolment.....	n/a	n/a
Quality		
3.1.3 Tertiary education expenditure.....	8.21	70
3.1.4 Reading, maths, and science.....	17.44	72
3.1.5 University ranking.....	28.47	45
3.2 Lifelong Learning.....	32.87	55
3.2.1 Business masters education.....	44.52	23
3.2.2 Prevalence of training in firms.....	18.32	78
3.2.3 Employee development.....	35.75	114
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	41.95	76
Empowerment		
3.3.1 Delegation of authority.....	25.43	112
3.3.2 Youth inclusion.....	58.33	81
Collaboration		
3.3.3 Use of virtual social networks.....	63.80	58
3.3.4 Use of virtual professional networks.....	20.24	55

4 RETAIN.....37.28 100		
4.1 Sustainability.....	17.45	127
4.1.1 Pension coverage.....	8.33	115
4.1.2 Social protection.....	9.51	124
4.1.3 Brain retention.....	29.40	93
4.1.4 Environmental performance.....	22.54	103
4.2 Lifestyle.....	57.11	67
4.2.1 Personal rights.....	57.10	88
4.2.2 Personal safety.....	37.73	91
4.2.3 Physician density.....	34.47	71
4.2.4 Sanitation.....	99.12	31

5 VOCATIONAL AND TECHNICAL SKILLS.....42.85 74		
5.1 Mid-Level Skills.....	21.22	99
5.1.1 Workforce with secondary education.....	23.57	104
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	19.90	87
5.1.4 Labour productivity per employee.....	20.21	70
5.2 Employability.....	64.47	35
5.2.1 Ease of finding skilled employees.....	74.62	7
5.2.2 Relevance of education system to the economy.....	67.75	22
5.2.3 Skills matching.....	64.19	59
5.2.4 Highly educated unemployment.....	51.33	104

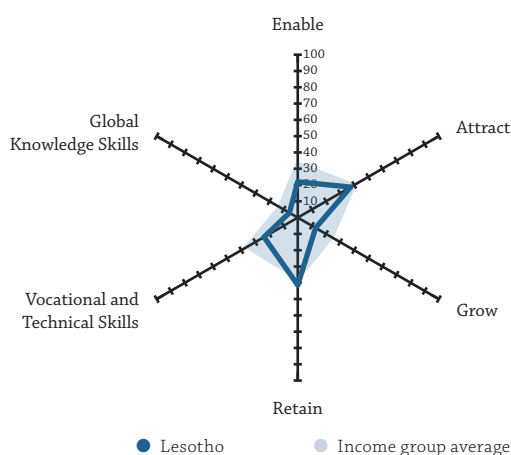
6 GLOBAL KNOWLEDGE SKILLS.....24.72 55		
6.1 High-Level Skills.....	39.16	34
6.1.1 Workforce with tertiary education.....	40.69	40
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	35.90	47
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	40.90	33
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	10.27	81
6.2.1 Innovation output.....	17.91	94
6.2.2 High-value exports.....	9.05	80
6.2.3 Software development.....	3.83	63
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	10.28	55

LESOTHO

Key Indicators

Rank (out of 133).....	120
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	2.16

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....21.96 127		
1.1 Regulatory Landscape.....	31.46	95
1.1.1 Government effectiveness.....	19.37	121
1.1.2 Rule of law.....	34.47	92
1.1.3 Political stability.....	49.90	82
1.1.4 Regulatory quality.....	26.02	102
1.1.5 Corruption.....	27.54	76
1.2 Market Landscape.....	15.42	126
1.2.1 Extent of market dominance.....	28.16	101
1.2.2 Domestic credit to private sector.....	6.45	113
1.2.3 Cluster development.....	20.99	121
1.2.4 R&D expenditure.....	0.75	110
1.2.5 ICT infrastructure.....	18.79	117
1.2.6 Urbanisation.....	17.39	122
1.3 Business and Labour Landscape.....	18.98	132
Labour Market		
1.3.1 Labour rights.....	80.70	57
1.3.2 Labour-employer cooperation.....	0.00	133
Management Practice		
1.3.3 Professional management.....	14.06	130
1.3.4 Relationship of pay to productivity.....	31.88	122
Technology Adoption		
1.3.5 Enterprise software.....	0.00	126
1.3.6 Cloud computing.....	0.00	125
1.3.7 Firms with website.....	6.24	112
2 ATTRACT.....37.46 111		
2.1 External Openness.....	26.98	115
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	64.44	59
Attract People		
2.1.3 Migrant stock.....	12.23	115
2.1.4 International students.....	1.25	106
2.1.5 Brain gain.....	30.01	102
2.2 Internal Openness.....	47.94	101
Social Inclusion		
2.2.1 Tolerance of minorities.....	76.09	19
2.2.2 Tolerance of immigrants.....	55.38	75
2.2.3 Social mobility.....	14.15	126
Gender Equality		
2.2.4 Economic empowerment of women.....	69.03	89
2.2.5 Gender parity in high-skilled jobs.....	72.97	71
2.2.6 Leadership opportunities for women.....	0.00	133

GDP per capita (PPP US\$).....	2,682.24
GDP (US\$ billions).....	2.52
GTCI score.....	23.88
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....12.66 128		
3.1 Formal Education.....	2.87	126
Enrolment		
3.1.1 Vocational enrolment.....	2.80	107
3.1.2 Tertiary enrolment.....	5.77	108
Quality		
3.1.3 Tertiary education expenditure.....	2.92	102
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	20.28	107
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	32.87	56
3.2.3 Employee development.....	27.98	123
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	14.83	130
Empowerment		
3.3.1 Delegation of authority.....	0.60	132
3.3.2 Youth inclusion.....	34.55	113
Collaboration		
3.3.3 Use of virtual social networks.....	18.81	109
3.3.4 Use of virtual professional networks.....	5.35	106

4 RETAIN.....41.38 92		
4.1 Sustainability.....	46.91	69
4.1.1 Pension coverage.....	93.90	45
4.1.2 Social protection.....	27.30	96
4.1.3 Brain retention.....	43.74	50
4.1.4 Environmental performance.....	22.71	102
4.2 Lifestyle.....	35.85	108
4.2.1 Personal rights.....	77.20	60
4.2.2 Personal safety.....	14.00	127
4.2.3 Physician density.....	6.77	104
4.2.4 Sanitation.....	45.46	110

5 VOCATIONAL AND TECHNICAL SKILLS.....23.90 123		
5.1 Mid-Level Skills.....	7.13	121
5.1.1 Workforce with secondary education.....	0.00	131
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	14.25	103
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	40.68	113
5.2.1 Ease of finding skilled employees.....	14.94	126
5.2.2 Relevance of education system to the economy.....	27.25	100
5.2.3 Skills matching.....	62.42	64
5.2.4 Highly educated unemployment.....	58.11	95

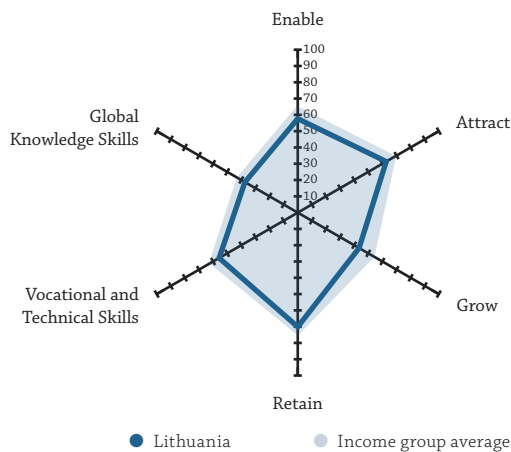
6 GLOBAL KNOWLEDGE SKILLS.....5.91 116		
6.1 High-Level Skills.....	9.75	106
6.1.1 Workforce with tertiary education.....	6.89	112
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	14.56	92
6.1.4 Researchers.....	0.16	103
6.1.5 Senior officials and managers.....	12.43	92
6.1.6 Digital skills.....	14.73	56
6.2 Talent Impact.....	2.07	126
6.2.1 Innovation output.....	n/a	n/a
6.2.2 High-value exports.....	0.00	131
6.2.3 Software development.....	0.05	127
6.2.4 New business density.....	7.93	72
6.2.5 Scientific journal articles.....	0.31	119

LITHUANIA

Key Indicators

Rank (out of 133).....	32
Income group	High income
Regional group.....	Europe
Population (millions)	2.80

GTCI 2022 Country Profile by Pillar



	Score	Rank
1	ENABLE.....57.63	32
1.1	Regulatory Landscape.....70.85	26
1.1.1	Government effectiveness.....68.31	27
1.1.2	Rule of law.....71.96	29
1.1.3	Political stability.....82.96	21
1.1.4	Regulatory quality.....70.17	28
1.1.5	Corruption.....60.87	28
1.2	Market Landscape.....43.19	60
1.2.1	Extent of market dominance.....54.22	43
1.2.2	Domestic credit to private sector.....14.84	87
1.2.3	Cluster development.....37.68	83
1.2.4	R&D expenditure.....21.10	35
1.2.5	ICT infrastructure.....68.46	51
1.2.6	Urbanisation.....62.84	61
1.3	Business and Labour Landscape.....58.83	25
	Labour Market	
1.3.1	Labour rights.....97.59	14
1.3.2	Labour-employer cooperation.....57.25	41
	Management Practice	
1.3.3	Professional management.....78.77	17
1.3.4	Relationship of pay to productivity.....67.93	30
	Technology Adoption	
1.3.5	Enterprise software.....17.03	88
1.3.6	Cloud computing.....14.26	78
1.3.7	Firms with website.....78.99	25
2	ATTRACT.....62.68	32
2.1	External Openness.....54.58	45
	Attract Business	
2.1.1	FDI regulatory restrictiveness.....95.95	9
2.1.2	Financial globalisation.....66.63	53
	Attract People	
2.1.3	Migrant stock.....42.81	63
2.1.4	International students.....22.91	41
2.1.5	Brain gain.....44.59	72
2.2	Internal Openness.....70.78	24
	Social Inclusion	
2.2.1	Tolerance of minorities.....69.57	29
2.2.2	Tolerance of immigrants.....33.85	113
2.2.3	Social mobility.....75.12	18
	Gender Equality	
2.2.4	Economic empowerment of women.....91.15	28
2.2.5	Gender parity in high-skilled jobs.....67.35	79
2.2.6	Leadership opportunities for women.....87.64	6

GDP per capita (PPP US\$)	42,665.32
GDP (US\$ billions)	65.50
GTCI score.....	54.51
GTCI score (income group average)	59.85

	Score	Rank
3	GROW.....43.48	38
3.1	Formal Education.....31.07	49
	Enrolment	
3.1.1	Vocational enrolment.....13.33	75
3.1.2	Tertiary enrolment.....47.88	30
	Quality	
3.1.3	Tertiary education expenditure.....14.41	46
3.1.4	Reading, maths, and science.....59.45	31
3.1.5	University ranking.....20.26	55
3.2	Lifelong Learning.....39.61	44
3.2.1	Business masters education.....14.65	48
3.2.2	Prevalence of training in firms.....27.69	62
3.2.3	Employee development.....78.42	19
3.2.4	Formal and non-formal studies.....37.67	36
3.3	Access to Growth Opportunities.....59.78	32
	Empowerment	
3.3.1	Delegation of authority.....64.12	26
3.3.2	Youth inclusion.....83.28	37
	Collaboration	
3.3.3	Use of virtual social networks.....66.02	55
3.3.4	Use of virtual professional networks.....25.70	44

4	RETAIN.....70.12	32
4.1	Sustainability.....56.71	45
4.1.1	Pension coverage.....97.05	41
4.1.2	Social protection.....45.17	53
4.1.3	Brain retention.....21.88	106
4.1.4	Environmental performance.....62.71	30
4.2	Lifestyle.....83.53	18
4.2.1	Personal rights.....95.37	25
4.2.2	Personal safety.....65.06	41
4.2.3	Physician density.....80.33	6
4.2.4	Sanitation.....93.34	64

5	VOCATIONAL AND TECHNICAL SKILLS.....55.71	46
5.1	Mid-Level Skills.....57.84	30
5.1.1	Workforce with secondary education.....68.38	26
5.1.2	Population with secondary education.....74.73	16
5.1.3	Technicians and associate professionals.....41.33	50
5.1.4	Labour productivity per employee.....46.90	36
5.2	Employability.....53.58	73
5.2.1	Ease of finding skilled employees.....12.85	130
5.2.2	Relevance of education system to the economy.....36.98	82
5.2.3	Skills matching.....87.24	13
5.2.4	Highly educated unemployment.....77.23	61

6	GLOBAL KNOWLEDGE SKILLS.....37.43	29
6.1	High-Level Skills.....45.84	22
6.1.1	Workforce with tertiary education.....57.71	15
6.1.2	Population with tertiary education.....39.54	33
6.1.3	Professionals.....59.30	13
6.1.4	Researchers.....42.72	27
6.1.5	Senior officials and managers.....55.38	13
6.1.6	Digital skills.....20.42	47
6.2	Talent Impact.....29.01	39
6.2.1	Innovation output.....42.73	42
6.2.2	High-value exports.....21.47	41
6.2.3	Software development.....32.39	24
6.2.4	New business density.....16.22	46
6.2.5	Scientific journal articles.....32.21	34

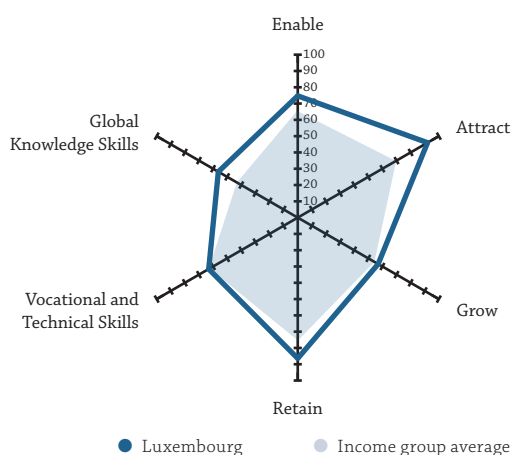
LUXEMBOURG

Key Indicators

Rank (out of 133).....	11
Income group	High income
Regional group	Europe
Population (millions)	0.64

GDP per capita (PPP US\$)	134,753.80
GDP (US\$ billions)	86.71
GTCI score	71.58
GTCI score (income group average)	59.85

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....74.74 11		
1.1 Regulatory Landscape.....	90.72	7
1.1.1 Government effectiveness	87.76	7
1.1.2 Rule of law	92.65	10
1.1.3 Political stability.....	93.04	5
1.1.4 Regulatory quality.....	90.30	4
1.1.5 Corruption	89.86	9
1.2 Market Landscape.....	64.73	20
1.2.1 Extent of market dominance.....	66.24	26
1.2.2 Domestic credit to private sector	47.27	25
1.2.3 Cluster development.....	70.07	21
1.2.4 R&D expenditure.....	20.61	37
1.2.5 ICT infrastructure.....	94.53	8
1.2.6 Urbanisation	89.63	12
1.3 Business and Labour Landscape.....	68.78	16
Labour Market		
1.3.1 Labour rights.....	97.45	17
1.3.2 Labour-employer cooperation	79.50	8
Management Practice		
1.3.3 Professional management	71.75	30
1.3.4 Relationship of pay to productivity.....	67.49	32
Technology Adoption		
1.3.5 Enterprise software	42.89	22
1.3.6 Cloud computing	40.02	17
1.3.7 Firms with website	82.33	19
2 ATTRACT.....91.96 1		
2.1 External Openness	96.49	1
Attract Business		
2.1.1 FDI regulatory restrictiveness	100.00	1
2.1.2 Financial globalisation	100.00	1
Attract People		
2.1.3 Migrant stock	89.43	5
2.1.4 International students.....	100.00	1
2.1.5 Brain gain	93.04	3
2.2 Internal Openness.....	87.43	8
Social Inclusion		
2.2.1 Tolerance of minorities.....	82.61	6
2.2.2 Tolerance of immigrants	95.38	3
2.2.3 Social mobility	86.16	10
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs	88.91	34
2.2.6 Leadership opportunities for women	71.55	27

	Score	Rank
3 GROW.....56.98 21		
3.1 Formal Education.....	44.39	26
Enrolment		
3.1.1 Vocational enrolment	52.32	15
3.1.2 Tertiary enrolment	11.38	98
Quality		
3.1.3 Tertiary education expenditure	100.00	1
3.1.4 Reading, maths, and science	58.23	34
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	57.52	23
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	81.68	5
3.2.3 Employee development	83.30	11
3.2.4 Formal and non-formal studies	65.10	19
3.3 Access to Growth Opportunities	69.04	17
Empowerment		
3.3.1 Delegation of authority	62.45	30
3.3.2 Youth inclusion	88.69	19
Collaboration		
3.3.3 Use of virtual social networks	61.76	62
3.3.4 Use of virtual professional networks	63.28	13

4 RETAIN.....86.41 9		
4.1 Sustainability	92.72	4
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection.....	92.23	5
4.1.3 Brain retention	88.13	5
4.1.4 Environmental performance	90.51	6
4.2 Lifestyle	80.11	27
4.2.1 Personal rights	96.51	17
4.2.2 Personal safety.....	79.30	22
4.2.3 Physician density.....	47.26	43
4.2.4 Sanitation	97.36	53

5 VOCATIONAL AND TECHNICAL SKILLS.....63.10 21		
5.1 Mid-Level Skills	59.91	25
5.1.1 Workforce with secondary education	40.22	77
5.1.2 Population with secondary education	48.88	45
5.1.3 Technicians and associate professionals.....	63.77	21
5.1.4 Labour productivity per employee.....	86.77	2
5.2 Employability.....	66.29	29
5.2.1 Ease of finding skilled employees	25.16	118
5.2.2 Relevance of education system to the economy	63.80	25
5.2.3 Skills matching	90.65	8
5.2.4 Highly educated unemployment	85.52	38

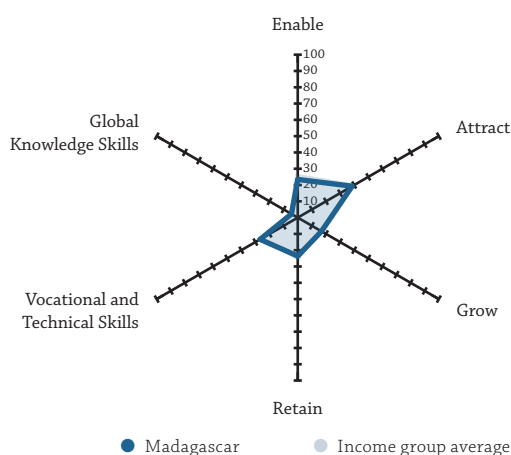
6 GLOBAL KNOWLEDGE SKILLS 56.28 11		
6.1 High-Level Skills	55.60	10
6.1.1 Workforce with tertiary education	63.68	6
6.1.2 Population with tertiary education.....	45.57	24
6.1.3 Professionals	100.00	1
6.1.4 Researchers	56.41	18
6.1.5 Senior officials and managers.....	25.61	61
6.1.6 Digital skills	42.30	12
6.2 Talent Impact.....	56.97	14
6.2.1 Innovation output	65.07	17
6.2.2 High-value exports.....	9.93	75
6.2.3 Software development	57.99	16
6.2.4 New business density	94.93	5
6.2.5 Scientific journal articles	56.92	16

MADAGASCAR

Key Indicators

Rank (out of 133).....	124
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	28.43

GTCI 2022 Country Profile by Pillar



	Score	Rank
1	ENABLE	23.44 124
1.1	Regulatory Landscape.....	23.72 117
1.1.1	Government effectiveness	17.15 125
1.1.2	Rule of law	23.46 116
1.1.3	Political stability.....	46.57 91
1.1.4	Regulatory quality.....	21.29 117
1.1.5	Corruption	10.14 118
1.2	Market Landscape.....	16.30 122
1.2.1	Extent of market dominance.....	24.98 107
1.2.2	Domestic credit to private sector	4.64 114
1.2.3	Cluster development.....	28.83 112
1.2.4	R&D expenditure.....	0.04 114
1.2.5	ICT infrastructure.....	11.55 122
1.2.6	Urbanisation	27.78 110
1.3	Business and Labour Landscape.....	30.29 119
	Labour Market	
1.3.1	Labour rights.....	77.88 62
1.3.2	Labour-employer cooperation	33.36 92
	Management Practice	
1.3.3	Professional management	27.87 117
1.3.4	Relationship of pay to productivity.....	28.00 127
	Technology Adoption	
1.3.5	Enterprise software	12.70 108
1.3.6	Cloud computing	9.12 107
1.3.7	Firms with website	23.11 97
2	ATTRACT.....	38.54 107
2.1	External Openness	24.41 120
	Attract Business	
2.1.1	FDI regulatory restrictiveness	n/a n/a
2.1.2	Financial globalisation	41.94 100
	Attract People	
2.1.3	Migrant stock	3.24 129
2.1.4	International students.....	7.24 78
2.1.5	Brain gain	45.20 70
2.2	Internal Openness.....	52.67 85
	Social Inclusion	
2.2.1	Tolerance of minorities.....	69.57 29
2.2.2	Tolerance of immigrants	35.38 108
2.2.3	Social mobility	31.30 108
	Gender Equality	
2.2.4	Economic empowerment of women.....	60.18 105
2.2.5	Gender parity in high-skilled jobs	73.92 68
2.2.6	Leadership opportunities for women	45.69 86

GDP per capita (PPP US\$)	1,635.42
GDP (US\$ billions)	14.64
GTGI score.....	22.26
GTGI score (income group average)	22.09

	Score	Rank
3	GROW.....	16.82 121
3.1	Formal Education.....	2.33 130
	Enrolment	
3.1.1	Vocational enrolment	3.68 103
3.1.2	Tertiary enrolment	2.59 121
	Quality	
3.1.3	Tertiary education expenditure	3.03 98
3.1.4	Reading, maths, and science	n/a n/a
3.1.5	University ranking.....	0.00 76
3.2	Lifelong Learning.....	13.84 127
3.2.1	Business masters education.....	0.00 54
3.2.2	Prevalence of training in firms.....	6.99 95
3.2.3	Employee development	34.53 117
3.2.4	Formal and non-formal studies	n/a n/a
3.3	Access to Growth Opportunities	34.30 99
	Empowerment	
3.3.1	Delegation of authority	30.84 101
3.3.2	Youth inclusion	98.67 2
	Collaboration	
3.3.3	Use of virtual social networks	6.74 120
3.3.4	Use of virtual professional networks	0.96 127

4	RETAIN.....	23.59 121
4.1	Sustainability	14.47 130
4.1.1	Pension coverage	3.05 123
4.1.2	Social protection.....	13.60 120
4.1.3	Brain retention	25.82 102
4.1.4	Environmental performance	15.42 126
4.2	Lifestyle	32.71 111
4.2.1	Personal rights	67.83 72
4.2.2	Personal safety.....	56.91 59
4.2.3	Physician density.....	2.38 111
4.2.4	Sanitation.....	3.73 131

5	VOCATIONAL AND TECHNICAL SKILLS.....	26.70 116
5.1	Mid-Level Skills	6.95 122
5.1.1	Workforce with secondary education	19.96 109
5.1.2	Population with secondary education	5.19 92
5.1.3	Technicians and associate professionals.....	2.64 129
5.1.4	Labour productivity per employee.....	0.00 115
5.2	Employability.....	46.46 91
5.2.1	Ease of finding skilled employees	30.23 108
5.2.2	Relevance of education system to the economy	15.77 120
5.2.3	Skills matching	44.65 82
5.2.4	Highly educated unemployment	95.20 5

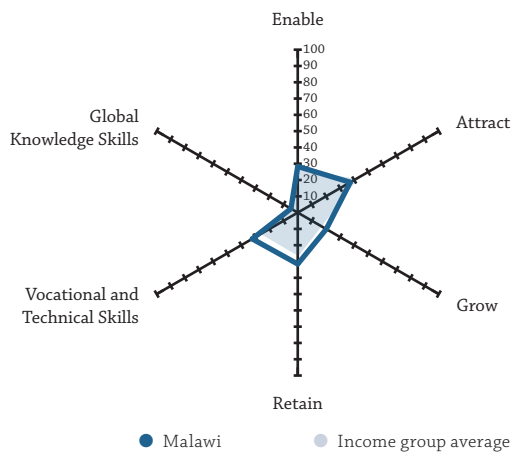
6	GLOBAL KNOWLEDGE SKILLS	4.45 124
6.1	High-Level Skills	3.88 126
6.1.1	Workforce with tertiary education	5.50 117
6.1.2	Population with tertiary education.....	4.96 88
6.1.3	Professionals	4.67 123
6.1.4	Researchers	0.27 100
6.1.5	Senior officials and managers.....	3.99 117
6.1.6	Digital skills	n/a n/a
6.2	Talent Impact.....	5.01 110
6.2.1	Innovation output	23.05 77
6.2.2	High-value exports.....	1.22 117
6.2.3	Software development	0.14 120
6.2.4	New business density	0.49 117
6.2.5	Scientific journal articles	0.15 123

MALAWI

Key Indicators

Rank (out of 133).....	116
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	19.65

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 28.33 115		
1.1 Regulatory Landscape.....	31.86	93
1.1.1 Government effectiveness.....	22.30	118
1.1.2 Rule of law.....	39.37	77
1.1.3 Political stability.....	52.57	76
1.1.4 Regulatory quality.....	21.86	116
1.1.5 Corruption.....	23.19	90
1.2 Market Landscape.....	12.57	131
1.2.1 Extent of market dominance.....	12.16	127
1.2.2 Domestic credit to private sector.....	1.91	125
1.2.3 Cluster development.....	29.23	111
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	15.05	119
1.2.6 Urbanisation.....	4.49	132
1.3 Business and Labour Landscape.....	40.57	77
Labour Market		
1.3.1 Labour rights.....	95.04	23
1.3.2 Labour-employer cooperation.....	28.52	107
Management Practice		
1.3.3 Professional management.....	52.82	67
1.3.4 Relationship of pay to productivity.....	41.44	111
Technology Adoption		
1.3.5 Enterprise software.....	14.73	96
1.3.6 Cloud computing.....	10.57	94
1.3.7 Firms with website.....	40.90	76
2 ATTRACT..... 37.21 113		
2.1 External Openness.....	32.06	103
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	24.41	121
Attract People		
2.1.3 Migrant stock.....	21.98	103
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	49.80	62
2.2 Internal Openness.....	42.35	115
Social Inclusion		
2.2.1 Tolerance of minorities.....	54.35	53
2.2.2 Tolerance of immigrants.....	26.15	122
2.2.3 Social mobility.....	33.77	99
Gender Equality		
2.2.4 Economic empowerment of women.....	68.14	91
2.2.5 Gender parity in high-skilled jobs.....	34.01	109
2.2.6 Leadership opportunities for women.....	37.67	106

GDP per capita (PPP US\$)	1,658.33
GDP (US\$ billions)	12.63
GTGI score.....	25.73
GTGI score (income group average)	22.09

	Score	Rank
3 GROW..... 20.23 111		
3.1 Formal Education.....	12.81	92
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	0.00	128
Quality		
3.1.3 Tertiary education expenditure.....	38.44	15
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	19.89	110
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	35.24	50
3.2.3 Employee development.....	43.43	93
3.2.4 Formal and non-formal studies.....	0.88	77
3.3 Access to Growth Opportunities.....	28.00	118
Empowerment		
3.3.1 Delegation of authority.....	43.26	73
3.3.2 Youth inclusion.....	66.73	67
Collaboration		
3.3.3 Use of virtual social networks.....	0.71	132
3.3.4 Use of virtual professional networks.....	1.28	126

4 RETAIN..... 31.55 109		
4.1 Sustainability.....	23.59	113
4.1.1 Pension coverage.....	0.71	127
4.1.2 Social protection.....	20.90	110
4.1.3 Brain retention.....	35.95	74
4.1.4 Environmental performance.....	36.78	74
4.2 Lifestyle.....	39.52	103
4.2.1 Personal rights.....	75.67	65
4.2.2 Personal safety.....	63.04	46
4.2.3 Physician density.....	0.00	133
4.2.4 Sanitation.....	19.37	125

5 VOCATIONAL AND TECHNICAL SKILLS..... 32.24 109		
5.1 Mid-Level Skills.....	5.32	126
5.1.1 Workforce with secondary education.....	14.62	113
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	0.00	131
5.1.4 Labour productivity per employee.....	1.35	110
5.2 Employability.....	59.15	60
5.2.1 Ease of finding skilled employees.....	51.65	54
5.2.2 Relevance of education system to the economy.....	37.53	80
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	88.27	26

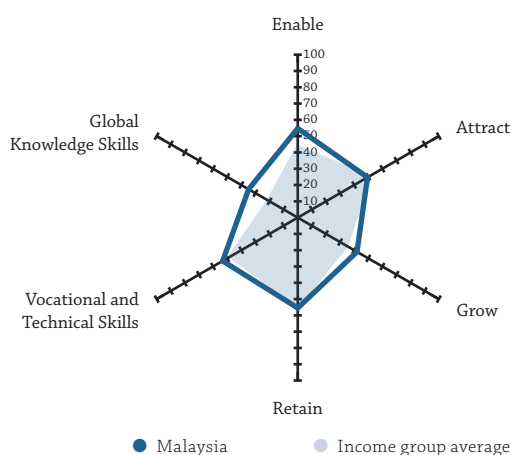
6 GLOBAL KNOWLEDGE SKILLS..... 4.83 122		
6.1 High-Level Skills.....	3.68	127
6.1.1 Workforce with tertiary education.....	1.60	126
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	6.68	120
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	2.75	120
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	5.99	108
6.2.1 Innovation output.....	18.62	91
6.2.2 High-value exports.....	4.79	93
6.2.3 Software development.....	0.09	123
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	0.47	112

MALAYSIA

Key Indicators

Rank (out of 133).....	45
Income group.....	Upper-middle income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions).....	32.78

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....54.75	36	
1.1 Regulatory Landscape.....	59.48	42
1.1.1 Government effectiveness.....	67.88	28
1.1.2 Rule of law.....	63.30	38
1.1.3 Political stability.....	62.45	57
1.1.4 Regulatory quality.....	61.74	39
1.1.5 Corruption.....	42.03	51
1.2 Market Landscape.....	57.73	27
1.2.1 Extent of market dominance.....	50.44	49
1.2.2 Domestic credit to private sector.....	60.70	15
1.2.3 Cluster development.....	65.03	27
1.2.4 R&D expenditure.....	18.98	40
1.2.5 ICT infrastructure.....	78.79	36
1.2.6 Urbanisation.....	72.44	42
1.3 Business and Labour Landscape.....	47.03	55
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	63.25	30
Management Practice		
1.3.3 Professional management.....	67.61	35
1.3.4 Relationship of pay to productivity.....	67.02	34
Technology Adoption		
1.3.5 Enterprise software.....	37.42	31
1.3.6 Cloud computing.....	21.49	41
1.3.7 Firms with website.....	25.42	95
2 ATTRACT.....49.45	73	
2.1 External Openness.....	51.19	57
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	31.62	73
2.1.2 Financial globalisation.....	71.45	48
Attract People		
2.1.3 Migrant stock.....	55.92	45
2.1.4 International students.....	28.62	33
2.1.5 Brain gain.....	68.33	20
2.2 Internal Openness.....	47.72	103
Social Inclusion		
2.2.1 Tolerance of minorities.....	46.74	62
2.2.2 Tolerance of immigrants.....	9.23	127
2.2.3 Social mobility.....	68.15	29
Gender Equality		
2.2.4 Economic empowerment of women.....	29.20	125
2.2.5 Gender parity in high-skilled jobs.....	64.83	84
2.2.6 Leadership opportunities for women.....	68.13	32

GDP per capita (PPP US\$).....	29,617.30
GDP (US\$ billions).....	372.70
GTCI score.....	48.28
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....41.99	45	
3.1 Formal Education.....	30.39	50
Enrolment		
3.1.1 Vocational enrolment.....	14.45	69
3.1.2 Tertiary enrolment.....	27.82	73
Quality		
3.1.3 Tertiary education expenditure.....	10.46	61
3.1.4 Reading, maths, and science.....	39.53	47
3.1.5 University ranking.....	59.68	13
3.2 Lifelong Learning.....	33.91	54
3.2.1 Business masters education.....	22.07	40
3.2.2 Prevalence of training in firms.....	15.10	86
3.2.3 Employee development.....	64.56	41
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	61.68	26
Empowerment		
3.3.1 Delegation of authority.....	62.21	32
3.3.2 Youth inclusion.....	78.55	44
Collaboration		
3.3.3 Use of virtual social networks.....	78.44	9
3.3.4 Use of virtual professional networks.....	27.52	39

4 RETAIN.....55.49	55	
4.1 Sustainability.....	46.97	68
4.1.1 Pension coverage.....	17.28	102
4.1.2 Social protection.....	62.75	35
4.1.3 Brain retention.....	80.55	9
4.1.4 Environmental performance.....	27.29	94
4.2 Lifestyle.....	64.02	55
4.2.1 Personal rights.....	56.97	89
4.2.2 Personal safety.....	63.86	45
4.2.3 Physician density.....	35.73	67
4.2.4 Sanitation.....	99.54	21

5 VOCATIONAL AND TECHNICAL SKILLS.....53.19	50	
5.1 Mid-Level Skills.....	51.00	45
5.1.1 Workforce with secondary education.....	66.99	29
5.1.2 Population with secondary education.....	59.92	27
5.1.3 Technicians and associate professionals.....	42.53	48
5.1.4 Labour productivity per employee.....	34.55	47
5.2 Employability.....	55.38	69
5.2.1 Ease of finding skilled employees.....	53.16	52
5.2.2 Relevance of education system to the economy.....	57.60	37
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	n/a	n/a

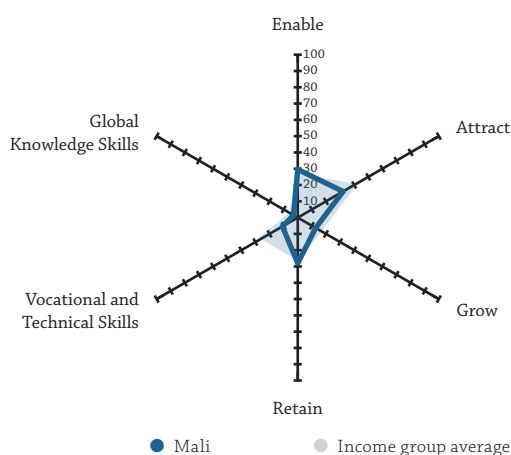
6 GLOBAL KNOWLEDGE SKILLS.....34.82	33	
6.1 High-Level Skills.....	31.24	49
6.1.1 Workforce with tertiary education.....	34.94	49
6.1.2 Population with tertiary education.....	26.36	59
6.1.3 Professionals.....	28.45	55
6.1.4 Researchers.....	24.98	37
6.1.5 Senior officials and managers.....	32.22	44
6.1.6 Digital skills.....	40.51	15
6.2 Talent Impact.....	38.41	26
6.2.1 Innovation output.....	50.18	33
6.2.2 High-value exports.....	97.04	4
6.2.3 Software development.....	3.37	67
6.2.4 New business density.....	11.58	58
6.2.5 Scientific journal articles.....	29.86	36

MALI

Key Indicators

Rank (out of 133).....	129
Income group.....	Low income
Regional group.....	Sub-Saharan Africa
Population (millions).....	20.86

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....29.57 112		
1.1 Regulatory Landscape.....	15.03	127
1.1.1 Government effectiveness.....	13.36	127
1.1.2 Rule of law.....	22.41	118
1.1.3 Political stability.....	0.00	133
1.1.4 Regulatory quality.....	24.90	104
1.1.5 Corruption.....	14.49	110
1.2 Market Landscape.....	28.04	105
1.2.1 Extent of market dominance.....	56.03	38
1.2.2 Domestic credit to private sector.....	9.30	104
1.2.3 Cluster development.....	38.73	79
1.2.4 R&D expenditure.....	2.72	95
1.2.5 ICT infrastructure.....	27.75	107
1.2.6 Urbanisation.....	33.72	108
1.3 Business and Labour Landscape.....	45.64	58
Labour Market		
1.3.1 Labour rights.....	88.20	42
1.3.2 Labour-employer cooperation.....	34.26	89
Management Practice		
1.3.3 Professional management.....	24.47	122
1.3.4 Relationship of pay to productivity.....	43.49	103
Technology Adoption		
1.3.5 Enterprise software.....	n/a	n/a
1.3.6 Cloud computing.....	n/a	n/a
1.3.7 Firms with website.....	37.78	81
2 ATTRACT.....32.11 122		
2.1 External Openness.....	30.36	109
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	30.85	117
Attract People		
2.1.3 Migrant stock.....	39.01	71
2.1.4 International students.....	3.18	90
2.1.5 Brain gain.....	48.39	64
2.2 Internal Openness.....	33.85	124
Social Inclusion		
2.2.1 Tolerance of minorities.....	17.39	109
2.2.2 Tolerance of immigrants.....	66.15	51
2.2.3 Social mobility.....	35.69	94
Gender Equality		
2.2.4 Economic empowerment of women.....	44.25	118
2.2.5 Gender parity in high-skilled jobs.....	6.02	124
2.2.6 Leadership opportunities for women.....	33.62	112

GDP per capita (PPP US\$).....	2,447.32
GDP (US\$ billions).....	19.14
GTCI score.....	19.37
GTCI score (income group average).....	22.09

	Score	Rank
3 GROW.....12.70 127		
3.1 Formal Education.....	7.53	107
Enrolment		
3.1.1 Vocational enrolment.....	19.06	60
3.1.2 Tertiary enrolment.....	2.57	122
Quality		
3.1.3 Tertiary education expenditure.....	8.49	69
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	13.70	128
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	13.99	89
3.2.3 Employee development.....	39.94	101
3.2.4 Formal and non-formal studies.....	0.87	78
3.3 Access to Growth Opportunities.....	16.86	127
Empowerment		
3.3.1 Delegation of authority.....	16.06	122
3.3.2 Youth inclusion.....	43.32	108
Collaboration		
3.3.3 Use of virtual social networks.....	6.12	121
3.3.4 Use of virtual professional networks.....	1.93	124

4 RETAIN.....27.99 117		
4.1 Sustainability.....	21.92	121
4.1.1 Pension coverage.....	5.79	117
4.1.2 Social protection.....	36.26	71
4.1.3 Brain retention.....	29.34	94
4.1.4 Environmental performance.....	16.27	118
4.2 Lifestyle.....	34.06	110
4.2.1 Personal rights.....	52.49	96
4.2.2 Personal safety.....	42.46	85
4.2.3 Physician density.....	1.25	121
4.2.4 Sanitation.....	40.05	114
5 VOCATIONAL AND TECHNICAL SKILLS.....10.87 133		
5.1 Mid-Level Skills.....	3.87	129
5.1.1 Workforce with secondary education.....	3.73	124
5.1.2 Population with secondary education.....	2.30	96
5.1.3 Technicians and associate professionals.....	7.19	119
5.1.4 Labour productivity per employee.....	2.26	105
5.2 Employability.....	17.86	131
5.2.1 Ease of finding skilled employees.....	35.02	97
5.2.2 Relevance of education system to the economy.....	18.58	114
5.2.3 Skills matching.....	0.00	105
5.2.4 Highly educated unemployment.....	n/a	n/a

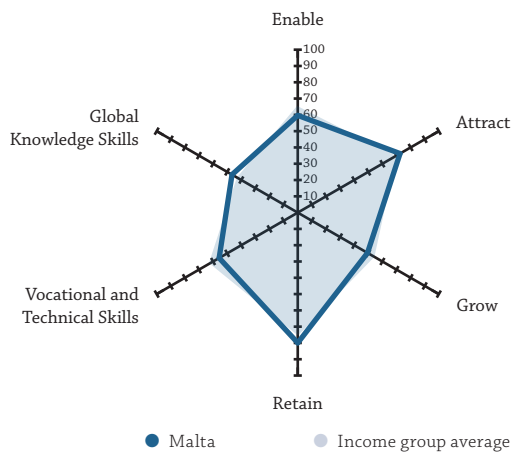
6 GLOBAL KNOWLEDGE SKILLS.....2.99 130		
6.1 High-Level Skills.....	1.63	131
6.1.1 Workforce with tertiary education.....	2.37	124
6.1.2 Population with tertiary education.....	1.76	97
6.1.3 Professionals.....	3.46	127
6.1.4 Researchers.....	0.55	94
6.1.5 Senior officials and managers.....	0.00	131
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	4.36	115
6.2.1 Innovation output.....	10.64	111
6.2.2 High-value exports.....	9.67	77
6.2.3 Software development.....	0.07	124
6.2.4 New business density.....	1.27	107
6.2.5 Scientific journal articles.....	0.15	124

MALTA

Key Indicators

Rank (out of 133).....	22
Income group	High income
Regional group	Europe
Population (millions)	0.52

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	59.67	28
1.1 Regulatory Landscape.....	69.49	29
1.1.1 Government effectiveness	67.83	29
1.1.2 Rule of law	69.95	34
1.1.3 Political stability.....	85.28	15
1.1.4 Regulatory quality.....	73.67	23
1.1.5 Corruption	50.72	39
1.2 Market Landscape.....	50.69	38
1.2.1 Extent of market dominance.....	39.60	74
1.2.2 Domestic credit to private sector	36.02	40
1.2.3 Cluster development.....	46.70	55
1.2.4 R&D expenditure.....	12.34	51
1.2.5 ICT infrastructure.....	75.69	40
1.2.6 Urbanisation	93.80	6
1.3 Business and Labour Landscape.....	58.83	26
Labour Market		
1.3.1 Labour rights.....	75.47	67
1.3.2 Labour-employer cooperation	63.30	29
Management Practice		
1.3.3 Professional management	48.66	72
1.3.4 Relationship of pay to productivity.....	64.76	44
Technology Adoption		
1.3.5 Enterprise software	43.27	20
1.3.6 Cloud computing	31.06	27
1.3.7 Firms with website	85.26	12
2 ATTRACT.....	72.49	20
2.1 External Openness	74.86	12
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	98.04	5
Attract People		
2.1.3 Migrant stock	74.98	15
2.1.4 International students.....	47.68	16
2.1.5 Brain gain	78.74	12
2.2 Internal Openness.....	70.12	25
Social Inclusion		
2.2.1 Tolerance of minorities.....	76.09	19
2.2.2 Tolerance of immigrants	75.38	34
2.2.3 Social mobility	65.63	31
Gender Equality		
2.2.4 Economic empowerment of women.....	84.07	39
2.2.5 Gender parity in high-skilled jobs	62.05	88
2.2.6 Leadership opportunities for women	57.49	57

GDP per capita (PPP US\$)	47,714.45
GDP (US\$ billions)	17.19
GTCI score.....	60.64
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....	49.44	28
3.1 Formal Education.....	32.47	45
Enrolment		
3.1.1 Vocational enrolment	25.96	49
3.1.2 Tertiary enrolment	43.02	45
Quality		
3.1.3 Tertiary education expenditure	42.43	13
3.1.4 Reading, maths, and science	50.93	41
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	43.10	39
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	59.02	21
3.2.3 Employee development	64.29	42
3.2.4 Formal and non-formal studies	49.07	32
3.3 Access to Growth Opportunities	72.76	14
Empowerment		
3.3.1 Delegation of authority	49.24	60
3.3.2 Youth inclusion	85.85	23
Collaboration		
3.3.3 Use of virtual social networks	86.69	3
3.3.4 Use of virtual professional networks	69.27	6

4 RETAIN.....	79.95	16
4.1 Sustainability	81.47	11
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection.....	67.33	29
4.1.3 Brain retention	63.15	30
4.1.4 Environmental performance	95.42	4
4.2 Lifestyle	78.43	31
4.2.1 Personal rights	88.38	39
4.2.2 Personal safety.....	80.47	19
4.2.3 Physician density.....	44.90	49
4.2.4 Sanitation.....	99.96	11

5 VOCATIONAL AND TECHNICAL SKILLS.....	55.70	47
5.1 Mid-Level Skills	46.95	53
5.1.1 Workforce with secondary education	49.13	66
5.1.2 Population with secondary education	31.49	65
5.1.3 Technicians and associate professionals.....	55.25	31
5.1.4 Labour productivity per employee.....	51.92	28
5.2 Employability.....	64.45	36
5.2.1 Ease of finding skilled employees	25.32	117
5.2.2 Relevance of education system to the economy	58.55	36
5.2.3 Skills matching	82.31	20
5.2.4 Highly educated unemployment	91.62	10

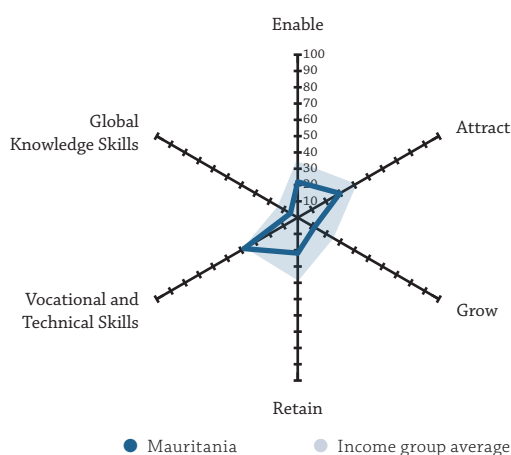
6 GLOBAL KNOWLEDGE SKILLS	46.59	20
6.1 High-Level Skills	41.26	31
6.1.1 Workforce with tertiary education	41.51	37
6.1.2 Population with tertiary education.....	33.29	42
6.1.3 Professionals	48.85	23
6.1.4 Researchers	26.27	35
6.1.5 Senior officials and managers.....	68.43	7
6.1.6 Digital skills	29.21	31
6.2 Talent Impact.....	51.91	17
6.2.1 Innovation output	61.35	21
6.2.2 High-value exports.....	62.34	7
6.2.3 Software development	45.79	20
6.2.4 New business density	55.43	12
6.2.5 Scientific journal articles	34.66	33

MAURITANIA

Key Indicators

Rank (out of 133).....	125
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	4.78

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....21.96 126		
1.1 Regulatory Landscape.....	25.00	114
1.1.1 Government effectiveness.....	22.85	115
1.1.2 Rule of law.....	31.11	101
1.1.3 Political stability.....	38.42	108
1.1.4 Regulatory quality.....	19.58	119
1.1.5 Corruption.....	13.04	113
1.2 Market Landscape.....	16.21	123
1.2.1 Extent of market dominance.....	5.62	132
1.2.2 Domestic credit to private sector.....	7.75	109
1.2.3 Cluster development.....	20.94	122
1.2.4 R&D expenditure.....	0.00	115
1.2.5 ICT infrastructure.....	n/a	n/a
1.2.6 Urbanisation.....	46.73	93
1.3 Business and Labour Landscape.....	24.68	128
Labour Market		
1.3.1 Labour rights.....	75.47	67
1.3.2 Labour-employer cooperation.....	5.33	131
Management Practice		
1.3.3 Professional management.....	6.66	132
1.3.4 Relationship of pay to productivity.....	0.00	133
Technology Adoption		
1.3.5 Enterprise software.....	n/a	n/a
1.3.6 Cloud computing.....	n/a	n/a
1.3.7 Firms with website.....	35.93	85
2 ATTRACT.....29.77 125		
2.1 External Openness.....	31.12	105
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	47.87	91
Attract People		
2.1.3 Migrant stock.....	37.27	74
2.1.4 International students.....	5.46	82
2.1.5 Brain gain.....	33.89	100
2.2 Internal Openness.....	28.42	131
Social Inclusion		
2.2.1 Tolerance of minorities.....	26.09	94
2.2.2 Tolerance of immigrants.....	40.00	101
2.2.3 Social mobility.....	40.04	84
Gender Equality		
2.2.4 Economic empowerment of women.....	26.55	127
2.2.5 Gender parity in high-skilled jobs.....	n/a	n/a
2.2.6 Leadership opportunities for women.....	9.42	130

GDP per capita (PPP US\$).....	5,591.83
GDP (US\$ billions).....	8.23
GTCI score.....	21.43
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....11.82 130		
3.1 Formal Education.....	2.90	125
Enrolment		
3.1.1 Vocational enrolment.....	0.61	114
3.1.2 Tertiary enrolment.....	2.83	120
Quality		
3.1.3 Tertiary education expenditure.....	8.15	71
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	17.15	120
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	62.94	19
3.2.3 Employee development.....	0.00	133
3.2.4 Formal and non-formal studies.....	5.65	56
3.3 Access to Growth Opportunities.....	15.40	128
Empowerment		
3.3.1 Delegation of authority.....	9.61	127
3.3.2 Youth inclusion.....	33.78	116
Collaboration		
3.3.3 Use of virtual social networks.....	15.44	113
3.3.4 Use of virtual professional networks.....	2.78	118

4 RETAIN.....21.80 125		
4.1 Sustainability.....	13.68	132
4.1.1 Pension coverage.....	14.84	106
4.1.2 Social protection.....	9.31	125
4.1.3 Brain retention.....	14.97	123
4.1.4 Environmental performance.....	15.59	124
4.2 Lifestyle.....	29.92	117
4.2.1 Personal rights.....	40.39	106
4.2.2 Personal safety.....	32.20	99
4.2.3 Physician density.....	2.18	114
4.2.4 Sanitation.....	44.93	111

5 VOCATIONAL AND TECHNICAL SKILLS.....38.05 92		
5.1 Mid-Level Skills.....	34.12	72
5.1.1 Workforce with secondary education.....	4.97	123
5.1.2 Population with secondary education.....	7.56	90
5.1.3 Technicians and associate professionals.....	89.83	2
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	41.98	109
5.2.1 Ease of finding skilled employees.....	65.61	17
5.2.2 Relevance of education system to the economy.....	10.13	128
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	50.20	105

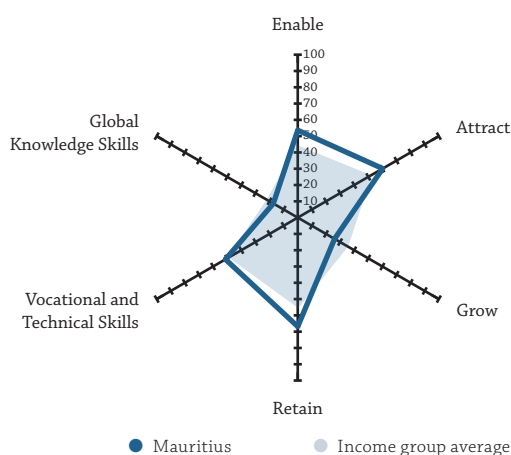
6 GLOBAL KNOWLEDGE SKILLS.....5.19 119		
6.1 High-Level Skills.....	8.93	111
6.1.1 Workforce with tertiary education.....	5.24	118
6.1.2 Population with tertiary education.....	2.42	94
6.1.3 Professionals.....	0.00	130
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	28.08	57
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	1.45	128
6.2.1 Innovation output.....	n/a	n/a
6.2.2 High-value exports.....	3.75	101
6.2.3 Software development.....	0.02	129
6.2.4 New business density.....	1.91	103
6.2.5 Scientific journal articles.....	0.14	128

MAURITIUS

Key Indicators

Rank (out of 133)	51
Income group	Upper-middle income
Regional group	Sub-Saharan Africa
Population (millions)	1.27

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	53.61	39
1.1 Regulatory Landscape	67.83	33
1.1.1 Government effectiveness	63.53	37
1.1.2 Rule of law	70.12	32
1.1.3 Political stability	83.58	19
1.1.4 Regulatory quality	71.18	26
1.1.5 Corruption	50.72	39
1.2 Market Landscape	33.06	87
1.2.1 Extent of market dominance	22.08	114
1.2.2 Domestic credit to private sector	42.55	31
1.2.3 Cluster development	46.50	58
1.2.4 R&D expenditure	7.57	66
1.2.5 ICT infrastructure	47.73	83
1.2.6 Urbanisation	31.92	109
1.3 Business and Labour Landscape	59.93	24
Labour Market		
1.3.1 Labour rights	71.45	74
1.3.2 Labour-employer cooperation	52.81	48
Management Practice		
1.3.3 Professional management	53.87	64
1.3.4 Relationship of pay to productivity	57.54	54
Technology Adoption		
1.3.5 Enterprise software	100.00	1
1.3.6 Cloud computing	23.93	32
1.3.7 Firms with website	n/a	n/a
2 ATTRACT	60.19	38
2.1 External Openness	54.15	48
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	99.45	2
Attract People		
2.1.3 Migrant stock	28.78	90
2.1.4 International students	25.67	37
2.1.5 Brain gain	62.68	28
2.2 Internal Openness	66.23	30
Social Inclusion		
2.2.1 Tolerance of minorities	57.61	47
2.2.2 Tolerance of immigrants	84.62	16
2.2.3 Social mobility	53.51	46
Gender Equality		
2.2.4 Economic empowerment of women	84.96	37
2.2.5 Gender parity in high-skilled jobs	75.80	61
2.2.6 Leadership opportunities for women	40.89	97

GDP per capita (PPP US\$)	22,240.13
GDP (US\$ billions)	11.16
GTCI score	45.87
GTCI score (income group average)	41.23

	Score	Rank
3 GROW	26.09	90
3.1 Formal Education	11.43	97
Enrolment		
3.1.1 Vocational enrolment	11.44	83
3.1.2 Tertiary enrolment	28.97	70
Quality		
3.1.3 Tertiary education expenditure	5.29	86
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking	0.00	76
3.2 Lifelong Learning	23.00	97
3.2.1 Business masters education	0.00	54
3.2.2 Prevalence of training in firms	n/a	n/a
3.2.3 Employee development	66.94	37
3.2.4 Formal and non-formal studies	2.05	71
3.3 Access to Growth Opportunities	43.84	72
Empowerment		
3.3.1 Delegation of authority	50.25	55
3.3.2 Youth inclusion	21.12	122
Collaboration		
3.3.3 Use of virtual social networks	66.81	49
3.3.4 Use of virtual professional networks	37.15	26

4 RETAIN	66.83	38
4.1 Sustainability	59.69	42
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection	51.73	47
4.1.3 Brain retention	43.14	54
4.1.4 Environmental performance	43.90	59
4.2 Lifestyle	73.96	42
4.2.1 Personal rights	85.14	45
4.2.2 Personal safety	73.09	30
4.2.3 Physician density	42.55	53
4.2.4 Sanitation	95.07	61

5 VOCATIONAL AND TECHNICAL SKILLS	51.23	53
5.1 Mid-Level Skills	47.96	50
5.1.1 Workforce with secondary education	67.04	28
5.1.2 Population with secondary education	54.03	35
5.1.3 Technicians and associate professionals	41.48	49
5.1.4 Labour productivity per employee	29.30	55
5.2 Employability	54.51	71
5.2.1 Ease of finding skilled employees	31.36	105
5.2.2 Relevance of education system to the economy	43.79	60
5.2.3 Skills matching	72.51	48
5.2.4 Highly educated unemployment	70.37	77

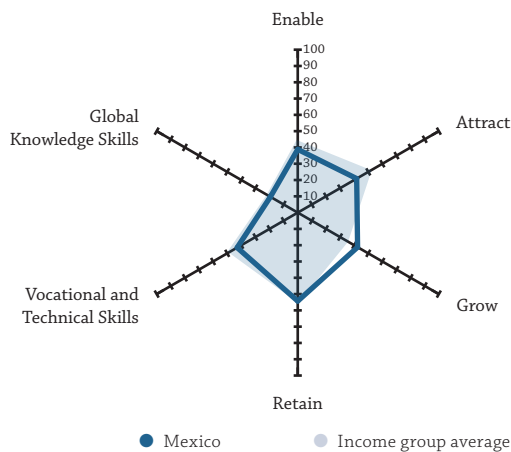
6 GLOBAL KNOWLEDGE SKILLS	17.30	78
6.1 High-Level Skills	15.81	91
6.1.1 Workforce with tertiary education	24.34	74
6.1.2 Population with tertiary education	5.74	86
6.1.3 Professionals	23.87	67
6.1.4 Researchers	6.36	65
6.1.5 Senior officials and managers	20.96	70
6.1.6 Digital skills	13.57	58
6.2 Talent Impact	18.79	58
6.2.1 Innovation output	34.40	57
6.2.2 High-value exports	3.94	97
6.2.3 Software development	12.83	44
6.2.4 New business density	38.83	20
6.2.5 Scientific journal articles	3.96	81

MEXICO

Key Indicators

Rank (out of 133)	69
Income group	Upper-middle income
Regional group	Latin America and the Caribbean
Population (millions)	130.26

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	38.82	78
1.1 Regulatory Landscape	32.68	91
1.1.1 Government effectiveness	38.17	79
1.1.2 Rule of law	28.96	106
1.1.3 Political stability	35.71	112
1.1.4 Regulatory quality	43.18	69
1.1.5 Corruption	17.39	103
1.2 Market Landscape	42.93	61
1.2.1 Extent of market dominance	36.80	80
1.2.2 Domestic credit to private sector	15.14	84
1.2.3 Cluster development	57.32	35
1.2.4 R&D expenditure	5.36	77
1.2.5 ICT infrastructure	65.80	54
1.2.6 Urbanisation	77.18	35
1.3 Business and Labour Landscape	40.86	76
Labour Market		
1.3.1 Labour rights	73.99	72
1.3.2 Labour-employer cooperation	46.36	61
Management Practice		
1.3.3 Professional management	44.24	90
1.3.4 Relationship of pay to productivity	45.29	96
Technology Adoption		
1.3.5 Enterprise software	17.83	84
1.3.6 Cloud computing	21.37	42
1.3.7 Firms with website	36.91	83
2 ATTRACT	41.77	97
2.1 External Openness	30.44	107
Attract Business		
2.1.1 FDI regulatory restrictiveness	50.27	66
2.1.2 Financial globalisation	52.19	87
Attract People		
2.1.3 Migrant stock	8.19	125
2.1.4 International students	2.61	94
2.1.5 Brain gain	38.97	84
2.2 Internal Openness	53.10	80
Social Inclusion		
2.2.1 Tolerance of minorities	36.96	80
2.2.2 Tolerance of immigrants	58.46	65
2.2.3 Social mobility	26.59	115
Gender Equality		
2.2.4 Economic empowerment of women	84.07	39
2.2.5 Gender parity in high-skilled jobs	90.16	25
2.2.6 Leadership opportunities for women	22.37	122

GDP per capita (PPP US\$)	20,036.46
GDP (US\$ billions)	1,293.04
GTGI score	39.93
GTGI score (income group average)	41.23

	Score	Rank
3 GROW	42.41	42
3.1 Formal Education	32.69	44
Enrolment		
3.1.1 Vocational enrolment	44.57	24
3.1.2 Tertiary enrolment	28.00	72
Quality		
3.1.3 Tertiary education expenditure	12.27	55
3.1.4 Reading, maths, and science	33.50	56
3.1.5 University ranking	45.09	24
3.2 Lifelong Learning	46.85	34
3.2.1 Business masters education	50.70	18
3.2.2 Prevalence of training in firms	n/a	n/a
3.2.3 Employee development	48.74	79
3.2.4 Formal and non-formal studies	41.09	35
3.3 Access to Growth Opportunities	47.69	62
Empowerment		
3.3.1 Delegation of authority	36.13	90
3.3.2 Youth inclusion	68.90	59
Collaboration		
3.3.3 Use of virtual social networks	66.55	51
3.3.4 Use of virtual professional networks	19.16	59

4 RETAIN	54.30	62
4.1 Sustainability	55.13	48
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection	32.81	76
4.1.3 Brain retention	42.63	58
4.1.4 Environmental performance	45.08	57
4.2 Lifestyle	53.47	78
4.2.1 Personal rights	63.55	77
4.2.2 Personal safety	20.70	118
4.2.3 Physician density	37.96	62
4.2.4 Sanitation	91.68	71

5 VOCATIONAL AND TECHNICAL SKILLS	42.93	73
5.1 Mid-Level Skills	29.20	83
5.1.1 Workforce with secondary education	35.46	81
5.1.2 Population with secondary education	26.87	71
5.1.3 Technicians and associate professionals	29.78	62
5.1.4 Labour productivity per employee	24.70	62
5.2 Employability	56.65	66
5.2.1 Ease of finding skilled employees	44.97	70
5.2.2 Relevance of education system to the economy	26.14	101
5.2.3 Skills matching	71.59	49
5.2.4 Highly educated unemployment	83.89	42

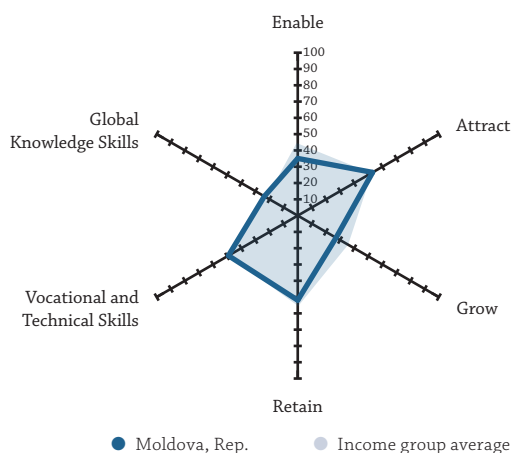
6 GLOBAL KNOWLEDGE SKILLS	19.38	69
6.1 High-Level Skills	21.09	74
6.1.1 Workforce with tertiary education	24.19	75
6.1.2 Population with tertiary education	24.28	61
6.1.3 Professionals	22.55	72
6.1.4 Researchers	3.89	75
6.1.5 Senior officials and managers	18.58	75
6.1.6 Digital skills	33.03	23
6.2 Talent Impact	17.67	60
6.2.1 Innovation output	37.41	50
6.2.2 High-value exports	38.64	20
6.2.3 Software development	2.99	70
6.2.4 New business density	4.18	86
6.2.5 Scientific journal articles	5.12	73

MOLDOVA, REP.

Key Indicators

Rank (out of 133).....	67
Income group.....	Upper-middle income
Regional group.....	Europe
Population (millions).....	2.57

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....35.09 94		
1.1 Regulatory Landscape.....36.18 84		
1.1.1 Government effectiveness.....30.71 95		
1.1.2 Rule of law.....35.66 89		
1.1.3 Political stability.....47.62 85		
1.1.4 Regulatory quality.....42.26 70		
1.1.5 Corruption.....24.64 85		
1.2 Market Landscape.....27.18 110		
1.2.1 Extent of market dominance.....39.03 76		
1.2.2 Domestic credit to private sector.....10.21 100		
1.2.3 Cluster development.....22.40 117		
1.2.4 R&D expenditure.....4.00 86		
1.2.5 ICT infrastructure.....53.41 77		
1.2.6 Urbanisation.....34.03 107		
1.3 Business and Labour Landscape.....41.90 75		
Labour Market		
1.3.1 Labour rights.....88.07 43		
1.3.2 Labour-employer cooperation.....18.79 120		
Management Practice		
1.3.3 Professional management.....46.70 81		
1.3.4 Relationship of pay to productivity.....48.42 81		
Technology Adoption		
1.3.5 Enterprise software.....27.19 46		
1.3.6 Cloud computing.....19.51 47		
1.3.7 Firms with website.....44.59 71		
2 ATTRACT.....53.06 57		
2.1 External Openness.....49.22 61		
Attract Business		
2.1.1 FDI regulatory restrictiveness.....84.86 40		
2.1.2 Financial globalisation.....58.04 75		
Attract People		
2.1.3 Migrant stock.....28.59 91		
2.1.4 International students.....25.37 39		
2.1.5 Brain gain.....n/a n/a		
2.2 Internal Openness.....56.90 69		
Social Inclusion		
2.2.1 Tolerance of minorities.....35.87 81		
2.2.2 Tolerance of immigrants.....41.54 97		
2.2.3 Social mobility.....40.20 83		
Gender Equality		
2.2.4 Economic empowerment of women.....82.30 48		
2.2.5 Gender parity in high-skilled jobs.....56.20 98		
2.2.6 Leadership opportunities for women.....85.30 12		

GDP per capita (PPP US\$).....	15,637.24
GDP (US\$ billions).....	13.68
GTCI score.....	40.00
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....27.14 85		
3.1 Formal Education.....20.96 70		
Enrolment		
3.1.1 Vocational enrolment.....20.48 57		
3.1.2 Tertiary enrolment.....38.32 53		
Quality		
3.1.3 Tertiary education expenditure.....9.15 66		
3.1.4 Reading, maths, and science.....36.85 50		
3.1.5 University ranking.....0.00 76		
3.2 Lifelong Learning.....31.88 63		
3.2.1 Business masters education.....0.00 54		
3.2.2 Prevalence of training in firms.....42.52 38		
3.2.3 Employee development.....53.11 58		
3.2.4 Formal and non-formal studies.....n/a n/a		
3.3 Access to Growth Opportunities.....28.59 114		
Empowerment		
3.3.1 Delegation of authority.....33.81 94		
3.3.2 Youth inclusion.....33.43 117		
Collaboration		
3.3.3 Use of virtual social networks.....38.33 98		
3.3.4 Use of virtual professional networks.....8.78 92		

4 RETAIN.....51.93 72		
4.1 Sustainability.....39.98 85		
4.1.1 Pension coverage.....74.80 66		
4.1.2 Social protection.....n/a n/a		
4.1.3 Brain retention.....4.82 129		
4.1.4 Environmental performance.....40.34 63		
4.2 Lifestyle.....63.88 56		
4.2.1 Personal rights.....79.92 53		
4.2.2 Personal safety.....50.17 71		
4.2.3 Physician density.....48.78 42		
4.2.4 Sanitation.....76.65 94		

5 VOCATIONAL AND TECHNICAL SKILLS.....49.13 57		
5.1 Mid-Level Skills.....38.47 66		
5.1.1 Workforce with secondary education.....51.83 58		
5.1.2 Population with secondary education.....57.05 30		
5.1.3 Technicians and associate professionals.....28.96 64		
5.1.4 Labour productivity per employee.....16.02 80		
5.2 Employability.....59.79 54		
5.2.1 Ease of finding skilled employees.....24.24 120		
5.2.2 Relevance of education system to the economy.....38.24 77		
5.2.3 Skills matching.....85.22 15		
5.2.4 Highly educated unemployment.....91.46 11		

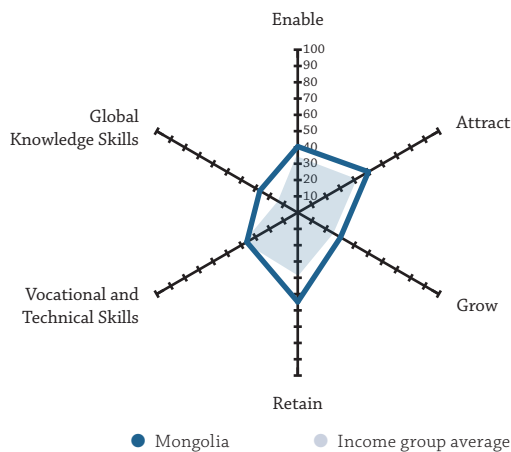
6 GLOBAL KNOWLEDGE SKILLS.....23.66 58		
6.1 High-Level Skills.....34.22 43		
6.1.1 Workforce with tertiary education.....33.45 54		
6.1.2 Population with tertiary education.....45.43 25		
6.1.3 Professionals.....37.96 44		
6.1.4 Researchers.....8.94 56		
6.1.5 Senior officials and managers.....45.30 29		
6.1.6 Digital skills.....n/a n/a		
6.2 Talent Impact.....13.11 71		
6.2.1 Innovation output.....36.70 53		
6.2.2 High-value exports.....3.82 100		
6.2.3 Software development.....8.86 49		
6.2.4 New business density.....n/a n/a		
6.2.5 Scientific journal articles.....3.06 82		

MONGOLIA

Key Indicators

Rank (out of 133).....	71
Income group.....	Lower-middle income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions).....	3.33

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 40.57 73		
1.1 Regulatory Landscape.....	43.15	67
1.1.1 Government effectiveness.....	33.49	88
1.1.2 Rule of law.....	39.46	75
1.1.3 Political stability.....	80.95	26
1.1.4 Regulatory quality.....	38.66	78
1.1.5 Corruption.....	23.19	90
1.2 Market Landscape.....	27.34	108
1.2.1 Extent of market dominance.....	9.69	129
1.2.2 Domestic credit to private sector.....	18.72	76
1.2.3 Cluster development.....	25.75	115
1.2.4 R&D expenditure.....	2.26	99
1.2.5 ICT infrastructure.....	43.88	92
1.2.6 Urbanisation.....	63.72	58
1.3 Business and Labour Landscape.....	51.22	41
Labour Market		
1.3.1 Labour rights.....	97.99	12
1.3.2 Labour-employer cooperation.....	36.79	85
Management Practice		
1.3.3 Professional management.....	43.95	91
1.3.4 Relationship of pay to productivity.....	47.08	88
Technology Adoption		
1.3.5 Enterprise software.....	73.89	6
1.3.6 Cloud computing.....	26.52	29
1.3.7 Firms with website.....	32.35	91
2 ATTRACT..... 50.09 70		
2.1 External Openness.....	41.40	74
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	81.62	42
2.1.2 Financial globalisation.....	79.45	30
Attract People		
2.1.3 Migrant stock.....	12.75	114
2.1.4 International students.....	5.44	83
2.1.5 Brain gain.....	27.74	108
2.2 Internal Openness.....	58.79	57
Social Inclusion		
2.2.1 Tolerance of minorities.....	77.17	15
2.2.2 Tolerance of immigrants.....	30.77	118
2.2.3 Social mobility.....	54.28	45
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	54.60	100
2.2.6 Leadership opportunities for women.....	57.13	58

GDP per capita (PPP US\$).....	12,862.75
GDP (US\$ billions).....	15.10
GTCI score.....	39.79
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW..... 30.31 73		
3.1 Formal Education.....	15.30	86
Enrolment		
3.1.1 Vocational enrolment.....	15.01	68
3.1.2 Tertiary enrolment.....	45.66	35
Quality		
3.1.3 Tertiary education expenditure.....	0.53	111
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	32.01	60
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	81.82	4
3.2.3 Employee development.....	45.61	89
3.2.4 Formal and non-formal studies.....	0.63	82
3.3 Access to Growth Opportunities.....	43.63	73
Empowerment		
3.3.1 Delegation of authority.....	22.30	113
3.3.2 Youth inclusion.....	68.60	62
Collaboration		
3.3.3 Use of virtual social networks.....	72.49	25
3.3.4 Use of virtual professional networks.....	11.13	80

4 RETAIN..... 54.79 61		
4.1 Sustainability.....	41.50	82
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	32.66	78
4.1.3 Brain retention.....	15.19	122
4.1.4 Environmental performance.....	18.14	114
4.2 Lifestyle.....	68.07	50
4.2.1 Personal rights.....	86.01	43
4.2.2 Personal safety.....	60.94	50
4.2.3 Physician density.....	60.76	26
4.2.4 Sanitation.....	64.59	104

5 VOCATIONAL AND TECHNICAL SKILLS..... 36.11 98		
5.1 Mid-Level Skills.....	26.99	89
5.1.1 Workforce with secondary education.....	56.62	48
5.1.2 Population with secondary education.....	13.69	84
5.1.3 Technicians and associate professionals.....	10.67	112
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	45.23	95
5.2.1 Ease of finding skilled employees.....	0.00	133
5.2.2 Relevance of education system to the economy.....	19.85	108
5.2.3 Skills matching.....	84.55	18
5.2.4 Highly educated unemployment.....	76.50	63

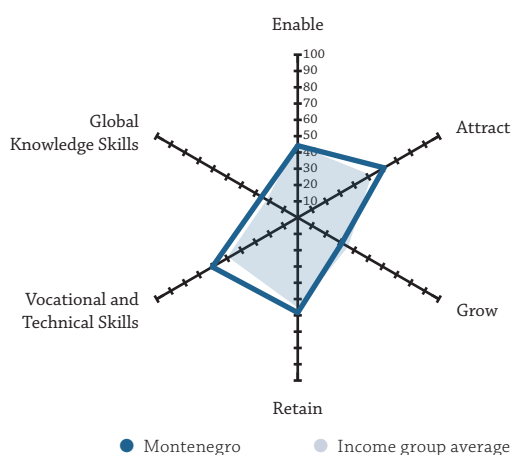
6 GLOBAL KNOWLEDGE SKILLS..... 26.86 48		
6.1 High-Level Skills.....	32.37	47
6.1.1 Workforce with tertiary education.....	47.45	31
6.1.2 Population with tertiary education.....	45.39	26
6.1.3 Professionals.....	38.65	42
6.1.4 Researchers.....	3.68	78
6.1.5 Senior officials and managers.....	40.71	34
6.1.6 Digital skills.....	18.31	51
6.2 Talent Impact.....	21.35	51
6.2.1 Innovation output.....	36.70	53
6.2.2 High-value exports.....	34.01	26
6.2.3 Software development.....	1.75	85
6.2.4 New business density.....	32.54	25
6.2.5 Scientific journal articles.....	1.73	91

MONTENEGRO

Key Indicators

Rank (out of 133).....	47
Income group.....	Upper-middle income
Regional group.....	Europe
Population (millions).....	0.62

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....44.16 61		
1.1 Regulatory Landscape.....	47.87	56
1.1.1 Government effectiveness.....	41.65	71
1.1.2 Rule of law.....	47.80	59
1.1.3 Political stability.....	59.03	64
1.1.4 Regulatory quality.....	51.73	53
1.1.5 Corruption.....	39.13	53
1.2 Market Landscape.....	37.11	75
1.2.1 Extent of market dominance.....	40.71	69
1.2.2 Domestic credit to private sector.....	25.47	59
1.2.3 Cluster development.....	33.67	99
1.2.4 R&D expenditure.....	6.51	72
1.2.5 ICT infrastructure.....	54.45	73
1.2.6 Urbanisation.....	61.84	62
1.3 Business and Labour Landscape.....	47.50	52
Labour Market		
1.3.1 Labour rights.....	83.78	53
1.3.2 Labour-employer cooperation.....	29.17	103
Management Practice		
1.3.3 Professional management.....	43.59	92
1.3.4 Relationship of pay to productivity.....	52.55	69
Technology Adoption		
1.3.5 Enterprise software.....	64.02	12
1.3.6 Cloud computing.....	22.97	37
1.3.7 Firms with website.....	36.39	84
2 ATTRACT.....61.14 36		
2.1 External Openness.....	66.43	21
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	94.59	15
2.1.2 Financial globalisation.....	82.62	24
Attract People		
2.1.3 Migrant stock.....	59.97	39
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	28.53	103
2.2 Internal Openness.....	55.84	70
Social Inclusion		
2.2.1 Tolerance of minorities.....	6.52	124
2.2.2 Tolerance of immigrants.....	70.77	43
2.2.3 Social mobility.....	41.21	80
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	84.06	43
2.2.6 Leadership opportunities for women.....	53.75	68

GDP per capita (PPP US\$).....	22,795.41
GDP (US\$ billions).....	5.81
GTCI score.....	46.83
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....31.25 69		
3.1 Formal Education.....	31.40	48
Enrolment		
3.1.1 Vocational enrolment.....	53.09	14
3.1.2 Tertiary enrolment.....	36.65	56
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	35.86	54
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	16.86	121
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	11.33	94
3.2.3 Employee development.....	39.26	104
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	45.48	68
Empowerment		
3.3.1 Delegation of authority.....	28.58	106
3.3.2 Youth inclusion.....	63.30	72
Collaboration		
3.3.3 Use of virtual social networks.....	69.92	34
3.3.4 Use of virtual professional networks.....	20.13	56

4 RETAIN.....58.31 50		
4.1 Sustainability.....	50.66	57
4.1.1 Pension coverage.....	90.45	53
4.1.2 Social protection.....	30.79	83
4.1.3 Brain retention.....	33.97	78
4.1.4 Environmental performance.....	47.46	49
4.2 Lifestyle.....	65.95	52
4.2.1 Personal rights.....	70.89	69
4.2.2 Personal safety.....	52.37	64
4.2.3 Physician density.....	42.99	51
4.2.4 Sanitation.....	97.55	50

5 VOCATIONAL AND TECHNICAL SKILLS.....60.53 30		
5.1 Mid-Level Skills.....	71.58	4
5.1.1 Workforce with secondary education.....	86.16	10
5.1.2 Population with secondary education.....	75.55	15
5.1.3 Technicians and associate professionals.....	53.03	34
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	49.48	83
5.2.1 Ease of finding skilled employees.....	24.08	121
5.2.2 Relevance of education system to the economy.....	39.95	72
5.2.3 Skills matching.....	93.02	2
5.2.4 Highly educated unemployment.....	40.88	113

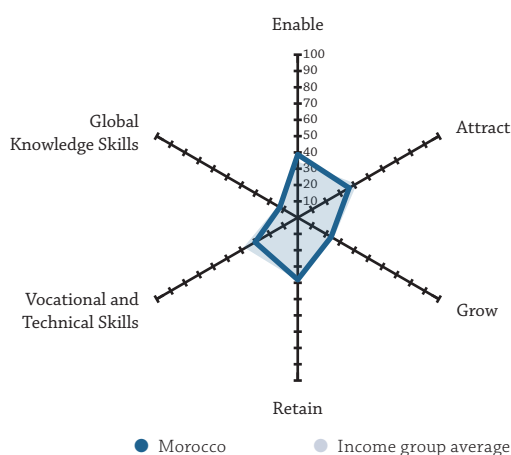
6 GLOBAL KNOWLEDGE SKILLS.....25.62 53		
6.1 High-Level Skills.....	27.38	57
6.1.1 Workforce with tertiary education.....	36.73	46
6.1.2 Population with tertiary education.....	25.38	60
6.1.3 Professionals.....	42.45	37
6.1.4 Researchers.....	8.46	60
6.1.5 Senior officials and managers.....	31.21	46
6.1.6 Digital skills.....	20.06	49
6.2 Talent Impact.....	23.87	47
6.2.1 Innovation output.....	37.06	51
6.2.2 High-value exports.....	13.46	62
6.2.3 Software development.....	9.12	48
6.2.4 New business density.....	43.77	18
6.2.5 Scientific journal articles.....	15.94	48

MOROCCO

Key Indicators

Rank (out of 133)	96
Income group	Lower-middle income
Regional group	Northern Africa and Western Asia
Population (millions)	37.34

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	38.69	79
1.1 Regulatory Landscape	40.47	77
1.1.1 Government effectiveness	41.28	72
1.1.2 Rule of law	43.99	67
1.1.3 Political stability	50.11	81
1.1.4 Regulatory quality	38.00	80
1.1.5 Corruption	28.99	70
1.2 Market Landscape	46.54	51
1.2.1 Extent of market dominance	35.71	84
1.2.2 Domestic credit to private sector	42.75	30
1.2.3 Cluster development	35.05	90
1.2.4 R&D expenditure	n/a	n/a
1.2.5 ICT infrastructure	62.37	64
1.2.6 Urbanisation	56.83	71
1.3 Business and Labour Landscape	29.07	125
Labour Market		
1.3.1 Labour rights	n/a	n/a
1.3.2 Labour-employer cooperation	17.28	122
Management Practice		
1.3.3 Professional management	35.04	108
1.3.4 Relationship of pay to productivity	36.17	118
Technology Adoption		
1.3.5 Enterprise software	16.81	89
1.3.6 Cloud computing	16.09	63
1.3.7 Firms with website	53.03	61
2 ATTRACT	36.40	115
2.1 External Openness	33.60	97
Attract Business		
2.1.1 FDI regulatory restrictiveness	82.97	41
2.1.2 Financial globalisation	38.40	106
Attract People		
2.1.3 Migrant stock	5.21	127
2.1.4 International students	7.83	75
2.1.5 Brain gain	n/a	n/a
2.2 Internal Openness	39.19	121
Social Inclusion		
2.2.1 Tolerance of minorities	13.04	115
2.2.2 Tolerance of immigrants	38.46	103
2.2.3 Social mobility	38.00	89
Gender Equality		
2.2.4 Economic empowerment of women	65.49	95
2.2.5 Gender parity in high-skilled jobs	n/a	n/a
2.2.6 Leadership opportunities for women	40.95	96

GDP per capita (PPP US\$)	8,143.53
GDP (US\$ billions)	132.73
GTCI score	29.96
GTCI score (income group average)	30.02

	Score	Rank
3 GROW	23.69	97
3.1 Formal Education	13.18	90
Enrolment		
3.1.1 Vocational enrolment	12.43	80
3.1.2 Tertiary enrolment	26.50	74
Quality		
3.1.3 Tertiary education expenditure	n/a	n/a
3.1.4 Reading, maths, and science	13.80	74
3.1.5 University ranking	0.00	76
3.2 Lifelong Learning	28.73	69
3.2.1 Business masters education	9.45	51
3.2.2 Prevalence of training in firms	39.16	46
3.2.3 Employee development	37.59	108
3.2.4 Formal and non-formal studies	n/a	n/a
3.3 Access to Growth Opportunities	29.15	112
Empowerment		
3.3.1 Delegation of authority	20.42	118
3.3.2 Youth inclusion	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks	53.33	82
3.3.4 Use of virtual professional networks	13.70	76

4 RETAIN	38.10	97
4.1 Sustainability	24.10	112
4.1.1 Pension coverage	n/a	n/a
4.1.2 Social protection	n/a	n/a
4.1.3 Brain retention	32.10	84
4.1.4 Environmental performance	16.10	119
4.2 Lifestyle	52.10	83
4.2.1 Personal rights	53.38	93
4.2.2 Personal safety	58.15	57
4.2.3 Physician density	10.88	98
4.2.4 Sanitation	86.00	79

5 VOCATIONAL AND TECHNICAL SKILLS	30.17	115
5.1 Mid-Level Skills	19.99	102
5.1.1 Workforce with secondary education	28.81	93
5.1.2 Population with secondary education	n/a	n/a
5.1.3 Technicians and associate professionals	17.54	93
5.1.4 Labour productivity per employee	13.61	83
5.2 Employability	40.36	115
5.2.1 Ease of finding skilled employees	47.76	64
5.2.2 Relevance of education system to the economy	18.48	115
5.2.3 Skills matching	n/a	n/a
5.2.4 Highly educated unemployment	54.83	99

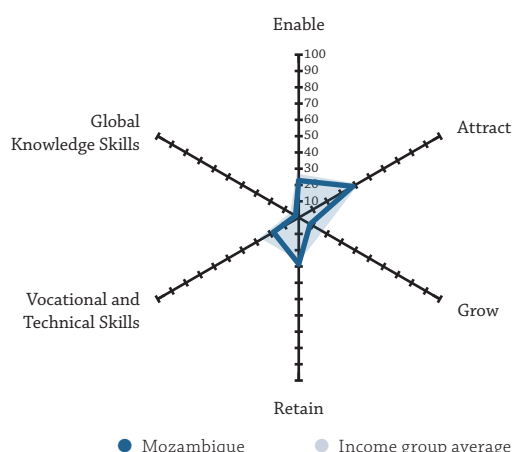
6 GLOBAL KNOWLEDGE SKILLS	12.71	93
6.1 High-Level Skills	14.52	98
6.1.1 Workforce with tertiary education	n/a	n/a
6.1.2 Population with tertiary education	n/a	n/a
6.1.3 Professionals	4.10	126
6.1.4 Researchers	12.21	50
6.1.5 Senior officials and managers	3.66	118
6.1.6 Digital skills	38.13	18
6.2 Talent Impact	10.89	77
6.2.1 Innovation output	28.19	66
6.2.2 High-value exports	7.77	86
6.2.3 Software development	0.78	102
6.2.4 New business density	12.18	56
6.2.5 Scientific journal articles	5.55	70

MOZAMBIQUE

Key Indicators

Rank (out of 133).....	127
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	32.16

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 22.77 125		
1.1 Regulatory Landscape.....	20.78	122
1.1.1 Government effectiveness.....	24.04	110
1.1.2 Rule of law.....	19.86	124
1.1.3 Political stability.....	27.15	119
1.1.4 Regulatory quality.....	22.70	113
1.1.5 Corruption.....	10.14	118
1.2 Market Landscape.....	17.38	120
1.2.1 Extent of market dominance.....	18.39	121
1.2.2 Domestic credit to private sector.....	8.73	108
1.2.3 Cluster development.....	21.44	118
1.2.4 R&D expenditure.....	5.58	76
1.2.5 ICT infrastructure.....	23.72	111
1.2.6 Urbanisation.....	26.40	115
1.3 Business and Labour Landscape.....	30.17	121
Labour Market		
1.3.1 Labour rights.....	75.47	67
1.3.2 Labour-employer cooperation.....	11.20	125
Management Practice		
1.3.3 Professional management.....	18.11	129
1.3.4 Relationship of pay to productivity.....	22.83	129
Technology Adoption		
1.3.5 Enterprise software.....	23.10	56
1.3.6 Cloud computing.....	24.88	31
1.3.7 Firms with website.....	35.58	86
2 ATTRACT..... 38.35 108		
2.1 External Openness.....	34.38	94
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	69.81	51
Attract People		
2.1.3 Migrant stock.....	23.13	102
2.1.4 International students.....	1.27	105
2.1.5 Brain gain.....	43.31	75
2.2 Internal Openness.....	42.31	116
Social Inclusion		
2.2.1 Tolerance of minorities.....	42.39	69
2.2.2 Tolerance of immigrants.....	63.08	57
2.2.3 Social mobility.....	7.08	131
Gender Equality		
2.2.4 Economic empowerment of women.....	75.22	68
2.2.5 Gender parity in high-skilled jobs.....	38.77	107
2.2.6 Leadership opportunities for women.....	27.34	119

GDP per capita (PPP US\$)	1,342.29
GDP (US\$ billions)	16.10
GTCI score.....	19.65
GTCI score (income group average)	22.09

	Score	Rank
3 GROW..... 8.05 132		
3.1 Formal Education.....	5.40	118
Enrolment		
3.1.1 Vocational enrolment.....	14.28	71
3.1.2 Tertiary enrolment.....	3.81	115
Quality		
3.1.3 Tertiary education expenditure.....	3.50	96
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	12.15	131
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	18.18	80
3.2.3 Employee development.....	18.28	131
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	6.59	133
Empowerment		
3.3.1 Delegation of authority.....	12.42	126
3.3.2 Youth inclusion.....	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks.....	5.32	125
3.3.4 Use of virtual professional networks.....	2.03	122

4 RETAIN..... 28.51 114		
4.1 Sustainability.....	30.45	97
4.1.1 Pension coverage.....	51.73	80
4.1.2 Social protection.....	19.62	112
4.1.3 Brain retention.....	28.76	95
4.1.4 Environmental performance.....	21.69	105
4.2 Lifestyle.....	26.58	124
4.2.1 Personal rights.....	52.66	95
4.2.2 Personal safety.....	22.02	115
4.2.3 Physician density.....	0.56	127
4.2.4 Sanitation.....	31.06	117

5 VOCATIONAL AND TECHNICAL SKILLS..... 17.93 129		
5.1 Mid-Level Skills.....	5.21	127
5.1.1 Workforce with secondary education.....	7.73	119
5.1.2 Population with secondary education.....	7.69	89
5.1.3 Technicians and associate professionals.....	5.20	125
5.1.4 Labour productivity per employee.....	0.21	113
5.2 Employability.....	30.65	129
5.2.1 Ease of finding skilled employees.....	13.09	129
5.2.2 Relevance of education system to the economy.....	6.57	130
5.2.3 Skills matching.....	14.30	99
5.2.4 Highly educated unemployment.....	88.66	25

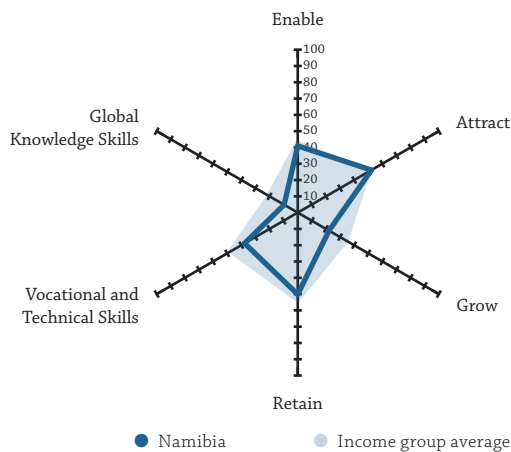
6 GLOBAL KNOWLEDGE SKILLS..... 2.29 131		
6.1 High-Level Skills.....	1.98	130
6.1.1 Workforce with tertiary education.....	2.14	125
6.1.2 Population with tertiary education.....	1.21	98
6.1.3 Professionals.....	4.65	124
6.1.4 Researchers.....	0.37	97
6.1.5 Senior officials and managers.....	1.50	125
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	2.60	123
6.2.1 Innovation output.....	9.93	114
6.2.2 High-value exports.....	1.62	113
6.2.3 Software development.....	0.20	118
6.2.4 New business density.....	1.09	109
6.2.5 Scientific journal articles.....	0.15	125

NAMIBIA

Key Indicators

Rank (out of 133).....	90
Income group.....	Upper-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	2.59

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....	40.93	71
1.1 Regulatory Landscape.....	51.17	51
1.1.1 Government effectiveness.....	43.26	66
1.1.2 Rule of law.....	53.98	50
1.1.3 Political stability.....	76.89	33
1.1.4 Regulatory quality.....	38.22	79
1.1.5 Corruption.....	43.48	47
1.2 Market Landscape.....	31.48	91
1.2.1 Extent of market dominance.....	29.11	100
1.2.2 Domestic credit to private sector.....	31.63	47
1.2.3 Cluster development.....	35.08	89
1.2.4 R&D expenditure.....	6.26	73
1.2.5 ICT infrastructure.....	44.25	91
1.2.6 Urbanisation.....	42.55	98
1.3 Business and Labour Landscape.....	40.13	83
Labour Market		
1.3.1 Labour rights.....	90.21	38
1.3.2 Labour-employer cooperation.....	28.99	105
Management Practice		
1.3.3 Professional management.....	47.33	77
1.3.4 Relationship of pay to productivity.....	53.75	64
Technology Adoption		
1.3.5 Enterprise software.....	15.20	95
1.3.6 Cloud computing.....	10.91	90
1.3.7 Firms with website.....	34.54	88
2 ATTRACT.....	52.24	61
2.1 External Openness.....	44.83	71
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	63.43	61
Attract People		
2.1.3 Migrant stock.....	47.38	53
2.1.4 International students.....	18.18	51
2.1.5 Brain gain.....	50.35	60
2.2 Internal Openness.....	59.64	52
Social Inclusion		
2.2.1 Tolerance of minorities.....	55.43	49
2.2.2 Tolerance of immigrants.....	50.77	81
2.2.3 Social mobility.....	34.17	97
Gender Equality		
2.2.4 Economic empowerment of women.....	80.53	51
2.2.5 Gender parity in high-skilled jobs.....	87.70	38
2.2.6 Leadership opportunities for women.....	49.23	77

GDP per capita (PPP US\$).....	9,805.18
GDP (US\$ billions).....	12.24
GTCI score.....	35.47
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....	22.15	103
3.1 Formal Education.....	11.79	95
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	15.24	89
Quality		
3.1.3 Tertiary education expenditure.....	20.12	38
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	21.24	106
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	24.76	66
3.2.3 Employee development.....	50.73	65
3.2.4 Formal and non-formal studies.....	9.49	49
3.3 Access to Growth Opportunities.....	33.42	105
Empowerment		
3.3.1 Delegation of authority.....	46.84	66
3.3.2 Youth inclusion.....	41.48	109
Collaboration		
3.3.3 Use of virtual social networks.....	26.18	105
3.3.4 Use of virtual professional networks.....	19.16	59

4 RETAIN.....	50.18	77
4.1 Sustainability.....	60.97	33
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	41.25	62
4.1.3 Brain retention.....	48.39	45
4.1.4 Environmental performance.....	54.24	37
4.2 Lifestyle.....	39.39	104
4.2.1 Personal rights.....	81.88	49
4.2.2 Personal safety.....	38.10	89
4.2.3 Physician density.....	8.63	101
4.2.4 Sanitation.....	28.93	118

5 VOCATIONAL AND TECHNICAL SKILLS.....	37.68	94
5.1 Mid-Level Skills.....	39.63	65
5.1.1 Workforce with secondary education.....	80.28	15
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	21.98	80
5.1.4 Labour productivity per employee.....	16.64	78
5.2 Employability.....	35.73	125
5.2.1 Ease of finding skilled employees.....	34.37	99
5.2.2 Relevance of education system to the economy.....	34.74	86
5.2.3 Skills matching.....	53.49	76
5.2.4 Highly educated unemployment.....	20.33	118

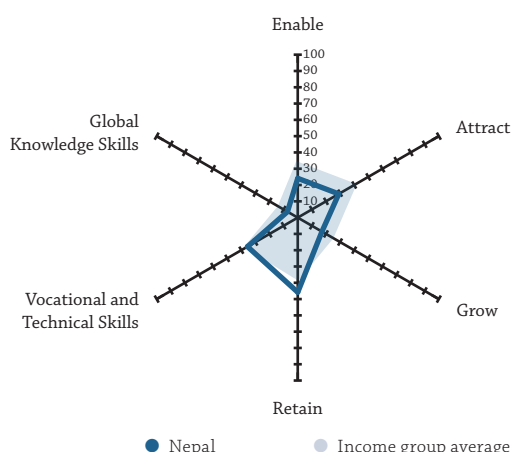
6 GLOBAL KNOWLEDGE SKILLS.....	9.65	101
6.1 High-Level Skills.....	15.57	93
6.1.1 Workforce with tertiary education.....	13.63	93
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	17.40	82
6.1.4 Researchers.....	1.60	84
6.1.5 Senior officials and managers.....	29.66	52
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	3.73	118
6.2.1 Innovation output.....	11.88	106
6.2.2 High-value exports.....	0.63	123
6.2.3 Software development.....	0.75	104
6.2.4 New business density.....	2.90	93
6.2.5 Scientific journal articles.....	2.50	84

NEPAL

Key Indicators

Rank (out of 133).....	111
Income group.....	Lower-middle income
Regional group.....	Central and Southern Asia
Population (millions).....	29.67

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....24.12 123		
1.1 Regulatory Landscape.....	29.73	103
1.1.1 Government effectiveness.....	18.58	122
1.1.2 Rule of law.....	33.59	94
1.1.3 Political stability.....	53.67	73
1.1.4 Regulatory quality.....	22.54	114
1.1.5 Corruption.....	20.29	96
1.2 Market Landscape.....	17.76	119
1.2.1 Extent of market dominance.....	16.37	124
1.2.2 Domestic credit to private sector.....	39.02	34
1.2.3 Cluster development.....	25.71	116
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	0.00	128
1.2.6 Urbanisation.....	7.71	129
1.3 Business and Labour Landscape.....	24.86	127
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	26.40	109
Management Practice		
1.3.3 Professional management.....	33.00	111
1.3.4 Relationship of pay to productivity.....	44.17	101
Technology Adoption		
1.3.5 Enterprise software.....	15.37	94
1.3.6 Cloud computing.....	11.03	89
1.3.7 Firms with website.....	19.18	99
2 ATTRACT.....29.08 127		
2.1 External Openness.....	15.50	132
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	5.98	129
Attract People		
2.1.3 Migrant stock.....	29.00	88
2.1.4 International students.....	0.00	112
2.1.5 Brain gain.....	27.01	110
2.2 Internal Openness.....	42.66	113
Social Inclusion		
2.2.1 Tolerance of minorities.....	3.26	127
2.2.2 Tolerance of immigrants.....	84.62	16
2.2.3 Social mobility.....	21.95	120
Gender Equality		
2.2.4 Economic empowerment of women.....	72.57	76
2.2.5 Gender parity in high-skilled jobs.....	42.68	104
2.2.6 Leadership opportunities for women.....	30.88	116

GDP per capita (PPP US\$).....	4,260.84
GDP (US\$ billions).....	36.29
GTCI score.....	26.50
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....17.15 120		
3.1 Formal Education.....	2.96	123
Enrolment		
3.1.1 Vocational enrolment.....	2.54	109
3.1.2 Tertiary enrolment.....	7.99	103
Quality		
3.1.3 Tertiary education expenditure.....	1.31	109
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	22.38	99
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	33.85	54
3.2.3 Employee development.....	33.30	118
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	26.11	122
Empowerment		
3.3.1 Delegation of authority.....	26.87	110
3.3.2 Youth inclusion.....	35.35	111
Collaboration		
3.3.3 Use of virtual social networks.....	37.62	101
3.3.4 Use of virtual professional networks.....	4.60	111

4 RETAIN.....45.80 86		
4.1 Sustainability.....	35.66	90
4.1.1 Pension coverage.....	83.94	62
4.1.2 Social protection.....	20.98	109
4.1.3 Brain retention.....	21.78	108
4.1.4 Environmental performance.....	15.93	121
4.2 Lifestyle.....	55.94	73
4.2.1 Personal rights.....	66.47	74
4.2.2 Personal safety.....	70.14	33
4.2.3 Physician density.....	12.81	91
4.2.4 Sanitation.....	74.32	97

5 VOCATIONAL AND TECHNICAL SKILLS.....35.61 101		
5.1 Mid-Level Skills.....	26.17	92
5.1.1 Workforce with secondary education.....	46.11	69
5.1.2 Population with secondary education.....	15.48	83
5.1.3 Technicians and associate professionals.....	16.92	94
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	45.05	98
5.2.1 Ease of finding skilled employees.....	39.43	81
5.2.2 Relevance of education system to the economy.....	34.52	88
5.2.3 Skills matching.....	53.01	77
5.2.4 Highly educated unemployment.....	53.22	102

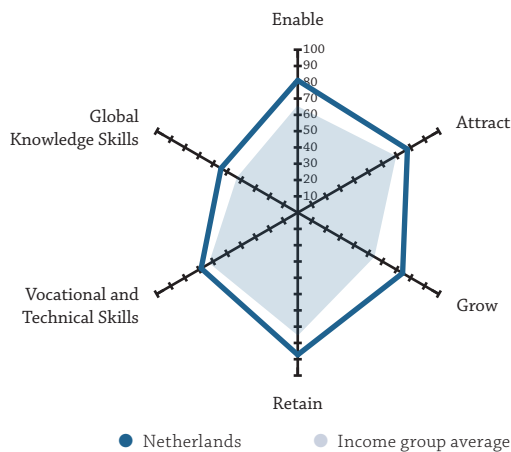
6 GLOBAL KNOWLEDGE SKILLS.....7.28 109		
6.1 High-Level Skills.....	9.94	105
6.1.1 Workforce with tertiary education.....	10.77	99
6.1.2 Population with tertiary education.....	4.77	89
6.1.3 Professionals.....	17.86	79
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	6.35	109
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	4.62	113
6.2.1 Innovation output.....	10.64	111
6.2.2 High-value exports.....	1.71	112
6.2.3 Software development.....	2.36	77
6.2.4 New business density.....	7.30	75
6.2.5 Scientific journal articles.....	1.08	97

NETHERLANDS

Key Indicators

Rank (out of 133).....	6
Income group.....	High income
Regional group.....	Europe
Population (millions).....	17.53

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....81.18	7	
1.1 Regulatory Landscape.....	88.31	9
1.1.1 Government effectiveness.....	88.04	6
1.1.2 Rule of law.....	91.75	11
1.1.3 Political stability.....	82.51	24
1.1.4 Regulatory quality.....	87.93	7
1.1.5 Corruption.....	91.30	8
1.2 Market Landscape.....	71.65	11
1.2.1 Extent of market dominance.....	77.82	11
1.2.2 Domestic credit to private sector.....	44.94	27
1.2.3 Cluster development.....	81.93	8
1.2.4 R&D expenditure.....	42.10	15
1.2.5 ICT infrastructure.....	92.87	11
1.2.6 Urbanisation.....	90.21	11
1.3 Business and Labour Landscape.....	83.60	5
Labour Market		
1.3.1 Labour rights.....	94.91	24
1.3.2 Labour-employer cooperation.....	87.73	5
Management Practice		
1.3.3 Professional management.....	97.14	2
1.3.4 Relationship of pay to productivity.....	78.49	9
Technology Adoption		
1.3.5 Enterprise software.....	67.40	10
1.3.6 Cloud computing.....	63.85	9
1.3.7 Firms with website.....	95.67	3
2 ATTRACT.....77.75	10	
2.1 External Openness.....	76.19	11
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	97.03	5
2.1.2 Financial globalisation.....	96.76	6
Attract People		
2.1.3 Migrant stock.....	62.21	35
2.1.4 International students.....	44.81	18
2.1.5 Brain gain.....	80.15	10
2.2 Internal Openness.....	79.32	14
Social Inclusion		
2.2.1 Tolerance of minorities.....	66.30	33
2.2.2 Tolerance of immigrants.....	76.92	29
2.2.3 Social mobility.....	82.05	13
Gender Equality		
2.2.4 Economic empowerment of women.....	96.46	13
2.2.5 Gender parity in high-skilled jobs.....	86.66	40
2.2.6 Leadership opportunities for women.....	67.49	34

GDP per capita (PPP US\$).....	63,766.89
GDP (US\$ billions).....	1,018.01
GTCI score.....	73.90
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....74.33	3	
3.1 Formal Education.....	60.31	6
Enrolment		
3.1.1 Vocational enrolment.....	60.42	5
3.1.2 Tertiary enrolment.....	58.15	13
Quality		
3.1.3 Tertiary education expenditure.....	47.57	9
3.1.4 Reading, maths, and science.....	68.74	14
3.1.5 University ranking.....	66.67	12
3.2 Lifelong Learning.....	79.20	7
3.2.1 Business masters education.....	76.31	8
3.2.2 Prevalence of training in firms.....	64.90	15
3.2.3 Employee development.....	88.75	5
3.2.4 Formal and non-formal studies.....	86.83	4
3.3 Access to Growth Opportunities.....	83.49	2
Empowerment		
3.3.1 Delegation of authority.....	86.79	5
3.3.2 Youth inclusion.....	95.97	6
Collaboration		
3.3.3 Use of virtual social networks.....	77.55	12
3.3.4 Use of virtual professional networks.....	73.66	2

4 RETAIN.....87.27	7	
4.1 Sustainability.....	87.26	6
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	90.23	7
4.1.3 Brain retention.....	84.75	6
4.1.4 Environmental performance.....	74.07	11
4.2 Lifestyle.....	87.28	14
4.2.1 Personal rights.....	98.94	5
4.2.2 Personal safety.....	88.34	12
4.2.3 Physician density.....	64.40	22
4.2.4 Sanitation.....	97.46	52
5 VOCATIONAL AND TECHNICAL SKILLS.....68.44	12	
5.1 Mid-Level Skills.....	59.75	26
5.1.1 Workforce with secondary education.....	54.90	53
5.1.2 Population with secondary education.....	51.00	37
5.1.3 Technicians and associate professionals.....	71.28	12
5.1.4 Labour productivity per employee.....	61.81	17
5.2 Employability.....	77.13	8
5.2.1 Ease of finding skilled employees.....	62.25	24
5.2.2 Relevance of education system to the economy.....	78.66	9
5.2.3 Skills matching.....	77.98	31
5.2.4 Highly educated unemployment.....	89.64	22

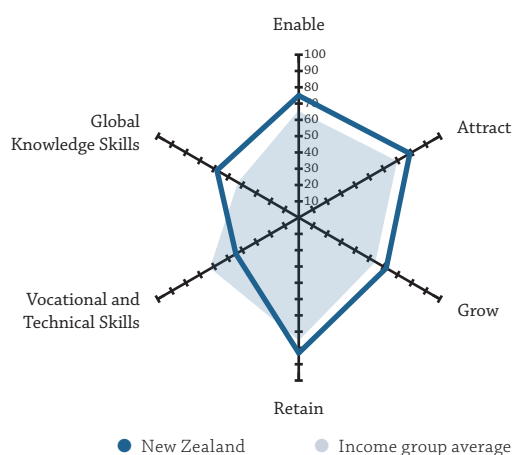
6 GLOBAL KNOWLEDGE SKILLS.....54.39	12	
6.1 High-Level Skills.....	50.20	19
6.1.1 Workforce with tertiary education.....	49.16	27
6.1.2 Population with tertiary education.....	48.92	19
6.1.3 Professionals.....	68.50	3
6.1.4 Researchers.....	67.81	8
6.1.5 Senior officials and managers.....	30.55	47
6.1.6 Digital skills.....	36.25	19
6.2 Talent Impact.....	58.59	12
6.2.1 Innovation output.....	84.93	3
6.2.2 High-value exports.....	41.59	16
6.2.3 Software development.....	79.07	5
6.2.4 New business density.....	16.96	44
6.2.5 Scientific journal articles.....	70.38	9

NEW ZEALAND

Key Indicators

Rank (out of 133).....	18
Income group	High income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions)	5.12

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....74.91	10	
1.1 Regulatory Landscape.....	93.53	2
1.1.1 Government effectiveness.....	81.48	13
1.1.2 Rule of law.....	94.95	3
1.1.3 Political stability.....	100.00	1
1.1.4 Regulatory quality.....	91.23	2
1.1.5 Corruption.....	100.00	1
1.2 Market Landscape.....	59.45	25
1.2.1 Extent of market dominance.....	53.06	46
1.2.2 Domestic credit to private sector.....	73.32	8
1.2.3 Cluster development.....	46.20	59
1.2.4 R&D expenditure.....	25.76	29
1.2.5 ICT infrastructure.....	73.86	41
1.2.6 Urbanisation.....	84.52	20
1.3 Business and Labour Landscape.....	71.76	11
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	72.81	15
Management Practice		
1.3.3 Professional management.....	92.40	5
1.3.4 Relationship of pay to productivity.....	56.49	58
Technology Adoption		
1.3.5 Enterprise software.....	58.02	15
1.3.6 Cloud computing.....	66.20	7
1.3.7 Firms with website.....	84.64	15
2 ATTRACT.....78.74	8	
2.1 External Openness.....	68.36	20
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	37.57	72
2.1.2 Financial globalisation.....	70.52	50
Attract People		
2.1.3 Migrant stock.....	76.51	14
2.1.4 International students.....	79.67	6
2.1.5 Brain gain.....	77.52	13
2.2 Internal Openness.....	89.12	4
Social Inclusion		
2.2.1 Tolerance of minorities.....	77.17	15
2.2.2 Tolerance of immigrants.....	95.38	3
2.2.3 Social mobility.....	91.54	5
Gender Equality		
2.2.4 Economic empowerment of women.....	96.46	13
2.2.5 Gender parity in high-skilled jobs.....	n/a	n/a
2.2.6 Leadership opportunities for women.....	85.02	13

GDP per capita (PPP US\$)	46,419.51
GDP (US\$ billions)	249.99
GTCI score.....	66.88
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....62.01	17	
3.1 Formal Education.....	46.00	21
Enrolment		
3.1.1 Vocational enrolment.....	30.78	39
3.1.2 Tertiary enrolment.....	53.53	20
Quality		
3.1.3 Tertiary education expenditure.....	28.97	24
3.1.4 Reading, maths, and science.....	68.92	12
3.1.5 University ranking.....	47.82	23
3.2 Lifelong Learning.....	63.55	18
3.2.1 Business masters education.....	24.35	37
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	75.23	25
3.2.4 Formal and non-formal studies.....	91.07	3
3.3 Access to Growth Opportunities.....	76.47	11
Empowerment		
3.3.1 Delegation of authority.....	82.77	6
3.3.2 Youth inclusion.....	82.13	38
Collaboration		
3.3.3 Use of virtual social networks.....	76.22	15
3.3.4 Use of virtual professional networks.....	64.78	12

4 RETAIN.....83.09	14	
4.1 Sustainability.....	78.56	13
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	85.03	12
4.1.3 Brain retention.....	65.16	28
4.1.4 Environmental performance.....	64.07	26
4.2 Lifestyle.....	87.62	13
4.2.1 Personal rights.....	100.00	1
4.2.2 Personal safety.....	93.47	5
4.2.3 Physician density.....	57.03	29
4.2.4 Sanitation.....	100.00	1

5 VOCATIONAL AND TECHNICAL SKILLS.....44.55	70	
5.1 Mid-Level Skills.....	53.35	38
5.1.1 Workforce with secondary education.....	58.15	44
5.1.2 Population with secondary education.....	54.27	33
5.1.3 Technicians and associate professionals.....	n/a	n/a
5.1.4 Labour productivity per employee.....	47.62	34
5.2 Employability.....	35.75	124
5.2.1 Ease of finding skilled employees.....	17.96	125
5.2.2 Relevance of education system to the economy.....	53.53	42
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	n/a	n/a

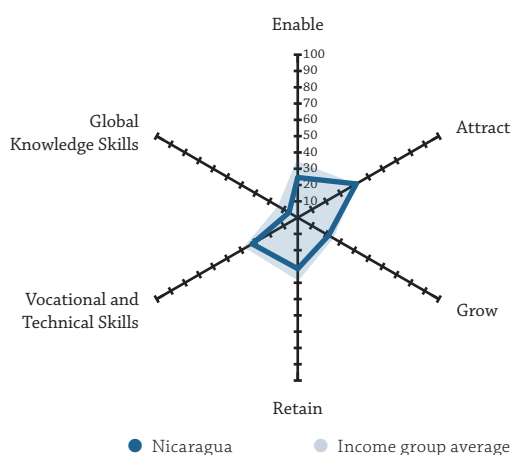
6 GLOBAL KNOWLEDGE SKILLS.....57.96	10	
6.1 High-Level Skills.....	53.92	13
6.1.1 Workforce with tertiary education.....	45.81	33
6.1.2 Population with tertiary education.....	48.82	21
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	67.14	9
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	62.00	9
6.2.1 Innovation output.....	51.77	31
6.2.2 High-value exports.....	18.10	48
6.2.3 Software development.....	77.28	6
6.2.4 New business density.....	98.77	4
6.2.5 Scientific journal articles.....	64.10	11

NICARAGUA

Key Indicators

Rank (out of 133).....	114
Income group.....	Lower-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	6.70

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....	24.63	120
1.1 Regulatory Landscape.....	21.06	121
1.1.1 Government effectiveness.....	24.30	109
1.1.2 Rule of law.....	14.80	128
1.1.3 Political stability.....	41.22	102
1.1.4 Regulatory quality.....	23.52	110
1.1.5 Corruption.....	1.45	129
1.2 Market Landscape.....	17.88	118
1.2.1 Extent of market dominance.....	10.15	128
1.2.2 Domestic credit to private sector.....	11.26	94
1.2.3 Cluster development.....	13.91	128
1.2.4 R&D expenditure.....	1.79	103
1.2.5 ICT infrastructure.....	n/a	n/a
1.2.6 Urbanisation.....	52.31	78
1.3 Business and Labour Landscape.....	34.94	109
Labour Market		
1.3.1 Labour rights.....	95.17	21
1.3.2 Labour-employer cooperation.....	39.04	75
Management Practice		
1.3.3 Professional management.....	21.11	127
1.3.4 Relationship of pay to productivity.....	31.10	123
Technology Adoption		
1.3.5 Enterprise software.....	13.27	105
1.3.6 Cloud computing.....	9.52	104
1.3.7 Firms with website.....	35.35	87
2 ATTRACT.....	41.39	101
2.1 External Openness.....	27.17	114
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	57.56	77
Attract People		
2.1.3 Migrant stock.....	11.76	116
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	12.19	126
2.2 Internal Openness.....	55.60	71
Social Inclusion		
2.2.1 Tolerance of minorities.....	41.30	70
2.2.2 Tolerance of immigrants.....	70.77	43
2.2.3 Social mobility.....	12.00	127
Gender Equality		
2.2.4 Economic empowerment of women.....	80.53	51
2.2.5 Gender parity in high-skilled jobs.....	91.44	21
2.2.6 Leadership opportunities for women.....	37.58	107

GDP per capita (PPP US\$).....	6,331.67
GDP (US\$ billions).....	14.01
GTCI score.....	26.28
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....	21.86	104
3.1 Formal Education.....	6.07	113
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	12.15	96
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	25.50	82
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	69.37	12
3.2.3 Employee development.....	27.99	122
3.2.4 Formal and non-formal studies.....	4.63	58
3.3 Access to Growth Opportunities.....	34.01	101
Empowerment		
3.3.1 Delegation of authority.....	21.75	115
3.3.2 Youth inclusion.....	56.35	84
Collaboration		
3.3.3 Use of virtual social networks.....	47.12	88
3.3.4 Use of virtual professional networks.....	10.81	82

4 RETAIN.....	31.37	110
4.1 Sustainability.....	24.96	110
4.1.1 Pension coverage.....	27.44	93
4.1.2 Social protection.....	8.97	127
4.1.3 Brain retention.....	31.59	87
4.1.4 Environmental performance.....	31.86	83
4.2 Lifestyle.....	37.77	106
4.2.1 Personal rights.....	30.65	115
4.2.2 Personal safety.....	24.24	113
4.2.3 Physician density.....	25.80	77
4.2.4 Sanitation.....	70.38	98

5 VOCATIONAL AND TECHNICAL SKILLS.....	32.24	108
5.1 Mid-Level Skills.....	28.41	86
5.1.1 Workforce with secondary education.....	29.85	92
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	26.97	73
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	36.07	122
5.2.1 Ease of finding skilled employees.....	29.51	110
5.2.2 Relevance of education system to the economy.....	0.00	133
5.2.3 Skills matching.....	43.05	85
5.2.4 Highly educated unemployment.....	71.73	76

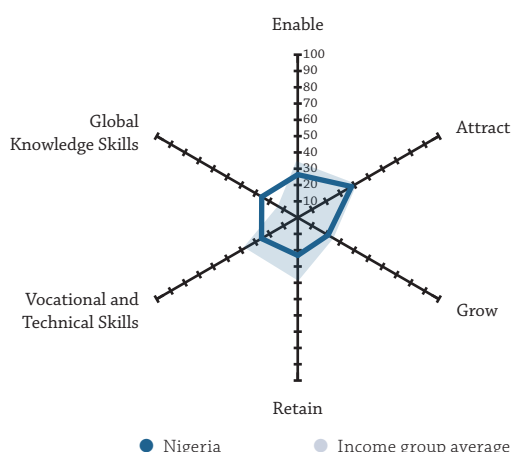
6 GLOBAL KNOWLEDGE SKILLS.....	6.21	112
6.1 High-Level Skills.....	11.66	103
6.1.1 Workforce with tertiary education.....	11.72	95
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	11.76	103
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	11.52	94
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	0.76	129
6.2.1 Innovation output.....	n/a	n/a
6.2.2 High-value exports.....	0.74	121
6.2.3 Software development.....	1.30	95
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	0.23	121

NIGERIA

Key Indicators

Rank (out of 133).....	109
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	211.40

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 26.40 117		
1.1 Regulatory Landscape.....	14.47	128
1.1.1 Government effectiveness.....	16.47	126
1.1.2 Rule of law.....	25.28	113
1.1.3 Political stability.....	7.93	132
1.1.4 Regulatory quality.....	15.43	126
1.1.5 Corruption.....	7.25	124
1.2 Market Landscape.....	30.00	98
1.2.1 Extent of market dominance.....	33.20	92
1.2.2 Domestic credit to private sector.....	2.70	124
1.2.3 Cluster development.....	35.02	91
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	36.16	98
1.2.6 Urbanisation.....	42.90	97
1.3 Business and Labour Landscape.....	34.73	110
Labour Market		
1.3.1 Labour rights.....	61.13	84
1.3.2 Labour-employer cooperation.....	32.08	95
Management Practice		
1.3.3 Professional management.....	63.01	42
1.3.4 Relationship of pay to productivity.....	47.57	87
Technology Adoption		
1.3.5 Enterprise software.....	13.92	100
1.3.6 Cloud computing.....	10.60	93
1.3.7 Firms with website.....	14.79	105
2 ATTRACT..... 38.10 110		
2.1 External Openness.....	32.46	101
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	30.85	116
Attract People		
2.1.3 Migrant stock.....	14.65	111
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	51.88	53
2.2 Internal Openness.....	43.74	111
Social Inclusion		
2.2.1 Tolerance of minorities.....	9.78	121
2.2.2 Tolerance of immigrants.....	61.54	59
2.2.3 Social mobility.....	35.35	96
Gender Equality		
2.2.4 Economic empowerment of women.....	47.79	117
2.2.5 Gender parity in high-skilled jobs.....	66.58	82
2.2.6 Leadership opportunities for women.....	41.40	93

GDP per capita (PPP US\$).....	5,459.16
GDP (US\$ billions).....	440.78
GTCI score.....	26.73
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW..... 21.48 106		
3.1 Formal Education.....	3.53	121
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	7.07	105
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	32.54	56
3.2.1 Business masters education.....	18.31	44
3.2.2 Prevalence of training in firms.....	32.17	57
3.2.3 Employee development.....	47.14	82
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	28.36	115
Empowerment		
3.3.1 Delegation of authority.....	48.24	64
3.3.2 Youth inclusion.....	48.91	95
Collaboration		
3.3.3 Use of virtual social networks.....	10.74	117
3.3.4 Use of virtual professional networks.....	5.57	103

4 RETAIN..... 23.20 123		
4.1 Sustainability.....	14.10	131
4.1.1 Pension coverage.....	9.55	112
4.1.2 Social protection.....	0.00	130
4.1.3 Brain retention.....	30.90	89
4.1.4 Environmental performance.....	15.93	121
4.2 Lifestyle.....	32.30	112
4.2.1 Personal rights.....	67.64	73
4.2.2 Personal safety.....	19.14	120
4.2.3 Physician density.....	5.28	105
4.2.4 Sanitation.....	37.12	116

5 VOCATIONAL AND TECHNICAL SKILLS..... 25.66 120		
5.1 Mid-Level Skills.....	19.81	103
5.1.1 Workforce with secondary education.....	43.87	74
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	8.84	114
5.1.4 Labour productivity per employee.....	6.72	96
5.2 Employability.....	31.50	127
5.2.1 Ease of finding skilled employees.....	29.40	111
5.2.2 Relevance of education system to the economy.....	18.42	116
5.2.3 Skills matching.....	32.27	92
5.2.4 Highly educated unemployment.....	45.93	111

6 GLOBAL KNOWLEDGE SKILLS..... 25.53 54		
6.1 High-Level Skills.....	45.68	23
6.1.1 Workforce with tertiary education.....	19.45	82
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	17.58	81
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	100.00	1
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	5.38	109
6.2.1 Innovation output.....	7.80	120
6.2.2 High-value exports.....	12.32	68
6.2.3 Software development.....	1.00	101
6.2.4 New business density.....	4.68	83
6.2.5 Scientific journal articles.....	1.10	96

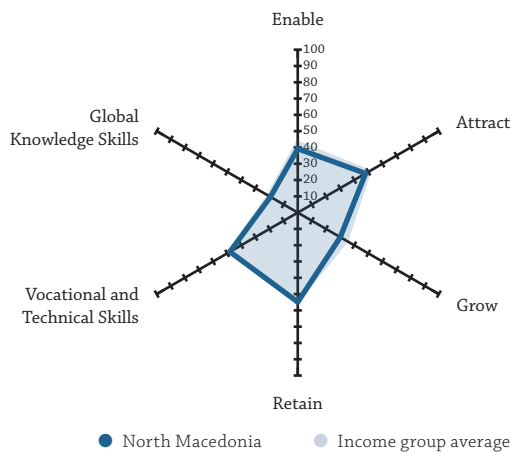
NORTH MACEDONIA

Key Indicators

Rank (out of 133).....	68
Income group.....	Upper-middle income
Regional group.....	Europe
Population (millions).....	2.07

GDP per capita (PPP US\$)	17,918.08
GDP (US\$ billions)	13.88
GTCI score.....	39.95
GTCI score (income group average)	41.23

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....	39.20	74
1.1 Regulatory Landscape.....	47.11	60
1.1.1 Government effectiveness.....	45.46	62
1.1.2 Rule of law.....	44.60	64
1.1.3 Political stability.....	61.81	58
1.1.4 Regulatory quality.....	54.68	46
1.1.5 Corruption.....	28.99	70
1.2 Market Landscape.....	30.10	95
1.2.1 Extent of market dominance.....	17.67	123
1.2.2 Domestic credit to private sector.....	24.00	63
1.2.3 Cluster development.....	33.55	100
1.2.4 R&D expenditure.....	6.73	69
1.2.5 ICT infrastructure.....	47.02	84
1.2.6 Urbanisation.....	51.66	80
1.3 Business and Labour Landscape.....	40.39	79
Labour Market		
1.3.1 Labour rights.....	93.03	29
1.3.2 Labour-employer cooperation.....	23.92	116
Management Practice		
1.3.3 Professional management.....	24.88	121
1.3.4 Relationship of pay to productivity.....	42.14	108
Technology Adoption		
1.3.5 Enterprise software.....	26.79	48
1.3.6 Cloud computing.....	9.62	101
1.3.7 Firms with website.....	62.38	47
2 ATTRACT.....	48.08	78
2.1 External Openness.....	45.16	68
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	94.05	16
2.1.2 Financial globalisation.....	58.87	71
Attract People		
2.1.3 Migrant stock.....	45.55	57
2.1.4 International students.....	19.68	48
2.1.5 Brain gain.....	7.66	129
2.2 Internal Openness.....	51.00	92
Social Inclusion		
2.2.1 Tolerance of minorities.....	40.22	73
2.2.2 Tolerance of immigrants.....	35.38	108
2.2.3 Social mobility.....	21.09	121
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	99.93	2
2.2.6 Leadership opportunities for women.....	30.63	117

	Score	Rank
3 GROW.....	30.15	74
3.1 Formal Education.....	24.75	61
Enrolment		
3.1.1 Vocational enrolment.....	43.88	26
3.1.2 Tertiary enrolment.....	28.20	71
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	26.92	66
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	25.11	87
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	43.78	36
3.2.3 Employee development.....	39.64	102
3.2.4 Formal and non-formal studies.....	17.02	46
3.3 Access to Growth Opportunities.....	40.58	80
Empowerment		
3.3.1 Delegation of authority.....	21.72	116
3.3.2 Youth inclusion.....	68.88	60
Collaboration		
3.3.3 Use of virtual social networks.....	54.57	79
3.3.4 Use of virtual professional networks.....	17.13	67

4 RETAIN.....	54.88	59
4.1 Sustainability.....	41.31	83
4.1.1 Pension coverage.....	68.09	72
4.1.2 Social protection.....	28.36	93
4.1.3 Brain retention.....	8.77	128
4.1.4 Environmental performance.....	60.00	32
4.2 Lifestyle.....	68.45	48
4.2.1 Personal rights.....	72.09	67
4.2.2 Personal safety.....	58.43	54
4.2.3 Physician density.....	45.12	47
4.2.4 Sanitation.....	98.16	40

5 VOCATIONAL AND TECHNICAL SKILLS.....	48.09	61
5.1 Mid-Level Skills.....	54.74	34
5.1.1 Workforce with secondary education.....	79.14	16
5.1.2 Population with secondary education.....	65.82	23
5.1.3 Technicians and associate professionals.....	50.76	38
5.1.4 Labour productivity per employee.....	23.23	66
5.2 Employability.....	41.44	111
5.2.1 Ease of finding skilled employees.....	14.62	127
5.2.2 Relevance of education system to the economy.....	23.91	104
5.2.3 Skills matching.....	78.55	28
5.2.4 Highly educated unemployment.....	48.68	107

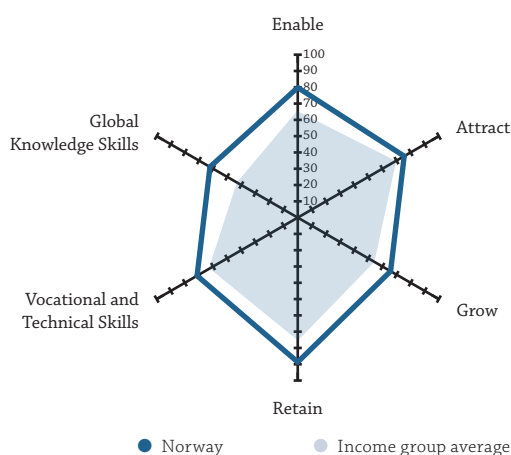
6 GLOBAL KNOWLEDGE SKILLS.....	19.32	70
6.1 High-Level Skills.....	24.46	63
6.1.1 Workforce with tertiary education.....	33.65	53
6.1.2 Population with tertiary education.....	28.65	52
6.1.3 Professionals.....	36.39	45
6.1.4 Researchers.....	8.92	57
6.1.5 Senior officials and managers.....	17.03	80
6.1.6 Digital skills.....	22.09	43
6.2 Talent Impact.....	14.19	68
6.2.1 Innovation output.....	27.48	68
6.2.2 High-value exports.....	7.33	89
6.2.3 Software development.....	7.82	52
6.2.4 New business density.....	18.92	41
6.2.5 Scientific journal articles.....	9.42	58

NORWAY

Key Indicators

Rank (out of 133).....	7
Income group	High income
Regional group.....	Europe
Population (millions)	5.41

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....79.81	8	
1.1 Regulatory Landscape.....	92.64	4
1.1.1 Government effectiveness.....	90.11	4
1.1.2 Rule of law.....	97.54	2
1.1.3 Political stability.....	93.46	4
1.1.4 Regulatory quality.....	86.45	8
1.1.5 Corruption.....	95.65	4
1.2 Market Landscape.....	73.63	7
1.2.1 Extent of market dominance.....	72.50	18
1.2.2 Domestic credit to private sector.....	75.93	5
1.2.3 Cluster development.....	74.85	15
1.2.4 R&D expenditure.....	41.76	16
1.2.5 ICT infrastructure.....	97.14	6
1.2.6 Urbanisation.....	79.59	28
1.3 Business and Labour Landscape.....	73.16	9
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	84.80	6
Management Practice		
1.3.3 Professional management.....	86.80	10
1.3.4 Relationship of pay to productivity.....	69.99	25
Technology Adoption		
1.3.5 Enterprise software.....	42.78	23
1.3.6 Cloud computing.....	42.33	15
1.3.7 Firms with website.....	85.44	10
2 ATTRACT.....75.44	14	
2.1 External Openness.....	62.72	27
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	78.11	48
2.1.2 Financial globalisation.....	90.00	12
Attract People		
2.1.3 Migrant stock.....	64.89	28
2.1.4 International students.....	16.32	54
2.1.5 Brain gain.....	64.29	27
2.2 Internal Openness.....	88.16	7
Social Inclusion		
2.2.1 Tolerance of minorities.....	69.57	29
2.2.2 Tolerance of immigrants.....	95.38	3
2.2.3 Social mobility.....	84.56	12
Gender Equality		
2.2.4 Economic empowerment of women.....	95.58	20
2.2.5 Gender parity in high-skilled jobs.....	97.78	8
2.2.6 Leadership opportunities for women.....	86.07	10

GDP per capita (PPP US\$)	79,201.23
GDP (US\$ billions)	482.44
GTCI score.....	73.88
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....65.80	11	
3.1 Formal Education.....	54.83	10
Enrolment		
3.1.1 Vocational enrolment.....	45.04	22
3.1.2 Tertiary enrolment.....	55.52	17
Quality		
3.1.3 Tertiary education expenditure.....	62.41	2
3.1.4 Reading, maths, and science.....	66.48	21
3.1.5 University ranking.....	44.68	26
3.2 Lifelong Learning.....	64.28	17
3.2.1 Business masters education.....	30.68	31
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	80.91	15
3.2.4 Formal and non-formal studies.....	81.26	6
3.3 Access to Growth Opportunities.....	78.29	6
Empowerment		
3.3.1 Delegation of authority.....	92.53	3
3.3.2 Youth inclusion.....	93.50	8
Collaboration		
3.3.3 Use of virtual social networks.....	73.82	19
3.3.4 Use of virtual professional networks.....	53.32	15

4 RETAIN.....88.66	5	
4.1 Sustainability.....	86.00	8
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	96.09	3
4.1.3 Brain retention.....	79.42	11
4.1.4 Environmental performance.....	68.47	20
4.2 Lifestyle.....	91.33	2
4.2.1 Personal rights.....	97.87	9
4.2.2 Personal safety.....	89.72	9
4.2.3 Physician density.....	79.86	7
4.2.4 Sanitation.....	97.86	43
5 VOCATIONAL AND TECHNICAL SKILLS.....71.34	4	
5.1 Mid-Level Skills.....	61.36	23
5.1.1 Workforce with secondary education.....	49.83	62
5.1.2 Population with secondary education.....	55.80	32
5.1.3 Technicians and associate professionals.....	64.52	20
5.1.4 Labour productivity per employee.....	75.31	5
5.2 Employability.....	81.31	1
5.2.1 Ease of finding skilled employees.....	76.39	5
5.2.2 Relevance of education system to the economy.....	72.97	14
5.2.3 Skills matching.....	84.63	17
5.2.4 Highly educated unemployment.....	91.24	12

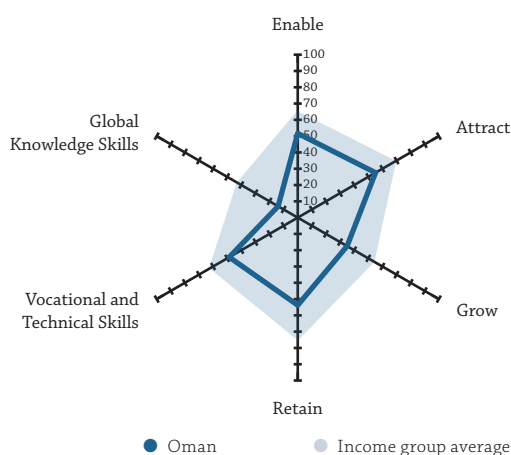
6 GLOBAL KNOWLEDGE SKILLS.....62.22	4	
6.1 High-Level Skills.....	58.31	6
6.1.1 Workforce with tertiary education.....	55.73	17
6.1.2 Population with tertiary education.....	52.38	14
6.1.3 Professionals.....	65.37	4
6.1.4 Researchers.....	76.85	6
6.1.5 Senior officials and managers.....	49.75	19
6.1.6 Digital skills.....	49.80	10
6.2 Talent Impact.....	66.12	5
6.2.1 Innovation output.....	56.38	27
6.2.2 High-value exports.....	39.98	19
6.2.3 Software development.....	93.70	2
6.2.4 New business density.....	52.05	15
6.2.5 Scientific journal articles.....	88.49	3

OMAN

Key Indicators

Rank (out of 133).....	60
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	5.22

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....51.68 42		
1.1 Regulatory Landscape.....55.69 47		
1.1.1 Government effectiveness.....45.55 61		
1.1.2 Rule of law.....62.31 39		
1.1.3 Political stability.....69.39 46		
1.1.4 Regulatory quality.....53.38 49		
1.1.5 Corruption.....47.83 45		
1.2 Market Landscape.....54.13 29		
1.2.1 Extent of market dominance.....65.73 27		
1.2.2 Domestic credit to private sector.....27.93 54		
1.2.3 Cluster development.....71.04 20		
1.2.4 R&D expenditure.....6.65 71		
1.2.5 ICT infrastructure.....71.21 47		
1.2.6 Urbanisation.....82.22 24		
1.3 Business and Labour Landscape.....45.23 64		
Labour Market		
1.3.1 Labour rights.....n/a n/a		
1.3.2 Labour-employer cooperation.....69.68 20		
Management Practice		
1.3.3 Professional management.....66.61 36		
1.3.4 Relationship of pay to productivity.....74.99 17		
Technology Adoption		
1.3.5 Enterprise software.....8.66 118		
1.3.6 Cloud computing.....6.22 124		
1.3.7 Firms with website.....n/a n/a		
2 ATTRACT.....55.12 50		
2.1 External Openness.....57.30 36		
Attract Business		
2.1.1 FDI regulatory restrictiveness.....n/a n/a		
2.1.2 Financial globalisation.....60.47 68		
Attract People		
2.1.3 Migrant stock.....88.55 6		
2.1.4 International students.....10.96 68		
2.1.5 Brain gain.....69.24 19		
2.2 Internal Openness.....52.94 82		
Social Inclusion		
2.2.1 Tolerance of minorities.....80.43 11		
2.2.2 Tolerance of immigrants.....n/a n/a		
2.2.3 Social mobility.....60.63 41		
Gender Equality		
2.2.4 Economic empowerment of women.....13.27 130		
2.2.5 Gender parity in high-skilled jobs.....38.16 108		
2.2.6 Leadership opportunities for women.....72.22 24		

GDP per capita (PPP US\$)	31,117.76
GDP (US\$ billions)	85.87
GTCI score.....	43.00
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....34.97 61		
3.1 Formal Education.....23.13 68		
Enrolment		
3.1.1 Vocational enrolment.....0.00 118		
3.1.2 Tertiary enrolment.....29.81 69		
Quality		
3.1.3 Tertiary education expenditure.....33.03 21		
3.1.4 Reading, maths, and science.....n/a n/a		
3.1.5 University ranking.....29.69 44		
3.2 Lifelong Learning.....32.01 61		
3.2.1 Business masters education.....0.00 54		
3.2.2 Prevalence of training in firms.....n/a n/a		
3.2.3 Employee development.....64.02 43		
3.2.4 Formal and non-formal studies.....n/a n/a		
3.3 Access to Growth Opportunities.....49.76 54		
Empowerment		
3.3.1 Delegation of authority.....60.19 36		
3.3.2 Youth inclusion.....n/a n/a		
Collaboration		
3.3.3 Use of virtual social networks.....70.90 30		
3.3.4 Use of virtual professional networks.....18.20 62		

4 RETAIN.....53.74 65		
4.1 Sustainability.....53.89 51		
4.1.1 Pension coverage.....46.04 82		
4.1.2 Social protection.....72.23 22		
4.1.3 Brain retention.....77.28 14		
4.1.4 Environmental performance.....20.00 108		
4.2 Lifestyle.....53.60 77		
4.2.1 Personal rights.....37.38 109		
4.2.2 Personal safety.....50.21 70		
4.2.3 Physician density.....27.55 75		
4.2.4 Sanitation.....99.25 25		

5 VOCATIONAL AND TECHNICAL SKILLS.....48.55 59		
5.1 Mid-Level Skills.....35.00 69		
5.1.1 Workforce with secondary education.....47.99 68		
5.1.2 Population with secondary education.....n/a n/a		
5.1.3 Technicians and associate professionals.....28.67 65		
5.1.4 Labour productivity per employee.....28.33 57		
5.2 Employability.....62.10 50		
5.2.1 Ease of finding skilled employees.....62.29 23		
5.2.2 Relevance of education system to the economy.....61.91 28		
5.2.3 Skills matching.....n/a n/a		
5.2.4 Highly educated unemployment.....n/a n/a		

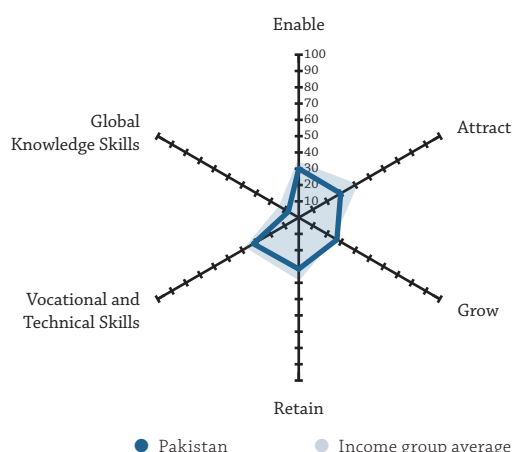
6 GLOBAL KNOWLEDGE SKILLS.....13.91 91		
6.1 High-Level Skills.....20.26 81		
6.1.1 Workforce with tertiary education.....6.73 113		
6.1.2 Population with tertiary education.....n/a n/a		
6.1.3 Professionals.....18.92 76		
6.1.4 Researchers.....3.73 77		
6.1.5 Senior officials and managers.....36.01 40		
6.1.6 Digital skills.....35.92 20		
6.2 Talent Impact.....7.55 95		
6.2.1 Innovation output.....20.39 88		
6.2.2 High-value exports.....2.04 109		
6.2.3 Software development.....0.13 121		
6.2.4 New business density.....8.17 70		
6.2.5 Scientific journal articles.....7.03 65		

PAKISTAN

Key Indicators

Rank (out of 133).....	113
Income group.....	Lower-middle income
Regional group.....	Central and Southern Asia
Population (millions).....	225.20

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 30.04 111		
1.1 Regulatory Landscape.....	20.00	124
1.1.1 Government effectiveness.....	28.47	101
1.1.2 Rule of law.....	28.40	108
1.1.3 Political stability.....	8.09	131
1.1.4 Regulatory quality.....	22.00	115
1.1.5 Corruption.....	13.04	113
1.2 Market Landscape.....	34.59	84
1.2.1 Extent of market dominance.....	64.87	30
1.2.2 Domestic credit to private sector.....	4.09	118
1.2.3 Cluster development.....	59.51	33
1.2.4 R&D expenditure.....	3.51	91
1.2.5 ICT infrastructure.....	48.37	82
1.2.6 Urbanisation.....	27.18	111
1.3 Business and Labour Landscape.....	35.53	103
Labour Market		
1.3.1 Labour rights.....	37.80	97
1.3.2 Labour-employer cooperation.....	35.54	88
Management Practice		
1.3.3 Professional management.....	49.08	71
1.3.4 Relationship of pay to productivity.....	66.04	35
Technology Adoption		
1.3.5 Enterprise software.....	8.59	119
1.3.6 Cloud computing.....	8.48	109
1.3.7 Firms with website.....	43.21	73
2 ATTRACT..... 29.69 126		
2.1 External Openness.....	28.81	111
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	17.44	124
Attract People		
2.1.3 Migrant stock.....	28.99	89
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	40.01	83
2.2 Internal Openness.....	30.56	128
Social Inclusion		
2.2.1 Tolerance of minorities.....	9.78	121
2.2.2 Tolerance of immigrants.....	36.92	107
2.2.3 Social mobility.....	53.00	48
Gender Equality		
2.2.4 Economic empowerment of women.....	37.17	122
2.2.5 Gender parity in high-skilled jobs.....	3.39	125
2.2.6 Leadership opportunities for women.....	43.11	89

GDP per capita (PPP US\$).....	5,877.64
GDP (US\$ billions).....	346.34
GTGI score.....	26.30
GTGI score (income group average).....	30.02

	Score	Rank
3 GROW..... 27.06 86		
3.1 Formal Education.....	12.35	93
Enrolment		
3.1.1 Vocational enrolment.....	4.49	99
3.1.2 Tertiary enrolment.....	7.15	104
Quality		
3.1.3 Tertiary education expenditure.....	6.97	78
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	30.80	43
3.2 Lifelong Learning.....	39.26	45
3.2.1 Business masters education.....	21.89	41
3.2.2 Prevalence of training in firms.....	33.99	51
3.2.3 Employee development.....	61.91	47
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	29.57	111
Empowerment		
3.3.1 Delegation of authority.....	42.35	78
3.3.2 Youth inclusion.....	45.68	104
Collaboration		
3.3.3 Use of virtual social networks.....	25.02	106
3.3.4 Use of virtual professional networks.....	5.25	108

4 RETAIN..... 31.57 108		
4.1 Sustainability.....	27.90	104
4.1.1 Pension coverage.....	4.27	121
4.1.2 Social protection.....	44.18	58
4.1.3 Brain retention.....	53.50	42
4.1.4 Environmental performance.....	9.66	130
4.2 Lifestyle.....	35.25	109
4.2.1 Personal rights.....	29.73	116
4.2.2 Personal safety.....	28.88	106
4.2.3 Physician density.....	17.07	86
4.2.4 Sanitation.....	65.31	102

5 VOCATIONAL AND TECHNICAL SKILLS..... 32.09 110		
5.1 Mid-Level Skills.....	15.30	111
5.1.1 Workforce with secondary education.....	28.32	96
5.1.2 Population with secondary education.....	8.73	87
5.1.3 Technicians and associate professionals.....	15.20	100
5.1.4 Labour productivity per employee.....	8.96	91
5.2 Employability.....	48.89	85
5.2.1 Ease of finding skilled employees.....	37.50	90
5.2.2 Relevance of education system to the economy.....	60.95	30
5.2.3 Skills matching.....	38.27	91
5.2.4 Highly educated unemployment.....	58.83	93

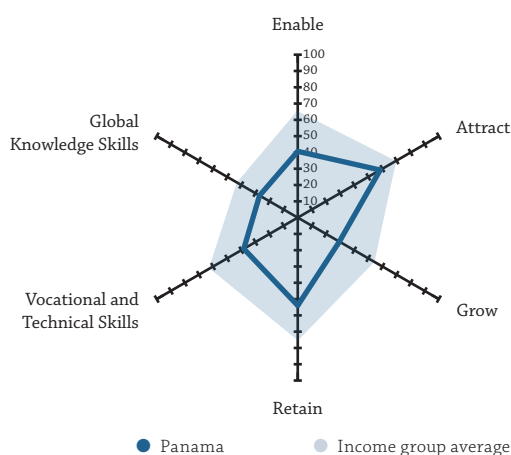
6 GLOBAL KNOWLEDGE SKILLS..... 7.36 108		
6.1 High-Level Skills.....	8.71	113
6.1.1 Workforce with tertiary education.....	11.10	98
6.1.2 Population with tertiary education.....	4.19	91
6.1.3 Professionals.....	11.58	104
6.1.4 Researchers.....	4.28	73
6.1.5 Senior officials and managers.....	14.68	87
6.1.6 Digital skills.....	6.43	67
6.2 Talent Impact.....	6.01	107
6.2.1 Innovation output.....	23.40	76
6.2.2 High-value exports.....	3.18	104
6.2.3 Software development.....	0.49	108
6.2.4 New business density.....	0.60	116
6.2.5 Scientific journal articles.....	2.38	87

PANAMA

Key Indicators

Rank (out of 133).....	64
Income group	High income
Regional group	Latin America and the Caribbean
Population (millions)	4.38

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 40.66 72		
1.1 Regulatory Landscape.....	44.88	63
1.1.1 Government effectiveness.....	43.80	64
1.1.2 Rule of law.....	40.90	73
1.1.3 Political stability.....	65.42	52
1.1.4 Regulatory quality.....	49.65	55
1.1.5 Corruption.....	24.64	85
1.2 Market Landscape.....	44.67	57
1.2.1 Extent of market dominance.....	40.15	72
1.2.2 Domestic credit to private sector.....	47.32	24
1.2.3 Cluster development.....	42.27	70
1.2.4 R&D expenditure.....	2.52	96
1.2.5 ICT infrastructure.....	72.90	42
1.2.6 Urbanisation.....	62.87	60
1.3 Business and Labour Landscape.....	32.43	113
Labour Market		
1.3.1 Labour rights.....	39.68	95
1.3.2 Labour-employer cooperation.....	38.61	78
Management Practice		
1.3.3 Professional management.....	46.59	82
1.3.4 Relationship of pay to productivity.....	40.37	114
Technology Adoption		
1.3.5 Enterprise software.....	14.62	98
1.3.6 Cloud computing.....	14.69	74
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT..... 58.40 41		
2.1 External Openness.....	59.74	31
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	77.66	33
Attract People		
2.1.3 Migrant stock.....	49.09	50
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	52.47	52
2.2 Internal Openness.....	57.06	67
Social Inclusion		
2.2.1 Tolerance of minorities.....	44.57	64
2.2.2 Tolerance of immigrants.....	43.08	94
2.2.3 Social mobility.....	49.08	52
Gender Equality		
2.2.4 Economic empowerment of women.....	70.80	82
2.2.5 Gender parity in high-skilled jobs.....	82.18	50
2.2.6 Leadership opportunities for women.....	52.67	72

GDP per capita (PPP US\$)	31,680.19
GDP (US\$ billions)	63.61
GTCI score.....	41.30
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 29.50 77		
3.1 Formal Education.....	18.01	80
Enrolment		
3.1.1 Vocational enrolment.....	26.65	48
3.1.2 Tertiary enrolment.....	31.39	66
Quality		
3.1.3 Tertiary education expenditure.....	11.50	58
3.1.4 Reading, maths, and science.....	12.53	75
3.1.5 University ranking.....	8.00	73
3.2 Lifelong Learning.....	17.79	118
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	48.32	80
3.2.4 Formal and non-formal studies.....	5.04	57
3.3 Access to Growth Opportunities.....	52.69	44
Empowerment		
3.3.1 Delegation of authority.....	45.10	68
3.3.2 Youth inclusion.....	66.96	65
Collaboration		
3.3.3 Use of virtual social networks.....	66.46	52
3.3.4 Use of virtual professional networks.....	32.23	33

4 RETAIN..... 53.95 64		
4.1 Sustainability.....	46.85	71
4.1.1 Pension coverage.....	28.15	92
4.1.2 Social protection.....	44.73	56
4.1.3 Brain retention.....	60.97	33
4.1.4 Environmental performance.....	53.56	40
4.2 Lifestyle.....	61.04	60
4.2.1 Personal rights.....	85.04	46
4.2.2 Personal safety.....	50.77	69
4.2.3 Physician density.....	25.29	78
4.2.4 Sanitation.....	83.06	87

5 VOCATIONAL AND TECHNICAL SKILLS..... 38.24 91		
5.1 Mid-Level Skills.....	41.19	60
5.1.1 Workforce with secondary education.....	57.48	47
5.1.2 Population with secondary education.....	38.32	55
5.1.3 Technicians and associate professionals.....	27.77	71
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	35.29	126
5.2.1 Ease of finding skilled employees.....	26.96	115
5.2.2 Relevance of education system to the economy.....	18.39	117
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	60.53	89

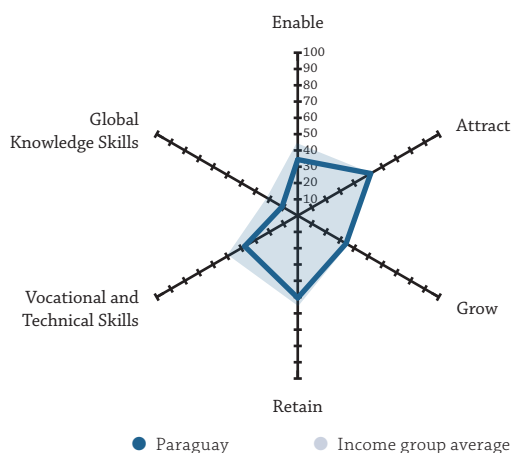
6 GLOBAL KNOWLEDGE SKILLS..... 27.06 47		
6.1 High-Level Skills.....	23.13	67
6.1.1 Workforce with tertiary education.....	21.44	79
6.1.2 Population with tertiary education.....	35.19	39
6.1.3 Professionals.....	26.61	61
6.1.4 Researchers.....	0.33	98
6.1.5 Senior officials and managers.....	32.06	45
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	30.99	33
6.2.1 Innovation output.....	22.70	78
6.2.2 High-value exports.....	100.00	1
6.2.3 Software development.....	7.48	53
6.2.4 New business density.....	23.15	35
6.2.5 Scientific journal articles.....	1.61	93

PARAGUAY

Key Indicators

Rank (out of 133).....	85
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	7.22

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....34.40	97	
1.1 Regulatory Landscape.....	35.44	86
1.1.1 Government effectiveness.....	30.46	96
1.1.2 Rule of law.....	35.55	90
1.1.3 Political stability.....	59.52	63
1.1.4 Regulatory quality.....	35.73	87
1.1.5 Corruption.....	15.94	104
1.2 Market Landscape.....	29.28	100
1.2.1 Extent of market dominance.....	20.43	117
1.2.2 Domestic credit to private sector.....	20.75	72
1.2.3 Cluster development.....	31.44	105
1.2.4 R&D expenditure.....	2.34	98
1.2.5 ICT infrastructure.....	44.88	89
1.2.6 Urbanisation.....	55.83	72
1.3 Business and Labour Landscape.....	38.49	95
Labour Market		
1.3.1 Labour rights.....	56.84	88
1.3.2 Labour-employer cooperation.....	40.68	70
Management Practice		
1.3.3 Professional management.....	27.07	119
1.3.4 Relationship of pay to productivity.....	40.31	115
Technology Adoption		
1.3.5 Enterprise software.....	19.08	76
1.3.6 Cloud computing.....	13.69	82
1.3.7 Firms with website.....	71.74	33
2 ATTRACT.....51.71	63	
2.1 External Openness.....	37.23	89
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	35.04	112
Attract People		
2.1.3 Migrant stock.....	31.66	81
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	44.99	71
2.2 Internal Openness.....	66.20	32
Social Inclusion		
2.2.1 Tolerance of minorities.....	55.43	49
2.2.2 Tolerance of immigrants.....	87.69	13
2.2.3 Social mobility.....	38.64	87
Gender Equality		
2.2.4 Economic empowerment of women.....	92.04	26
2.2.5 Gender parity in high-skilled jobs.....	93.26	19
2.2.6 Leadership opportunities for women.....	30.13	118

GDP per capita (PPP US\$).....	13,975.86
GDP (US\$ billions).....	38.99
GTGI score.....	36.59
GTGI score (income group average).....	41.23

	Score	Rank
3 GROW.....34.24	64	
3.1 Formal Education.....	16.19	82
Enrolment		
3.1.1 Vocational enrolment.....	23.06	53
3.1.2 Tertiary enrolment.....	n/a	n/a
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	9.32	70
3.2 Lifelong Learning.....	48.06	31
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	54.13	24
3.2.3 Employee development.....	38.11	107
3.2.4 Formal and non-formal studies.....	100.00	1
3.3 Access to Growth Opportunities.....	38.48	85
Empowerment		
3.3.1 Delegation of authority.....	20.24	119
3.3.2 Youth inclusion.....	68.41	63
Collaboration		
3.3.3 Use of virtual social networks.....	52.62	84
3.3.4 Use of virtual professional networks.....	12.63	77

4 RETAIN.....50.51	76	
4.1 Sustainability.....	43.35	77
4.1.1 Pension coverage.....	64.02	74
4.1.2 Social protection.....	31.18	82
4.1.3 Brain retention.....	40.92	59
4.1.4 Environmental performance.....	37.29	70
4.2 Lifestyle.....	57.66	65
4.2.1 Personal rights.....	77.17	61
4.2.2 Personal safety.....	45.46	79
4.2.3 Physician density.....	16.00	87
4.2.4 Sanitation.....	92.01	69

5 VOCATIONAL AND TECHNICAL SKILLS.....37.63	95	
5.1 Mid-Level Skills.....	30.12	82
5.1.1 Workforce with secondary education.....	40.75	76
5.1.2 Population with secondary education.....	36.65	59
5.1.3 Technicians and associate professionals.....	28.30	68
5.1.4 Labour productivity per employee.....	14.80	81
5.2 Employability.....	45.15	97
5.2.1 Ease of finding skilled employees.....	28.65	112
5.2.2 Relevance of education system to the economy.....	10.57	126
5.2.3 Skills matching.....	57.25	73
5.2.4 Highly educated unemployment.....	84.12	40

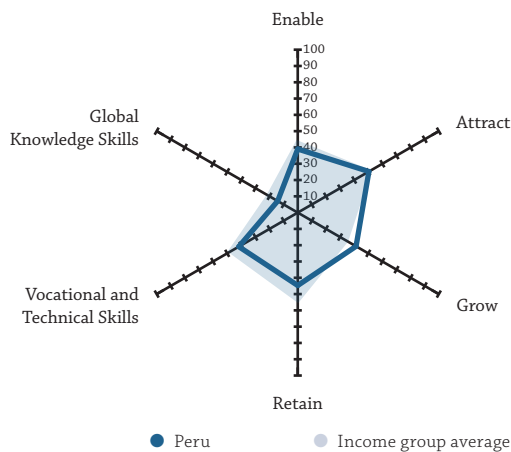
6 GLOBAL KNOWLEDGE SKILLS.....11.06	96	
6.1 High-Level Skills.....	15.73	92
6.1.1 Workforce with tertiary education.....	17.59	86
6.1.2 Population with tertiary education.....	20.38	67
6.1.3 Professionals.....	16.04	86
6.1.4 Researchers.....	1.67	83
6.1.5 Senior officials and managers.....	22.97	66
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	6.39	105
6.2.1 Innovation output.....	20.92	86
6.2.2 High-value exports.....	9.07	79
6.2.3 Software development.....	1.39	93
6.2.4 New business density.....	0.06	119
6.2.5 Scientific journal articles.....	0.52	109

PERU

Key Indicators

Rank (out of 133).....	78
Income group.....	Upper-middle income
Regional group.....	Latin America and the Caribbean
Population (millions).....	33.36

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....39.03	76	
1.1 Regulatory Landscape.....	40.91	76
1.1.1 Government effectiveness.....	36.13	85
1.1.2 Rule of law.....	37.41	82
1.1.3 Political stability.....	51.21	78
1.1.4 Regulatory quality.....	55.18	44
1.1.5 Corruption.....	24.64	85
1.2 Market Landscape.....	35.88	76
1.2.1 Extent of market dominance.....	27.53	102
1.2.2 Domestic credit to private sector.....	23.22	65
1.2.3 Cluster development.....	35.61	87
1.2.4 R&D expenditure.....	2.97	94
1.2.5 ICT infrastructure.....	51.38	79
1.2.6 Urbanisation.....	74.60	39
1.3 Business and Labour Landscape.....	40.31	81
Labour Market		
1.3.1 Labour rights.....	43.70	91
1.3.2 Labour-employer cooperation.....	30.93	98
Management Practice		
1.3.3 Professional management.....	48.11	74
1.3.4 Relationship of pay to productivity.....	44.67	99
Technology Adoption		
1.3.5 Enterprise software.....	26.65	49
1.3.6 Cloud computing.....	19.13	50
1.3.7 Firms with website.....	68.97	39
2 ATTRACT.....50.43	66	
2.1 External Openness.....	49.51	59
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	80.27	44
2.1.2 Financial globalisation.....	48.99	89
Attract People		
2.1.3 Migrant stock.....	32.50	80
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	36.30	94
2.2 Internal Openness.....	51.34	88
Social Inclusion		
2.2.1 Tolerance of minorities.....	11.96	116
2.2.2 Tolerance of immigrants.....	50.77	81
2.2.3 Social mobility.....	45.23	61
Gender Equality		
2.2.4 Economic empowerment of women.....	92.92	25
2.2.5 Gender parity in high-skilled jobs.....	69.22	77
2.2.6 Leadership opportunities for women.....	37.96	104

GDP per capita (PPP US\$).....	13,895.28
GDP (US\$ billions).....	223.25
GTCI score.....	38.59
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....41.34	47	
3.1 Formal Education.....	20.25	72
Enrolment		
3.1.1 Vocational enrolment.....	2.65	108
3.1.2 Tertiary enrolment.....	47.01	31
Quality		
3.1.3 Tertiary education expenditure.....	3.02	99
3.1.4 Reading, maths, and science.....	27.52	65
3.1.5 University ranking.....	21.07	52
3.2 Lifelong Learning.....	52.82	26
3.2.1 Business masters education.....	47.13	22
3.2.2 Prevalence of training in firms.....	81.40	6
3.2.3 Employee development.....	36.16	113
3.2.4 Formal and non-formal studies.....	46.58	33
3.3 Access to Growth Opportunities.....	50.96	49
Empowerment		
3.3.1 Delegation of authority.....	42.55	77
3.3.2 Youth inclusion.....	60.01	79
Collaboration		
3.3.3 Use of virtual social networks.....	71.43	28
3.3.4 Use of virtual professional networks.....	29.87	36

4 RETAIN.....44.72	88	
4.1 Sustainability.....	32.89	93
4.1.1 Pension coverage.....	34.65	87
4.1.2 Social protection.....	22.49	106
4.1.3 Brain retention.....	38.98	65
4.1.4 Environmental performance.....	35.42	76
4.2 Lifestyle.....	56.55	69
4.2.1 Personal rights.....	78.54	56
4.2.2 Personal safety.....	50.09	72
4.2.3 Physician density.....	21.08	82
4.2.4 Sanitation.....	76.48	95

5 VOCATIONAL AND TECHNICAL SKILLS.....41.77	78	
5.1 Mid-Level Skills.....	37.52	67
5.1.1 Workforce with secondary education.....	58.99	41
5.1.2 Population with secondary education.....	50.83	39
5.1.3 Technicians and associate professionals.....	27.73	72
5.1.4 Labour productivity per employee.....	12.54	85
5.2 Employability.....	46.01	93
5.2.1 Ease of finding skilled employees.....	40.09	80
5.2.2 Relevance of education system to the economy.....	19.32	111
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	78.64	56

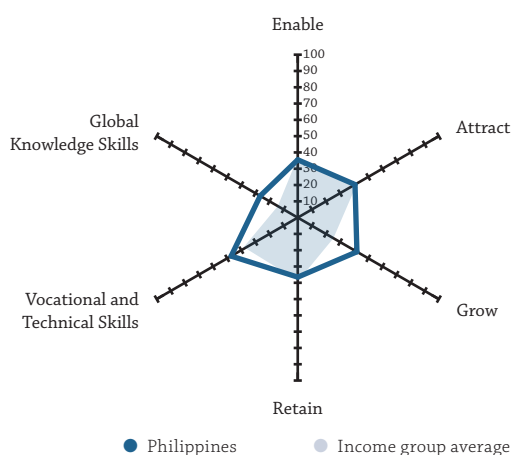
6 GLOBAL KNOWLEDGE SKILLS.....14.23	87	
6.1 High-Level Skills.....	17.20	89
6.1.1 Workforce with tertiary education.....	26.90	70
6.1.2 Population with tertiary education.....	28.59	53
6.1.3 Professionals.....	15.82	88
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	1.65	123
6.1.6 Digital skills.....	13.03	59
6.2 Talent Impact.....	11.27	75
6.2.1 Innovation output.....	21.99	81
6.2.2 High-value exports.....	8.44	82
6.2.3 Software development.....	3.15	69
6.2.4 New business density.....	20.80	37
6.2.5 Scientific journal articles.....	1.99	89

PHILIPPINES

Key Indicators

Rank (out of 133)	80
Income group	Lower-middle income
Regional group	Eastern, Southeastern Asia and Oceania
Population (millions)	111.05

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	35.50	90
1.1 Regulatory Landscape	35.00	88
1.1.1 Government effectiveness	43.54	65
1.1.2 Rule of law	32.01	98
1.1.3 Political stability	37.26	110
1.1.4 Regulatory quality	41.93	71
1.1.5 Corruption	20.29	96
1.2 Market Landscape	25.88	113
1.2.1 Extent of market dominance	25.69	105
1.2.2 Domestic credit to private sector	21.70	70
1.2.3 Cluster development	42.43	69
1.2.4 R&D expenditure	5.75	75
1.2.5 ICT infrastructure	20.76	114
1.2.6 Urbanisation	38.95	103
1.3 Business and Labour Landscape	45.61	60
Labour Market		
1.3.1 Labour rights	46.78	90
1.3.2 Labour-employer cooperation	65.25	27
Management Practice		
1.3.3 Professional management	61.17	46
1.3.4 Relationship of pay to productivity	67.29	33
Technology Adoption		
1.3.5 Enterprise software	14.63	97
1.3.6 Cloud computing	14.56	75
1.3.7 Firms with website	49.56	63
2 ATTRACT	40.59	102
2.1 External Openness	20.75	126
Attract Business		
2.1.1 FDI regulatory restrictiveness	0.00	78
2.1.2 Financial globalisation	42.57	98
Attract People		
2.1.3 Migrant stock	3.65	128
2.1.4 International students	n/a	n/a
2.1.5 Brain gain	36.78	93
2.2 Internal Openness	60.44	50
Social Inclusion		
2.2.1 Tolerance of minorities	26.09	94
2.2.2 Tolerance of immigrants	63.08	57
2.2.3 Social mobility	44.83	63
Gender Equality		
2.2.4 Economic empowerment of women	69.91	85
2.2.5 Gender parity in high-skilled jobs	72.99	70
2.2.6 Leadership opportunities for women	85.73	11

GDP per capita (PPP US\$)	9,119.69
GDP (US\$ billions)	394.09
GTCI score	38.06
GTCI score (income group average)	30.02

	Score	Rank
3 GROW	41.94	46
3.1 Formal Education	16.02	83
Enrolment		
3.1.1 Vocational enrolment	14.31	70
3.1.2 Tertiary enrolment	23.02	78
Quality		
3.1.3 Tertiary education expenditure	n/a	n/a
3.1.4 Reading, maths, and science	6.37	77
3.1.5 University ranking	20.36	54
3.2 Lifelong Learning	58.55	20
3.2.1 Business masters education	29.80	33
3.2.2 Prevalence of training in firms	72.87	9
3.2.3 Employee development	72.99	28
3.2.4 Formal and non-formal studies	n/a	n/a
3.3 Access to Growth Opportunities	51.25	48
Empowerment		
3.3.1 Delegation of authority	62.24	31
3.3.2 Youth inclusion	57.17	83
Collaboration		
3.3.3 Use of virtual social networks	70.19	32
3.3.4 Use of virtual professional networks	15.42	70

4 RETAIN	36.52	102
4.1 Sustainability	29.46	98
4.1.1 Pension coverage	19.21	98
4.1.2 Social protection	26.30	98
4.1.3 Brain retention	55.37	39
4.1.4 Environmental performance	16.95	117
4.2 Lifestyle	43.58	96
4.2.1 Personal rights	61.42	83
4.2.2 Personal safety	20.82	117
4.2.3 Physician density	11.55	95
4.2.4 Sanitation	80.52	90

5 VOCATIONAL AND TECHNICAL SKILLS	47.20	63
5.1 Mid-Level Skills	28.74	85
5.1.1 Workforce with secondary education	87.32	9
5.1.2 Population with secondary education	1.24	98
5.1.3 Technicians and associate professionals	14.88	101
5.1.4 Labour productivity per employee	11.52	86
5.2 Employability	65.66	32
5.2.1 Ease of finding skilled employees	65.98	15
5.2.2 Relevance of education system to the economy	38.05	78
5.2.3 Skills matching	n/a	n/a
5.2.4 Highly educated unemployment	92.96	8

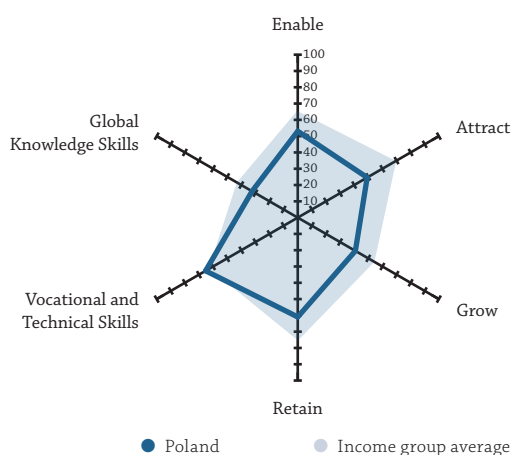
6 GLOBAL KNOWLEDGE SKILLS	26.62	49
6.1 High-Level Skills	23.67	66
6.1.1 Workforce with tertiary education	32.94	56
6.1.2 Population with tertiary education	37.15	37
6.1.3 Professionals	12.88	99
6.1.4 Researchers	1.87	81
6.1.5 Senior officials and managers	54.24	14
6.1.6 Digital skills	2.95	76
6.2 Talent Impact	29.57	38
6.2.1 Innovation output	44.33	39
6.2.2 High-value exports	100.00	1
6.2.3 Software development	1.77	84
6.2.4 New business density	0.97	111
6.2.5 Scientific journal articles	0.80	102

POLAND

Key Indicators

Rank (out of 133).....	39
Income group	High income
Regional group.....	Europe
Population (millions)	37.78

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....53.02 41		
1.1 Regulatory Landscape.....	60.98	39
1.1.1 Government effectiveness.....	51.37	49
1.1.2 Rule of law.....	60.23	42
1.1.3 Political stability.....	74.91	39
1.1.4 Regulatory quality.....	64.78	35
1.1.5 Corruption.....	53.62	35
1.2 Market Landscape.....	50.68	39
1.2.1 Extent of market dominance.....	72.14	19
1.2.2 Domestic credit to private sector.....	20.74	73
1.2.3 Cluster development.....	41.18	73
1.2.4 R&D expenditure.....	25.47	31
1.2.5 ICT infrastructure.....	90.47	17
1.2.6 Urbanisation.....	54.07	75
1.3 Business and Labour Landscape.....	47.40	53
Labour Market		
1.3.1 Labour rights.....	85.25	50
1.3.2 Labour-employer cooperation.....	40.28	71
Management Practice		
1.3.3 Professional management.....	42.48	96
1.3.4 Relationship of pay to productivity.....	53.81	63
Technology Adoption		
1.3.5 Enterprise software.....	19.86	70
1.3.6 Cloud computing.....	18.61	53
1.3.7 Firms with website.....	71.52	35
2 ATTRACT.....49.22 75		
2.1 External Openness.....	41.16	76
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	81.62	42
2.1.2 Financial globalisation.....	56.80	79
Attract People		
2.1.3 Migrant stock.....	24.38	97
2.1.4 International students.....	14.71	57
2.1.5 Brain gain.....	28.29	105
2.2 Internal Openness.....	57.29	65
Social Inclusion		
2.2.1 Tolerance of minorities.....	44.57	64
2.2.2 Tolerance of immigrants.....	50.77	81
2.2.3 Social mobility.....	41.80	78
Gender Equality		
2.2.4 Economic empowerment of women.....	91.15	28
2.2.5 Gender parity in high-skilled jobs.....	76.15	60
2.2.6 Leadership opportunities for women.....	39.28	102

GDP per capita (PPP US\$)	37,502.56
GDP (US\$ billions)	674.05
GTCI score.....	50.28
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 40.84 48		
3.1 Formal Education.....	43.38	27
Enrolment		
3.1.1 Vocational enrolment.....	44.67	23
3.1.2 Tertiary enrolment.....	45.95	34
Quality		
3.1.3 Tertiary education expenditure.....	21.17	32
3.1.4 Reading, maths, and science.....	72.98	8
3.1.5 University ranking.....	32.12	41
3.2 Lifelong Learning.....	30.25	68
3.2.1 Business masters education.....	17.83	46
3.2.2 Prevalence of training in firms.....	19.58	76
3.2.3 Employee development.....	49.17	77
3.2.4 Formal and non-formal studies.....	34.41	37
3.3 Access to Growth Opportunities.....	48.88	58
Empowerment		
3.3.1 Delegation of authority.....	35.84	91
3.3.2 Youth inclusion.....	83.52	35
Collaboration		
3.3.3 Use of virtual social networks.....	60.96	65
3.3.4 Use of virtual professional networks.....	15.20	72

4 RETAIN..... 60.97 45		
4.1 Sustainability.....	47.57	64
4.1.1 Pension coverage.....	83.33	63
4.1.2 Social protection.....	19.49	113
4.1.3 Brain retention.....	33.71	80
4.1.4 Environmental performance.....	53.73	39
4.2 Lifestyle.....	74.37	40
4.2.1 Personal rights.....	80.05	52
4.2.2 Personal safety.....	80.21	21
4.2.3 Physician density.....	37.22	63
4.2.4 Sanitation.....	100.00	1

5 VOCATIONAL AND TECHNICAL SKILLS..... 65.29 17		
5.1 Mid-Level Skills.....	68.07	7
5.1.1 Workforce with secondary education.....	82.39	12
5.1.2 Population with secondary education.....	85.16	6
5.1.3 Technicians and associate professionals.....	57.26	29
5.1.4 Labour productivity per employee.....	47.46	35
5.2 Employability.....	62.51	45
5.2.1 Ease of finding skilled employees.....	38.97	84
5.2.2 Relevance of education system to the economy.....	29.74	94
5.2.3 Skills matching.....	90.73	7
5.2.4 Highly educated unemployment.....	90.60	16

6 GLOBAL KNOWLEDGE SKILLS..... 32.36 36		
6.1 High-Level Skills.....	37.34	38
6.1.1 Workforce with tertiary education.....	44.63	35
6.1.2 Population with tertiary education.....	37.28	36
6.1.3 Professionals.....	48.10	25
6.1.4 Researchers.....	37.66	28
6.1.5 Senior officials and managers.....	38.35	38
6.1.6 Digital skills.....	18.02	52
6.2 Talent Impact.....	27.39	41
6.2.1 Innovation output.....	43.44	41
6.2.2 High-value exports.....	17.60	52
6.2.3 Software development.....	29.66	28
6.2.4 New business density.....	8.87	67
6.2.5 Scientific journal articles.....	37.38	32

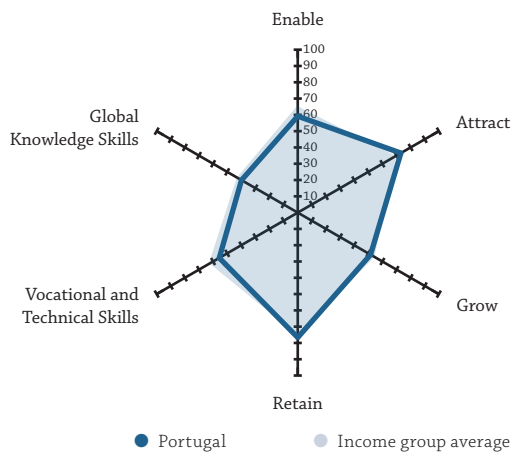
PORTUGAL

Key Indicators

Rank (out of 133).....	26
Income group	High income
Regional group	Europe
Population (millions)	10.30

GDP per capita (PPP US\$)	35,888.17
GDP (US\$ billions)	249.89
GTCI score	59.33
GTCI score (income group average)	59.85

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	59.18	29
1.1 Regulatory Landscape.....	71.46	25
1.1.1 Government effectiveness	67.43	30
1.1.2 Rule of law	76.86	22
1.1.3 Political stability.....	87.35	12
1.1.4 Regulatory quality.....	63.37	37
1.1.5 Corruption	62.32	26
1.2 Market Landscape.....	52.58	32
1.2.1 Extent of market dominance.....	54.53	41
1.2.2 Domestic credit to private sector	45.11	26
1.2.3 Cluster development.....	54.20	39
1.2.4 R&D expenditure.....	29.62	24
1.2.5 ICT infrastructure.....	72.04	44
1.2.6 Urbanisation	60.00	67
1.3 Business and Labour Landscape.....	53.49	37
Labour Market		
1.3.1 Labour rights.....	93.16	26
1.3.2 Labour-employer cooperation	51.48	50
Management Practice		
1.3.3 Professional management	55.60	59
1.3.4 Relationship of pay to productivity.....	53.01	67
Technology Adoption		
1.3.5 Enterprise software	23.07	57
1.3.6 Cloud computing	37.39	21
1.3.7 Firms with website	60.69	53
2 ATTRACT.....	73.08	18
2.1 External Openness	65.39	25
Attract Business		
2.1.1 FDI regulatory restrictiveness	99.19	2
2.1.2 Financial globalisation	82.54	25
Attract People		
2.1.3 Migrant stock	54.49	47
2.1.4 International students.....	37.20	26
2.1.5 Brain gain	53.53	47
2.2 Internal Openness.....	80.78	13
Social Inclusion		
2.2.1 Tolerance of minorities.....	91.30	4
2.2.2 Tolerance of immigrants	92.31	8
2.2.3 Social mobility	52.41	49
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs	92.95	20
2.2.6 Leadership opportunities for women	55.69	61

	Score	Rank
3 GROW.....	51.60	24
3.1 Formal Education.....	39.72	32
Enrolment		
3.1.1 Vocational enrolment	37.01	29
3.1.2 Tertiary enrolment	45.10	38
Quality		
3.1.3 Tertiary education expenditure	18.58	41
3.1.4 Reading, maths, and science	64.46	25
3.1.5 University ranking.....	33.43	39
3.2 Lifelong Learning.....	51.86	27
3.2.1 Business masters education.....	55.45	16
3.2.2 Prevalence of training in firms.....	29.79	61
3.2.3 Employee development	59.83	49
3.2.4 Formal and non-formal studies	62.38	23
3.3 Access to Growth Opportunities	63.21	23
Empowerment		
3.3.1 Delegation of authority	41.38	81
3.3.2 Youth inclusion	90.86	14
Collaboration		
3.3.3 Use of virtual social networks	71.34	29
3.3.4 Use of virtual professional networks	49.25	17

4 RETAIN.....	76.66	22
4.1 Sustainability	62.76	29
4.1.1 Pension coverage	90.24	56
4.1.2 Social protection	68.60	27
4.1.3 Brain retention	38.81	67
4.1.4 Environmental performance	53.39	41
4.2 Lifestyle	90.56	4
4.2.1 Personal rights	95.46	23
4.2.2 Personal safety.....	80.38	20
4.2.3 Physician density.....	86.84	3
4.2.4 Sanitation	99.57	19

5 VOCATIONAL AND TECHNICAL SKILLS.....	55.61	48
5.1 Mid-Level Skills	40.49	62
5.1.1 Workforce with secondary education	42.81	75
5.1.2 Population with secondary education	28.50	68
5.1.3 Technicians and associate professionals.....	48.51	43
5.1.4 Labour productivity per employee.....	42.13	40
5.2 Employability.....	70.73	19
5.2.1 Ease of finding skilled employees	61.96	25
5.2.2 Relevance of education system to the economy	65.98	23
5.2.3 Skills matching	77.06	36
5.2.4 Highly educated unemployment	77.93	58

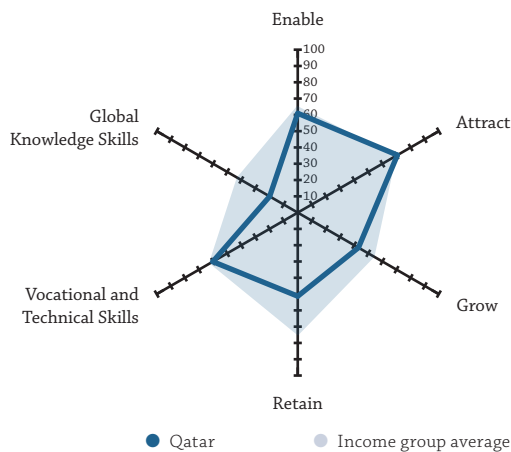
6 GLOBAL KNOWLEDGE SKILLS	39.85	25
6.1 High-Level Skills	43.36	26
6.1.1 Workforce with tertiary education	41.23	39
6.1.2 Population with tertiary education.....	29.46	47
6.1.3 Professionals	54.83	16
6.1.4 Researchers	59.80	15
6.1.5 Senior officials and managers.....	41.13	32
6.1.6 Digital skills	33.70	22
6.2 Talent Impact.....	36.34	28
6.2.1 Innovation output	53.19	29
6.2.2 High-value exports.....	12.63	63
6.2.3 Software development	30.57	26
6.2.4 New business density	29.98	27
6.2.5 Scientific journal articles	55.34	18

QATAR

Key Indicators

Rank (out of 133).....	38
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	2.93

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....60.96 27		
1.1 Regulatory Landscape.....	68.38	31
1.1.1 Government effectiveness.....	64.57	33
1.1.2 Rule of law.....	72.14	27
1.1.3 Political stability.....	77.56	32
1.1.4 Regulatory quality.....	63.85	36
1.1.5 Corruption.....	63.77	25
1.2 Market Landscape.....	64.47	21
1.2.1 Extent of market dominance.....	76.26	13
1.2.2 Domestic credit to private sector.....	63.02	14
1.2.3 Cluster development.....	57.14	36
1.2.4 R&D expenditure.....	9.60	59
1.2.5 ICT infrastructure.....	81.81	31
1.2.6 Urbanisation.....	99.01	3
1.3 Business and Labour Landscape.....	50.03	45
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	70.45	18
Management Practice		
1.3.3 Professional management.....	72.95	28
1.3.4 Relationship of pay to productivity.....	88.52	4
Technology Adoption		
1.3.5 Enterprise software.....	9.32	115
1.3.6 Cloud computing.....	8.92	108
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....70.61 23		
2.1 External Openness.....	91.38	3
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	84.26	21
Attract People		
2.1.3 Migrant stock.....	96.92	2
2.1.4 International students.....	100.00	1
2.1.5 Brain gain.....	84.36	8
2.2 Internal Openness.....	49.83	95
Social Inclusion		
2.2.1 Tolerance of minorities.....	68.48	32
2.2.2 Tolerance of immigrants.....	83.08	21
2.2.3 Social mobility.....	73.89	20
Gender Equality		
2.2.4 Economic empowerment of women.....	0.00	133
2.2.5 Gender parity in high-skilled jobs.....	2.42	127
2.2.6 Leadership opportunities for women.....	71.14	29

GDP per capita (PPP US\$)	93,521.44
GDP (US\$ billions)	179.57
GTCI score.....	50.99
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....43.02 39		
3.1 Formal Education.....	22.45	69
Enrolment		
3.1.1 Vocational enrolment.....	1.23	112
3.1.2 Tertiary enrolment.....	12.99	95
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	32.41	59
3.1.5 University ranking.....	43.16	30
3.2 Lifelong Learning.....	41.48	41
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	82.96	13
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	65.13	20
Empowerment		
3.3.1 Delegation of authority.....	67.36	23
3.3.2 Youth inclusion.....	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks.....	85.63	5
3.3.4 Use of virtual professional networks.....	42.40	22

4 RETAIN.....51.30 74		
4.1 Sustainability.....	45.71	73
4.1.1 Pension coverage.....	18.09	100
4.1.2 Social protection.....	64.97	31
4.1.3 Brain retention.....	75.88	17
4.1.4 Environmental performance.....	23.90	99
4.2 Lifestyle.....	56.88	68
4.2.1 Personal rights.....	24.70	122
4.2.2 Personal safety.....	63.91	44
4.2.3 Physician density.....	38.92	57
4.2.4 Sanitation.....	100.00	1

5 VOCATIONAL AND TECHNICAL SKILLS.....60.17 32		
5.1 Mid-Level Skills.....	45.26	55
5.1.1 Workforce with secondary education.....	27.46	97
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	33.25	57
5.1.4 Labour productivity per employee.....	75.06	6
5.2 Employability.....	75.09	11
5.2.1 Ease of finding skilled employees.....	67.83	13
5.2.2 Relevance of education system to the economy.....	82.35	6
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	n/a	n/a

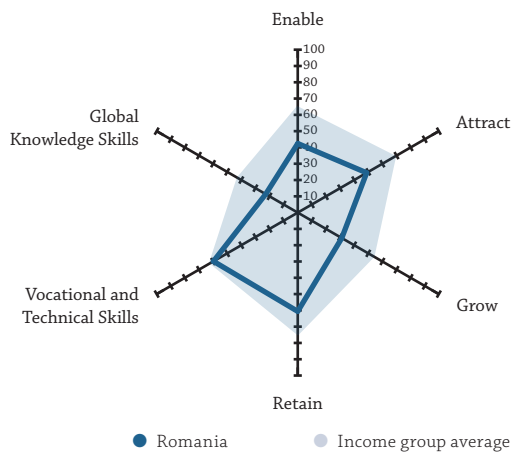
6 GLOBAL KNOWLEDGE SKILLS.....19.90 67		
6.1 High-Level Skills.....	20.37	80
6.1.1 Workforce with tertiary education.....	31.99	58
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	25.40	65
6.1.4 Researchers.....	6.51	63
6.1.5 Senior officials and managers.....	15.15	85
6.1.6 Digital skills.....	22.77	40
6.2 Talent Impact.....	19.44	55
6.2.1 Innovation output.....	26.77	69
6.2.2 High-value exports.....	12.61	64
6.2.3 Software development.....	1.89	82
6.2.4 New business density.....	34.45	23
6.2.5 Scientific journal articles.....	21.48	43

ROMANIA

Key Indicators

Rank (out of 133).....	54
Income group	High income
Regional group	Europe
Population (millions)	19.12

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 42.42 65		
1.1 Regulatory Landscape.....	51.34	50
1.1.1 Government effectiveness.....	36.55	84
1.1.2 Rule of law.....	55.81	47
1.1.3 Political stability.....	75.32	38
1.1.4 Regulatory quality.....	51.34	54
1.1.5 Corruption.....	37.68	54
1.2 Market Landscape.....	39.24	72
1.2.1 Extent of market dominance.....	44.63	60
1.2.2 Domestic credit to private sector.....	9.29	105
1.2.3 Cluster development.....	42.22	71
1.2.4 R&D expenditure.....	8.48	63
1.2.5 ICT infrastructure.....	83.72	29
1.2.6 Urbanisation.....	47.10	91
1.3 Business and Labour Landscape.....	36.69	99
Labour Market		
1.3.1 Labour rights.....	73.86	73
1.3.2 Labour-employer cooperation.....	26.87	108
Management Practice		
1.3.3 Professional management.....	41.12	97
1.3.4 Relationship of pay to productivity.....	46.70	90
Technology Adoption		
1.3.5 Enterprise software.....	8.51	120
1.3.6 Cloud computing.....	10.34	95
1.3.7 Firms with website.....	49.45	64
2 ATTRACT..... 48.84 77		
2.1 External Openness.....	40.02	81
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	97.03	5
2.1.2 Financial globalisation.....	n/a	n/a
Attract People		
2.1.3 Migrant stock.....	26.11	93
2.1.4 International students.....	21.70	44
2.1.5 Brain gain.....	15.22	122
2.2 Internal Openness.....	57.66	62
Social Inclusion		
2.2.1 Tolerance of minorities.....	40.22	73
2.2.2 Tolerance of immigrants.....	35.38	108
2.2.3 Social mobility.....	42.13	77
Gender Equality		
2.2.4 Economic empowerment of women.....	86.73	35
2.2.5 Gender parity in high-skilled jobs.....	78.12	57
2.2.6 Leadership opportunities for women.....	63.38	40

GDP per capita (PPP US\$)	35,413.99
GDP (US\$ billions)	284.09
GTCI score.....	44.25
GTCI score (income group average)	59.85

	Score	Rank
3 GROW..... 31.21 70		
3.1 Formal Education.....	29.05	54
Enrolment		
3.1.1 Vocational enrolment.....	44.53	25
3.1.2 Tertiary enrolment.....	33.81	62
Quality		
3.1.3 Tertiary education expenditure.....	19.94	39
3.1.4 Reading, maths, and science.....	38.25	48
3.1.5 University ranking.....	8.71	72
3.2 Lifelong Learning.....	18.35	114
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	17.90	81
3.2.3 Employee development.....	46.20	87
3.2.4 Formal and non-formal studies.....	9.28	50
3.3 Access to Growth Opportunities.....	46.23	66
Empowerment		
3.3.1 Delegation of authority.....	35.13	93
3.3.2 Youth inclusion.....	69.58	58
Collaboration		
3.3.3 Use of virtual social networks.....	58.92	71
3.3.4 Use of virtual professional networks.....	21.31	53

4 RETAIN..... 60.61 46		
4.1 Sustainability.....	48.89	61
4.1.1 Pension coverage.....	93.39	47
4.1.2 Social protection.....	36.50	70
4.1.3 Brain retention.....	2.80	131
4.1.4 Environmental performance.....	62.88	29
4.2 Lifestyle.....	72.33	47
4.2.1 Personal rights.....	87.91	40
4.2.2 Personal safety.....	68.78	36
4.2.3 Physician density.....	46.84	46
4.2.4 Sanitation.....	85.80	81

5 VOCATIONAL AND TECHNICAL SKILLS..... 59.75 33		
5.1 Mid-Level Skills.....	60.24	24
5.1.1 Workforce with secondary education.....	90.02	8
5.1.2 Population with secondary education.....	76.85	13
5.1.3 Technicians and associate professionals.....	28.36	67
5.1.4 Labour productivity per employee.....	45.72	37
5.2 Employability.....	59.26	57
5.2.1 Ease of finding skilled employees.....	28.19	114
5.2.2 Relevance of education system to the economy.....	22.75	106
5.2.3 Skills matching.....	100.00	1
5.2.4 Highly educated unemployment.....	86.09	34

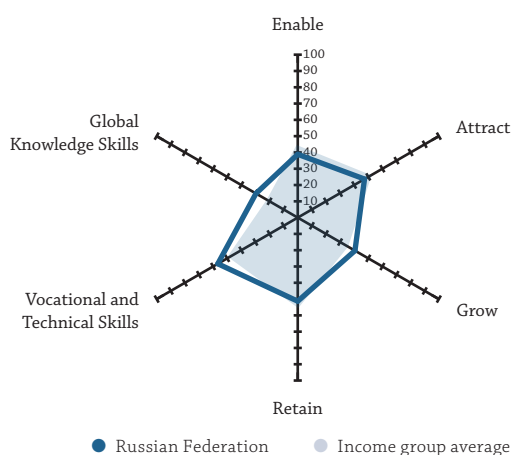
6 GLOBAL KNOWLEDGE SKILLS..... 22.70 61		
6.1 High-Level Skills.....	19.80	82
6.1.1 Workforce with tertiary education.....	27.21	67
6.1.2 Population with tertiary education.....	19.53	68
6.1.3 Professionals.....	39.86	40
6.1.4 Researchers.....	10.83	51
6.1.5 Senior officials and managers.....	15.91	83
6.1.6 Digital skills.....	5.49	69
6.2 Talent Impact.....	25.59	44
6.2.1 Innovation output.....	37.94	49
6.2.2 High-value exports.....	21.34	42
6.2.3 Software development.....	13.24	43
6.2.4 New business density.....	34.28	24
6.2.5 Scientific journal articles.....	21.13	44

RUSSIAN FEDERATION

Key Indicators

Rank (out of 133)	57
Income group	Upper-middle income
Regional group	Europe
Population (millions)	143.45

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	38.86	77
1.1 Regulatory Landscape	30.48	101
1.1.1 Government effectiveness	42.85	68
1.1.2 Rule of law	26.63	110
1.1.3 Political stability	38.97	107
1.1.4 Regulatory quality	29.44	98
1.1.5 Corruption	14.49	110
1.2 Market Landscape	47.80	47
1.2.1 Extent of market dominance	42.44	64
1.2.2 Domestic credit to private sector	25.38	60
1.2.3 Cluster development	46.88	53
1.2.4 R&D expenditure	20.05	38
1.2.5 ICT infrastructure	81.48	32
1.2.6 Urbanisation	70.60	46
1.3 Business and Labour Landscape	38.30	96
Labour Market		
1.3.1 Labour rights	n/a	n/a
1.3.2 Labour-employer cooperation	38.31	79
Management Practice		
1.3.3 Professional management	44.70	89
1.3.4 Relationship of pay to productivity	65.26	39
Technology Adoption		
1.3.5 Enterprise software	11.62	111
1.3.6 Cloud computing	13.30	84
1.3.7 Firms with website	56.61	56
2 ATTRACT	47.32	83
2.1 External Openness	39.95	82
Attract Business		
2.1.1 FDI regulatory restrictiveness	30.27	74
2.1.2 Financial globalisation	56.63	81
Attract People		
2.1.3 Migrant stock	52.29	48
2.1.4 International students	18.97	49
2.1.5 Brain gain	41.58	78
2.2 Internal Openness	54.70	73
Social Inclusion		
2.2.1 Tolerance of minorities	18.48	105
2.2.2 Tolerance of immigrants	72.31	39
2.2.3 Social mobility	46.68	57
Gender Equality		
2.2.4 Economic empowerment of women	61.95	103
2.2.5 Gender parity in high-skilled jobs	59.60	93
2.2.6 Leadership opportunities for women	69.20	31

GDP per capita (PPP US\$)	32,803.36
GDP (US\$ billions)	1,775.80
GTCI score	44.05
GTCI score (income group average)	41.23

	Score	Rank
3 GROW	40.55	49
3.1 Formal Education	40.37	31
Enrolment		
3.1.1 Vocational enrolment	22.75	54
3.1.2 Tertiary enrolment	57.68	16
Quality		
3.1.3 Tertiary education expenditure	12.39	54
3.1.4 Reading, maths, and science	60.11	30
3.1.5 University ranking	48.94	20
3.2 Lifelong Learning	31.41	65
3.2.1 Business masters education	47.53	21
3.2.2 Prevalence of training in firms	5.73	97
3.2.3 Employee development	46.27	86
3.2.4 Formal and non-formal studies	26.09	42
3.3 Access to Growth Opportunities	49.86	52
Empowerment		
3.3.1 Delegation of authority	50.82	54
3.3.2 Youth inclusion	81.05	40
Collaboration		
3.3.3 Use of virtual social networks	61.58	63
3.3.4 Use of virtual professional networks	6.00	102

4 RETAIN	51.31	73
4.1 Sustainability	50.87	56
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection	28.59	91
4.1.3 Brain retention	43.38	51
4.1.4 Environmental performance	31.53	84
4.2 Lifestyle	51.74	84
4.2.1 Personal rights	37.37	110
4.2.2 Personal safety	21.01	116
4.2.3 Physician density	60.23	27
4.2.4 Sanitation	88.35	77

5 VOCATIONAL AND TECHNICAL SKILLS	56.64	45
5.1 Mid-Level Skills	50.65	46
5.1.1 Workforce with secondary education	62.56	36
5.1.2 Population with secondary education	n/a	n/a
5.1.3 Technicians and associate professionals	56.83	30
5.1.4 Labour productivity per employee	32.55	51
5.2 Employability	62.63	44
5.2.1 Ease of finding skilled employees	50.83	56
5.2.2 Relevance of education system to the economy	39.48	74
5.2.3 Skills matching	77.59	33
5.2.4 Highly educated unemployment	82.62	48

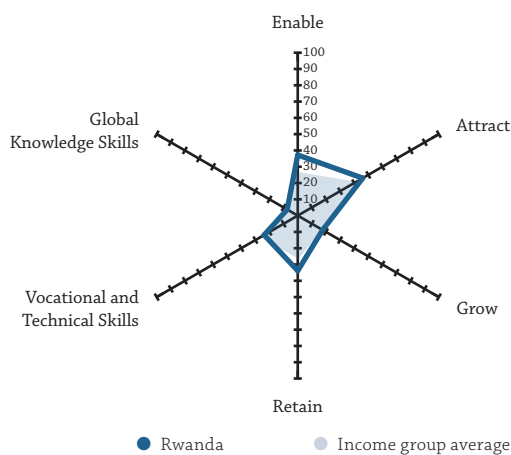
6 GLOBAL KNOWLEDGE SKILLS	29.61	40
6.1 High-Level Skills	38.82	35
6.1.1 Workforce with tertiary education	62.79	7
6.1.2 Population with tertiary education	n/a	n/a
6.1.3 Professionals	60.00	9
6.1.4 Researchers	31.15	31
6.1.5 Senior officials and managers	34.66	42
6.1.6 Digital skills	5.47	70
6.2 Talent Impact	20.41	53
6.2.1 Innovation output	37.06	51
6.2.2 High-value exports	16.40	55
6.2.3 Software development	13.87	40
6.2.4 New business density	12.27	55
6.2.5 Scientific journal articles	22.46	42

RWANDA

Key Indicators

Rank (out of 133).....	106
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	13.28

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....37.22 82		
1.1 Regulatory Landscape.....50.83 52		
1.1.1 Government effectiveness.....50.52 52		
1.1.2 Rule of law.....49.05 58		
1.1.3 Political stability.....60.00 62		
1.1.4 Regulatory quality.....45.30 64		
1.1.5 Corruption.....49.28 42		
1.2 Market Landscape.....20.79 117		
1.2.1 Extent of market dominance.....33.87 90		
1.2.2 Domestic credit to private sector.....8.84 107		
1.2.3 Cluster development.....39.02 77		
1.2.4 R&D expenditure.....13.78 47		
1.2.5 ICT infrastructure.....24.45 110		
1.2.6 Urbanisation.....4.81 131		
1.3 Business and Labour Landscape.....40.04 85		
Labour Market		
1.3.1 Labour rights.....n/a n/a		
1.3.2 Labour-employer cooperation.....50.00 52		
Management Practice		
1.3.3 Professional management.....70.79 31		
1.3.4 Relationship of pay to productivity.....52.33 70		
Technology Adoption		
1.3.5 Enterprise software.....16.80 90		
1.3.6 Cloud computing.....12.06 86		
1.3.7 Firms with website.....38.24 78		
2 ATTRACT.....46.03 86		
2.1 External Openness.....38.24 84		
Attract Business		
2.1.1 FDI regulatory restrictiveness.....n/a n/a		
2.1.2 Financial globalisation.....35.30 111		
Attract People		
2.1.3 Migrant stock.....39.01 70		
2.1.4 International students.....13.87 60		
2.1.5 Brain gain.....64.79 26		
2.2 Internal Openness.....53.82 78		
Social Inclusion		
2.2.1 Tolerance of minorities.....1.09 131		
2.2.2 Tolerance of immigrants.....41.54 97		
2.2.3 Social mobility.....61.37 40		
Gender Equality		
2.2.4 Economic empowerment of women.....76.99 66		
2.2.5 Gender parity in high-skilled jobs.....57.38 96		
2.2.6 Leadership opportunities for women.....84.57 14		

GDP per capita (PPP US\$)	2,494.05
GDP (US\$ billions)	11.07
GTCI score.....	27.67
GTCI score (income group average)	22.09

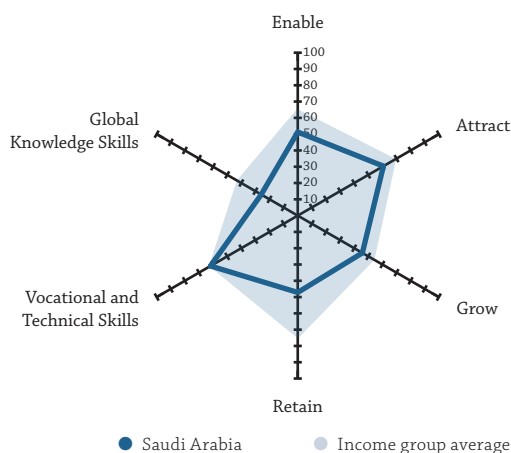
	Score	Rank
3 GROW.....17.64 118		
3.1 Formal Education.....6.79 109		
Enrolment		
3.1.1 Vocational enrolment.....19.74 59		
3.1.2 Tertiary enrolment.....3.07 119		
Quality		
3.1.3 Tertiary education expenditure.....4.33 92		
3.1.4 Reading, maths, and science.....n/a n/a		
3.1.5 University ranking.....0.00 76		
3.2 Lifelong Learning.....21.64 103		
3.2.1 Business masters education.....0.00 54		
3.2.2 Prevalence of training in firms.....39.44 44		
3.2.3 Employee development.....43.95 92		
3.2.4 Formal and non-formal studies.....3.18 66		
3.3 Access to Growth Opportunities.....24.48 123		
Empowerment		
3.3.1 Delegation of authority.....44.31 69		
3.3.2 Youth inclusion.....47.43 98		
Collaboration		
3.3.3 Use of virtual social networks.....3.19 127		
3.3.4 Use of virtual professional networks.....3.00 115		
4 RETAIN.....33.84 105		
4.1 Sustainability.....37.22 86		
4.1.1 Pension coverage.....1.52 126		
4.1.2 Social protection.....52.22 46		
4.1.3 Brain retention.....71.59 20		
4.1.4 Environmental performance.....23.56 100		
4.2 Lifestyle.....30.47 115		
4.2.1 Personal rights.....29.51 117		
4.2.2 Personal safety.....25.48 111		
4.2.3 Physician density.....1.09 122		
4.2.4 Sanitation.....65.78 100		
5 VOCATIONAL AND TECHNICAL SKILLS.....23.80 125		
5.1 Mid-Level Skills.....6.56 124		
5.1.1 Workforce with secondary education.....14.61 114		
5.1.2 Population with secondary education.....6.25 91		
5.1.3 Technicians and associate professionals.....4.49 126		
5.1.4 Labour productivity per employee.....0.87 112		
5.2 Employability.....41.05 112		
5.2.1 Ease of finding skilled employees.....41.13 78		
5.2.2 Relevance of education system to the economy.....37.60 79		
5.2.3 Skills matching.....62.65 62		
5.2.4 Highly educated unemployment.....22.81 117		
6 GLOBAL KNOWLEDGE SKILLS.....7.49 107		
6.1 High-Level Skills.....6.27 118		
6.1.1 Workforce with tertiary education.....9.09 102		
6.1.2 Population with tertiary education.....4.17 92		
6.1.3 Professionals.....10.45 111		
6.1.4 Researchers.....0.55 93		
6.1.5 Senior officials and managers.....7.09 107		
6.1.6 Digital skills.....n/a n/a		
6.2 Talent Impact.....8.72 89		
6.2.1 Innovation output.....12.06 104		
6.2.2 High-value exports.....18.84 47		
6.2.3 Software development.....0.40 111		
6.2.4 New business density.....11.77 57		
6.2.5 Scientific journal articles.....0.51 110		

SAUDI ARABIA

Key Indicators

Rank (out of 133).....	43
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	35.34

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	51.29	44
1.1 Regulatory Landscape.....	47.30	59
1.1.1 Government effectiveness	45.65	60
1.1.2 Rule of law	52.49	54
1.1.3 Political stability.....	40.91	103
1.1.4 Regulatory quality.....	48.19	58
1.1.5 Corruption	49.28	42
1.2 Market Landscape.....	59.30	26
1.2.1 Extent of market dominance.....	74.07	15
1.2.2 Domestic credit to private sector	22.62	68
1.2.3 Cluster development.....	76.90	12
1.2.4 R&D expenditure.....	9.44	60
1.2.5 ICT infrastructure.....	91.33	16
1.2.6 Urbanisation	81.42	25
1.3 Business and Labour Landscape.....	47.28	54
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation	65.53	26
Management Practice		
1.3.3 Professional management	66.60	37
1.3.4 Relationship of pay to productivity.....	81.24	7
Technology Adoption		
1.3.5 Enterprise software	9.59	114
1.3.6 Cloud computing	13.45	83
1.3.7 Firms with website	n/a	n/a
2 ATTRACT.....	60.71	37
2.1 External Openness	59.09	33
Attract Business		
2.1.1 FDI regulatory restrictiveness	44.05	69
2.1.2 Financial globalisation	61.80	66
Attract People		
2.1.3 Migrant stock	86.05	8
2.1.4 International students.....	16.43	53
2.1.5 Brain gain	87.11	6
2.2 Internal Openness.....	62.34	43
Social Inclusion		
2.2.1 Tolerance of minorities.....	7.61	123
2.2.2 Tolerance of immigrants	80.00	26
2.2.3 Social mobility	78.71	15
Gender Equality		
2.2.4 Economic empowerment of women.....	71.68	80
2.2.5 Gender parity in high-skilled jobs	n/a	n/a
2.2.6 Leadership opportunities for women	73.68	21

GDP per capita (PPP US\$)	49,551.33
GDP (US\$ billions)	833.54
GTCI score.....	48.78
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....	45.80	33
3.1 Formal Education.....	29.47	53
Enrolment		
3.1.1 Vocational enrolment	0.32	116
3.1.2 Tertiary enrolment	46.94	33
Quality		
3.1.3 Tertiary education expenditure	n/a	n/a
3.1.4 Reading, maths, and science	21.27	70
3.1.5 University ranking.....	49.34	19
3.2 Lifelong Learning.....	54.00	24
3.2.1 Business masters education.....	29.92	32
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development	78.07	21
3.2.4 Formal and non-formal studies	n/a	n/a
3.3 Access to Growth Opportunities	53.94	40
Empowerment		
3.3.1 Delegation of authority	59.90	37
3.3.2 Youth inclusion	60.81	77
Collaboration		
3.3.3 Use of virtual social networks	70.10	33
3.3.4 Use of virtual professional networks	24.95	45

4 RETAIN.....	47.15	81
4.1 Sustainability	53.98	50
4.1.1 Pension coverage	32.11	89
4.1.2 Social protection.....	83.55	13
4.1.3 Brain retention	68.06	24
4.1.4 Environmental performance	32.20	82
4.2 Lifestyle	40.31	102
4.2.1 Personal rights	0.00	132
4.2.2 Personal safety.....	18.29	121
4.2.3 Physician density.....	42.96	52
4.2.4 Sanitation.....	100.00	1

5 VOCATIONAL AND TECHNICAL SKILLS.....	61.83	25
5.1 Mid-Level Skills	49.74	48
5.1.1 Workforce with secondary education	n/a	n/a
5.1.2 Population with secondary education	33.58	62
5.1.3 Technicians and associate professionals.....	n/a	n/a
5.1.4 Labour productivity per employee.....	65.90	11
5.2 Employability.....	73.92	12
5.2.1 Ease of finding skilled employees	73.12	8
5.2.2 Relevance of education system to the economy	74.72	13
5.2.3 Skills matching	n/a	n/a
5.2.4 Highly educated unemployment	n/a	n/a

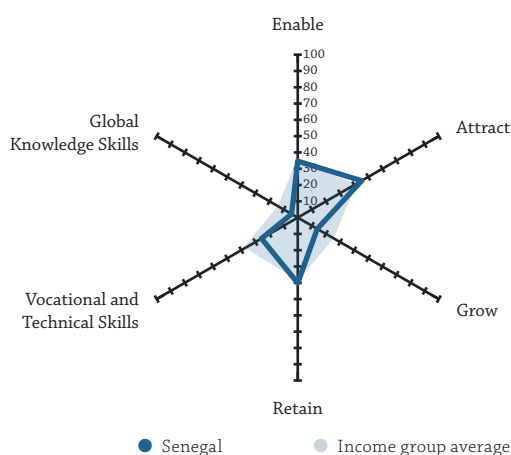
6 GLOBAL KNOWLEDGE SKILLS	25.88	52
6.1 High-Level Skills	43.05	28
6.1.1 Workforce with tertiary education	n/a	n/a
6.1.2 Population with tertiary education.....	50.58	17
6.1.3 Professionals	n/a	n/a
6.1.4 Researchers	5.09	69
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Digital skills	73.47	3
6.2 Talent Impact.....	8.71	90
6.2.1 Innovation output	26.06	70
6.2.2 High-value exports.....	0.87	120
6.2.3 Software development	0.46	109
6.2.4 New business density	3.31	89
6.2.5 Scientific journal articles	12.84	52

SENEGAL

Key Indicators

Rank (out of 133).....	107
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	17.20

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 34.63 96		
1.1 Regulatory Landscape.....	42.07	70
1.1.1 Government effectiveness.....	42.29	70
1.1.2 Rule of law.....	39.15	78
1.1.3 Political stability.....	58.53	65
1.1.4 Regulatory quality.....	35.58	88
1.1.5 Corruption.....	34.78	59
1.2 Market Landscape.....	26.68	112
1.2.1 Extent of market dominance.....	33.35	91
1.2.2 Domestic credit to private sector.....	10.90	96
1.2.3 Cluster development.....	30.09	109
1.2.4 R&D expenditure.....	10.45	54
1.2.5 ICT infrastructure.....	36.00	99
1.2.6 Urbanisation.....	39.28	102
1.3 Business and Labour Landscape.....	35.14	107
Labour Market		
1.3.1 Labour rights.....	77.88	62
1.3.2 Labour-employer cooperation.....	33.52	91
Management Practice		
1.3.3 Professional management.....	33.05	110
1.3.4 Relationship of pay to productivity.....	42.69	105
Technology Adoption		
1.3.5 Enterprise software.....	20.19	68
1.3.6 Cloud computing.....	9.66	99
1.3.7 Firms with website.....	29.00	93
2 ATTRACT..... 45.28 88		
2.1 External Openness.....	42.69	73
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	59.17	70
Attract People		
2.1.3 Migrant stock.....	25.70	96
2.1.4 International students.....	26.96	36
2.1.5 Brain gain.....	58.93	34
2.2 Internal Openness.....	47.86	102
Social Inclusion		
2.2.1 Tolerance of minorities.....	48.91	58
2.2.2 Tolerance of immigrants.....	73.85	37
2.2.3 Social mobility.....	42.37	75
Gender Equality		
2.2.4 Economic empowerment of women.....	53.10	110
2.2.5 Gender parity in high-skilled jobs.....	22.64	116
2.2.6 Leadership opportunities for women.....	46.31	84

GDP per capita (PPP US\$).....	3,768.67
GDP (US\$ billions).....	27.63
GTGI score.....	27.32
GTGI score (income group average).....	30.02

	Score	Rank
3 GROW..... 13.79 125		
3.1 Formal Education.....	7.09	108
Enrolment		
3.1.1 Vocational enrolment.....	8.94	88
3.1.2 Tertiary enrolment.....	8.39	101
Quality		
3.1.3 Tertiary education expenditure.....	11.01	59
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	14.46	124
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	13.57	90
3.2.3 Employee development.....	36.89	110
3.2.4 Formal and non-formal studies.....	7.38	54
3.3 Access to Growth Opportunities.....	19.83	125
Empowerment		
3.3.1 Delegation of authority.....	14.32	124
3.3.2 Youth inclusion.....	39.54	110
Collaboration		
3.3.3 Use of virtual social networks.....	16.68	111
3.3.4 Use of virtual professional networks.....	8.78	92

4 RETAIN..... 40.18 94		
4.1 Sustainability.....	27.79	105
4.1.1 Pension coverage.....	28.76	91
4.1.2 Social protection.....	24.31	105
4.1.3 Brain retention.....	32.68	82
4.1.4 Environmental performance.....	25.42	98
4.2 Lifestyle.....	52.56	82
4.2.1 Personal rights.....	82.39	48
4.2.2 Personal safety.....	74.69	27
4.2.3 Physician density.....	0.61	126
4.2.4 Sanitation.....	52.55	107

5 VOCATIONAL AND TECHNICAL SKILLS..... 25.68 119		
5.1 Mid-Level Skills.....	6.14	125
5.1.1 Workforce with secondary education.....	7.24	120
5.1.2 Population with secondary education.....	7.87	88
5.1.3 Technicians and associate professionals.....	3.63	128
5.1.4 Labour productivity per employee.....	5.83	100
5.2 Employability.....	45.22	96
5.2.1 Ease of finding skilled employees.....	60.38	29
5.2.2 Relevance of education system to the economy.....	33.18	89
5.2.3 Skills matching.....	24.48	95
5.2.4 Highly educated unemployment.....	62.85	87

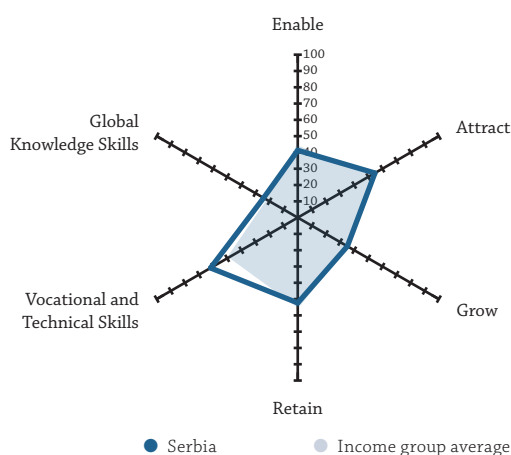
6 GLOBAL KNOWLEDGE SKILLS..... 4.39 125		
6.1 High-Level Skills.....	4.67	124
6.1.1 Workforce with tertiary education.....	4.43	120
6.1.2 Population with tertiary education.....	4.04	93
6.1.3 Professionals.....	7.43	117
6.1.4 Researchers.....	6.36	64
6.1.5 Senior officials and managers.....	1.08	128
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	4.11	117
6.2.1 Innovation output.....	15.78	99
6.2.2 High-value exports.....	1.11	118
6.2.3 Software development.....	0.33	114
6.2.4 New business density.....	2.39	98
6.2.5 Scientific journal articles.....	0.94	99

SERBIA

Key Indicators

Rank (out of 133).....	52
Income group.....	Upper-middle income
Regional group.....	Europe
Population (millions).....	6.84

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....41.27	69	
1.1 Regulatory Landscape.....	42.55	69
1.1.1 Government effectiveness.....	42.83	69
1.1.2 Rule of law.....	41.50	72
1.1.3 Political stability.....	56.55	70
1.1.4 Regulatory quality.....	44.34	66
1.1.5 Corruption.....	27.54	76
1.2 Market Landscape.....	35.64	77
1.2.1 Extent of market dominance.....	32.86	93
1.2.2 Domestic credit to private sector.....	18.59	77
1.2.3 Cluster development.....	36.47	84
1.2.4 R&D expenditure.....	16.51	43
1.2.5 ICT infrastructure.....	59.89	69
1.2.6 Urbanisation.....	49.51	85
1.3 Business and Labour Landscape.....	45.61	59
Labour Market		
1.3.1 Labour rights.....	81.10	56
1.3.2 Labour-employer cooperation.....	28.87	106
Management Practice		
1.3.3 Professional management.....	37.50	104
1.3.4 Relationship of pay to productivity.....	50.41	74
Technology Adoption		
1.3.5 Enterprise software.....	17.69	85
1.3.6 Cloud computing.....	23.28	35
1.3.7 Firms with website.....	80.41	23
2 ATTRACT.....54.71	52	
2.1 External Openness.....	48.48	64
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	87.57	30
2.1.2 Financial globalisation.....	65.39	56
Attract People		
2.1.3 Migrant stock.....	57.04	43
2.1.4 International students.....	18.02	52
2.1.5 Brain gain.....	14.38	124
2.2 Internal Openness.....	60.93	49
Social Inclusion		
2.2.1 Tolerance of minorities.....	28.26	88
2.2.2 Tolerance of immigrants.....	66.15	51
2.2.3 Social mobility.....	39.13	86
Gender Equality		
2.2.4 Economic empowerment of women.....	91.15	28
2.2.5 Gender parity in high-skilled jobs.....	88.14	36
2.2.6 Leadership opportunities for women.....	52.77	71

GDP per capita (PPP US\$).....	21,432.41
GDP (US\$ billions).....	63.07
GTCI score.....	44.91
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....35.16	58	
3.1 Formal Education.....	33.43	42
Enrolment		
3.1.1 Vocational enrolment.....	57.22	11
3.1.2 Tertiary enrolment.....	45.24	37
Quality		
3.1.3 Tertiary education expenditure.....	12.84	51
3.1.4 Reading, maths, and science.....	44.27	43
3.1.5 University ranking.....	7.60	74
3.2 Lifelong Learning.....	27.37	73
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	42.80	37
3.2.3 Employee development.....	40.02	100
3.2.4 Formal and non-formal studies.....	26.67	41
3.3 Access to Growth Opportunities.....	44.69	70
Empowerment		
3.3.1 Delegation of authority.....	41.10	83
3.3.2 Youth inclusion.....	73.60	51
Collaboration		
3.3.3 Use of virtual social networks.....	48.09	87
3.3.4 Use of virtual professional networks.....	15.95	68

4 RETAIN.....52.36	70	
4.1 Sustainability.....	36.32	88
4.1.1 Pension coverage.....	62.91	75
4.1.2 Social protection.....	27.81	94
4.1.3 Brain retention.....	12.21	127
4.1.4 Environmental performance.....	42.37	60
4.2 Lifestyle.....	68.39	49
4.2.1 Personal rights.....	69.73	71
4.2.2 Personal safety.....	57.19	58
4.2.3 Physician density.....	48.95	41
4.2.4 Sanitation.....	97.69	47

5 VOCATIONAL AND TECHNICAL SKILLS.....61.78	26	
5.1 Mid-Level Skills.....	66.13	11
5.1.1 Workforce with secondary education.....	80.93	14
5.1.2 Population with secondary education.....	74.01	18
5.1.3 Technicians and associate professionals.....	43.45	45
5.1.4 Labour productivity per employee.....	n/a	n/a
5.2 Employability.....	57.42	65
5.2.1 Ease of finding skilled employees.....	48.78	61
5.2.2 Relevance of education system to the economy.....	37.38	81
5.2.3 Skills matching.....	78.59	27
5.2.4 Highly educated unemployment.....	64.94	85

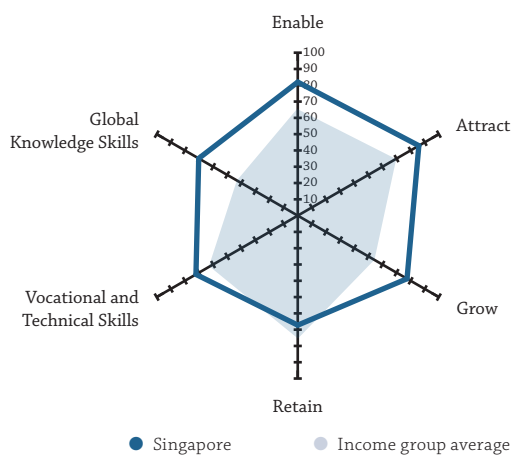
6 GLOBAL KNOWLEDGE SKILLS.....24.17	56	
6.1 High-Level Skills.....	26.33	61
6.1.1 Workforce with tertiary education.....	31.59	59
6.1.2 Population with tertiary education.....	28.30	54
6.1.3 Professionals.....	32.81	51
6.1.4 Researchers.....	24.78	38
6.1.5 Senior officials and managers.....	19.47	72
6.1.6 Digital skills.....	21.01	46
6.2 Talent Impact.....	22.02	49
6.2.1 Innovation output.....	34.75	56
6.2.2 High-value exports.....	n/a	n/a
6.2.3 Software development.....	16.73	36
6.2.4 New business density.....	10.82	60
6.2.5 Scientific journal articles.....	25.77	40

SINGAPORE

Key Indicators

Rank (out of 133).....	2
Income group	High income
Regional group	Eastern, Southeastern Asia and Oceania
Population (millions)	5.45

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....81.95	5	
1.1 Regulatory Landscape.....	97.99	1
1.1.1 Government effectiveness.....	100.00	1
1.1.2 Rule of law.....	94.87	4
1.1.3 Political stability.....	99.42	2
1.1.4 Regulatory quality.....	100.00	1
1.1.5 Corruption.....	95.65	4
1.2 Market Landscape.....	73.28	8
1.2.1 Extent of market dominance.....	66.28	25
1.2.2 Domestic credit to private sector.....	59.11	16
1.2.3 Cluster development.....	80.28	10
1.2.4 R&D expenditure.....	34.66	19
1.2.5 ICT infrastructure.....	99.37	3
1.2.6 Urbanisation.....	100.00	1
1.3 Business and Labour Landscape.....	74.57	8
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	96.28	3
Management Practice		
1.3.3 Professional management.....	91.18	7
1.3.4 Relationship of pay to productivity.....	84.96	6
Technology Adoption		
1.3.5 Enterprise software.....	29.51	39
1.3.6 Cloud computing.....	70.94	4
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....85.83	2	
2.1 External Openness.....	88.74	4
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	85.14	37
2.1.2 Financial globalisation.....	98.58	3
Attract People		
2.1.3 Migrant stock.....	86.49	7
2.1.4 International students.....	73.51	7
2.1.5 Brain gain.....	100.00	1
2.2 Internal Openness.....	82.91	10
Social Inclusion		
2.2.1 Tolerance of minorities.....	81.52	7
2.2.2 Tolerance of immigrants.....	84.62	16
2.2.3 Social mobility.....	89.79	6
Gender Equality		
2.2.4 Economic empowerment of women.....	75.22	68
2.2.5 Gender parity in high-skilled jobs.....	79.66	54
2.2.6 Leadership opportunities for women.....	86.64	7

GDP per capita (PPP US\$)	116,486.47
GDP (US\$ billions)	396.99
GTCI score.....	75.80
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....77.45	2	
3.1 Formal Education.....	68.62	1
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	60.87	10
Quality		
3.1.3 Tertiary education expenditure.....	54.21	5
3.1.4 Reading, maths, and science.....	90.79	2
3.1.5 University ranking.....	68.59	11
3.2 Lifelong Learning.....	85.87	2
3.2.1 Business masters education.....	93.20	5
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	87.74	8
3.2.4 Formal and non-formal studies.....	76.67	10
3.3 Access to Growth Opportunities.....	77.87	7
Empowerment		
3.3.1 Delegation of authority.....	70.47	17
3.3.2 Youth inclusion.....	97.30	3
Collaboration		
3.3.3 Use of virtual social networks.....	76.49	14
3.3.4 Use of virtual professional networks.....	67.24	8

4 RETAIN.....67.23	36	
4.1 Sustainability.....	59.72	41
4.1.1 Pension coverage.....	32.01	90
4.1.2 Social protection.....	63.52	34
4.1.3 Brain retention.....	89.12	4
4.1.4 Environmental performance.....	54.24	37
4.2 Lifestyle.....	74.73	37
4.2.1 Personal rights.....	60.44	85
4.2.2 Personal safety.....	99.95	2
4.2.3 Physician density.....	38.52	60
4.2.4 Sanitation.....	100.00	1
5 VOCATIONAL AND TECHNICAL SKILLS.....72.14	3	
5.1 Mid-Level Skills.....	64.88	18
5.1.1 Workforce with secondary education.....	37.48	78
5.1.2 Population with secondary education.....	36.32	60
5.1.3 Technicians and associate professionals.....	85.72	3
5.1.4 Labour productivity per employee.....	100.00	1
5.2 Employability.....	79.39	6
5.2.1 Ease of finding skilled employees.....	56.48	39
5.2.2 Relevance of education system to the economy.....	92.13	2
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	89.57	23

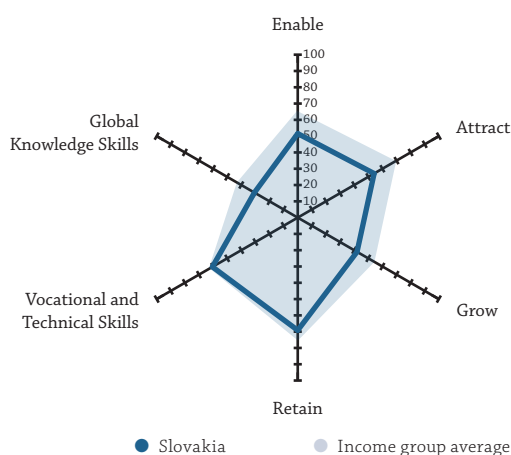
6 GLOBAL KNOWLEDGE SKILLS.....70.18	1	
6.1 High-Level Skills.....	67.69	1
6.1.1 Workforce with tertiary education.....	72.07	3
6.1.2 Population with tertiary education.....	64.85	5
6.1.3 Professionals.....	51.68	20
6.1.4 Researchers.....	83.61	5
6.1.5 Senior officials and managers.....	100.00	1
6.1.6 Digital skills.....	33.96	21
6.2 Talent Impact.....	72.67	1
6.2.1 Innovation output.....	70.74	13
6.2.2 High-value exports.....	100.00	1
6.2.3 Software development.....	56.62	17
6.2.4 New business density.....	55.06	14
6.2.5 Scientific journal articles.....	80.93	5

SLOVAKIA

Key Indicators

Rank (out of 133).....	35
Income group.....	High income
Regional group.....	Europe
Population (millions).....	5.45

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....51.57	43	
1.1 Regulatory Landscape.....	61.19	38
1.1.1 Government effectiveness.....	55.53	42
1.1.2 Rule of law.....	63.81	37
1.1.3 Political stability.....	76.70	34
1.1.4 Regulatory quality.....	62.07	38
1.1.5 Corruption.....	47.83	45
1.2 Market Landscape.....	40.73	67
1.2.1 Extent of market dominance.....	41.57	65
1.2.2 Domestic credit to private sector.....	28.92	53
1.2.3 Cluster development.....	38.89	78
1.2.4 R&D expenditure.....	16.60	42
1.2.5 ICT infrastructure.....	71.59	46
1.2.6 Urbanisation.....	46.79	92
1.3 Business and Labour Landscape.....	52.79	39
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	39.81	73
Management Practice		
1.3.3 Professional management.....	48.62	73
1.3.4 Relationship of pay to productivity.....	56.81	56
Technology Adoption		
1.3.5 Enterprise software.....	29.14	41
1.3.6 Cloud computing.....	18.59	55
1.3.7 Firms with website.....	76.53	28
2 ATTRACT.....54.13	53	
2.1 External Openness.....	49.43	60
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	87.84	28
2.1.2 Financial globalisation.....	75.59	37
Attract People		
2.1.3 Migrant stock.....	34.67	78
2.1.4 International students.....	34.62	29
2.1.5 Brain gain.....	14.45	123
2.2 Internal Openness.....	58.82	56
Social Inclusion		
2.2.1 Tolerance of minorities.....	43.48	67
2.2.2 Tolerance of immigrants.....	38.46	103
2.2.3 Social mobility.....	56.69	43
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	85.25	41
2.2.6 Leadership opportunities for women.....	50.27	74

GDP per capita (PPP US\$).....	33,010.29
GDP (US\$ billions).....	114.87
GTCI score.....	51.34
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....42.02	44	
3.1 Formal Education.....	34.00	41
Enrolment		
3.1.1 Vocational enrolment.....	46.52	19
3.1.2 Tertiary enrolment.....	30.45	68
Quality		
3.1.3 Tertiary education expenditure.....	20.99	34
3.1.4 Reading, maths, and science.....	55.24	37
3.1.5 University ranking.....	16.82	60
3.2 Lifelong Learning.....	40.62	43
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	49.79	28
3.2.3 Employee development.....	50.32	70
3.2.4 Formal and non-formal studies.....	62.38	23
3.3 Access to Growth Opportunities.....	51.44	47
Empowerment		
3.3.1 Delegation of authority.....	44.25	70
3.3.2 Youth inclusion.....	83.97	34
Collaboration		
3.3.3 Use of virtual social networks.....	63.09	60
3.3.4 Use of virtual professional networks.....	14.45	75

4 RETAIN.....69.16	33	
4.1 Sustainability.....	56.82	44
4.1.1 Pension coverage.....	90.45	53
4.1.2 Social protection.....	51.50	48
4.1.3 Brain retention.....	15.67	120
4.1.4 Environmental performance.....	69.66	18
4.2 Lifestyle.....	81.50	21
4.2.1 Personal rights.....	93.32	28
4.2.2 Personal safety.....	79.20	23
4.2.3 Physician density.....	56.17	30
4.2.4 Sanitation.....	97.29	54

5 VOCATIONAL AND TECHNICAL SKILLS.....60.46	31	
5.1 Mid-Level Skills.....	74.74	3
5.1.1 Workforce with secondary education.....	93.48	4
5.1.2 Population with secondary education.....	92.68	2
5.1.3 Technicians and associate professionals.....	69.61	15
5.1.4 Labour productivity per employee.....	43.18	39
5.2 Employability.....	46.19	92
5.2.1 Ease of finding skilled employees.....	31.87	103
5.2.2 Relevance of education system to the economy.....	24.25	103
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	82.43	49

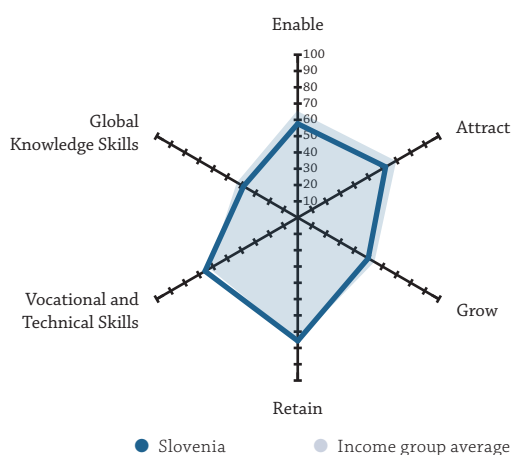
6 GLOBAL KNOWLEDGE SKILLS.....30.70	38	
6.1 High-Level Skills.....	31.25	48
6.1.1 Workforce with tertiary education.....	35.84	48
6.1.2 Population with tertiary education.....	30.13	45
6.1.3 Professionals.....	34.25	50
6.1.4 Researchers.....	36.24	29
6.1.5 Senior officials and managers.....	34.74	41
6.1.6 Digital skills.....	16.30	54
6.2 Talent Impact.....	30.16	35
6.2.1 Innovation output.....	49.82	34
6.2.2 High-value exports.....	17.84	49
6.2.3 Software development.....	16.06	37
6.2.4 New business density.....	28.17	29
6.2.5 Scientific journal articles.....	38.89	31

SLOVENIA

Key Indicators

Rank (out of 133).....	28
Income group	High income
Regional group	Europe
Population (millions)	2.11

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....57.60	33	
1.1 Regulatory Landscape.....	68.83	30
1.1.1 Government effectiveness.....	70.98	24
1.1.2 Rule of law.....	73.84	25
1.1.3 Political stability.....	78.55	29
1.1.4 Regulatory quality.....	65.74	33
1.1.5 Corruption.....	55.07	34
1.2 Market Landscape.....	49.16	45
1.2.1 Extent of market dominance.....	73.69	16
1.2.2 Domestic credit to private sector.....	17.57	79
1.2.3 Cluster development.....	44.42	67
1.2.4 R&D expenditure.....	39.39	17
1.2.5 ICT infrastructure.....	72.15	43
1.2.6 Urbanisation.....	47.73	90
1.3 Business and Labour Landscape.....	54.80	31
Labour Market		
1.3.1 Labour rights.....	95.17	21
1.3.2 Labour-employer cooperation.....	45.54	62
Management Practice		
1.3.3 Professional management.....	61.98	44
1.3.4 Relationship of pay to productivity.....	54.12	62
Technology Adoption		
1.3.5 Enterprise software.....	24.18	53
1.3.6 Cloud computing.....	17.35	59
1.3.7 Firms with website.....	85.26	13
2 ATTRACT.....62.28	33	
2.1 External Openness.....	56.24	39
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	99.19	2
2.1.2 Financial globalisation.....	72.02	46
Attract People		
2.1.3 Migrant stock.....	61.75	37
2.1.4 International students.....	25.53	38
2.1.5 Brain gain.....	22.73	116
2.2 Internal Openness.....	68.32	28
Social Inclusion		
2.2.1 Tolerance of minorities.....	66.30	33
2.2.2 Tolerance of immigrants.....	15.38	124
2.2.3 Social mobility.....	68.79	26
Gender Equality		
2.2.4 Economic empowerment of women.....	95.58	20
2.2.5 Gender parity in high-skilled jobs.....	88.51	35
2.2.6 Leadership opportunities for women.....	75.36	18

GDP per capita (PPP US\$)	43,624.67
GDP (US\$ billions)	61.53
GTCI score.....	58.27
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....49.95	26	
3.1 Formal Education.....	45.89	22
Enrolment		
3.1.1 Vocational enrolment.....	69.44	3
3.1.2 Tertiary enrolment.....	51.88	22
Quality		
3.1.3 Tertiary education expenditure.....	25.30	27
3.1.4 Reading, maths, and science.....	69.26	10
3.1.5 University ranking.....	13.58	63
3.2 Lifelong Learning.....	45.10	36
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	50.77	26
3.2.3 Employee development.....	67.24	35
3.2.4 Formal and non-formal studies.....	62.38	23
3.3 Access to Growth Opportunities.....	58.87	33
Empowerment		
3.3.1 Delegation of authority.....	52.40	49
3.3.2 Youth inclusion.....	92.93	10
Collaboration		
3.3.3 Use of virtual social networks.....	65.84	56
3.3.4 Use of virtual professional networks.....	24.30	47

4 RETAIN.....75.64	24	
4.1 Sustainability.....	70.01	23
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	66.22	30
4.1.3 Brain retention.....	31.77	86
4.1.4 Environmental performance.....	82.03	7
4.2 Lifestyle.....	81.28	23
4.2.1 Personal rights.....	89.34	36
4.2.2 Personal safety.....	86.28	16
4.2.3 Physician density.....	51.57	37
4.2.4 Sanitation.....	97.91	41

5 VOCATIONAL AND TECHNICAL SKILLS.....65.69	15	
5.1 Mid-Level Skills.....	65.93	13
5.1.1 Workforce with secondary education.....	71.08	22
5.1.2 Population with secondary education.....	77.67	12
5.1.3 Technicians and associate professionals.....	65.77	18
5.1.4 Labour productivity per employee.....	49.19	30
5.2 Employability.....	65.45	33
5.2.1 Ease of finding skilled employees.....	30.02	109
5.2.2 Relevance of education system to the economy.....	57.12	38
5.2.3 Skills matching.....	88.91	10
5.2.4 Highly educated unemployment.....	85.74	37

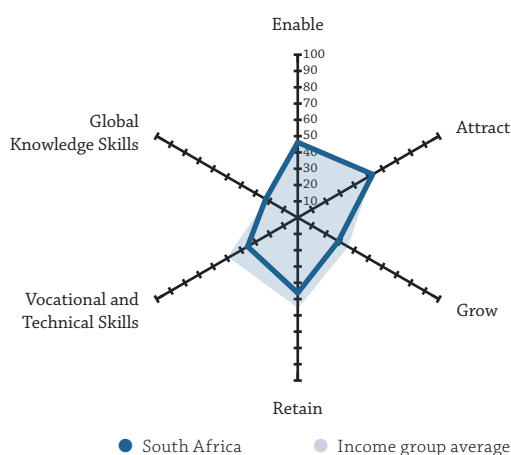
6 GLOBAL KNOWLEDGE SKILLS.....38.44	27	
6.1 High-Level Skills.....	42.56	29
6.1.1 Workforce with tertiary education.....	52.58	22
6.1.2 Population with tertiary education.....	37.66	35
6.1.3 Professionals.....	62.00	6
6.1.4 Researchers.....	56.55	16
6.1.5 Senior officials and managers.....	26.26	60
6.1.6 Digital skills.....	20.34	48
6.2 Talent Impact.....	34.31	30
6.2.1 Innovation output.....	49.82	34
6.2.2 High-value exports.....	13.86	60
6.2.3 Software development.....	33.12	23
6.2.4 New business density.....	13.20	52
6.2.5 Scientific journal articles.....	61.56	12

SOUTH AFRICA

Key Indicators

Rank (out of 133).....	77
Income group.....	Upper-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	60.04

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....46.18	55	
1.1 Regulatory Landscape.....	45.63	62
1.1.1 Government effectiveness.....	49.46	54
1.1.2 Rule of law.....	43.29	68
1.1.3 Political stability.....	52.58	75
1.1.4 Regulatory quality.....	46.57	62
1.1.5 Corruption.....	36.23	56
1.2 Market Landscape.....	41.95	64
1.2.1 Extent of market dominance.....	31.05	97
1.2.2 Domestic credit to private sector.....	50.24	20
1.2.3 Cluster development.....	40.58	75
1.2.4 R&D expenditure.....	11.15	53
1.2.5 ICT infrastructure.....	57.36	72
1.2.6 Urbanisation.....	61.31	64
1.3 Business and Labour Landscape.....	50.95	43
Labour Market		
1.3.1 Labour rights.....	86.86	47
1.3.2 Labour-employer cooperation.....	5.77	130
Management Practice		
1.3.3 Professional management.....	59.74	52
1.3.4 Relationship of pay to productivity.....	42.17	107
Technology Adoption		
1.3.5 Enterprise software.....	36.31	32
1.3.6 Cloud computing.....	44.81	14
1.3.7 Firms with website.....	80.98	22
2 ATTRACT.....53.12	56	
2.1 External Openness.....	49.11	62
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	86.22	34
2.1.2 Financial globalisation.....	61.89	65
Attract People		
2.1.3 Migrant stock.....	45.38	58
2.1.4 International students.....	13.23	64
2.1.5 Brain gain.....	38.82	85
2.2 Internal Openness.....	57.13	66
Social Inclusion		
2.2.1 Tolerance of minorities.....	41.30	70
2.2.2 Tolerance of immigrants.....	70.77	43
2.2.3 Social mobility.....	31.07	109
Gender Equality		
2.2.4 Economic empowerment of women.....	83.19	44
2.2.5 Gender parity in high-skilled jobs.....	75.65	62
2.2.6 Leadership opportunities for women.....	40.83	98

GDP per capita (PPP US\$).....	14,420.17
GDP (US\$ billions).....	419.95
GTCI score.....	38.77
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW.....28.83	81	
3.1 Formal Education.....	19.21	75
Enrolment		
3.1.1 Vocational enrolment.....	10.69	85
3.1.2 Tertiary enrolment.....	15.08	90
Quality		
3.1.3 Tertiary education expenditure.....	19.25	40
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	31.81	42
3.2 Lifelong Learning.....	26.76	76
3.2.1 Business masters education.....	35.47	28
3.2.2 Prevalence of training in firms.....	0.28	98
3.2.3 Employee development.....	68.10	34
3.2.4 Formal and non-formal studies.....	3.18	67
3.3 Access to Growth Opportunities.....	40.54	81
Empowerment		
3.3.1 Delegation of authority.....	55.42	43
3.3.2 Youth inclusion.....	43.86	107
Collaboration		
3.3.3 Use of virtual social networks.....	38.24	99
3.3.4 Use of virtual professional networks.....	24.63	46

4 RETAIN.....46.24	84	
4.1 Sustainability.....	44.48	75
4.1.1 Pension coverage.....	81.20	64
4.1.2 Social protection.....	29.80	88
4.1.3 Brain retention.....	35.92	75
4.1.4 Environmental performance.....	31.02	86
4.2 Lifestyle.....	47.99	90
4.2.1 Personal rights.....	85.88	44
4.2.2 Personal safety.....	17.84	122
4.2.3 Physician density.....	11.86	94
4.2.4 Sanitation.....	76.37	96
5 VOCATIONAL AND TECHNICAL SKILLS.....35.52	102	
5.1 Mid-Level Skills.....	45.66	54
5.1.1 Workforce with secondary education.....	45.04	73
5.1.2 Population with secondary education.....	76.21	14
5.1.3 Technicians and associate professionals.....	31.24	60
5.1.4 Labour productivity per employee.....	30.16	53
5.2 Employability.....	25.37	130
5.2.1 Ease of finding skilled employees.....	28.31	113
5.2.2 Relevance of education system to the economy.....	10.63	125
5.2.3 Skills matching.....	62.55	63
5.2.4 Highly educated unemployment.....	0.00	120

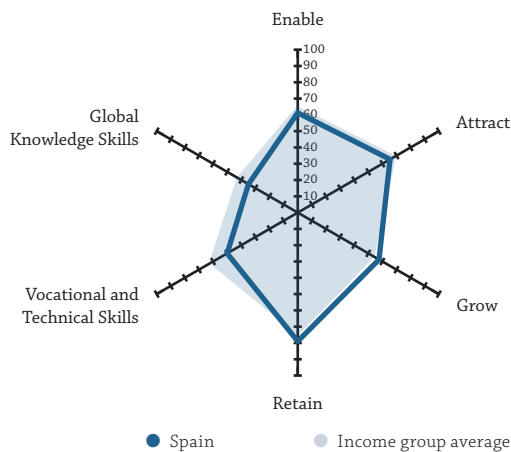
6 GLOBAL KNOWLEDGE SKILLS.....22.74	60	
6.1 High-Level Skills.....	21.43	71
6.1.1 Workforce with tertiary education.....	18.47	83
6.1.2 Population with tertiary education.....	20.83	66
6.1.3 Professionals.....	13.00	98
6.1.4 Researchers.....	5.44	68
6.1.5 Senior officials and managers.....	48.33	23
6.1.6 Digital skills.....	22.50	42
6.2 Talent Impact.....	24.05	46
6.2.1 Innovation output.....	27.66	67
6.2.2 High-value exports.....	9.93	76
6.2.3 Software development.....	4.77	57
6.2.4 New business density.....	68.96	9
6.2.5 Scientific journal articles.....	8.93	60

SPAIN

Key Indicators

Rank (out of 133).....	29
Income group	High income
Regional group	Europe
Population (millions)	47.33

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....61.22	26	
1.1 Regulatory Landscape.....	65.26	35
1.1.1 Government effectiveness.....	64.24	34
1.1.2 Rule of law.....	69.58	35
1.1.3 Political stability.....	69.98	45
1.1.4 Regulatory quality.....	61.62	40
1.1.5 Corruption.....	60.87	28
1.2 Market Landscape.....	62.69	24
1.2.1 Extent of market dominance.....	70.18	20
1.2.2 Domestic credit to private sector.....	48.58	22
1.2.3 Cluster development.....	64.85	28
1.2.4 R&D expenditure.....	25.71	30
1.2.5 ICT infrastructure.....	89.42	21
1.2.6 Urbanisation.....	77.37	34
1.3 Business and Labour Landscape.....	55.70	30
Labour Market		
1.3.1 Labour rights.....	90.48	34
1.3.2 Labour-employer cooperation.....	47.68	58
Management Practice		
1.3.3 Professional management.....	63.95	40
1.3.4 Relationship of pay to productivity.....	49.88	76
Technology Adoption		
1.3.5 Enterprise software.....	23.74	55
1.3.6 Cloud computing.....	36.43	22
1.3.7 Firms with website.....	77.72	27
2 ATTRACT.....65.41	26	
2.1 External Openness.....	59.35	32
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	95.41	12
2.1.2 Financial globalisation.....	82.24	26
Attract People		
2.1.3 Migrant stock.....	62.26	34
2.1.4 International students.....	14.10	59
2.1.5 Brain gain.....	42.73	77
2.2 Internal Openness.....	71.48	23
Social Inclusion		
2.2.1 Tolerance of minorities.....	32.61	86
2.2.2 Tolerance of immigrants.....	87.69	13
2.2.3 Social mobility.....	63.17	37
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	95.20	13
2.2.6 Leadership opportunities for women.....	50.22	75

GDP per capita (PPP US\$)	40,775.28
GDP (US\$ billions)	1,425.28
GTCI score.....	58.03
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....57.59	20	
3.1 Formal Education.....	44.55	25
Enrolment		
3.1.1 Vocational enrolment.....	30.38	41
3.1.2 Tertiary enrolment.....	62.09	9
Quality		
3.1.3 Tertiary education expenditure.....	21.00	33
3.1.4 Reading, maths, and science.....	64.22	26
3.1.5 University ranking.....	45.09	24
3.2 Lifelong Learning.....	67.07	12
3.2.1 Business masters education.....	93.27	4
3.2.2 Prevalence of training in firms.....	66.43	14
3.2.3 Employee development.....	49.86	71
3.2.4 Formal and non-formal studies.....	58.72	29
3.3 Access to Growth Opportunities.....	61.14	31
Empowerment		
3.3.1 Delegation of authority.....	48.31	63
3.3.2 Youth inclusion.....	83.99	33
Collaboration		
3.3.3 Use of virtual social networks.....	74.36	17
3.3.4 Use of virtual professional networks.....	37.90	24

4 RETAIN.....78.97	17	
4.1 Sustainability.....	71.66	21
4.1.1 Pension coverage.....	98.17	39
4.1.2 Social protection.....	87.41	8
4.1.3 Brain retention.....	37.17	72
4.1.4 Environmental performance.....	63.90	27
4.2 Lifestyle.....	86.28	15
4.2.1 Personal rights.....	96.65	16
4.2.2 Personal safety.....	78.41	25
4.2.3 Physician density.....	70.18	12
4.2.4 Sanitation.....	99.89	15

5 VOCATIONAL AND TECHNICAL SKILLS.....50.04	54	
5.1 Mid-Level Skills.....	41.13	61
5.1.1 Workforce with secondary education.....	34.04	83
5.1.2 Population with secondary education.....	26.91	70
5.1.3 Technicians and associate professionals.....	49.12	41
5.1.4 Labour productivity per employee.....	54.45	26
5.2 Employability.....	58.95	62
5.2.1 Ease of finding skilled employees.....	57.79	37
5.2.2 Relevance of education system to the economy.....	40.91	70
5.2.3 Skills matching.....	78.26	29
5.2.4 Highly educated unemployment.....	58.85	92

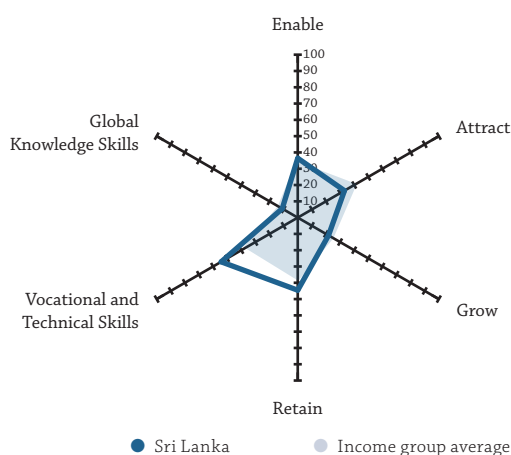
6 GLOBAL KNOWLEDGE SKILLS.....34.92	32	
6.1 High-Level Skills.....	38.59	36
6.1.1 Workforce with tertiary education.....	53.04	21
6.1.2 Population with tertiary education.....	44.43	30
6.1.3 Professionals.....	44.34	32
6.1.4 Researchers.....	35.60	30
6.1.5 Senior officials and managers.....	24.59	63
6.1.6 Digital skills.....	29.52	29
6.2 Talent Impact.....	31.26	32
6.2.1 Innovation output.....	54.26	28
6.2.2 High-value exports.....	13.81	61
6.2.3 Software development.....	28.23	30
6.2.4 New business density.....	13.60	50
6.2.5 Scientific journal articles.....	46.39	25

SRI LANKA

Key Indicators

Rank (out of 133)	92
Income group	Lower-middle income
Regional group	Central and Southern Asia
Population (millions)	22.16

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	36.45	85
1.1 Regulatory Landscape	41.13	73
1.1.1 Government effectiveness	40.28	74
1.1.2 Rule of law	45.11	62
1.1.3 Political stability	57.82	68
1.1.4 Regulatory quality	36.35	86
1.1.5 Corruption	26.09	82
1.2 Market Landscape	28.07	104
1.2.1 Extent of market dominance	45.32	59
1.2.2 Domestic credit to private sector	20.67	74
1.2.3 Cluster development	47.94	50
1.2.4 R&D expenditure	2.18	101
1.2.5 ICT infrastructure	46.05	87
1.2.6 Urbanisation	6.26	130
1.3 Business and Labour Landscape	40.14	82
Labour Market		
1.3.1 Labour rights	67.69	79
1.3.2 Labour-employer cooperation	37.05	83
Management Practice		
1.3.3 Professional management	58.58	53
1.3.4 Relationship of pay to productivity	56.79	57
Technology Adoption		
1.3.5 Enterprise software	33.00	33
1.3.6 Cloud computing	17.37	58
1.3.7 Firms with website	10.51	109
2 ATTRACT	33.10	121
2.1 External Openness	20.60	128
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	33.22	113
Attract People		
2.1.3 Migrant stock	1.87	130
2.1.4 International students	1.38	102
2.1.5 Brain gain	45.93	68
2.2 Internal Openness	45.59	108
Social Inclusion		
2.2.1 Tolerance of minorities	11.96	116
2.2.2 Tolerance of immigrants	47.69	87
2.2.3 Social mobility	48.00	54
Gender Equality		
2.2.4 Economic empowerment of women	51.33	112
2.2.5 Gender parity in high-skilled jobs	62.24	87
2.2.6 Leadership opportunities for women	52.33	73

GDP per capita (PPP US\$)	14,127.21
GDP (US\$ billions)	84.52
GTGI score	33.53
GTGI score (income group average)	30.02

	Score	Rank
3 GROW	21.82	105
3.1 Formal Education	8.84	102
Enrolment		
3.1.1 Vocational enrolment	5.68	95
3.1.2 Tertiary enrolment	13.55	94
Quality		
3.1.3 Tertiary education expenditure	8.82	68
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking	7.29	75
3.2 Lifelong Learning	18.28	115
3.2.1 Business masters education	0.00	54
3.2.2 Prevalence of training in firms	14.97	87
3.2.3 Employee development	57.25	53
3.2.4 Formal and non-formal studies	0.90	76
3.3 Access to Growth Opportunities	38.35	86
Empowerment		
3.3.1 Delegation of authority	49.84	58
3.3.2 Youth inclusion	63.05	73
Collaboration		
3.3.3 Use of virtual social networks	30.88	102
3.3.4 Use of virtual professional networks	9.64	88

4 RETAIN	44.56	89
4.1 Sustainability	33.21	92
4.1.1 Pension coverage	34.65	87
4.1.2 Social protection	44.23	57
4.1.3 Brain retention	27.18	100
4.1.4 Environmental performance	26.78	95
4.2 Lifestyle	55.90	74
4.2.1 Personal rights	62.30	78
4.2.2 Personal safety	49.44	74
4.2.3 Physician density	18.84	85
4.2.4 Sanitation	93.03	68

5 VOCATIONAL AND TECHNICAL SKILLS	54.26	49
5.1 Mid-Level Skills	47.98	49
5.1.1 Workforce with secondary education	49.40	65
5.1.2 Population with secondary education	85.85	5
5.1.3 Technicians and associate professionals	37.16	54
5.1.4 Labour productivity per employee	19.52	71
5.2 Employability	60.54	53
5.2.1 Ease of finding skilled employees	56.85	38
5.2.2 Relevance of education system to the economy	50.12	50
5.2.3 Skills matching	60.33	68
5.2.4 Highly educated unemployment	74.87	68

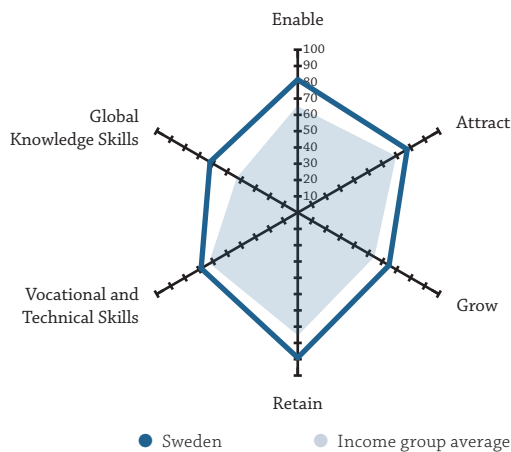
6 GLOBAL KNOWLEDGE SKILLS	11.00	97
6.1 High-Level Skills	15.17	95
6.1.1 Workforce with tertiary education	7.09	111
6.1.2 Population with tertiary education	5.12	87
6.1.3 Professionals	16.96	84
6.1.4 Researchers	1.09	87
6.1.5 Senior officials and managers	45.60	28
6.1.6 Digital skills	n/a	n/a
6.2 Talent Impact	6.82	100
6.2.1 Innovation output	21.45	84
6.2.2 High-value exports	2.04	110
6.2.3 Software development	4.28	60
6.2.4 New business density	3.89	88
6.2.5 Scientific journal articles	2.44	86

SWEDEN

Key Indicators

Rank (out of 133).....	5
Income group	High income
Regional group.....	Europe
Population (millions)	10.42

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....81.62	6	
1.1 Regulatory Landscape.....	89.32	8
1.1.1 Government effectiveness.....	84.70	8
1.1.2 Rule of law.....	92.96	8
1.1.3 Political stability.....	87.25	13
1.1.4 Regulatory quality.....	86.04	9
1.1.5 Corruption.....	95.65	4
1.2 Market Landscape.....	75.87	5
1.2.1 Extent of market dominance.....	74.36	14
1.2.2 Domestic credit to private sector.....	63.17	13
1.2.3 Cluster development.....	75.45	14
1.2.4 R&D expenditure.....	64.82	3
1.2.5 ICT infrastructure.....	91.85	14
1.2.6 Urbanisation.....	85.55	18
1.3 Business and Labour Landscape.....	79.67	6
Labour Market		
1.3.1 Labour rights.....	100.00	1
1.3.2 Labour-employer cooperation.....	76.82	11
Management Practice		
1.3.3 Professional management.....	84.16	13
1.3.4 Relationship of pay to productivity.....	69.13	26
Technology Adoption		
1.3.5 Enterprise software.....	63.72	13
1.3.6 Cloud computing.....	69.98	5
1.3.7 Firms with website.....	93.91	7
2 ATTRACT.....77.59	11	
2.1 External Openness.....	65.93	23
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	85.14	37
2.1.2 Financial globalisation.....	89.74	13
Attract People		
2.1.3 Migrant stock.....	69.27	19
2.1.4 International students.....	27.37	35
2.1.5 Brain gain.....	58.12	36
2.2 Internal Openness.....	89.25	3
Social Inclusion		
2.2.1 Tolerance of minorities.....	86.96	5
2.2.2 Tolerance of immigrants.....	92.31	8
2.2.3 Social mobility.....	79.16	14
Gender Equality		
2.2.4 Economic empowerment of women.....	100.00	1
2.2.5 Gender parity in high-skilled jobs.....	95.85	12
2.2.6 Leadership opportunities for women.....	81.22	17

GDP per capita (PPP US\$)	59,323.96
GDP (US\$ billions)	627.44
GTCI score.....	73.93
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....64.70	12	
3.1 Formal Education.....	52.13	14
Enrolment		
3.1.1 Vocational enrolment.....	32.43	35
3.1.2 Tertiary enrolment.....	51.50	24
Quality		
3.1.3 Tertiary education expenditure.....	48.25	8
3.1.4 Reading, maths, and science.....	68.77	13
3.1.5 University ranking.....	59.68	13
3.2 Lifelong Learning.....	64.76	15
3.2.1 Business masters education.....	13.63	49
3.2.2 Prevalence of training in firms.....	75.80	8
3.2.3 Employee development.....	83.17	12
3.2.4 Formal and non-formal studies.....	86.42	5
3.3 Access to Growth Opportunities.....	77.22	8
Empowerment		
3.3.1 Delegation of authority.....	78.75	10
3.3.2 Youth inclusion.....	96.07	5
Collaboration		
3.3.3 Use of virtual social networks.....	77.64	11
3.3.4 Use of virtual professional networks.....	56.42	14

4 RETAIN.....89.06	4	
4.1 Sustainability.....	89.17	5
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	87.01	9
4.1.3 Brain retention.....	78.46	12
4.1.4 Environmental performance.....	91.19	5
4.2 Lifestyle.....	88.95	10
4.2.1 Personal rights.....	99.57	3
4.2.2 Personal safety.....	87.42	15
4.2.3 Physician density.....	69.62	14
4.2.4 Sanitation.....	99.22	27

5 VOCATIONAL AND TECHNICAL SKILLS.....68.46	11	
5.1 Mid-Level Skills.....	65.18	16
5.1.1 Workforce with secondary education.....	57.88	46
5.1.2 Population with secondary education.....	61.25	25
5.1.3 Technicians and associate professionals.....	75.94	7
5.1.4 Labour productivity per employee.....	65.64	12
5.2 Employability.....	71.74	18
5.2.1 Ease of finding skilled employees.....	56.22	41
5.2.2 Relevance of education system to the economy.....	68.59	20
5.2.3 Skills matching.....	79.80	25
5.2.4 Highly educated unemployment.....	82.38	50

6 GLOBAL KNOWLEDGE SKILLS.....62.17	5	
6.1 High-Level Skills.....	57.96	8
6.1.1 Workforce with tertiary education.....	53.64	20
6.1.2 Population with tertiary education.....	45.23	27
6.1.3 Professionals.....	72.13	2
6.1.4 Researchers.....	91.00	2
6.1.5 Senior officials and managers.....	40.16	36
6.1.6 Digital skills.....	45.59	11
6.2 Talent Impact.....	66.39	4
6.2.1 Innovation output.....	90.43	2
6.2.2 High-value exports.....	27.12	34
6.2.3 Software development.....	84.98	3
6.2.4 New business density.....	49.48	16
6.2.5 Scientific journal articles.....	79.92	6

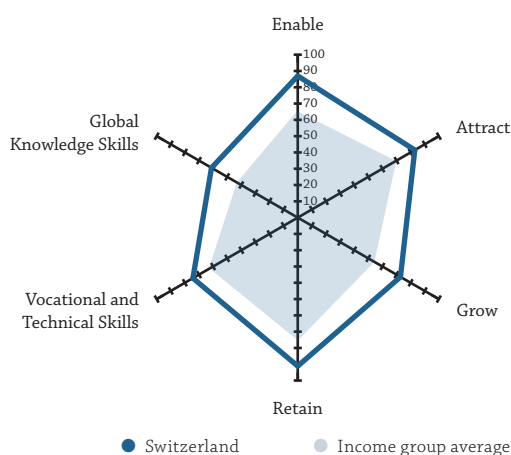
SWITZERLAND

Key Indicators

Rank (out of 133).....	1
Income group	High income
Regional group	Europe
Population (millions)	8.70

GDP per capita (PPP US\$)	77,324.09
GDP (US\$ billions)	812.87
GTCI score	78.20
GTCI score (income group average)	59.85

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	86.94	1
1.1 Regulatory Landscape	91.08	6
1.1.1 Government effectiveness	92.17	2
1.1.2 Rule of law	93.52	6
1.1.3 Political stability	91.91	6
1.1.4 Regulatory quality	83.58	11
1.1.5 Corruption	94.20	7
1.2 Market Landscape	81.27	3
1.2.1 Extent of market dominance	100.00	1
1.2.2 Domestic credit to private sector	77.13	4
1.2.3 Cluster development	88.05	3
1.2.4 R&D expenditure	57.81	8
1.2.5 ICT infrastructure	94.78	7
1.2.6 Urbanisation	69.87	47
1.3 Business and Labour Landscape	88.46	2
Labour Market		
1.3.1 Labour rights	97.59	14
1.3.2 Labour-employer cooperation	98.91	2
Management Practice		
1.3.3 Professional management	89.44	8
1.3.4 Relationship of pay to productivity	94.89	2
Technology Adoption		
1.3.5 Enterprise software	69.31	8
1.3.6 Cloud computing	74.05	3
1.3.7 Firms with website	95.01	5
2 ATTRACT	82.95	3
2.1 External Openness	84.23	5
Attract Business		
2.1.1 FDI regulatory restrictiveness	78.65	47
2.1.2 Financial globalisation	96.12	8
Attract People		
2.1.3 Migrant stock	78.47	12
2.1.4 International students	68.27	9
2.1.5 Brain gain	99.66	2
2.2 Internal Openness	81.67	12
Social Inclusion		
2.2.1 Tolerance of minorities	76.09	19
2.2.2 Tolerance of immigrants	76.92	29
2.2.3 Social mobility	97.76	2
Gender Equality		
2.2.4 Economic empowerment of women	83.19	44
2.2.5 Gender parity in high-skilled jobs	83.13	45
2.2.6 Leadership opportunities for women	72.90	22

	Score	Rank
3 GROW	72.79	4
3.1 Formal Education	62.46	4
Enrolment		
3.1.1 Vocational enrolment	57.97	10
3.1.2 Tertiary enrolment	41.95	46
Quality		
3.1.3 Tertiary education expenditure	62.12	3
3.1.4 Reading, maths, and science	66.99	20
3.1.5 University ranking	83.28	4
3.2 Lifelong Learning	84.67	3
3.2.1 Business masters education	61.32	14
3.2.2 Prevalence of training in firms	n/a	n/a
3.2.3 Employee development	99.08	2
3.2.4 Formal and non-formal studies	93.62	2
3.3 Access to Growth Opportunities	71.22	16
Empowerment		
3.3.1 Delegation of authority	76.34	12
3.3.2 Youth inclusion	83.50	36
Collaboration		
3.3.3 Use of virtual social networks	73.56	22
3.3.4 Use of virtual professional networks	51.50	16

4 RETAIN	91.13	1
4.1 Sustainability	92.95	1
4.1.1 Pension coverage	100.00	1
4.1.2 Social protection	92.15	6
4.1.3 Brain retention	100.00	1
4.1.4 Environmental performance	79.66	9
4.2 Lifestyle	89.32	7
4.2.1 Personal rights	98.34	8
4.2.2 Personal safety	89.83	8
4.2.3 Physician density	69.21	16
4.2.4 Sanitation	99.89	16
5 VOCATIONAL AND TECHNICAL SKILLS	74.29	2
5.1 Mid-Level Skills	67.49	9
5.1.1 Workforce with secondary education	60.54	40
5.1.2 Population with secondary education	66.75	21
5.1.3 Technicians and associate professionals	69.44	16
5.1.4 Labour productivity per employee	73.25	8
5.2 Employability	81.09	4
5.2.1 Ease of finding skilled employees	59.22	31
5.2.2 Relevance of education system to the economy	100.00	1
5.2.3 Skills matching	79.03	26
5.2.4 Highly educated unemployment	86.11	33

6 GLOBAL KNOWLEDGE SKILLS	61.13	7
6.1 High-Level Skills	52.57	15
6.1.1 Workforce with tertiary education	52.12	23
6.1.2 Population with tertiary education	52.97	12
6.1.3 Professionals	59.43	10
6.1.4 Researchers	63.67	12
6.1.5 Senior officials and managers	48.66	21
6.1.6 Digital skills	38.58	17
6.2 Talent Impact	69.69	3
6.2.1 Innovation output	100.00	1
6.2.2 High-value exports	22.98	38
6.2.3 Software development	100.00	1
6.2.4 New business density	25.46	31
6.2.5 Scientific journal articles	100.00	1

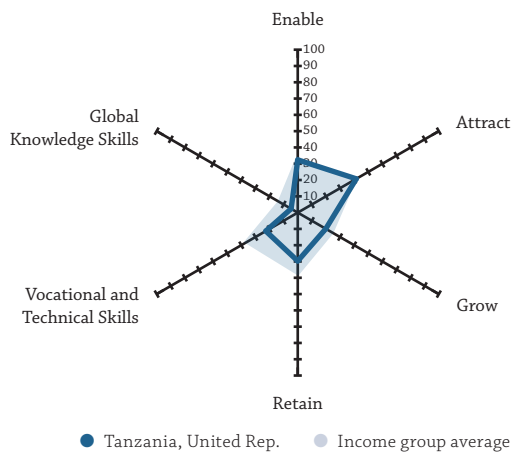
TANZANIA, UNITED REP.

Key Indicators

Rank (out of 133).....	117
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	61.50

GDP per capita (PPP US\$)	2,932.63
GDP (US\$ billions)	67.78
GTCI score.....	25.12
GTCI score (income group average)	30.02

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 32.35 105		
1.1 Regulatory Landscape.....	30.78	99
1.1.1 Government effectiveness.....	22.84	116
1.1.2 Rule of law.....	30.69	103
1.1.3 Political stability.....	47.83	84
1.1.4 Regulatory quality.....	23.58	109
1.1.5 Corruption.....	28.99	70
1.2 Market Landscape.....	27.45	106
1.2.1 Extent of market dominance.....	42.68	63
1.2.2 Domestic credit to private sector.....	3.19	122
1.2.3 Cluster development.....	52.16	42
1.2.4 R&D expenditure.....	9.29	61
1.2.5 ICT infrastructure.....	33.50	103
1.2.6 Urbanisation.....	23.85	119
1.3 Business and Labour Landscape.....	38.83	93
Labour Market		
1.3.1 Labour rights.....	76.27	66
1.3.2 Labour-employer cooperation.....	41.68	66
Management Practice		
1.3.3 Professional management.....	59.90	51
1.3.4 Relationship of pay to productivity.....	55.28	60
Technology Adoption		
1.3.5 Enterprise software.....	13.72	101
1.3.6 Cloud computing.....	9.85	98
1.3.7 Firms with website.....	15.13	102
2 ATTRACT..... 41.48 100		
2.1 External Openness.....	33.30	99
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	26.42	119
Attract People		
2.1.3 Migrant stock.....	17.52	107
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	55.95	42
2.2 Internal Openness.....	49.66	98
Social Inclusion		
2.2.1 Tolerance of minorities.....	52.17	54
2.2.2 Tolerance of immigrants.....	41.54	97
2.2.3 Social mobility.....	46.85	56
Gender Equality		
2.2.4 Economic empowerment of women.....	73.45	73
2.2.5 Gender parity in high-skilled jobs.....	30.11	113
2.2.6 Leadership opportunities for women.....	53.86	67

	Score	Rank
3 GROW..... 19.86 113		
3.1 Formal Education.....	1.42	131
Enrolment		
3.1.1 Vocational enrolment.....	0.09	117
3.1.2 Tertiary enrolment.....	4.16	114
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	26.21	77
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	32.17	57
3.2.3 Employee development.....	46.47	85
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	31.95	107
Empowerment		
3.3.1 Delegation of authority.....	43.46	72
3.3.2 Youth inclusion.....	75.89	47
Collaboration		
3.3.3 Use of virtual social networks.....	5.77	124
3.3.4 Use of virtual professional networks.....	2.68	119

4 RETAIN..... 29.71 112		
4.1 Sustainability.....	28.36	102
4.1.1 Pension coverage.....	3.96	122
4.1.2 Social protection.....	45.17	54
4.1.3 Brain retention.....	38.36	69
4.1.4 Environmental performance.....	25.93	97
4.2 Lifestyle.....	31.07	114
4.2.1 Personal rights.....	50.16	98
4.2.2 Personal safety.....	49.02	76
4.2.3 Physician density.....	0.02	132
4.2.4 Sanitation.....	25.09	123
5 VOCATIONAL AND TECHNICAL SKILLS..... 22.64 127		
5.1 Mid-Level Skills.....	2.93	132
5.1.1 Workforce with secondary education.....	1.51	128
5.1.2 Population with secondary education.....	0.00	100
5.1.3 Technicians and associate professionals.....	7.63	117
5.1.4 Labour productivity per employee.....	2.59	103
5.2 Employability.....	42.34	108
5.2.1 Ease of finding skilled employees.....	55.18	48
5.2.2 Relevance of education system to the economy.....	44.21	58
5.2.3 Skills matching.....	7.88	102
5.2.4 Highly educated unemployment.....	62.12	88

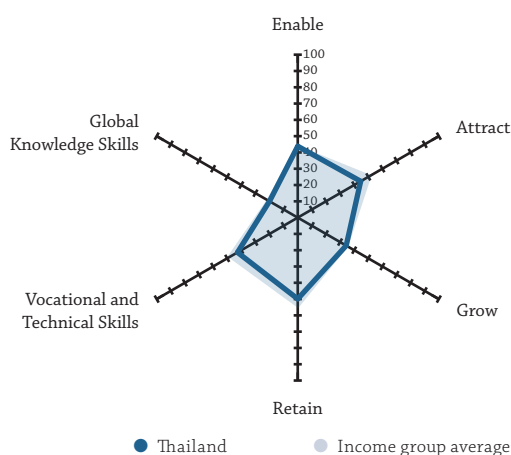
6 GLOBAL KNOWLEDGE SKILLS..... 4.70 123		
6.1 High-Level Skills.....	0.94	132
6.1.1 Workforce with tertiary education.....	0.00	130
6.1.2 Population with tertiary education.....	1.15	99
6.1.3 Professionals.....	1.89	128
6.1.4 Researchers.....	0.10	105
6.1.5 Senior officials and managers.....	1.55	124
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	8.47	91
6.2.1 Innovation output.....	28.72	64
6.2.2 High-value exports.....	12.23	70
6.2.3 Software development.....	0.24	116
6.2.4 New business density.....	0.76	113
6.2.5 Scientific journal articles.....	0.39	115

THAILAND

Key Indicators

Rank (out of 133).....	75
Income group.....	Upper-middle income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions).....	69.95

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 43.82 62		
1.1 Regulatory Landscape.....	42.00	71
1.1.1 Government effectiveness.....	49.49	53
1.1.2 Rule of law.....	49.41	57
1.1.3 Political stability.....	41.91	99
1.1.4 Regulatory quality.....	46.02	63
1.1.5 Corruption.....	23.19	90
1.2 Market Landscape.....	49.85	43
1.2.1 Extent of market dominance.....	32.04	96
1.2.2 Domestic credit to private sector.....	73.27	9
1.2.3 Cluster development.....	49.40	45
1.2.4 R&D expenditure.....	20.87	36
1.2.5 ICT infrastructure.....	81.04	33
1.2.6 Urbanisation.....	42.45	99
1.3 Business and Labour Landscape.....	39.62	87
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	46.99	60
Management Practice		
1.3.3 Professional management.....	55.53	60
1.3.4 Relationship of pay to productivity.....	61.12	50
Technology Adoption		
1.3.5 Enterprise software.....	13.23	106
1.3.6 Cloud computing.....	19.26	49
1.3.7 Firms with website.....	41.59	75
2 ATTRACT..... 44.60 92		
2.1 External Openness.....	37.95	85
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	28.65	75
2.1.2 Financial globalisation.....	58.13	74
Attract People		
2.1.3 Migrant stock.....	40.40	67
2.1.4 International students.....	4.92	85
2.1.5 Brain gain.....	57.63	37
2.2 Internal Openness.....	51.25	89
Social Inclusion		
2.2.1 Tolerance of minorities.....	26.09	94
2.2.2 Tolerance of immigrants.....	15.38	124
2.2.3 Social mobility.....	35.39	95
Gender Equality		
2.2.4 Economic empowerment of women.....	69.03	89
2.2.5 Gender parity in high-skilled jobs.....	87.89	37
2.2.6 Leadership opportunities for women.....	73.72	20

GDP per capita (PPP US\$).....	19,209.49
GDP (US\$ billions).....	505.98
GTCI score.....	39.23
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW..... 34.34 62		
3.1 Formal Education.....	24.45	62
Enrolment		
3.1.1 Vocational enrolment.....	17.50	66
3.1.2 Tertiary enrolment.....	32.40	64
Quality		
3.1.3 Tertiary education expenditure.....	6.83	80
3.1.4 Reading, maths, and science.....	31.97	60
3.1.5 University ranking.....	33.54	38
3.2 Lifelong Learning.....	28.52	70
3.2.1 Business masters education.....	44.44	24
3.2.2 Prevalence of training in firms.....	14.41	88
3.2.3 Employee development.....	54.83	54
3.2.4 Formal and non-formal studies.....	0.40	83
3.3 Access to Growth Opportunities.....	50.06	51
Empowerment		
3.3.1 Delegation of authority.....	50.06	57
3.3.2 Youth inclusion.....	75.49	48
Collaboration		
3.3.3 Use of virtual social networks.....	69.12	38
3.3.4 Use of virtual professional networks.....	5.57	103

4 RETAIN..... 49.90 78		
4.1 Sustainability.....	55.38	47
4.1.1 Pension coverage.....	88.92	59
4.1.2 Social protection.....	44.13	59
4.1.3 Brain retention.....	55.93	37
4.1.4 Environmental performance.....	32.54	81
4.2 Lifestyle.....	44.42	95
4.2.1 Personal rights.....	36.00	112
4.2.2 Personal safety.....	28.71	108
4.2.3 Physician density.....	14.38	89
4.2.4 Sanitation.....	98.59	38

5 VOCATIONAL AND TECHNICAL SKILLS..... 42.69 76		
5.1 Mid-Level Skills.....	22.41	97
5.1.1 Workforce with secondary education.....	32.36	88
5.1.2 Population with secondary education.....	19.69	80
5.1.3 Technicians and associate professionals.....	18.95	92
5.1.4 Labour productivity per employee.....	18.63	73
5.2 Employability.....	62.98	42
5.2.1 Ease of finding skilled employees.....	55.25	46
5.2.2 Relevance of education system to the economy.....	42.08	66
5.2.3 Skills matching.....	58.84	70
5.2.4 Highly educated unemployment.....	95.73	3

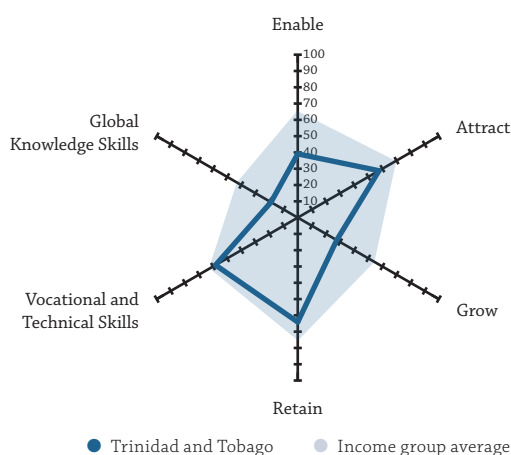
6 GLOBAL KNOWLEDGE SKILLS..... 20.03 66		
6.1 High-Level Skills.....	18.63	85
6.1.1 Workforce with tertiary education.....	21.12	81
6.1.2 Population with tertiary education.....	26.47	58
6.1.3 Professionals.....	13.75	95
6.1.4 Researchers.....	20.45	40
6.1.5 Senior officials and managers.....	25.58	62
6.1.6 Digital skills.....	4.43	73
6.2 Talent Impact.....	21.44	50
6.2.1 Innovation output.....	40.60	45
6.2.2 High-value exports.....	49.78	12
6.2.3 Software development.....	2.74	73
6.2.4 New business density.....	6.91	77
6.2.5 Scientific journal articles.....	7.14	64

TRINIDAD AND TOBAGO

Key Indicators

Rank (out of 133).....	53
Income group	High income
Regional group	Latin America and the Caribbean
Population (millions)	1.40

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....39.09 75		
1.1 Regulatory Landscape.....	44.56	64
1.1.1 Government effectiveness.....	46.49	58
1.1.2 Rule of law.....	43.03	69
1.1.3 Political stability.....	63.99	53
1.1.4 Regulatory quality.....	37.42	82
1.1.5 Corruption.....	31.88	67
1.2 Market Landscape.....	27.43	107
1.2.1 Extent of market dominance.....	14.91	125
1.2.2 Domestic credit to private sector.....	18.52	78
1.2.3 Cluster development.....	34.66	95
1.2.4 R&D expenditure.....	0.93	109
1.2.5 ICT infrastructure.....	49.37	81
1.2.6 Urbanisation.....	46.17	94
1.3 Business and Labour Landscape.....	45.28	63
Labour Market		
1.3.1 Labour rights.....	75.34	70
1.3.2 Labour-employer cooperation.....	9.31	127
Management Practice		
1.3.3 Professional management.....	52.73	68
1.3.4 Relationship of pay to productivity.....	43.74	102
Technology Adoption		
1.3.5 Enterprise software.....	n/a	n/a
1.3.6 Cloud computing.....	n/a	n/a
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....57.58 43		
2.1 External Openness.....	52.95	51
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	75.10	39
Attract People		
2.1.3 Migrant stock.....	40.78	66
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	42.97	76
2.2 Internal Openness.....	62.21	44
Social Inclusion		
2.2.1 Tolerance of minorities.....	72.83	24
2.2.2 Tolerance of immigrants.....	50.77	81
2.2.3 Social mobility.....	48.65	53
Gender Equality		
2.2.4 Economic empowerment of women.....	64.60	98
2.2.5 Gender parity in high-skilled jobs.....	82.48	48
2.2.6 Leadership opportunities for women.....	53.95	66

GDP per capita (PPP US\$)	26,868.09
GDP (US\$ billions)	21.39
GTCI score.....	44.27
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....27.63 83		
3.1 Formal Education.....	18.15	78
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	n/a	n/a
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths, and science.....	36.31	53
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	24.86	88
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	49.72	72
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	39.89	83
Empowerment		
3.3.1 Delegation of authority.....	48.82	61
3.3.2 Youth inclusion.....	0.00	123
Collaboration		
3.3.3 Use of virtual social networks.....	66.64	50
3.3.4 Use of virtual professional networks.....	44.11	20

4 RETAIN.....64.10 40		
4.1 Sustainability.....	55.45	46
4.1.1 Pension coverage.....	90.96	51
4.1.2 Social protection.....	39.00	67
4.1.3 Brain retention.....	42.86	56
4.1.4 Environmental performance.....	48.98	47
4.2 Lifestyle.....	72.74	46
4.2.1 Personal rights.....	89.07	38
4.2.2 Personal safety.....	37.85	90
4.2.3 Physician density.....	70.73	11
4.2.4 Sanitation.....	93.32	66

5 VOCATIONAL AND TECHNICAL SKILLS.....58.25 39		
5.1 Mid-Level Skills.....	53.18	39
5.1.1 Workforce with secondary education.....	70.17	24
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	54.97	32
5.1.4 Labour productivity per employee.....	34.41	48
5.2 Employability.....	63.32	41
5.2.1 Ease of finding skilled employees.....	56.12	42
5.2.2 Relevance of education system to the economy.....	42.63	65
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	91.21	13

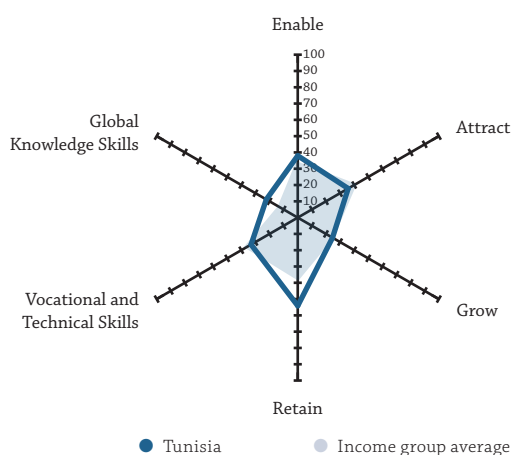
6 GLOBAL KNOWLEDGE SKILLS.....18.95 72		
6.1 High-Level Skills.....	27.27	58
6.1.1 Workforce with tertiary education.....	26.48	72
6.1.2 Population with tertiary education.....	27.69	55
6.1.3 Professionals.....	13.90	94
6.1.4 Researchers.....	5.53	67
6.1.5 Senior officials and managers.....	62.76	11
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	10.62	78
6.2.1 Innovation output.....	17.91	94
6.2.2 High-value exports.....	0.02	130
6.2.3 Software development.....	4.25	61
6.2.4 New business density.....	24.89	32
6.2.5 Scientific journal articles.....	6.02	67

TUNISIA

Key Indicators

Rank (out of 133).....	91
Income group.....	Lower-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	11.94

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....37.99 81		
1.1 Regulatory Landscape.....	39.21	79
1.1.1 Government effectiveness.....	36.96	82
1.1.2 Rule of law.....	49.83	56
1.1.3 Political stability.....	41.65	100
1.1.4 Regulatory quality.....	31.39	93
1.1.5 Corruption.....	36.23	56
1.2 Market Landscape.....	34.90	82
1.2.1 Extent of market dominance.....	19.22	120
1.2.2 Domestic credit to private sector.....	35.82	41
1.2.3 Cluster development.....	29.67	110
1.2.4 R&D expenditure.....	13.60	48
1.2.5 ICT infrastructure.....	46.78	85
1.2.6 Urbanisation.....	64.29	56
1.3 Business and Labour Landscape.....	39.85	86
Labour Market		
1.3.1 Labour rights.....	77.88	62
1.3.2 Labour-employer cooperation.....	25.30	111
Management Practice		
1.3.3 Professional management.....	39.56	99
1.3.4 Relationship of pay to productivity.....	40.99	113
Technology Adoption		
1.3.5 Enterprise software.....	23.82	54
1.3.6 Cloud computing.....	17.10	61
1.3.7 Firms with website.....	54.30	60
2 ATTRACT.....35.74 119		
2.1 External Openness.....	29.54	110
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	54.05	65
2.1.2 Financial globalisation.....	54.09	85
Attract People		
2.1.3 Migrant stock.....	9.17	122
2.1.4 International students.....	11.78	66
2.1.5 Brain gain.....	18.61	119
2.2 Internal Openness.....	41.93	118
Social Inclusion		
2.2.1 Tolerance of minorities.....	28.26	88
2.2.2 Tolerance of immigrants.....	46.15	90
2.2.3 Social mobility.....	42.23	76
Gender Equality		
2.2.4 Economic empowerment of women.....	49.56	114
2.2.5 Gender parity in high-skilled jobs.....	39.64	106
2.2.6 Leadership opportunities for women.....	45.74	85

GDP per capita (PPP US\$).....	11,594.72
GDP (US\$ billions).....	46.84
GTCI score.....	34.64
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....24.65 93		
3.1 Formal Education.....	12.89	91
Enrolment		
3.1.1 Vocational enrolment.....	14.02	73
3.1.2 Tertiary enrolment.....	21.14	81
Quality		
3.1.3 Tertiary education expenditure.....	14.05	49
3.1.4 Reading, maths, and science.....	15.23	73
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	25.82	81
3.2.1 Business masters education.....	18.10	45
3.2.2 Prevalence of training in firms.....	15.94	84
3.2.3 Employee development.....	43.41	94
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	35.24	96
Empowerment		
3.3.1 Delegation of authority.....	21.46	117
3.3.2 Youth inclusion.....	44.22	106
Collaboration		
3.3.3 Use of virtual social networks.....	57.41	75
3.3.4 Use of virtual professional networks.....	17.88	63

4 RETAIN.....54.13 63		
4.1 Sustainability.....	43.22	79
4.1.1 Pension coverage.....	85.16	60
4.1.2 Social protection.....	30.46	85
4.1.3 Brain retention.....	20.32	113
4.1.4 Environmental performance.....	36.95	73
4.2 Lifestyle.....	65.05	54
4.2.1 Personal rights.....	81.03	50
4.2.2 Personal safety.....	61.95	48
4.2.3 Physician density.....	20.02	83
4.2.4 Sanitation.....	97.18	55

5 VOCATIONAL AND TECHNICAL SKILLS.....33.08 105		
5.1 Mid-Level Skills.....	30.36	81
5.1.1 Workforce with secondary education.....	52.51	56
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	19.58	88
5.1.4 Labour productivity per employee.....	18.98	72
5.2 Employability.....	35.79	123
5.2.1 Ease of finding skilled employees.....	45.38	67
5.2.2 Relevance of education system to the economy.....	30.66	91
5.2.3 Skills matching.....	41.79	87
5.2.4 Highly educated unemployment.....	25.34	115

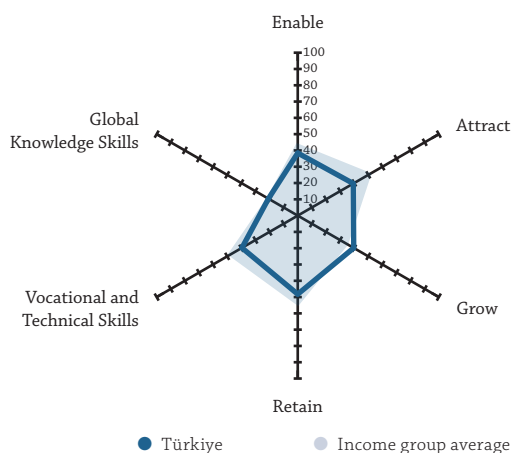
6 GLOBAL KNOWLEDGE SKILLS.....22.28 62		
6.1 High-Level Skills.....	29.75	52
6.1.1 Workforce with tertiary education.....	26.74	71
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	18.19	78
6.1.4 Researchers.....	18.95	45
6.1.5 Senior officials and managers.....	17.50	78
6.1.6 Digital skills.....	67.38	4
6.2 Talent Impact.....	14.80	67
6.2.1 Innovation output.....	29.61	63
6.2.2 High-value exports.....	12.21	71
6.2.3 Software development.....	2.19	78
6.2.4 New business density.....	10.85	59
6.2.5 Scientific journal articles.....	19.13	45

TÜRKİYE

Key Indicators

Rank (out of 133).....	81
Income group.....	Upper-middle income
Regional group.....	Northern Africa and Western Asia
Population (millions).....	85.04

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 38.42 80		
1.1 Regulatory Landscape.....	34.55	90
1.1.1 Government effectiveness.....	40.93	73
1.1.2 Rule of law.....	37.01	84
1.1.3 Political stability.....	26.41	121
1.1.4 Regulatory quality.....	40.84	73
1.1.5 Corruption.....	27.54	76
1.2 Market Landscape.....	48.66	46
1.2.1 Extent of market dominance.....	42.76	62
1.2.2 Domestic credit to private sector.....	32.71	44
1.2.3 Cluster development.....	46.52	57
1.2.4 R&D expenditure.....	19.88	39
1.2.5 ICT infrastructure.....	78.68	37
1.2.6 Urbanisation.....	71.42	43
1.3 Business and Labour Landscape.....	32.05	115
Labour Market		
1.3.1 Labour rights.....	50.94	89
1.3.2 Labour-employer cooperation.....	24.73	115
Management Practice		
1.3.3 Professional management.....	45.89	85
1.3.4 Relationship of pay to productivity.....	44.29	100
Technology Adoption		
1.3.5 Enterprise software.....	4.11	125
1.3.6 Cloud computing.....	8.35	112
1.3.7 Firms with website.....	46.07	68
2 ATTRACT..... 39.37 106		
2.1 External Openness.....	40.52	79
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	85.14	37
2.1.2 Financial globalisation.....	38.34	107
Attract People		
2.1.3 Migrant stock.....	48.20	52
2.1.4 International students.....	7.53	77
2.1.5 Brain gain.....	23.40	115
2.2 Internal Openness.....	38.23	123
Social Inclusion		
2.2.1 Tolerance of minorities.....	0.00	133
2.2.2 Tolerance of immigrants.....	44.62	93
2.2.3 Social mobility.....	31.32	107
Gender Equality		
2.2.4 Economic empowerment of women.....	75.22	68
2.2.5 Gender parity in high-skilled jobs.....	43.24	103
2.2.6 Leadership opportunities for women.....	34.95	111

GDP per capita (PPP US\$).....	30,472.38
GDP (US\$ billions).....	815.27
GTCI score.....	37.67
GTCI score (income group average).....	41.23

	Score	Rank
3 GROW..... 39.68 52		
3.1 Formal Education.....	41.62	28
Enrolment		
3.1.1 Vocational enrolment.....	33.64	33
3.1.2 Tertiary enrolment.....	77.19	2
Quality		
3.1.3 Tertiary education expenditure.....	20.44	35
3.1.4 Reading, maths, and science.....	52.41	40
3.1.5 University ranking.....	24.42	48
3.2 Lifelong Learning.....	34.72	51
3.2.1 Business masters education.....	37.41	26
3.2.2 Prevalence of training in firms.....	32.17	57
3.2.3 Employee development.....	41.14	97
3.2.4 Formal and non-formal studies.....	28.16	40
3.3 Access to Growth Opportunities.....	42.72	74
Empowerment		
3.3.1 Delegation of authority.....	33.45	96
3.3.2 Youth inclusion.....	48.52	97
Collaboration		
3.3.3 Use of virtual social networks.....	68.77	42
3.3.4 Use of virtual professional networks.....	20.13	56

4 RETAIN..... 48.22 79		
4.1 Sustainability.....	48.30	63
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	54.12	42
4.1.3 Brain retention.....	26.53	101
4.1.4 Environmental performance.....	12.54	129
4.2 Lifestyle.....	48.14	89
4.2.1 Personal rights.....	21.59	125
4.2.2 Personal safety.....	41.82	86
4.2.3 Physician density.....	30.00	73
4.2.4 Sanitation.....	99.15	30

5 VOCATIONAL AND TECHNICAL SKILLS..... 39.56 86		
5.1 Mid-Level Skills.....	34.69	70
5.1.1 Workforce with secondary education.....	30.64	91
5.1.2 Population with secondary education.....	29.24	67
5.1.3 Technicians and associate professionals.....	24.80	76
5.1.4 Labour productivity per employee.....	54.07	27
5.2 Employability.....	44.43	101
5.2.1 Ease of finding skilled employees.....	53.59	51
5.2.2 Relevance of education system to the economy.....	28.25	98
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	51.43	103

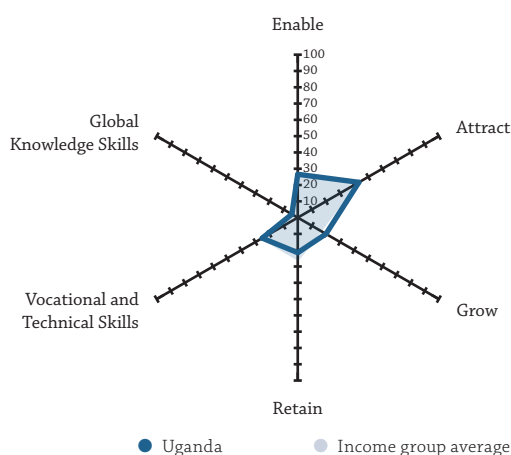
6 GLOBAL KNOWLEDGE SKILLS..... 20.78 64		
6.1 High-Level Skills.....	25.82	62
6.1.1 Workforce with tertiary education.....	33.43	55
6.1.2 Population with tertiary education.....	27.01	57
6.1.3 Professionals.....	28.05	57
6.1.4 Researchers.....	20.28	41
6.1.5 Senior officials and managers.....	33.43	43
6.1.6 Digital skills.....	12.69	60
6.2 Talent Impact.....	15.75	65
6.2.1 Innovation output.....	43.79	40
6.2.2 High-value exports.....	5.47	91
6.2.3 Software development.....	3.71	64
6.2.4 New business density.....	9.61	63
6.2.5 Scientific journal articles.....	16.19	47

UGANDA

Key Indicators

Rank (out of 133).....	121
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	47.12

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 26.59 116		
1.1 Regulatory Landscape.....	28.86	104
1.1.1 Government effectiveness.....	27.70	104
1.1.2 Rule of law.....	37.77	80
1.1.3 Political stability.....	37.62	109
1.1.4 Regulatory quality.....	29.62	97
1.1.5 Corruption.....	11.59	115
1.2 Market Landscape.....	14.68	127
1.2.1 Extent of market dominance.....	20.40	118
1.2.2 Domestic credit to private sector.....	3.70	120
1.2.3 Cluster development.....	36.45	85
1.2.4 R&D expenditure.....	2.44	97
1.2.5 ICT infrastructure.....	12.72	121
1.2.6 Urbanisation.....	12.35	125
1.3 Business and Labour Landscape.....	36.24	101
Labour Market		
1.3.1 Labour rights.....	80.43	59
1.3.2 Labour-employer cooperation.....	39.58	74
Management Practice		
1.3.3 Professional management.....	51.06	70
1.3.4 Relationship of pay to productivity.....	46.41	91
Technology Adoption		
1.3.5 Enterprise software.....	18.39	80
1.3.6 Cloud computing.....	6.60	121
1.3.7 Firms with website.....	11.21	107
2 ATTRACT..... 43.33 95		
2.1 External Openness.....	40.63	78
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	35.47	109
Attract People		
2.1.3 Migrant stock.....	34.38	79
2.1.4 International students.....	41.12	20
2.1.5 Brain gain.....	51.55	55
2.2 Internal Openness.....	46.02	107
Social Inclusion		
2.2.1 Tolerance of minorities.....	20.65	103
2.2.2 Tolerance of immigrants.....	33.85	113
2.2.3 Social mobility.....	46.86	55
Gender Equality		
2.2.4 Economic empowerment of women.....	61.95	103
2.2.5 Gender parity in high-skilled jobs.....	57.67	94
2.2.6 Leadership opportunities for women.....	55.17	63

GDP per capita (PPP US\$)	2,397.76
GDP (US\$ billions)	40.43
GTCI score.....	23.46
GTCI score (income group average)	22.09

	Score	Rank
3 GROW..... 20.00 112		
3.1 Formal Education.....	2.93	124
Enrolment		
3.1.1 Vocational enrolment.....	6.58	92
3.1.2 Tertiary enrolment.....	2.27	123
Quality		
3.1.3 Tertiary education expenditure.....	2.87	103
3.1.4 Reading, maths, and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	76
3.2 Lifelong Learning.....	26.18	78
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	37.76	48
3.2.3 Employee development.....	40.76	99
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	30.90	109
Empowerment		
3.3.1 Delegation of authority.....	43.19	75
3.3.2 Youth inclusion.....	75.12	50
Collaboration		
3.3.3 Use of virtual social networks.....	2.31	129
3.3.4 Use of virtual professional networks.....	3.00	115

4 RETAIN..... 21.51 127		
4.1 Sustainability.....	22.97	117
4.1.1 Pension coverage.....	9.76	111
4.1.2 Social protection.....	25.91	100
4.1.3 Brain retention.....	27.56	98
4.1.4 Environmental performance.....	28.64	90
4.2 Lifestyle.....	20.05	128
4.2.1 Personal rights.....	37.24	111
4.2.2 Personal safety.....	29.35	105
4.2.3 Physician density.....	1.66	118
4.2.4 Sanitation.....	11.94	128

5 VOCATIONAL AND TECHNICAL SKILLS..... 25.18 121		
5.1 Mid-Level Skills.....	3.20	130
5.1.1 Workforce with secondary education.....	3.52	125
5.1.2 Population with secondary education.....	0.38	99
5.1.3 Technicians and associate professionals.....	6.76	121
5.1.4 Labour productivity per employee.....	2.16	106
5.2 Employability.....	47.16	89
5.2.1 Ease of finding skilled employees.....	47.79	63
5.2.2 Relevance of education system to the economy.....	38.66	76
5.2.3 Skills matching.....	11.94	101
5.2.4 Highly educated unemployment.....	90.25	20

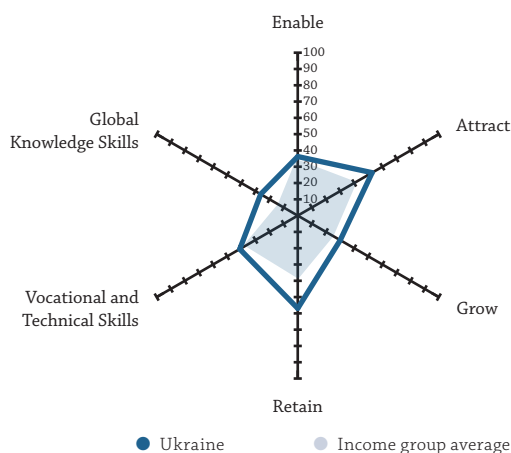
6 GLOBAL KNOWLEDGE SKILLS..... 4.14 126		
6.1 High-Level Skills.....	4.69	123
6.1.1 Workforce with tertiary education.....	0.05	129
6.1.2 Population with tertiary education.....	9.69	82
6.1.3 Professionals.....	9.15	113
6.1.4 Researchers.....	0.20	102
6.1.5 Senior officials and managers.....	4.37	115
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	3.60	119
6.2.1 Innovation output.....	8.51	118
6.2.2 High-value exports.....	3.57	102
6.2.3 Software development.....	0.75	105
6.2.4 New business density.....	4.56	85
6.2.5 Scientific journal articles.....	0.59	107

UKRAINE

Key Indicators

Rank (out of 133).....	66
Income group.....	Lower-middle income
Regional group.....	Europe
Population (millions).....	43.81

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 36.25 86		
1.1 Regulatory Landscape.....	28.26	106
1.1.1 Government effectiveness.....	33.19	90
1.1.2 Rule of law.....	28.96	105
1.1.3 Political stability.....	27.06	120
1.1.4 Regulatory quality.....	33.23	91
1.1.5 Corruption.....	18.84	101
1.2 Market Landscape.....	34.91	81
1.2.1 Extent of market dominance.....	32.68	94
1.2.2 Domestic credit to private sector.....	10.34	99
1.2.3 Cluster development.....	30.41	107
1.2.4 R&D expenditure.....	7.29	68
1.2.5 ICT infrastructure.....	64.00	59
1.2.6 Urbanisation.....	64.76	55
1.3 Business and Labour Landscape.....	45.58	61
Labour Market		
1.3.1 Labour rights.....	87.40	46
1.3.2 Labour-employer cooperation.....	29.44	102
Management Practice		
1.3.3 Professional management.....	36.10	107
1.3.4 Relationship of pay to productivity.....	52.99	68
Technology Adoption		
1.3.5 Enterprise software.....	31.60	35
1.3.6 Cloud computing.....	18.68	52
1.3.7 Firms with website.....	62.85	46
2 ATTRACT..... 52.70 59		
2.1 External Openness.....	51.54	55
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	68.38	55
2.1.2 Financial globalisation.....	74.39	41
Attract People		
2.1.3 Migrant stock.....	58.64	42
2.1.4 International students.....	15.24	56
2.1.5 Brain gain.....	41.03	80
2.2 Internal Openness.....	53.86	77
Social Inclusion		
2.2.1 Tolerance of minorities.....	43.48	67
2.2.2 Tolerance of immigrants.....	55.38	75
2.2.3 Social mobility.....	32.51	102
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	66.66	81
2.2.6 Leadership opportunities for women.....	46.37	82

GDP per capita (PPP US\$).....	14,219.79
GDP (US\$ billions).....	200.09
GTGI score.....	40.56
GTGI score (income group average).....	30.02

	Score	Rank
3 GROW..... 30.12 75		
3.1 Formal Education.....	29.78	51
Enrolment		
3.1.1 Vocational enrolment.....	10.12	87
3.1.2 Tertiary enrolment.....	55.14	18
Quality		
3.1.3 Tertiary education expenditure.....	10.99	60
3.1.4 Reading, maths, and science.....	52.50	39
3.1.5 University ranking.....	20.16	57
3.2 Lifelong Learning.....	19.49	113
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	23.22	69
3.2.3 Employee development.....	35.26	115
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	41.08	79
Empowerment		
3.3.1 Delegation of authority.....	27.02	109
3.3.2 Youth inclusion.....	72.75	54
Collaboration		
3.3.3 Use of virtual social networks.....	54.39	81
3.3.4 Use of virtual professional networks.....	10.17	85

4 RETAIN..... 56.94 52		
4.1 Sustainability.....	50.52	58
4.1.1 Pension coverage.....	96.14	42
4.1.2 Social protection.....	36.05	72
4.1.3 Brain retention.....	17.86	118
4.1.4 Environmental performance.....	52.03	43
4.2 Lifestyle.....	63.35	57
4.2.1 Personal rights.....	72.07	68
4.2.2 Personal safety.....	36.79	94
4.2.3 Physician density.....	47.02	45
4.2.4 Sanitation.....	97.52	51

5 VOCATIONAL AND TECHNICAL SKILLS..... 41.10 82		
5.1 Mid-Level Skills.....	34.56	71
5.1.1 Workforce with secondary education.....	37.13	79
5.1.2 Population with secondary education.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	48.43	44
5.1.4 Labour productivity per employee.....	18.13	75
5.2 Employability.....	47.64	88
5.2.1 Ease of finding skilled employees.....	37.82	89
5.2.2 Relevance of education system to the economy.....	36.07	84
5.2.3 Skills matching.....	n/a	n/a
5.2.4 Highly educated unemployment.....	69.03	79

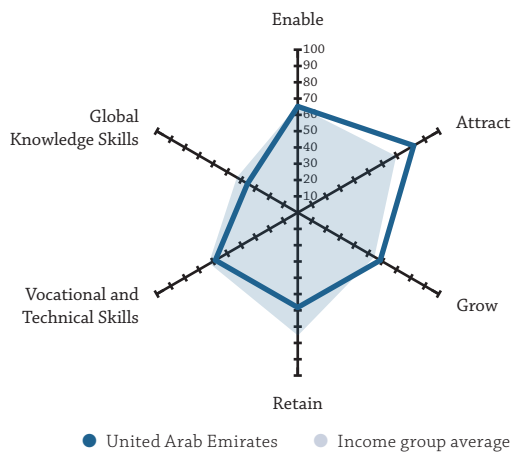
6 GLOBAL KNOWLEDGE SKILLS..... 26.27 51		
6.1 High-Level Skills.....	33.22	45
6.1.1 Workforce with tertiary education.....	65.62	5
6.1.2 Population with tertiary education.....	n/a	n/a
6.1.3 Professionals.....	40.85	39
6.1.4 Researchers.....	9.60	53
6.1.5 Senior officials and managers.....	47.70	26
6.1.6 Digital skills.....	2.34	80
6.2 Talent Impact.....	19.31	56
6.2.1 Innovation output.....	46.10	36
6.2.2 High-value exports.....	10.35	74
6.2.3 Software development.....	21.80	33
6.2.4 New business density.....	9.08	65
6.2.5 Scientific journal articles.....	9.23	59

UNITED ARAB EMIRATES

Key Indicators

Rank (out of 133).....	25
Income group	High income
Regional group	Northern Africa and Western Asia
Population (millions)	9.99

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....65.18	22	
1.1 Regulatory Landscape.....	72.75	22
1.1.1 Government effectiveness.....	74.93	21
1.1.2 Rule of law.....	69.97	33
1.1.3 Political stability.....	76.34	35
1.1.4 Regulatory quality.....	70.05	29
1.1.5 Corruption.....	72.46	22
1.2 Market Landscape.....	66.77	18
1.2.1 Extent of market dominance.....	80.95	8
1.2.2 Domestic credit to private sector.....	39.01	35
1.2.3 Cluster development.....	84.53	5
1.2.4 R&D expenditure.....	26.52	28
1.2.5 ICT infrastructure.....	85.14	26
1.2.6 Urbanisation.....	84.50	21
1.3 Business and Labour Landscape.....	56.03	29
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	72.56	16
Management Practice		
1.3.3 Professional management.....	76.66	20
1.3.4 Relationship of pay to productivity.....	87.45	5
Technology Adoption		
1.3.5 Enterprise software.....	24.87	52
1.3.6 Cloud computing.....	18.60	54
1.3.7 Firms with website.....	n/a	n/a
2 ATTRACT.....82.20	4	
2.1 External Openness.....	92.59	2
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	n/a	n/a
2.1.2 Financial globalisation.....	80.54	28
Attract People		
2.1.3 Migrant stock.....	100.00	1
2.1.4 International students.....	100.00	1
2.1.5 Brain gain.....	89.80	4
2.2 Internal Openness.....	71.81	22
Social Inclusion		
2.2.1 Tolerance of minorities.....	75.00	22
2.2.2 Tolerance of immigrants.....	100.00	1
2.2.3 Social mobility.....	78.28	16
Gender Equality		
2.2.4 Economic empowerment of women.....	75.22	68
2.2.5 Gender parity in high-skilled jobs.....	16.07	119
2.2.6 Leadership opportunities for women.....	86.29	8

GDP per capita (PPP US\$)	66,766.05
GDP (US\$ billions)	358.87
GTCI score.....	59.67
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....58.49	19	
3.1 Formal Education.....	29.70	52
Enrolment		
3.1.1 Vocational enrolment.....	2.01	110
3.1.2 Tertiary enrolment.....	35.42	59
Quality		
3.1.3 Tertiary education expenditure.....	33.05	20
3.1.4 Reading, maths, and science.....	40.56	46
3.1.5 University ranking.....	37.49	34
3.2 Lifelong Learning.....	66.48	14
3.2.1 Business masters education.....	49.16	20
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	83.80	10
3.2.4 Formal and non-formal studies.....	n/a	n/a
3.3 Access to Growth Opportunities.....	79.28	5
Empowerment		
3.3.1 Delegation of authority.....	73.57	15
3.3.2 Youth inclusion.....	n/a	n/a
Collaboration		
3.3.3 Use of virtual social networks.....	91.13	2
3.3.4 Use of virtual professional networks.....	73.13	4

4 RETAIN.....58.20	51	
4.1 Sustainability.....	60.18	37
4.1.1 Pension coverage.....	21.34	95
4.1.2 Social protection.....	71.65	23
4.1.3 Brain retention.....	90.94	3
4.1.4 Environmental performance.....	56.78	34
4.2 Lifestyle.....	56.22	71
4.2.1 Personal rights.....	28.42	119
4.2.2 Personal safety.....	56.54	60
4.2.3 Physician density.....	40.77	56
4.2.4 Sanitation.....	99.15	28

5 VOCATIONAL AND TECHNICAL SKILLS.....58.36	38	
5.1 Mid-Level Skills.....	40.09	63
5.1.1 Workforce with secondary education.....	22.69	106
5.1.2 Population with secondary education.....	26.82	72
5.1.3 Technicians and associate professionals.....	48.74	42
5.1.4 Labour productivity per employee.....	62.12	15
5.2 Employability.....	76.63	10
5.2.1 Ease of finding skilled employees.....	71.04	9
5.2.2 Relevance of education system to the economy.....	79.95	7
5.2.3 Skills matching.....	65.86	57
5.2.4 Highly educated unemployment.....	89.69	21

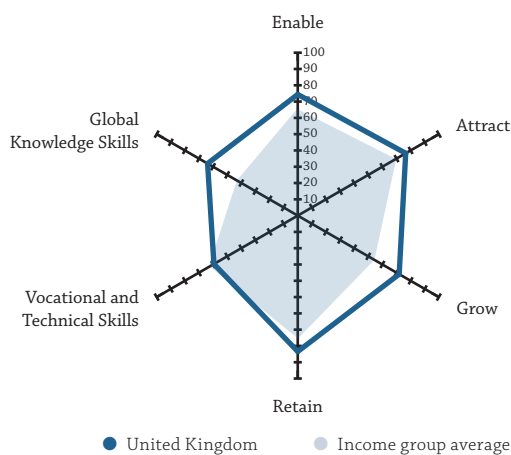
6 GLOBAL KNOWLEDGE SKILLS.....35.60	31	
6.1 High-Level Skills.....	55.27	11
6.1.1 Workforce with tertiary education.....	44.64	34
6.1.2 Population with tertiary education.....	69.59	3
6.1.3 Professionals.....	41.66	38
6.1.4 Researchers.....	27.94	33
6.1.5 Senior officials and managers.....	69.90	6
6.1.6 Digital skills.....	77.88	2
6.2 Talent Impact.....	15.94	62
6.2.1 Innovation output.....	39.72	46
6.2.2 High-value exports.....	9.11	78
6.2.3 Software development.....	5.42	56
6.2.4 New business density.....	12.49	53
6.2.5 Scientific journal articles.....	12.97	51

UNITED KINGDOM

Key Indicators

Rank (out of 133).....	10
Income group	High income
Regional group.....	Europe
Population (millions)	67.33

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....74.38	13	
1.1 Regulatory Landscape.....	79.90	17
1.1.1 Government effectiveness.....	76.20	18
1.1.2 Rule of law.....	84.96	17
1.1.3 Political stability.....	72.16	41
1.1.4 Regulatory quality.....	80.66	14
1.1.5 Corruption.....	85.51	11
1.2 Market Landscape.....	67.61	15
1.2.1 Extent of market dominance.....	64.14	31
1.2.2 Domestic credit to private sector.....	65.39	10
1.2.3 Cluster development.....	65.55	26
1.2.4 R&D expenditure.....	31.29	22
1.2.5 ICT infrastructure.....	98.40	4
1.2.6 Urbanisation.....	80.91	26
1.3 Business and Labour Landscape.....	75.64	7
Labour Market		
1.3.1 Labour rights.....	85.79	48
1.3.2 Labour-employer cooperation.....	70.19	19
Management Practice		
1.3.3 Professional management.....	86.54	11
1.3.4 Relationship of pay to productivity.....	68.22	28
Technology Adoption		
1.3.5 Enterprise software.....	68.15	9
1.3.6 Cloud computing.....	65.21	8
1.3.7 Firms with website.....	85.36	11
2 ATTRACT.....76.52	13	
2.1 External Openness.....	78.54	8
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	90.27	24
2.1.2 Financial globalisation.....	92.45	10
Attract People		
2.1.3 Migrant stock.....	62.33	33
2.1.4 International students.....	71.64	8
2.1.5 Brain gain.....	76.01	15
2.2 Internal Openness.....	74.51	19
Social Inclusion		
2.2.1 Tolerance of minorities.....	39.13	75
2.2.2 Tolerance of immigrants.....	81.54	24
2.2.3 Social mobility.....	74.15	19
Gender Equality		
2.2.4 Economic empowerment of women.....	96.46	13
2.2.5 Gender parity in high-skilled jobs.....	84.65	42
2.2.6 Leadership opportunities for women.....	71.10	30

GDP per capita (PPP US\$)	49,675.30
GDP (US\$ billions)	3,186.86
GTCI score.....	71.59
GTCI score (income group average)	59.85

	Score	Rank
3 GROW.....71.89	5	
3.1 Formal Education.....	60.55	5
Enrolment		
3.1.1 Vocational enrolment.....	47.62	18
3.1.2 Tertiary enrolment.....	43.63	42
Quality		
3.1.3 Tertiary education expenditure.....	42.98	11
3.1.4 Reading, maths, and science.....	69.14	11
3.1.5 University ranking.....	99.39	2
3.2 Lifelong Learning.....	79.87	5
3.2.1 Business masters education.....	97.88	3
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	71.20	32
3.2.4 Formal and non-formal studies.....	70.53	15
3.3 Access to Growth Opportunities.....	75.25	12
Empowerment		
3.3.1 Delegation of authority.....	77.63	11
3.3.2 Youth inclusion.....	84.91	25
Collaboration		
3.3.3 Use of virtual social networks.....	71.87	26
3.3.4 Use of virtual professional networks.....	66.60	9

4 RETAIN.....83.41	12	
4.1 Sustainability.....	86.76	7
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	62.68	36
4.1.3 Brain retention.....	84.71	7
4.1.4 Environmental performance.....	99.66	2
4.2 Lifestyle.....	80.06	28
4.2.1 Personal rights.....	95.49	22
4.2.2 Personal safety.....	78.52	24
4.2.3 Physician density.....	47.20	44
4.2.4 Sanitation.....	99.02	34
5 VOCATIONAL AND TECHNICAL SKILLS.....59.40	36	
5.1 Mid-Level Skills.....	52.43	41
5.1.1 Workforce with secondary education.....	55.37	52
5.1.2 Population with secondary education.....	45.76	50
5.1.3 Technicians and associate professionals.....	50.92	36
5.1.4 Labour productivity per employee.....	57.66	24
5.2 Employability.....	66.38	28
5.2.1 Ease of finding skilled employees.....	44.90	71
5.2.2 Relevance of education system to the economy.....	61.40	29
5.2.3 Skills matching.....	68.85	53
5.2.4 Highly educated unemployment.....	90.38	19

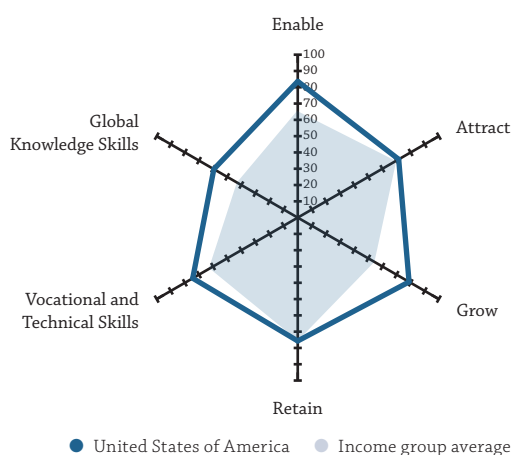
6 GLOBAL KNOWLEDGE SKILLS.....63.90	2	
6.1 High-Level Skills.....	57.13	9
6.1.1 Workforce with tertiary education.....	54.28	18
6.1.2 Population with tertiary education.....	63.38	7
6.1.3 Professionals.....	60.14	8
6.1.4 Researchers.....	53.70	21
6.1.5 Senior officials and managers.....	71.17	5
6.1.6 Digital skills.....	40.14	16
6.2 Talent Impact.....	70.67	2
6.2.1 Innovation output.....	84.22	6
6.2.2 High-value exports.....	41.34	17
6.2.3 Software development.....	69.26	10
6.2.4 New business density.....	100.00	1
6.2.5 Scientific journal articles.....	58.52	14

UNITED STATES OF AMERICA

Key Indicators

Rank (out of 133).....	4
Income group.....	High income
Regional group.....	Northern America
Population (millions).....	331.89

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....83.61	3	
1.1 Regulatory Landscape.....	71.76	24
1.1.1 Government effectiveness.....	74.77	22
1.1.2 Rule of law.....	81.63	20
1.1.3 Political stability.....	58.50	66
1.1.4 Regulatory quality.....	74.35	20
1.1.5 Corruption.....	69.57	23
1.2 Market Landscape.....	89.28	1
1.2.1 Extent of market dominance.....	93.16	2
1.2.2 Domestic credit to private sector.....	100.00	1
1.2.3 Cluster development.....	100.00	1
1.2.4 R&D expenditure.....	63.40	5
1.2.5 ICT infrastructure.....	99.49	2
1.2.6 Urbanisation.....	79.60	27
1.3 Business and Labour Landscape.....	89.78	1
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	78.97	9
Management Practice		
1.3.3 Professional management.....	95.99	3
1.3.4 Relationship of pay to productivity.....	100.00	1
Technology Adoption		
1.3.5 Enterprise software.....	90.56	2
1.3.6 Cloud computing.....	100.00	1
1.3.7 Firms with website.....	73.19	32
2 ATTRACT.....71.54	21	
2.1 External Openness.....	65.47	24
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	77.03	50
2.1.2 Financial globalisation.....	75.85	36
Attract People		
2.1.3 Migrant stock.....	66.22	26
2.1.4 International students.....	19.83	47
2.1.5 Brain gain.....	88.41	5
2.2 Internal Openness.....	77.61	15
Social Inclusion		
2.2.1 Tolerance of minorities.....	34.78	83
2.2.2 Tolerance of immigrants.....	90.77	11
2.2.3 Social mobility.....	87.18	8
Gender Equality		
2.2.4 Economic empowerment of women.....	87.61	33
2.2.5 Gender parity in high-skilled jobs.....	90.00	28
2.2.6 Leadership opportunities for women.....	75.33	19

GDP per capita (PPP US\$).....	69,287.54
GDP (US\$ billions).....	22,996.10
GTCI score.....	73.93
GTCI score (income group average).....	59.85

	Score	Rank
3 GROW.....78.89	1	
3.1 Formal Education.....	63.82	3
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	58.69	12
Quality		
3.1.3 Tertiary education expenditure.....	30.76	22
3.1.4 Reading, maths, and science.....	65.82	23
3.1.5 University ranking.....	100.00	1
3.2 Lifelong Learning.....	93.46	1
3.2.1 Business masters education.....	100.00	1
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	100.00	1
3.2.4 Formal and non-formal studies.....	80.39	8
3.3 Access to Growth Opportunities.....	79.37	4
Empowerment		
3.3.1 Delegation of authority.....	93.93	2
3.3.2 Youth inclusion.....	81.48	39
Collaboration		
3.3.3 Use of virtual social networks.....	68.86	41
3.3.4 Use of virtual professional networks.....	73.23	3

4 RETAIN.....75.70	23	
4.1 Sustainability.....	78.56	14
4.1.1 Pension coverage.....	100.00	1
4.1.2 Social protection.....	61.93	37
4.1.3 Brain retention.....	97.72	2
4.1.4 Environmental performance.....	54.58	36
4.2 Lifestyle.....	72.84	45
4.2.1 Personal rights.....	91.81	31
4.2.2 Personal safety.....	58.97	52
4.2.3 Physician density.....	40.91	55
4.2.4 Sanitation.....	99.65	18

5 VOCATIONAL AND TECHNICAL SKILLS.....74.41	1	
5.1 Mid-Level Skills.....	67.77	8
5.1.1 Workforce with secondary education.....	65.45	31
5.1.2 Population with secondary education.....	60.69	26
5.1.3 Technicians and associate professionals.....	64.98	19
5.1.4 Labour productivity per employee.....	79.95	4
5.2 Employability.....	81.04	5
5.2.1 Ease of finding skilled employees.....	81.78	2
5.2.2 Relevance of education system to the economy.....	88.91	4
5.2.3 Skills matching.....	69.85	51
5.2.4 Highly educated unemployment.....	83.63	43

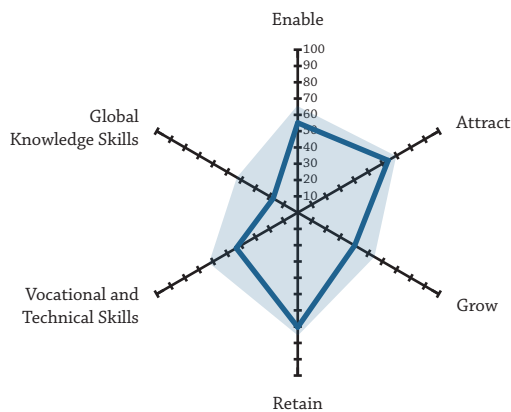
6 GLOBAL KNOWLEDGE SKILLS.....59.47	9	
6.1 High-Level Skills.....	58.21	7
6.1.1 Workforce with tertiary education.....	61.22	11
6.1.2 Population with tertiary education.....	64.54	6
6.1.3 Professionals.....	46.93	27
6.1.4 Researchers.....	55.28	19
6.1.5 Senior officials and managers.....	63.10	10
6.1.6 Digital skills.....	n/a	n/a
6.2 Talent Impact.....	60.74	11
6.2.1 Innovation output.....	84.93	3
6.2.2 High-value exports.....	34.99	25
6.2.3 Software development.....	71.54	8
6.2.4 New business density.....	n/a	n/a
6.2.5 Scientific journal articles.....	51.50	21

URUGUAY

Key Indicators

Rank (out of 133).....	44
Income group	High income
Regional group	Latin America and the Caribbean
Population (millions)	3.49

GTCI 2022 Country Profile by Pillar



● Uruguay

● Income group average

	Score	Rank
1 ENABLE.....55.11 35		
1.1 Regulatory Landscape.....69.64	28	
1.1.1 Government effectiveness.....61.44	39	
1.1.2 Rule of law.....63.81	36	
1.1.3 Political stability.....88.02	10	
1.1.4 Regulatory quality.....56.67	42	
1.1.5 Corruption.....78.26	17	
1.2 Market Landscape.....47.41	48	
1.2.1 Extent of market dominance.....45.62	57	
1.2.2 Domestic credit to private sector.....10.20	101	
1.2.3 Cluster development.....40.70	74	
1.2.4 R&D expenditure.....8.71	62	
1.2.5 ICT infrastructure.....84.62	28	
1.2.6 Urbanisation.....94.63	5	
1.3 Business and Labour Landscape.....48.28	51	
Labour Market		
1.3.1 Labour rights.....90.75	31	
1.3.2 Labour-employer cooperation.....32.29	94	
Management Practice		
1.3.3 Professional management.....53.23	65	
1.3.4 Relationship of pay to productivity.....48.41	82	
Technology Adoption		
1.3.5 Enterprise software.....21.94	61	
1.3.6 Cloud computing.....22.50	39	
1.3.7 Firms with website.....68.85	40	
2 ATTRACT.....64.07 29		
2.1 External Openness.....53.67	49	
Attract Business		
2.1.1 FDI regulatory restrictiveness.....87.84	28	
2.1.2 Financial globalisation.....62.42	63	
Attract People		
2.1.3 Migrant stock.....30.19	84	
2.1.4 International students.....n/a	n/a	
2.1.5 Brain gain.....34.26	98	
2.2 Internal Openness.....74.46	20	
Social Inclusion		
2.2.1 Tolerance of minorities.....79.35	13	
2.2.2 Tolerance of immigrants.....92.31	8	
2.2.3 Social mobility.....53.01	47	
Gender Equality		
2.2.4 Economic empowerment of women.....84.07	39	
2.2.5 Gender parity in high-skilled jobs.....90.04	27	
2.2.6 Leadership opportunities for women.....47.96	78	

GDP per capita (PPP US\$)	24,625.45
GDP (US\$ billions)	59.32
GTGI score.....	48.47
GTGI score (income group average)	59.85

	Score	Rank
3 GROW.....40.35 50		
3.1 Formal Education.....31.49	47	
Enrolment		
3.1.1 Vocational enrolment.....39.25	28	
3.1.2 Tertiary enrolment.....43.21	44	
Quality		
3.1.3 Tertiary education expenditure.....12.84	52	
3.1.4 Reading, maths, and science.....36.51	51	
3.1.5 University ranking.....25.63	47	
3.2 Lifelong Learning.....31.94	62	
3.2.1 Business masters education.....4.23	53	
3.2.2 Prevalence of training in firms.....63.78	17	
3.2.3 Employee development.....52.08	61	
3.2.4 Formal and non-formal studies.....7.68	53	
3.3 Access to Growth Opportunities.....57.63	37	
Empowerment		
3.3.1 Delegation of authority.....43.23	74	
3.3.2 Youth inclusion.....70.48	57	
Collaboration		
3.3.3 Use of virtual social networks.....77.11	13	
3.3.4 Use of virtual professional networks.....39.72	23	

4 RETAIN.....70.31 30		
4.1 Sustainability.....60.34	36	
4.1.1 Pension coverage.....100.00	1	
4.1.2 Social protection.....80.04	14	
4.1.3 Brain retention.....29.96	91	
4.1.4 Environmental performance.....31.36	85	
4.2 Lifestyle.....80.28	26	
4.2.1 Personal rights.....96.03	19	
4.2.2 Personal safety.....49.08	75	
4.2.3 Physician density.....78.15	8	
4.2.4 Sanitation.....97.86	42	

5 VOCATIONAL AND TECHNICAL SKILLS.....43.57 71		
5.1 Mid-Level Skills.....24.89	95	
5.1.1 Workforce with secondary education.....14.26	115	
5.1.2 Population with secondary education.....23.97	77	
5.1.3 Technicians and associate professionals.....31.70	59	
5.1.4 Labour productivity per employee.....29.62	54	
5.2 Employability.....62.25	49	
5.2.1 Ease of finding skilled employees.....62.76	22	
5.2.2 Relevance of education system to the economy.....42.63	64	
5.2.3 Skills matching.....57.38	72	
5.2.4 Highly educated unemployment.....86.22	32	

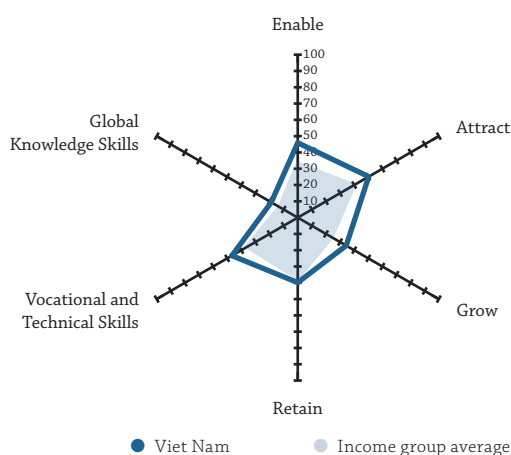
6 GLOBAL KNOWLEDGE SKILLS.....17.41 77		
6.1 High-Level Skills.....17.97	87	
6.1.1 Workforce with tertiary education.....17.47	87	
6.1.2 Population with tertiary education.....17.31	70	
6.1.3 Professionals.....31.28	52	
6.1.4 Researchers.....8.69	58	
6.1.5 Senior officials and managers.....15.11	86	
6.1.6 Digital skills.....n/a	n/a	
6.2 Talent Impact.....16.85	61	
6.2.1 Innovation output.....30.85	62	
6.2.2 High-value exports.....17.42	53	
6.2.3 Software development.....13.73	41	
6.2.4 New business density.....12.46	54	
6.2.5 Scientific journal articles.....9.80	56	

VIET NAM

Key Indicators

Rank (out of 133).....	74
Income group.....	Lower-middle income
Regional group.....	Eastern, Southeastern Asia and Oceania
Population (millions).....	98.17

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE..... 45.94 57		
1.1 Regulatory Landscape.....	42.61	68
1.1.1 Government effectiveness.....	47.00	57
1.1.2 Rule of law.....	42.81	70
1.1.3 Political stability.....	57.08	69
1.1.4 Regulatory quality.....	37.18	83
1.1.5 Corruption.....	28.99	70
1.2 Market Landscape.....	50.40	41
1.2.1 Extent of market dominance.....	68.66	22
1.2.2 Domestic credit to private sector.....	52.45	19
1.2.3 Cluster development.....	75.89	13
1.2.4 R&D expenditure.....	9.61	58
1.2.5 ICT infrastructure.....	69.47	49
1.2.6 Urbanisation.....	26.32	116
1.3 Business and Labour Landscape.....	44.80	66
Labour Market		
1.3.1 Labour rights.....	n/a	n/a
1.3.2 Labour-employer cooperation.....	66.19	24
Management Practice		
1.3.3 Professional management.....	60.62	47
1.3.4 Relationship of pay to productivity.....	78.47	10
Technology Adoption		
1.3.5 Enterprise software.....	7.69	121
1.3.6 Cloud computing.....	10.67	92
1.3.7 Firms with website.....	45.17	70
2 ATTRACT..... 50.30 67		
2.1 External Openness.....	37.32	88
Attract Business		
2.1.1 FDI regulatory restrictiveness.....	65.95	56
2.1.2 Financial globalisation.....	58.49	72
Attract People		
2.1.3 Migrant stock.....	0.52	132
2.1.4 International students.....	1.31	104
2.1.5 Brain gain.....	60.32	32
2.2 Internal Openness.....	63.29	37
Social Inclusion		
2.2.1 Tolerance of minorities.....	48.91	58
2.2.2 Tolerance of immigrants.....	53.85	78
2.2.3 Social mobility.....	56.67	44
Gender Equality		
2.2.4 Economic empowerment of women.....	78.76	56
2.2.5 Gender parity in high-skilled jobs.....	82.92	47
2.2.6 Leadership opportunities for women.....	58.62	53

GDP per capita (PPP US\$).....	11,553.07
GDP (US\$ billions).....	362.64
GTCI score.....	39.31
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW..... 34.34 63		
3.1 Formal Education.....	25.97	59
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	18.33	85
Quality		
3.1.3 Tertiary education expenditure.....	4.63	91
3.1.4 Reading, maths, and science.....	68.54	15
3.1.5 University ranking.....	12.36	68
3.2 Lifelong Learning.....	23.25	95
3.2.1 Business masters education.....	0.00	54
3.2.2 Prevalence of training in firms.....	20.28	72
3.2.3 Employee development.....	72.71	30
3.2.4 Formal and non-formal studies.....	0.00	84
3.3 Access to Growth Opportunities.....	53.81	41
Empowerment		
3.3.1 Delegation of authority.....	68.09	21
3.3.2 Youth inclusion.....	75.20	49
Collaboration		
3.3.3 Use of virtual social networks.....	66.37	53
3.3.4 Use of virtual professional networks.....	5.57	103

4 RETAIN..... 39.88 95		
4.1 Sustainability.....	31.33	96
4.1.1 Pension coverage.....	39.94	84
4.1.2 Social protection.....	45.93	52
4.1.3 Brain retention.....	37.41	71
4.1.4 Environmental performance.....	2.03	132
4.2 Lifestyle.....	48.43	87
4.2.1 Personal rights.....	31.55	114
4.2.2 Personal safety.....	61.54	49
4.2.3 Physician density.....	12.43	93
4.2.4 Sanitation.....	88.19	78

5 VOCATIONAL AND TECHNICAL SKILLS..... 46.67 65		
5.1 Mid-Level Skills.....	20.78	100
5.1.1 Workforce with secondary education.....	35.58	80
5.1.2 Population with secondary education.....	24.85	75
5.1.3 Technicians and associate professionals.....	11.86	107
5.1.4 Labour productivity per employee.....	10.84	89
5.2 Employability.....	72.56	17
5.2.1 Ease of finding skilled employees.....	60.60	28
5.2.2 Relevance of education system to the economy.....	63.76	26
5.2.3 Skills matching.....	74.97	43
5.2.4 Highly educated unemployment.....	90.91	15

6 GLOBAL KNOWLEDGE SKILLS..... 18.76 74		
6.1 High-Level Skills.....	10.47	104
6.1.1 Workforce with tertiary education.....	17.09	88
6.1.2 Population with tertiary education.....	17.06	71
6.1.3 Professionals.....	15.28	89
6.1.4 Researchers.....	8.57	59
6.1.5 Senior officials and managers.....	4.84	113
6.1.6 Digital skills.....	0.00	82
6.2 Talent Impact.....	27.04	42
6.2.1 Innovation output.....	45.74	37
6.2.2 High-value exports.....	75.22	5
6.2.3 Software development.....	3.50	65
6.2.4 New business density.....	8.98	66
6.2.5 Scientific journal articles.....	1.75	90

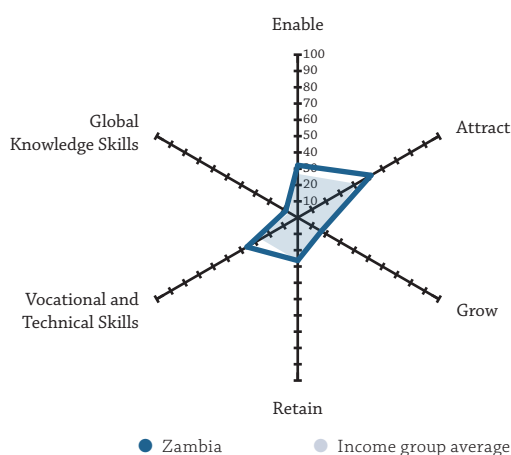
ZAMBIA

Key Indicators

Rank (out of 133).....	102
Income group	Low income
Regional group	Sub-Saharan Africa
Population (millions)	18.92

GDP per capita (PPP US\$)	3,623.85
GDP (US\$ billions)	21.20
GTCI score	28.60
GTCI score (income group average)	22.09

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE	32.15	106
1.1 Regulatory Landscape	30.72	100
1.1.1 Government effectiveness	22.96	113
1.1.2 Rule of law	30.19	104
1.1.3 Political stability	55.57	72
1.1.4 Regulatory quality	24.58	106
1.1.5 Corruption	20.29	96
1.2 Market Landscape	25.29	114
1.2.1 Extent of market dominance	21.49	115
1.2.2 Domestic credit to private sector	4.16	117
1.2.3 Cluster development	38.04	81
1.2.4 R&D expenditure	n/a	n/a
1.2.5 ICT infrastructure	27.72	108
1.2.6 Urbanisation	35.06	105
1.3 Business and Labour Landscape	40.44	78
Labour Market		
1.3.1 Labour rights	70.38	75
1.3.2 Labour-employer cooperation	33.30	93
Management Practice		
1.3.3 Professional management	52.57	69
1.3.4 Relationship of pay to productivity	45.81	94
Technology Adoption		
1.3.5 Enterprise software	17.54	86
1.3.6 Cloud computing	6.29	123
1.3.7 Firms with website	57.19	55
2 ATTRACT	51.94	62
2.1 External Openness	45.04	69
Attract Business		
2.1.1 FDI regulatory restrictiveness	n/a	n/a
2.1.2 Financial globalisation	55.15	82
Attract People		
2.1.3 Migrant stock	23.85	98
2.1.4 International students	n/a	n/a
2.1.5 Brain gain	56.12	40
2.2 Internal Openness	58.83	55
Social Inclusion		
2.2.1 Tolerance of minorities	47.83	60
2.2.2 Tolerance of immigrants	70.77	43
2.2.3 Social mobility	28.73	112
Gender Equality		
2.2.4 Economic empowerment of women	73.45	73
2.2.5 Gender parity in high-skilled jobs	69.40	76
2.2.6 Leadership opportunities for women	62.82	43

	Score	Rank
3 GROW	16.68	122
3.1 Formal Education	0.81	133
Enrolment		
3.1.1 Vocational enrolment	n/a	n/a
3.1.2 Tertiary enrolment	1.63	125
Quality		
3.1.3 Tertiary education expenditure	n/a	n/a
3.1.4 Reading, maths, and science	n/a	n/a
3.1.5 University ranking	0.00	76
3.2 Lifelong Learning	20.22	108
3.2.1 Business masters education	0.00	54
3.2.2 Prevalence of training in firms	40.42	42
3.2.3 Employee development	36.19	112
3.2.4 Formal and non-formal studies	4.29	60
3.3 Access to Growth Opportunities	29.00	113
Empowerment		
3.3.1 Delegation of authority	53.26	46
3.3.2 Youth inclusion	47.23	99
Collaboration		
3.3.3 Use of virtual social networks	10.47	118
3.3.4 Use of virtual professional networks	5.03	109

4 RETAIN	26.37	119
4.1 Sustainability	24.74	111
4.1.1 Pension coverage	6.30	116
4.1.2 Social protection	25.66	101
4.1.3 Brain retention	33.96	79
4.1.4 Environmental performance	33.05	80
4.2 Lifestyle	28.00	122
4.2.1 Personal rights	49.57	100
4.2.2 Personal safety	36.14	95
4.2.3 Physician density	1.07	123
4.2.4 Sanitation	25.24	122
5 VOCATIONAL AND TECHNICAL SKILLS	35.99	99
5.1 Mid-Level Skills	13.98	113
5.1.1 Workforce with secondary education	28.69	94
5.1.2 Population with secondary education	n/a	n/a
5.1.3 Technicians and associate professionals	8.34	115
5.1.4 Labour productivity per employee	4.92	101
5.2 Employability	58.00	64
5.2.1 Ease of finding skilled employees	58.53	35
5.2.2 Relevance of education system to the economy	43.56	61
5.2.3 Skills matching	64.05	60
5.2.4 Highly educated unemployment	65.87	84

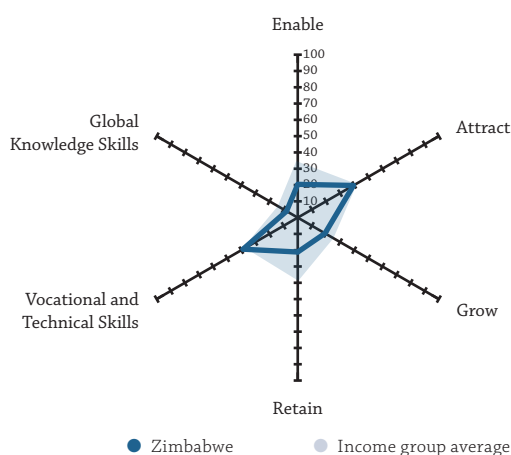
6 GLOBAL KNOWLEDGE SKILLS	8.45	104
6.1 High-Level Skills	13.84	99
6.1.1 Workforce with tertiary education	11.60	97
6.1.2 Population with tertiary education	n/a	n/a
6.1.3 Professionals	10.79	110
6.1.4 Researchers	n/a	n/a
6.1.5 Senior officials and managers	19.14	73
6.1.6 Digital skills	n/a	n/a
6.2 Talent Impact	3.06	121
6.2.1 Innovation output	6.56	122
6.2.2 High-value exports	2.24	106
6.2.3 Software development	0.31	115
6.2.4 New business density	5.73	80
6.2.5 Scientific journal articles	0.45	114

ZIMBABWE

Key Indicators

Rank (out of 133).....	118
Income group.....	Lower-middle income
Regional group.....	Sub-Saharan Africa
Population (millions).....	15.09

GTCI 2022 Country Profile by Pillar



	Score	Rank
1 ENABLE.....20.42 128		
1.1 Regulatory Landscape.....12.53	130	
1.1.1 Government effectiveness.....10.98	130	
1.1.2 Rule of law.....13.33	130	
1.1.3 Political stability.....29.37	118	
1.1.4 Regulatory quality.....3.17	131	
1.1.5 Corruption.....5.80	126	
1.2 Market Landscape.....16.38	121	
1.2.1 Extent of market dominance.....22.34	113	
1.2.2 Domestic credit to private sector.....0.00	130	
1.2.3 Cluster development.....15.09	127	
1.2.4 R&D expenditure.....n/a	n/a	
1.2.5 ICT infrastructure.....22.45	113	
1.2.6 Urbanisation.....22.05	120	
1.3 Business and Labour Landscape.....32.35	114	
Labour Market		
1.3.1 Labour rights.....26.94	100	
1.3.2 Labour-employer cooperation.....38.00	81	
Management Practice		
1.3.3 Professional management.....69.16	32	
1.3.4 Relationship of pay to productivity.....41.34	112	
Technology Adoption		
1.3.5 Enterprise software.....7.09	122	
1.3.6 Cloud computing.....10.18	96	
1.3.7 Firms with website.....33.73	89	
2 ATTRACT.....39.47 105		
2.1 External Openness.....24.43	119	
Attract Business		
2.1.1 FDI regulatory restrictiveness.....n/a	n/a	
2.1.2 Financial globalisation.....40.93	101	
Attract People		
2.1.3 Migrant stock.....41.78	64	
2.1.4 International students.....1.69	99	
2.1.5 Brain gain.....13.32	125	
2.2 Internal Openness.....54.50	75	
Social Inclusion		
2.2.1 Tolerance of minorities.....39.13	75	
2.2.2 Tolerance of immigrants.....47.69	87	
2.2.3 Social mobility.....18.51	124	
Gender Equality		
2.2.4 Economic empowerment of women.....81.42	50	
2.2.5 Gender parity in high-skilled jobs.....98.91	5	
2.2.6 Leadership opportunities for women.....41.36	94	

GDP per capita (PPP US\$).....	3,840.30
GDP (US\$ billions).....	26.22
GTCI score.....	24.50
GTCI score (income group average).....	30.02

	Score	Rank
3 GROW.....19.32 114		
3.1 Formal Education.....6.48	112	
Enrolment		
3.1.1 Vocational enrolment.....n/a	n/a	
3.1.2 Tertiary enrolment.....4.87	112	
Quality		
3.1.3 Tertiary education expenditure.....14.57	44	
3.1.4 Reading, maths, and science.....n/a	n/a	
3.1.5 University ranking.....0.00	76	
3.2 Lifelong Learning.....23.39	94	
3.2.1 Business masters education.....0.00	54	
3.2.2 Prevalence of training in firms.....26.15	64	
3.2.3 Employee development.....44.01	91	
3.2.4 Formal and non-formal studies.....n/a	n/a	
3.3 Access to Growth Opportunities.....28.09	117	
Empowerment		
3.3.1 Delegation of authority.....51.40	51	
3.3.2 Youth inclusion.....46.37	100	
Collaboration		
3.3.3 Use of virtual social networks.....6.12	121	
3.3.4 Use of virtual professional networks.....8.46	96	

4 RETAIN.....21.12 128		
4.1 Sustainability.....22.25	120	
4.1.1 Pension coverage.....20.73	96	
4.1.2 Social protection.....6.60	128	
4.1.3 Brain retention.....15.40	121	
4.1.4 Environmental performance.....46.27	54	
4.2 Lifestyle.....19.99	129	
4.2.1 Personal rights.....48.71	102	
4.2.2 Personal safety.....0.00	132	
4.2.3 Physician density.....2.38	112	
4.2.4 Sanitation.....28.85	119	

5 VOCATIONAL AND TECHNICAL SKILLS.....38.76 90		
5.1 Mid-Level Skills.....17.81	107	
5.1.1 Workforce with secondary education.....61.76	38	
5.1.2 Population with secondary education.....2.02	97	
5.1.3 Technicians and associate professionals.....5.61	124	
5.1.4 Labour productivity per employee.....1.84	108	
5.2 Employability.....59.71	55	
5.2.1 Ease of finding skilled employees.....48.43	62	
5.2.2 Relevance of education system to the economy.....48.64	54	
5.2.3 Skills matching.....69.21	52	
5.2.4 Highly educated unemployment.....72.56	74	

6 GLOBAL KNOWLEDGE SKILLS.....7.92 106		
6.1 High-Level Skills.....9.20	110	
6.1.1 Workforce with tertiary education.....23.16	77	
6.1.2 Population with tertiary education.....11.43	80	
6.1.3 Professionals.....10.93	109	
6.1.4 Researchers.....1.02	88	
6.1.5 Senior officials and managers.....6.15	110	
6.1.6 Digital skills.....2.52	79	
6.2 Talent Impact.....6.64	103	
6.2.1 Innovation output.....14.36	102	
6.2.2 High-value exports.....4.08	96	
6.2.3 Software development.....0.34	112	
6.2.4 New business density.....13.49	51	
6.2.5 Scientific journal articles.....0.95	98	

Data Tables

Index of Data Tables

1	ENABLE.....	229		
1.1	Regulatory Landscape			
1.1.1	Government effectiveness.....	230		
1.1.2	Rule of law.....	231		
1.1.3	Political stability.....	232		
1.1.4	Regulatory quality.....	233		
1.1.5	Corruption.....	234		
1.2	Market Landscape			
1.2.1	Extent of market dominance.....	235		
1.2.2	Domestic credit to private sector.....	236		
1.2.3	Cluster development.....	237		
1.2.4	R&D expenditure.....	238		
1.2.5	ICT infrastructure.....	239		
1.2.6	Urbanisation.....	240		
1.3	Business and Labour Landscape			
1.3.1	Labour rights.....	241		
1.3.2	Labour-employer cooperation.....	242		
1.3.3	Professional management.....	243		
1.3.4	Relationship of pay to productivity.....	244		
1.3.5	Enterprise software.....	245		
1.3.6	Cloud computing.....	246		
1.3.7	Firms with website.....	247		
2	ATTRACT.....	249		
2.1	External Openness			
2.1.1	FDI regulatory restrictiveness.....	250		
2.1.2	Financial globalisation.....	251		
2.1.3	Migrant stock.....	252		
2.1.4	International students.....	253		
2.1.5	Brain gain.....	254		
2.2	Internal Openness			
2.2.1	Tolerance of minorities.....	255		
2.2.2	Tolerance of immigrants.....	256		
2.2.3	Social mobility.....	257		
2.2.4	Economic empowerment of women.....	258		
2.2.5	Gender parity in high-skilled jobs.....	259		
2.2.6	Leadership opportunities for women.....	260		
3	GROW.....	261		
3.1	Formal Education			
3.1.1	Vocational enrolment.....	262		
3.1.2	Tertiary enrolment.....	263		
3.1.3	Tertiary education expenditure.....	264		
3.1.4	Reading, maths, and science.....	265		
3.1.5	University ranking.....	266		
3.2	Lifelong Learning			
3.2.1	Business masters education.....	267		
3.2.2	Prevalence of training in firms.....	268		
3.2.3	Employee development.....	269		
3.2.4	Formal and non-formal studies.....	270		
3.3	Access to Growth Opportunities			
3.3.1	Delegation of authority.....	271		
3.3.2	Youth inclusion.....	272		
3.3.3	Use of virtual social networks.....	273		
3.3.4	Use of virtual professional networks.....	274		
4	RETAIN.....	275		
4.1	Sustainability			
4.1.1	Pension coverage.....	276		
4.1.2	Social protection.....	277		
4.1.3	Brain retention.....	278		
4.1.4	Environmental performance.....	279		
4.2	Lifestyle			
4.2.1	Personal rights.....	280		
4.2.2	Personal safety.....	281		
4.2.3	Physician density.....	282		
4.2.4	Sanitation.....	283		
5	VOCATIONAL AND TECHNICAL SKILLS.....	285		
5.1	Mid-Level Skills			
5.1.1	Workforce with secondary education.....	286		
5.1.2	Population with secondary education.....	287		
5.1.3	Technicians and associate professionals.....	288		
5.1.4	Labour productivity per employee.....	289		
5.2	Employability			
5.2.1	Ease of finding skilled employees.....	290		
5.2.2	Relevance of education system to the economy.....	291		
5.2.3	Skills matching.....	292		
5.2.4	Highly educated unemployment.....	293		
6	GLOBAL KNOWLEDGE SKILLS.....	295		
6.1	High-Level Skills			
6.1.1	Workforce with tertiary education.....	296		
6.1.2	Population with tertiary education.....	297		
6.1.3	Professionals.....	298		
6.1.4	Researchers.....	299		
6.1.5	Senior officials and managers.....	300		
6.1.6	Digital skills.....	301		
6.2	Talent Impact			
6.2.1	Innovation output.....	302		
6.2.2	High-value exports.....	303		
6.2.3	Software development.....	304		
6.2.4	New business density.....	305		
6.2.5	Scientific journal articles.....	306		

Pillar 1

Enable

1.1.1 Government effectiveness

Government effectiveness indicator | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Singapore.....	2.34	100.00	68	Russian Federation.....	-0.03	42.85
2	Switzerland.....	2.02	92.17	69	Serbia.....	-0.03	42.83
3	Finland.....	1.95	90.41	70	Senegal.....	-0.01	42.29
4	Norway.....	1.94	90.11	71	Montenegro.....	-0.02	41.65
5	Denmark.....	1.89	88.97	72	Morocco.....	-0.03	41.28
6	Netherlands.....	1.85	88.04	73	Türkiye.....	-0.04	40.93
7	Luxembourg.....	1.84	87.76	74	Sri Lanka.....	-0.07	40.28
8	Sweden.....	1.72	84.70	75	Bulgaria.....	-0.07	40.23
9	Austria.....	1.66	83.11	76	Armenia.....	-0.12	38.94
10	Canada.....	1.64	82.85	77	Albania.....	-0.14	38.65
11	Australia.....	1.62	82.22	78	Ghana.....	-0.15	38.23
12	Japan.....	1.60	81.65	79	Mexico.....	-0.16	38.17
13	New Zealand.....	1.59	81.48	80	Kuwait.....	-0.16	38.10
14	Iceland.....	1.52	79.85	81	Azerbaijan.....	-0.17	37.80
15	Ireland.....	1.48	78.77	82	Tunisia.....	-0.20	36.96
16	Brunei Darussalam.....	1.44	77.73	83	Argentina.....	-0.22	36.64
17	Korea, Rep.....	1.42	77.17	84	Romania.....	-0.22	36.55
18	United Kingdom.....	1.38	76.20	85	Peru.....	-0.24	36.13
19	Germany.....	1.36	75.81	86	Benin.....	-0.26	35.47
20	Estonia.....	1.34	75.37	87	Dominican Republic.....	-0.33	33.81
21	United Arab Emirates.....	1.33	74.93	88	Mongolia.....	-0.34	33.49
22	United States of America.....	1.32	74.77	89	Kenya.....	-0.35	33.23
23	France.....	1.25	73.00	90	Ukraine.....	-0.36	33.19
24	Slovenia.....	1.17	70.98	91	El Salvador.....	-0.36	33.17
25	Belgium.....	1.12	69.94	92	Cambodia.....	-0.42	31.61
26	Israel.....	1.10	69.24	93	Ecuador.....	-0.44	31.13
27	Lithuania.....	1.06	68.31	94	Brazil.....	-0.45	30.93
28	Malaysia.....	1.04	67.88	95	Moldova, Rep.....	-0.46	30.71
29	Malta.....	1.04	67.83	96	Paraguay.....	-0.47	30.46
30	Portugal.....	1.02	67.43	97	Côte d'Ivoire.....	-0.48	30.09
31	Chile.....	0.99	66.57	98	Algeria.....	-0.53	28.97
32	Czech Republic.....	0.96	65.78	99	Kyrgyzstan.....	-0.54	28.61
33	Qatar.....	0.91	64.57	100	Egypt.....	-0.55	28.49
34	Spain.....	0.89	64.24	101	Pakistan.....	-0.55	28.47
35	Cyprus.....	0.88	63.95	102	Ethiopia.....	-0.55	28.32
36	Latvia.....	0.88	63.93	103	Bolivia, Plurinational St.....	-0.56	28.07
37	Mauritius.....	0.87	63.53	104	Uganda.....	-0.58	27.70
38	Georgia.....	0.79	61.57	105	Honduras.....	-0.60	27.23
39	Uruguay.....	0.78	61.44	106	Burkina Faso.....	-0.67	25.40
40	China.....	0.65	58.11	107	Gambia.....	-0.67	25.34
41	Hungary.....	0.58	56.45	108	Guatemala.....	-0.69	24.96
42	Slovakia.....	0.54	55.53	109	Nicaragua.....	-0.71	24.30
43	Greece.....	0.44	53.06	110	Mozambique.....	-0.72	24.04
44	Croatia.....	0.44	52.89	111	Belarus.....	-0.73	23.92
45	Bahrain.....	0.43	52.67	112	Lao PDR.....	-0.77	23.01
46	Jamaica.....	0.41	52.31	113	Zambia.....	-0.77	22.96
47	Italy.....	0.40	51.96	114	Eswatini.....	-0.77	22.95
48	India.....	0.39	51.62	115	Mauritania.....	-0.77	22.85
49	Poland.....	0.38	51.37	116	Tanzania, United Rep.....	-0.77	22.84
50	Indonesia.....	0.37	51.19	117	Bangladesh.....	-0.79	22.46
51	Costa Rica.....	0.36	51.02	118	Malawi.....	-0.79	22.30
52	Rwanda.....	0.34	50.52	119	Cameroon.....	-0.88	20.10
53	Thailand.....	0.30	49.49	120	Guinea.....	-0.89	19.82
54	South Africa.....	0.30	49.46	121	Lesotho.....	-0.91	19.37
55	Botswana.....	0.26	48.40	122	Nepal.....	-0.94	18.58
56	Cabo Verde.....	0.25	48.16	123	Bosnia and Herzegovina.....	-0.98	17.81
57	Viet Nam.....	0.20	47.00	124	Iran, Islamic Rep.....	-0.99	17.46
58	Trinidad and Tobago.....	0.18	46.49	125	Madagascar.....	-1.00	17.15
59	Kazakhstan.....	0.16	45.88	126	Nigeria.....	-1.03	16.47
60	Saudi Arabia.....	0.15	45.65	127	Mali.....	-1.15	13.36
61	Oman.....	0.14	45.55	128	Lebanon.....	-1.17	12.98
62	North Macedonia.....	0.14	45.46	129	Angola.....	-1.18	12.68
63	Jordan.....	0.11	44.87	130	Zimbabwe.....	-1.25	10.98
64	Panama.....	0.07	43.80	131	Burundi.....	-1.26	10.76
65	Philippines.....	0.06	43.54	132	Chad.....	-1.46	5.78
66	Namibia.....	0.05	43.26	133	Congo, Dem. Rep.....	-1.69	0.00
67	Colombia.....	0.04	43.02				

SOURCE: World Bank, Worldwide Governance Indicators, 2021 Update (www.govindicators.org)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.1.2 Rule of law

Rule of law indicator | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Finland.....	2.08	100.00	68	South Africa.....	-0.12	43.29
2	Norway.....	1.98	97.54	69	Trinidad and Tobago.....	-0.13	43.03
3	New Zealand.....	1.88	94.95	70	Viet Nam.....	-0.13	42.81
4	Singapore.....	1.88	94.87	71	Brazil.....	-0.18	41.73
5	Denmark.....	1.86	94.31	72	Serbia.....	-0.18	41.50
6	Switzerland.....	1.83	93.52	73	Panama.....	-0.21	40.90
7	Austria.....	1.81	93.06	74	Jamaica.....	-0.24	40.14
8	Sweden.....	1.81	92.96	75	Mongolia.....	-0.26	39.46
9	Iceland.....	1.80	92.77	76	Dominican Republic.....	-0.26	39.45
10	Luxembourg.....	1.79	92.65	77	Malawi.....	-0.27	39.37
11	Netherlands.....	1.76	91.75	78	Senegal.....	-0.28	39.15
12	Canada.....	1.66	89.05	79	Bosnia and Herzegovina.....	-0.31	38.36
13	Australia.....	1.65	88.95	80	Uganda.....	-0.33	37.77
14	Germany.....	1.56	86.54	81	Indonesia.....	-0.34	37.52
15	Japan.....	1.53	85.69	82	Peru.....	-0.34	37.41
16	Ireland.....	1.50	85.01	83	Albania.....	-0.36	37.01
17	United Kingdom.....	1.50	84.96	84	Türkiye.....	-0.36	37.01
18	Estonia.....	1.38	82.00	85	Egypt.....	-0.36	36.98
19	Belgium.....	1.37	81.65	86	Gambia.....	-0.37	36.82
20	United States of America.....	1.37	81.63	87	Kazakhstan.....	-0.40	36.04
21	France.....	1.33	80.58	88	Ethiopia.....	-0.40	35.99
22	Portugal.....	1.18	76.86	89	Moldova, Rep.....	-0.41	35.66
23	Korea, Rep.....	1.18	76.85	90	Paraguay.....	-0.42	35.55
24	Chile.....	1.07	73.87	91	Burkina Faso.....	-0.42	35.47
25	Slovenia.....	1.07	73.84	92	Lesotho.....	-0.46	34.47
26	Czech Republic.....	1.06	73.67	93	Argentina.....	-0.47	34.14
27	Qatar.....	1.00	72.14	94	Nepal.....	-0.49	33.59
28	Israel.....	1.00	72.05	95	Colombia.....	-0.49	33.58
29	Lithuania.....	0.99	71.96	96	Eswatini.....	-0.53	32.56
30	Latvia.....	0.96	71.00	97	Ecuador.....	-0.55	32.11
31	Brunei Darussalam.....	0.93	70.34	98	Philippines.....	-0.55	32.01
32	Mauritius.....	0.92	70.12	99	Kenya.....	-0.56	31.86
33	United Arab Emirates.....	0.92	69.97	100	Bangladesh.....	-0.57	31.46
34	Malta.....	0.92	69.95	101	Mauritania.....	-0.59	31.11
35	Spain.....	0.90	69.58	102	Côte d'Ivoire.....	-0.60	30.78
36	Uruguay.....	0.68	63.81	103	Tanzania, United Rep.....	-0.60	30.69
37	Slovakia.....	0.68	63.81	104	Zambia.....	-0.62	30.19
38	Malaysia.....	0.66	63.30	105	Ukraine.....	-0.67	28.96
39	Oman.....	0.62	62.31	106	Mexico.....	-0.67	28.96
40	Cyprus.....	0.58	61.29	107	Azerbaijan.....	-0.69	28.42
41	Costa Rica.....	0.57	61.00	108	Pakistan.....	-0.69	28.40
42	Poland.....	0.54	60.23	109	Benin.....	-0.73	27.46
43	Hungary.....	0.51	59.53	110	Russian Federation.....	-0.76	26.63
44	Bahrain.....	0.49	58.97	111	El Salvador.....	-0.76	26.61
45	Cabo Verde.....	0.49	58.88	112	Algeria.....	-0.78	26.11
46	Botswana.....	0.44	57.66	113	Nigeria.....	-0.81	25.28
47	Romania.....	0.37	55.81	114	Lao PDR.....	-0.85	24.32
48	Kuwait.....	0.33	54.85	115	Iran, Islamic Rep.....	-0.87	23.87
49	Greece.....	0.32	54.55	116	Madagascar.....	-0.88	23.46
50	Namibia.....	0.30	53.98	117	Lebanon.....	-0.90	22.90
51	Croatia.....	0.29	53.88	118	Mali.....	-0.92	22.41
52	Georgia.....	0.29	53.66	119	Kyrgyzstan.....	-0.93	22.33
53	Italy.....	0.24	52.50	120	Cambodia.....	-0.95	21.83
54	Saudi Arabia.....	0.24	52.49	121	Honduras.....	-0.96	21.51
55	Jordan.....	0.21	51.77	122	Angola.....	-0.96	21.38
56	Tunisia.....	0.14	49.83	123	Belarus.....	-1.00	20.54
57	Thailand.....	0.12	49.41	124	Mozambique.....	-1.02	19.86
58	Rwanda.....	0.11	49.05	125	Guatemala.....	-1.05	19.06
59	Montenegro.....	0.06	47.80	126	Cameroon.....	-1.15	16.65
60	India.....	-0.02	45.82	127	Bolivia, Plurinational St.....	-1.15	16.51
61	Ghana.....	-0.04	45.27	128	Nicaragua.....	-1.22	14.80
62	Sri Lanka.....	-0.05	45.11	129	Guinea.....	-1.26	13.62
63	China.....	-0.06	44.73	130	Zimbabwe.....	-1.27	13.33
64	North Macedonia.....	-0.06	44.60	131	Chad.....	-1.31	12.54
65	Armenia.....	-0.08	44.12	132	Burundi.....	-1.32	12.25
66	Bulgaria.....	-0.09	44.02	133	Congo, Dem. Rep.....	-1.79	0.00
67	Morocco.....	-0.09	43.99				

SOURCE: World Bank, Worldwide Governance Indicators, 2021 Update (www.govindicators.org)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.1.3 Political stability

Political stability and absence of violence indicator | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	New Zealand	1.49	100.00	68	Sri Lanka	-0.05	57.82
2	Singapore	1.47	99.42	69	Viet Nam	-0.07	57.08
3	Iceland	1.39	97.47	70	Serbia	-0.09	56.55
4	Norway	1.25	93.46	71	Eswatini	-0.12	55.83
5	Luxembourg	1.23	93.04	72	Zambia	-0.13	55.57
6	Switzerland	1.19	91.91	73	Nepal	-0.20	53.67
7	Brunei Darussalam	1.12	90.03	74	Cambodia	-0.24	52.61
8	Canada	1.11	89.63	75	South Africa	-0.24	52.58
9	Botswana	1.09	89.05	76	Malawi	-0.24	52.57
10	Uruguay	1.05	88.02	77	Kazakhstan	-0.26	51.94
11	Japan	1.04	87.69	78	Peru	-0.29	51.21
12	Portugal	1.03	87.35	79	China	-0.29	51.09
13	Sweden	1.02	87.25	80	Jordan	-0.32	50.24
14	Ireland	0.98	85.94	81	Morocco	-0.33	50.11
15	Malta	0.95	85.28	82	Lesotho	-0.33	49.90
16	Finland	0.94	85.10	83	Ecuador	-0.36	49.07
17	Denmark	0.94	85.06	84	Tanzania, United Rep.	-0.41	47.83
18	Czech Republic	0.92	84.55	85	Moldova, Rep.	-0.42	47.62
19	Mauritius	0.89	83.58	86	Brazil	-0.42	47.50
20	Cabo Verde	0.88	83.34	87	Kyrgyzstan	-0.43	47.33
21	Lithuania	0.87	82.96	88	Guatemala	-0.43	47.29
22	Hungary	0.86	82.88	89	Georgia	-0.43	47.25
23	Austria	0.85	82.55	90	Benin	-0.44	47.00
24	Netherlands	0.85	82.51	91	Madagascar	-0.46	46.57
25	Australia	0.85	82.46	92	Bolivia, Plurinational St.	-0.47	46.23
26	Mongolia	0.79	80.95	93	Indonesia	-0.50	45.34
27	Costa Rica	0.76	80.06	94	Bosnia and Herzegovina	-0.51	44.94
28	Estonia	0.71	78.65	95	Angola	-0.52	44.77
29	Slovenia	0.71	78.55	96	Honduras	-0.54	44.11
30	Lao PDR	0.68	77.76	97	Armenia	-0.57	43.38
31	Germany	0.67	77.57	98	Bahrain	-0.59	42.83
32	Qatar	0.67	77.56	99	Thailand	-0.62	41.91
33	Namibia	0.65	76.89	100	Tunisia	-0.63	41.65
34	Slovakia	0.64	76.70	101	Guinea	-0.64	41.57
35	United Arab Emirates	0.63	76.34	102	Nicaragua	-0.65	41.22
36	Croatia	0.61	75.82	103	Saudi Arabia	-0.66	40.91
37	Belgium	0.59	75.36	104	Colombia	-0.67	40.56
38	Romania	0.59	75.32	105	Azerbaijan	-0.73	39.14
39	Poland	0.57	74.91	106	Belarus	-0.73	39.00
40	Korea, Rep.	0.56	74.49	107	Russian Federation	-0.73	38.97
41	United Kingdom	0.47	72.16	108	Mauritania	-0.75	38.42
42	Bulgaria	0.47	72.11	109	Uganda	-0.78	37.62
43	Latvia	0.46	71.76	110	Philippines	-0.79	37.26
44	Italy	0.44	71.21	111	Israel	-0.83	36.31
45	Spain	0.40	69.98	112	Mexico	-0.85	35.71
46	Oman	0.37	69.39	113	Algeria	-0.86	35.43
47	France	0.31	67.70	114	India	-0.86	35.38
48	Cyprus	0.29	67.13	115	Bangladesh	-0.92	33.85
49	Jamaica	0.27	66.55	116	Côte d'Ivoire	-0.98	32.23
50	Gambia	0.25	65.85	117	Kenya	-1.00	31.48
51	Kuwait	0.24	65.65	118	Zimbabwe	-1.08	29.37
52	Panama	0.23	65.42	119	Mozambique	-1.16	27.15
53	Trinidad and Tobago	0.18	63.99	120	Ukraine	-1.16	27.06
54	Dominican Republic	0.17	63.71	121	Türkiye	-1.19	26.41
55	Ghana	0.13	62.57	122	Egypt	-1.21	25.87
56	Greece	0.13	62.55	123	Chad	-1.26	24.30
57	Malaysia	0.12	62.45	124	Burundi	-1.41	20.26
58	North Macedonia	0.10	61.81	125	Cameroon	-1.53	17.07
59	Albania	0.08	61.41	126	Burkina Faso	-1.55	16.40
60	Chile	0.07	61.05	127	Lebanon	-1.65	13.81
61	Argentina	0.04	60.10	128	Iran, Islamic Rep.	-1.67	13.20
62	Rwanda	0.03	60.00	129	Congo, Dem. Rep.	-1.71	12.09
63	Paraguay	0.02	59.52	130	Ethiopia	-1.74	11.26
64	Montenegro	0.00	59.03	131	Pakistan	-1.85	8.09
65	Senegal	-0.02	58.53	132	Nigeria	-1.86	7.93
66	United States of America	-0.02	58.50	133	Mali	-2.15	0.00
67	El Salvador	-0.02	58.44				

SOURCE: World Bank, Worldwide Governance Indicators, 2021 Update (www.govindicators.org)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.1.4 Regulatory quality

Regulatory quality indicator | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Singapore.....	2.21	100.00	68	Indonesia.....	0.08	43.20
2	New Zealand.....	1.88	91.23	69	Mexico.....	0.08	43.18
3	Finland.....	1.85	90.64	70	Moldova, Rep.....	0.04	42.26
4	Luxembourg.....	1.84	90.30	71	Philippines.....	0.03	41.93
5	Australia.....	1.82	89.62	72	Ghana.....	0.00	41.13
6	Denmark.....	1.79	88.93	73	Türkiye.....	-0.01	40.84
7	Netherlands.....	1.75	87.93	74	Dominican Republic.....	-0.01	40.76
8	Norway.....	1.70	86.45	75	El Salvador.....	-0.02	40.61
9	Sweden.....	1.68	86.04	76	Cabo Verde.....	-0.07	39.37
10	Canada.....	1.60	83.72	77	China.....	-0.08	38.97
11	Switzerland.....	1.59	83.58	78	Mongolia.....	-0.09	38.66
12	Germany.....	1.58	83.37	79	Namibia.....	-0.11	38.22
13	Estonia.....	1.54	82.11	80	Morocco.....	-0.12	38.00
14	United Kingdom.....	1.48	80.66	81	India.....	-0.14	37.45
15	Ireland.....	1.47	80.47	82	Trinidad and Tobago.....	-0.14	37.42
16	Iceland.....	1.45	79.78	83	Viet Nam.....	-0.15	37.18
17	Austria.....	1.40	78.53	84	Brazil.....	-0.16	36.81
18	Japan.....	1.35	77.26	85	Guatemala.....	-0.17	36.46
19	Belgium.....	1.35	77.18	86	Sri Lanka.....	-0.18	36.35
20	United States of America.....	1.24	74.35	87	Paraguay.....	-0.20	35.73
21	Israel.....	1.24	74.27	88	Senegal.....	-0.21	35.58
22	Czech Republic.....	1.24	74.26	89	Bosnia and Herzegovina.....	-0.23	34.92
23	Malta.....	1.22	73.67	90	Côte d'Ivoire.....	-0.28	33.77
24	France.....	1.20	73.05	91	Ukraine.....	-0.30	33.23
25	Latvia.....	1.19	72.83	92	Azerbaijan.....	-0.31	32.73
26	Mauritius.....	1.13	71.18	93	Tunisia.....	-0.36	31.39
27	Georgia.....	1.11	70.72	94	Benin.....	-0.37	31.19
28	Lithuania.....	1.09	70.17	95	Kyrgyzstan.....	-0.40	30.33
29	United Arab Emirates.....	1.08	70.05	96	Burkina Faso.....	-0.42	29.99
30	Chile.....	1.05	69.21	97	Uganda.....	-0.43	29.62
31	Korea, Rep.....	1.03	68.71	98	Russian Federation.....	-0.44	29.44
32	Cyprus.....	1.00	67.89	99	Kenya.....	-0.44	29.33
33	Slovenia.....	0.92	65.74	100	Honduras.....	-0.50	27.90
34	Brunei Darussalam.....	0.91	65.53	101	Eswatini.....	-0.56	26.26
35	Poland.....	0.89	64.78	102	Lesotho.....	-0.57	26.02
36	Qatar.....	0.85	63.85	103	Argentina.....	-0.57	25.99
37	Portugal.....	0.83	63.37	104	Mali.....	-0.61	24.90
38	Slovakia.....	0.78	62.07	105	Cambodia.....	-0.62	24.68
39	Malaysia.....	0.77	61.74	106	Zambia.....	-0.62	24.58
40	Spain.....	0.77	61.62	107	Lebanon.....	-0.63	24.28
41	Bahrain.....	0.63	57.83	108	Belarus.....	-0.65	23.79
42	Uruguay.....	0.58	56.67	109	Tanzania, United Rep.....	-0.66	23.58
43	Greece.....	0.55	55.81	110	Nicaragua.....	-0.66	23.52
44	Peru.....	0.53	55.18	111	Gambia.....	-0.69	22.78
45	Bulgaria.....	0.52	54.98	112	Egypt.....	-0.69	22.75
46	North Macedonia.....	0.51	54.68	113	Mozambique.....	-0.69	22.70
47	Italy.....	0.50	54.55	114	Nepal.....	-0.70	22.54
48	Hungary.....	0.48	53.99	115	Pakistan.....	-0.72	22.00
49	Oman.....	0.46	53.38	116	Malawi.....	-0.72	21.86
50	Costa Rica.....	0.45	53.14	117	Madagascar.....	-0.74	21.29
51	Croatia.....	0.43	52.71	118	Lao PDR.....	-0.80	19.75
52	Botswana.....	0.42	52.23	119	Mauritania.....	-0.81	19.58
53	Montenegro.....	0.40	51.73	120	Cameroon.....	-0.82	19.32
54	Romania.....	0.38	51.34	121	Guinea.....	-0.83	18.88
55	Panama.....	0.32	49.65	122	Ecuador.....	-0.89	17.48
56	Colombia.....	0.32	49.59	123	Bangladesh.....	-0.90	17.05
57	Kuwait.....	0.29	48.81	124	Angola.....	-0.91	16.88
58	Saudi Arabia.....	0.26	48.19	125	Ethiopia.....	-0.96	15.57
59	Armenia.....	0.25	47.80	126	Nigeria.....	-0.96	15.43
60	Albania.....	0.24	47.46	127	Burundi.....	-1.02	13.93
61	Jordan.....	0.23	47.15	128	Bolivia, Plurinational St.....	-1.02	13.80
62	South Africa.....	0.20	46.57	129	Chad.....	-1.14	10.75
63	Thailand.....	0.18	46.02	130	Algeria.....	-1.29	6.66
64	Rwanda.....	0.16	45.30	131	Zimbabwe.....	-1.42	3.17
65	Kazakhstan.....	0.14	44.85	132	Iran, Islamic Rep.....	-1.46	2.19
66	Serbia.....	0.12	44.34	133	Congo, Dem. Rep.....	-1.54	0.00
67	Jamaica.....	0.09	43.51				

SOURCE: World Bank, Worldwide Governance Indicators, 2021 Update (www.govindicators.org)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.1.5 Corruption

Corruption Perceptions Index | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Denmark	88.00	100.00	67	Trinidad and Tobago	41.00	31.88
1	Finland	88.00	100.00	69	India	40.00	30.43
1	New Zealand	88.00	100.00	70	Colombia	39.00	28.99
4	Norway	85.00	95.65	70	Ethiopia	39.00	28.99
4	Singapore	85.00	95.65	70	Morocco	39.00	28.99
4	Sweden	85.00	95.65	70	North Macedonia	39.00	28.99
7	Switzerland	84.00	94.20	70	Tanzania, United Rep.	39.00	28.99
8	Netherlands	82.00	91.30	70	Viet Nam	39.00	28.99
9	Luxembourg	81.00	89.86	76	Argentina	38.00	27.54
10	Germany	80.00	88.41	76	Brazil	38.00	27.54
11	United Kingdom	78.00	85.51	76	Indonesia	38.00	27.54
12	Austria	74.00	79.71	76	Lesotho	38.00	27.54
12	Canada	74.00	79.71	76	Serbia	38.00	27.54
12	Estonia	74.00	79.71	76	Türkiye	38.00	27.54
12	Iceland	74.00	79.71	82	Gambia	37.00	26.09
12	Ireland	74.00	79.71	82	Kazakhstan	37.00	26.09
17	Australia	73.00	78.26	82	Sri Lanka	37.00	26.09
17	Belgium	73.00	78.26	85	Côte d'Ivoire	36.00	24.64
17	Japan	73.00	78.26	85	Ecuador	36.00	24.64
17	Uruguay	73.00	78.26	85	Moldova, Rep.	36.00	24.64
21	France	71.00	75.36	85	Panama	36.00	24.64
22	United Arab Emirates	69.00	72.46	85	Peru	36.00	24.64
23	Chile	67.00	69.57	90	Albania	35.00	23.19
23	United States of America	67.00	69.57	90	Bosnia and Herzegovina	35.00	23.19
25	Qatar	63.00	63.77	90	Malawi	35.00	23.19
26	Korea, Rep.	62.00	62.32	90	Mongolia	35.00	23.19
26	Portugal	62.00	62.32	90	Thailand	35.00	23.19
28	Lithuania	61.00	60.87	95	El Salvador	34.00	21.74
28	Spain	61.00	60.87	96	Algeria	33.00	20.29
30	Israel	59.00	57.97	96	Egypt	33.00	20.29
30	Latvia	59.00	57.97	96	Nepal	33.00	20.29
32	Cabo Verde	58.00	56.52	96	Philippines	33.00	20.29
32	Costa Rica	58.00	56.52	96	Zambia	33.00	20.29
34	Slovenia	57.00	55.07	101	Eswatini	32.00	18.84
35	Italy	56.00	53.62	101	Ukraine	32.00	18.84
35	Poland	56.00	53.62	103	Mexico	31.00	17.39
37	Botswana	55.00	52.17	104	Azerbaijan	30.00	15.94
37	Georgia	55.00	52.17	104	Bolivia, Plurinational St.	30.00	15.94
39	Czech Republic	54.00	50.72	104	Dominican Republic	30.00	15.94
39	Malta	54.00	50.72	104	Kenya	30.00	15.94
39	Mauritius	54.00	50.72	104	Lao PDR	30.00	15.94
42	Cyprus	53.00	49.28	104	Paraguay	30.00	15.94
42	Rwanda	53.00	49.28	110	Angola	29.00	14.49
42	Saudi Arabia	53.00	49.28	110	Mali	29.00	14.49
45	Oman	52.00	47.83	110	Russian Federation	29.00	14.49
45	Slovakia	52.00	47.83	113	Mauritania	28.00	13.04
47	Armenia	49.00	43.48	113	Pakistan	28.00	13.04
47	Greece	49.00	43.48	115	Cameroon	27.00	11.59
47	Jordan	49.00	43.48	115	Kyrgyzstan	27.00	11.59
47	Namibia	49.00	43.48	115	Uganda	27.00	11.59
51	Malaysia	48.00	42.03	118	Bangladesh	26.00	10.14
52	Croatia	47.00	40.58	118	Madagascar	26.00	10.14
53	Montenegro	46.00	39.13	118	Mozambique	26.00	10.14
54	China	45.00	37.68	121	Guatemala	25.00	8.70
54	Romania	45.00	37.68	121	Guinea	25.00	8.70
56	Jamaica	44.00	36.23	121	Iran, Islamic Rep.	25.00	8.70
56	South Africa	44.00	36.23	124	Lebanon	24.00	7.25
56	Tunisia	44.00	36.23	124	Nigeria	24.00	7.25
59	Ghana	43.00	34.78	126	Cambodia	23.00	5.80
59	Hungary	43.00	34.78	126	Honduras	23.00	5.80
59	Kuwait	43.00	34.78	126	Zimbabwe	23.00	5.80
59	Senegal	43.00	34.78	129	Chad	20.00	1.45
63	Bahrain	42.00	33.33	129	Nicaragua	20.00	1.45
63	Benin	42.00	33.33	131	Burundi	19.00	0.00
63	Bulgaria	42.00	33.33	131	Congo, Dem. Rep.	19.00	0.00
63	Burkina Faso	42.00	33.33		Brunei Darussalam	n/a	n/a
67	Belarus	41.00	31.88				

SOURCE: Transparency International, *The Corruption Perceptions Index 2021* (<http://www.transparency.org/research/cpi>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.2.1 Extent of market dominance

Average answer to the question: In your country, how do you characterize corporate activity?
[1 = dominated by a few business groups; 7 = spread among many firms] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Switzerland.....	5.76	100.00	68	Jamaica.....	3.70	40.71
2	United States of America.....	5.52	93.16	69	Montenegro.....	3.70	40.71
3	Denmark.....	5.34	87.98	70	Kuwait.....	3.70	40.54
4	Japan.....	5.32	87.32	71	Iceland.....	3.69	40.38
5	Austria.....	5.19	83.58	72	Panama.....	3.68	40.15
6	China.....	5.14	82.26	73	Korea, Rep.....	3.68	40.06
7	Italy.....	5.13	81.93	74	Malta.....	3.67	39.60
8	United Arab Emirates.....	5.10	80.95	75	Cambodia.....	3.65	39.11
9	Belgium.....	5.03	79.08	76	Moldova, Rep.....	3.65	39.03
10	Azerbaijan.....	5.00	78.11	77	Côte d'Ivoire.....	3.62	38.39
11	Netherlands.....	4.99	77.82	78	Argentina.....	3.62	38.16
12	Indonesia.....	4.94	76.47	79	Colombia.....	3.61	38.00
13	Qatar.....	4.94	76.26	80	Mexico.....	3.57	36.80
14	Sweden.....	4.87	74.36	81	Burundi.....	3.57	36.72
15	Saudi Arabia.....	4.86	74.07	82	Botswana.....	3.55	36.28
16	Slovenia.....	4.85	73.69	83	Kyrgyzstan.....	3.54	36.06
17	Germany.....	4.81	72.58	84	Morocco.....	3.53	35.71
18	Norway.....	4.81	72.50	85	Brunei Darussalam.....	3.52	35.25
19	Poland.....	4.79	72.14	86	Cabo Verde.....	3.50	34.89
20	Spain.....	4.72	70.18	87	Kenya.....	3.48	34.17
21	Egypt.....	4.69	69.11	88	Belarus.....	3.47	34.03
22	Viet Nam.....	4.67	68.66	89	Burkina Faso.....	3.47	33.96
23	Jordan.....	4.62	67.29	90	Rwanda.....	3.47	33.87
24	Canada.....	4.60	66.54	91	Senegal.....	3.45	33.35
25	Singapore.....	4.59	66.28	92	Nigeria.....	3.44	33.20
26	Luxembourg.....	4.59	66.24	93	Serbia.....	3.43	32.86
27	Oman.....	4.57	65.73	94	Ukraine.....	3.43	32.68
28	Czech Republic.....	4.57	65.60	95	Dominican Republic.....	3.42	32.59
29	Benin.....	4.55	65.17	96	Thailand.....	3.40	32.04
30	Pakistan.....	4.54	64.87	97	South Africa.....	3.37	31.05
31	United Kingdom.....	4.52	64.14	98	Hungary.....	3.32	29.72
32	Ireland.....	4.46	62.65	99	Croatia.....	3.31	29.22
33	Finland.....	4.46	62.42	100	Namibia.....	3.30	29.11
34	Latvia.....	4.34	58.94	101	Lesotho.....	3.27	28.16
35	Australia.....	4.33	58.72	102	Peru.....	3.25	27.53
36	Lao PDR.....	4.31	58.16	103	Chile.....	3.24	27.41
37	Costa Rica.....	4.27	57.10	104	Lebanon.....	3.20	26.20
38	Mali.....	4.23	56.03	105	Philippines.....	3.18	25.69
39	France.....	4.20	55.02	106	Bosnia and Herzegovina.....	3.17	25.16
40	Cyprus.....	4.19	54.78	107	Madagascar.....	3.16	24.98
41	Portugal.....	4.18	54.53	108	Bangladesh.....	3.16	24.89
42	Iran, Islamic Rep.....	4.17	54.22	109	Ethiopia.....	3.12	23.94
43	Lithuania.....	4.17	54.22	110	Ecuador.....	3.11	23.45
44	Algeria.....	4.15	53.54	111	Kazakhstan.....	3.09	23.04
45	Guinea.....	4.15	53.46	112	Bolivia, Plurinational St.....	3.09	22.98
46	New Zealand.....	4.13	53.06	113	Zimbabwe.....	3.07	22.34
47	Bulgaria.....	4.09	51.74	114	Mauritius.....	3.06	22.08
48	Armenia.....	4.06	50.94	115	Zambia.....	3.04	21.49
49	Malaysia.....	4.04	50.44	116	El Salvador.....	3.03	21.18
50	Brazil.....	4.04	50.29	117	Paraguay.....	3.00	20.43
51	Ghana.....	4.03	50.16	118	Uganda.....	3.00	20.40
52	Estonia.....	4.02	49.78	119	Albania.....	2.98	19.89
53	Gambia.....	4.02	49.71	120	Tunisia.....	2.96	19.22
54	Bahrain.....	4.01	49.56	121	Mozambique.....	2.93	18.39
55	Georgia.....	3.98	48.63	122	Eswatini.....	2.91	17.87
56	Cameroon.....	3.96	47.98	123	North Macedonia.....	2.91	17.67
57	Uruguay.....	3.87	45.62	124	Nepal.....	2.86	16.37
58	Israel.....	3.86	45.34	125	Trinidad and Tobago.....	2.81	14.91
59	Sri Lanka.....	3.86	45.32	126	Congo, Dem. Rep.....	2.80	14.64
60	Romania.....	3.84	44.63	127	Malawi.....	2.72	12.16
61	Greece.....	3.83	44.21	128	Nicaragua.....	2.65	10.15
62	Türkiye.....	3.78	42.76	129	Mongolia.....	2.63	9.69
63	Tanzania, United Rep.....	3.77	42.68	130	Chad.....	2.59	8.48
64	Russian Federation.....	3.76	42.44	131	Honduras.....	2.53	6.82
65	Slovakia.....	3.73	41.57	132	Mauritania.....	2.49	5.62
66	India.....	3.71	40.82	133	Angola.....	2.29	0.00
67	Guatemala.....	3.71	40.76				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.2.2 Domestic credit to private sector

Domestic credit to private sector (% GDP) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United States of America.....	216.56	100.00	68	Saudi Arabia.....	53.97	22.62
2	Japan.....	192.77	88.68	69	Czech Republic.....	53.21	22.25
3	China.....	182.87	83.96	70	Philippines.....	52.04	21.70
4	Switzerland.....	168.50	77.13	71	Bulgaria.....	51.74	21.56
5	Norway.....	165.99	75.93	72	Paraguay.....	50.04	20.75
6	Korea, Rep.....	164.78	75.36	73	Poland.....	50.03	20.74
7	Denmark.....	163.33	74.66	74	Sri Lanka.....	49.87	20.67
8	New Zealand.....	160.49	73.32	75	Ecuador.....	47.36	19.47
9	Thailand.....	160.40	73.27	76	Mongolia.....	45.79	18.72
10	United Kingdom.....	143.83	65.39	77	Serbia.....	45.52	18.59
11	Australia.....	142.29	64.65	78	Trinidad and Tobago.....	45.36	18.52
12	Cambodia.....	139.60	63.37	79	Slovenia.....	43.37	17.57
13	Sweden.....	139.17	63.17	80	Botswana.....	39.81	15.88
14	Qatar.....	138.86	63.02	81	Brunei Darussalam.....	39.69	15.82
15	Malaysia.....	134.00	60.70	82	Bangladesh.....	39.16	15.57
16	Singapore.....	130.64	59.11	83	Indonesia.....	38.69	15.34
17	Chile.....	124.57	56.22	84	Mexico.....	38.27	15.14
18	France.....	122.45	55.21	85	Hungary.....	38.04	15.04
19	Viet Nam.....	116.66	52.45	86	Albania.....	37.99	15.01
20	South Africa.....	112.00	50.24	87	Lithuania.....	37.64	14.84
21	Cyprus.....	110.23	49.39	88	Guatemala.....	35.90	14.02
22	Spain.....	108.52	48.58	89	Latvia.....	34.42	13.31
23	Lebanon.....	106.57	47.65	90	Belarus.....	32.51	12.40
24	Panama.....	105.87	47.32	91	Ireland.....	32.44	12.37
25	Luxembourg.....	105.78	47.27	92	Kenya.....	32.15	12.23
26	Portugal.....	101.22	45.11	93	Dominican Republic.....	30.51	11.45
27	Netherlands.....	100.88	44.94	94	Nicaragua.....	30.10	11.26
28	Finland.....	100.20	44.62	95	Algeria.....	29.69	11.06
29	Iceland.....	99.84	44.45	96	Senegal.....	29.35	10.90
30	Morocco.....	96.28	42.75	97	Burkina Faso.....	28.34	10.42
31	Mauritius.....	95.86	42.55	98	Kyrgyzstan.....	28.29	10.39
32	Austria.....	93.26	41.32	99	Ukraine.....	28.18	10.34
33	Kuwait.....	90.92	40.20	100	Moldova, Rep.....	27.91	10.21
34	Nepal.....	88.44	39.02	101	Uruguay.....	27.88	10.20
35	United Arab Emirates.....	88.41	39.01	102	Egypt.....	27.10	9.83
36	Germany.....	85.71	37.72	103	Azerbaijan.....	26.03	9.32
37	Italy.....	83.31	36.58	104	Mali.....	25.98	9.30
38	Jordan.....	83.14	36.50	105	Romania.....	25.97	9.29
39	Greece.....	82.34	36.12	106	Kazakhstan.....	25.64	9.13
40	Malta.....	82.14	36.02	107	Rwanda.....	25.03	8.84
41	Tunisia.....	81.71	35.82	108	Mozambique.....	24.80	8.73
42	Georgia.....	79.88	34.95	109	Mauritania.....	22.74	7.75
43	Belgium.....	75.79	33.00	110	Burundi.....	22.53	7.65
44	Türkiye.....	75.18	32.71	111	Eswatini.....	21.24	7.04
45	Bahrain.....	73.90	32.10	112	Côte d'Ivoire.....	21.14	6.99
46	Cabo Verde.....	73.19	31.76	113	Lesotho.....	20.01	6.45
47	Namibia.....	72.91	31.63	114	Madagascar.....	16.20	4.64
48	Armenia.....	72.20	31.29	115	Argentina.....	15.96	4.52
49	Bolivia, Plurinational St.....	71.20	30.82	116	Benin.....	15.54	4.32
50	Brazil.....	70.00	30.25	117	Zambia.....	15.19	4.16
51	Honduras.....	69.76	30.13	118	Pakistan.....	15.04	4.09
52	Israel.....	68.57	29.57	119	Cameroon.....	14.68	3.92
53	Slovakia.....	67.21	28.92	120	Uganda.....	14.22	3.70
54	Oman.....	65.14	27.93	121	Ghana.....	13.17	3.19
55	Estonia.....	64.85	27.79	122	Tanzania, United Rep.....	13.16	3.19
56	El Salvador.....	62.11	26.49	123	Angola.....	12.86	3.05
57	Costa Rica.....	60.37	25.66	124	Nigeria.....	12.13	2.70
58	Iran, Islamic Rep.....	60.30	25.63	125	Malawi.....	10.47	1.91
59	Montenegro.....	59.97	25.47	126	Guinea.....	9.97	1.67
60	Russian Federation.....	59.77	25.38	127	Chad.....	9.27	1.34
61	Croatia.....	59.77	25.38	128	Gambia.....	8.07	0.77
62	Bosnia and Herzegovina.....	58.45	24.75	129	Congo, Dem. Rep.....	7.45	0.47
63	North Macedonia.....	56.88	24.00	130	Zimbabwe.....	6.45	0.00
64	Jamaica.....	56.32	23.74		Canada.....	n/a	n/a
65	Peru.....	55.23	23.22		Ethiopia.....	n/a	n/a
66	India.....	54.65	22.94		Lao PDR.....	n/a	n/a
67	Colombia.....	54.29	22.77				

SOURCE: International Monetary Fund (IMF) International Financial Statistics and data files, and World Bank and Organisation for Economic Co-operation and Development (OECD)

GDP estimates. Downloaded from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.2.3 Cluster development

Average answer to the question: In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)? [1 = nonexistent; 7 = widespread in many fields] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United States of America.....	5.71	100.00	68	Guatemala.....	3.86	44.26
2	China.....	5.35	89.27	69	Philippines.....	3.80	42.43
3	Switzerland.....	5.31	88.05	70	Panama.....	3.79	42.27
4	Italy.....	5.21	85.03	71	Romania.....	3.79	42.22
5	United Arab Emirates.....	5.20	84.53	72	Jamaica.....	3.79	42.22
6	Egypt.....	5.20	84.50	73	Poland.....	3.75	41.18
7	Germany.....	5.11	81.99	74	Uruguay.....	3.74	40.70
8	Netherlands.....	5.11	81.93	75	South Africa.....	3.73	40.58
9	Indonesia.....	5.10	81.71	76	Chile.....	3.73	40.37
10	Singapore.....	5.05	80.28	77	Rwanda.....	3.68	39.02
11	Austria.....	5.02	79.08	78	Slovakia.....	3.68	38.89
12	Saudi Arabia.....	4.94	76.90	79	Mali.....	3.67	38.73
13	Viet Nam.....	4.91	75.89	80	Iran, Islamic Rep.....	3.66	38.39
14	Sweden.....	4.89	75.45	81	Zambia.....	3.65	38.04
15	Norway.....	4.87	74.85	82	Côte d'Ivoire.....	3.64	37.86
16	Japan.....	4.86	74.53	83	Lithuania.....	3.64	37.68
17	Belgium.....	4.82	73.21	84	Serbia.....	3.60	36.47
18	Canada.....	4.78	71.98	85	Uganda.....	3.60	36.45
19	Korea, Rep.....	4.77	71.69	86	Bangladesh.....	3.58	36.05
20	Oman.....	4.75	71.04	87	Peru.....	3.57	35.61
21	Luxembourg.....	4.72	70.07	88	Armenia.....	3.57	35.56
22	Jordan.....	4.67	68.80	89	Namibia.....	3.55	35.08
23	Finland.....	4.67	68.72	90	Morocco.....	3.55	35.05
24	Azerbaijan.....	4.62	67.22	91	Nigeria.....	3.55	35.02
25	Denmark.....	4.62	67.07	92	Honduras.....	3.55	34.94
26	United Kingdom.....	4.56	65.55	93	India.....	3.55	34.90
27	Malaysia.....	4.55	65.03	94	Cabo Verde.....	3.54	34.80
28	Spain.....	4.54	64.85	95	Trinidad and Tobago.....	3.54	34.66
29	Ireland.....	4.53	64.44	96	Guinea.....	3.53	34.51
30	France.....	4.46	62.47	97	Lebanon.....	3.52	34.05
31	Bahrain.....	4.37	59.67	98	Eswatini.....	3.52	34.05
32	Israel.....	4.37	59.66	99	Montenegro.....	3.50	33.67
33	Pakistan.....	4.36	59.51	100	North Macedonia.....	3.50	33.55
34	Australia.....	4.31	57.86	101	Cameroon.....	3.48	33.02
35	Mexico.....	4.29	57.32	102	Burundi.....	3.46	32.34
36	Qatar.....	4.29	57.14	103	Belarus.....	3.45	31.91
37	Kuwait.....	4.26	56.48	104	Kyrgyzstan.....	3.44	31.60
38	Bulgaria.....	4.24	55.83	105	Paraguay.....	3.43	31.44
39	Portugal.....	4.19	54.20	106	Argentina.....	3.42	31.18
40	Ghana.....	4.17	53.65	107	Ukraine.....	3.40	30.41
41	Costa Rica.....	4.15	53.01	108	Bosnia and Herzegovina.....	3.39	30.12
42	Tanzania, United Rep.....	4.12	52.16	109	Senegal.....	3.39	30.09
43	Iceland.....	4.10	51.66	110	Tunisia.....	3.37	29.67
44	Cyprus.....	4.09	51.27	111	Malawi.....	3.36	29.23
45	Thailand.....	4.03	49.40	112	Madagascar.....	3.34	28.83
46	Colombia.....	4.02	49.11	113	Ethiopia.....	3.26	26.36
47	Georgia.....	4.01	48.99	114	Ecuador.....	3.25	26.15
48	Lao PDR.....	4.01	48.73	115	Mongolia.....	3.24	25.75
49	Brazil.....	3.99	48.14	116	Nepal.....	3.24	25.71
50	Sri Lanka.....	3.98	47.94	117	Moldova, Rep.....	3.13	22.40
51	Kenya.....	3.95	47.19	118	Mozambique.....	3.10	21.44
52	Gambia.....	3.95	47.00	119	El Salvador.....	3.09	21.11
53	Russian Federation.....	3.94	46.88	120	Bolivia, Plurinational St.....	3.09	21.08
54	Dominican Republic.....	3.94	46.77	121	Lesotho.....	3.08	20.99
55	Malta.....	3.94	46.70	122	Mauritania.....	3.08	20.94
56	Hungary.....	3.93	46.57	123	Greece.....	3.08	20.91
57	Türkiye.....	3.93	46.52	124	Benin.....	3.07	20.67
58	Mauritius.....	3.93	46.50	125	Kazakhstan.....	3.03	19.46
59	New Zealand.....	3.92	46.20	126	Croatia.....	2.96	17.23
60	Estonia.....	3.92	46.16	127	Zimbabwe.....	2.89	15.09
61	Latvia.....	3.90	45.67	128	Nicaragua.....	2.85	13.91
62	Brunei Darussalam.....	3.90	45.67	129	Albania.....	2.73	10.44
63	Botswana.....	3.90	45.64	130	Burkina Faso.....	2.72	10.09
64	Cambodia.....	3.90	45.62	131	Angola.....	2.68	9.02
65	Algeria.....	3.90	45.50	132	Chad.....	2.57	5.48
66	Czech Republic.....	3.89	45.26	133	Congo, Dem. Rep.....	2.38	0.00
67	Slovenia.....	3.86	44.42				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.2.4 R&D expenditure

Gross expenditure on R&D (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Israel	5.44	100.00	68	Ukraine	0.41	7.29
2	Korea, Rep.	4.81	88.55	69	North Macedonia	0.38	6.73
3	Sweden	3.53	64.82	70	Costa Rica	0.37	6.66
4	Belgium	3.48	63.90	71	Oman	0.37	6.65
5	United States of America	3.45	63.40	72	Montenegro	0.36	6.51
6	Japan	3.26	59.96	73	Namibia	0.35	6.26
7	Austria	3.20	58.82	74	Chile	0.34	6.09
8	Switzerland	3.15	57.81	75	Philippines	0.32	5.75
9	Germany	3.14	57.76	76	Mozambique	0.31	5.58
10	Denmark	2.96	54.40	77	Mexico	0.30	5.36
11	Finland	2.94	53.92	78	Georgia	0.30	5.35
12	Iceland	2.47	45.37	79	Chad	0.30	5.35
13	China	2.40	44.06	80	Colombia	0.29	5.12
14	France	2.35	43.22	81	Indonesia	0.28	4.99
15	Netherlands	2.29	42.10	82	Brunei Darussalam	0.28	4.93
16	Norway	2.28	41.76	83	Ethiopia	0.27	4.87
17	Slovenia	2.15	39.39	84	Eswatini	0.27	4.74
18	Czech Republic	1.99	36.51	85	Burkina Faso	0.25	4.38
19	Singapore	1.89	34.66	86	Moldova, Rep.	0.23	4.00
20	Australia	1.83	33.53	87	Azerbaijan	0.22	3.94
21	Estonia	1.79	32.85	88	Burundi	0.21	3.74
22	United Kingdom	1.71	31.29	89	Armenia	0.21	3.67
23	Canada	1.70	31.10	90	Bosnia and Herzegovina	0.21	3.61
24	Portugal	1.62	29.62	91	Pakistan	0.20	3.51
25	Hungary	1.61	29.44	92	Kuwait	0.19	3.25
26	Italy	1.53	28.08	93	El Salvador	0.17	3.03
27	Greece	1.50	27.39	94	Peru	0.17	2.97
28	United Arab Emirates	1.45	26.52	95	Mali	0.16	2.72
29	New Zealand	1.41	25.76	96	Panama	0.15	2.52
30	Spain	1.41	25.71	97	Uganda	0.14	2.44
31	Poland	1.39	25.47	98	Paraguay	0.14	2.34
32	Croatia	1.25	22.82	99	Mongolia	0.13	2.26
33	Ireland	1.23	22.52	100	Kazakhstan	0.13	2.25
34	Brazil	1.21	22.08	101	Sri Lanka	0.13	2.18
35	Lithuania	1.16	21.10	102	Cambodia	0.12	1.99
36	Thailand	1.14	20.87	103	Nicaragua	0.11	1.79
37	Luxembourg	1.13	20.61	104	Bahrain	0.10	1.67
38	Russian Federation	1.10	20.05	105	Kyrgyzstan	0.09	1.46
39	Türkiye	1.09	19.88	106	Cabo Verde	0.07	1.15
40	Malaysia	1.04	18.98	107	Côte d'Ivoire	0.07	1.11
41	Egypt	0.96	17.54	108	Gambia	0.07	1.09
42	Slovakia	0.91	16.60	109	Trinidad and Tobago	0.06	0.93
43	Serbia	0.91	16.51	110	Lesotho	0.05	0.75
44	Iran, Islamic Rep.	0.88	16.10	111	Honduras	0.04	0.55
45	Bulgaria	0.85	15.54	112	Angola	0.03	0.40
46	Cyprus	0.82	14.97	113	Guatemala	0.03	0.30
47	Rwanda	0.76	13.78	114	Madagascar	0.01	0.04
48	Tunisia	0.75	13.60	115	Mauritania	0.01	0.00
49	Latvia	0.71	12.81		Albania	n/a	n/a
50	Jordan	0.70	12.63		Bangladesh	n/a	n/a
51	Malta	0.68	12.34		Benin	n/a	n/a
52	India	0.66	11.90		Bolivia, Plurinational St.	n/a	n/a
53	South Africa	0.62	11.15		Cameroon	n/a	n/a
54	Senegal	0.58	10.45		Dominican Republic	n/a	n/a
55	Belarus	0.55	9.93		Ghana	n/a	n/a
56	Botswana	0.54	9.71		Guinea	n/a	n/a
57	Algeria	0.53	9.66		Jamaica	n/a	n/a
58	Viet Nam	0.53	9.61		Kenya	n/a	n/a
59	Qatar	0.53	9.60		Lao PDR	n/a	n/a
60	Saudi Arabia	0.52	9.44		Lebanon	n/a	n/a
61	Tanzania, United Rep.	0.51	9.29		Malawi	n/a	n/a
62	Uruguay	0.48	8.71		Morocco	n/a	n/a
63	Romania	0.47	8.48		Nepal	n/a	n/a
64	Argentina	0.46	8.23		Nigeria	n/a	n/a
65	Ecuador	0.44	7.97		Zambia	n/a	n/a
66	Mauritius	0.42	7.57		Zimbabwe	n/a	n/a
67	Congo, Dem. Rep.	0.41	7.30				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.2.5 ICT infrastructure

NRI Access sub-index | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Australia	93.64	100.00	68	Costa Rica	64.85	60.88
2	United States of America	93.26	99.49	69	Serbia	64.13	59.89
3	Singapore	93.17	99.37	70	Colombia	62.38	57.51
4	United Kingdom	92.46	98.40	71	Lebanon	62.28	57.39
5	Ireland	91.97	97.73	72	South Africa	62.27	57.36
6	Norway	91.53	97.14	73	Montenegro	60.12	54.45
7	Switzerland	89.79	94.78	74	Jamaica	60.07	54.38
8	Luxembourg	89.61	94.53	75	Azerbaijan	59.94	54.20
9	Japan	89.07	93.80	76	Iran, Islamic Rep.	59.59	53.72
10	Canada	88.48	92.99	77	Moldova, Rep.	59.36	53.41
11	Netherlands	88.39	92.87	78	Botswana	58.46	52.19
12	Finland	87.73	91.97	79	Peru	57.86	51.38
13	Korea, Rep.	87.70	91.93	80	Algeria	57.34	50.68
14	Sweden	87.64	91.85	81	Trinidad and Tobago	56.38	49.37
15	France	87.51	91.68	82	Pakistan	55.65	48.37
16	Saudi Arabia	87.26	91.33	83	Mauritius	55.17	47.73
17	Poland	86.63	90.47	84	North Macedonia	54.65	47.02
18	Belgium	86.58	90.41	85	Tunisia	54.48	46.78
19	Austria	86.14	89.81	86	Kenya	54.09	46.25
20	Denmark	86.04	89.67	87	Sri Lanka	53.94	46.05
21	Spain	85.86	89.42	88	Cambodia	53.09	44.89
22	Estonia	85.80	89.34	89	Paraguay	53.08	44.88
23	Germany	85.79	89.34	90	Ecuador	53.03	44.81
24	Hungary	85.73	89.26	91	Namibia	52.61	44.25
25	Israel	84.36	87.40	92	Mongolia	52.35	43.88
26	United Arab Emirates	82.70	85.14	93	Bangladesh	50.17	40.92
27	Czech Republic	82.37	84.69	94	Kyrgyzstan	49.05	39.41
28	Uruguay	82.32	84.62	95	Dominican Republic	48.87	39.16
29	Romania	81.66	83.72	96	Cabo Verde	47.46	37.24
30	China	80.65	82.35	97	Guatemala	47.24	36.94
31	Qatar	80.25	81.81	98	Nigeria	46.66	36.16
32	Russian Federation	80.01	81.48	99	Senegal	46.55	36.00
33	Thailand	79.69	81.04	100	Côte d'Ivoire	46.19	35.52
34	Italy	78.68	79.67	101	Ghana	45.55	34.64
35	Latvia	78.24	79.08	102	Bolivia, Plurinational St.	44.79	33.61
36	Malaysia	78.03	78.79	103	Tanzania, United Rep.	44.71	33.50
37	Türkiye	77.95	78.68	104	Jordan	44.42	33.11
38	Indonesia	77.75	78.40	105	El Salvador	42.88	31.01
39	India	76.51	76.73	106	Gambia	42.41	30.38
40	Malta	75.75	75.69	107	Mali	40.47	27.75
41	New Zealand	74.40	73.86	108	Zambia	40.45	27.72
42	Panama	73.69	72.90	109	Lao PDR	40.44	27.70
43	Slovenia	73.14	72.15	110	Rwanda	38.05	24.45
44	Portugal	73.06	72.04	111	Mozambique	37.51	23.72
45	Brazil	72.94	71.87	112	Angola	37.39	23.56
46	Slovakia	72.74	71.59	113	Zimbabwe	36.58	22.45
47	Oman	72.46	71.21	114	Philippines	35.33	20.76
48	Bahrain	71.35	69.70	115	Honduras	35.08	20.41
49	Viet Nam	71.17	69.47	116	Guinea	34.27	19.31
50	Iceland	70.50	68.55	117	Lesotho	33.88	18.79
51	Lithuania	70.43	68.46	118	Burkina Faso	31.25	15.21
52	Kazakhstan	70.01	67.89	119	Malawi	31.13	15.05
53	Chile	68.56	65.92	120	Cameroon	30.62	14.36
54	Mexico	68.48	65.80	121	Uganda	29.42	12.72
55	Kuwait	68.38	65.67	122	Madagascar	28.56	11.55
56	Argentina	67.99	65.15	123	Chad	28.00	10.79
57	Croatia	67.70	64.75	124	Eswatini	26.91	9.31
58	Greece	67.29	64.19	125	Ethiopia	25.98	8.05
59	Ukraine	67.15	64.00	126	Congo, Dem. Rep.	25.39	7.25
60	Bosnia and Herzegovina	66.97	63.76	127	Burundi	24.01	5.37
61	Albania	66.76	63.47	128	Nepal	20.06	0.00
62	Georgia	66.47	63.07		Belarus	n/a	n/a
63	Cyprus	66.40	62.98		Benin	n/a	n/a
64	Morocco	65.95	62.37		Brunei Darussalam	n/a	n/a
65	Egypt	65.94	62.36		Mauritania	n/a	n/a
66	Bulgaria	65.71	62.04		Nicaragua	n/a	n/a
67	Armenia	64.92	60.97				

SOURCE: Portulans Institute, *The Network Readiness Index 2021. Shaping the Global Recovery: How digital technologies can make the post-Covid world more equal* (<https://networkreadinessindex.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.2.6 Urbanisation

Population of urban areas (%) | 2018

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Kuwait	100.00	100.00	68	Ecuador	63.82	58.40
1	Singapore	100.00	100.00	69	Ireland	63.17	57.65
3	Qatar	99.14	99.01	70	Armenia	63.15	57.63
4	Belgium	98.00	97.70	71	Morocco	62.45	56.83
5	Uruguay	95.33	94.63	72	Paraguay	61.58	55.83
6	Malta	94.61	93.80	73	Gambia	61.27	55.47
7	Iceland	93.81	92.89	74	Albania	60.32	54.37
8	Israel	92.42	91.28	75	Poland	60.06	54.07
9	Argentina	91.87	90.65	76	China	59.15	53.03
10	Japan	91.62	90.36	77	Georgia	58.63	52.43
11	Netherlands	91.49	90.21	78	Nicaragua	58.52	52.31
12	Luxembourg	90.98	89.63	79	Austria	58.30	52.05
13	Jordan	90.98	89.63	80	North Macedonia	57.96	51.66
14	Bahrain	89.29	87.68	81	Kazakhstan	57.43	51.05
15	Lebanon	88.59	86.88	82	Honduras	57.10	50.67
16	Denmark	87.87	86.06	83	Croatia	56.95	50.50
17	Chile	87.56	85.70	84	Cameroon	56.37	49.84
18	Sweden	87.43	85.55	85	Serbia	56.09	49.51
19	Brazil	86.57	84.56	86	Ghana	56.06	49.48
20	New Zealand	86.54	84.52	87	Azerbaijan	55.68	49.04
21	United Arab Emirates	86.52	84.50	88	Jamaica	55.67	49.03
22	Australia	86.01	83.92	89	Indonesia	55.32	48.63
23	Finland	85.38	83.19	90	Slovenia	54.54	47.73
24	Oman	84.54	82.22	91	Romania	54.00	47.10
25	Saudi Arabia	83.84	81.42	92	Slovakia	53.73	46.79
26	United Kingdom	83.40	80.91	93	Mauritania	53.67	46.73
27	United States of America	82.26	79.60	94	Trinidad and Tobago	53.18	46.17
28	Norway	82.25	79.59	95	Guatemala	51.05	43.72
29	Korea, Rep.	81.46	78.68	96	Côte d'Ivoire	50.78	43.40
30	Canada	81.41	78.63	97	Nigeria	50.34	42.90
31	Dominican Republic	81.07	78.24	98	Namibia	50.03	42.55
32	Colombia	80.78	77.90	99	Thailand	49.95	42.45
33	France	80.44	77.51	100	Bosnia and Herzegovina	48.25	40.49
34	Spain	80.32	77.37	101	Benin	47.31	39.42
35	Mexico	80.16	77.18	102	Senegal	47.19	39.28
36	Costa Rica	79.34	76.24	103	Philippines	46.91	38.95
37	Greece	79.06	75.92	104	Congo, Dem. Rep.	44.46	36.14
38	Belarus	78.59	75.39	105	Zambia	43.52	35.06
39	Peru	77.91	74.60	106	Egypt	42.70	34.12
40	Brunei Darussalam	77.63	74.28	107	Moldova, Rep.	42.63	34.03
41	Germany	77.31	73.91	108	Mali	42.36	33.72
42	Malaysia	76.04	72.44	109	Mauritius	40.79	31.92
43	Türkiye	75.14	71.42	110	Madagascar	37.19	27.78
44	Bulgaria	75.01	71.26	111	Pakistan	36.67	27.18
45	Iran, Islamic Rep.	74.90	71.14	112	Bangladesh	36.63	27.14
46	Russian Federation	74.43	70.60	113	Kyrgyzstan	36.35	26.81
47	Switzerland	73.80	69.87	114	Guinea	36.14	26.57
48	Czech Republic	73.79	69.86	115	Mozambique	35.99	26.40
49	Algeria	72.63	68.53	116	Viet Nam	35.92	26.32
50	El Salvador	72.02	67.83	117	Lao PDR	35.00	25.26
51	Hungary	71.35	67.06	118	India	34.03	24.14
52	Italy	70.44	66.01	119	Tanzania, United Rep.	33.78	23.85
53	Botswana	69.45	64.87	120	Zimbabwe	32.21	22.05
54	Bolivia, Plurinational St.	69.43	64.84	121	Burkina Faso	29.36	18.77
55	Ukraine	69.35	64.76	122	Lesotho	28.15	17.39
56	Tunisia	68.95	64.29	123	Kenya	27.03	16.10
57	Estonia	68.88	64.22	124	Eswatini	23.80	12.38
58	Mongolia	68.45	63.72	125	Uganda	23.77	12.35
59	Latvia	68.14	63.37	126	Cambodia	23.39	11.91
60	Panama	67.71	62.87	127	Chad	23.06	11.53
61	Lithuania	67.68	62.84	128	Ethiopia	20.76	8.89
62	Montenegro	66.81	61.84	129	Nepal	19.74	7.71
63	Cyprus	66.81	61.84	130	Sri Lanka	18.48	6.26
64	South Africa	66.36	61.31	131	Rwanda	17.21	4.81
65	Cabo Verde	65.73	60.60	132	Malawi	16.94	4.49
66	Angola	65.51	60.35	133	Burundi	13.03	0.00
67	Portugal	65.21	60.00				

SOURCE: United Nations, Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2018 Revision* (<https://population.un.org/wup/>)
For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.3.1 Labour rights

Level of national compliance with labour rights | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Austria.....	0.00	100.00	67	Mauritania.....	1.83	75.47
1	Cyprus.....	0.00	100.00	67	Mozambique.....	1.83	75.47
1	Finland.....	0.00	100.00	70	Trinidad and Tobago.....	1.84	75.34
1	Iceland.....	0.00	100.00	71	Costa Rica.....	1.91	74.40
1	Ireland.....	0.00	100.00	72	Mexico.....	1.94	73.99
1	Israel.....	0.00	100.00	73	Romania.....	1.95	73.86
1	Italy.....	0.00	100.00	74	Mauritius.....	2.13	71.45
1	Latvia.....	0.00	100.00	75	Zambia.....	2.21	70.38
1	Norway.....	0.00	100.00	76	Angola.....	2.27	69.57
1	Slovakia.....	0.00	100.00	76	Kazakhstan.....	2.27	69.57
1	Sweden.....	0.00	100.00	78	Eswatini.....	2.40	67.83
12	Estonia.....	0.15	97.99	79	Sri Lanka.....	2.41	67.69
12	Mongolia.....	0.15	97.99	80	Algeria.....	2.48	66.76
14	Czech Republic.....	0.18	97.59	81	Kuwait.....	2.51	66.35
14	Lithuania.....	0.18	97.59	82	Chile.....	2.68	64.08
14	Switzerland.....	0.18	97.59	83	Argentina.....	2.88	61.39
17	Denmark.....	0.19	97.45	84	Nigeria.....	2.90	61.13
17	Luxembourg.....	0.19	97.45	85	Botswana.....	2.91	60.99
19	Cabo Verde.....	0.32	95.71	86	Bolivia, Plurinational St.....	2.94	60.59
20	Kyrgyzstan.....	0.35	95.31	87	Congo, Dem. Rep.....	3.16	57.64
21	Nicaragua.....	0.36	95.17	88	Paraguay.....	3.22	56.84
21	Slovenia.....	0.36	95.17	89	Türkiye.....	3.66	50.94
23	Malawi.....	0.37	95.04	90	Philippines.....	3.97	46.78
24	Germany.....	0.38	94.91	91	Peru.....	4.20	43.70
24	Netherlands.....	0.38	94.91	92	Honduras.....	4.34	41.82
26	Belgium.....	0.51	93.16	93	Ecuador.....	4.40	41.02
26	France.....	0.51	93.16	94	El Salvador.....	4.42	40.75
26	Portugal.....	0.51	93.16	95	Panama.....	4.50	39.68
29	North Macedonia.....	0.52	93.03	96	Cambodia.....	4.54	39.14
30	Guinea.....	0.67	91.02	97	Pakistan.....	4.64	37.80
31	Australia.....	0.69	90.75	98	Colombia.....	4.84	35.12
31	Burkina Faso.....	0.69	90.75	99	Guatemala.....	5.38	27.88
31	Uruguay.....	0.69	90.75	100	Zimbabwe.....	5.45	26.94
34	Spain.....	0.71	90.48	101	Bangladesh.....	7.46	0.00
35	Albania.....	0.72	90.35	101	Belarus.....	10.00	0.00
35	Côte d'Ivoire.....	0.72	90.35	101	Egypt.....	10.00	0.00
35	Hungary.....	0.72	90.35		Azerbaijan.....	n/a	n/a
38	Namibia.....	0.73	90.21		Bahrain.....	n/a	n/a
39	Greece.....	0.85	88.61		Brazil.....	n/a	n/a
40	Georgia.....	0.86	88.47		Brunei Darussalam.....	n/a	n/a
41	Benin.....	0.87	88.34		Burundi.....	n/a	n/a
42	Mali.....	0.88	88.20		Cameroon.....	n/a	n/a
43	Bosnia and Herzegovina.....	0.89	88.07		Chad.....	n/a	n/a
43	Bulgaria.....	0.89	88.07		China.....	n/a	n/a
43	Moldova, Rep.....	0.89	88.07		Ethiopia.....	n/a	n/a
46	Ukraine.....	0.94	87.40		India.....	n/a	n/a
47	South Africa.....	0.98	86.86		Iran, Islamic Rep.....	n/a	n/a
48	United Kingdom.....	1.06	85.79		Jordan.....	n/a	n/a
49	Canada.....	1.07	85.66		Kenya.....	n/a	n/a
50	Poland.....	1.10	85.25		Korea, Rep.....	n/a	n/a
51	Japan.....	1.11	85.12		Lao PDR.....	n/a	n/a
52	Croatia.....	1.12	84.99		Lebanon.....	n/a	n/a
53	Montenegro.....	1.21	83.78		Malaysia.....	n/a	n/a
54	Jamaica.....	1.23	83.51		Morocco.....	n/a	n/a
55	Armenia.....	1.40	81.23		Nepal.....	n/a	n/a
56	Serbia.....	1.41	81.10		New Zealand.....	n/a	n/a
57	Lesotho.....	1.44	80.70		Oman.....	n/a	n/a
58	Dominican Republic.....	1.45	80.56		Qatar.....	n/a	n/a
59	Uganda.....	1.46	80.43		Russian Federation.....	n/a	n/a
60	Ghana.....	1.62	78.28		Rwanda.....	n/a	n/a
61	Gambia.....	1.64	78.02		Saudi Arabia.....	n/a	n/a
62	Madagascar.....	1.65	77.88		Singapore.....	n/a	n/a
62	Senegal.....	1.65	77.88		Thailand.....	n/a	n/a
62	Tunisia.....	1.65	77.88		United Arab Emirates.....	n/a	n/a
65	Indonesia.....	1.70	77.21		United States of America.....	n/a	n/a
66	Tanzania, United Rep.....	1.77	76.27		Viet Nam.....	n/a	n/a
67	Malta.....	1.83	75.47				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.3.2 Labour-employer cooperation

Average answer to the question: In your country, how would you characterize labour-employer relations?
[1 = generally confrontational; 7 = generally cooperative] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Denmark.....	6.08	100.00	68	Italy.....	4.42	41.16
2	Switzerland.....	6.05	98.91	69	Hungary.....	4.41	40.99
3	Singapore.....	5.97	96.28	70	Paraguay.....	4.40	40.68
4	Japan.....	5.83	91.21	71	Poland.....	4.39	40.28
5	Netherlands.....	5.73	87.73	72	Ecuador.....	4.39	40.16
6	Norway.....	5.65	84.80	73	Slovakia.....	4.38	39.81
7	Austria.....	5.61	83.48	74	Uganda.....	4.37	39.58
8	Luxembourg.....	5.50	79.50	75	Nicaragua.....	4.36	39.04
9	United States of America.....	5.49	78.97	76	Algeria.....	4.35	38.71
10	Iceland.....	5.47	78.46	77	Jamaica.....	4.35	38.63
11	Sweden.....	5.42	76.82	78	Panama.....	4.34	38.61
12	Bahrain.....	5.41	76.24	79	Russian Federation.....	4.34	38.31
13	Estonia.....	5.40	75.84	80	Ghana.....	4.34	38.31
14	Ireland.....	5.34	73.66	81	Zimbabwe.....	4.33	38.00
15	New Zealand.....	5.31	72.81	82	Greece.....	4.31	37.30
16	United Arab Emirates.....	5.30	72.56	83	Sri Lanka.....	4.30	37.05
17	Costa Rica.....	5.26	71.10	84	Honduras.....	4.30	36.95
18	Qatar.....	5.24	70.45	85	Mongolia.....	4.29	36.79
19	United Kingdom.....	5.24	70.19	86	Cabo Verde.....	4.26	35.76
20	Oman.....	5.22	69.68	87	Kenya.....	4.26	35.59
21	Finland.....	5.19	68.57	88	Pakistan.....	4.26	35.54
22	Latvia.....	5.15	67.13	89	Mali.....	4.22	34.26
23	Egypt.....	5.13	66.50	90	Lebanon.....	4.22	34.03
24	Viet Nam.....	5.12	66.19	91	Senegal.....	4.20	33.52
25	Albania.....	5.12	65.94	92	Madagascar.....	4.20	33.36
26	Saudi Arabia.....	5.11	65.53	93	Zambia.....	4.19	33.30
27	Philippines.....	5.10	65.25	94	Uruguay.....	4.17	32.29
28	Israel.....	5.07	64.38	95	Nigeria.....	4.16	32.08
29	Malta.....	5.04	63.30	96	Belarus.....	4.15	31.68
30	Malaysia.....	5.04	63.25	97	Eswatini.....	4.15	31.60
31	China.....	5.03	62.71	98	Peru.....	4.13	30.93
32	Indonesia.....	5.02	62.39	99	Kyrgyzstan.....	4.12	30.69
33	Azerbaijan.....	4.97	60.65	100	El Salvador.....	4.12	30.69
34	Guatemala.....	4.96	60.37	101	Bangladesh.....	4.11	30.41
35	Germany.....	4.95	60.04	102	Ukraine.....	4.09	29.44
36	Benin.....	4.94	59.73	103	Montenegro.....	4.08	29.17
37	Australia.....	4.94	59.56	104	Cameroon.....	4.07	29.04
38	Belgium.....	4.92	59.12	105	Namibia.....	4.07	28.99
39	Canada.....	4.90	58.42	106	Serbia.....	4.07	28.87
40	Botswana.....	4.89	57.78	107	Malawi.....	4.06	28.52
41	Lithuania.....	4.87	57.25	108	Romania.....	4.01	26.87
42	Dominican Republic.....	4.86	56.67	109	Nepal.....	4.00	26.40
43	Guinea.....	4.85	56.52	110	Kazakhstan.....	3.98	25.61
44	Jordan.....	4.83	55.71	111	Tunisia.....	3.97	25.30
45	Cyprus.....	4.82	55.48	112	Brazil.....	3.96	25.15
46	Gambia.....	4.81	55.04	113	Burkina Faso.....	3.96	25.10
47	Lao PDR.....	4.80	54.70	114	Congo, Dem. Rep.....	3.96	24.91
48	Mauritius.....	4.75	52.81	115	Türkiye.....	3.95	24.73
49	Armenia.....	4.74	52.46	116	North Macedonia.....	3.93	23.92
50	Portugal.....	4.71	51.48	117	Korea, Rep.....	3.92	23.63
51	Colombia.....	4.69	50.66	118	Argentina.....	3.87	21.86
52	Rwanda.....	4.67	50.00	119	Chad.....	3.82	20.10
53	Czech Republic.....	4.66	49.72	120	Moldova, Rep.....	3.78	18.79
54	Brunei Darussalam.....	4.66	49.63	121	India.....	3.75	17.39
55	Cambodia.....	4.64	49.10	122	Morocco.....	3.74	17.28
56	Chile.....	4.63	48.83	123	Angola.....	3.63	13.26
57	France.....	4.62	48.39	124	Croatia.....	3.61	12.49
58	Spain.....	4.60	47.68	125	Mozambique.....	3.57	11.20
59	Kuwait.....	4.59	47.26	126	Iran, Islamic Rep.....	3.53	9.75
60	Thailand.....	4.58	46.99	127	Trinidad and Tobago.....	3.52	9.31
61	Mexico.....	4.56	46.36	128	Bolivia, Plurinational St.....	3.52	9.25
62	Slovenia.....	4.54	45.54	129	Bosnia and Herzegovina.....	3.50	8.74
63	Bulgaria.....	4.52	44.68	130	South Africa.....	3.42	5.77
64	Georgia.....	4.52	44.64	131	Mauritania.....	3.40	5.33
65	Burundi.....	4.50	44.09	132	Ethiopia.....	3.36	3.82
66	Tanzania, United Rep.....	4.43	41.68	133	Lesotho.....	3.25	0.00
67	Côte d'Ivoire.....	4.43	41.64				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.3.3 Professional management

Average answer to the question: In your country, who holds senior management positions in companies?
[1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Finland.....	6.13	100.00	68	Trinidad and Tobago.....	4.36	52.73
2	Netherlands.....	6.02	97.14	69	Zambia.....	4.36	52.57
3	United States of America.....	5.98	95.99	70	Uganda.....	4.30	51.06
4	Denmark.....	5.86	92.97	71	Pakistan.....	4.23	49.08
5	New Zealand.....	5.84	92.40	72	Malta.....	4.21	48.66
6	Australia.....	5.81	91.57	73	Slovakia.....	4.21	48.62
7	Singapore.....	5.80	91.18	74	Peru.....	4.19	48.11
8	Switzerland.....	5.73	89.44	75	Argentina.....	4.16	47.40
9	Ireland.....	5.72	89.19	76	India.....	4.16	47.37
10	Norway.....	5.63	86.80	77	Namibia.....	4.16	47.33
11	United Kingdom.....	5.62	86.54	78	Lao PDR.....	4.15	47.01
12	Estonia.....	5.58	85.29	79	Dominican Republic.....	4.14	46.84
13	Sweden.....	5.54	84.16	80	Italy.....	4.14	46.75
14	France.....	5.53	84.06	81	Moldova, Rep.....	4.14	46.70
15	Japan.....	5.35	79.09	82	Panama.....	4.13	46.59
16	China.....	5.34	78.98	83	Greece.....	4.13	46.46
17	Lithuania.....	5.33	78.77	84	Brunei Darussalam.....	4.12	46.15
18	Indonesia.....	5.33	78.74	85	Türkiye.....	4.11	45.89
19	Israel.....	5.29	77.49	86	Guatemala.....	4.10	45.60
20	United Arab Emirates.....	5.26	76.66	87	Guinea.....	4.10	45.55
21	Austria.....	5.24	76.35	88	Cambodia.....	4.09	45.33
22	Belgium.....	5.21	75.50	89	Russian Federation.....	4.06	44.70
23	Iceland.....	5.19	74.95	90	Mexico.....	4.05	44.24
24	Canada.....	5.19	74.80	91	Mongolia.....	4.04	43.95
25	Germany.....	5.18	74.56	92	Montenegro.....	4.02	43.59
26	Czech Republic.....	5.16	74.22	93	Belarus.....	4.02	43.56
27	Albania.....	5.12	73.01	94	Bulgaria.....	4.01	43.39
28	Qatar.....	5.12	72.95	95	Cyprus.....	3.98	42.54
29	Botswana.....	5.10	72.44	96	Poland.....	3.98	42.48
30	Luxembourg.....	5.07	71.75	97	Romania.....	3.93	41.12
31	Rwanda.....	5.04	70.79	98	Bangladesh.....	3.87	39.60
32	Zimbabwe.....	4.98	69.16	99	Tunisia.....	3.87	39.56
33	Azerbaijan.....	4.96	68.65	100	Côte d'Ivoire.....	3.86	39.15
34	Bahrain.....	4.92	67.68	101	Ecuador.....	3.86	39.13
35	Malaysia.....	4.92	67.61	102	Lebanon.....	3.82	38.28
36	Oman.....	4.88	66.61	103	El Salvador.....	3.80	37.53
37	Saudi Arabia.....	4.88	66.60	104	Serbia.....	3.80	37.50
38	Jamaica.....	4.81	64.80	105	Croatia.....	3.76	36.60
39	Latvia.....	4.79	64.18	106	Cameroon.....	3.75	36.24
40	Spain.....	4.78	63.95	107	Ukraine.....	3.74	36.10
41	Costa Rica.....	4.77	63.61	108	Morocco.....	3.70	35.04
42	Nigeria.....	4.75	63.01	109	Kuwait.....	3.68	34.47
43	Eswatini.....	4.72	62.42	110	Senegal.....	3.63	33.05
44	Slovenia.....	4.71	61.98	111	Nepal.....	3.63	33.00
45	Georgia.....	4.70	61.84	112	Burundi.....	3.62	32.93
46	Philippines.....	4.68	61.17	113	Congo, Dem. Rep.....	3.57	31.39
47	Viet Nam.....	4.66	60.62	114	Kyrgyzstan.....	3.57	31.35
48	Jordan.....	4.66	60.57	115	Algeria.....	3.50	29.57
49	Brazil.....	4.66	60.56	116	Honduras.....	3.46	28.54
50	Ghana.....	4.65	60.37	117	Madagascar.....	3.44	27.87
51	Tanzania, United Rep.....	4.63	59.90	118	Cabo Verde.....	3.42	27.55
52	South Africa.....	4.62	59.74	119	Paraguay.....	3.41	27.07
53	Sri Lanka.....	4.58	58.58	120	Bolivia, Plurinational St.....	3.36	25.96
54	Chile.....	4.56	58.09	121	North Macedonia.....	3.32	24.88
55	Benin.....	4.53	57.14	122	Mali.....	3.31	24.47
56	Armenia.....	4.51	56.70	123	Kazakhstan.....	3.27	23.35
57	Gambia.....	4.49	56.19	124	Ethiopia.....	3.23	22.24
58	Egypt.....	4.48	55.91	125	Bosnia and Herzegovina.....	3.21	21.90
59	Portugal.....	4.47	55.60	126	Iran, Islamic Rep.....	3.21	21.73
60	Thailand.....	4.47	55.53	127	Nicaragua.....	3.18	21.11
61	Colombia.....	4.46	55.42	128	Burkina Faso.....	3.13	19.58
62	Korea, Rep.....	4.46	55.40	129	Mozambique.....	3.07	18.11
63	Kenya.....	4.44	54.78	130	Lesotho.....	2.92	14.06
64	Mauritius.....	4.41	53.87	131	Angola.....	2.74	9.19
65	Uruguay.....	4.38	53.23	132	Mauritania.....	2.64	6.66
66	Hungary.....	4.38	53.08	133	Chad.....	2.40	0.00
67	Malawi.....	4.37	52.82				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.3.4 Relationship of pay to productivity

Average answer to the question: In your country, to what extent is pay related to employee productivity?
[1 = not at all; 7 = to a great extent] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United States of America.....	5.62	100.00	68	Ukraine	3.91	52.99
2	Switzerland.....	5.44	94.89	69	Montenegro.....	3.89	52.55
3	China.....	5.30	91.15	70	Rwanda	3.88	52.33
4	Qatar.....	5.20	88.52	71	Greece.....	3.87	52.00
5	United Arab Emirates.....	5.17	87.45	72	Colombia.....	3.84	51.24
6	Singapore.....	5.07	84.96	73	Benin.....	3.81	50.44
7	Saudi Arabia.....	4.94	81.24	74	Serbia.....	3.81	50.41
8	Indonesia.....	4.92	80.69	75	India.....	3.80	50.10
9	Netherlands.....	4.84	78.49	76	Spain	3.79	49.88
10	Viet Nam.....	4.84	78.47	77	Kenya	3.79	49.84
11	Ireland	4.79	77.28	78	Algeria.....	3.79	49.77
12	Austria.....	4.79	77.19	79	Bangladesh.....	3.77	49.26
13	Bahrain.....	4.78	76.81	80	Kazakhstan.....	3.76	49.14
14	Azerbaijan.....	4.73	75.42	81	Moldova, Rep.....	3.74	48.42
15	Korea, Rep.....	4.72	75.35	82	Uruguay	3.74	48.41
16	Belgium.....	4.72	75.31	83	Cameroon.....	3.73	48.31
17	Oman.....	4.71	74.99	84	Guatemala.....	3.73	48.30
18	Canada.....	4.67	73.87	85	Jamaica.....	3.73	48.26
19	Denmark.....	4.66	73.63	86	Guinea.....	3.73	48.16
20	Estonia	4.63	72.75	87	Nigeria.....	3.71	47.57
21	Gambia.....	4.60	71.97	88	Mongolia.....	3.69	47.08
22	Iceland	4.56	71.02	89	Dominican Republic.....	3.68	46.73
23	Germany.....	4.53	70.03	90	Romania.....	3.68	46.70
24	Jordan.....	4.53	70.01	91	Uganda.....	3.66	46.41
25	Norway.....	4.53	69.99	92	Brazil.....	3.66	46.37
26	Sweden.....	4.50	69.13	93	Botswana.....	3.65	46.01
27	Latvia.....	4.47	68.40	94	Zambia.....	3.64	45.81
28	United Kingdom.....	4.46	68.22	95	Eswatini.....	3.64	45.79
29	Israel	4.46	68.15	96	Mexico.....	3.62	45.29
30	Lithuania.....	4.45	67.93	97	Côte d'Ivoire.....	3.62	45.13
31	Finland.....	4.45	67.87	98	Lebanon.....	3.61	44.97
32	Luxembourg.....	4.44	67.49	99	Peru.....	3.60	44.67
33	Philippines.....	4.43	67.29	100	Türkiye.....	3.59	44.29
34	Malaysia.....	4.42	67.02	101	Nepal.....	3.58	44.17
35	Pakistan.....	4.38	66.04	102	Trinidad and Tobago.....	3.57	43.74
36	Chile.....	4.38	65.89	103	Mali.....	3.56	43.49
37	Georgia.....	4.37	65.66	104	Hungary.....	3.55	43.21
38	Australia.....	4.36	65.34	105	Senegal.....	3.53	42.69
39	Russian Federation.....	4.35	65.26	106	Ecuador.....	3.53	42.68
40	Bulgaria.....	4.35	65.26	107	South Africa.....	3.51	42.17
41	Costa Rica.....	4.35	65.23	108	North Macedonia.....	3.51	42.14
42	Kyrgyzstan.....	4.34	64.95	109	Ethiopia.....	3.50	41.90
43	Armenia.....	4.34	64.90	110	Bosnia and Herzegovina.....	3.49	41.60
44	Malta.....	4.34	64.76	111	Malawi.....	3.48	41.44
45	Japan.....	4.29	63.41	112	Zimbabwe.....	3.48	41.34
46	Belarus.....	4.26	62.78	113	Tunisia.....	3.47	40.99
47	Czech Republic.....	4.26	62.71	114	Panama.....	3.44	40.37
48	Egypt.....	4.24	62.23	115	Paraguay.....	3.44	40.31
49	Cambodia.....	4.23	62.00	116	Cabo Verde.....	3.43	39.89
50	Thailand.....	4.20	61.12	117	Croatia.....	3.38	38.50
51	Albania.....	4.18	60.58	118	Morocco.....	3.29	36.17
52	France.....	4.13	59.21	119	Honduras.....	3.21	33.99
53	Lao PDR.....	4.08	57.69	120	El Salvador.....	3.19	33.48
54	Mauritius.....	4.07	57.54	121	Chad.....	3.19	33.46
55	Cyprus.....	4.06	57.13	122	Lesotho.....	3.13	31.88
56	Slovakia.....	4.05	56.81	123	Nicaragua.....	3.10	31.10
57	Sri Lanka.....	4.04	56.79	124	Iran, Islamic Rep.....	3.06	29.73
58	New Zealand	4.03	56.49	125	Argentina.....	3.05	29.71
59	Ghana.....	4.02	56.12	126	Burundi.....	3.04	29.37
60	Tanzania, United Rep.....	3.99	55.28	127	Madagascar.....	2.99	28.00
61	Brunei Darussalam.....	3.97	54.77	128	Congo, Dem. Rep.....	2.84	23.98
62	Slovenia.....	3.95	54.12	129	Mozambique.....	2.80	22.83
63	Poland.....	3.94	53.81	130	Bolivia, Plurinational St.....	2.79	22.61
64	Namibia.....	3.93	53.75	131	Burkina Faso.....	2.70	19.99
65	Italy.....	3.92	53.51	132	Angola.....	2.54	15.76
66	Kuwait	3.92	53.51	133	Mauritania.....	1.97	0.00
67	Portugal.....	3.91	53.01				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.3.5 Enterprise software

Enterprise software market (weighted by GDP) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Mauritius.....	0.54	100.00	68	Senegal.....	0.11	20.19
2	United States of America.....	0.49	90.56	69	Georgia.....	0.11	19.89
3	Iran, Islamic Rep.....	0.46	85.93	70	Poland.....	0.11	19.86
4	Finland.....	0.45	84.53	71	Lao PDR.....	0.11	19.75
5	Jamaica.....	0.44	81.80	72	Honduras.....	0.11	19.58
6	Mongolia.....	0.40	73.89	73	El Salvador.....	0.10	19.41
7	Denmark.....	0.38	69.77	74	Bahrain.....	0.10	19.14
8	Switzerland.....	0.37	69.31	75	Latvia.....	0.10	19.13
9	United Kingdom.....	0.37	68.15	76	Paraguay.....	0.10	19.08
10	Netherlands.....	0.36	67.40	77	Burkina Faso.....	0.10	18.84
11	Burundi.....	0.34	64.07	78	Kenya.....	0.10	18.54
12	Montenegro.....	0.34	64.02	79	Kazakhstan.....	0.10	18.52
13	Sweden.....	0.34	63.72	80	Uganda.....	0.10	18.39
14	Canada.....	0.32	60.15	81	Ethiopia.....	0.10	18.38
15	New Zealand.....	0.31	58.02	82	Ireland.....	0.10	18.28
16	Germany.....	0.29	53.67	83	Angola.....	0.10	17.94
17	Bosnia and Herzegovina.....	0.27	49.43	84	Mexico.....	0.10	17.83
18	Australia.....	0.25	47.25	85	Serbia.....	0.10	17.69
19	Japan.....	0.24	43.84	86	Zambia.....	0.09	17.54
20	Malta.....	0.23	43.27	87	Guatemala.....	0.09	17.30
21	France.....	0.23	43.17	88	Lithuania.....	0.09	17.03
22	Luxembourg.....	0.23	42.89	89	Morocco.....	0.09	16.81
23	Norway.....	0.23	42.78	90	Rwanda.....	0.09	16.80
24	Belgium.....	0.23	42.78	91	Cameroon.....	0.09	16.44
25	Lebanon.....	0.22	41.15	92	Chad.....	0.08	15.78
26	Belarus.....	0.22	40.89	93	Dominican Republic.....	0.08	15.78
27	Czech Republic.....	0.22	40.17	94	Nepal.....	0.08	15.37
28	Korea, Rep.....	0.21	39.39	95	Namibia.....	0.08	15.20
29	Israel.....	0.21	39.38	96	Malawi.....	0.08	14.73
30	Austria.....	0.21	38.20	97	Philippines.....	0.08	14.63
31	Malaysia.....	0.20	37.42	98	Panama.....	0.08	14.62
32	South Africa.....	0.20	36.31	99	India.....	0.08	14.24
33	Sri Lanka.....	0.18	33.00	100	Nigeria.....	0.07	13.92
34	Hungary.....	0.17	31.62	101	Tanzania, United Rep.....	0.07	13.72
35	Ukraine.....	0.17	31.60	102	Cyprus.....	0.07	13.42
36	Azerbaijan.....	0.16	30.64	103	Côte d'Ivoire.....	0.07	13.33
37	Croatia.....	0.16	30.15	104	Brunei Darussalam.....	0.07	13.28
38	Chile.....	0.16	29.91	105	Nicaragua.....	0.07	13.27
39	Singapore.....	0.16	29.51	106	Thailand.....	0.07	13.23
40	Iceland.....	0.16	29.21	107	Greece.....	0.07	12.90
41	Slovakia.....	0.16	29.14	108	Madagascar.....	0.07	12.70
42	Brazil.....	0.16	29.01	109	Bangladesh.....	0.07	12.51
43	Jordan.....	0.15	28.77	110	Guinea.....	0.06	11.73
44	Italy.....	0.15	27.98	111	Russian Federation.....	0.06	11.62
45	Colombia.....	0.15	27.80	112	Kuwait.....	0.06	10.53
46	Moldova, Rep.....	0.15	27.19	113	Benin.....	0.06	10.45
47	Armenia.....	0.14	26.83	114	Saudi Arabia.....	0.05	9.59
48	North Macedonia.....	0.14	26.79	115	Qatar.....	0.05	9.32
49	Peru.....	0.14	26.65	116	China.....	0.05	9.31
50	Ghana.....	0.14	26.36	117	Argentina.....	0.05	8.70
51	Costa Rica.....	0.14	26.03	118	Oman.....	0.05	8.66
52	United Arab Emirates.....	0.13	24.87	119	Pakistan.....	0.05	8.59
53	Slovenia.....	0.13	24.18	120	Romania.....	0.05	8.51
54	Tunisia.....	0.13	23.82	121	Viet Nam.....	0.04	7.69
55	Spain.....	0.13	23.74	122	Zimbabwe.....	0.04	7.09
56	Mozambique.....	0.12	23.10	123	Egypt.....	0.04	6.90
57	Portugal.....	0.12	23.07	124	Indonesia.....	0.03	5.33
58	Bolivia, Plurinational St.....	0.12	23.01	125	Türkiye.....	0.02	4.11
59	Ecuador.....	0.12	22.77	126	Gambia.....	0.00	0.00
60	Algeria.....	0.12	22.14	126	Lesotho.....	0.00	0.00
61	Uruguay.....	0.12	21.94		Cabo Verde.....	n/a	n/a
62	Kyrgyzstan.....	0.12	21.76		Congo, Dem. Rep.....	n/a	n/a
63	Botswana.....	0.11	21.11		Eswatini.....	n/a	n/a
64	Bulgaria.....	0.11	20.85		Mali.....	n/a	n/a
65	Cambodia.....	0.11	20.69		Mauritania.....	n/a	n/a
66	Estonia.....	0.11	20.51		Trinidad and Tobago.....	n/a	n/a
67	Albania.....	0.11	20.37				

SOURCE: Statista, Technology Market Outlook: Enterprise Software (<https://www.statista.com/outlook/tmo/software/enterprise-software/worldwide?currency=usd>); GDP data come from World Development Indicators

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.3.6 Cloud computing

Cloud computing market (weighted by GDP) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United States of America.....	0.75	100.00	68	Ecuador.....	0.11	15.09
2	Finland.....	0.67	89.23	69	Bulgaria.....	0.11	14.96
3	Switzerland.....	0.55	74.05	70	Cambodia.....	0.11	14.85
4	Singapore.....	0.53	70.94	71	India.....	0.11	14.80
5	Sweden.....	0.52	69.98	72	Lebanon.....	0.11	14.77
6	Denmark.....	0.52	69.91	73	Kazakhstan.....	0.11	14.69
7	New Zealand.....	0.50	66.20	74	Panama.....	0.11	14.69
8	United Kingdom.....	0.49	65.21	75	Philippines.....	0.11	14.56
9	Netherlands.....	0.48	63.85	76	Chile.....	0.11	14.31
10	Canada.....	0.39	51.76	77	Georgia.....	0.11	14.27
11	Iran, Islamic Rep.....	0.37	49.57	78	Lithuania.....	0.11	14.26
12	Australia.....	0.37	49.14	79	El Salvador.....	0.10	13.93
13	Germany.....	0.36	48.39	80	Bahrain.....	0.10	13.74
14	South Africa.....	0.34	44.81	81	Latvia.....	0.10	13.73
15	Norway.....	0.32	42.33	82	Paraguay.....	0.10	13.69
16	Belgium.....	0.30	40.05	83	Saudi Arabia.....	0.10	13.45
17	Luxembourg.....	0.30	40.02	84	Russian Federation.....	0.10	13.30
18	Kenya.....	0.30	39.91	85	Dominican Republic.....	0.10	12.75
19	France.....	0.30	39.62	86	Rwanda.....	0.09	12.06
20	Austria.....	0.28	37.49	87	Cameroon.....	0.09	11.80
21	Portugal.....	0.28	37.39	88	Chad.....	0.08	11.33
22	Spain.....	0.27	36.43	89	Nepal.....	0.08	11.03
23	Ireland.....	0.26	35.07	90	Namibia.....	0.08	10.91
24	Japan.....	0.24	32.22	91	Guatemala.....	0.08	10.87
25	Italy.....	0.24	32.16	92	Viet Nam.....	0.08	10.67
26	Korea, Rep.....	0.24	31.91	93	Nigeria.....	0.08	10.60
27	Malta.....	0.23	31.06	94	Malawi.....	0.08	10.57
28	Israel.....	0.22	29.10	95	Romania.....	0.08	10.34
29	Mongolia.....	0.20	26.52	96	Zimbabwe.....	0.08	10.18
30	Iceland.....	0.20	26.21	97	Egypt.....	0.07	9.91
31	Mozambique.....	0.19	24.88	98	Tanzania, United Rep.....	0.07	9.85
32	Mauritius.....	0.18	23.93	99	Senegal.....	0.07	9.66
33	Bosnia and Herzegovina.....	0.18	23.65	100	Cyprus.....	0.07	9.63
34	Belarus.....	0.18	23.48	101	North Macedonia.....	0.07	9.62
35	Serbia.....	0.17	23.28	102	Côte d'Ivoire.....	0.07	9.57
36	Czech Republic.....	0.17	23.16	103	Brunei Darussalam.....	0.07	9.53
37	Montenegro.....	0.17	22.97	104	Nicaragua.....	0.07	9.52
38	Costa Rica.....	0.17	22.84	105	Honduras.....	0.07	9.37
39	Uruguay.....	0.17	22.50	106	Bangladesh.....	0.07	9.30
40	Croatia.....	0.16	21.64	107	Madagascar.....	0.07	9.12
41	Malaysia.....	0.16	21.49	108	Qatar.....	0.07	8.92
42	Mexico.....	0.16	21.37	109	Pakistan.....	0.06	8.48
43	Brazil.....	0.16	20.82	110	Guinea.....	0.06	8.42
44	Colombia.....	0.16	20.81	111	Ethiopia.....	0.06	8.40
45	Hungary.....	0.15	19.77	112	Türkiye.....	0.06	8.35
46	Jamaica.....	0.15	19.57	113	Botswana.....	0.06	7.58
47	Moldova, Rep.....	0.15	19.51	114	Indonesia.....	0.06	7.54
48	Armenia.....	0.14	19.26	115	Benin.....	0.06	7.50
49	Thailand.....	0.14	19.26	116	Angola.....	0.06	7.36
50	Peru.....	0.14	19.13	117	Albania.....	0.05	7.31
51	China.....	0.14	18.90	118	Lao PDR.....	0.05	7.09
52	Ukraine.....	0.14	18.68	119	Argentina.....	0.05	7.06
53	Poland.....	0.14	18.61	120	Burkina Faso.....	0.05	6.76
54	United Arab Emirates.....	0.14	18.60	121	Uganda.....	0.05	6.60
55	Slovakia.....	0.14	18.59	122	Kuwait.....	0.05	6.30
56	Estonia.....	0.14	18.40	123	Zambia.....	0.05	6.29
57	Jordan.....	0.13	17.70	124	Oman.....	0.05	6.22
58	Sri Lanka.....	0.13	17.37	125	Burundi.....	0.00	0.00
59	Slovenia.....	0.13	17.35	125	Gambia.....	0.00	0.00
60	Azerbaijan.....	0.13	17.10	125	Lesotho.....	0.00	0.00
61	Tunisia.....	0.13	17.10		Cabo Verde.....	n/a	n/a
62	Bolivia, Plurinational St.....	0.12	16.51		Congo, Dem. Rep.....	n/a	n/a
63	Morocco.....	0.12	16.09		Eswatini.....	n/a	n/a
64	Algeria.....	0.12	15.89		Mali.....	n/a	n/a
65	Kyrgyzstan.....	0.12	15.62		Mauritania.....	n/a	n/a
66	Ghana.....	0.12	15.48		Trinidad and Tobago.....	n/a	n/a
67	Greece.....	0.12	15.43				

SOURCE: Statista, Technology Market Outlook: Public Cloud (<https://www.statista.com/outlook/tmo/public-cloud/worldwide>); GDP data come from World Development Indicators. For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

1.3.7 Firms with website

Firms with website (% of total) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Finland.....	96.06	100.00	68	Türkiye.....	49.38	46.07
2	Denmark.....	92.77	96.20	69	India.....	48.90	45.52
3	Netherlands.....	92.31	95.67	70	Viet Nam.....	48.60	45.17
4	Japan.....	91.90	95.19	71	Moldova, Rep.....	48.10	44.59
5	Switzerland.....	91.74	95.01	72	Kenya.....	47.30	43.67
6	Austria.....	90.99	94.14	73	Pakistan.....	46.90	43.21
7	Sweden.....	90.79	93.91	74	Bulgaria.....	45.70	41.82
8	Germany.....	89.38	92.28	75	Thailand.....	45.50	41.59
9	Belgium.....	86.62	89.09	76	Malawi.....	44.90	40.90
10	Norway.....	83.45	85.44	77	Honduras.....	43.50	39.28
11	United Kingdom.....	83.39	85.36	78	Rwanda.....	42.60	38.24
12	Malta.....	83.30	85.26	79	El Salvador.....	42.50	38.12
13	Slovenia.....	83.30	85.26	80	Egypt.....	42.40	38.01
14	Czech Republic.....	82.84	84.73	81	Mali.....	42.20	37.78
15	New Zealand.....	82.76	84.64	82	Dominican Republic.....	42.00	37.55
16	Iceland.....	82.57	84.42	83	Mexico.....	41.45	36.91
17	Ireland.....	82.36	84.18	84	Montenegro.....	41.00	36.39
18	Canada.....	81.80	83.53	85	Mauritania.....	40.60	35.93
19	Luxembourg.....	80.76	82.33	86	Mozambique.....	40.30	35.58
20	Australia.....	80.37	81.87	87	Nicaragua.....	40.10	35.35
21	Estonia.....	79.79	81.21	88	Namibia.....	39.40	34.54
22	South Africa.....	79.60	80.98	89	Zimbabwe.....	38.70	33.73
23	Serbia.....	79.10	80.41	90	Benin.....	38.30	33.27
24	Ecuador.....	78.30	79.48	91	Mongolia.....	37.50	32.35
25	Lithuania.....	77.87	78.99	92	Ethiopia.....	34.80	29.23
26	Jordan.....	77.10	78.10	93	Senegal.....	34.60	29.00
27	Spain.....	76.78	77.72	94	Ghana.....	33.20	27.38
28	Slovakia.....	75.74	76.53	95	Malaysia.....	31.50	25.42
29	Croatia.....	74.90	75.56	96	Lao PDR.....	30.90	24.72
30	Italy.....	74.76	75.40	97	Madagascar.....	29.50	23.11
31	Belarus.....	73.50	73.94	98	Bangladesh.....	26.30	19.41
32	United States of America.....	72.85	73.19	99	Nepal.....	26.10	19.18
33	Paraguay.....	71.60	71.74	100	Burundi.....	25.60	18.60
34	Cyprus.....	71.50	71.63	101	Cambodia.....	24.20	16.98
35	Poland.....	71.41	71.52	102	Cameroon.....	22.60	15.13
36	France.....	70.50	70.47	102	Tanzania, United Rep.....	22.60	15.13
37	Korea, Rep.....	69.49	69.31	104	Gambia.....	22.40	14.90
38	Argentina.....	69.30	69.09	105	Nigeria.....	22.30	14.79
39	Peru.....	69.20	68.97	106	Indonesia.....	20.50	12.71
40	Uruguay.....	69.10	68.85	107	Uganda.....	19.20	11.21
41	Bosnia and Herzegovina.....	68.10	67.70	108	Guinea.....	19.00	10.98
42	Latvia.....	67.84	67.40	109	Sri Lanka.....	18.60	10.51
43	Colombia.....	67.81	67.36	110	Côte d'Ivoire.....	18.10	9.94
44	Azerbaijan.....	66.20	65.50	111	Congo, Dem. Rep.....	17.00	8.66
45	China.....	66.10	65.39	112	Lesotho.....	14.90	6.24
46	Ukraine.....	63.90	62.85	113	Chad.....	9.50	0.00
47	Lebanon.....	63.50	62.38		Algeria.....	n/a	n/a
47	North Macedonia.....	63.50	62.38		Angola.....	n/a	n/a
49	Hungary.....	63.41	62.29		Bahrain.....	n/a	n/a
50	Eswatini.....	62.50	61.23		Botswana.....	n/a	n/a
51	Israel.....	62.25	60.94		Brunei Darussalam.....	n/a	n/a
52	Greece.....	62.07	60.73		Burkina Faso.....	n/a	n/a
53	Portugal.....	62.03	60.69		Cabo Verde.....	n/a	n/a
54	Albania.....	59.80	58.11		Chile.....	n/a	n/a
55	Zambia.....	59.00	57.19		Costa Rica.....	n/a	n/a
56	Russian Federation.....	58.50	56.61		Iran, Islamic Rep.....	n/a	n/a
57	Guatemala.....	58.00	56.03		Jamaica.....	n/a	n/a
58	Armenia.....	57.50	55.45		Kuwait.....	n/a	n/a
59	Kyrgyzstan.....	57.20	55.11		Mauritius.....	n/a	n/a
60	Tunisia.....	56.50	54.30		Oman.....	n/a	n/a
61	Morocco.....	55.40	53.03		Panama.....	n/a	n/a
62	Brazil.....	52.90	50.13		Qatar.....	n/a	n/a
63	Philippines.....	52.40	49.56		Saudi Arabia.....	n/a	n/a
64	Romania.....	52.30	49.45		Singapore.....	n/a	n/a
65	Georgia.....	51.20	48.18		Trinidad and Tobago.....	n/a	n/a
66	Kazakhstan.....	50.40	47.25		United Arab Emirates.....	n/a	n/a
67	Bolivia, Plurinational St.....	49.40	46.10				

SOURCE: OECD, ICT Access and Use by Businesses, OECD Telecommunications and Internet Statistics (database) (<https://doi.org/10.1787/9d2cb97b-en>); World Bank, Enterprise Surveys (www.enterprisesurveys.org)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

Pillar 2

Attract

2.1.1 FDI regulatory restrictiveness

FDI regulatory restrictiveness index score | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Luxembourg	0.00	100.00	68	India	0.21	45.14
2	Portugal	0.01	99.19	69	Saudi Arabia	0.21	44.05
2	Slovenia	0.01	99.19	70	China	0.21	43.24
4	Czech Republic	0.01	98.38	71	Jordan	0.22	41.62
5	Netherlands	0.01	97.03	72	New Zealand	0.23	37.57
5	Romania	0.01	97.03	73	Malaysia	0.26	31.62
7	Estonia	0.02	96.22	74	Russian Federation	0.26	30.27
7	Georgia	0.02	96.22	75	Algeria	0.27	28.65
9	Armenia	0.02	95.95	75	Thailand	0.27	28.65
9	Finland	0.02	95.95	77	Indonesia	0.35	7.30
9	Lithuania	0.02	95.95	78	Philippines	0.37	0.00
12	Latvia	0.02	95.41		Angola	n/a	n/a
12	Spain	0.02	95.41		Bahrain	n/a	n/a
14	Germany	0.02	94.86		Bangladesh	n/a	n/a
15	Montenegro	0.02	94.59		Benin	n/a	n/a
16	Colombia	0.03	94.05		Bolivia, Plurinational St.	n/a	n/a
16	North Macedonia	0.03	94.05		Botswana	n/a	n/a
18	Hungary	0.03	93.24		Bulgaria	n/a	n/a
19	Costa Rica	0.03	92.70		Burkina Faso	n/a	n/a
20	Greece	0.03	92.43		Burundi	n/a	n/a
21	Denmark	0.03	92.16		Cabo Verde	n/a	n/a
22	Croatia	0.03	91.89		Cameroon	n/a	n/a
23	Bosnia and Herzegovina	0.04	91.08		Chad	n/a	n/a
24	Belgium	0.04	90.27		Congo, Dem. Rep.	n/a	n/a
24	United Kingdom	0.04	90.27		Côte d'Ivoire	n/a	n/a
26	Ireland	0.04	89.46		Cyprus	n/a	n/a
27	France	0.04	88.92		Dominican Republic	n/a	n/a
28	Slovakia	0.05	87.84		Ecuador	n/a	n/a
28	Uruguay	0.05	87.84		El Salvador	n/a	n/a
30	Serbia	0.05	87.57		Eswatini	n/a	n/a
31	Italy	0.05	87.03		Ethiopia	n/a	n/a
31	Japan	0.05	87.03		Gambia	n/a	n/a
33	Cambodia	0.05	86.49		Ghana	n/a	n/a
34	South Africa	0.06	86.22		Guatemala	n/a	n/a
35	Albania	0.06	85.68		Guinea	n/a	n/a
35	Chile	0.06	85.68		Honduras	n/a	n/a
37	Singapore	0.06	85.14		Iran, Islamic Rep.	n/a	n/a
37	Sweden	0.06	85.14		Jamaica	n/a	n/a
37	Türkiye	0.06	85.14		Kenya	n/a	n/a
40	Moldova, Rep.	0.06	84.86		Kuwait	n/a	n/a
41	Morocco	0.07	82.97		Lesotho	n/a	n/a
42	Mongolia	0.07	81.62		Madagascar	n/a	n/a
42	Poland	0.07	81.62		Malawi	n/a	n/a
44	Azerbaijan	0.08	80.27		Mali	n/a	n/a
44	Peru	0.08	80.27		Malta	n/a	n/a
46	Brazil	0.08	79.19		Mauritania	n/a	n/a
47	Switzerland	0.08	78.65		Mauritius	n/a	n/a
48	Norway	0.09	78.11		Mozambique	n/a	n/a
49	Belarus	0.09	77.84		Namibia	n/a	n/a
50	United States of America	0.09	77.03		Nepal	n/a	n/a
51	Austria	0.11	72.43		Nicaragua	n/a	n/a
52	Kazakhstan	0.11	70.54		Nigeria	n/a	n/a
53	Egypt	0.12	69.46		Oman	n/a	n/a
54	Israel	0.12	69.19		Pakistan	n/a	n/a
55	Ukraine	0.12	68.38		Panama	n/a	n/a
56	Viet Nam	0.13	65.95		Paraguay	n/a	n/a
57	Argentina	0.13	65.68		Qatar	n/a	n/a
58	Korea, Rep.	0.14	64.59		Rwanda	n/a	n/a
59	Kyrgyzstan	0.14	64.05		Senegal	n/a	n/a
60	Brunei Darussalam	0.15	61.62		Sri Lanka	n/a	n/a
61	Lebanon	0.15	61.08		Tanzania, United Rep.	n/a	n/a
62	Australia	0.15	60.81		Trinidad and Tobago	n/a	n/a
63	Canada	0.16	57.57		Uganda	n/a	n/a
64	Iceland	0.17	55.95		United Arab Emirates	n/a	n/a
65	Tunisia	0.17	54.05		Zambia	n/a	n/a
66	Mexico	0.19	50.27		Zimbabwe	n/a	n/a
67	Lao PDR	0.19	49.19				

SOURCE: OECD, FDI Regulatory Restrictiveness Index (FDI Index) (<https://www.oecd.org/investment/fdiindex.htm>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.1.2 Financial globalisation

Financial Globalisation (de facto) sub-index | 2019

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Luxembourg	99.12	100.00	68	Oman	67.76	60.47
2	Mauritius	98.68	99.45	69	Colombia	66.99	59.50
3	Singapore	97.99	98.58	70	Senegal	66.74	59.17
4	Ireland	97.56	98.04	71	North Macedonia	66.50	58.87
5	Malta	97.56	98.04	72	Viet Nam	66.19	58.49
6	Netherlands	96.55	96.76	73	Costa Rica	66.01	58.26
7	Cyprus	96.22	96.34	74	Thailand	65.91	58.13
8	Switzerland	96.04	96.12	75	Moldova, Rep.	65.84	58.04
9	Belgium	93.15	92.47	76	Argentina	65.74	57.92
10	United Kingdom	93.13	92.45	77	Nicaragua	65.46	57.56
11	Kuwait	91.81	90.79	78	Albania	65.31	57.37
12	Norway	91.19	90.00	79	Poland	64.86	56.80
13	Sweden	90.98	89.74	80	Burkina Faso	64.74	56.66
14	Finland	90.78	89.50	81	Russian Federation	64.72	56.63
15	Bahrain	90.53	89.17	82	Zambia	63.55	55.15
16	Denmark	90.18	88.73	83	Honduras	63.39	54.96
17	France	89.42	87.78	84	Iceland	63.04	54.51
18	Austria	88.74	86.91	85	Tunisia	62.70	54.09
19	Brunei Darussalam	87.66	85.56	86	Lao PDR	61.94	53.13
20	Canada	87.27	85.06	87	Mexico	61.20	52.19
21	Qatar	86.63	84.26	88	Bosnia and Herzegovina	58.86	49.25
22	Lebanon	85.81	83.23	89	Peru	58.66	48.99
23	Germany	85.43	82.74	90	Korea, Rep.	58.36	48.62
24	Montenegro	85.33	82.62	91	Mauritania	57.77	47.87
25	Portugal	85.27	82.54	92	Botswana	57.53	47.57
26	Spain	85.03	82.24	93	Belarus	57.48	47.50
27	Georgia	84.47	81.53	94	Côte d'Ivoire	56.55	46.33
28	United Arab Emirates	83.68	80.54	95	El Salvador	56.41	46.15
29	Estonia	83.17	79.90	96	Ghana	53.99	43.11
30	Mongolia	82.81	79.45	97	Brazil	53.80	42.87
31	Hungary	81.55	77.86	98	Philippines	53.57	42.57
32	Australia	81.43	77.70	99	Gambia	53.18	42.08
33	Panama	81.40	77.66	100	Madagascar	53.07	41.94
34	Latvia	80.63	76.69	101	Zimbabwe	52.27	40.93
35	Azerbaijan	80.12	76.05	102	Egypt	52.25	40.91
36	United States of America	79.96	75.85	103	Dominican Republic	52.01	40.60
37	Slovakia	79.75	75.59	104	Indonesia	50.55	38.77
38	Czech Republic	79.46	75.22	105	Ecuador	50.32	38.47
39	Trinidad and Tobago	79.36	75.10	106	Morocco	50.26	38.40
40	Kazakhstan	79.13	74.80	107	Türkiye	50.21	38.34
41	Ukraine	78.80	74.39	108	Guinea	49.35	37.25
42	Italy	78.58	74.11	109	Uganda	47.93	35.47
43	Japan	77.84	73.18	110	Benin	47.82	35.32
44	Chile	77.58	72.85	111	Rwanda	47.80	35.30
45	Cambodia	77.14	72.30	112	Paraguay	47.59	35.04
46	Slovenia	76.92	72.02	113	Sri Lanka	46.15	33.22
47	Jamaica	76.76	71.81	114	China	45.98	33.00
48	Malaysia	76.47	71.45	115	Bolivia, Plurinational St.	45.09	31.88
49	Greece	75.98	70.83	116	Nigeria	44.28	30.85
50	New Zealand	75.73	70.52	117	Mali	44.27	30.85
51	Mozambique	75.17	69.81	118	Cameroon	43.32	29.65
52	Cabo Verde	73.96	68.29	119	Tanzania, United Rep.	40.76	26.42
53	Lithuania	72.65	66.63	120	Guatemala	40.51	26.10
54	Angola	72.32	66.21	121	Malawi	39.16	24.41
55	Eswatini	71.96	65.76	122	India	37.18	21.91
56	Serbia	71.67	65.39	123	Burundi	34.76	18.86
57	Bulgaria	71.25	64.86	124	Pakistan	33.64	17.44
58	Croatia	71.17	64.76	125	Kenya	32.88	16.48
59	Lesotho	70.91	64.44	126	Algeria	32.73	16.29
60	Armenia	70.39	63.78	127	Chad	26.31	8.20
61	Namibia	70.11	63.43	128	Ethiopia	25.89	7.68
62	Jordan	70.05	63.35	129	Nepal	24.55	5.98
63	Uruguay	69.31	62.42	130	Bangladesh	21.91	2.65
64	Kyrgyzstan	68.95	61.97	131	Iran, Islamic Rep.	19.81	0.00
65	South Africa	68.89	61.89		Congo, Dem. Rep.	n/a	n/a
66	Saudi Arabia	68.82	61.80		Romania	n/a	n/a
67	Israel	68.59	61.51				

SOURCE: Gygli, Savina, Florian Haelg, Niklas Potrafke, & Jan-Egbert Sturm (2019): The KOF Globalisation Index – Revisited. *Review of International Organizations*, 14(3), 543–574 (<https://doi.org/10.1007/s11558-019-09344-2>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.1.3 Migrant stock

Adult migrant stock (%) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United Arab Emirates	4.50	100.00	68	Benin	1.81	39.73
2	Qatar	4.36	96.92	69	Kyrgyzstan	1.81	39.63
3	Kuwait	4.36	96.86	70	Rwanda	1.78	39.01
4	Bahrain	4.26	94.66	71	Mali	1.78	39.01
5	Luxembourg	4.02	89.43	72	Burundi	1.77	38.82
6	Oman	3.99	88.55	73	Eswatini	1.75	38.41
7	Singapore	3.89	86.49	74	Mauritania	1.70	37.27
8	Saudi Arabia	3.87	86.05	75	Cabo Verde	1.65	36.20
9	Israel	3.59	79.60	76	Angola	1.63	35.61
10	Australia	3.58	79.56	77	Ecuador	1.60	35.12
11	Brunei Darussalam	3.55	78.84	78	Slovakia	1.58	34.67
12	Switzerland	3.54	78.47	79	Uganda	1.57	34.38
13	Jordan	3.46	76.80	80	Peru	1.49	32.50
14	New Zealand	3.45	76.51	81	Paraguay	1.45	31.66
15	Malta	3.38	74.98	82	Azerbaijan	1.43	31.23
16	Kazakhstan	3.31	73.49	83	Korea, Rep.	1.39	30.32
17	Lebanon	3.30	73.25	84	Uruguay	1.38	30.19
18	Canada	3.26	72.27	85	Cameroon	1.37	29.93
19	Sweden	3.13	69.27	86	Kenya	1.36	29.58
20	Germany	3.11	68.83	87	Colombia	1.34	29.12
21	Austria	3.11	68.83	88	Nepal	1.33	29.00
22	Iceland	3.09	68.47	89	Pakistan	1.33	28.99
23	Côte d'Ivoire	3.06	67.69	90	Mauritius	1.32	28.78
24	Belgium	3.03	67.05	91	Moldova, Rep.	1.31	28.59
25	Ireland	3.01	66.61	92	Ghana	1.21	26.25
26	United States of America	2.99	66.22	93	Romania	1.20	26.11
27	Estonia	2.97	65.78	94	Japan	1.19	25.78
28	Norway	2.93	64.89	95	Iran, Islamic Rep.	1.19	25.77
29	Cyprus	2.90	64.20	96	Senegal	1.18	25.70
30	Croatia	2.84	62.81	97	Poland	1.13	24.38
31	Gambia	2.82	62.48	98	Zambia	1.10	23.85
32	Latvia	2.82	62.37	99	Bulgaria	1.10	23.74
33	United Kingdom	2.82	62.33	100	Congo, Dem. Rep.	1.08	23.43
34	Spain	2.81	62.26	101	Georgia	1.08	23.24
35	Netherlands	2.81	62.21	102	Mozambique	1.07	23.13
36	France	2.81	62.13	103	Malawi	1.02	21.98
37	Slovenia	2.79	61.75	104	Bangladesh	0.88	18.80
38	Greece	2.72	60.12	105	Guinea	0.86	18.39
39	Montenegro	2.71	59.97	106	Bolivia, Plurinational St.	0.84	17.88
40	Belarus	2.70	59.68	107	Tanzania, United Rep.	0.82	17.52
41	Denmark	2.69	59.46	108	Bosnia and Herzegovina	0.75	16.00
42	Ukraine	2.65	58.64	109	Ethiopia	0.72	15.31
43	Serbia	2.58	57.04	110	Lao PDR	0.72	15.23
44	Costa Rica	2.55	56.38	111	Nigeria	0.69	14.65
45	Malaysia	2.53	55.92	112	Albania	0.66	13.84
46	Italy	2.52	55.68	113	El Salvador	0.62	13.02
47	Portugal	2.47	54.49	114	Mongolia	0.61	12.75
48	Russian Federation	2.37	52.29	115	Lesotho	0.58	12.23
49	Chile	2.35	51.78	116	Nicaragua	0.56	11.76
50	Panama	2.23	49.09	117	Algeria	0.56	11.64
51	Armenia	2.21	48.71	118	Guatemala	0.55	11.56
52	Türkiye	2.19	48.20	119	Jamaica	0.55	11.41
53	Namibia	2.15	47.38	120	Egypt	0.54	11.34
54	Dominican Republic	2.14	47.15	121	Cambodia	0.54	11.19
55	Finland	2.14	47.11	122	Tunisia	0.45	9.17
56	Botswana	2.09	46.09	123	Brazil	0.41	8.42
57	North Macedonia	2.07	45.55	124	India	0.41	8.37
58	South Africa	2.06	45.38	125	Mexico	0.40	8.19
59	Burkina Faso	2.00	43.89	126	Honduras	0.37	7.33
60	Hungary	1.98	43.45	127	Morocco	0.27	5.21
61	Chad	1.97	43.29	128	Philippines	0.20	3.65
62	Argentina	1.96	43.11	129	Madagascar	0.18	3.24
63	Lithuania	1.95	42.81	130	Sri Lanka	0.12	1.87
64	Zimbabwe	1.90	41.78	131	Indonesia	0.12	1.77
65	Czech Republic	1.90	41.74	132	Viet Nam	0.06	0.52
66	Trinidad and Tobago	1.86	40.78	133	China	0.04	0.00
67	Thailand	1.84	40.40				

SOURCE: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex (<https://www.un.org/development/desa/pd/content/international-migrant-stock>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.1.4 International students

Tertiary inbound mobility ratio (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Cyprus	26.06	100.00	68	Oman	2.88	10.96
1	Luxembourg	48.65	100.00	69	Italy	2.83	10.77
1	Qatar	37.45	100.00	70	Cameroon	2.81	10.70
1	United Arab Emirates	72.98	100.00	71	Israel	2.78	10.56
5	Australia	25.99	99.75	72	Côte d'Ivoire	2.44	9.26
6	New Zealand	20.77	79.67	73	Azerbaijan	2.36	8.96
7	Singapore	19.17	73.51	74	Botswana	2.20	8.35
8	United Kingdom	18.68	71.64	75	Morocco	2.06	7.83
9	Switzerland	17.80	68.27	76	Burkina Faso	2.05	7.78
10	Austria	17.64	67.66	77	Türkiye	1.99	7.53
11	Canada	16.22	62.20	78	Madagascar	1.91	7.24
12	Kyrgyzstan	15.54	59.59	79	Egypt	1.83	6.94
13	Czech Republic	14.36	55.07	80	Dominican Republic	1.73	6.52
14	Bahrain	12.76	48.89	81	Albania	1.72	6.52
15	Hungary	12.61	48.32	82	Mauritania	1.45	5.46
16	Malta	12.44	47.68	83	Mongolia	1.44	5.44
17	Jordan	12.23	46.89	84	Cabo Verde	1.44	5.43
18	Netherlands	11.69	44.81	85	Thailand	1.31	4.92
19	Estonia	11.09	42.48	86	Kenya	1.29	4.86
20	Uganda	10.73	41.12	87	Costa Rica	1.16	4.36
21	Ireland	10.71	41.05	88	Ghana	1.05	3.91
22	Denmark	10.49	40.19	89	Guinea	0.92	3.42
23	Latvia	10.43	39.95	90	Mali	0.86	3.18
24	Germany	10.11	38.73	91	Honduras	0.83	3.06
25	Belgium	10.04	38.47	92	Ecuador	0.79	2.92
26	Portugal	9.71	37.20	93	Iran, Islamic Rep.	0.77	2.84
27	Lebanon	9.59	36.72	94	Mexico	0.71	2.61
28	France	9.17	35.14	95	Lao PDR	0.58	2.11
29	Slovakia	9.04	34.62	96	Chile	0.57	2.09
30	Georgia	8.72	33.40	97	Algeria	0.56	2.04
31	Iceland	8.45	32.35	98	Eswatini	0.51	1.85
32	Finland	8.05	30.83	99	Zimbabwe	0.47	1.69
33	Malaysia	7.48	28.62	100	China	0.45	1.61
34	Bulgaria	7.19	27.51	101	Congo, Dem. Rep.	0.44	1.58
35	Sweden	7.15	27.37	102	Sri Lanka	0.39	1.38
36	Senegal	7.05	26.96	103	El Salvador	0.37	1.32
37	Mauritius	6.71	25.67	104	Viet Nam	0.37	1.31
38	Slovenia	6.67	25.53	105	Mozambique	0.36	1.27
39	Moldova, Rep.	6.63	25.37	106	Lesotho	0.35	1.25
40	Bosnia and Herzegovina	6.58	25.16	107	Brazil	0.25	0.83
41	Lithuania	5.99	22.91	108	Guatemala	0.23	0.77
42	Armenia	5.91	22.60	109	Colombia	0.21	0.72
43	Belarus	5.89	22.53	110	India	0.14	0.41
44	Romania	5.68	21.70	111	Indonesia	0.10	0.26
45	Kazakhstan	5.51	21.05	112	Nepal	0.03	0.00
46	Japan	5.24	20.01		Angola	n/a	n/a
47	United States of America	5.19	19.83		Bangladesh	n/a	n/a
48	North Macedonia	5.15	19.68		Bolivia, Plurinational St.	n/a	n/a
49	Russian Federation	4.97	18.97		Cambodia	n/a	n/a
50	Burundi	4.77	18.21		Ethiopia	n/a	n/a
51	Namibia	4.76	18.18		Gambia	n/a	n/a
52	Serbia	4.72	18.02		Jamaica	n/a	n/a
53	Saudi Arabia	4.31	16.43		Kuwait	n/a	n/a
54	Norway	4.28	16.32		Malawi	n/a	n/a
55	Chad	4.02	15.32		Montenegro	n/a	n/a
56	Ukraine	4.00	15.24		Nicaragua	n/a	n/a
57	Poland	3.86	14.71		Nigeria	n/a	n/a
58	Brunei Darussalam	3.72	14.20		Pakistan	n/a	n/a
59	Spain	3.70	14.10		Panama	n/a	n/a
60	Rwanda	3.64	13.87		Paraguay	n/a	n/a
61	Argentina	3.50	13.34		Peru	n/a	n/a
62	Greece	3.50	13.34		Philippines	n/a	n/a
63	Croatia	3.49	13.31		Tanzania, United Rep.	n/a	n/a
64	South Africa	3.47	13.23		Trinidad and Tobago	n/a	n/a
65	Korea, Rep.	3.26	12.40		Uruguay	n/a	n/a
66	Tunisia	3.09	11.78		Zambia	n/a	n/a
67	Benin	2.97	11.29				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.1.5 Brain gain

Average answer to the question: To what extent does your country attract talented people from abroad?
[1 = not at all; 7 = to a great extent—attracts the best and brightest from around the world] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Singapore.....	6.12	100.00	68	Sri Lanka.....	3.70	45.93
2	Switzerland.....	6.10	99.66	69	Georgia.....	3.67	45.32
3	Luxembourg.....	5.80	93.04	70	Madagascar.....	3.67	45.20
4	United Arab Emirates.....	5.66	89.80	71	Paraguay.....	3.66	44.99
5	United States of America.....	5.60	88.41	72	Lithuania.....	3.64	44.59
6	Saudi Arabia.....	5.54	87.11	73	Angola.....	3.64	44.54
7	China.....	5.42	84.43	74	Cameroon.....	3.63	44.34
8	Qatar.....	5.42	84.36	75	Mozambique.....	3.59	43.31
9	Bahrain.....	5.38	83.44	76	Trinidad and Tobago.....	3.57	42.97
10	Netherlands.....	5.23	80.15	77	Spain.....	3.56	42.73
11	Canada.....	5.20	79.39	78	Russian Federation.....	3.51	41.58
12	Malta.....	5.17	78.74	79	Latvia.....	3.51	41.57
13	New Zealand.....	5.11	77.52	80	Ukraine.....	3.48	41.03
14	Azerbaijan.....	5.06	76.40	81	Cabo Verde.....	3.45	40.18
15	United Kingdom.....	5.04	76.01	82	Armenia.....	3.44	40.03
16	Ireland.....	4.96	74.03	83	Pakistan.....	3.44	40.01
17	Australia.....	4.94	73.58	84	Mexico.....	3.39	38.97
18	Belgium.....	4.86	71.81	85	South Africa.....	3.38	38.82
19	Oman.....	4.74	69.24	86	Albania.....	3.38	38.78
20	Malaysia.....	4.70	68.33	87	Guatemala.....	3.35	38.05
21	Germany.....	4.65	67.10	88	Colombia.....	3.33	37.59
22	Guinea.....	4.61	66.16	89	Czech Republic.....	3.31	37.10
23	Denmark.....	4.58	65.52	90	Kyrgyzstan.....	3.31	37.07
24	Indonesia.....	4.56	65.13	91	Eswatini.....	3.30	36.98
25	Gambia.....	4.56	65.09	92	Congo, Dem. Rep.....	3.30	36.87
26	Rwanda.....	4.54	64.79	93	Philippines.....	3.29	36.78
27	Norway.....	4.52	64.29	94	Peru.....	3.27	36.30
28	Mauritius.....	4.45	62.68	95	Chad.....	3.25	35.75
29	Estonia.....	4.43	62.15	96	Ethiopia.....	3.25	35.74
30	Côte d'Ivoire.....	4.40	61.46	97	Italy.....	3.18	34.29
31	Iceland.....	4.34	60.33	98	Uruguay.....	3.18	34.26
32	Viet Nam.....	4.34	60.32	99	Belarus.....	3.17	34.05
33	Austria.....	4.30	59.33	100	Mauritania.....	3.16	33.89
34	Senegal.....	4.28	58.93	101	Ecuador.....	3.05	31.23
35	Kenya.....	4.26	58.49	102	Lesotho.....	2.99	30.01
36	Sweden.....	4.25	58.12	103	Montenegro.....	2.93	28.53
37	Thailand.....	4.22	57.63	104	Hungary.....	2.92	28.40
38	Botswana.....	4.22	57.62	105	Poland.....	2.91	28.29
39	Ghana.....	4.19	56.78	106	India.....	2.91	28.19
40	Zambia.....	4.16	56.12	107	Algeria.....	2.90	28.02
41	Israel.....	4.15	55.96	108	Mongolia.....	2.89	27.74
42	Tanzania, United Rep.....	4.15	55.95	109	Lebanon.....	2.87	27.25
43	Dominican Republic.....	4.14	55.78	110	Nepal.....	2.86	27.01
44	France.....	4.14	55.77	111	Honduras.....	2.83	26.43
45	Chile.....	4.13	55.43	112	El Salvador.....	2.83	26.31
46	Cambodia.....	4.09	54.69	113	Burkina Faso.....	2.82	26.26
47	Portugal.....	4.04	53.53	114	Argentina.....	2.79	25.59
48	Bangladesh.....	4.03	53.32	115	Türkiye.....	2.70	23.40
49	Egypt.....	4.01	52.90	116	Slovenia.....	2.67	22.73
50	Kuwait.....	4.00	52.61	117	Bulgaria.....	2.63	21.98
51	Costa Rica.....	4.00	52.50	118	Brazil.....	2.58	20.68
52	Panama.....	3.99	52.47	119	Tunisia.....	2.48	18.61
53	Nigeria.....	3.97	51.88	120	Bolivia, Plurinational St.....	2.41	16.93
54	Cyprus.....	3.96	51.63	121	Greece.....	2.39	16.48
55	Uganda.....	3.95	51.55	122	Romania.....	2.33	15.22
56	Jamaica.....	3.95	51.39	123	Slovakia.....	2.30	14.45
57	Kazakhstan.....	3.93	50.97	124	Serbia.....	2.29	14.38
58	Benin.....	3.92	50.88	125	Zimbabwe.....	2.25	13.32
59	Korea, Rep.....	3.92	50.79	126	Nicaragua.....	2.20	12.19
60	Namibia.....	3.90	50.35	127	Croatia.....	2.08	9.60
61	Japan.....	3.89	50.15	128	Iran, Islamic Rep.....	2.07	9.30
62	Malawi.....	3.88	49.80	129	North Macedonia.....	1.99	7.66
63	Jordan.....	3.86	49.48	130	Bosnia and Herzegovina.....	1.65	0.00
64	Mali.....	3.81	48.39		Brunei Darussalam.....	n/a	n/a
65	Finland.....	3.78	47.65		Moldova, Rep.....	n/a	n/a
66	Burundi.....	3.77	47.43		Morocco.....	n/a	n/a
67	Lao PDR.....	3.76	47.24				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.2.1 Tolerance of minorities

Discrimination and violence against minorities | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Iceland	0.50	100.00	67	Ukraine	5.70	43.48
1	Ireland	0.50	100.00	69	Mozambique	5.80	42.39
3	Finland	0.60	98.91	70	Belarus	5.90	41.30
4	Portugal	1.30	91.30	70	Nicaragua	5.90	41.30
5	Sweden	1.70	86.96	70	South Africa	5.90	41.30
6	Luxembourg	2.10	82.61	73	North Macedonia	6.00	40.22
7	Canada	2.20	81.52	73	Romania	6.00	40.22
7	Eswatini	2.20	81.52	75	Azerbaijan	6.10	39.13
7	Jamaica	2.20	81.52	75	Cambodia	6.10	39.13
7	Singapore	2.20	81.52	75	Ecuador	6.10	39.13
11	Korea, Rep.	2.30	80.43	75	United Kingdom	6.10	39.13
11	Oman	2.30	80.43	75	Zimbabwe	6.10	39.13
13	Uruguay	2.40	79.35	80	Mexico	6.30	36.96
14	Japan	2.50	78.26	81	France	6.40	35.87
15	Benin	2.60	77.17	81	Moldova, Rep.	6.40	35.87
15	Gambia	2.60	77.17	83	Brunei Darussalam	6.50	34.78
15	Mongolia	2.60	77.17	83	United States of America	6.50	34.78
15	New Zealand	2.60	77.17	85	Bosnia and Herzegovina	6.60	33.70
19	Lesotho	2.70	76.09	86	Israel	6.70	32.61
19	Malta	2.70	76.09	86	Spain	6.70	32.61
19	Switzerland	2.70	76.09	88	China	7.10	28.26
22	United Arab Emirates	2.80	75.00	88	Indonesia	7.10	28.26
23	Cabo Verde	2.90	73.91	88	Serbia	7.10	28.26
24	Costa Rica	3.00	72.83	88	Tunisia	7.10	28.26
24	Trinidad and Tobago	3.00	72.83	92	Algeria	7.20	27.17
26	Australia	3.10	71.74	92	Lao PDR	7.20	27.17
27	Chile	3.20	70.65	94	Burundi	7.30	26.09
27	Ghana	3.20	70.65	94	Côte d'Ivoire	7.30	26.09
29	Lithuania	3.30	69.57	94	Georgia	7.30	26.09
29	Madagascar	3.30	69.57	94	Mauritania	7.30	26.09
29	Norway	3.30	69.57	94	Philippines	7.30	26.09
32	Qatar	3.40	68.48	94	Thailand	7.30	26.09
33	Hungary	3.60	66.30	100	Estonia	7.40	25.00
33	Netherlands	3.60	66.30	101	Colombia	7.50	23.91
33	Slovenia	3.60	66.30	102	Brazil	7.70	21.74
36	Denmark	3.70	65.22	103	Uganda	7.80	20.65
37	Argentina	3.80	64.13	104	Lebanon	7.90	19.57
38	Austria	3.90	63.04	105	Chad	8.00	18.48
38	Botswana	3.90	63.04	105	Kazakhstan	8.00	18.48
40	Germany	4.00	61.96	105	Kenya	8.00	18.48
41	Albania	4.10	60.87	105	Russian Federation	8.00	18.48
41	Belgium	4.10	60.87	109	Angola	8.10	17.39
41	Kuwait	4.10	60.87	109	Kyrgyzstan	8.10	17.39
44	Bulgaria	4.20	59.78	109	Mali	8.10	17.39
44	Greece	4.20	59.78	112	India	8.20	16.30
46	Italy	4.30	58.70	113	Egypt	8.30	15.22
47	Mauritius	4.40	57.61	113	Latvia	8.30	15.22
48	Burkina Faso	4.50	56.52	115	Morocco	8.50	13.04
49	Czech Republic	4.60	55.43	116	Bangladesh	8.60	11.96
49	Dominican Republic	4.60	55.43	116	Jordan	8.60	11.96
49	Namibia	4.60	55.43	116	Peru	8.60	11.96
49	Paraguay	4.60	55.43	116	Sri Lanka	8.60	11.96
53	Malawi	4.70	54.35	120	Cameroon	8.70	10.87
54	Croatia	4.90	52.17	121	Nigeria	8.80	9.78
54	Tanzania, United Rep.	4.90	52.17	121	Pakistan	8.80	9.78
56	Honduras	5.00	51.09	123	Saudi Arabia	9.00	7.61
57	Cyprus	5.10	50.00	124	Montenegro	9.10	6.52
58	Senegal	5.20	48.91	125	Guinea	9.30	4.35
58	Viet Nam	5.20	48.91	125	Iran, Islamic Rep.	9.30	4.35
60	Armenia	5.30	47.83	127	Congo, Dem. Rep.	9.40	3.26
60	Zambia	5.30	47.83	127	Guatemala	9.40	3.26
62	Malaysia	5.40	46.74	127	Nepal	9.40	3.26
63	El Salvador	5.50	45.65	130	Ethiopia	9.50	2.17
64	Bolivia, Plurinational St.	5.60	44.57	131	Bahrain	9.60	1.09
64	Panama	5.60	44.57	131	Rwanda	9.60	1.09
64	Poland	5.60	44.57	133	Türkiye	9.70	0.00
67	Slovakia	5.70	43.48				

SOURCE: The Fund for Peace, *Fragile States Index 2021* (<https://fragilestatesindex.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.2.2 Tolerance of immigrants

The percentage of respondents answering “Good place” to the question: Is the city or area where you live a good place or not a good place to live for immigrants from other countries? | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United Arab Emirates.....	—	100.00	65	Eswatini.....	—	58.46
2	Canada.....	—	98.46	65	Korea, Rep.....	—	58.46
3	Luxembourg.....	—	95.38	65	Mexico.....	—	58.46
3	New Zealand.....	—	95.38	71	Armenia.....	—	56.92
3	Norway.....	—	95.38	71	Bangladesh.....	—	56.92
6	Australia.....	—	93.85	71	Japan.....	—	56.92
6	Ireland.....	—	93.85	71	Jordan.....	—	56.92
8	Portugal.....	—	92.31	75	Bosnia and Herzegovina.....	—	55.38
8	Sweden.....	—	92.31	75	Lesotho.....	—	55.38
8	Uruguay.....	—	92.31	75	Ukraine.....	—	55.38
11	United States of America.....	—	90.77	78	Azerbaijan.....	—	53.85
12	Gambia.....	—	89.23	78	Burundi.....	—	53.85
13	Benin.....	—	87.69	78	Viet Nam.....	—	53.85
13	Paraguay.....	—	87.69	81	Cyprus.....	—	50.77
13	Spain.....	—	87.69	81	India.....	—	50.77
16	Denmark.....	—	84.62	81	Namibia.....	—	50.77
16	Jamaica.....	—	84.62	81	Peru.....	—	50.77
16	Mauritius.....	—	84.62	81	Poland.....	—	50.77
16	Nepal.....	—	84.62	81	Trinidad and Tobago.....	—	50.77
16	Singapore.....	—	84.62	87	Lebanon.....	—	47.69
21	Argentina.....	—	83.08	87	Sri Lanka.....	—	47.69
21	Iceland.....	—	83.08	87	Zimbabwe.....	—	47.69
21	Qatar.....	—	83.08	90	Angola.....	—	46.15
24	Brazil.....	—	81.54	90	Congo, Dem. Rep.....	—	46.15
24	United Kingdom.....	—	81.54	90	Tunisia.....	—	46.15
26	Saudi Arabia.....	—	80.00	93	Türkiye.....	—	44.62
27	Burkina Faso.....	—	78.46	94	Egypt.....	—	43.08
27	Costa Rica.....	—	78.46	94	Kazakhstan.....	—	43.08
29	Bahrain.....	—	76.92	94	Panama.....	—	43.08
29	Côte d'Ivoire.....	—	76.92	97	Iran, Islamic Rep.....	—	41.54
29	Finland.....	—	76.92	97	Moldova, Rep.....	—	41.54
29	Netherlands.....	—	76.92	97	Rwanda.....	—	41.54
29	Switzerland.....	—	76.92	97	Tanzania, United Rep.....	—	41.54
34	Germany.....	—	75.38	101	Albania.....	—	40.00
34	Guinea.....	—	75.38	101	Mauritania.....	—	40.00
34	Malta.....	—	75.38	103	Algeria.....	—	38.46
37	Italy.....	—	73.85	103	Honduras.....	—	38.46
37	Senegal.....	—	73.85	103	Morocco.....	—	38.46
39	Ethiopia.....	—	72.31	103	Slovakia.....	—	38.46
39	Georgia.....	—	72.31	107	Pakistan.....	—	36.92
39	Ghana.....	—	72.31	108	Czech Republic.....	—	35.38
39	Russian Federation.....	—	72.31	108	Estonia.....	—	35.38
43	Montenegro.....	—	70.77	108	Madagascar.....	—	35.38
43	Nicaragua.....	—	70.77	108	North Macedonia.....	—	35.38
43	South Africa.....	—	70.77	108	Romania.....	—	35.38
43	Zambia.....	—	70.77	113	Lithuania.....	—	33.85
47	Kuwait.....	—	69.23	113	Uganda.....	—	33.85
48	Chile.....	—	67.69	115	Belarus.....	—	32.31
48	Dominican Republic.....	—	67.69	115	Bulgaria.....	—	32.31
48	Kenya.....	—	67.69	115	Greece.....	—	32.31
51	Austria.....	—	66.15	118	Indonesia.....	—	30.77
51	El Salvador.....	—	66.15	118	Latvia.....	—	30.77
51	Kyrgyzstan.....	—	66.15	118	Mongolia.....	—	30.77
51	Mali.....	—	66.15	121	Israel.....	—	27.69
51	Serbia.....	—	66.15	122	Malawi.....	—	26.15
56	Botswana.....	—	64.62	123	Croatia.....	—	23.08
57	Mozambique.....	—	63.08	124	Slovenia.....	—	15.38
57	Philippines.....	—	63.08	124	Thailand.....	—	15.38
59	Cameroon.....	—	61.54	126	Guatemala.....	—	13.85
59	France.....	—	61.54	127	Cambodia.....	—	9.23
59	Nigeria.....	—	61.54	127	Malaysia.....	—	9.23
62	Belgium.....	—	60.00	129	Lao PDR.....	—	7.69
62	Chad.....	—	60.00	130	Hungary.....	—	0.00
62	Colombia.....	—	60.00		Brunei Darussalam.....	n/a	n/a
65	Bolivia, Plurinational St.....	—	58.46		Cabo Verde.....	n/a	n/a
65	China.....	—	58.46		Oman.....	n/a	n/a
65	Ecuador.....	—	58.46				

SOURCE: The Gallup World Poll (2006–2020). Data kindly provided by Gallup, Inc.

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.2.3 Social mobility

Average answer to the question: In your country, to what extent do individuals have the opportunity to improve their economic situation through their personal efforts regardless of the socioeconomic status of their parents? [1 = not at all; 7 = to a great extent] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Finland.....	6.22	100.00	68	Kazakhstan.....	4.36	43.64
2	Switzerland.....	6.15	97.76	69	Burkina Faso.....	4.36	43.56
3	Iceland.....	6.13	97.24	70	Lao PDR.....	4.36	43.56
4	Denmark.....	6.07	95.40	71	Guatemala.....	4.36	43.40
5	New Zealand.....	5.94	91.54	72	Egypt.....	4.35	43.14
6	Singapore.....	5.88	89.79	73	Italy.....	4.33	42.69
7	Estonia.....	5.84	88.52	74	Botswana.....	4.33	42.66
8	United States of America.....	5.80	87.18	75	Senegal.....	4.32	42.37
9	Australia.....	5.79	87.10	76	Tunisia.....	4.32	42.23
10	Luxembourg.....	5.76	86.16	77	Romania.....	4.31	42.13
11	Austria.....	5.76	86.01	78	Poland.....	4.30	41.80
12	Norway.....	5.71	84.56	79	Jamaica.....	4.30	41.68
13	Netherlands.....	5.63	82.05	80	Montenegro.....	4.28	41.21
14	Sweden.....	5.53	79.16	81	Burundi.....	4.27	40.89
15	Saudi Arabia.....	5.52	78.71	82	Dominican Republic.....	4.27	40.69
16	United Arab Emirates.....	5.50	78.28	83	Moldova, Rep.....	4.25	40.20
17	Japan.....	5.49	77.90	84	Mauritania.....	4.24	40.04
18	Lithuania.....	5.40	75.12	85	Belarus.....	4.23	39.72
19	United Kingdom.....	5.37	74.15	86	Serbia.....	4.21	39.13
20	Qatar.....	5.36	73.89	87	Paraguay.....	4.20	38.64
21	Ireland.....	5.34	73.44	88	Brunei Darussalam.....	4.18	38.13
22	Canada.....	5.25	70.45	89	Morocco.....	4.18	38.00
23	Bahrain.....	5.24	70.18	90	Guinea.....	4.16	37.57
24	France.....	5.20	69.17	91	Ghana.....	4.15	37.10
25	Costa Rica.....	5.19	68.80	92	Brazil.....	4.13	36.45
26	Slovenia.....	5.19	68.79	93	Colombia.....	4.12	36.22
27	Belgium.....	5.18	68.45	94	Mali.....	4.10	35.69
28	China.....	5.18	68.43	95	Thailand.....	4.09	35.39
29	Malaysia.....	5.17	68.15	96	Nigeria.....	4.09	35.35
30	Azerbaijan.....	5.14	67.10	97	Namibia.....	4.05	34.17
31	Malta.....	5.09	65.63	98	Korea, Rep.....	4.04	33.86
32	Benin.....	5.08	65.43	99	Malawi.....	4.04	33.77
33	Chile.....	5.08	65.29	100	Bangladesh.....	4.03	33.40
34	Czech Republic.....	5.07	65.07	101	Algeria.....	4.01	33.02
35	Latvia.....	5.05	64.44	102	Ukraine.....	4.00	32.51
36	Israel.....	5.04	64.21	103	Ecuador.....	3.98	31.94
37	Spain.....	5.01	63.17	104	Congo, Dem. Rep.....	3.97	31.75
38	Indonesia.....	5.00	63.04	105	Croatia.....	3.97	31.64
39	Germany.....	4.98	62.45	106	Cambodia.....	3.96	31.40
40	Rwanda.....	4.95	61.37	107	Türkiye.....	3.96	31.32
41	Oman.....	4.92	60.63	108	Madagascar.....	3.96	31.30
42	Armenia.....	4.80	56.81	109	South Africa.....	3.95	31.07
43	Slovakia.....	4.79	56.69	110	Hungary.....	3.89	29.33
44	Viet Nam.....	4.79	56.67	111	Eswatini.....	3.89	29.18
45	Mongolia.....	4.71	54.28	112	Zambia.....	3.87	28.73
46	Mauritius.....	4.69	53.51	113	Bulgaria.....	3.86	28.37
47	Uruguay.....	4.67	53.01	114	Cabo Verde.....	3.85	28.20
48	Pakistan.....	4.67	53.00	115	Mexico.....	3.80	26.59
49	Portugal.....	4.65	52.41	116	Bolivia, Plurinational St.....	3.76	25.43
50	Georgia.....	4.62	51.58	117	India.....	3.76	25.33
51	Cyprus.....	4.59	50.46	118	Bosnia and Herzegovina.....	3.74	24.65
52	Panama.....	4.54	49.08	119	Argentina.....	3.68	22.89
53	Trinidad and Tobago.....	4.53	48.65	120	Nepal.....	3.65	21.95
54	Sri Lanka.....	4.51	48.00	121	North Macedonia.....	3.62	21.09
55	Uganda.....	4.47	46.86	122	Chad.....	3.60	20.51
56	Tanzania, United Rep.....	4.47	46.85	123	Honduras.....	3.54	18.78
57	Russian Federation.....	4.46	46.68	124	Zimbabwe.....	3.54	18.51
58	Cameroon.....	4.44	46.11	125	El Salvador.....	3.39	14.21
59	Kuwait.....	4.44	45.90	126	Lesotho.....	3.39	14.15
60	Côte d'Ivoire.....	4.42	45.47	127	Nicaragua.....	3.32	12.00
61	Peru.....	4.42	45.23	128	Iran, Islamic Rep.....	3.28	10.73
62	Jordan.....	4.40	44.86	129	Ethiopia.....	3.26	10.08
63	Philippines.....	4.40	44.83	130	Lebanon.....	3.25	9.69
64	Kyrgyzstan.....	4.40	44.79	131	Mozambique.....	3.16	7.08
65	Greece.....	4.40	44.76	132	Albania.....	3.15	6.87
66	Gambia.....	4.40	44.76	133	Angola.....	2.93	0.00
67	Kenya.....	4.36	43.67				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.2.4 Economic empowerment of women

Women, Business and the Law index score | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Belgium.....	100.00	100.00	68	Burkina Faso.....	82.50	75.22
1	Canada.....	100.00	100.00	68	Mozambique.....	82.50	75.22
1	Denmark.....	100.00	100.00	68	Singapore.....	82.50	75.22
1	France.....	100.00	100.00	68	Türkiye.....	82.50	75.22
1	Greece.....	100.00	100.00	68	United Arab Emirates.....	82.50	75.22
1	Iceland.....	100.00	100.00	73	Cambodia.....	81.25	73.45
1	Ireland.....	100.00	100.00	73	Tanzania, United Rep.	81.25	73.45
1	Latvia.....	100.00	100.00	73	Zambia.....	81.25	73.45
1	Luxembourg.....	100.00	100.00	76	Benin.....	80.62	72.57
1	Portugal.....	100.00	100.00	76	Israel.....	80.62	72.57
1	Spain.....	100.00	100.00	76	Kenya.....	80.62	72.57
1	Sweden.....	100.00	100.00	76	Nepal.....	80.62	72.57
13	Estonia.....	97.50	96.46	80	Chile.....	80.00	71.68
13	Finland.....	97.50	96.46	80	Saudi Arabia.....	80.00	71.68
13	Germany.....	97.50	96.46	82	Angola.....	79.38	70.80
13	Italy.....	97.50	96.46	82	Argentina.....	79.38	70.80
13	Netherlands.....	97.50	96.46	82	Panama.....	79.38	70.80
13	New Zealand.....	97.50	96.46	85	Azerbaijan.....	78.75	69.91
13	United Kingdom.....	97.50	96.46	85	Congo, Dem. Rep.	78.75	69.91
20	Australia.....	96.88	95.58	85	Japan.....	78.75	69.91
20	Austria.....	96.88	95.58	85	Philippines.....	78.75	69.91
20	Hungary.....	96.88	95.58	89	Lesotho.....	78.12	69.03
20	Norway.....	96.88	95.58	89	Thailand.....	78.12	69.03
20	Slovenia.....	96.88	95.58	91	Malawi.....	77.50	68.14
25	Peru.....	95.00	92.92	92	Ethiopia.....	76.88	67.26
26	Cyprus.....	94.38	92.04	92	Kyrgyzstan.....	76.88	67.26
26	Paraguay.....	94.38	92.04	94	Burundi.....	76.25	66.37
28	Croatia.....	93.75	91.15	95	Belarus.....	75.62	65.49
28	Czech Republic.....	93.75	91.15	95	China.....	75.62	65.49
28	Lithuania.....	93.75	91.15	95	Morocco.....	75.62	65.49
28	Poland.....	93.75	91.15	98	Ghana.....	75.00	64.60
28	Serbia.....	93.75	91.15	98	Honduras.....	75.00	64.60
33	Albania.....	91.25	87.61	98	Trinidad and Tobago.....	75.00	64.60
33	United States of America.....	91.25	87.61	101	India.....	74.38	63.72
35	Bulgaria.....	90.62	86.73	102	Guinea.....	73.75	62.83
35	Romania.....	90.62	86.73	103	Russian Federation.....	73.12	61.95
37	Ecuador.....	89.38	84.96	103	Uganda.....	73.12	61.95
37	Mauritius.....	89.38	84.96	105	Madagascar.....	71.88	60.18
39	Bolivia, Plurinational St.....	88.75	84.07	106	Guatemala.....	70.62	58.41
39	El Salvador.....	88.75	84.07	107	Gambia.....	69.38	56.64
39	Malta.....	88.75	84.07	107	Kazakhstan.....	69.38	56.64
39	Mexico.....	88.75	84.07	109	Jamaica.....	68.12	54.87
39	Uruguay.....	88.75	84.07	110	Senegal.....	66.88	53.10
44	Georgia.....	88.12	83.19	111	Chad.....	66.25	52.21
44	Lao PDR.....	88.12	83.19	112	Sri Lanka.....	65.62	51.33
44	South Africa.....	88.12	83.19	113	Bahrain.....	65.00	50.44
44	Switzerland.....	88.12	83.19	114	Indonesia.....	64.38	49.56
48	Armenia.....	87.50	82.30	114	Tunisia.....	64.38	49.56
48	Moldova, Rep.....	87.50	82.30	116	Botswana.....	63.75	48.67
50	Zimbabwe.....	86.88	81.42	117	Nigeria.....	63.12	47.79
51	Cabo Verde.....	86.25	80.53	118	Mali.....	60.62	44.25
51	Costa Rica.....	86.25	80.53	119	Cameroon.....	60.00	43.36
51	Dominican Republic.....	86.25	80.53	120	Lebanon.....	58.75	41.59
51	Namibia.....	86.25	80.53	121	Algeria.....	57.50	39.82
51	Nicaragua.....	86.25	80.53	122	Pakistan.....	55.62	37.17
56	Bosnia and Herzegovina.....	85.00	78.76	123	Brunei Darussalam.....	53.12	33.63
56	Brazil.....	85.00	78.76	124	Egypt.....	50.62	30.09
56	Korea, Rep.....	85.00	78.76	125	Malaysia.....	50.00	29.20
56	Mongolia.....	85.00	78.76	126	Bangladesh.....	49.38	28.32
56	Montenegro.....	85.00	78.76	127	Mauritania.....	48.12	26.55
56	North Macedonia.....	85.00	78.76	128	Jordan.....	46.88	24.78
56	Slovakia.....	85.00	78.76	129	Eswatini.....	46.25	23.89
56	Ukraine.....	85.00	78.76	130	Oman.....	38.75	13.27
56	Viet Nam.....	85.00	78.76	131	Kuwait.....	35.00	7.96
65	Colombia.....	84.38	77.88	132	Iran, Islamic Rep.....	31.25	2.65
66	Rwanda.....	83.75	76.99	133	Qatar.....	29.38	0.00
67	Côte d'Ivoire.....	83.12	76.11				

SOURCE: World Bank (2022). *Women, Business and the Law 2022*. Washington, DC: World Bank. (<https://wbl.worldbank.org/en/wbl>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.2.5 Gender parity in high-skilled jobs

Adjusted gender parity in high-skilled jobs | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Eswatini.....	1.00	100.00	68	Madagascar.....	0.79	73.92
2	North Macedonia.....	1.00	99.93	69	Burundi.....	0.79	73.35
3	Brazil.....	1.00	99.78	70	Philippines.....	0.79	72.99
4	Greece.....	0.99	99.35	71	Lesotho.....	0.79	72.97
5	Zimbabwe.....	0.99	98.91	72	Kenya.....	0.78	72.12
6	Chile.....	0.99	98.40	73	Estonia.....	0.78	71.69
7	Germany.....	0.98	98.04	74	Armenia.....	0.77	70.97
8	Norway.....	0.98	97.78	75	Georgia.....	0.77	70.55
9	Belgium.....	0.97	96.88	76	Zambia.....	0.76	69.40
10	Iceland.....	0.97	96.87	77	Peru.....	0.76	69.22
11	Denmark.....	0.97	96.57	78	Azerbaijan.....	0.75	68.51
12	Sweden.....	0.97	95.85	79	Lithuania.....	0.74	67.35
13	Spain.....	0.96	95.20	80	Jamaica.....	0.74	67.04
14	Ireland.....	0.96	94.84	81	Ukraine.....	0.74	66.66
15	Finland.....	0.96	94.78	82	Nigeria.....	0.74	66.58
16	France.....	0.96	94.46	83	Colombia.....	0.73	66.26
17	Australia.....	0.95	94.12	84	Malaysia.....	0.72	64.83
18	Korea, Rep.....	0.95	93.73	85	Kazakhstan.....	0.71	63.01
19	Paraguay.....	0.95	93.26	86	Burkina Faso.....	0.70	62.51
20	Portugal.....	0.94	92.95	87	Sri Lanka.....	0.70	62.24
21	Nicaragua.....	0.93	91.44	88	Malta.....	0.70	62.05
22	Bosnia and Herzegovina.....	0.93	91.07	89	Kyrgyzstan.....	0.70	61.68
23	Israel.....	0.93	91.03	90	Kuwait.....	0.70	61.60
24	Ecuador.....	0.92	90.24	91	Latvia.....	0.69	60.92
25	Mexico.....	0.92	90.16	92	Algeria.....	0.69	60.68
26	Guatemala.....	0.92	90.16	93	Russian Federation.....	0.68	59.60
27	Uruguay.....	0.92	90.04	94	Uganda.....	0.67	57.67
28	United States of America.....	0.92	90.00	95	Jordan.....	0.67	57.62
29	Cabo Verde.....	0.92	89.98	96	Rwanda.....	0.66	57.38
30	Croatia.....	0.92	89.78	97	Cameroon.....	0.66	56.48
31	Argentina.....	0.92	89.59	98	Moldova, Rep.....	0.65	56.20
32	Cyprus.....	0.92	89.45	99	Japan.....	0.64	54.74
33	Austria.....	0.91	88.96	100	Mongolia.....	0.64	54.60
34	Luxembourg.....	0.91	88.91	101	Cambodia.....	0.63	53.10
35	Slovenia.....	0.91	88.51	102	Ghana.....	0.58	46.40
36	Serbia.....	0.91	88.14	103	Türkiye.....	0.55	43.24
37	Thailand.....	0.90	87.89	104	Nepal.....	0.55	42.68
38	Namibia.....	0.90	87.70	105	Belarus.....	0.52	39.82
39	Indonesia.....	0.90	87.26	106	Tunisia.....	0.52	39.64
40	Netherlands.....	0.89	86.66	107	Mozambique.....	0.52	38.77
41	Slovakia.....	0.88	85.25	108	Oman.....	0.51	38.16
42	United Kingdom.....	0.88	84.65	109	Malawi.....	0.48	34.01
43	Montenegro.....	0.87	84.06	110	Iran, Islamic Rep.....	0.48	33.55
44	Canada.....	0.87	83.62	111	Angola.....	0.47	33.05
45	Switzerland.....	0.87	83.13	112	Ethiopia.....	0.46	32.24
46	Costa Rica.....	0.87	83.09	113	Tanzania, United Rep.....	0.45	30.11
47	Viet Nam.....	0.86	82.92	114	Guinea.....	0.40	24.24
48	Trinidad and Tobago.....	0.86	82.48	115	Bahrain.....	0.40	23.89
49	Honduras.....	0.86	82.41	116	Senegal.....	0.39	22.64
50	Panama.....	0.86	82.18	117	Bangladesh.....	0.35	17.71
51	Lebanon.....	0.85	80.48	118	Egypt.....	0.34	16.29
52	Brunei Darussalam.....	0.84	80.09	119	United Arab Emirates.....	0.34	16.07
53	Albania.....	0.84	80.03	120	India.....	0.33	15.47
54	Singapore.....	0.84	79.66	121	Côte d'Ivoire.....	0.31	13.05
55	Hungary.....	0.83	78.84	122	Congo, Dem. Rep.....	0.31	12.87
56	Czech Republic.....	0.83	78.76	123	Gambia.....	0.29	9.68
57	Romania.....	0.83	78.12	124	Mali.....	0.26	6.02
58	Lao PDR.....	0.83	78.00	125	Pakistan.....	0.24	3.39
59	Italy.....	0.82	77.53	126	Benin.....	0.23	2.66
60	Poland.....	0.81	76.15	127	Qatar.....	0.23	2.42
61	Mauritius.....	0.81	75.80	128	Chad.....	0.21	0.00
62	South Africa.....	0.81	75.65		China.....	n/a	n/a
63	Bolivia, Plurinational St.....	0.80	75.00		Mauritania.....	n/a	n/a
64	Dominican Republic.....	0.80	74.95		Morocco.....	n/a	n/a
65	El Salvador.....	0.80	74.79		New Zealand.....	n/a	n/a
66	Bulgaria.....	0.80	74.75		Saudi Arabia.....	n/a	n/a
67	Botswana.....	0.79	74.01				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

2.2.6 Leadership opportunities for women

Average answer to the question: In your country, to what extent do companies provide women with the same opportunities as men to rise to positions of leadership? [1 = not at all; 7 = to a great extent] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Finland.....	6.13	100.00	68	Montenegro.....	4.67	53.75
2	Albania.....	6.11	99.33	69	Ghana.....	4.67	53.62
3	Iceland.....	6.06	97.79	70	Kuwait.....	4.65	53.07
4	Denmark.....	5.78	88.91	71	Serbia.....	4.64	52.77
5	Estonia.....	5.76	88.20	72	Panama.....	4.64	52.67
6	Lithuania.....	5.74	87.64	73	Sri Lanka.....	4.62	52.33
7	Singapore.....	5.71	86.64	74	Slovakia.....	4.56	50.27
8	United Arab Emirates.....	5.70	86.29	75	Spain.....	4.56	50.22
9	Latvia.....	5.70	86.28	76	Cyprus.....	4.53	49.44
10	Norway.....	5.69	86.07	77	Namibia.....	4.53	49.23
11	Philippines.....	5.68	85.73	78	Uruguay.....	4.49	47.96
12	Moldova, Rep.....	5.67	85.30	79	Guinea.....	4.48	47.65
13	New Zealand.....	5.66	85.02	80	Korea, Rep.....	4.45	46.89
14	Rwanda.....	5.64	84.57	81	Jamaica.....	4.45	46.78
15	Egypt.....	5.61	83.42	82	Ukraine.....	4.44	46.37
16	Bahrain.....	5.56	81.92	83	Hungary.....	4.44	46.36
17	Sweden.....	5.54	81.22	84	Senegal.....	4.44	46.31
18	Slovenia.....	5.35	75.36	85	Tunisia.....	4.42	45.74
19	United States of America.....	5.35	75.33	86	Madagascar.....	4.42	45.69
20	Thailand.....	5.30	73.72	87	Colombia.....	4.41	45.40
21	Saudi Arabia.....	5.30	73.68	88	Kenya.....	4.39	44.81
22	Switzerland.....	5.27	72.90	89	Pakistan.....	4.33	43.11
23	Australia.....	5.26	72.35	90	Greece.....	4.33	42.96
24	Oman.....	5.25	72.22	91	Cabo Verde.....	4.30	42.05
25	China.....	5.25	71.97	92	Chile.....	4.29	41.63
26	Czech Republic.....	5.23	71.57	93	Nigeria.....	4.28	41.40
27	Luxembourg.....	5.23	71.55	94	Zimbabwe.....	4.28	41.36
28	Ireland.....	5.23	71.53	95	Argentina.....	4.27	40.99
29	Qatar.....	5.22	71.14	96	Morocco.....	4.27	40.95
30	United Kingdom.....	5.22	71.10	97	Mauritius.....	4.26	40.89
31	Russian Federation.....	5.16	69.20	98	South Africa.....	4.26	40.83
32	Malaysia.....	5.12	68.13	99	Ecuador.....	4.23	39.89
33	Armenia.....	5.11	67.75	100	Honduras.....	4.23	39.73
34	Netherlands.....	5.10	67.49	101	Guatemala.....	4.23	39.71
35	Georgia.....	5.08	66.66	102	Poland.....	4.21	39.28
36	Algeria.....	5.05	65.87	103	Côte d'Ivoire.....	4.20	38.89
37	Indonesia.....	5.03	65.20	104	Peru.....	4.17	37.96
38	Gambia.....	5.01	64.36	105	Lebanon.....	4.17	37.82
39	Bulgaria.....	5.00	64.07	106	Malawi.....	4.16	37.67
40	Romania.....	4.97	63.38	107	Nicaragua.....	4.16	37.58
41	Austria.....	4.97	63.31	108	Brazil.....	4.13	36.76
42	Azerbaijan.....	4.97	63.17	109	Cameroon.....	4.11	35.88
43	Zambia.....	4.96	62.82	110	Eswatini.....	4.08	35.13
44	Belgium.....	4.95	62.74	111	Türkiye.....	4.08	34.95
45	Jordan.....	4.93	61.99	112	Mali.....	4.03	33.62
46	Brunei Darussalam.....	4.91	61.41	113	Italy.....	4.03	33.60
47	Kyrgyzstan.....	4.91	61.28	114	Bangladesh.....	4.02	33.13
48	Israel.....	4.89	60.79	115	Japan.....	4.01	32.77
49	Benin.....	4.87	60.12	116	Nepal.....	3.95	30.88
50	Belarus.....	4.86	59.77	117	North Macedonia.....	3.94	30.63
51	Canada.....	4.84	59.02	118	Paraguay.....	3.92	30.13
52	Lao PDR.....	4.83	58.86	119	Mozambique.....	3.84	27.34
53	Viet Nam.....	4.82	58.62	120	Angola.....	3.76	24.80
54	Germany.....	4.82	58.58	121	Bosnia and Herzegovina.....	3.69	22.87
55	Costa Rica.....	4.81	58.14	122	Mexico.....	3.68	22.37
56	Cambodia.....	4.80	57.91	123	El Salvador.....	3.65	21.37
57	Malta.....	4.79	57.49	124	Croatia.....	3.61	20.33
58	Mongolia.....	4.78	57.13	125	Congo, Dem. Rep.....	3.57	19.04
59	Kazakhstan.....	4.77	56.93	126	India.....	3.55	18.35
60	France.....	4.74	55.97	127	Burkina Faso.....	3.45	15.11
61	Portugal.....	4.73	55.69	128	Bolivia, Plurinational St.....	3.36	12.43
62	Burundi.....	4.73	55.67	129	Chad.....	3.31	10.72
63	Uganda.....	4.71	55.17	130	Mauritania.....	3.27	9.42
64	Dominican Republic.....	4.71	54.89	131	Ethiopia.....	3.27	9.33
65	Botswana.....	4.69	54.25	132	Iran, Islamic Rep.....	3.18	6.65
66	Trinidad and Tobago.....	4.68	53.95	133	Lesotho.....	2.97	0.00
67	Tanzania, United Rep.....	4.67	53.86				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

Pillar 3

Grow

3.1.1 Vocational enrolment

Vocational enrolment (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Bolivia, Plurinational St.....	62.56	100.00	68	Mongolia.....	9.69	15.01
2	Finland.....	44.09	70.30	69	Malaysia.....	9.34	14.45
3	Slovenia.....	43.55	69.44	70	Philippines.....	9.26	14.31
4	Belgium.....	42.61	67.93	71	Mozambique.....	9.24	14.28
5	Netherlands.....	37.94	60.42	72	Korea, Rep.....	9.11	14.08
6	Hungary.....	37.55	59.80	73	Tunisia.....	9.07	14.02
7	Bosnia and Herzegovina.....	37.52	59.75	74	Burundi.....	8.93	13.79
8	Croatia.....	37.49	59.71	75	Lithuania.....	8.64	13.33
9	Honduras.....	37.20	59.23	76	Cyprus.....	8.39	12.93
10	Switzerland.....	36.41	57.97	77	Armenia.....	8.38	12.91
11	Serbia.....	35.95	57.22	78	Algeria.....	8.33	12.83
12	Austria.....	34.82	55.40	79	Albania.....	8.12	12.49
13	Czech Republic.....	34.43	54.79	80	Morocco.....	8.08	12.43
14	Montenegro.....	33.38	53.09	81	Kyrgyzstan.....	7.89	12.13
15	Luxembourg.....	32.90	52.32	82	Colombia.....	7.83	12.02
16	Italy.....	32.66	51.94	83	Mauritius.....	7.46	11.44
17	Bulgaria.....	32.41	51.53	84	Ethiopia.....	7.00	10.69
18	United Kingdom.....	29.97	47.62	85	South Africa.....	7.00	10.69
19	Slovakia.....	29.29	46.52	86	Bahrain.....	6.68	10.18
20	Guatemala.....	29.23	46.42	87	Ukraine.....	6.65	10.12
21	Australia.....	29.17	46.33	88	Senegal.....	5.91	8.94
22	Norway.....	28.37	45.04	89	Côte d'Ivoire.....	5.13	7.69
23	Poland.....	28.14	44.67	90	Bangladesh.....	5.04	7.53
24	Mexico.....	28.08	44.57	91	Canada.....	4.58	6.80
25	Romania.....	28.05	44.53	92	Uganda.....	4.44	6.58
26	North Macedonia.....	27.65	43.88	93	Brazil.....	4.28	6.32
27	Costa Rica.....	25.50	40.43	94	Eswatini.....	3.91	5.72
28	Uruguay.....	24.77	39.25	95	Sri Lanka.....	3.88	5.68
29	Portugal.....	23.38	37.01	96	Benin.....	3.74	5.45
30	Estonia.....	22.22	35.16	97	Georgia.....	3.73	5.43
31	Egypt.....	22.02	34.83	98	India.....	3.19	4.57
32	Cameroon.....	21.62	34.19	99	Pakistan.....	3.15	4.49
33	Türkiye.....	21.28	33.64	100	Ghana.....	2.87	4.04
34	Denmark.....	20.53	32.44	101	Jordan.....	2.83	3.99
35	Sweden.....	20.53	32.43	102	Burkina Faso.....	2.68	3.74
36	Latvia.....	20.17	31.86	103	Madagascar.....	2.64	3.68
37	Israel.....	20.02	31.63	104	Guinea.....	2.48	3.43
38	Indonesia.....	19.70	31.10	105	Kuwait.....	2.41	3.31
39	New Zealand.....	19.50	30.78	106	Cabo Verde.....	2.16	2.90
40	Germany.....	19.50	30.78	107	Lesotho.....	2.09	2.80
41	Spain.....	19.25	30.38	108	Peru.....	2.00	2.65
42	Congo, Dem. Rep.....	18.86	29.75	109	Nepal.....	1.93	2.54
43	China.....	17.83	28.11	110	United Arab Emirates.....	1.60	2.01
44	Ireland.....	17.75	27.97	111	Chad.....	1.42	1.72
45	Iceland.....	17.63	27.78	112	Qatar.....	1.12	1.23
46	France.....	17.40	27.40	113	Lao PDR.....	1.06	1.14
47	Lebanon.....	17.14	26.99	114	Mauritania.....	0.73	0.61
48	Panama.....	16.93	26.65	115	Cambodia.....	0.64	0.47
49	Malta.....	16.50	25.96	116	Saudi Arabia.....	0.55	0.32
50	El Salvador.....	16.18	25.45	117	Tanzania, United Rep.....	0.40	0.09
51	Greece.....	15.91	25.02	118	Oman.....	0.35	0.00
52	Iran, Islamic Rep.....	15.63	24.57		Argentina.....	n/a	n/a
53	Paraguay.....	14.69	23.06		Botswana.....	n/a	n/a
54	Russian Federation.....	14.50	22.75		Gambia.....	n/a	n/a
55	Angola.....	14.14	22.16		Jamaica.....	n/a	n/a
56	Ecuador.....	14.13	22.15		Kenya.....	n/a	n/a
57	Moldova, Rep.....	13.09	20.48		Malawi.....	n/a	n/a
58	Azerbaijan.....	12.86	20.11		Namibia.....	n/a	n/a
59	Rwanda.....	12.63	19.74		Nicaragua.....	n/a	n/a
60	Mali.....	12.20	19.06		Nigeria.....	n/a	n/a
61	Belarus.....	12.15	18.98		Singapore.....	n/a	n/a
62	Brunei Darussalam.....	11.87	18.51		Trinidad and Tobago.....	n/a	n/a
63	Chile.....	11.56	18.02		United States of America.....	n/a	n/a
64	Japan.....	11.47	17.88		Viet Nam.....	n/a	n/a
65	Dominican Republic.....	11.25	17.52		Zambia.....	n/a	n/a
66	Thailand.....	11.24	17.50		Zimbabwe.....	n/a	n/a
67	Kazakhstan.....	9.86	15.28				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Greece.....	148.53	100.00	68	Slovakia.....	46.43	30.45
2	Türkiye.....	115.04	77.19	69	Oman.....	45.48	29.81
3	Australia.....	114.19	76.61	70	Mauritius.....	44.26	28.97
4	Korea, Rep.....	98.45	65.88	71	North Macedonia.....	43.12	28.20
5	Argentina.....	95.45	63.84	72	Mexico.....	42.83	28.00
6	Latvia.....	94.86	63.44	73	Malaysia.....	42.57	27.82
7	Chile.....	93.10	62.24	74	Morocco.....	40.62	26.50
8	Finland.....	92.96	62.14	75	Egypt.....	38.90	25.33
9	Spain.....	92.88	62.09	76	Bosnia and Herzegovina.....	37.92	24.66
10	Singapore.....	91.09	60.87	77	Indonesia.....	36.31	23.56
11	Cyprus.....	88.49	59.10	78	Philippines.....	35.52	23.02
12	United States of America.....	87.89	58.69	79	Azerbaijan.....	35.25	22.84
13	Netherlands.....	87.10	58.15	80	Jordan.....	33.56	21.68
14	Belarus.....	86.60	57.81	81	Tunisia.....	32.76	21.14
15	Austria.....	86.48	57.73	82	Brunei Darussalam.....	31.99	20.62
16	Russian Federation.....	86.40	57.68	83	El Salvador.....	29.92	19.21
17	Norway.....	83.23	55.52	84	India.....	29.44	18.88
18	Ukraine.....	82.67	55.14	85	Viet Nam.....	28.64	18.33
19	Denmark.....	81.84	54.57	86	Jamaica.....	27.13	17.31
20	New Zealand.....	80.30	53.53	87	Botswana.....	26.09	16.60
21	Belgium.....	80.14	53.41	88	Honduras.....	25.46	16.17
22	Slovenia.....	77.88	51.88	89	Namibia.....	24.10	15.24
23	Iceland.....	77.59	51.68	90	South Africa.....	23.87	15.08
24	Sweden.....	77.33	51.50	91	Cabo Verde.....	23.62	14.91
25	Canada.....	75.70	50.39	92	Bangladesh.....	22.83	14.38
26	Ireland.....	75.18	50.04	93	Guatemala.....	22.14	13.91
27	Estonia.....	74.23	49.39	94	Sri Lanka.....	21.61	13.55
28	Germany.....	73.52	48.91	95	Qatar.....	20.79	12.99
29	Bulgaria.....	73.38	48.81	96	Nicaragua.....	19.56	12.15
30	Lithuania.....	72.01	47.88	97	Ghana.....	18.69	11.56
31	Peru.....	70.74	47.01	98	Luxembourg.....	18.43	11.38
32	Kazakhstan.....	70.68	46.97	99	Cambodia.....	14.74	8.87
33	Saudi Arabia.....	70.63	46.94	100	Cameroon.....	14.27	8.54
34	Poland.....	69.18	45.95	101	Senegal.....	14.03	8.39
35	Mongolia.....	68.75	45.66	102	Lao PDR.....	13.48	8.01
36	France.....	68.36	45.39	103	Nepal.....	13.46	7.99
37	Serbia.....	68.14	45.24	104	Pakistan.....	12.22	7.15
38	Portugal.....	67.93	45.10	105	Nigeria.....	12.10	7.07
39	Croatia.....	67.72	44.96	106	Benin.....	11.09	6.38
40	Georgia.....	66.69	44.25	107	Ethiopia.....	10.43	5.93
41	Italy.....	66.05	43.82	108	Lesotho.....	10.20	5.77
42	United Kingdom.....	65.77	43.63	109	Kenya.....	10.04	5.66
43	Czech Republic.....	65.59	43.50	110	Côte d'Ivoire.....	9.91	5.58
44	Uruguay.....	65.16	43.21	111	Angola.....	9.34	5.19
45	Malta.....	64.87	43.02	112	Zimbabwe.....	8.88	4.87
46	Switzerland.....	63.31	41.95	113	Burkina Faso.....	7.84	4.17
47	Dominican Republic.....	61.16	40.49	114	Tanzania, United Rep.....	7.83	4.16
48	Kuwait.....	61.13	40.47	115	Mozambique.....	7.31	3.81
49	Israel.....	60.33	39.92	116	Guinea.....	7.02	3.61
50	Bahrain.....	60.32	39.91	117	Eswatini.....	6.75	3.42
51	China.....	58.42	38.62	118	Congo, Dem. Rep.....	6.60	3.32
52	Iran, Islamic Rep.....	58.22	38.49	119	Rwanda.....	6.24	3.07
53	Moldova, Rep.....	57.98	38.32	120	Mauritania.....	5.87	2.83
54	Albania.....	57.81	38.21	121	Madagascar.....	5.53	2.59
55	Costa Rica.....	57.67	38.11	122	Mali.....	5.50	2.57
56	Montenegro.....	55.53	36.65	123	Uganda.....	5.06	2.27
57	Brazil.....	55.14	36.38	124	Burundi.....	4.97	2.21
58	Colombia.....	54.24	35.77	125	Zambia.....	4.12	1.63
59	United Arab Emirates.....	53.72	35.42	126	Chad.....	3.25	1.04
60	Algeria.....	52.50	34.59	127	Gambia.....	2.72	0.68
61	Hungary.....	52.44	34.55	128	Malawi.....	1.72	0.00
62	Romania.....	51.35	33.81		Bolivia, Plurinational St.....	n/a	n/a
63	Armenia.....	50.82	33.44		Japan.....	n/a	n/a
64	Thailand.....	49.29	32.40		Lebanon.....	n/a	n/a
65	Ecuador.....	47.95	31.48		Paraguay.....	n/a	n/a
66	Panama.....	47.80	31.39		Trinidad and Tobago.....	n/a	n/a
67	Kyrgyzstan.....	46.45	30.47				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.1.3 Tertiary education expenditure

Initial government funding per tertiary student (constant PPP\$) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Luxembourg	41584.79	100.00	68	Sri Lanka	3812.76	8.82
2	Norway	26012.65	62.41	69	Mali	3674.45	8.49
3	Switzerland	25890.49	62.12	70	Lebanon	3556.60	8.21
4	Denmark	24170.30	57.96	71	Mauritania	3534.92	8.15
5	Singapore	22613.91	54.21	72	Jamaica	3479.47	8.02
6	Brunei Darussalam	20646.05	49.46	73	Burundi	3447.25	7.94
7	Austria	20369.43	48.79	74	Chad	3262.12	7.50
8	Sweden	20145.75	48.25	75	Azerbaijan	3239.16	7.44
9	Netherlands	19862.26	47.57	76	Ecuador	3225.23	7.41
10	Germany	18692.33	44.74	77	Iran, Islamic Rep.	3129.43	7.18
11	United Kingdom	17963.81	42.98	78	Pakistan	3044.50	6.97
12	Belgium	17828.66	42.66	79	Argentina	3007.09	6.88
13	Malta	17736.19	42.43	80	Thailand	2986.68	6.83
14	Ireland	16610.93	39.72	81	Kenya	2803.20	6.39
15	Malawi	16079.71	38.44	82	Ghana	2696.30	6.13
16	France	14776.80	35.29	83	Greece	2672.06	6.07
17	Finland	14643.10	34.97	84	Cabo Verde	2657.55	6.04
18	Canada	14622.33	34.92	85	Colombia	2483.64	5.62
19	Iceland	14162.63	33.81	86	Mauritius	2349.29	5.29
20	United Arab Emirates	13847.22	33.05	87	Kazakhstan	2305.60	5.19
21	Oman	13842.15	33.03	88	Honduras	2254.31	5.06
22	United States of America	12899.43	30.76	89	Indonesia	2197.20	4.93
23	Czech Republic	12717.84	30.32	90	Albania	2160.04	4.84
24	New Zealand	12157.09	28.97	91	Viet Nam	2073.84	4.63
25	Italy	10835.41	25.78	92	Rwanda	1950.20	4.33
26	Eswatini	10651.69	25.33	93	Guinea	1926.99	4.27
27	Slovenia	10638.28	25.30	94	Benin	1632.09	3.56
28	Bahrain	10482.33	24.92	95	Guatemala	1608.67	3.50
29	Estonia	9338.89	22.16	96	Mozambique	1606.50	3.50
30	Hungary	9082.50	21.55	97	Georgia	1544.18	3.35
31	Australia	9062.50	21.50	98	Madagascar	1412.88	3.03
32	Poland	8927.36	21.17	99	Peru	1405.99	3.02
33	Spain	8855.07	21.00	100	Gambia	1395.75	2.99
34	Slovakia	8851.40	20.99	101	Armenia	1373.99	2.94
35	Türkiye	8623.83	20.44	102	Lesotho	1366.38	2.92
36	Japan	8553.35	20.27	103	Uganda	1345.68	2.87
37	Cyprus	8504.36	20.15	104	Lao PDR	1313.27	2.79
38	Namibia	8490.44	20.12	105	El Salvador	1034.62	2.12
39	Romania	8416.63	19.94	106	Bangladesh	927.50	1.86
40	South Africa	8132.53	19.25	107	Jordan	862.36	1.70
41	Portugal	7853.55	18.58	108	Congo, Dem. Rep.	739.20	1.41
42	Costa Rica	7519.95	17.77	109	Nepal	700.50	1.31
43	Israel	7345.27	17.35	110	Cameroon	652.98	1.20
44	Zimbabwe	6194.66	14.57	111	Mongolia	374.53	0.53
45	Burkina Faso	6158.75	14.49	112	Kyrgyzstan	257.63	0.24
46	Lithuania	6127.39	14.41	113	Cambodia	156.81	0.00
47	Korea, Rep.	6115.29	14.38		Algeria	n/a	n/a
48	Croatia	6049.08	14.22		Angola	n/a	n/a
49	Tunisia	5976.80	14.05		Bolivia, Plurinational St.	n/a	n/a
50	Côte d'Ivoire	5591.24	13.12		Botswana	n/a	n/a
51	Serbia	5477.32	12.84		China	n/a	n/a
52	Uruguay	5474.50	12.84		Dominican Republic	n/a	n/a
53	Chile	5326.01	12.48		Egypt	n/a	n/a
54	Russian Federation	5288.26	12.39		Kuwait	n/a	n/a
55	Mexico	5242.06	12.27		Montenegro	n/a	n/a
56	Bulgaria	5105.03	11.94		Morocco	n/a	n/a
57	Brazil	5042.65	11.79		Nicaragua	n/a	n/a
58	Panama	4920.96	11.50		Nigeria	n/a	n/a
59	Senegal	4719.55	11.01		North Macedonia	n/a	n/a
60	Ukraine	4710.86	10.99		Paraguay	n/a	n/a
61	Malaysia	4488.43	10.46		Philippines	n/a	n/a
62	Belarus	4327.41	10.07		Qatar	n/a	n/a
63	Latvia	4289.57	9.98		Saudi Arabia	n/a	n/a
64	Ethiopia	4212.46	9.79		Tanzania, United Rep.	n/a	n/a
65	Bosnia and Herzegovina	3977.37	9.22		Trinidad and Tobago	n/a	n/a
66	Moldova, Rep.	3945.52	9.15		Zambia	n/a	n/a
67	India	3827.61	8.86				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.1.4 Reading, maths, and science

PISA average scores in reading, mathematics, and science | 2018

Rank	Country	Value	Score	Rank	Country	Value	Score
1	China	579.03	100.00	68	Argentina	395.01	24.86
2	Singapore	556.47	90.79	69	Georgia	386.67	21.46
3	Estonia	525.51	78.15	70	Saudi Arabia	386.21	21.27
4	Japan	519.99	75.89	71	Indonesia	381.90	19.51
5	Korea, Rep.	519.66	75.76	72	Lebanon	376.84	17.44
6	Canada	516.70	74.55	73	Tunisia	371.43	15.23
7	Finland	516.42	74.44	74	Morocco	367.90	13.80
8	Poland	512.85	72.98	75	Panama	364.81	12.53
9	Ireland	504.61	69.61	76	Algeria	361.74	11.28
10	Slovenia	503.75	69.26	77	Philippines	349.73	6.37
11	United Kingdom	503.46	69.14	78	Dominican Republic	334.12	0.00
12	New Zealand	502.90	68.92		Angola	n/a	n/a
13	Sweden	502.54	68.77		Armenia	n/a	n/a
14	Netherlands	502.47	68.74		Bahrain	n/a	n/a
15	Viet Nam	501.98	68.54		Bangladesh	n/a	n/a
16	Denmark	501.06	68.16		Benin	n/a	n/a
17	Germany	500.44	67.91		Bolivia, Plurinational St.	n/a	n/a
18	Belgium	499.90	67.69		Botswana	n/a	n/a
19	Australia	498.99	67.32		Burkina Faso	n/a	n/a
20	Switzerland	498.17	66.99		Burundi	n/a	n/a
21	Norway	496.94	66.48		Cabo Verde	n/a	n/a
22	Czech Republic	495.49	65.89		Cambodia	n/a	n/a
23	United States of America	495.33	65.82		Cameroon	n/a	n/a
24	France	493.66	65.14		Chad	n/a	n/a
25	Portugal	491.99	64.46		Congo, Dem. Rep.	n/a	n/a
26	Spain	491.40	64.22		Côte d'Ivoire	n/a	n/a
27	Austria	491.04	64.07		Ecuador	n/a	n/a
28	Latvia	487.36	62.57		Egypt	n/a	n/a
29	Iceland	481.40	60.14		El Salvador	n/a	n/a
30	Russian Federation	481.34	60.11		Eswatini	n/a	n/a
31	Lithuania	479.71	59.45		Ethiopia	n/a	n/a
32	Hungary	479.33	59.29		Gambia	n/a	n/a
33	Italy	476.96	58.33		Ghana	n/a	n/a
34	Luxembourg	476.73	58.23		Guatemala	n/a	n/a
35	Belarus	472.31	56.42		Guinea	n/a	n/a
36	Croatia	471.85	56.24		Honduras	n/a	n/a
37	Slovakia	469.40	55.24		India	n/a	n/a
38	Israel	465.22	53.53		Iran, Islamic Rep.	n/a	n/a
39	Ukraine	462.69	52.50		Jamaica	n/a	n/a
40	Türkiye	462.48	52.41		Kenya	n/a	n/a
41	Malta	458.85	50.93		Kuwait	n/a	n/a
42	Greece	453.47	48.73		Kyrgyzstan	n/a	n/a
43	Serbia	442.54	44.27		Lao PDR	n/a	n/a
44	Cyprus	438.02	42.42		Lesotho	n/a	n/a
45	Chile	437.75	42.32		Madagascar	n/a	n/a
46	United Arab Emirates	433.46	40.56		Malawi	n/a	n/a
47	Malaysia	430.94	39.53		Mali	n/a	n/a
48	Romania	427.79	38.25		Mauritania	n/a	n/a
49	Bulgaria	426.65	37.78		Mauritius	n/a	n/a
50	Moldova, Rep.	424.36	36.85		Mongolia	n/a	n/a
51	Uruguay	423.53	36.51		Mozambique	n/a	n/a
52	Brunei Darussalam	423.06	36.31		Namibia	n/a	n/a
53	Trinidad and Tobago	423.04	36.31		Nepal	n/a	n/a
54	Montenegro	421.95	35.86		Nicaragua	n/a	n/a
55	Albania	419.79	34.98		Nigeria	n/a	n/a
56	Mexico	416.16	33.50		Oman	n/a	n/a
57	Jordan	416.03	33.44		Pakistan	n/a	n/a
58	Costa Rica	414.82	32.95		Paraguay	n/a	n/a
59	Qatar	413.48	32.41		Rwanda	n/a	n/a
60	Thailand	412.42	31.97		Senegal	n/a	n/a
61	Colombia	405.52	29.15		South Africa	n/a	n/a
62	Bosnia and Herzegovina	402.62	27.97		Sri Lanka	n/a	n/a
63	Kazakhstan	402.39	27.87		Tanzania, United Rep.	n/a	n/a
64	Azerbaijan	402.23	27.81		Uganda	n/a	n/a
65	Peru	401.52	27.52		Zambia	n/a	n/a
66	North Macedonia	400.05	26.92		Zimbabwe	n/a	n/a
67	Brazil	400.02	26.91				

SOURCE: OECD Programme for International Student Assessment (PISA) (www.oecd.org/pisa)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.1.5 University ranking

QS World University Ranking score | 2022

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United States of America.....	98.70	100.00	68	Viet Nam.....	12.20	12.36
2	United Kingdom.....	98.10	99.39	69	Croatia.....	10.00	10.13
3	China.....	87.60	88.75	70	Paraguay.....	9.20	9.32
4	Switzerland.....	82.20	83.28	71	Azerbaijan.....	8.90	9.02
5	Australia.....	81.10	82.17	72	Romania.....	8.60	8.71
6	Canada.....	80.10	81.16	73	Panama.....	7.90	8.00
7	Japan.....	79.70	80.75	74	Serbia.....	7.50	7.60
8	France.....	76.90	77.91	75	Sri Lanka.....	7.20	7.29
9	Korea, Rep.....	76.40	77.41	76	Albania.....	0.00	0.00
10	Germany.....	71.90	72.85	76	Algeria.....	0.00	0.00
11	Singapore.....	67.70	68.59	76	Angola.....	0.00	0.00
12	Netherlands.....	65.80	66.67	76	Armenia.....	0.00	0.00
13	Malaysia.....	58.90	59.68	76	Benin.....	0.00	0.00
13	Sweden.....	58.90	59.68	76	Bolivia, Plurinational St.....	0.00	0.00
15	Denmark.....	56.90	57.65	76	Bosnia and Herzegovina.....	0.00	0.00
16	Belgium.....	53.90	54.61	76	Botswana.....	0.00	0.00
17	Finland.....	49.80	50.46	76	Burkina Faso.....	0.00	0.00
18	Italy.....	48.90	49.54	76	Burundi.....	0.00	0.00
19	Saudi Arabia.....	48.70	49.34	76	Cabo Verde.....	0.00	0.00
20	Russian Federation.....	48.30	48.94	76	Cambodia.....	0.00	0.00
21	India.....	47.60	48.23	76	Cameroon.....	0.00	0.00
22	Ireland.....	47.30	47.92	76	Chad.....	0.00	0.00
23	New Zealand.....	47.20	47.82	76	Congo, Dem. Rep.....	0.00	0.00
24	Mexico.....	44.50	45.09	76	Côte d'Ivoire.....	0.00	0.00
24	Spain.....	44.50	45.09	76	Cyprus.....	0.00	0.00
26	Austria.....	44.10	44.68	76	Dominican Republic.....	0.00	0.00
26	Norway.....	44.10	44.68	76	El Salvador.....	0.00	0.00
28	Argentina.....	43.80	44.38	76	Eswatini.....	0.00	0.00
29	Brazil.....	43.60	44.17	76	Ethiopia.....	0.00	0.00
30	Chile.....	42.60	43.16	76	Gambia.....	0.00	0.00
30	Qatar.....	42.60	43.16	76	Georgia.....	0.00	0.00
32	Indonesia.....	39.50	40.02	76	Ghana.....	0.00	0.00
33	Kazakhstan.....	38.60	39.11	76	Guatemala.....	0.00	0.00
34	United Arab Emirates.....	37.00	37.49	76	Guinea.....	0.00	0.00
35	Colombia.....	36.70	37.18	76	Honduras.....	0.00	0.00
36	Israel.....	35.80	36.27	76	Iceland.....	0.00	0.00
37	Brunei Darussalam.....	34.90	35.36	76	Jamaica.....	0.00	0.00
38	Thailand.....	33.10	33.54	76	Kenya.....	0.00	0.00
39	Portugal.....	33.00	33.43	76	Kyrgyzstan.....	0.00	0.00
40	Czech Republic.....	32.10	32.52	76	Lao PDR.....	0.00	0.00
41	Poland.....	31.70	32.12	76	Lesotho.....	0.00	0.00
42	South Africa.....	31.40	31.81	76	Luxembourg.....	0.00	0.00
43	Pakistan.....	30.40	30.80	76	Madagascar.....	0.00	0.00
44	Oman.....	29.30	29.69	76	Malawi.....	0.00	0.00
45	Lebanon.....	28.10	28.47	76	Mali.....	0.00	0.00
46	Iran, Islamic Rep.....	26.70	27.05	76	Malta.....	0.00	0.00
47	Uruguay.....	25.30	25.63	76	Mauritania.....	0.00	0.00
48	Türkiye.....	24.10	24.42	76	Mauritius.....	0.00	0.00
49	Greece.....	22.90	23.20	76	Moldova, Rep.....	0.00	0.00
50	Bulgaria.....	21.90	22.19	76	Mongolia.....	0.00	0.00
51	Egypt.....	21.30	21.58	76	Montenegro.....	0.00	0.00
52	Estonia.....	20.80	21.07	76	Morocco.....	0.00	0.00
52	Peru.....	20.80	21.07	76	Mozambique.....	0.00	0.00
54	Philippines.....	20.10	20.36	76	Namibia.....	0.00	0.00
55	Belarus.....	20.00	20.26	76	Nepal.....	0.00	0.00
55	Lithuania.....	20.00	20.26	76	Nicaragua.....	0.00	0.00
57	Ukraine.....	19.90	20.16	76	Nigeria.....	0.00	0.00
58	Hungary.....	19.40	19.66	76	North Macedonia.....	0.00	0.00
59	Bahrain.....	17.80	18.03	76	Rwanda.....	0.00	0.00
60	Slovakia.....	16.60	16.82	76	Senegal.....	0.00	0.00
61	Jordan.....	16.10	16.31	76	Tanzania, United Rep.....	0.00	0.00
62	Costa Rica.....	15.30	15.50	76	Trinidad and Tobago.....	0.00	0.00
63	Kuwait.....	13.40	13.58	76	Tunisia.....	0.00	0.00
63	Slovenia.....	13.40	13.58	76	Uganda.....	0.00	0.00
65	Bangladesh.....	13.10	13.27	76	Zambia.....	0.00	0.00
66	Ecuador.....	13.00	13.17	76	Zimbabwe.....	0.00	0.00
66	Latvia.....	13.00	13.17				

SOURCE: QS Quacquarelli Symonds, QS World University Ranking 2023, Top Universities (<https://www.topuniversities.com/qs-world-university-rankings>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.2.1 Business masters education

QS Global MBA and Business Masters Rankings scores | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United States of America.....	92.36	100.00	54	Burkina Faso.....	0.00	0.00
2	France.....	91.54	99.11	54	Burundi.....	0.00	0.00
3	United Kingdom.....	90.40	97.88	54	Cabo Verde.....	0.00	0.00
4	Spain.....	86.14	93.27	54	Cambodia.....	0.00	0.00
5	Singapore.....	86.08	93.20	54	Cameroon.....	0.00	0.00
6	Italy.....	76.41	82.73	54	Chad.....	0.00	0.00
7	Australia.....	72.98	79.02	54	Chile.....	0.00	0.00
8	Netherlands.....	70.48	76.31	54	Congo, Dem. Rep.....	0.00	0.00
9	Canada.....	66.79	72.32	54	Côte d'Ivoire.....	0.00	0.00
10	Ireland.....	61.49	66.58	54	Cyprus.....	0.00	0.00
11	Germany.....	59.74	64.68	54	Dominican Republic.....	0.00	0.00
12	Denmark.....	59.62	64.55	54	Ecuador.....	0.00	0.00
13	Belgium.....	56.64	61.33	54	El Salvador.....	0.00	0.00
14	Switzerland.....	56.64	61.32	54	Estonia.....	0.00	0.00
15	China.....	54.37	58.87	54	Eswatini.....	0.00	0.00
16	Portugal.....	51.21	55.45	54	Ethiopia.....	0.00	0.00
17	India.....	50.23	54.39	54	Gambia.....	0.00	0.00
18	Mexico.....	46.83	50.70	54	Georgia.....	0.00	0.00
19	Greece.....	46.14	49.96	54	Ghana.....	0.00	0.00
20	United Arab Emirates.....	45.40	49.16	54	Guatemala.....	0.00	0.00
21	Russian Federation.....	43.90	47.53	54	Guinea.....	0.00	0.00
22	Peru.....	43.53	47.13	54	Honduras.....	0.00	0.00
23	Lebanon.....	41.12	44.52	54	Hungary.....	0.00	0.00
24	Thailand.....	41.04	44.44	54	Iceland.....	0.00	0.00
25	Japan.....	37.10	40.17	54	Iran, Islamic Rep.....	0.00	0.00
26	Türkiye.....	34.55	37.41	54	Israel.....	0.00	0.00
27	Egypt.....	34.16	36.99	54	Jamaica.....	0.00	0.00
28	South Africa.....	32.76	35.47	54	Kenya.....	0.00	0.00
29	Austria.....	31.98	34.63	54	Kuwait.....	0.00	0.00
30	Costa Rica.....	28.50	30.86	54	Kyrgyzstan.....	0.00	0.00
31	Norway.....	28.34	30.68	54	Lao PDR.....	0.00	0.00
32	Saudi Arabia.....	27.64	29.92	54	Latvia.....	0.00	0.00
33	Philippines.....	27.52	29.80	54	Lesotho.....	0.00	0.00
34	Colombia.....	26.87	29.09	54	Luxembourg.....	0.00	0.00
35	Argentina.....	23.94	25.93	54	Madagascar.....	0.00	0.00
36	Korea, Rep.....	23.85	25.82	54	Malawi.....	0.00	0.00
37	New Zealand.....	22.48	24.35	54	Mali.....	0.00	0.00
38	Bahrain.....	22.38	24.23	54	Malta.....	0.00	0.00
39	Croatia.....	21.77	23.57	54	Mauritania.....	0.00	0.00
40	Malaysia.....	20.39	22.07	54	Mauritius.....	0.00	0.00
41	Pakistan.....	20.22	21.89	54	Moldova, Rep.....	0.00	0.00
42	Kazakhstan.....	20.07	21.73	54	Mongolia.....	0.00	0.00
43	Indonesia.....	19.12	20.71	54	Montenegro.....	0.00	0.00
44	Nigeria.....	16.91	18.31	54	Mozambique.....	0.00	0.00
45	Tunisia.....	16.72	18.10	54	Namibia.....	0.00	0.00
46	Poland.....	16.47	17.83	54	Nepal.....	0.00	0.00
47	Jordan.....	15.98	17.30	54	Nicaragua.....	0.00	0.00
48	Lithuania.....	13.53	14.65	54	North Macedonia.....	0.00	0.00
49	Sweden.....	12.59	13.63	54	Oman.....	0.00	0.00
50	Czech Republic.....	9.45	10.24	54	Panama.....	0.00	0.00
51	Morocco.....	8.73	9.45	54	Paraguay.....	0.00	0.00
52	Finland.....	6.88	7.45	54	Qatar.....	0.00	0.00
53	Uruguay.....	3.91	4.23	54	Romania.....	0.00	0.00
54	Albania.....	0.00	0.00	54	Rwanda.....	0.00	0.00
54	Algeria.....	0.00	0.00	54	Senegal.....	0.00	0.00
54	Angola.....	0.00	0.00	54	Serbia.....	0.00	0.00
54	Armenia.....	0.00	0.00	54	Slovakia.....	0.00	0.00
54	Azerbaijan.....	0.00	0.00	54	Slovenia.....	0.00	0.00
54	Bangladesh.....	0.00	0.00	54	Sri Lanka.....	0.00	0.00
54	Belarus.....	0.00	0.00	54	Tanzania, United Rep.....	0.00	0.00
54	Benin.....	0.00	0.00	54	Trinidad and Tobago.....	0.00	0.00
54	Bolivia, Plurinational St.....	0.00	0.00	54	Uganda.....	0.00	0.00
54	Bosnia and Herzegovina.....	0.00	0.00	54	Ukraine.....	0.00	0.00
54	Botswana.....	0.00	0.00	54	Viet Nam.....	0.00	0.00
54	Brazil.....	0.00	0.00	54	Zambia.....	0.00	0.00
54	Brunei Darussalam.....	0.00	0.00	54	Zimbabwe.....	0.00	0.00
54	Bulgaria.....	0.00	0.00				

SOURCE: Own computation based on QS Quacquarelli Symonds (2021). *QS Higher Ed Report: Global MBA and Business Masters 2022* (<https://www.topmba.com/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.2.2 Prevalence of training in firms

Proportion of firms offering formal training (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	China	79.20	100.00	68	Lao PDR	24.40	23.36
2	Ecuador	73.70	92.31	69	Ukraine	24.30	23.22
3	France	67.90	84.20	70	Dominican Republic	23.40	21.96
4	Mongolia	66.20	81.82	71	Chad	22.90	21.26
5	Luxembourg	66.10	81.68	72	Cambodia	22.20	20.28
6	Peru	65.90	81.40	72	Viet Nam	22.20	20.28
7	Colombia	63.00	77.34	74	Bangladesh	21.90	19.86
8	Sweden	61.90	75.80	75	Kazakhstan	21.80	19.72
9	Ireland	59.80	72.87	76	Poland	21.70	19.58
9	Philippines	59.80	72.87	77	Greece	21.60	19.44
11	Belgium	57.80	70.07	78	Ethiopia	20.80	18.32
12	Nicaragua	57.30	69.37	78	Lebanon	20.80	18.32
13	Guatemala	55.70	67.13	80	Mozambique	20.70	18.18
14	Spain	55.20	66.43	81	Romania	20.50	17.90
15	Netherlands	54.10	64.90	82	Benin	20.00	17.20
16	El Salvador	53.80	64.48	82	Bulgaria	20.00	17.20
17	Uruguay	53.30	63.78	84	Tunisia	19.10	15.94
18	Latvia	52.90	63.22	85	Israel	18.60	15.24
19	Mauritania	52.70	62.94	86	Malaysia	18.50	15.10
20	Finland	50.20	59.44	87	Sri Lanka	18.40	14.97
21	Bolivia, Plurinational St.	49.90	59.02	88	Thailand	18.00	14.41
21	Malta	49.90	59.02	89	Mali	17.70	13.99
23	Honduras	47.70	55.94	90	Senegal	17.40	13.57
24	Paraguay	46.40	54.13	91	Congo, Dem. Rep.	17.00	13.01
25	Albania	46.20	53.85	92	Jordan	16.90	12.87
26	Slovenia	44.00	50.77	93	Guinea	16.00	11.61
27	Czech Republic	43.60	50.21	94	Montenegro	15.80	11.33
28	Slovakia	43.30	49.79	95	Madagascar	12.70	6.99
29	Austria	42.60	48.81	96	Italy	12.60	6.85
30	Kyrgyzstan	41.40	47.13	97	Russian Federation	11.80	5.73
31	Estonia	40.70	46.15	98	Egypt	7.90	0.28
32	Denmark	40.60	46.01	98	South Africa	7.90	0.28
33	Argentina	40.20	45.45	100	Indonesia	7.70	0.00
34	Ghana	40.10	45.31		Algeria	n/a	n/a
35	Cyprus	39.70	44.76		Angola	n/a	n/a
36	North Macedonia	39.00	43.78		Australia	n/a	n/a
37	Serbia	38.30	42.80		Bahrain	n/a	n/a
38	Moldova, Rep.	38.10	42.52		Botswana	n/a	n/a
39	Bosnia and Herzegovina	37.90	42.24		Brazil	n/a	n/a
40	Cameroon	37.60	41.82		Brunei Darussalam	n/a	n/a
41	Kenya	37.40	41.54		Burkina Faso	n/a	n/a
42	Zambia	36.60	40.42		Cabo Verde	n/a	n/a
43	Eswatini	36.10	39.72		Canada	n/a	n/a
44	India	35.90	39.44		Chile	n/a	n/a
44	Rwanda	35.90	39.44		Costa Rica	n/a	n/a
46	Morocco	35.70	39.16		Germany	n/a	n/a
47	Côte d'Ivoire	35.50	38.88		Iceland	n/a	n/a
48	Uganda	34.70	37.76		Iran, Islamic Rep.	n/a	n/a
49	Azerbaijan	33.90	36.64		Jamaica	n/a	n/a
50	Malawi	32.90	35.24		Japan	n/a	n/a
51	Burundi	32.00	33.99		Korea, Rep.	n/a	n/a
51	Georgia	32.00	33.99		Kuwait	n/a	n/a
51	Pakistan	32.00	33.99		Mauritius	n/a	n/a
54	Nepal	31.90	33.85		Mexico	n/a	n/a
55	Belarus	31.50	33.29		New Zealand	n/a	n/a
56	Lesotho	31.20	32.87		Norway	n/a	n/a
57	Nigeria	30.70	32.17		Oman	n/a	n/a
57	Tanzania, United Rep.	30.70	32.17		Panama	n/a	n/a
57	Türkiye	30.70	32.17		Qatar	n/a	n/a
60	Hungary	29.30	30.21		Saudi Arabia	n/a	n/a
61	Portugal	29.00	29.79		Singapore	n/a	n/a
62	Armenia	27.50	27.69		Switzerland	n/a	n/a
62	Lithuania	27.50	27.69		Trinidad and Tobago	n/a	n/a
64	Zimbabwe	26.40	26.15		United Arab Emirates	n/a	n/a
65	Croatia	26.20	25.87		United Kingdom	n/a	n/a
66	Namibia	25.40	24.76		United States of America	n/a	n/a
67	Gambia	25.20	24.48				

SOURCE: World Bank, Enterprise Surveys (www.enterprisesurveys.org)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.2.3 Employee development

Average answer to the question: In your country, to what extent do companies invest in training and employee development? [1 = not at all; 7 = to a great extent] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	United States of America.....	5.74	100.00	68	Eswatini.....	4.06	50.37
2	Switzerland.....	5.71	99.08	69	Kenya.....	4.06	50.34
3	Finland.....	5.44	91.05	70	Slovakia.....	4.06	50.32
4	Albania.....	5.42	90.41	71	Spain.....	4.04	49.86
5	Netherlands.....	5.36	88.75	72	Trinidad and Tobago.....	4.04	49.72
6	Denmark.....	5.35	88.52	73	Dominican Republic.....	4.03	49.38
7	Austria.....	5.33	87.90	74	Argentina.....	4.03	49.35
8	Singapore.....	5.32	87.74	75	Jamaica.....	4.02	49.21
9	Ireland.....	5.23	85.04	76	Belarus.....	4.02	49.19
10	United Arab Emirates.....	5.19	83.80	77	Poland.....	4.02	49.17
11	Luxembourg.....	5.17	83.30	78	Cameroon.....	4.02	49.11
12	Sweden.....	5.17	83.17	79	Mexico.....	4.01	48.74
13	Qatar.....	5.16	82.96	80	Panama.....	3.99	48.32
14	France.....	5.10	81.06	81	Hungary.....	3.97	47.59
15	Norway.....	5.09	80.91	82	Nigeria.....	3.95	47.14
16	Indonesia.....	5.06	79.88	83	Lao PDR.....	3.94	46.80
17	Germany.....	5.06	79.84	84	Côte d'Ivoire.....	3.93	46.63
18	China.....	5.05	79.52	85	Tanzania, United Rep.	3.93	46.47
19	Lithuania.....	5.01	78.42	86	Russian Federation.....	3.92	46.27
20	Belgium.....	5.00	78.14	87	Romania.....	3.92	46.20
21	Saudi Arabia.....	5.00	78.07	88	Greece.....	3.90	45.73
22	Japan.....	4.98	77.53	89	Mongolia.....	3.90	45.61
23	Israel.....	4.94	76.25	90	Gambia.....	3.86	44.41
24	Canada.....	4.92	75.72	91	Zimbabwe.....	3.85	44.01
25	New Zealand.....	4.90	75.23	92	Rwanda.....	3.84	43.95
26	Bahrain.....	4.90	75.09	93	Malawi.....	3.83	43.43
27	Iceland.....	4.86	74.14	94	Tunisia.....	3.83	43.41
28	Philippines.....	4.83	72.99	95	El Salvador.....	3.82	43.19
29	Estonia.....	4.82	72.71	96	Algeria.....	3.81	43.08
30	Viet Nam.....	4.82	72.71	97	Türkiye.....	3.75	41.14
31	Australia.....	4.79	71.89	98	Ecuador.....	3.74	40.92
32	United Kingdom.....	4.77	71.20	99	Uganda.....	3.74	40.76
33	Azerbaijan.....	4.73	70.02	100	Serbia.....	3.71	40.02
34	South Africa.....	4.66	68.10	101	Mali.....	3.71	39.94
35	Slovenia.....	4.63	67.24	102	North Macedonia.....	3.70	39.64
36	Costa Rica.....	4.63	67.11	103	Cabo Verde.....	3.70	39.63
37	Mauritius.....	4.62	66.94	104	Montenegro.....	3.69	39.26
38	Korea, Rep.....	4.61	66.48	105	Honduras.....	3.68	39.19
39	Czech Republic.....	4.60	66.30	106	Ethiopia.....	3.67	38.92
40	Jordan.....	4.59	66.00	107	Paraguay.....	3.65	38.11
41	Malaysia.....	4.54	64.56	108	Morocco.....	3.63	37.59
42	Malta.....	4.53	64.29	109	Burundi.....	3.61	36.90
43	Oman.....	4.52	64.02	110	Senegal.....	3.61	36.89
44	Egypt.....	4.49	62.94	111	India.....	3.59	36.58
45	Brunei Darussalam.....	4.49	62.93	112	Zambia.....	3.58	36.19
46	Latvia.....	4.45	62.00	113	Peru.....	3.58	36.16
47	Pakistan.....	4.45	61.91	114	Lebanon.....	3.57	35.75
48	Guinea.....	4.38	59.90	115	Ukraine.....	3.55	35.26
49	Portugal.....	4.38	59.83	116	Croatia.....	3.54	35.07
50	Guatemala.....	4.36	59.34	117	Madagascar.....	3.53	34.53
51	Cyprus.....	4.32	57.91	118	Nepal.....	3.48	33.30
52	Italy.....	4.31	57.79	119	Kyrgyzstan.....	3.42	31.37
53	Sri Lanka.....	4.29	57.25	120	Kazakhstan.....	3.40	30.92
54	Thailand.....	4.21	54.83	121	Bangladesh.....	3.36	29.61
55	Botswana.....	4.21	54.73	122	Nicaragua.....	3.30	27.99
56	Brazil.....	4.20	54.54	123	Lesotho.....	3.30	27.98
57	Colombia.....	4.16	53.35	124	Bosnia and Herzegovina.....	3.20	25.00
58	Moldova, Rep.....	4.15	53.11	125	Iran, Islamic Rep.....	3.20	24.88
59	Georgia.....	4.14	52.70	126	Angola.....	3.14	23.06
60	Chile.....	4.14	52.68	127	Benin.....	3.13	22.69
61	Uruguay.....	4.12	52.08	128	Congo, Dem. Rep.....	3.10	22.01
62	Cambodia.....	4.09	51.28	129	Bolivia, Plurinational St.....	3.08	21.26
63	Ghana.....	4.08	50.98	130	Chad.....	3.06	20.64
64	Kuwait.....	4.08	50.91	131	Mozambique.....	2.98	18.28
65	Namibia.....	4.07	50.73	132	Burkina Faso.....	2.92	16.56
66	Bulgaria.....	4.07	50.67	133	Mauritania.....	2.36	0.00
67	Armenia.....	4.06	50.47				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.2.4 Formal and non-formal studies

Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months (%) | 2018

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Paraguay.....	73.80	100.00	68	Eswatini.....	2.28	2.87
2	Switzerland.....	69.10	93.62	69	El Salvador.....	2.03	2.53
3	New Zealand.....	67.22	91.07	70	Ghana.....	1.79	2.21
4	Netherlands.....	64.10	86.83	71	Mauritius.....	1.68	2.05
5	Sweden.....	63.80	86.42	72	Georgia.....	1.62	1.97
6	Norway.....	60.00	81.26	73	Brunei Darussalam.....	1.53	1.85
7	Austria.....	59.90	81.13	74	Burundi.....	1.53	1.85
8	United States of America.....	59.36	80.39	75	Cambodia.....	1.18	1.38
9	Canada.....	57.75	78.20	76	Sri Lanka.....	0.83	0.90
10	Singapore.....	56.62	76.67	77	Malawi.....	0.82	0.88
11	Hungary.....	55.70	75.42	78	Mali.....	0.81	0.87
12	Australia.....	54.89	74.32	79	Indonesia.....	0.76	0.81
13	Finland.....	54.10	73.25	80	Lao PDR.....	0.70	0.72
14	Israel.....	52.54	71.14	81	Egypt.....	0.66	0.67
15	United Kingdom.....	52.10	70.53	82	Mongolia.....	0.63	0.63
16	Germany.....	52.00	70.40	83	Thailand.....	0.46	0.40
17	France.....	51.30	69.45	84	Viet Nam.....	0.17	0.00
18	Denmark.....	50.40	68.22		Algeria.....	n/a	n/a
19	Cyprus.....	48.10	65.10		Armenia.....	n/a	n/a
19	Luxembourg.....	48.10	65.10		Azerbaijan.....	n/a	n/a
21	Latvia.....	47.50	64.29		Bahrain.....	n/a	n/a
22	Chile.....	47.09	63.73		Bangladesh.....	n/a	n/a
23	Czech Republic.....	46.10	62.38		Belarus.....	n/a	n/a
23	Portugal.....	46.10	62.38		Benin.....	n/a	n/a
23	Slovakia.....	46.10	62.38		Botswana.....	n/a	n/a
23	Slovenia.....	46.10	62.38		Brazil.....	n/a	n/a
27	Belgium.....	45.20	61.16		Burkina Faso.....	n/a	n/a
28	Estonia.....	44.00	59.53		Cabo Verde.....	n/a	n/a
29	Spain.....	43.40	58.72		Cameroon.....	n/a	n/a
30	Japan.....	41.76	56.48		Chad.....	n/a	n/a
31	Italy.....	41.50	56.14		China.....	n/a	n/a
32	Malta.....	36.30	49.07		Colombia.....	n/a	n/a
33	Peru.....	34.46	46.58		Costa Rica.....	n/a	n/a
34	Croatia.....	31.80	42.96		Gambia.....	n/a	n/a
35	Mexico.....	30.42	41.09		Guinea.....	n/a	n/a
36	Lithuania.....	27.90	37.67		Iceland.....	n/a	n/a
37	Poland.....	25.50	34.41		India.....	n/a	n/a
38	Bulgaria.....	24.60	33.18		Iran, Islamic Rep.....	n/a	n/a
39	Ireland.....	24.40	32.91		Jamaica.....	n/a	n/a
40	Türkiye.....	20.90	28.16		Jordan.....	n/a	n/a
41	Serbia.....	19.80	26.67		Kenya.....	n/a	n/a
42	Russian Federation.....	19.38	26.09		Korea, Rep.....	n/a	n/a
43	Kazakhstan.....	16.95	22.79		Kuwait.....	n/a	n/a
44	Greece.....	16.70	22.46		Kyrgyzstan.....	n/a	n/a
45	Angola.....	13.77	18.48		Lebanon.....	n/a	n/a
46	North Macedonia.....	12.70	17.02		Lesotho.....	n/a	n/a
47	Albania.....	9.20	12.27		Madagascar.....	n/a	n/a
48	Bosnia and Herzegovina.....	8.70	11.59		Malaysia.....	n/a	n/a
49	Namibia.....	7.16	9.49		Moldova, Rep.....	n/a	n/a
50	Romania.....	7.00	9.28		Montenegro.....	n/a	n/a
51	Argentina.....	6.49	8.59		Morocco.....	n/a	n/a
52	Dominican Republic.....	6.27	8.30		Mozambique.....	n/a	n/a
53	Uruguay.....	5.82	7.68		Nepal.....	n/a	n/a
54	Senegal.....	5.60	7.38		Nigeria.....	n/a	n/a
55	Bolivia, Plurinational St.....	5.38	7.08		Oman.....	n/a	n/a
56	Mauritania.....	4.33	5.65		Pakistan.....	n/a	n/a
57	Panama.....	3.88	5.04		Philippines.....	n/a	n/a
58	Nicaragua.....	3.58	4.63		Qatar.....	n/a	n/a
59	Ethiopia.....	3.57	4.63		Saudi Arabia.....	n/a	n/a
60	Zambia.....	3.33	4.29		Tanzania, United Rep.....	n/a	n/a
61	Ecuador.....	3.33	4.29		Trinidad and Tobago.....	n/a	n/a
62	Honduras.....	3.31	4.27		Tunisia.....	n/a	n/a
63	Côte d'Ivoire.....	2.95	3.78		Uganda.....	n/a	n/a
64	Congo, Dem. Rep.....	2.83	3.62		Ukraine.....	n/a	n/a
65	Guatemala.....	2.61	3.31		United Arab Emirates.....	n/a	n/a
66	Rwanda.....	2.51	3.18		Zimbabwe.....	n/a	n/a
67	South Africa.....	2.51	3.18				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.3.1 Delegation of authority

Average answer to the question: In your country, to what extent does senior management delegate authority to subordinates? [1 = not at all; 7 = to a great extent] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Denmark.....	6.01	100.00	68	Panama.....	4.39	45.10
2	United States of America.....	5.84	93.93	69	Rwanda.....	4.37	44.31
3	Norway.....	5.79	92.53	70	Slovakia.....	4.37	44.25
4	Finland.....	5.73	90.30	71	Belarus.....	4.36	43.85
5	Netherlands.....	5.62	86.79	72	Tanzania, United Rep.	4.35	43.46
6	New Zealand.....	5.51	82.77	73	Malawi.....	4.34	43.26
7	Australia.....	5.46	81.11	74	Uruguay.....	4.34	43.23
8	Ireland.....	5.46	81.08	75	Uganda.....	4.34	43.19
9	Iceland.....	5.45	80.79	76	Cyprus.....	4.33	43.04
10	Sweden.....	5.39	78.75	77	Peru.....	4.32	42.55
11	United Kingdom.....	5.35	77.63	78	Pakistan.....	4.31	42.35
12	Switzerland.....	5.32	76.34	79	Greece.....	4.30	41.87
13	Canada.....	5.31	76.04	80	Bulgaria.....	4.29	41.56
14	Botswana.....	5.24	73.84	81	Portugal.....	4.29	41.38
15	United Arab Emirates.....	5.23	73.57	82	Guatemala.....	4.28	41.19
16	Israel.....	5.17	71.54	83	Serbia.....	4.28	41.10
17	Singapore.....	5.14	70.47	84	Guinea.....	4.27	40.83
18	Indonesia.....	5.13	70.12	85	Lao PDR.....	4.24	39.73
19	Germany.....	5.12	69.76	86	Dominican Republic.....	4.21	38.88
20	Estonia.....	5.08	68.34	87	Hungary.....	4.21	38.82
21	Viet Nam.....	5.07	68.09	88	Armenia.....	4.16	37.10
22	Austria.....	5.06	67.65	89	Kuwait.....	4.15	36.64
23	Qatar.....	5.05	67.36	90	Mexico.....	4.13	36.13
24	Bahrain.....	5.03	66.76	91	Poland.....	4.12	35.84
25	Czech Republic.....	4.98	64.95	92	Argentina.....	4.12	35.78
26	Lithuania.....	4.96	64.12	93	Romania.....	4.10	35.13
27	Brunei Darussalam.....	4.94	63.62	94	Moldova, Rep.....	4.06	33.81
28	Jamaica.....	4.93	63.20	95	Cambodia.....	4.06	33.64
29	France.....	4.92	62.85	96	Türkiye.....	4.05	33.45
30	Luxembourg.....	4.91	62.45	97	Honduras.....	4.05	33.43
31	Philippines.....	4.90	62.24	98	Ecuador.....	4.04	33.06
32	Malaysia.....	4.90	62.21	99	Burundi.....	4.03	32.67
33	Albania.....	4.87	61.36	100	Kazakhstan.....	4.01	32.03
34	Gambia.....	4.85	60.55	101	Madagascar.....	3.97	30.84
35	China.....	4.84	60.24	102	Kyrgyzstan.....	3.97	30.82
36	Oman.....	4.84	60.19	103	Cabo Verde.....	3.97	30.58
37	Saudi Arabia.....	4.83	59.90	104	Bangladesh.....	3.94	29.70
38	Belgium.....	4.81	59.12	105	El Salvador.....	3.93	29.29
39	Costa Rica.....	4.78	58.29	106	Montenegro.....	3.91	28.58
40	Benin.....	4.74	56.78	107	Croatia.....	3.90	28.23
41	Georgia.....	4.73	56.52	108	India.....	3.88	27.58
42	Japan.....	4.70	55.57	109	Ukraine.....	3.86	27.02
43	South Africa.....	4.70	55.42	110	Nepal.....	3.86	26.87
44	Kenya.....	4.67	54.40	111	Côte d'Ivoire.....	3.85	26.78
45	Azerbaijan.....	4.65	53.62	112	Lebanon.....	3.81	25.43
46	Zambia.....	4.64	53.26	113	Mongolia.....	3.72	22.30
47	Latvia.....	4.62	52.87	114	Bosnia and Herzegovina.....	3.71	22.05
48	Brazil.....	4.62	52.67	115	Nicaragua.....	3.71	21.75
49	Slovenia.....	4.61	52.40	116	North Macedonia.....	3.71	21.72
50	Jordan.....	4.60	52.06	117	Tunisia.....	3.70	21.46
51	Zimbabwe.....	4.58	51.40	118	Morocco.....	3.67	20.42
52	Ghana.....	4.58	51.34	119	Paraguay.....	3.66	20.24
53	Egypt.....	4.57	50.93	120	Algeria.....	3.62	18.81
54	Russian Federation.....	4.56	50.82	121	Cameroon.....	3.59	17.66
55	Mauritius.....	4.55	50.25	122	Mali.....	3.54	16.06
56	Chile.....	4.54	50.19	123	Bolivia, Plurinational St.....	3.52	15.34
57	Thailand.....	4.54	50.06	124	Senegal.....	3.49	14.32
58	Sri Lanka.....	4.53	49.84	125	Congo, Dem. Rep.....	3.47	13.88
59	Colombia.....	4.53	49.81	126	Mozambique.....	3.43	12.42
60	Malta.....	4.52	49.24	127	Mauritania.....	3.35	9.61
61	Trinidad and Tobago.....	4.50	48.82	128	Iran, Islamic Rep.....	3.32	8.56
62	Italy.....	4.50	48.70	129	Ethiopia.....	3.26	6.76
63	Spain.....	4.49	48.31	130	Burkina Faso.....	3.22	5.14
64	Nigeria.....	4.49	48.24	131	Angola.....	3.19	4.22
65	Eswatini.....	4.46	47.37	132	Lesotho.....	3.08	0.60
66	Namibia.....	4.45	46.84	133	Chad.....	3.06	0.00
67	Korea, Rep.....	4.44	46.73				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.3.2 Youth inclusion

Proportion of youth (aged 15–24 years) not in education, employment or training (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Japan.....	3.14	100.00	68	Kenya.....	19.67	66.20
2	Madagascar.....	3.79	98.67	69	Italy.....	19.76	66.02
3	Singapore.....	4.46	97.30	70	Ghana.....	20.38	64.75
4	Iceland.....	4.88	96.44	71	Algeria.....	20.95	63.59
5	Sweden.....	5.06	96.07	72	Montenegro.....	21.09	63.30
6	Netherlands.....	5.11	95.97	73	Sri Lanka.....	21.21	63.05
7	Burundi.....	6.19	93.76	74	Congo, Dem. Rep.....	21.36	62.75
8	Norway.....	6.32	93.50	75	Brunei Darussalam.....	21.43	62.60
9	Czech Republic.....	6.52	93.09	76	Kyrgyzstan.....	21.67	62.11
10	Slovenia.....	6.60	92.93	77	Saudi Arabia.....	22.31	60.81
11	Denmark.....	7.08	91.94	78	Indonesia.....	22.45	60.52
12	Belgium.....	7.42	91.25	79	Peru.....	22.70	60.01
13	Germany.....	7.52	91.04	80	Brazil.....	23.49	58.39
14	Portugal.....	7.61	90.86	81	Lebanon.....	23.52	58.33
15	Finland.....	7.65	90.78	82	Armenia.....	23.84	57.68
16	Ireland.....	7.73	90.62	83	Philippines.....	24.09	57.17
17	Austria.....	8.49	89.06	84	Nicaragua.....	24.49	56.35
18	Latvia.....	8.63	88.78	85	Georgia.....	24.91	55.49
19	Luxembourg.....	8.67	88.69	86	Lao PDR.....	25.80	53.67
20	Australia.....	8.94	88.14	87	Albania.....	25.82	53.63
21	Belarus.....	9.18	87.65	88	El Salvador.....	26.74	51.75
22	Kazakhstan.....	9.49	87.02	89	Honduras.....	26.80	51.63
23	Malta.....	10.06	85.85	90	Colombia.....	27.26	50.68
24	Ethiopia.....	10.48	84.99	91	Bangladesh.....	27.39	50.42
25	United Kingdom.....	10.52	84.91	92	India.....	27.50	50.19
26	France.....	10.57	84.81	93	Angola.....	27.90	49.38
27	Hungary.....	10.61	84.73	94	Cabo Verde.....	27.99	49.19
28	Cambodia.....	10.74	84.46	95	Nigeria.....	28.13	48.91
29	Guinea.....	10.76	84.42	96	Guatemala.....	28.19	48.78
30	Côte d'Ivoire.....	10.81	84.32	97	Türkiye.....	28.32	48.52
31	Estonia.....	10.92	84.09	98	Rwanda.....	28.85	47.43
32	Greece.....	10.96	84.01	99	Zambia.....	28.95	47.23
33	Spain.....	10.97	83.99	100	Zimbabwe.....	29.37	46.37
34	Slovakia.....	10.98	83.97	101	Gambia.....	29.38	46.35
35	Poland.....	11.20	83.52	102	Iran, Islamic Rep.....	29.40	46.31
36	Switzerland.....	11.21	83.50	103	Jamaica.....	29.66	45.78
37	Lithuania.....	11.32	83.28	104	Pakistan.....	29.71	45.68
38	New Zealand.....	11.88	82.13	105	Egypt.....	30.19	44.69
39	United States of America.....	12.20	81.48	106	Tunisia.....	30.42	44.22
40	Russian Federation.....	12.41	81.05	107	South Africa.....	30.60	43.86
41	Croatia.....	12.69	80.47	108	Mali.....	30.86	43.32
42	Cyprus.....	12.82	80.21	109	Namibia.....	31.76	41.48
43	Canada.....	12.94	79.96	110	Senegal.....	32.71	39.54
44	Malaysia.....	13.63	78.55	111	Nepal.....	34.76	35.35
45	Bolivia, Plurinational St.....	13.70	78.41	112	Benin.....	35.10	34.66
46	Bulgaria.....	14.02	77.76	113	Lesotho.....	35.15	34.55
47	Tanzania, United Rep.....	14.93	75.89	114	Jordan.....	35.38	34.08
48	Thailand.....	15.13	75.49	115	Eswatini.....	35.46	33.92
49	Viet Nam.....	15.27	75.20	116	Mauritania.....	35.53	33.78
50	Uganda.....	15.31	75.12	117	Moldova, Rep.....	35.70	33.43
51	Serbia.....	16.05	73.60	118	Chad.....	37.05	30.67
52	Argentina.....	16.12	73.46	119	Botswana.....	37.14	30.48
53	Chile.....	16.38	72.93	120	Dominican Republic.....	37.71	29.32
54	Ukraine.....	16.47	72.75	121	Burkina Faso.....	41.00	22.59
55	Cameroon.....	17.01	71.64	122	Mauritius.....	41.72	21.12
56	Israel.....	17.26	71.13	123	Trinidad and Tobago.....	52.05	0.00
57	Uruguay.....	17.58	70.48		Azerbaijan.....	n/a	n/a
58	Romania.....	18.02	69.58		Bahrain.....	n/a	n/a
59	Mexico.....	18.35	68.90		China.....	n/a	n/a
60	North Macedonia.....	18.36	68.88		Korea, Rep.....	n/a	n/a
61	Ecuador.....	18.48	68.64		Kuwait.....	n/a	n/a
62	Mongolia.....	18.50	68.60		Morocco.....	n/a	n/a
63	Paraguay.....	18.59	68.41		Mozambique.....	n/a	n/a
64	Costa Rica.....	18.99	67.59		Oman.....	n/a	n/a
65	Bosnia and Herzegovina.....	19.30	66.96		Qatar.....	n/a	n/a
65	Panama.....	19.30	66.96		United Arab Emirates.....	n/a	n/a
67	Malawi.....	19.41	66.73				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.3.3 Use of virtual social networks

Social media users (%) | 2022

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Brunei Darussalam.....	116.00	100.00	68	Croatia.....	71.20	60.25
2	United Arab Emirates.....	106.00	91.13	69	Bolivia, Plurinational St.....	70.90	59.98
3	Malta.....	101.00	86.69	70	El Salvador.....	70.40	59.54
4	Cyprus.....	100.00	85.80	71	Romania.....	69.70	58.92
5	Qatar.....	99.80	85.63	72	Dominican Republic.....	69.10	58.39
6	Iceland.....	96.20	82.43	73	Armenia.....	69.00	58.30
7	Kuwait.....	93.00	79.59	74	Indonesia.....	68.90	58.21
8	Chile.....	92.80	79.41	75	China.....	68.00	57.41
9	Malaysia.....	91.70	78.44	75	Tunisia.....	68.00	57.41
10	Korea, Rep.....	91.20	77.99	77	Jordan.....	66.60	56.17
11	Sweden.....	90.80	77.64	78	Albania.....	65.20	54.92
12	Netherlands.....	90.70	77.55	79	Bulgaria.....	64.80	54.57
13	Uruguay.....	90.20	77.11	79	North Macedonia.....	64.80	54.57
14	Singapore.....	89.50	76.49	81	Ukraine.....	64.60	54.39
15	New Zealand.....	89.20	76.22	82	Morocco.....	63.40	53.33
16	Bahrain.....	87.80	74.98	83	Bosnia and Herzegovina.....	63.00	52.97
17	Canada.....	87.10	74.36	84	Paraguay.....	62.60	52.62
17	Spain.....	87.10	74.36	85	Algeria.....	59.10	49.51
19	Germany.....	86.50	73.82	86	Jamaica.....	58.70	49.16
19	Norway.....	86.50	73.82	87	Serbia.....	57.50	48.09
21	Argentina.....	86.30	73.65	88	Nicaragua.....	56.40	47.12
22	Switzerland.....	86.20	73.56	89	Iran, Islamic Rep.....	55.80	46.58
23	Denmark.....	85.30	72.76	90	Cabo Verde.....	54.00	44.99
24	Finland.....	85.20	72.67	91	Kyrgyzstan.....	53.90	44.90
25	Mongolia.....	85.00	72.49	92	Guatemala.....	51.90	43.12
26	Georgia.....	84.30	71.87	93	Lao PDR.....	51.10	42.41
26	United Kingdom.....	84.30	71.87	94	Azerbaijan.....	50.70	42.06
28	Peru.....	83.80	71.43	95	Honduras.....	50.30	41.70
29	Portugal.....	83.70	71.34	96	Botswana.....	49.60	41.08
30	Oman.....	83.20	70.90	97	Egypt.....	48.90	40.46
31	Australia.....	82.70	70.45	98	Moldova, Rep.....	46.50	38.33
32	Philippines.....	82.40	70.19	99	South Africa.....	46.40	38.24
33	Saudi Arabia.....	82.30	70.10	100	Belarus.....	46.10	37.98
34	Montenegro.....	82.10	69.92	101	Nepal.....	45.70	37.62
35	Belgium.....	81.70	69.57	102	Sri Lanka.....	38.10	30.88
36	Austria.....	81.40	69.30	103	Eswatini.....	34.60	27.77
37	Colombia.....	81.30	69.21	104	India.....	33.40	26.71
38	Thailand.....	81.20	69.12	105	Namibia.....	32.80	26.18
39	Ecuador.....	81.10	69.03	106	Pakistan.....	31.50	25.02
39	Japan.....	81.10	69.03	107	Bangladesh.....	29.70	23.43
41	United States of America.....	80.90	68.86	108	Ghana.....	27.40	21.38
42	Türkiye.....	80.80	68.77	109	Lesotho.....	24.50	18.81
43	Costa Rica.....	80.40	68.41	110	Côte d'Ivoire.....	23.40	17.83
44	France.....	80.30	68.32	111	Senegal.....	22.10	16.68
45	Brazil.....	79.90	67.97	112	Kenya.....	21.10	15.79
46	Israel.....	79.70	67.79	113	Mauritania.....	20.70	15.44
47	Estonia.....	79.30	67.44	114	Gambia.....	18.30	13.31
48	Ireland.....	79.00	67.17	115	Guinea.....	17.60	12.69
49	Mauritius.....	78.60	66.81	116	Cameroon.....	16.50	11.71
50	Trinidad and Tobago.....	78.40	66.64	117	Nigeria.....	15.40	10.74
51	Mexico.....	78.30	66.55	118	Zambia.....	15.10	10.47
52	Panama.....	78.20	66.46	119	Benin.....	13.20	8.78
53	Viet Nam.....	78.10	66.37	120	Madagascar.....	10.90	6.74
54	Latvia.....	78.00	66.28	121	Mali.....	10.20	6.12
55	Lithuania.....	77.70	66.02	121	Zimbabwe.....	10.20	6.12
56	Slovenia.....	77.50	65.84	123	Burkina Faso.....	10.10	6.03
57	Hungary.....	75.60	64.15	124	Tanzania, United Rep.....	9.80	5.77
58	Lebanon.....	75.20	63.80	125	Mozambique.....	9.30	5.32
59	Czech Republic.....	75.00	63.62	126	Angola.....	8.00	4.17
60	Slovakia.....	74.40	63.09	127	Rwanda.....	6.90	3.19
61	Cambodia.....	73.90	62.64	128	Burundi.....	6.10	2.48
62	Luxembourg.....	72.90	61.76	129	Uganda.....	5.90	2.31
63	Russian Federation.....	72.70	61.58	130	Ethiopia.....	5.30	1.77
64	Kazakhstan.....	72.30	61.22	131	Congo, Dem. Rep.....	5.00	1.51
65	Poland.....	72.00	60.96	132	Malawi.....	4.10	0.71
66	Italy.....	71.60	60.60	133	Chad.....	3.30	0.00
67	Greece.....	71.50	60.51				

SOURCE: We Are Social and Hootsuite (2022) Digital 2022 report series (<https://wearesocial.com/digital-2022>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

3.3.4 Use of virtual professional networks

LinkedIn's potential advertising audience (%) | 2022

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Iceland	94.10	100.00	68	Serbia	15.60	15.95
2	Netherlands	69.50	73.66	69	Bolivia, Plurinational St.	15.50	15.85
3	United States of America	69.10	73.23	70	Hungary	15.10	15.42
4	United Arab Emirates	69.00	73.13	70	Philippines	15.10	15.42
5	Ireland	66.00	69.91	72	Poland	14.90	15.20
6	Malta	65.40	69.27	73	El Salvador	14.50	14.78
7	Australia	65.10	68.95	73	Georgia	14.50	14.78
8	Singapore	63.50	67.24	75	Slovakia	14.20	14.45
9	United Kingdom	62.90	66.60	76	Morocco	13.50	13.70
10	Denmark	62.00	65.63	77	Paraguay	12.50	12.63
11	Canada	61.30	64.88	78	Armenia	11.60	11.67
12	New Zealand	61.20	64.78	79	Eswatini	11.50	11.56
13	Luxembourg	59.80	63.28	80	Bosnia and Herzegovina	11.10	11.13
14	Sweden	53.40	56.42	80	Mongolia	11.10	11.13
15	Norway	50.50	53.32	82	Nicaragua	10.80	10.81
16	Switzerland	48.80	51.50	83	Guatemala	10.60	10.60
17	Portugal	46.70	49.25	84	Indonesia	10.30	10.28
18	Belgium	46.30	48.82	85	Ukraine	10.20	10.17
19	France	44.40	46.79	86	Egypt	10.00	9.96
20	Trinidad and Tobago	41.90	44.11	87	Ghana	9.80	9.74
21	Chile	41.70	43.90	88	Belarus	9.70	9.64
22	Qatar	40.30	42.40	88	Sri Lanka	9.70	9.64
23	Uruguay	37.80	39.72	90	Algeria	9.60	9.53
24	Spain	36.10	37.90	91	Kenya	9.40	9.31
25	Cyprus	35.80	37.58	92	Honduras	8.90	8.78
26	Mauritius	35.40	37.15	92	Moldova, Rep.	8.90	8.78
27	Israel	35.10	36.83	92	Senegal	8.90	8.78
28	Costa Rica	33.30	34.90	95	Kazakhstan	8.70	8.57
28	Finland	33.30	34.90	96	India	8.60	8.46
30	Brazil	32.10	33.62	96	Zimbabwe	8.60	8.46
31	Italy	31.40	32.87	98	Azerbaijan	7.40	7.17
32	Bahrain	30.90	32.33	99	Korea, Rep.	7.30	7.07
33	Panama	30.80	32.23	100	Gambia	6.80	6.53
34	Brunei Darussalam	28.90	30.19	101	Côte d'Ivoire	6.60	6.32
35	Argentina	28.80	30.09	102	Russian Federation	6.30	6.00
36	Peru	28.60	29.87	103	Nigeria	5.90	5.57
37	Jamaica	27.30	28.48	103	Thailand	5.90	5.57
38	Ecuador	27.00	28.16	103	Viet Nam	5.90	5.57
39	Colombia	26.40	27.52	106	Cameroon	5.70	5.35
39	Malaysia	26.40	27.52	106	Lesotho	5.70	5.35
41	Latvia	26.20	27.30	108	Pakistan	5.60	5.25
42	Estonia	25.40	26.45	109	Zambia	5.40	5.03
43	Kuwait	25.00	26.02	110	Benin	5.20	4.82
44	Lithuania	24.70	25.70	111	Nepal	5.00	4.60
45	Saudi Arabia	24.00	24.95	112	Cambodia	4.20	3.75
46	South Africa	23.70	24.63	113	Bangladesh	4.00	3.53
47	Slovenia	23.40	24.30	114	Kyrgyzstan	3.80	3.32
48	Czech Republic	23.00	23.88	115	Angola	3.50	3.00
49	Austria	22.70	23.55	115	Rwanda	3.50	3.00
50	Greece	21.90	22.70	115	Uganda	3.50	3.00
51	Croatia	21.70	22.48	118	Mauritania	3.30	2.78
52	Albania	21.10	21.84	119	Tanzania, United Rep.	3.20	2.68
53	Romania	20.60	21.31	120	Japan	2.80	2.25
54	Botswana	20.20	20.88	120	Lao PDR	2.80	2.25
55	Lebanon	19.60	20.24	122	Guinea	2.60	2.03
56	Montenegro	19.50	20.13	122	Mozambique	2.60	2.03
56	Türkiye	19.50	20.13	124	Mali	2.50	1.93
58	Jordan	18.70	19.27	125	Burkina Faso	2.30	1.71
59	Germany	18.60	19.16	126	Malawi	1.90	1.28
59	Mexico	18.60	19.16	127	Madagascar	1.60	0.96
59	Namibia	18.60	19.16	128	Ethiopia	1.10	0.43
62	Oman	17.70	18.20	129	Burundi	1.00	0.32
63	Dominican Republic	17.40	17.88	130	Congo, Dem. Rep.	0.90	0.21
63	Tunisia	17.40	17.88	131	Chad	0.70	0.00
65	Bulgaria	17.00	17.45		China	n/a	n/a
66	Cabo Verde	16.80	17.24		Iran, Islamic Rep.	n/a	n/a
67	North Macedonia	16.70	17.13				

SOURCE: We Are Social and Hootsuite (2022) Digital 2022 report series (<https://wearesocial.com/digital-2022>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

Pillar 4

Retain

4.1.1 Pension coverage

Population above statutory pensionable age receiving a pension (%) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Australia	100.00	100.00	68	Azerbaijan	72.80	72.36
1	Austria	100.00	100.00	69	Chile	71.50	71.04
1	Belarus	100.00	100.00	70	Iceland	71.40	70.93
1	Belgium	100.00	100.00	71	Bosnia and Herzegovina	69.50	69.00
1	Bolivia, Plurinational St.	100.00	100.00	72	North Macedonia	68.60	68.09
1	Botswana	100.00	100.00	73	Armenia	65.20	64.63
1	Brunei Darussalam	100.00	100.00	74	Paraguay	64.60	64.02
1	Canada	100.00	100.00	75	Serbia	63.50	62.91
1	China	100.00	100.00	76	Ecuador	60.60	59.96
1	Denmark	100.00	100.00	77	Jordan	60.00	59.35
1	Estonia	100.00	100.00	78	Egypt	57.60	56.91
1	Eswatini	100.00	100.00	79	Costa Rica	56.20	55.49
1	Finland	100.00	100.00	80	Mozambique	52.50	51.73
1	France	100.00	100.00	81	Colombia	50.60	49.80
1	Germany	100.00	100.00	82	Oman	46.90	46.04
1	Ireland	100.00	100.00	83	India	42.50	41.57
1	Israel	100.00	100.00	84	Viet Nam	40.90	39.94
1	Japan	100.00	100.00	85	Jamaica	40.30	39.33
1	Korea, Rep.	100.00	100.00	86	Bangladesh	39.00	38.01
1	Kyrgyzstan	100.00	100.00	87	Peru	35.70	34.65
1	Luxembourg	100.00	100.00	87	Sri Lanka	35.70	34.65
1	Malta	100.00	100.00	89	Saudi Arabia	33.20	32.11
1	Mauritius	100.00	100.00	90	Singapore	33.10	32.01
1	Mexico	100.00	100.00	91	Senegal	29.90	28.76
1	Mongolia	100.00	100.00	92	Panama	29.30	28.15
1	Namibia	100.00	100.00	93	Nicaragua	28.60	27.44
1	Netherlands	100.00	100.00	94	Kuwait	27.60	26.42
1	New Zealand	100.00	100.00	95	United Arab Emirates	22.60	21.34
1	Norway	100.00	100.00	96	Zimbabwe	22.00	20.73
1	Russian Federation	100.00	100.00	97	Iran, Islamic Rep.	21.30	20.02
1	Slovenia	100.00	100.00	98	Philippines	20.50	19.21
1	Sweden	100.00	100.00	99	El Salvador	20.10	18.80
1	Switzerland	100.00	100.00	100	Qatar	19.40	18.09
1	Türkiye	100.00	100.00	101	Ghana	19.00	17.68
1	United Kingdom	100.00	100.00	102	Malaysia	18.60	17.28
1	United States of America	100.00	100.00	103	Cameroon	18.30	16.97
1	Uruguay	100.00	100.00	104	Gambia	17.00	15.65
38	Kazakhstan	99.60	99.59	105	Guatemala	16.70	15.35
39	Spain	98.20	98.17	106	Mauritania	16.20	14.84
40	Cyprus	97.80	97.76	107	Indonesia	14.80	13.41
41	Lithuania	97.10	97.05	108	Angola	14.50	13.11
42	Ukraine	96.20	96.14	109	Kenya	13.20	11.79
43	Greece	95.80	95.73	110	Dominican Republic	11.30	9.86
44	Italy	94.40	94.31	111	Uganda	11.20	9.76
45	Bulgaria	94.00	93.90	112	Benin	11.00	9.55
45	Lesotho	94.00	93.90	112	Nigeria	11.00	9.55
47	Romania	93.50	93.39	114	Honduras	10.70	9.25
48	Latvia	92.00	91.87	115	Lebanon	9.80	8.33
49	Brazil	91.50	91.36	116	Zambia	7.80	6.30
50	Czech Republic	91.30	91.16	117	Mali	7.30	5.79
51	Trinidad and Tobago	91.10	90.96	118	Cambodia	6.60	5.08
52	Georgia	90.90	90.75	119	Lao PDR	6.30	4.78
53	Montenegro	90.60	90.45	120	Burkina Faso	6.00	4.47
53	Slovakia	90.60	90.45	121	Pakistan	5.80	4.27
55	Hungary	90.50	90.35	122	Tanzania, United Rep.	5.50	3.96
56	Portugal	90.40	90.24	123	Madagascar	4.60	3.05
57	Argentina	89.80	89.63	124	Burundi	4.00	2.44
57	Croatia	89.80	89.63	125	Ethiopia	3.90	2.34
59	Thailand	89.10	88.92	126	Rwanda	3.10	1.52
60	Tunisia	85.40	85.16	127	Malawi	2.30	0.71
61	Cabo Verde	84.80	84.55	128	Chad	1.60	0.00
62	Nepal	84.20	83.94		Algeria	n/a	n/a
63	Poland	83.60	83.33		Congo, Dem. Rep.	n/a	n/a
64	South Africa	81.50	81.20		Côte d'Ivoire	n/a	n/a
65	Albania	77.00	76.63		Guinea	n/a	n/a
66	Moldova, Rep.	75.20	74.80		Morocco	n/a	n/a
67	Bahrain	75.10	74.70				

SOURCE: International Labour Organization, Social Security Inquiry (SSI). Sourced from UN Global SDG Indicators Database (<https://unstats.un.org/sdgs/indicators/database/>)
For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

4.1.2 Social protection

Average answer to the question: In your country, to what extent does a formal social safety net provide protection to the general population from economic insecurity in the event of job loss or disability? [1 = not at all; 7 = provides full protection] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Denmark	6.37	100.00	68	Gambia	3.80	38.47
2	Finland	6.23	96.70	69	Brazil	3.78	37.88
3	Norway	6.20	96.09	70	Romania	3.72	36.50
4	Austria	6.19	95.79	71	Mali	3.71	36.26
5	Luxembourg	6.04	92.23	72	Ukraine	3.70	36.05
6	Switzerland	6.04	92.15	73	Armenia	3.68	35.47
7	Netherlands	5.96	90.23	74	Botswana	3.63	34.31
8	Spain	5.84	87.41	75	Kazakhstan	3.61	33.71
9	Sweden	5.83	87.01	76	Mexico	3.57	32.81
10	France	5.78	85.84	77	Belarus	3.56	32.68
11	Iceland	5.75	85.20	78	Mongolia	3.56	32.66
12	New Zealand	5.74	85.03	79	Dominican Republic	3.56	32.57
13	Saudi Arabia	5.68	83.55	80	Iran, Islamic Rep.	3.54	32.14
14	Uruguay	5.54	80.04	81	Bulgaria	3.54	32.08
15	Germany	5.51	79.56	82	Paraguay	3.50	31.18
16	Australia	5.47	78.57	83	Montenegro	3.49	30.79
17	China	5.46	78.27	84	Greece	3.48	30.58
18	Belgium	5.31	74.54	85	Tunisia	3.47	30.46
19	Costa Rica	5.29	74.06	86	Kenya	3.46	30.25
20	Japan	5.26	73.38	87	Guatemala	3.45	30.04
21	Bahrain	5.21	72.25	88	South Africa	3.44	29.80
22	Oman	5.21	72.23	89	Ethiopia	3.41	29.10
23	United Arab Emirates	5.19	71.65	90	Georgia	3.41	29.04
24	Ireland	5.15	70.83	91	Russian Federation	3.39	28.59
25	Czech Republic	5.07	68.89	92	Côte d'Ivoire	3.39	28.43
26	Canada	5.06	68.66	93	North Macedonia	3.38	28.36
27	Portugal	5.06	68.60	94	Serbia	3.36	27.81
28	Kuwait	5.04	68.24	95	Croatia	3.35	27.43
29	Malta	5.01	67.33	96	Lesotho	3.34	27.30
30	Slovenia	4.96	66.22	97	Jamaica	3.31	26.58
31	Qatar	4.91	64.97	98	Philippines	3.30	26.30
32	Israel	4.90	64.77	99	Bolivia, Plurinational St.	3.29	26.10
33	Korea, Rep.	4.88	64.22	100	Uganda	3.28	25.91
34	Singapore	4.85	63.52	101	Zambia	3.27	25.66
35	Malaysia	4.82	62.75	102	Kyrgyzstan	3.26	25.43
36	United Kingdom	4.81	62.68	103	Benin	3.23	24.69
37	United States of America	4.78	61.93	104	Cambodia	3.23	24.55
38	Azerbaijan	4.70	60.01	105	Senegal	3.22	24.31
39	Estonia	4.60	57.64	106	Peru	3.14	22.49
40	Italy	4.57	56.88	107	Burkina Faso	3.11	21.86
41	Egypt	4.52	55.55	108	Cameroon	3.08	21.10
42	Türkiye	4.46	54.12	109	Nepal	3.08	20.98
43	Jordan	4.43	53.44	110	Malawi	3.07	20.90
44	Cyprus	4.42	53.21	111	El Salvador	3.07	20.86
45	Latvia	4.39	52.48	112	Mozambique	3.02	19.62
46	Rwanda	4.38	52.22	113	Poland	3.02	19.49
47	Mauritius	4.36	51.73	114	Eswatini	3.01	19.37
48	Slovakia	4.35	51.50	115	Albania	2.90	16.79
49	Indonesia	4.24	48.96	116	India	2.89	16.43
50	Cabo Verde	4.18	47.55	117	Guinea	2.86	15.83
51	Chile	4.13	46.30	118	Bangladesh	2.85	15.56
52	Viet Nam	4.12	45.93	119	Hungary	2.85	15.44
53	Lithuania	4.08	45.17	120	Madagascar	2.77	13.60
54	Tanzania, United Rep.	4.08	45.17	121	Honduras	2.71	12.23
55	Argentina	4.08	45.14	122	Bosnia and Herzegovina	2.71	12.06
56	Panama	4.07	44.73	123	Angola	2.64	10.43
57	Sri Lanka	4.04	44.23	124	Lebanon	2.60	9.51
58	Pakistan	4.04	44.18	125	Mauritania	2.59	9.31
59	Thailand	4.04	44.13	126	Congo, Dem. Rep.	2.58	9.10
60	Colombia	3.99	42.97	127	Nicaragua	2.58	8.97
61	Ecuador	3.98	42.78	128	Zimbabwe	2.48	6.60
62	Namibia	3.92	41.25	129	Chad	2.42	5.08
63	Burundi	3.91	41.02	130	Nigeria	2.20	0.00
64	Algeria	3.88	40.18		Brunei Darussalam	n/a	n/a
65	Ghana	3.87	39.92		Moldova, Rep.	n/a	n/a
66	Lao PDR	3.84	39.33		Morocco	n/a	n/a
67	Trinidad and Tobago	3.83	39.00				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

4.1.3 Brain retention

Average answer to the question: To what extent does your country retain talented people? [1 = not at all—the best and brightest leave to pursue opportunities abroad; 7 = to a great extent—the best and brightest stay and pursue opportunities in the country] | 2018

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Switzerland.....	5.90	100.00	68	Brazil.....	3.37	38.76
2	United States of America.....	5.81	97.72	69	Tanzania, United Rep.	3.35	38.36
3	United Arab Emirates.....	5.52	90.94	70	Ecuador.....	3.34	38.01
4	Singapore.....	5.45	89.12	71	Viet Nam.....	3.31	37.41
5	Luxembourg.....	5.41	88.13	72	Spain.....	3.30	37.17
6	Netherlands.....	5.27	84.75	73	Jamaica.....	3.25	36.00
7	United Kingdom.....	5.27	84.71	74	Malawi.....	3.25	35.95
8	Germany.....	5.17	82.40	75	South Africa.....	3.25	35.92
9	Malaysia.....	5.10	80.55	76	Kazakhstan.....	3.21	35.05
10	Iceland.....	5.05	79.51	77	Georgia.....	3.20	34.85
11	Norway.....	5.05	79.42	78	Montenegro.....	3.17	33.97
12	Sweden.....	5.01	78.46	79	Zambia.....	3.17	33.96
13	Finland.....	4.97	77.44	80	Poland.....	3.16	33.71
14	Oman.....	4.96	77.28	81	Dominican Republic.....	3.13	32.95
15	Canada.....	4.95	76.93	82	Senegal.....	3.12	32.68
16	Chile.....	4.90	75.91	83	Bangladesh.....	3.11	32.65
17	Qatar.....	4.90	75.88	84	Morocco.....	3.09	32.10
18	Australia.....	4.74	71.86	85	Armenia.....	3.08	31.79
19	Ireland.....	4.73	71.83	86	Slovenia.....	3.08	31.77
20	Rwanda.....	4.72	71.59	87	Nicaragua.....	3.07	31.59
21	Denmark.....	4.72	71.40	88	Côte d'Ivoire.....	3.05	31.11
22	Israel.....	4.71	71.36	89	Nigeria.....	3.04	30.90
23	India.....	4.70	71.11	90	Eswatini.....	3.04	30.75
24	Saudi Arabia.....	4.58	68.06	91	Uruguay.....	3.00	29.96
25	Korea, Rep.....	4.56	67.71	92	Egypt.....	2.99	29.77
26	Azerbaijan.....	4.53	67.01	93	Lebanon.....	2.98	29.40
27	Indonesia.....	4.46	65.27	94	Mali.....	2.98	29.34
28	New Zealand.....	4.46	65.16	95	Mozambique.....	2.95	28.76
29	Bahrain.....	4.43	64.55	96	Burkina Faso.....	2.94	28.52
30	Malta.....	4.38	63.15	97	Italy.....	2.91	27.75
31	Costa Rica.....	4.37	62.92	98	Uganda.....	2.90	27.56
32	China.....	4.33	62.12	99	Latvia.....	2.89	27.32
33	Panama.....	4.29	60.97	100	Sri Lanka.....	2.89	27.18
34	Austria.....	4.26	60.32	101	Türkiye.....	2.86	26.53
35	Gambia.....	4.17	58.08	102	Madagascar.....	2.83	25.82
36	Belgium.....	4.11	56.74	103	Cameroon.....	2.73	23.49
37	Thailand.....	4.08	55.93	104	Bolivia, Plurinational St.....	2.73	23.39
38	Kenya.....	4.06	55.54	105	Iran, Islamic Rep.....	2.67	21.90
39	Philippines.....	4.05	55.37	106	Lithuania.....	2.67	21.88
40	Japan.....	4.04	55.01	107	Congo, Dem. Rep.....	2.67	21.88
41	Ghana.....	4.01	54.29	108	Nepal.....	2.66	21.78
42	Pakistan.....	3.98	53.50	109	Albania.....	2.63	21.07
43	Cyprus.....	3.87	50.99	110	Hungary.....	2.63	21.04
44	Guatemala.....	3.81	49.51	111	Guinea.....	2.63	20.93
45	Namibia.....	3.76	48.39	112	Chad.....	2.61	20.48
46	Lao PDR.....	3.76	48.38	113	Tunisia.....	2.60	20.32
47	Czech Republic.....	3.76	48.32	114	Bulgaria.....	2.58	19.84
48	Argentina.....	3.72	47.26	115	Kyrgyzstan.....	2.56	19.32
49	Botswana.....	3.63	45.19	116	Angola.....	2.55	19.13
50	Lesotho.....	3.57	43.74	117	Algeria.....	2.52	18.26
51	Russian Federation.....	3.56	43.38	118	Ukraine.....	2.50	17.86
52	Kuwait.....	3.55	43.31	119	Burundi.....	2.50	17.84
53	Jordan.....	3.55	43.24	120	Slovakia.....	2.41	15.67
54	Mauritius.....	3.55	43.14	121	Zimbabwe.....	2.40	15.40
55	Cambodia.....	3.54	42.87	122	Mongolia.....	2.39	15.19
56	Trinidad and Tobago.....	3.54	42.86	123	Mauritania.....	2.38	14.97
57	Brunei Darussalam.....	3.53	42.74	124	Greece.....	2.38	14.84
58	Mexico.....	3.53	42.63	125	El Salvador.....	2.36	14.31
59	Paraguay.....	3.46	40.92	126	Benin.....	2.31	13.25
60	Estonia.....	3.45	40.83	127	Serbia.....	2.27	12.21
61	Honduras.....	3.44	40.57	128	North Macedonia.....	2.13	8.77
62	Cabo Verde.....	3.44	40.56	129	Moldova, Rep.....	1.96	4.82
63	France.....	3.43	40.32	130	Croatia.....	1.88	2.92
64	Colombia.....	3.41	39.92	131	Romania.....	1.88	2.80
65	Peru.....	3.38	38.98	132	Bosnia and Herzegovina.....	1.76	0.00
66	Ethiopia.....	3.37	38.89		Belarus.....	n/a	n/a
67	Portugal.....	3.37	38.81				

SOURCE: World Economic Forum, Executive Opinion Survey 2017–2018 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

4.1.4 Environmental performance

Environmental Performance Index score | 2022

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Denmark.....	77.90	100.00	68	Cabo Verde.....	41.90	38.98
2	United Kingdom.....	77.70	99.66	69	Argentina.....	41.10	37.63
3	Finland.....	76.50	97.63	70	Kazakhstan.....	40.90	37.29
4	Malta.....	75.20	95.42	70	Paraguay.....	40.90	37.29
5	Sweden.....	72.70	91.19	72	El Salvador.....	40.80	37.12
6	Luxembourg.....	72.30	90.51	73	Tunisia.....	40.70	36.95
7	Slovenia.....	67.30	82.03	74	Malawi.....	40.60	36.78
8	Austria.....	66.50	80.68	75	Bolivia, Plurinational St.....	40.10	35.93
9	Switzerland.....	65.90	79.66	76	Peru.....	39.80	35.42
10	Iceland.....	62.80	74.41	77	Bosnia and Herzegovina.....	39.40	34.75
11	Netherlands.....	62.60	74.07	78	Georgia.....	39.10	34.24
12	France.....	62.50	73.90	79	Azerbaijan.....	38.60	33.39
13	Germany.....	62.40	73.73	80	Zambia.....	38.40	33.05
14	Estonia.....	61.40	72.03	81	Thailand.....	38.10	32.54
15	Latvia.....	61.10	71.53	82	Saudi Arabia.....	37.90	32.20
16	Croatia.....	60.20	70.00	83	Nicaragua.....	37.70	31.86
17	Australia.....	60.10	69.83	84	Russian Federation.....	37.50	31.53
18	Slovakia.....	60.00	69.66	85	Uruguay.....	37.40	31.36
19	Czech Republic.....	59.90	69.49	86	South Africa.....	37.20	31.02
20	Norway.....	59.30	68.47	87	Congo, Dem. Rep.....	36.90	30.51
21	Belgium.....	58.20	66.61	88	Honduras.....	36.50	29.83
22	Cyprus.....	58.00	66.27	89	Gambia.....	36.40	29.66
23	Italy.....	57.70	65.76	90	Uganda.....	35.80	28.64
24	Ireland.....	57.40	65.25	91	Kyrgyzstan.....	35.70	28.47
25	Japan.....	57.20	64.92	92	Burkina Faso.....	35.50	28.14
26	New Zealand.....	56.70	64.07	92	Egypt.....	35.50	28.14
27	Spain.....	56.60	63.90	94	Malaysia.....	35.00	27.29
28	Greece.....	56.20	63.22	95	Sri Lanka.....	34.70	26.78
29	Romania.....	56.00	62.88	96	Iran, Islamic Rep.....	34.50	26.44
30	Lithuania.....	55.90	62.71	97	Tanzania, United Rep.....	34.20	25.93
31	Hungary.....	55.10	61.36	98	Senegal.....	33.90	25.42
32	North Macedonia.....	54.30	60.00	99	Qatar.....	33.00	23.90
33	Botswana.....	54.00	59.49	100	Côte d'Ivoire.....	32.80	23.56
34	United Arab Emirates.....	52.40	56.78	100	Rwanda.....	32.80	23.56
35	Bulgaria.....	51.90	55.93	102	Lesotho.....	32.30	22.71
36	United States of America.....	51.10	54.58	103	Lebanon.....	32.20	22.54
37	Namibia.....	50.90	54.24	104	Ethiopia.....	31.80	21.86
37	Singapore.....	50.90	54.24	105	Mozambique.....	31.70	21.69
39	Poland.....	50.60	53.73	106	Guinea.....	31.60	21.53
40	Panama.....	50.50	53.56	107	Kenya.....	30.80	20.17
41	Portugal.....	50.40	53.39	108	Lao PDR.....	30.70	20.00
42	Canada.....	50.00	52.71	108	Oman.....	30.70	20.00
43	Ukraine.....	49.60	52.03	110	Angola.....	30.50	19.66
44	Belarus.....	48.50	50.17	110	Burundi.....	30.50	19.66
45	Armenia.....	48.30	49.83	112	Cameroon.....	30.20	19.15
46	Israel.....	48.20	49.66	113	Cambodia.....	30.10	18.98
47	Trinidad and Tobago.....	47.80	48.98	114	Algeria.....	29.60	18.14
48	Albania.....	47.10	47.80	114	Benin.....	29.60	18.14
49	Korea, Rep.....	46.90	47.46	114	Mongolia.....	29.60	18.14
49	Montenegro.....	46.90	47.46	117	Philippines.....	28.90	16.95
51	Chile.....	46.70	47.12	118	Mali.....	28.50	16.27
52	Ecuador.....	46.50	46.78	119	China.....	28.40	16.10
53	Costa Rica.....	46.30	46.44	119	Morocco.....	28.40	16.10
54	Zimbabwe.....	46.20	46.27	121	Nepal.....	28.30	15.93
55	Brunei Darussalam.....	45.70	45.42	121	Nigeria.....	28.30	15.93
56	Jamaica.....	45.60	45.25	123	Indonesia.....	28.20	15.76
57	Mexico.....	45.50	45.08	124	Chad.....	28.10	15.59
58	Eswatini.....	44.90	44.07	124	Mauritania.....	28.10	15.59
59	Mauritius.....	44.80	43.90	126	Guatemala.....	28.00	15.42
60	Serbia.....	43.90	42.37	126	Madagascar.....	28.00	15.42
61	Brazil.....	43.60	41.86	128	Ghana.....	27.70	14.92
61	Jordan.....	43.60	41.86	129	Türkiye.....	26.30	12.54
63	Moldova, Rep.....	42.70	40.34	130	Pakistan.....	24.60	9.66
64	Colombia.....	42.40	39.83	131	Bangladesh.....	23.10	7.12
64	Kuwait.....	42.40	39.83	132	Viet Nam.....	20.10	2.03
66	Dominican Republic.....	42.20	39.49	133	India.....	18.90	0.00
67	Bahrain.....	42.00	39.15				

SOURCE: Wolf, M. J., Emerson, J. W., Esty, D. C., de Sherbinin, A., Wendling, Z. A., et al. (2022). 2022 Environmental Performance Index. New Haven, CT: Yale Center for Environmental Law & Policy. (<https://epi.yale.edu>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

4.2.1 Personal rights

Personal rights indicator | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	New Zealand	97.91	100.00	68	Ukraine	77.34	72.07
2	Germany	97.71	99.73	69	Montenegro	76.47	70.89
3	Sweden	97.59	99.57	70	Brazil	75.93	70.15
4	Belgium	97.44	99.36	71	Serbia	75.62	69.73
5	Ireland	97.13	98.94	72	Madagascar	74.22	67.83
5	Netherlands	97.13	98.94	73	Nigeria	74.08	67.64
7	Denmark	97.08	98.87	74	Nepal	73.22	66.47
8	Switzerland	96.69	98.34	75	Bosnia and Herzegovina	71.20	63.73
9	Norway	96.34	97.87	76	Kenya	71.17	63.69
10	Australia	96.30	97.81	77	Mexico	71.07	63.55
11	Finland	96.13	97.58	78	Sri Lanka	70.15	62.30
12	Canada	95.74	97.05	79	Bolivia, Plurinational St.	70.09	62.22
13	Italy	95.69	96.99	80	Colombia	70.00	62.10
14	Japan	95.61	96.88	81	El Salvador	69.73	61.73
15	Costa Rica	95.51	96.74	82	Indonesia	69.53	61.46
16	Spain	95.44	96.65	83	Philippines	69.50	61.42
17	Luxembourg	95.34	96.51	84	India	69.01	60.76
18	Iceland	95.14	96.24	85	Singapore	68.78	60.44
19	Uruguay	94.99	96.03	86	Burkina Faso	67.90	59.25
20	Latvia	94.72	95.67	87	Honduras	66.43	57.25
21	France	94.65	95.57	88	Lebanon	66.32	57.10
22	United Kingdom	94.59	95.49	89	Guatemala	66.22	56.97
23	Portugal	94.57	95.46	89	Malaysia	66.22	56.97
24	Estonia	94.52	95.40	91	Côte d'Ivoire	66.03	56.71
25	Lithuania	94.50	95.37	92	Kuwait	64.95	55.24
26	Czech Republic	93.61	94.16	93	Morocco	63.58	53.38
27	Korea, Rep.	93.21	93.62	94	Kyrgyzstan	63.32	53.03
28	Slovakia	92.99	93.32	95	Mozambique	63.05	52.66
29	Cyprus	92.25	92.31	96	Mali	62.92	52.49
30	Chile	92.10	92.11	97	Cameroon	62.38	51.75
31	United States of America	91.88	91.81	98	Tanzania, United Rep.	61.21	50.16
32	Argentina	91.59	91.42	99	Ethiopia	60.78	49.58
33	Austria	91.43	91.20	100	Zambia	60.77	49.57
34	Israel	90.61	90.09	101	Jordan	60.43	49.10
35	Ghana	90.40	89.80	102	Zimbabwe	60.14	48.71
36	Slovenia	90.06	89.34	103	Bangladesh	55.31	42.15
37	Cabo Verde	89.99	89.24	104	Angola	54.37	40.87
38	Trinidad and Tobago	89.86	89.07	105	Algeria	54.11	40.52
39	Malta	89.35	88.38	106	Mauritania	54.01	40.39
40	Romania	89.01	87.91	107	Kazakhstan	53.63	39.87
41	Jamaica	88.97	87.86	108	Chad	52.04	37.71
42	Croatia	88.66	87.44	109	Oman	51.80	37.38
43	Mongolia	87.61	86.01	110	Russian Federation	51.79	37.37
44	South Africa	87.51	85.88	111	Uganda	51.69	37.24
45	Mauritius	86.97	85.14	112	Thailand	50.78	36.00
46	Panama	86.89	85.04	113	Guinea	49.10	33.72
47	Greece	86.84	84.97	114	Viet Nam	47.50	31.55
48	Senegal	84.94	82.39	115	Nicaragua	46.84	30.65
49	Namibia	84.57	81.88	116	Pakistan	46.16	29.73
50	Tunisia	83.94	81.03	117	Rwanda	46.00	29.51
51	Bulgaria	83.58	80.54	118	Iran, Islamic Rep.	45.29	28.54
52	Poland	83.22	80.05	119	United Arab Emirates	45.20	28.42
53	Moldova, Rep.	83.12	79.92	120	Egypt	43.76	26.47
54	Dominican Republic	82.88	79.59	121	Cambodia	43.44	26.03
55	Botswana	82.79	79.47	122	Qatar	42.46	24.70
56	Peru	82.11	78.54	123	Belarus	42.09	24.20
57	Ecuador	81.97	78.35	124	Congo, Dem. Rep.	41.52	23.42
58	Gambia	81.66	77.93	125	Türkiye	40.17	21.59
59	Georgia	81.62	77.88	126	Azerbaijan	37.40	17.83
60	Lesotho	81.12	77.20	127	Bahrain	34.90	14.44
61	Paraguay	81.10	77.17	128	Eswatini	33.61	12.68
62	Hungary	80.84	76.82	129	Burundi	31.18	9.38
63	Armenia	80.60	76.49	130	Lao PDR	26.61	3.18
64	Albania	80.28	76.06	131	China	25.57	1.77
65	Malawi	79.99	75.67	132	Saudi Arabia	24.27	0.00
66	Benin	79.47	74.96		Brunei Darussalam	n/a	n/a
67	North Macedonia	77.36	72.09				

SOURCE: Social Progress Imperative, The Social Progress Index 2021 (<https://www.socialprogress.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

4.2.2 Personal safety

Personal safety indicator | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Japan.....	96.18	100.00	68	Georgia.....	68.03	50.87
2	Singapore.....	96.15	99.95	69	Panama.....	67.97	50.77
3	Iceland.....	95.66	99.09	70	Oman.....	67.65	50.21
4	Australia.....	92.66	93.86	71	Moldova, Rep.....	67.63	50.17
5	New Zealand.....	92.44	93.47	72	Peru.....	67.58	50.09
6	Canada.....	92.21	93.07	73	Algeria.....	67.29	49.58
7	Korea, Rep.....	92.07	92.83	74	Sri Lanka.....	67.21	49.44
8	Switzerland.....	90.35	89.83	75	Uruguay.....	67.00	49.08
9	Norway.....	90.29	89.72	76	Tanzania, United Rep.....	66.97	49.02
10	Ireland.....	90.11	89.41	77	Argentina.....	66.45	48.12
11	Germany.....	89.56	88.45	78	Kyrgyzstan.....	66.21	47.70
12	Netherlands.....	89.50	88.34	79	Paraguay.....	64.93	45.46
13	Denmark.....	89.46	88.27	80	Kazakhstan.....	64.61	44.90
14	Austria.....	89.26	87.92	81	Bangladesh.....	64.42	44.57
15	Sweden.....	88.97	87.42	82	Jamaica.....	63.78	43.46
16	Czech Republic.....	88.32	86.28	83	China.....	63.35	42.71
16	Slovenia.....	88.32	86.28	84	Azerbaijan.....	63.33	42.67
18	Finland.....	87.75	85.29	85	Mali.....	63.21	42.46
19	Malta.....	84.99	80.47	86	Türkiye.....	62.84	41.82
20	Portugal.....	84.94	80.38	87	India.....	62.04	40.42
21	Poland.....	84.84	80.21	88	Iran, Islamic Rep.....	60.98	38.57
22	Luxembourg.....	84.32	79.30	89	Namibia.....	60.71	38.10
23	Slovakia.....	84.26	79.20	90	Trinidad and Tobago.....	60.57	37.85
24	United Kingdom.....	83.87	78.52	91	Lebanon.....	60.50	37.73
25	Spain.....	83.81	78.41	92	Bahrain.....	60.15	37.12
26	France.....	82.28	75.74	93	Benin.....	60.00	36.86
27	Senegal.....	81.68	74.69	94	Ukraine.....	59.96	36.79
28	Hungary.....	81.60	74.55	95	Zambia.....	59.59	36.14
29	Belgium.....	81.39	74.19	96	Ecuador.....	59.15	35.38
30	Mauritius.....	80.76	73.09	97	Cambodia.....	58.03	33.42
31	Greece.....	80.54	72.71	98	Belarus.....	57.53	32.55
32	Kuwait.....	80.12	71.97	99	Mauritania.....	57.33	32.20
33	Nepal.....	79.07	70.14	100	Dominican Republic.....	57.26	32.08
34	Cyprus.....	78.58	69.28	101	Egypt.....	57.22	32.01
35	Israel.....	78.57	69.27	102	Ethiopia.....	56.91	31.47
36	Romania.....	78.29	68.78	103	Eswatini.....	56.70	31.10
37	Estonia.....	77.90	68.10	104	Côte d'Ivoire.....	55.81	29.55
38	Bulgaria.....	77.27	67.00	105	Uganda.....	55.70	29.35
39	Italy.....	76.44	65.55	106	Lao PDR.....	55.43	28.88
40	Gambia.....	76.34	65.38	106	Pakistan.....	55.43	28.88
41	Lithuania.....	76.16	65.06	108	Thailand.....	55.33	28.71
42	Croatia.....	75.63	64.14	109	Kenya.....	54.84	27.85
43	Indonesia.....	75.61	64.10	110	Burkina Faso.....	54.29	26.89
44	Qatar.....	75.50	63.91	111	Rwanda.....	53.48	25.48
45	Malaysia.....	75.47	63.86	112	Cameroon.....	53.40	25.34
46	Malawi.....	75.00	63.04	113	Nicaragua.....	52.77	24.24
47	Latvia.....	74.60	62.34	114	Burundi.....	51.53	22.08
48	Tunisia.....	74.38	61.95	115	Mozambique.....	51.50	22.02
49	Viet Nam.....	74.14	61.54	116	Russian Federation.....	50.92	21.01
50	Mongolia.....	73.80	60.94	117	Philippines.....	50.81	20.82
51	Chile.....	72.84	59.27	118	Mexico.....	50.74	20.70
52	United States of America.....	72.67	58.97	119	Colombia.....	49.94	19.30
53	Ghana.....	72.38	58.46	120	Nigeria.....	49.85	19.14
54	North Macedonia.....	72.36	58.43	121	Saudi Arabia.....	49.36	18.29
55	Albania.....	72.29	58.31	122	South Africa.....	49.10	17.84
56	Bosnia and Herzegovina.....	72.25	58.24	123	Brazil.....	48.75	17.23
57	Morocco.....	72.20	58.15	124	Angola.....	48.00	15.92
58	Serbia.....	71.65	57.19	125	Honduras.....	47.85	15.65
59	Madagascar.....	71.49	56.91	126	Guinea.....	47.23	14.57
60	United Arab Emirates.....	71.28	56.54	127	Lesotho.....	46.90	14.00
61	Jordan.....	70.76	55.64	128	Guatemala.....	45.43	11.43
62	Armenia.....	69.96	54.24	129	Congo, Dem. Rep.....	44.04	9.01
63	Costa Rica.....	69.10	52.74	130	El Salvador.....	42.14	5.69
64	Montenegro.....	68.89	52.37	131	Chad.....	40.90	3.53
65	Cabo Verde.....	68.57	51.82	132	Zimbabwe.....	38.88	0.00
66	Bolivia, Plurinational St.....	68.35	51.43		Brunei Darussalam.....	n/a	n/a
67	Botswana.....	68.15	51.08				

SOURCE: Social Progress Imperative, The Social Progress Index 2021 (<https://www.socialprogress.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

4.2.3 Physician density

Medical doctors (per 10,000 people) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Greece.....	63.07	100.00	68	China.....	22.27	34.78
2	Belgium.....	60.79	96.35	69	Ecuador.....	22.20	34.68
3	Portugal.....	54.84	86.84	70	Kyrgyzstan.....	22.13	34.57
4	Austria.....	52.93	83.80	71	Lebanon.....	22.07	34.47
5	Georgia.....	51.08	80.84	72	Bosnia and Herzegovina.....	21.62	33.75
6	Lithuania.....	50.76	80.33	73	Türkiye.....	19.27	30.00
7	Norway.....	50.47	79.86	74	Albania.....	18.75	29.17
8	Uruguay.....	49.40	78.15	75	Oman.....	17.74	27.55
9	Finland.....	46.40	73.36	76	Algeria.....	17.19	26.68
10	Belarus.....	45.38	71.73	77	Nicaragua.....	16.64	25.80
11	Trinidad and Tobago.....	44.76	70.73	78	Panama.....	16.32	25.29
12	Spain.....	44.41	70.18	79	Brunei Darussalam.....	16.09	24.91
13	Germany.....	44.35	70.08	80	Iran, Islamic Rep.....	15.84	24.52
14	Sweden.....	44.06	69.62	81	Dominican Republic.....	14.52	22.40
15	Armenia.....	44.02	69.56	82	Peru.....	13.69	21.08
16	Switzerland.....	43.80	69.21	83	Tunisia.....	13.03	20.02
17	Denmark.....	42.25	66.72	84	Guatemala.....	12.41	19.03
18	Bulgaria.....	42.07	66.44	85	Sri Lanka.....	12.29	18.84
19	Czech Republic.....	41.53	65.58	86	Pakistan.....	11.18	17.07
20	Iceland.....	41.42	65.39	87	Paraguay.....	10.52	16.00
21	Australia.....	41.29	65.19	88	Bolivia, Plurinational St.....	10.30	15.66
22	Netherlands.....	40.79	64.40	89	Thailand.....	9.50	14.38
23	Kazakhstan.....	40.71	64.26	90	Bahrain.....	9.26	13.99
24	Argentina.....	40.60	64.08	91	Nepal.....	8.52	12.81
25	Italy.....	39.48	62.29	92	Cabo Verde.....	8.31	12.48
26	Mongolia.....	38.52	60.76	93	Viet Nam.....	8.28	12.43
27	Russian Federation.....	38.19	60.23	94	South Africa.....	7.92	11.86
28	Israel.....	36.26	57.15	95	Philippines.....	7.73	11.55
29	New Zealand.....	36.18	57.03	96	Egypt.....	7.46	11.13
30	Slovakia.....	35.65	56.17	97	India.....	7.35	10.95
31	Hungary.....	35.25	55.54	98	Morocco.....	7.31	10.88
32	Ireland.....	34.90	54.97	99	Bangladesh.....	6.67	9.86
33	Estonia.....	34.72	54.69	100	Indonesia.....	6.23	9.15
34	Croatia.....	34.65	54.58	101	Namibia.....	5.90	8.63
35	Latvia.....	34.05	53.61	102	Jamaica.....	5.27	7.62
36	Costa Rica.....	33.01	51.95	103	Honduras.....	5.00	7.19
37	Slovenia.....	32.77	51.57	104	Lesotho.....	4.73	6.77
38	France.....	32.74	51.52	105	Nigeria.....	3.81	5.28
39	Azerbaijan.....	31.68	49.83	106	Botswana.....	3.78	5.25
40	Cyprus.....	31.44	49.44	107	Congo, Dem. Rep.....	3.75	5.20
41	Serbia.....	31.13	48.95	108	Lao PDR.....	3.54	4.86
42	Moldova, Rep.....	31.03	48.78	109	Guinea.....	2.24	2.79
43	Luxembourg.....	30.07	47.26	110	Angola.....	2.14	2.62
44	United Kingdom.....	30.04	47.20	111	Madagascar.....	1.99	2.38
45	Ukraine.....	29.92	47.02	112	Zimbabwe.....	1.99	2.38
46	Romania.....	29.81	46.84	113	Cambodia.....	1.93	2.28
47	North Macedonia.....	28.74	45.12	114	Mauritania.....	1.86	2.18
48	El Salvador.....	28.70	45.07	115	Ghana.....	1.70	1.92
49	Malta.....	28.60	44.90	116	Côte d'Ivoire.....	1.62	1.79
50	Chile.....	28.35	44.51	117	Kenya.....	1.56	1.70
51	Montenegro.....	27.40	42.99	118	Uganda.....	1.54	1.66
52	Saudi Arabia.....	27.38	42.96	119	Eswatini.....	1.42	1.47
53	Mauritius.....	27.13	42.55	120	Cameroon.....	1.29	1.26
54	Jordan.....	26.61	41.73	121	Mali.....	1.29	1.25
55	United States of America.....	26.10	40.91	122	Rwanda.....	1.18	1.09
56	United Arab Emirates.....	26.01	40.77	123	Zambia.....	1.17	1.07
57	Qatar.....	24.85	38.92	124	Ethiopia.....	1.06	0.89
58	Korea, Rep.....	24.84	38.90	125	Burkina Faso.....	0.94	0.70
59	Japan.....	24.80	38.83	126	Senegal.....	0.88	0.61
60	Singapore.....	24.60	38.52	127	Mozambique.....	0.85	0.56
61	Canada.....	24.42	38.23	128	Gambia.....	0.82	0.51
62	Mexico.....	24.25	37.96	129	Burundi.....	0.72	0.35
63	Poland.....	23.79	37.22	130	Benin.....	0.65	0.23
64	Kuwait.....	23.42	36.62	131	Chad.....	0.61	0.18
65	Colombia.....	23.27	36.39	132	Tanzania, United Rep.....	0.51	0.02
66	Brazil.....	23.11	36.13	133	Malawi.....	0.50	0.00
67	Malaysia.....	22.86	35.73				

SOURCE: World Health Organization, Global Health Observatory (<https://www.who.int/data/gho>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

4.2.4 Sanitation

Population using at least basic sanitation services (%) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Bahrain.....	100.00	100.00	68	Sri Lanka.....	93.65	93.03
1	Chile.....	100.00	100.00	69	Paraguay.....	92.72	92.01
1	Kuwait.....	100.00	100.00	70	Latvia.....	92.42	91.68
1	New Zealand.....	100.00	100.00	71	Mexico.....	92.42	91.68
1	Poland.....	100.00	100.00	72	China.....	92.38	91.63
1	Qatar.....	100.00	100.00	73	Ecuador.....	91.52	90.70
1	Saudi Arabia.....	100.00	100.00	74	Ireland.....	91.34	90.49
1	Singapore.....	100.00	100.00	75	Iran, Islamic Rep.....	90.27	89.31
9	Australia.....	99.99	99.99	76	Brazil.....	90.08	89.11
10	Austria.....	99.97	99.97	77	Russian Federation.....	89.39	88.35
11	Malta.....	99.96	99.96	78	Viet Nam.....	89.25	88.19
12	Israel.....	99.95	99.94	79	Morocco.....	87.25	86.00
13	Korea, Rep.....	99.94	99.93	80	Dominican Republic.....	87.18	85.92
14	Japan.....	99.92	99.91	81	Romania.....	87.07	85.80
15	Spain.....	99.90	99.89	82	Jamaica.....	86.61	85.30
16	Switzerland.....	99.90	99.89	83	Indonesia.....	86.46	85.14
17	Italy.....	99.89	99.87	84	Bulgaria.....	86.03	84.67
18	United States of America.....	99.68	99.65	85	Algeria.....	85.97	84.59
19	Portugal.....	99.60	99.57	86	Georgia.....	85.77	84.37
20	Denmark.....	99.60	99.56	87	Panama.....	84.57	83.06
21	Malaysia.....	99.58	99.54	88	Honduras.....	83.78	82.19
22	Belgium.....	99.49	99.44	89	El Salvador.....	82.45	80.73
23	Finland.....	99.45	99.39	90	Philippines.....	82.26	80.52
24	Cyprus.....	99.40	99.34	91	Botswana.....	80.03	78.07
25	Oman.....	99.32	99.25	92	Lao PDR.....	79.48	77.47
26	Albania.....	99.30	99.23	93	Cabo Verde.....	79.12	77.07
27	Sweden.....	99.29	99.22	94	Moldova, Rep.....	78.73	76.65
28	United Arab Emirates.....	99.23	99.15	95	Peru.....	78.58	76.48
29	Germany.....	99.23	99.15	96	South Africa.....	78.47	76.37
30	Türkiye.....	99.22	99.15	97	Nepal.....	76.61	74.32
31	Lebanon.....	99.20	99.12	98	Nicaragua.....	73.02	70.38
32	Estonia.....	99.14	99.06	99	India.....	71.27	68.46
33	Czech Republic.....	99.13	99.05	100	Rwanda.....	68.83	65.78
34	United Kingdom.....	99.11	99.02	101	Cambodia.....	68.77	65.71
35	Canada.....	99.03	98.94	102	Pakistan.....	68.40	65.31
36	Greece.....	98.99	98.90	103	Guatemala.....	67.93	64.79
37	Iceland.....	98.78	98.66	104	Mongolia.....	67.74	64.59
38	Thailand.....	98.71	98.59	105	Bolivia, Plurinational St.....	65.76	62.41
39	France.....	98.65	98.52	106	Eswatini.....	64.29	60.80
40	North Macedonia.....	98.33	98.16	107	Senegal.....	56.78	52.55
41	Slovenia.....	98.10	97.91	108	Bangladesh.....	54.16	49.68
42	Uruguay.....	98.05	97.86	109	Angola.....	51.66	46.93
43	Norway.....	98.05	97.86	110	Lesotho.....	50.32	45.46
44	Hungary.....	97.98	97.79	111	Mauritania.....	49.83	44.93
45	Costa Rica.....	97.91	97.71	112	Gambia.....	46.87	41.67
46	Belarus.....	97.90	97.70	113	Burundi.....	45.73	40.42
47	Serbia.....	97.90	97.69	114	Mali.....	45.39	40.05
48	Kyrgyzstan.....	97.89	97.68	115	Cameroon.....	44.63	39.22
49	Kazakhstan.....	97.87	97.66	116	Nigeria.....	42.72	37.12
50	Montenegro.....	97.77	97.55	117	Mozambique.....	37.20	31.06
51	Ukraine.....	97.74	97.52	118	Namibia.....	35.26	28.93
52	Netherlands.....	97.69	97.46	119	Zimbabwe.....	35.19	28.85
53	Luxembourg.....	97.59	97.36	120	Côte d'Ivoire.....	34.57	28.17
54	Slovakia.....	97.53	97.29	121	Kenya.....	32.70	26.12
55	Tunisia.....	97.43	97.18	122	Zambia.....	31.90	25.24
56	Egypt.....	97.33	97.06	123	Tanzania, United Rep.....	31.76	25.09
57	Jordan.....	97.08	96.80	124	Guinea.....	29.78	22.91
58	Croatia.....	96.57	96.23	125	Malawi.....	26.55	19.37
59	Brunei Darussalam.....	96.35	95.99	126	Ghana.....	23.70	16.24
60	Azerbaijan.....	96.13	95.75	127	Burkina Faso.....	21.66	14.00
61	Mauritius.....	95.50	95.07	128	Uganda.....	19.79	11.94
62	Argentina.....	95.42	94.97	129	Benin.....	16.96	8.84
63	Bosnia and Herzegovina.....	95.39	94.93	130	Congo, Dem. Rep.....	15.39	7.11
64	Lithuania.....	93.94	93.34	131	Madagascar.....	12.31	3.73
65	Armenia.....	93.94	93.34	132	Chad.....	12.06	3.46
66	Trinidad and Tobago.....	93.92	93.32	133	Ethiopia.....	8.91	0.00
67	Colombia.....	93.68	93.06				

SOURCE: World Health Organization, Global Health Observatory (<https://www.who.int/data/gho>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

Pillar 5

Vocational and Technical Skills

5.1.1 Workforce with secondary education

Labour force with secondary education (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Kyrgyzstan	70.98	100.00	68	Oman	34.28	47.99
2	Czech Republic	68.68	96.73	69	Nepal	32.95	46.11
3	Bosnia and Herzegovina	67.51	95.07	70	Bolivia, Plurinational St.	32.69	45.73
4	Slovakia	66.38	93.48	71	Korea, Rep.	32.59	45.59
5	Belarus	65.22	91.83	72	Indonesia	32.41	45.34
6	Azerbaijan	64.82	91.26	73	South Africa	32.20	45.04
7	Croatia	63.95	90.04	74	Nigeria	31.37	43.87
8	Romania	63.94	90.02	75	Portugal	30.62	42.81
9	Philippines	62.04	87.32	76	Paraguay	29.17	40.75
10	Montenegro	61.21	86.16	77	Luxembourg	28.80	40.22
11	Georgia	59.99	84.42	78	Singapore	26.86	37.48
12	Poland	58.56	82.39	79	Ukraine	26.61	37.13
13	Hungary	58.23	81.93	80	Viet Nam	25.52	35.58
14	Serbia	57.53	80.93	81	Mexico	25.44	35.46
15	Namibia	57.07	80.28	82	Costa Rica	25.04	34.90
16	North Macedonia	56.26	79.14	83	Spain	24.43	34.04
17	Bulgaria	55.43	77.96	84	Iran, Islamic Rep.	24.15	33.63
18	Brunei Darussalam	55.12	77.52	85	Canada	23.57	32.81
19	Germany	54.32	76.39	86	Kenya	23.44	32.63
20	Latvia	52.47	73.76	87	Jordan	23.31	32.44
21	Chile	51.97	73.05	88	Thailand	23.25	32.36
22	Slovenia	50.58	71.08	89	Algeria	22.86	31.80
23	Austria	50.33	70.74	90	Honduras	22.32	31.04
24	Trinidad and Tobago	49.93	70.17	91	Türkiye	22.04	30.64
25	Japan	48.83	68.60	92	Nicaragua	21.48	29.85
26	Lithuania	48.67	68.38	93	Morocco	20.75	28.81
27	Estonia	48.62	68.31	94	Zambia	20.66	28.69
28	Mauritius	47.72	67.04	95	Bangladesh	20.66	28.69
29	Malaysia	47.69	66.99	96	Pakistan	20.40	28.32
30	Finland	46.82	65.76	97	Qatar	19.79	27.46
31	United States of America	46.60	65.45	98	Gambia	19.44	26.96
32	Italy	46.30	65.02	99	Botswana	18.75	25.98
33	Cabo Verde	46.15	64.81	100	Ghana	18.74	25.98
34	Brazil	45.88	64.42	101	Kazakhstan	18.44	25.55
35	Greece	45.17	63.42	102	Cambodia	18.34	25.41
36	Russian Federation	44.56	62.56	103	Jamaica	18.29	25.33
37	Armenia	44.00	61.77	104	Lebanon	17.04	23.57
38	Zimbabwe	44.00	61.76	105	Lao PDR	16.90	23.36
39	Argentina	43.82	61.51	106	United Arab Emirates	16.42	22.69
40	Switzerland	43.13	60.54	107	Guatemala	15.21	20.96
41	Peru	42.04	58.99	108	Cameroon	14.84	20.45
42	France	41.98	58.91	109	Madagascar	14.50	19.96
43	Israel	41.59	58.35	110	Benin	14.42	19.85
44	New Zealand	41.45	58.15	111	Angola	11.76	16.07
45	Denmark	41.32	57.97	112	India	10.90	14.85
46	Sweden	41.26	57.88	113	Malawi	10.73	14.62
47	Panama	40.98	57.48	114	Rwanda	10.73	14.61
48	Mongolia	40.37	56.62	115	Uruguay	10.48	14.26
49	Albania	40.36	56.61	116	Kuwait	10.24	13.92
50	Iceland	40.17	56.34	117	Bahrain	9.59	13.00
51	Australia	39.94	56.02	118	Ethiopia	6.09	8.04
52	United Kingdom	39.49	55.37	119	Mozambique	5.87	7.73
53	Netherlands	39.16	54.90	120	Senegal	5.52	7.24
54	Congo, Dem. Rep.	38.03	53.30	121	Chad	4.80	6.22
55	Cyprus	37.70	52.83	122	Côte d'Ivoire	4.25	5.44
56	Tunisia	37.47	52.51	123	Mauritania	3.92	4.97
57	Belgium	37.23	52.17	124	Mali	3.05	3.73
58	Moldova, Rep.	36.99	51.83	125	Uganda	2.90	3.52
59	Egypt	36.72	51.45	126	Burkina Faso	2.43	2.86
60	Ecuador	35.91	50.30	127	Burundi	2.39	2.81
61	El Salvador	35.91	50.30	128	Tanzania, United Rep.	1.48	1.51
62	Norway	35.58	49.83	129	Guinea	1.30	1.26
63	Dominican Republic	35.35	49.50	130	Eswatini	0.90	0.68
64	Ireland	35.29	49.42	131	Lesotho	0.41	0.00
65	Sri Lanka	35.28	49.40		China	n/a	n/a
66	Malta	35.09	49.13		Saudi Arabia	n/a	n/a
67	Colombia	34.30	48.02				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

5.1.2 Population with secondary education

Population with secondary education (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Czech Republic	69.65	100.00	68	Portugal	20.90	28.50
2	Slovakia	64.67	92.68	69	Honduras	19.90	27.03
3	Azerbaijan	63.02	90.27	70	Spain	19.81	26.91
4	Egypt	60.99	87.29	71	Mexico	19.79	26.87
5	Sri Lanka	60.01	85.85	72	United Arab Emirates	19.76	26.82
6	Poland	59.54	85.16	73	Guatemala	19.51	26.46
7	Georgia	58.47	83.60	74	Costa Rica	18.64	25.19
8	Germany	57.72	82.50	75	Viet Nam	18.41	24.85
9	Latvia	56.95	81.37	76	Congo, Dem. Rep.	18.15	24.46
10	Bosnia and Herzegovina	55.96	79.92	77	Uruguay	17.81	23.97
11	Hungary	55.01	78.53	78	India	17.00	22.77
12	Slovenia	54.43	77.67	79	Gambia	15.24	20.20
13	Romania	53.87	76.85	80	Thailand	14.89	19.69
14	South Africa	53.43	76.21	81	Angola	13.23	17.25
15	Montenegro	52.98	75.55	82	Kuwait	12.69	16.46
16	Lithuania	52.43	74.73	83	Nepal	12.02	15.48
17	Croatia	52.41	74.72	84	Mongolia	10.80	13.69
18	Serbia	51.93	74.01	85	Cabo Verde	10.26	12.90
19	Austria	50.80	72.36	86	Ethiopia	7.74	9.20
20	Brunei Darussalam	49.83	70.92	87	Pakistan	7.42	8.73
21	Switzerland	46.98	66.75	88	Senegal	6.83	7.87
22	Armenia	46.56	66.13	89	Mozambique	6.71	7.69
23	North Macedonia	46.35	65.82	90	Mauritania	6.62	7.56
24	Estonia	46.26	65.69	91	Rwanda	5.73	6.25
25	Sweden	43.23	61.25	92	Madagascar	5.01	5.19
26	United States of America	42.85	60.69	93	Burundi	3.96	3.66
27	Malaysia	42.33	59.92	94	Cambodia	3.80	3.43
28	Denmark	41.58	58.83	95	Burkina Faso	3.48	2.95
29	Finland	40.97	57.93	96	Mali	3.04	2.30
30	Moldova, Rep.	40.37	57.05	97	Zimbabwe	2.85	2.02
31	France	40.01	56.53	98	Philippines	2.31	1.24
32	Norway	39.52	55.80	99	Uganda	1.72	0.38
33	New Zealand	38.47	54.27	100	Tanzania, United Rep.	1.47	0.00
34	Greece	38.46	54.25		Algeria	n/a	n/a
35	Mauritius	38.31	54.03		Argentina	n/a	n/a
36	Chile	37.20	52.40		Bahrain	n/a	n/a
37	Netherlands	36.24	51.00		Benin	n/a	n/a
38	Korea, Rep.	36.15	50.86		Botswana	n/a	n/a
39	Peru	36.13	50.83		Bulgaria	n/a	n/a
40	Italy	35.89	50.48		Cameroon	n/a	n/a
41	Cyprus	35.84	50.41		Chad	n/a	n/a
42	Belgium	35.65	50.13		China	n/a	n/a
43	Iceland	35.42	49.79		Côte d'Ivoire	n/a	n/a
44	Canada	34.80	48.89		Ecuador	n/a	n/a
45	Luxembourg	34.79	48.88		Eswatini	n/a	n/a
46	Israel	34.37	48.25		Ghana	n/a	n/a
47	Ireland	34.12	47.89		Guinea	n/a	n/a
48	Belarus	34.05	47.78		Jamaica	n/a	n/a
49	Australia	33.60	47.13		Japan	n/a	n/a
50	United Kingdom	32.67	45.76		Kenya	n/a	n/a
51	Albania	32.38	45.33		Kyrgyzstan	n/a	n/a
52	Brazil	30.89	43.15		Lao PDR	n/a	n/a
53	Colombia	30.61	42.74		Lebanon	n/a	n/a
54	Bolivia, Plurinational St.	27.74	38.53		Lesotho	n/a	n/a
55	Panama	27.59	38.32		Malawi	n/a	n/a
56	Jordan	27.56	38.26		Morocco	n/a	n/a
57	Indonesia	27.07	37.55		Namibia	n/a	n/a
58	Dominican Republic	26.63	36.90		Nicaragua	n/a	n/a
59	Paraguay	26.46	36.65		Nigeria	n/a	n/a
60	Singapore	26.23	36.32		Oman	n/a	n/a
61	Iran, Islamic Rep.	25.32	34.99		Qatar	n/a	n/a
62	Saudi Arabia	24.37	33.58		Russian Federation	n/a	n/a
63	El Salvador	23.73	32.64		Trinidad and Tobago	n/a	n/a
64	Kazakhstan	23.49	32.30		Tunisia	n/a	n/a
65	Malta	22.94	31.49		Ukraine	n/a	n/a
66	Bangladesh	22.24	30.46		Zambia	n/a	n/a
67	Türkiye	21.41	29.24				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

5.1.3 Technicians and associate professionals

Technicians and associate professionals (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Japan.....	24.01	100.00	68	Paraguay.....	6.96	28.30
2	Mauritania.....	21.59	89.83	69	Egypt.....	6.94	28.22
3	Singapore.....	20.62	85.72	70	Georgia.....	6.89	28.01
4	Germany.....	20.32	84.47	71	Panama.....	6.83	27.77
5	Finland.....	18.72	77.75	72	Peru.....	6.82	27.73
6	Denmark.....	18.35	76.19	73	Nicaragua.....	6.64	26.97
7	Sweden.....	18.29	75.94	74	Bahrain.....	6.20	25.10
8	Austria.....	18.16	75.41	75	Bosnia and Herzegovina.....	6.19	25.06
9	France.....	17.62	73.13	76	Türkiye.....	6.13	24.80
10	Korea, Rep.....	17.34	71.94	77	Jamaica.....	5.61	22.63
11	Italy.....	17.19	71.30	78	Congo, Dem. Rep.....	5.56	22.43
12	Netherlands.....	17.18	71.28	79	Iran, Islamic Rep.....	5.47	22.02
13	Canada.....	16.84	69.86	80	Namibia.....	5.46	21.98
14	Czech Republic.....	16.83	69.82	81	Cabo Verde.....	5.43	21.87
15	Slovakia.....	16.78	69.61	82	Dominican Republic.....	5.42	21.83
16	Switzerland.....	16.74	69.44	83	Armenia.....	5.39	21.70
17	Estonia.....	16.09	66.69	84	Botswana.....	5.29	21.28
18	Slovenia.....	15.87	65.77	85	Bolivia, Plurinational St.....	5.11	20.51
19	United States of America.....	15.68	64.98	86	Kyrgyzstan.....	5.06	20.33
20	Norway.....	15.57	64.52	87	Lebanon.....	4.96	19.90
21	Luxembourg.....	15.39	63.77	88	Tunisia.....	4.89	19.58
22	Colombia.....	14.94	61.85	89	Algeria.....	4.76	19.04
23	Hungary.....	14.83	61.38	90	Albania.....	4.76	19.03
24	Belgium.....	14.42	59.67	91	Burkina Faso.....	4.75	19.01
25	Croatia.....	14.36	59.40	92	Thailand.....	4.74	18.95
26	Latvia.....	14.28	59.08	93	Morocco.....	4.40	17.54
27	Iceland.....	14.13	58.45	94	Nepal.....	4.25	16.92
28	Cyprus.....	13.88	57.38	95	Ecuador.....	4.24	16.88
29	Poland.....	13.85	57.26	96	El Salvador.....	4.08	16.19
30	Russian Federation.....	13.74	56.83	97	Eswatini.....	4.06	16.12
31	Malta.....	13.37	55.25	98	Jordan.....	3.98	15.78
32	Trinidad and Tobago.....	13.30	54.97	99	India.....	3.86	15.25
33	Israel.....	12.88	53.18	100	Pakistan.....	3.84	15.20
34	Montenegro.....	12.84	53.03	101	Philippines.....	3.77	14.88
35	Australia.....	12.83	52.98	102	Angola.....	3.66	14.43
36	United Kingdom.....	12.34	50.92	103	Lesotho.....	3.62	14.25
37	Ireland.....	12.33	50.89	104	Cambodia.....	3.34	13.10
38	North Macedonia.....	12.30	50.76	105	Guatemala.....	3.34	13.09
39	Chile.....	12.26	50.59	106	Gambia.....	3.33	13.04
40	Brunei Darussalam.....	12.03	49.61	107	Viet Nam.....	3.05	11.86
41	Spain.....	11.91	49.12	108	Cameroon.....	2.89	11.17
42	United Arab Emirates.....	11.82	48.74	109	Benin.....	2.84	10.97
43	Portugal.....	11.77	48.51	110	Indonesia.....	2.82	10.90
44	Ukraine.....	11.75	48.43	111	Côte d'Ivoire.....	2.78	10.71
45	Serbia.....	10.56	43.45	112	Mongolia.....	2.77	10.67
46	Belarus.....	10.49	43.13	113	Ethiopia.....	2.58	9.89
47	Argentina.....	10.48	43.10	114	Nigeria.....	2.33	8.84
48	Malaysia.....	10.34	42.53	115	Zambia.....	2.21	8.34
49	Mauritius.....	10.09	41.48	116	Kenya.....	2.13	8.01
50	Lithuania.....	10.06	41.33	117	Tanzania, United Rep.....	2.04	7.63
51	Bulgaria.....	9.65	39.60	118	Ghana.....	2.03	7.57
52	Costa Rica.....	9.57	39.27	119	Mali.....	1.94	7.19
53	Azerbaijan.....	9.34	38.29	120	Bangladesh.....	1.86	6.85
54	Sri Lanka.....	9.07	37.16	121	Uganda.....	1.84	6.76
55	Brazil.....	8.43	34.49	122	Lao PDR.....	1.68	6.09
56	Kazakhstan.....	8.18	33.43	123	Burundi.....	1.62	5.85
57	Qatar.....	8.14	33.25	124	Zimbabwe.....	1.56	5.61
58	Greece.....	7.87	32.12	125	Mozambique.....	1.47	5.20
59	Uruguay.....	7.77	31.70	126	Rwanda.....	1.30	4.49
60	South Africa.....	7.66	31.24	127	Guinea.....	1.17	3.97
61	Kuwait.....	7.49	30.54	128	Senegal.....	1.09	3.63
62	Mexico.....	7.31	29.78	129	Madagascar.....	0.86	2.64
63	China.....	7.30	29.75	130	Chad.....	0.60	1.55
64	Moldova, Rep.....	7.12	28.96	131	Malawi.....	0.23	0.00
65	Oman.....	7.05	28.67		New Zealand.....	n/a	n/a
66	Honduras.....	7.05	28.67		Saudi Arabia.....	n/a	n/a
67	Romania.....	6.97	28.36				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

5.1.4 Labour productivity per employee

Labour productivity per person employed (2020 US\$) | 2022

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Singapore.....	183959.33	100.00	68	Colombia.....	41253.23	21.00
2	Luxembourg.....	160060.02	86.77	69	Albania.....	41248.87	21.00
3	Ireland.....	150007.05	81.20	70	Lebanon.....	39819.64	20.21
4	United States of America.....	147746.54	79.95	71	Sri Lanka.....	38582.37	19.52
5	Norway.....	139354.59	75.31	72	Tunisia.....	37613.28	18.98
6	Qatar.....	138914.85	75.06	73	Thailand.....	36980.93	18.63
7	Belgium.....	135792.95	73.34	74	Brazil.....	36387.59	18.31
8	Switzerland.....	135641.81	73.25	75	Ukraine.....	36063.18	18.13
9	Kuwait.....	127049.02	68.49	76	China.....	36032.98	18.11
10	Denmark.....	125015.47	67.37	77	Botswana.....	35103.11	17.59
11	Saudi Arabia.....	122362.41	65.90	78	Namibia.....	33386.29	16.64
12	Sweden.....	121896.63	65.64	79	Azerbaijan.....	33337.72	16.62
13	France.....	119686.56	64.42	80	Moldova, Rep.....	32256.34	16.02
14	Austria.....	118261.19	63.63	81	Paraguay.....	30050.94	14.80
15	United Arab Emirates.....	115525.69	62.12	82	Indonesia.....	27963.15	13.64
16	Bahrain.....	115327.58	62.01	83	Morocco.....	27912.91	13.61
17	Netherlands.....	114975.12	61.81	84	Ecuador.....	26653.75	12.92
18	Australia.....	112873.16	60.65	85	Peru.....	25973.59	12.54
19	Iceland.....	112701.76	60.55	86	Philippines.....	24129.89	11.52
20	Finland.....	112203.69	60.28	87	Guatemala.....	23794.28	11.33
21	Italy.....	110254.21	59.20	88	Jamaica.....	23517.08	11.18
22	Germany.....	108757.22	58.37	89	Viet Nam.....	22906.44	10.84
23	Canada.....	108012.86	57.96	90	India.....	22178.14	10.44
24	United Kingdom.....	107483.58	57.66	91	Pakistan.....	19509.25	8.96
25	Israel.....	103906.19	55.68	92	Côte d'Ivoire.....	19390.57	8.90
26	Spain.....	101679.61	54.45	93	Bolivia, Plurinational St.....	18521.98	8.41
27	Türkiye.....	100993.77	54.07	94	Bangladesh.....	17779.19	8.00
28	Malta.....	97117.12	51.92	95	Angola.....	17027.89	7.59
29	Korea, Rep.....	93626.37	49.99	96	Nigeria.....	15465.23	6.72
30	Slovenia.....	92183.17	49.19	97	Kyrgyzstan.....	14705.29	6.30
31	Cyprus.....	90505.80	48.26	98	Kenya.....	14096.31	5.96
32	Czech Republic.....	90027.55	48.00	99	Ghana.....	14062.46	5.95
33	Estonia.....	89476.26	47.69	100	Senegal.....	13857.88	5.83
34	New Zealand.....	89338.57	47.62	101	Zambia.....	12205.96	4.92
35	Poland.....	89058.98	47.46	102	Cameroon.....	11246.13	4.39
36	Lithuania.....	88045.87	46.90	103	Tanzania, United Rep.....	8006.07	2.59
37	Romania.....	85902.18	45.72	104	Cambodia.....	7966.34	2.57
38	Japan.....	83665.74	44.48	105	Mali.....	7404.51	2.26
39	Slovakia.....	81312.35	43.18	106	Uganda.....	7217.04	2.16
40	Portugal.....	79423.02	42.13	107	Burkina Faso.....	7123.08	2.10
41	Croatia.....	78560.48	41.65	108	Zimbabwe.....	6642.07	1.84
42	Latvia.....	77543.45	41.09	109	Ethiopia.....	5821.36	1.38
43	Hungary.....	77126.80	40.86	110	Malawi.....	5764.89	1.35
44	Greece.....	75065.78	39.72	111	Chad.....	5660.21	1.29
45	Bosnia and Herzegovina.....	69201.61	36.47	112	Rwanda.....	4899.71	0.87
46	Chile.....	66827.19	35.16	113	Mozambique.....	3694.83	0.21
47	Malaysia.....	65725.25	34.55	114	Congo, Dem. Rep.....	3661.89	0.19
48	Trinidad and Tobago.....	65471.30	34.41	115	Madagascar.....	3321.75	0.00
49	Kazakhstan.....	63668.67	33.41		Benin.....	n/a	n/a
50	Egypt.....	62560.29	32.79		Brunei Darussalam.....	n/a	n/a
51	Russian Federation.....	62128.17	32.55		Burundi.....	n/a	n/a
52	Iran, Islamic Rep.....	59030.66	30.84		Cabo Verde.....	n/a	n/a
53	South Africa.....	57802.37	30.16		El Salvador.....	n/a	n/a
54	Uruguay.....	56825.86	29.62		Eswatini.....	n/a	n/a
55	Mauritius.....	56256.99	29.30		Gambia.....	n/a	n/a
56	Costa Rica.....	55621.95	28.95		Guinea.....	n/a	n/a
57	Oman.....	54496.76	28.33		Honduras.....	n/a	n/a
58	Argentina.....	52227.17	27.07		Lao PDR.....	n/a	n/a
59	Jordan.....	51370.07	26.60		Lesotho.....	n/a	n/a
60	Bulgaria.....	50330.96	26.02		Mauritania.....	n/a	n/a
61	Algeria.....	48813.56	25.18		Mongolia.....	n/a	n/a
62	Mexico.....	47947.73	24.70		Montenegro.....	n/a	n/a
63	Georgia.....	47455.61	24.43		Nepal.....	n/a	n/a
64	Belarus.....	45872.32	23.56		Nicaragua.....	n/a	n/a
65	Dominican Republic.....	45852.92	23.55		Panama.....	n/a	n/a
66	North Macedonia.....	45277.29	23.23		Serbia.....	n/a	n/a
67	Armenia.....	41463.40	21.12				

SOURCE: The Conference Board, Total Economy Database™ (www.conference-board.org/data/economydatabase)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

5.2.1 Ease of finding skilled employees

Average answer to the question: In your country, to what extent can companies find people with the skills required to fill their vacancies? [1 = not at all; 7 = to a great extent] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Benin.....	5.96	100.00	68	Guinea.....	4.28	45.33
2	United States of America.....	5.40	81.78	69	Italy.....	4.27	45.06
3	Iceland.....	5.30	78.32	70	Mexico.....	4.27	44.97
4	Kenya.....	5.29	78.19	71	United Kingdom.....	4.27	44.90
5	Norway.....	5.24	76.39	72	Austria.....	4.22	43.37
6	Botswana.....	5.21	75.46	73	Argentina.....	4.21	43.10
7	Lebanon.....	5.18	74.62	74	Germany.....	4.20	42.75
8	Saudi Arabia.....	5.14	73.12	75	France.....	4.20	42.74
9	United Arab Emirates.....	5.07	71.04	76	Brunei Darussalam.....	4.18	41.97
10	Costa Rica.....	5.05	70.47	77	Japan.....	4.17	41.64
11	Korea, Rep.....	5.03	69.80	78	Rwanda.....	4.15	41.13
12	China.....	4.99	68.54	79	Algeria.....	4.12	40.19
13	Qatar.....	4.97	67.83	80	Peru.....	4.12	40.09
14	Chile.....	4.94	66.79	81	Nepal.....	4.10	39.43
15	Philippines.....	4.92	65.98	82	Armenia.....	4.10	39.34
16	Colombia.....	4.91	65.95	83	Kyrgyzstan.....	4.09	39.16
17	Mauritania.....	4.90	65.61	84	Poland.....	4.08	38.97
18	Jordan.....	4.88	64.98	85	Estonia.....	4.07	38.58
19	Denmark.....	4.87	64.39	86	Lao PDR.....	4.07	38.37
20	Israel.....	4.86	64.26	87	Chad.....	4.06	38.28
21	Indonesia.....	4.84	63.55	88	El Salvador.....	4.05	37.84
22	Uruguay.....	4.82	62.76	89	Ukraine.....	4.05	37.82
23	Oman.....	4.80	62.29	90	Pakistan.....	4.04	37.50
24	Netherlands.....	4.80	62.25	91	Iran, Islamic Rep.....	4.03	37.25
25	Portugal.....	4.79	61.96	92	Cambodia.....	4.01	36.41
26	Canada.....	4.78	61.55	93	Greece.....	3.97	35.35
27	Azerbaijan.....	4.76	61.02	94	Eswatini.....	3.97	35.30
28	Viet Nam.....	4.75	60.60	95	Bulgaria.....	3.97	35.21
29	Senegal.....	4.74	60.38	96	Australia.....	3.96	35.05
30	Egypt.....	4.74	60.27	97	Mali.....	3.96	35.02
31	Switzerland.....	4.71	59.22	98	Kazakhstan.....	3.94	34.40
32	Bahrain.....	4.70	59.10	99	Namibia.....	3.94	34.37
33	Belarus.....	4.69	58.81	100	Bolivia, Plurinational St.....	3.93	34.01
34	Burundi.....	4.69	58.55	101	Latvia.....	3.90	32.96
35	Zambia.....	4.69	58.53	102	Bangladesh.....	3.89	32.75
36	Côte d'Ivoire.....	4.68	58.49	103	Slovakia.....	3.87	31.87
37	Spain.....	4.66	57.79	104	Burkina Faso.....	3.86	31.71
38	Sri Lanka.....	4.63	56.85	105	Mauritius.....	3.85	31.36
39	Singapore.....	4.62	56.48	106	Brazil.....	3.83	30.76
40	Finland.....	4.62	56.41	107	Honduras.....	3.82	30.35
41	Sweden.....	4.62	56.22	108	Madagascar.....	3.82	30.23
42	Trinidad and Tobago.....	4.61	56.12	109	Slovenia.....	3.81	30.02
43	Gambia.....	4.61	55.96	110	Nicaragua.....	3.79	29.51
44	Albania.....	4.59	55.56	111	Nigeria.....	3.79	29.40
45	Belgium.....	4.59	55.47	112	Paraguay.....	3.77	28.65
46	Thailand.....	4.59	55.25	113	South Africa.....	3.76	28.31
47	Cameroon.....	4.58	55.21	114	Romania.....	3.75	28.19
48	Tanzania, United Rep.....	4.58	55.18	115	Panama.....	3.71	26.96
49	Ghana.....	4.57	54.84	116	Congo, Dem. Rep.....	3.68	25.80
50	Georgia.....	4.55	53.99	117	Malta.....	3.66	25.32
51	Türkiye.....	4.53	53.59	118	Luxembourg.....	3.66	25.16
52	Malaysia.....	4.52	53.16	119	Ethiopia.....	3.64	24.58
53	Ireland.....	4.49	52.27	120	Moldova, Rep.....	3.63	24.24
54	Malawi.....	4.47	51.65	121	Montenegro.....	3.63	24.08
55	Cyprus.....	4.45	50.96	122	Hungary.....	3.49	19.67
56	Russian Federation.....	4.45	50.83	123	Bosnia and Herzegovina.....	3.48	19.26
57	Cabo Verde.....	4.44	50.43	124	Croatia.....	3.47	19.04
58	Dominican Republic.....	4.41	49.51	125	New Zealand.....	3.44	17.96
59	Ecuador.....	4.40	49.10	126	Lesotho.....	3.34	14.94
60	Guatemala.....	4.39	48.81	127	North Macedonia.....	3.33	14.62
61	Serbia.....	4.39	48.78	128	Czech Republic.....	3.30	13.36
62	Zimbabwe.....	4.38	48.43	129	Mozambique.....	3.29	13.09
63	Uganda.....	4.36	47.79	130	Lithuania.....	3.28	12.85
64	Morocco.....	4.35	47.76	131	Angola.....	3.24	11.44
65	Jamaica.....	4.30	46.07	132	India.....	3.19	9.87
66	Kuwait.....	4.28	45.41	133	Mongolia.....	2.88	0.00
67	Tunisia.....	4.28	45.38				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

5.2.2 Relevance of education system to the economy

Average answer to the question: In your country, how well does the education system meet the needs of a competitive economy? [1 = not well at all; 7 = extremely well] | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Switzerland.....	6.07	100.00	68	Chile.....	3.77	41.48
2	Singapore.....	5.76	92.13	69	Kuwait.....	3.77	41.35
3	Finland.....	5.69	90.26	70	Spain.....	3.75	40.91
4	United States of America.....	5.63	88.91	71	Ethiopia.....	3.73	40.48
5	Ireland.....	5.48	84.99	72	Montenegro.....	3.71	39.95
6	Qatar.....	5.38	82.35	73	Colombia.....	3.71	39.77
7	United Arab Emirates.....	5.28	79.95	74	Russian Federation.....	3.69	39.48
8	China.....	5.26	79.43	75	Egypt.....	3.69	39.47
9	Netherlands.....	5.23	78.66	76	Uganda.....	3.66	38.66
10	Denmark.....	5.17	77.03	77	Moldova, Rep.....	3.65	38.24
11	Indonesia.....	5.11	75.47	78	Philippines.....	3.64	38.05
12	Iceland.....	5.11	75.46	79	Rwanda.....	3.62	37.60
13	Saudi Arabia.....	5.08	74.72	80	Malawi.....	3.62	37.53
14	Norway.....	5.01	72.97	81	Serbia.....	3.61	37.38
15	Belgium.....	4.97	71.88	82	Lithuania.....	3.60	36.98
16	Canada.....	4.95	71.43	83	Cameroon.....	3.56	36.10
17	Austria.....	4.91	70.57	84	Ukraine.....	3.56	36.07
18	Albania.....	4.89	69.94	85	Hungary.....	3.52	35.00
19	Azerbaijan.....	4.87	69.52	86	Namibia.....	3.51	34.74
20	Sweden.....	4.84	68.59	87	Algeria.....	3.50	34.58
21	Australia.....	4.81	67.90	88	Nepal.....	3.50	34.52
22	Lebanon.....	4.80	67.75	89	Senegal.....	3.45	33.18
23	Portugal.....	4.73	65.98	90	India.....	3.42	32.58
24	Estonia.....	4.73	65.86	91	Tunisia.....	3.35	30.66
25	Luxembourg.....	4.65	63.80	92	Bangladesh.....	3.33	30.16
26	Viet Nam.....	4.65	63.76	93	Eswatini.....	3.32	30.01
27	Brunei Darussalam.....	4.65	63.76	94	Poland.....	3.31	29.74
28	Oman.....	4.57	61.91	95	Ecuador.....	3.29	29.21
29	United Kingdom.....	4.55	61.40	96	Argentina.....	3.28	28.98
30	Pakistan.....	4.54	60.95	97	Armenia.....	3.28	28.89
31	Korea, Rep.....	4.52	60.50	98	Türkiye.....	3.25	28.25
32	Jordan.....	4.50	59.91	99	Côte d'Ivoire.....	3.23	27.70
33	Israel.....	4.49	59.84	100	Lesotho.....	3.22	27.25
34	Gambia.....	4.49	59.78	101	Mexico.....	3.17	26.14
35	Bahrain.....	4.47	59.37	102	Greece.....	3.17	26.00
36	Malta.....	4.44	58.55	103	Slovakia.....	3.10	24.25
37	Malaysia.....	4.41	57.60	104	North Macedonia.....	3.08	23.91
38	Slovenia.....	4.39	57.12	105	Kazakhstan.....	3.08	23.75
39	Germany.....	4.36	56.47	106	Romania.....	3.04	22.75
40	France.....	4.32	55.45	107	Guinea.....	3.01	22.08
41	Czech Republic.....	4.26	54.01	108	Mongolia.....	2.92	19.85
42	New Zealand.....	4.25	53.53	109	Croatia.....	2.91	19.36
43	Benin.....	4.24	53.41	110	Chad.....	2.90	19.34
44	Costa Rica.....	4.24	53.35	111	Peru.....	2.90	19.32
45	Jamaica.....	4.22	52.89	112	Brazil.....	2.89	18.98
46	Kenya.....	4.14	50.76	113	Kyrgyzstan.....	2.89	18.86
47	Georgia.....	4.12	50.43	114	Mali.....	2.87	18.58
48	Italy.....	4.12	50.31	115	Morocco.....	2.87	18.48
49	Botswana.....	4.12	50.23	116	Nigeria.....	2.87	18.42
50	Sri Lanka.....	4.11	50.12	117	Panama.....	2.87	18.39
51	Latvia.....	4.09	49.56	118	Dominican Republic.....	2.83	17.43
52	Ghana.....	4.07	49.16	119	Burkina Faso.....	2.80	16.73
53	Cyprus.....	4.05	48.66	120	Madagascar.....	2.76	15.77
54	Zimbabwe.....	4.05	48.64	121	Bolivia, Plurinational St.....	2.74	15.07
55	Bulgaria.....	4.04	48.27	122	Iran, Islamic Rep.....	2.70	14.00
56	Japan.....	3.97	46.43	123	Guatemala.....	2.59	11.44
57	Lao PDR.....	3.94	45.82	124	El Salvador.....	2.57	10.75
58	Tanzania, United Rep.....	3.88	44.21	125	South Africa.....	2.56	10.63
59	Belarus.....	3.87	44.01	126	Paraguay.....	2.56	10.57
60	Mauritius.....	3.86	43.79	127	Bosnia and Herzegovina.....	2.54	10.14
61	Zambia.....	3.85	43.56	128	Mauritania.....	2.54	10.13
62	Cabo Verde.....	3.83	42.82	129	Honduras.....	2.52	9.57
63	Cambodia.....	3.82	42.76	130	Mozambique.....	2.40	6.57
64	Uruguay.....	3.82	42.63	131	Congo, Dem. Rep.....	2.40	6.50
65	Trinidad and Tobago.....	3.82	42.63	132	Angola.....	2.18	0.94
66	Thailand.....	3.80	42.08	133	Nicaragua.....	2.15	0.00
67	Burundi.....	3.78	41.76				

SOURCE: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

5.2.3 Skills matching

Workers whose education matches their occupation (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Romania.....	76.31	100.00	68	Sri Lanka.....	47.85	60.33
2	Montenegro.....	71.30	93.02	69	Korea, Rep.....	46.79	58.85
3	Croatia.....	70.73	92.22	70	Thailand.....	46.78	58.84
4	Hungary.....	70.10	91.35	71	Botswana.....	45.77	57.43
5	Bulgaria.....	70.01	91.22	72	Uruguay.....	45.74	57.38
6	Georgia.....	69.99	91.19	73	Paraguay.....	45.64	57.25
7	Poland.....	69.66	90.73	74	El Salvador.....	44.93	56.25
8	Luxembourg.....	69.60	90.65	75	Cabo Verde.....	44.91	56.23
9	Jamaica.....	68.94	89.73	76	Namibia.....	42.94	53.49
10	Slovenia.....	68.35	88.91	77	Nepal.....	42.60	53.01
11	Ghana.....	68.29	88.82	78	Kenya.....	41.65	51.67
12	Czech Republic.....	68.14	88.61	79	Jordan.....	39.92	49.26
13	Lithuania.....	67.16	87.24	80	India.....	38.59	47.42
14	Iceland.....	67.14	87.22	81	Cambodia.....	37.96	46.54
15	Moldova, Rep.....	65.71	85.22	82	Madagascar.....	36.61	44.65
16	Bosnia and Herzegovina.....	65.49	84.92	83	Guatemala.....	36.03	43.84
17	Norway.....	65.28	84.63	84	Bangladesh.....	35.55	43.17
18	Mongolia.....	65.23	84.55	85	Nicaragua.....	35.46	43.05
19	Greece.....	64.91	84.11	86	Lao PDR.....	34.66	41.94
20	Malta.....	63.62	82.31	87	Tunisia.....	34.56	41.79
21	Israel.....	63.53	82.19	88	Honduras.....	34.32	41.46
22	Finland.....	63.12	81.62	89	Congo, Dem. Rep.....	33.18	39.87
23	Denmark.....	63.04	81.50	90	Cameroon.....	32.21	38.53
24	Belgium.....	62.02	80.08	91	Pakistan.....	32.03	38.27
25	Sweden.....	61.82	79.80	92	Nigeria.....	27.73	32.27
26	Switzerland.....	61.27	79.03	93	Gambia.....	24.71	28.07
27	Serbia.....	60.95	78.59	94	Guinea.....	23.41	26.26
28	North Macedonia.....	60.92	78.55	95	Senegal.....	22.14	24.48
29	Spain.....	60.72	78.26	96	Ethiopia.....	21.03	22.94
30	Latvia.....	60.62	78.13	97	Angola.....	16.04	15.98
31	Netherlands.....	60.51	77.98	98	Benin.....	15.27	14.90
32	Chile.....	60.25	77.61	99	Mozambique.....	14.84	14.30
33	Russian Federation.....	60.23	77.59	100	Chad.....	13.52	12.46
34	Estonia.....	60.20	77.55	101	Uganda.....	13.15	11.94
35	Armenia.....	60.09	77.39	102	Tanzania, United Rep.....	10.23	7.88
36	Portugal.....	59.86	77.06	103	Côte d'Ivoire.....	9.59	6.98
37	Australia.....	59.74	76.90	104	Burkina Faso.....	6.04	2.04
38	Italy.....	59.54	76.62	105	Mali.....	4.58	0.00
39	Argentina.....	59.26	76.23		Algeria.....	n/a	n/a
40	Ireland.....	59.18	76.12		Azerbaijan.....	n/a	n/a
41	Austria.....	59.15	76.07		Bahrain.....	n/a	n/a
42	France.....	59.10	76.00		Belarus.....	n/a	n/a
43	Viet Nam.....	58.35	74.97		Burundi.....	n/a	n/a
44	Germany.....	58.33	74.94		Canada.....	n/a	n/a
45	Brazil.....	57.70	74.06		China.....	n/a	n/a
46	Cyprus.....	57.25	73.44		Colombia.....	n/a	n/a
47	Brunei Darussalam.....	57.24	73.41		Japan.....	n/a	n/a
48	Mauritius.....	56.59	72.51		Kazakhstan.....	n/a	n/a
49	Mexico.....	55.93	71.59		Kuwait.....	n/a	n/a
50	Dominican Republic.....	54.77	69.97		Kyrgyzstan.....	n/a	n/a
51	United States of America.....	54.68	69.85		Malawi.....	n/a	n/a
52	Zimbabwe.....	54.22	69.21		Malaysia.....	n/a	n/a
53	United Kingdom.....	53.96	68.85		Mauritania.....	n/a	n/a
54	Iran, Islamic Rep.....	53.77	68.58		Morocco.....	n/a	n/a
55	Costa Rica.....	52.69	67.07		New Zealand.....	n/a	n/a
56	Albania.....	52.21	66.41		Oman.....	n/a	n/a
57	United Arab Emirates.....	51.82	65.86		Panama.....	n/a	n/a
58	Bolivia, Plurinational St.....	50.93	64.62		Peru.....	n/a	n/a
59	Lebanon.....	50.63	64.19		Philippines.....	n/a	n/a
60	Zambia.....	50.52	64.05		Qatar.....	n/a	n/a
61	Eswatini.....	49.94	63.24		Saudi Arabia.....	n/a	n/a
62	Rwanda.....	49.52	62.65		Singapore.....	n/a	n/a
63	South Africa.....	49.44	62.55		Slovakia.....	n/a	n/a
64	Lesotho.....	49.35	62.42		Trinidad and Tobago.....	n/a	n/a
65	Indonesia.....	49.03	61.96		Türkiye.....	n/a	n/a
66	Egypt.....	48.59	61.36		Ukraine.....	n/a	n/a
67	Ecuador.....	48.40	61.10				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

5.2.4 Highly educated unemployment

Unemployment rate with intermediate or advanced education (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Benin.....	0.58	100.00	68	Sri Lanka.....	7.33	74.87
2	Cambodia.....	1.38	97.04	69	Congo, Dem. Rep.....	7.34	74.84
3	Thailand.....	1.73	95.73	70	Ethiopia.....	7.52	74.16
4	China.....	1.84	95.33	71	Dominican Republic.....	7.68	73.56
5	Madagascar.....	1.87	95.20	72	Italy.....	7.77	73.21
6	Czech Republic.....	2.31	93.57	73	Côte d'Ivoire.....	7.84	72.94
7	Kyrgyzstan.....	2.42	93.17	74	Zimbabwe.....	7.95	72.56
8	Philippines.....	2.47	92.96	75	Argentina.....	7.97	72.47
9	Germany.....	2.82	91.67	76	Nicaragua.....	8.17	71.73
10	Malta.....	2.83	91.62	77	Mauritius.....	8.54	70.37
11	Moldova, Rep.....	2.87	91.46	78	Kenya.....	8.80	69.38
12	Norway.....	2.93	91.24	79	Ukraine.....	8.89	69.03
13	Trinidad and Tobago.....	2.94	91.21	80	Bangladesh.....	9.02	68.57
14	Gambia.....	2.96	91.15	81	Cameroon.....	9.19	67.95
15	Viet Nam.....	3.02	90.91	82	Chile.....	9.22	67.82
16	Poland.....	3.10	90.60	83	Honduras.....	9.68	66.11
17	Hungary.....	3.13	90.52	84	Zambia.....	9.74	65.87
18	Azerbaijan.....	3.15	90.45	85	Serbia.....	9.99	64.94
19	United Kingdom.....	3.16	90.38	86	Egypt.....	10.13	64.44
20	Uganda.....	3.20	90.25	87	Senegal.....	10.55	62.85
21	United Arab Emirates.....	3.35	89.69	88	Tanzania, United Rep.....	10.75	62.12
22	Netherlands.....	3.36	89.64	89	Panama.....	11.18	60.53
23	Singapore.....	3.38	89.57	90	Georgia.....	11.28	60.15
24	Korea, Rep.....	3.43	89.38	91	Bolivia, Plurinational St.....	11.45	59.50
25	Mozambique.....	3.63	88.66	92	Spain.....	11.63	58.85
26	Malawi.....	3.73	88.27	93	Pakistan.....	11.63	58.83
27	Israel.....	3.76	88.18	94	Armenia.....	11.77	58.32
28	Bulgaria.....	3.78	88.09	95	Lesotho.....	11.83	58.11
29	Belarus.....	3.87	87.75	96	Albania.....	11.83	58.10
30	Lao PDR.....	3.91	87.59	97	Iran, Islamic Rep.....	12.47	55.71
31	Denmark.....	4.15	86.70	98	Brazil.....	12.60	55.21
32	Uruguay.....	4.28	86.22	99	Morocco.....	12.71	54.83
33	Switzerland.....	4.31	86.11	100	India.....	12.75	54.67
34	Romania.....	4.32	86.09	101	Chad.....	12.86	54.24
35	Kazakhstan.....	4.34	85.98	102	Nepal.....	13.14	53.22
36	Guinea.....	4.35	85.95	103	Türkiye.....	13.62	51.43
37	Slovenia.....	4.41	85.74	104	Lebanon.....	13.64	51.33
38	Luxembourg.....	4.47	85.52	105	Mauritania.....	13.95	50.20
39	Iceland.....	4.84	84.14	106	Greece.....	14.17	49.36
40	Paraguay.....	4.85	84.12	107	North Macedonia.....	14.36	48.68
41	Ghana.....	4.90	83.93	108	Costa Rica.....	14.71	47.35
42	Mexico.....	4.91	83.89	109	Eswatini.....	14.79	47.06
43	United States of America.....	4.98	83.63	110	Bosnia and Herzegovina.....	14.85	46.85
44	Belgium.....	5.00	83.53	111	Nigeria.....	15.10	45.93
45	Austria.....	5.00	83.53	112	Colombia.....	15.76	43.44
46	Guatemala.....	5.11	83.14	113	Montenegro.....	16.45	40.88
47	Estonia.....	5.21	82.77	114	Jordan.....	18.81	32.09
48	Russian Federation.....	5.25	82.62	115	Tunisia.....	20.62	25.34
49	Slovakia.....	5.30	82.43	116	Botswana.....	20.88	24.37
50	Sweden.....	5.31	82.38	117	Rwanda.....	21.30	22.81
51	Ireland.....	5.62	81.23	118	Namibia.....	21.97	20.33
52	Australia.....	5.64	81.17	119	Burundi.....	22.89	16.89
53	Jamaica.....	5.82	80.48	120	South Africa.....	27.42	0.00
54	Indonesia.....	6.05	79.63		Algeria.....	n/a	n/a
55	El Salvador.....	6.23	78.94		Angola.....	n/a	n/a
56	Peru.....	6.32	78.64		Bahrain.....	n/a	n/a
57	Finland.....	6.33	78.57		Burkina Faso.....	n/a	n/a
58	Portugal.....	6.51	77.93		Cabo Verde.....	n/a	n/a
59	Ecuador.....	6.56	77.71		Japan.....	n/a	n/a
60	Canada.....	6.57	77.68		Kuwait.....	n/a	n/a
61	Lithuania.....	6.69	77.23		Malaysia.....	n/a	n/a
62	France.....	6.80	76.83		Mali.....	n/a	n/a
63	Mongolia.....	6.89	76.50		New Zealand.....	n/a	n/a
64	Latvia.....	6.94	76.29		Oman.....	n/a	n/a
65	Croatia.....	7.25	75.16		Qatar.....	n/a	n/a
66	Cyprus.....	7.31	74.94		Saudi Arabia.....	n/a	n/a
67	Brunei Darussalam.....	7.33	74.87				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

Pillar 6

Global Knowledge Skills

6.1.1 Workforce with tertiary education

Labour force with tertiary education (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Kazakhstan	81.55	100.00	68	Brunei Darussalam	22.35	27.11
2	Canada	68.69	84.17	69	Kyrgyzstan	22.33	27.09
3	Singapore	58.86	72.07	70	Peru	22.18	26.90
4	Korea, Rep.	54.10	66.21	71	Tunisia	22.05	26.74
5	Ukraine	53.62	65.62	72	Trinidad and Tobago	21.84	26.48
6	Luxembourg	52.05	63.68	73	Costa Rica	20.10	24.34
7	Russian Federation	51.33	62.79	74	Mauritius	20.10	24.34
8	Ireland	51.32	62.78	75	Mexico	19.97	24.19
9	Armenia	50.99	62.38	76	Bosnia and Herzegovina	19.19	23.22
10	Japan	50.99	62.38	77	Zimbabwe	19.14	23.16
11	United States of America	50.05	61.22	78	Algeria	18.65	22.55
12	Israel	49.77	60.87	79	Panama	17.74	21.44
13	Belgium	49.65	60.73	80	Bolivia, Plurinational St.	17.64	21.32
14	Cyprus	48.36	59.14	81	Thailand	17.48	21.12
15	Lithuania	47.20	57.71	82	Nigeria	16.13	19.45
16	Australia	45.89	56.09	83	South Africa	15.33	18.47
17	Norway	45.60	55.73	84	Ecuador	15.28	18.41
18	United Kingdom	44.41	54.28	85	Eswatini	14.89	17.93
19	France	44.02	53.79	86	Paraguay	14.62	17.59
20	Sweden	43.90	53.64	87	Uruguay	14.52	17.47
21	Spain	43.41	53.04	88	Viet Nam	14.21	17.09
22	Slovenia	43.03	52.58	89	Cabo Verde	14.18	17.05
23	Switzerland	42.66	52.12	90	India	14.12	16.98
24	Estonia	41.54	50.74	91	Dominican Republic	13.62	16.36
25	Finland	41.08	50.18	92	Indonesia	12.98	15.57
26	Latvia	40.53	49.49	93	Namibia	11.40	13.63
27	Netherlands	40.26	49.16	94	Guinea	10.09	12.02
28	Albania	39.52	48.25	95	Nicaragua	9.85	11.72
29	Denmark	39.30	47.98	96	Bahrain	9.84	11.71
30	Iceland	39.00	47.62	97	Zambia	9.75	11.60
31	Mongolia	38.87	47.45	98	Pakistan	9.34	11.10
32	Greece	37.61	45.90	99	Nepal	9.08	10.77
33	New Zealand	37.53	45.81	100	Lao PDR	9.07	10.76
34	United Arab Emirates	36.58	44.64	101	El Salvador	7.94	9.37
35	Poland	36.58	44.63	102	Rwanda	7.71	9.09
36	Austria	36.39	44.40	103	Gambia	7.10	8.34
37	Malta	34.04	41.51	104	Ghana	6.75	7.90
38	Georgia	33.99	41.44	105	Honduras	6.67	7.80
39	Portugal	33.81	41.23	106	Bangladesh	6.46	7.55
40	Lebanon	33.38	40.69	107	Cambodia	6.41	7.49
41	Belarus	33.36	40.67	108	Congo, Dem. Rep.	6.36	7.42
42	Bulgaria	32.73	39.89	109	Cameroon	6.27	7.32
43	Germany	31.07	37.85	110	Jamaica	6.25	7.29
44	Hungary	30.71	37.40	111	Sri Lanka	6.09	7.09
45	Botswana	30.43	37.06	112	Lesotho	5.93	6.89
46	Montenegro	30.16	36.73	113	Oman	5.80	6.73
47	Colombia	30.08	36.64	114	Côte d'Ivoire	5.05	5.82
48	Slovakia	29.44	35.84	115	Benin	4.98	5.72
49	Malaysia	28.70	34.94	116	Guatemala	4.93	5.67
50	Croatia	28.27	34.40	117	Madagascar	4.80	5.50
51	Iran, Islamic Rep.	28.21	34.33	118	Mauritania	4.58	5.24
52	Azerbaijan	27.82	33.84	119	Kenya	4.40	5.01
53	North Macedonia	27.66	33.65	120	Senegal	3.93	4.43
54	Moldova, Rep.	27.50	33.45	121	Angola	3.56	3.97
55	Türkiye	27.48	33.43	122	Chad	3.09	3.40
56	Philippines	27.09	32.94	123	Burkina Faso	2.89	3.15
57	Czech Republic	26.66	32.41	124	Mali	2.26	2.37
58	Qatar	26.31	31.99	125	Mozambique	2.07	2.14
59	Serbia	25.99	31.59	126	Malawi	1.63	1.60
60	Egypt	24.86	30.21	127	Ethiopia	1.18	1.04
61	Argentina	24.75	30.06	128	Burundi	0.83	0.62
62	Chile	24.33	29.55	129	Uganda	0.37	0.05
63	Brazil	23.52	28.55	130	Tanzania, United Rep.	0.33	0.00
64	Italy	23.19	28.15		China	n/a	n/a
65	Kuwait	22.87	27.76		Morocco	n/a	n/a
66	Jordan	22.47	27.26		Saudi Arabia	n/a	n/a
67	Romania	22.43	27.21				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.1.2 Population with tertiary education

Population with tertiary education (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Kazakhstan	73.91	100.00	68	Romania	15.31	19.53
2	Belarus	60.69	81.84	69	Bangladesh	14.53	18.45
3	United Arab Emirates	51.77	69.59	70	Uruguay	13.70	17.31
4	Canada	49.67	66.71	71	Viet Nam	13.52	17.06
5	Singapore	48.32	64.85	72	Brunei Darussalam	13.17	16.59
6	United States of America	48.09	64.54	73	Bosnia and Herzegovina	13.12	16.52
7	United Kingdom	47.24	63.38	74	Albania	12.90	16.21
8	Israel	47.07	63.15	75	Indonesia	11.03	13.64
9	Australia	46.45	62.29	76	Honduras	10.04	12.29
10	Armenia	43.32	57.99	77	India	9.89	12.09
11	Korea, Rep.	40.30	53.85	78	El Salvador	9.89	12.08
12	Switzerland	39.66	52.97	79	Cabo Verde	9.77	11.92
13	Estonia	39.50	52.74	80	Zimbabwe	9.42	11.43
14	Norway	39.23	52.38	81	Congo, Dem. Rep.	9.12	11.02
15	Iceland	38.73	51.68	82	Uganda	8.15	9.69
16	Cyprus	38.63	51.55	83	Gambia	7.50	8.80
17	Saudi Arabia	37.92	50.58	84	Egypt	6.17	6.97
18	Denmark	37.74	50.33	85	Cambodia	5.49	6.04
19	Netherlands	36.72	48.92	86	Mauritius	5.28	5.74
20	Ireland	36.66	48.84	87	Sri Lanka	4.82	5.12
21	New Zealand	36.64	48.82	88	Madagascar	4.71	4.96
22	Finland	36.48	48.60	89	Nepal	4.56	4.77
23	Belgium	35.80	47.66	90	Guatemala	4.51	4.69
24	Luxembourg	34.28	45.57	91	Pakistan	4.15	4.19
25	Moldova, Rep.	34.17	45.43	92	Rwanda	4.13	4.17
26	Mongolia	34.15	45.39	93	Senegal	4.03	4.04
27	Sweden	34.03	45.23	94	Mauritania	2.85	2.42
28	Latvia	33.98	45.16	95	Burkina Faso	2.68	2.17
29	Georgia	33.70	44.78	96	Angola	2.63	2.12
30	Spain	33.44	44.43	97	Mali	2.37	1.76
31	France	32.17	42.68	98	Mozambique	1.97	1.21
32	Bolivia, Plurinational St.	31.48	41.73	99	Tanzania, United Rep.	1.93	1.15
33	Lithuania	29.88	39.54	100	Burundi	1.64	0.75
34	Austria	29.87	39.52	101	Ethiopia	1.09	0.00
35	Slovenia	28.52	37.66		Algeria	n/a	n/a
36	Poland	28.24	37.28		Argentina	n/a	n/a
37	Philippines	28.15	37.15		Bahrain	n/a	n/a
38	Greece	26.81	35.32		Benin	n/a	n/a
39	Panama	26.72	35.19		Botswana	n/a	n/a
40	Germany	25.74	33.85		Bulgaria	n/a	n/a
41	Azerbaijan	25.40	33.38		Cameroon	n/a	n/a
42	Malta	25.34	33.29		Chad	n/a	n/a
43	Hungary	25.00	32.83		China	n/a	n/a
44	Iran, Islamic Rep.	23.06	30.17		Côte d'Ivoire	n/a	n/a
45	Slovakia	23.03	30.13		Ecuador	n/a	n/a
46	Jordan	22.69	29.65		Eswatini	n/a	n/a
47	Portugal	22.55	29.46		Ghana	n/a	n/a
48	Colombia	22.54	29.45		Guinea	n/a	n/a
49	Costa Rica	22.29	29.11		Jamaica	n/a	n/a
50	Chile	22.04	28.76		Japan	n/a	n/a
51	Dominican Republic	21.97	28.67		Kenya	n/a	n/a
52	North Macedonia	21.96	28.65		Kyrgyzstan	n/a	n/a
53	Peru	21.91	28.59		Lao PDR	n/a	n/a
54	Serbia	21.70	28.30		Lebanon	n/a	n/a
55	Trinidad and Tobago	21.26	27.69		Lesotho	n/a	n/a
56	Czech Republic	21.01	27.36		Malawi	n/a	n/a
57	Türkiye	20.76	27.01		Morocco	n/a	n/a
58	Thailand	20.37	26.47		Namibia	n/a	n/a
59	Malaysia	20.29	26.36		Nicaragua	n/a	n/a
60	Montenegro	19.57	25.38		Nigeria	n/a	n/a
61	Mexico	18.77	24.28		Oman	n/a	n/a
62	Kuwait	18.51	23.91		Qatar	n/a	n/a
63	Croatia	18.29	23.62		Russian Federation	n/a	n/a
64	Italy	16.57	21.25		Tunisia	n/a	n/a
65	Brazil	16.54	21.22		Ukraine	n/a	n/a
66	South Africa	16.26	20.83		Zambia	n/a	n/a
67	Paraguay	15.93	20.38				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.1.3 Professionals

Professionals (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Luxembourg	43.90	100.00	68	Kuwait	10.45	23.81
2	Sweden	31.66	72.13	69	Bosnia and Herzegovina	10.02	22.83
3	Netherlands	30.07	68.50	70	Argentina	9.97	22.72
4	Norway	28.69	65.37	71	Algeria	9.93	22.63
5	Denmark	27.59	62.86	72	Mexico	9.90	22.55
6	Slovenia	27.21	62.00	73	Bolivia, Plurinational St.	9.14	20.83
7	Belgium	27.15	61.85	74	Jamaica	8.91	20.30
8	United Kingdom	26.40	60.14	75	Colombia	8.70	19.82
9	Russian Federation	26.34	60.00	76	Oman	8.30	18.92
10	Switzerland	26.09	59.43	77	Cabo Verde	8.26	18.82
11	Finland	26.07	59.39	78	Tunisia	7.98	18.19
12	Ireland	26.04	59.32	79	Nepal	7.84	17.86
13	Lithuania	26.03	59.30	80	Dominican Republic	7.77	17.70
14	Israel	25.60	58.32	81	Nigeria	7.71	17.58
15	Iceland	25.04	57.05	82	Namibia	7.64	17.40
16	Portugal	24.07	54.83	83	Bahrain	7.61	17.33
17	Australia	23.89	54.42	84	Sri Lanka	7.45	16.96
18	Estonia	23.53	53.61	85	Ecuador	7.14	16.27
19	France	22.98	52.35	86	Paraguay	7.04	16.04
20	Singapore	22.69	51.68	87	Botswana	6.97	15.87
21	Kazakhstan	22.67	51.64	88	Peru	6.94	15.82
22	Belarus	21.69	49.40	89	Viet Nam	6.71	15.28
23	Malta	21.44	48.85	90	Kenya	6.54	14.91
24	Germany	21.37	48.68	91	El Salvador	6.45	14.70
25	Poland	21.11	48.10	92	Lesotho	6.39	14.56
26	Greece	20.98	47.80	93	Gambia	6.30	14.35
27	United States of America	20.60	46.93	94	Trinidad and Tobago	6.10	13.90
28	Austria	20.45	46.59	95	Thailand	6.04	13.75
29	Korea, Rep.	20.38	46.44	96	Indonesia	5.94	13.53
30	Cyprus	20.21	46.04	97	Ghana	5.85	13.33
31	Latvia	19.62	44.70	98	South Africa	5.71	13.00
32	Spain	19.46	44.34	99	Philippines	5.65	12.88
33	Hungary	19.34	44.06	100	Burkina Faso	5.54	12.61
34	Canada	18.73	42.66	101	Angola	5.50	12.52
35	Czech Republic	18.67	42.54	102	Guinea	5.43	12.37
36	Bulgaria	18.64	42.45	103	Nicaragua	5.16	11.76
37	Montenegro	18.63	42.45	104	Pakistan	5.08	11.58
38	United Arab Emirates	18.29	41.66	105	Cameroon	5.04	11.48
39	Ukraine	17.93	40.85	106	Lao PDR	5.03	11.45
40	Romania	17.50	39.86	107	Guatemala	5.01	11.42
41	Croatia	17.37	39.56	108	Bangladesh	4.82	10.98
42	Mongolia	16.96	38.65	109	Zimbabwe	4.80	10.93
43	Jordan	16.69	38.01	110	Zambia	4.74	10.79
44	Moldova, Rep.	16.66	37.96	111	Rwanda	4.59	10.45
45	North Macedonia	15.97	36.39	112	India	4.28	9.75
46	Brunei Darussalam	15.81	36.01	113	Uganda	4.01	9.15
47	Lebanon	15.76	35.90	114	Côte d'Ivoire	3.84	8.75
48	Chile	15.37	35.02	115	Cambodia	3.76	8.56
49	Italy	15.06	34.31	116	China	3.35	7.64
50	Slovakia	15.03	34.25	117	Senegal	3.26	7.43
51	Serbia	14.40	32.81	118	Honduras	2.96	6.75
52	Uruguay	13.73	31.28	119	Benin	2.95	6.72
53	Georgia	12.89	29.36	120	Malawi	2.93	6.68
54	Azerbaijan	12.55	28.59	121	Ethiopia	2.59	5.90
55	Malaysia	12.49	28.45	122	Congo, Dem. Rep.	2.40	5.47
56	Brazil	12.45	28.36	123	Madagascar	2.05	4.67
57	Türkiye	12.31	28.05	124	Mozambique	2.04	4.65
58	Albania	12.30	28.03	125	Chad	2.04	4.65
59	Eswatini	11.94	27.19	126	Morocco	1.80	4.10
60	Egypt	11.85	26.99	127	Mali	1.52	3.46
61	Panama	11.68	26.61	128	Tanzania, United Rep.	0.83	1.89
62	Costa Rica	11.54	26.28	129	Burundi	0.37	0.85
63	Iran, Islamic Rep.	11.20	25.51	130	Mauritania	0.00	0.00
64	Armenia	11.16	25.43		Japan	n/a	n/a
65	Qatar	11.15	25.40		New Zealand	n/a	n/a
66	Kyrgyzstan	10.78	24.57		Saudi Arabia	n/a	n/a
67	Mauritius	10.48	23.87				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.1.4 Researchers

Full-time equivalent researchers (per million population) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Korea, Rep.	8713.59	100.00	68	South Africa	484.28	5.44
2	Sweden	7930.18	91.00	69	Saudi Arabia	453.15	5.09
3	Denmark	7691.89	88.26	70	Bosnia and Herzegovina	451.99	5.07
4	Finland	7527.36	86.37	71	Ecuador	399.49	4.47
5	Singapore	7286.87	83.61	72	Indonesia	395.67	4.42
6	Norway	6698.84	76.85	73	Pakistan	382.89	4.28
7	Iceland	6088.27	69.83	74	Bahrain	368.99	4.12
8	Netherlands	5911.69	67.81	75	Mexico	348.75	3.89
9	New Zealand	5853.99	67.14	76	Costa Rica	345.04	3.84
10	Austria	5751.32	65.96	77	Oman	334.92	3.73
11	Belgium	5750.14	65.95	78	Mongolia	330.99	3.68
12	Switzerland	5551.97	63.67	79	India	252.70	2.78
13	Japan	5454.68	62.55	80	Botswana	185.21	2.01
14	Germany	5393.15	61.85	81	Philippines	173.64	1.87
15	Portugal	5214.85	59.80	82	Kuwait	173.51	1.87
16	Slovenia	4932.33	56.55	83	Paraguay	155.58	1.67
17	France	4926.19	56.48	84	Namibia	149.47	1.60
18	Luxembourg	4920.30	56.41	85	Eswatini	142.34	1.51
19	United States of America	4821.23	55.28	86	Cabo Verde	123.49	1.30
20	Ireland	4769.14	54.68	87	Sri Lanka	105.61	1.09
21	United Kingdom	4683.77	53.70	88	Zimbabwe	99.52	1.02
22	Canada	4516.30	51.77	89	Ethiopia	90.53	0.92
23	Hungary	4357.92	49.95	90	Ghana	89.11	0.90
24	Czech Republic	4127.93	47.31	91	Colombia	88.02	0.89
25	Greece	4010.34	45.96	92	El Salvador	72.98	0.72
26	Estonia	3846.11	44.07	93	Rwanda	58.76	0.55
27	Lithuania	3728.48	42.72	94	Mali	58.31	0.55
28	Poland	3288.17	37.66	95	Chad	57.89	0.54
29	Slovakia	3164.31	36.24	96	Gambia	52.89	0.49
30	Spain	3109.24	35.60	97	Mozambique	42.97	0.37
31	Russian Federation	2721.68	31.15	98	Panama	39.11	0.33
32	Italy	2671.83	30.58	99	Honduras	34.68	0.28
33	United Arab Emirates	2442.54	27.94	100	Madagascar	34.04	0.27
34	Bulgaria	2402.12	27.48	101	Cambodia	30.37	0.23
35	Malta	2296.49	26.27	102	Uganda	27.84	0.20
36	Croatia	2219.83	25.39	103	Lesotho	24.11	0.16
37	Malaysia	2184.72	24.98	104	Burundi	23.44	0.15
38	Serbia	2167.11	24.78	105	Tanzania, United Rep.	19.15	0.10
39	Latvia	2158.84	24.68	106	Angola	18.82	0.09
40	Thailand	1790.15	20.45	107	Guatemala	14.45	0.04
41	Türkiye	1775.35	20.28	108	Congo, Dem. Rep.	10.56	0.00
42	Azerbaijan	1734.85	19.81		Albania	n/a	n/a
43	Georgia	1712.45	19.56		Armenia	n/a	n/a
44	Cyprus	1690.84	19.31		Australia	n/a	n/a
45	Tunisia	1659.92	18.95		Bangladesh	n/a	n/a
46	Iran, Islamic Rep.	1659.46	18.95		Benin	n/a	n/a
47	China	1584.87	18.09		Bolivia, Plurinational St.	n/a	n/a
48	Belarus	1465.71	16.72		Brunei Darussalam	n/a	n/a
49	Argentina	1230.75	14.02		Burkina Faso	n/a	n/a
50	Morocco	1073.54	12.21		Cameroon	n/a	n/a
51	Romania	952.87	10.83		Côte d'Ivoire	n/a	n/a
52	Brazil	887.68	10.08		Dominican Republic	n/a	n/a
53	Ukraine	846.25	9.60		Guinea	n/a	n/a
54	Egypt	837.98	9.51		Israel	n/a	n/a
55	Algeria	819.34	9.29		Jamaica	n/a	n/a
56	Moldova, Rep.	788.57	8.94		Kenya	n/a	n/a
57	North Macedonia	786.64	8.92		Kyrgyzstan	n/a	n/a
58	Uruguay	767.19	8.69		Lao PDR	n/a	n/a
59	Viet Nam	756.69	8.57		Lebanon	n/a	n/a
60	Montenegro	746.83	8.46		Malawi	n/a	n/a
61	Kazakhstan	629.85	7.12		Mauritania	n/a	n/a
62	Jordan	595.96	6.73		Nepal	n/a	n/a
63	Qatar	577.35	6.51		Nicaragua	n/a	n/a
64	Senegal	564.34	6.36		Nigeria	n/a	n/a
65	Mauritius	563.91	6.36		Peru	n/a	n/a
66	Chile	510.31	5.74		Zambia	n/a	n/a
67	Trinidad and Tobago	491.77	5.53				

SOURCE: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.1.5 Senior officials and managers

Legislators, senior officials, and managers (%) | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Nigeria.....	28.09	100.00	68	Brazil.....	3.64	21.49
1	Singapore.....	16.57	100.00	69	Italy.....	3.59	21.22
3	Colombia.....	14.60	88.01	70	Mauritius.....	3.55	20.96
4	Iceland.....	13.06	78.66	71	Cabo Verde.....	3.42	20.19
5	United Kingdom.....	11.82	71.17	72	Serbia.....	3.30	19.47
6	United Arab Emirates.....	11.61	69.90	73	Zambia.....	3.25	19.14
7	Malta.....	11.37	68.43	74	Algeria.....	3.17	18.65
8	Australia.....	11.12	66.93	75	Mexico.....	3.16	18.58
9	Latvia.....	10.56	63.54	76	Iran, Islamic Rep.....	3.05	17.94
10	United States of America.....	10.49	63.10	77	Burkina Faso.....	2.98	17.52
11	Trinidad and Tobago.....	10.44	62.76	78	Tunisia.....	2.98	17.50
12	Israel.....	9.89	59.47	79	Cameroon.....	2.94	17.28
13	Lithuania.....	9.22	55.38	80	North Macedonia.....	2.90	17.03
14	Philippines.....	9.03	54.24	81	Greece.....	2.83	16.60
15	Ireland.....	8.93	53.62	82	Denmark.....	2.75	16.13
16	India.....	8.82	52.96	83	Romania.....	2.72	15.91
17	Belarus.....	8.80	52.81	84	Armenia.....	2.65	15.50
18	Estonia.....	8.63	51.78	85	Qatar.....	2.59	15.15
19	Norway.....	8.29	49.75	86	Uruguay.....	2.59	15.11
20	Canada.....	8.16	48.92	87	Pakistan.....	2.52	14.68
21	Switzerland.....	8.11	48.66	88	Finland.....	2.43	14.15
22	Bahrain.....	8.10	48.56	89	Dominican Republic.....	2.39	13.90
23	South Africa.....	8.06	48.33	90	Honduras.....	2.25	13.04
24	Belgium.....	8.05	48.27	91	Indonesia.....	2.17	12.59
25	Egypt.....	8.02	48.06	92	Lesotho.....	2.15	12.43
26	Ukraine.....	7.96	47.70	93	Kyrgyzstan.....	2.00	11.57
27	Botswana.....	7.62	45.64	94	Nicaragua.....	1.99	11.52
28	Sri Lanka.....	7.61	45.60	95	Eswatini.....	1.99	11.48
29	Moldova, Rep.....	7.56	45.30	96	Japan.....	1.92	11.05
30	Jamaica.....	7.12	42.64	97	Angola.....	1.92	11.03
31	Lao PDR.....	6.88	41.20	98	El Salvador.....	1.82	10.48
32	Portugal.....	6.87	41.13	99	Bosnia and Herzegovina.....	1.81	10.37
33	Lebanon.....	6.83	40.90	100	Ghana.....	1.69	9.69
34	Mongolia.....	6.80	40.71	101	Bangladesh.....	1.64	9.35
35	France.....	6.79	40.65	102	Bolivia, Plurinational St.....	1.48	8.39
36	Sweden.....	6.71	40.16	103	Cambodia.....	1.47	8.34
37	Brunei Darussalam.....	6.47	38.71	104	Korea, Rep.....	1.44	8.12
38	Poland.....	6.42	38.35	105	Congo, Dem. Rep.....	1.34	7.54
39	Kazakhstan.....	6.07	36.26	106	Albania.....	1.30	7.29
40	Oman.....	6.03	36.01	107	Rwanda.....	1.26	7.09
41	Slovakia.....	5.82	34.74	108	Azerbaijan.....	1.26	7.05
42	Russian Federation.....	5.81	34.66	109	Nepal.....	1.14	6.35
43	Türkiye.....	5.60	33.43	110	Zimbabwe.....	1.11	6.15
44	Malaysia.....	5.40	32.22	111	Guatemala.....	0.97	5.27
45	Panama.....	5.38	32.06	112	Ecuador.....	0.95	5.17
46	Montenegro.....	5.24	31.21	113	Viet Nam.....	0.90	4.84
47	Netherlands.....	5.13	30.55	114	Costa Rica.....	0.86	4.62
48	Kenya.....	5.12	30.50	115	Uganda.....	0.82	4.37
49	Bulgaria.....	5.08	30.24	116	Guinea.....	0.80	4.25
50	Czech Republic.....	5.06	30.12	117	Madagascar.....	0.75	3.99
51	China.....	5.00	29.76	118	Morocco.....	0.70	3.66
52	Namibia.....	4.98	29.66	119	Gambia.....	0.58	2.93
53	Georgia.....	4.93	29.36	120	Malawi.....	0.55	2.75
54	Austria.....	4.87	29.00	121	Ethiopia.....	0.53	2.60
55	Argentina.....	4.85	28.83	122	Côte d'Ivoire.....	0.48	2.30
56	Hungary.....	4.77	28.36	123	Peru.....	0.37	1.65
57	Mauritania.....	4.72	28.08	124	Tanzania, United Rep.....	0.35	1.55
58	Kuwait.....	4.71	27.98	125	Mozambique.....	0.34	1.50
59	Croatia.....	4.64	27.57	126	Jordan.....	0.33	1.41
60	Slovenia.....	4.42	26.26	127	Burundi.....	0.32	1.36
61	Luxembourg.....	4.32	25.61	128	Senegal.....	0.28	1.08
62	Thailand.....	4.31	25.58	129	Benin.....	0.27	1.06
63	Spain.....	4.15	24.59	130	Chad.....	0.22	0.74
64	Germany.....	4.06	24.02	131	Mali.....	0.10	0.00
65	Chile.....	4.02	23.80		New Zealand.....	n/a	n/a
66	Paraguay.....	3.88	22.97		Saudi Arabia.....	n/a	n/a
67	Cyprus.....	3.88	22.96				

SOURCE: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.1.6 Digital skills

Individuals with advanced ICT skills (%) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Brunei Darussalam.....	22.34	100.00	68	Iran, Islamic Rep.....	1.26	5.59
2	United Arab Emirates.....	17.40	77.88	69	Romania.....	1.24	5.49
3	Saudi Arabia.....	16.42	73.47	70	Russian Federation.....	1.23	5.47
4	Tunisia.....	15.06	67.38	71	Bulgaria.....	1.12	4.97
5	Iceland.....	15.02	67.22	72	Jamaica.....	1.01	4.46
6	Bahrain.....	15.02	67.22	73	Thailand.....	1.00	4.43
7	Denmark.....	14.13	63.21	74	Georgia.....	0.78	3.45
8	Kuwait.....	14.04	62.83	75	Cambodia.....	0.74	3.28
9	Chile.....	11.56	51.70	76	Philippines.....	0.67	2.95
10	Norway.....	11.13	49.80	77	Azerbaijan.....	0.66	2.91
11	Sweden.....	10.19	45.59	78	Côte d'Ivoire.....	0.63	2.79
12	Luxembourg.....	9.46	42.30	79	Zimbabwe.....	0.57	2.52
13	Finland.....	9.38	41.97	80	Ukraine.....	0.53	2.34
14	Egypt.....	9.11	40.75	81	Bangladesh.....	0.20	0.85
15	Malaysia.....	9.06	40.51	82	Viet Nam.....	0.01	0.00
16	United Kingdom.....	8.97	40.14		Angola.....	n/a	n/a
17	Switzerland.....	8.63	38.58		Argentina.....	n/a	n/a
18	Morocco.....	8.53	38.13		Armenia.....	n/a	n/a
19	Netherlands.....	8.11	36.25		Australia.....	n/a	n/a
20	Oman.....	8.03	35.92		Benin.....	n/a	n/a
21	Singapore.....	7.59	33.96		Bolivia, Plurinational St.....	n/a	n/a
22	Portugal.....	7.54	33.70		Burkina Faso.....	n/a	n/a
23	Mexico.....	7.39	33.03		Burundi.....	n/a	n/a
24	Austria.....	7.38	32.98		Cameroon.....	n/a	n/a
25	Estonia.....	7.09	31.69		Canada.....	n/a	n/a
26	Algeria.....	6.89	30.82		Chad.....	n/a	n/a
27	Croatia.....	6.83	30.52		China.....	n/a	n/a
28	Dominican Republic.....	6.73	30.11		Congo, Dem. Rep.....	n/a	n/a
29	Spain.....	6.60	29.52		Costa Rica.....	n/a	n/a
30	Ireland.....	6.60	29.51		El Salvador.....	n/a	n/a
31	Malta.....	6.54	29.21		Eswatini.....	n/a	n/a
32	Belgium.....	6.33	28.30		Ethiopia.....	n/a	n/a
33	Greece.....	6.25	27.92		Gambia.....	n/a	n/a
34	Korea, Rep.....	6.16	27.52		Ghana.....	n/a	n/a
35	Italy.....	6.03	26.97		Guatemala.....	n/a	n/a
36	Colombia.....	6.02	26.91		Guinea.....	n/a	n/a
37	Kazakhstan.....	5.92	26.45		Honduras.....	n/a	n/a
38	Cabo Verde.....	5.27	23.57		India.....	n/a	n/a
39	Germany.....	5.21	23.30		Israel.....	n/a	n/a
40	Qatar.....	5.10	22.77		Jordan.....	n/a	n/a
41	Ecuador.....	5.08	22.69		Kenya.....	n/a	n/a
42	South Africa.....	5.04	22.50		Kyrgyzstan.....	n/a	n/a
43	North Macedonia.....	4.94	22.09		Lao PDR.....	n/a	n/a
44	France.....	4.89	21.85		Lebanon.....	n/a	n/a
45	Botswana.....	4.77	21.30		Madagascar.....	n/a	n/a
46	Serbia.....	4.70	21.01		Malawi.....	n/a	n/a
47	Lithuania.....	4.57	20.42		Mali.....	n/a	n/a
48	Slovenia.....	4.55	20.34		Mauritania.....	n/a	n/a
49	Montenegro.....	4.49	20.06		Moldova, Rep.....	n/a	n/a
50	Czech Republic.....	4.29	19.17		Mozambique.....	n/a	n/a
51	Mongolia.....	4.10	18.31		Namibia.....	n/a	n/a
52	Poland.....	4.03	18.02		Nepal.....	n/a	n/a
53	Hungary.....	3.85	17.18		New Zealand.....	n/a	n/a
54	Slovakia.....	3.65	16.30		Nicaragua.....	n/a	n/a
55	Indonesia.....	3.52	15.70		Nigeria.....	n/a	n/a
56	Lesotho.....	3.30	14.73		Panama.....	n/a	n/a
57	Cyprus.....	3.13	13.96		Paraguay.....	n/a	n/a
58	Mauritius.....	3.04	13.57		Rwanda.....	n/a	n/a
59	Peru.....	2.92	13.03		Senegal.....	n/a	n/a
60	Türkiye.....	2.85	12.69		Sri Lanka.....	n/a	n/a
61	Brazil.....	2.81	12.54		Tanzania, United Rep.....	n/a	n/a
62	Albania.....	2.62	11.67		Trinidad and Tobago.....	n/a	n/a
63	Latvia.....	2.25	10.01		Uganda.....	n/a	n/a
64	Japan.....	2.19	9.78		United States of America.....	n/a	n/a
65	Bosnia and Herzegovina.....	2.11	9.41		Uruguay.....	n/a	n/a
66	Belarus.....	1.92	8.53		Zambia.....	n/a	n/a
67	Pakistan.....	1.45	6.43				

SOURCE: International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database, November 2021 (<https://www.itu.int/itu-d/sites/statistics/>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.2.1 Innovation output

Innovation Output Sub-Index | 2021

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Switzerland.....	62.00	100.00	68	North Macedonia.....	21.10	27.48
2	Sweden.....	56.60	90.43	69	Qatar.....	20.70	26.77
3	Netherlands.....	53.50	84.93	70	Argentina.....	20.30	26.06
3	United States of America.....	53.50	84.93	70	Saudi Arabia.....	20.30	26.06
5	Korea, Rep.....	53.30	84.57	72	Kuwait.....	20.00	25.53
6	United Kingdom.....	53.10	84.22	73	Georgia.....	19.90	25.35
7	China.....	52.50	83.16	74	Colombia.....	19.50	24.65
8	Germany.....	51.70	81.74	75	Kenya.....	18.90	23.58
9	Finland.....	49.70	78.19	76	Pakistan.....	18.80	23.40
10	France.....	48.50	76.06	77	Madagascar.....	18.60	23.05
11	Denmark.....	47.70	74.65	78	Panama.....	18.40	22.70
12	Israel.....	46.10	71.81	79	Bosnia and Herzegovina.....	18.30	22.52
13	Singapore.....	45.50	70.74	80	Jordan.....	18.20	22.34
14	Japan.....	45.20	70.21	81	Guatemala.....	18.00	21.99
15	Czech Republic.....	44.30	68.62	81	Peru.....	18.00	21.99
16	Iceland.....	43.90	67.91	83	Indonesia.....	17.90	21.81
17	Luxembourg.....	42.30	65.07	84	Sri Lanka.....	17.70	21.45
18	Ireland.....	42.10	64.72	85	Egypt.....	17.50	21.10
19	Estonia.....	41.80	64.18	86	Paraguay.....	17.40	20.92
20	Cyprus.....	40.30	61.52	87	Cabo Verde.....	17.20	20.57
21	Malta.....	40.20	61.35	88	El Salvador.....	17.10	20.39
22	Canada.....	40.10	61.17	88	Oman.....	17.10	20.39
23	Austria.....	39.60	60.28	90	Azerbaijan.....	17.00	20.21
24	Italy.....	38.80	58.87	91	Albania.....	16.10	18.62
25	Belgium.....	38.70	58.69	91	Malawi.....	16.10	18.62
26	Bulgaria.....	38.50	58.33	93	Ecuador.....	15.90	18.26
27	Norway.....	37.40	56.38	94	Lebanon.....	15.70	17.91
28	Spain.....	36.20	54.26	94	Trinidad and Tobago.....	15.70	17.91
29	Portugal.....	35.60	53.19	96	Bahrain.....	15.30	17.20
30	Hungary.....	35.20	52.48	96	Dominican Republic.....	15.30	17.20
31	New Zealand.....	34.80	51.77	98	Kazakhstan.....	14.70	16.13
32	Australia.....	34.40	51.06	99	Senegal.....	14.50	15.78
33	Malaysia.....	33.90	50.18	100	Ghana.....	14.40	15.60
34	Slovakia.....	33.70	49.82	101	Cambodia.....	13.80	14.54
34	Slovenia.....	33.70	49.82	102	Zimbabwe.....	13.70	14.36
36	Ukraine.....	31.60	46.10	103	Honduras.....	12.70	12.59
37	Viet Nam.....	31.40	45.74	104	Ethiopia.....	12.40	12.06
38	Latvia.....	30.80	44.68	104	Rwanda.....	12.40	12.06
39	Philippines.....	30.60	44.33	106	Bolivia, Plurinational St.....	12.30	11.88
40	Türkiye.....	30.30	43.79	106	Botswana.....	12.30	11.88
41	Poland.....	30.10	43.44	106	Namibia.....	12.30	11.88
42	Lithuania.....	29.70	42.73	109	Lao PDR.....	12.20	11.70
43	Iran, Islamic Rep.....	29.10	41.67	110	Bangladesh.....	11.70	10.82
44	India.....	28.80	41.13	111	Brunei Darussalam.....	11.60	10.64
45	Thailand.....	28.50	40.60	111	Mali.....	11.60	10.64
46	United Arab Emirates.....	28.00	39.72	111	Nepal.....	11.60	10.64
47	Croatia.....	27.50	38.83	114	Cameroon.....	11.20	9.93
48	Costa Rica.....	27.10	38.12	114	Mozambique.....	11.20	9.93
49	Romania.....	27.00	37.94	116	Kyrgyzstan.....	11.10	9.75
50	Mexico.....	26.70	37.41	117	Côte d'Ivoire.....	10.70	9.04
51	Montenegro.....	26.50	37.06	118	Uganda.....	10.40	8.51
51	Russian Federation.....	26.50	37.06	119	Burkina Faso.....	10.10	7.98
53	Moldova, Rep.....	26.30	36.70	120	Nigeria.....	10.00	7.80
53	Mongolia.....	26.30	36.70	121	Guinea.....	9.50	6.91
55	Armenia.....	26.00	36.17	122	Zambia.....	9.30	6.56
56	Serbia.....	25.20	34.75	123	Algeria.....	9.20	6.38
57	Mauritius.....	25.00	34.40	124	Angola.....	6.40	1.42
58	Brazil.....	24.40	33.33	125	Benin.....	5.60	0.00
59	Greece.....	24.00	32.62		Burundi.....	n/a	n/a
60	Chile.....	23.80	32.27		Chad.....	n/a	n/a
61	Belarus.....	23.70	32.09		Congo, Dem. Rep.....	n/a	n/a
62	Uruguay.....	23.00	30.85		Eswatini.....	n/a	n/a
63	Tunisia.....	22.30	29.61		Gambia.....	n/a	n/a
64	Tanzania, United Rep.....	21.80	28.72		Lesotho.....	n/a	n/a
65	Jamaica.....	21.60	28.37		Mauritania.....	n/a	n/a
66	Morocco.....	21.50	28.19		Nicaragua.....	n/a	n/a
67	South Africa.....	21.20	27.66				

SOURCE: INSEAD, Cornell University, and World Intellectual Property Organization, *The Global Innovation Index 2021: Tracking Innovation through the COVID-19 Crisis* (<https://www.globalinnovationindex.org>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.2.2 High-value exports

High-technology exports (% of manufactured exports) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Panama.....	2200.24	100.00	68	Nigeria.....	6.94	12.32
1	Philippines.....	63.05	100.00	69	Argentina.....	6.90	12.25
1	Singapore.....	55.45	100.00	70	Tanzania, United Rep.	6.89	12.23
4	Malaysia.....	53.82	97.04	71	Tunisia.....	6.89	12.21
5	Viet Nam.....	41.74	75.22	72	El Salvador.....	6.39	11.32
6	Korea, Rep.....	35.71	64.31	73	Guatemala.....	6.05	10.71
7	Malta.....	34.62	62.34	74	Ukraine.....	5.85	10.35
8	Kazakhstan.....	32.96	59.35	75	Luxembourg.....	5.62	9.93
9	China.....	31.28	56.32	76	South Africa.....	5.62	9.93
10	Israel.....	28.20	50.74	77	Mali.....	5.48	9.67
11	Iceland.....	27.96	50.30	78	United Arab Emirates.....	5.17	9.11
12	Thailand.....	27.67	49.78	79	Paraguay.....	5.15	9.07
13	Angola.....	26.39	47.46	80	Lebanon.....	5.14	9.05
14	Ireland.....	25.66	46.16	81	Kenya.....	5.11	9.01
15	France.....	23.14	41.60	82	Peru.....	4.79	8.44
16	Netherlands.....	23.14	41.59	83	Belarus.....	4.77	8.39
17	United Kingdom.....	23.00	41.34	84	Bosnia and Herzegovina.....	4.61	8.11
18	Czech Republic.....	22.58	40.58	85	Bahrain.....	4.45	7.81
19	Norway.....	22.25	39.98	86	Morocco.....	4.43	7.77
20	Mexico.....	21.51	38.64	87	Bolivia, Plurinational St.....	4.33	7.59
21	Australia.....	21.49	38.61	88	Ecuador.....	4.28	7.51
22	Lao PDR.....	20.61	37.02	89	North Macedonia.....	4.18	7.33
23	Estonia.....	20.41	36.66	90	Burkina Faso.....	3.42	5.95
24	Latvia.....	20.04	35.98	91	Türkiye.....	3.15	5.47
25	United States of America.....	19.48	34.99	92	Jamaica.....	2.98	5.15
26	Mongolia.....	18.94	34.01	93	Malawi.....	2.78	4.79
27	Japan.....	18.60	33.39	94	Benin.....	2.68	4.61
28	Hungary.....	17.43	31.27	95	Egypt.....	2.68	4.61
29	Chile.....	15.80	28.33	96	Zimbabwe.....	2.38	4.08
30	Costa Rica.....	15.68	28.11	97	Mauritius.....	2.31	3.94
31	Germany.....	15.50	27.78	98	Cambodia.....	2.28	3.89
32	Canada.....	15.30	27.43	99	Georgia.....	2.25	3.83
33	Belgium.....	15.25	27.33	100	Moldova, Rep.....	2.24	3.82
34	Sweden.....	15.13	27.12	101	Mauritania.....	2.20	3.75
35	Greece.....	13.25	23.72	102	Uganda.....	2.10	3.57
36	Denmark.....	13.17	23.58	103	Honduras.....	1.96	3.31
37	Ethiopia.....	13.10	23.44	104	Pakistan.....	1.89	3.18
38	Switzerland.....	12.84	22.98	105	Jordan.....	1.54	2.56
39	Austria.....	12.26	21.94	106	Zambia.....	1.37	2.24
40	Cyprus.....	12.24	21.90	107	Kuwait.....	1.35	2.21
41	Lithuania.....	12.01	21.47	108	Brunei Darussalam.....	1.34	2.19
42	Romania.....	11.94	21.34	109	Oman.....	1.26	2.04
43	Brazil.....	11.35	20.28	110	Sri Lanka.....	1.26	2.04
44	Bulgaria.....	11.30	20.18	111	Ghana.....	1.14	1.82
45	Côte d'Ivoire.....	11.23	20.07	112	Nepal.....	1.07	1.71
46	India.....	11.03	19.71	113	Mozambique.....	1.02	1.62
47	Rwanda.....	10.55	18.84	114	Algeria.....	0.96	1.50
48	New Zealand.....	10.14	18.10	115	Guinea.....	0.90	1.39
49	Slovakia.....	10.00	17.84	116	Gambia.....	0.89	1.37
50	Finland.....	9.98	17.81	117	Madagascar.....	0.80	1.22
51	Colombia.....	9.91	17.69	118	Senegal.....	0.74	1.11
52	Poland.....	9.86	17.60	119	Iran, Islamic Rep.....	0.72	1.08
53	Uruguay.....	9.76	17.42	120	Saudi Arabia.....	0.61	0.87
54	Croatia.....	9.68	17.27	121	Nicaragua.....	0.54	0.74
55	Russian Federation.....	9.20	16.40	122	Congo, Dem. Rep.....	0.51	0.69
56	Italy.....	9.05	16.12	123	Namibia.....	0.48	0.63
57	Dominican Republic.....	8.85	15.76	124	Botswana.....	0.40	0.50
58	Kyrgyzstan.....	8.75	15.58	125	Albania.....	0.38	0.45
59	Indonesia.....	8.43	15.00	126	Cabo Verde.....	0.37	0.43
60	Slovenia.....	7.80	13.86	127	Eswatini.....	0.34	0.38
61	Spain.....	7.77	13.81	128	Bangladesh.....	0.31	0.32
62	Montenegro.....	7.57	13.46	129	Burundi.....	0.17	0.07
63	Portugal.....	7.11	12.63	130	Trinidad and Tobago.....	0.14	0.02
64	Qatar.....	7.10	12.61	131	Lesotho.....	0.13	0.00
65	Azerbaijan.....	7.07	12.54		Chad.....	n/a	n/a
66	Cameroon.....	7.03	12.47		Serbia.....	n/a	n/a
67	Armenia.....	7.00	12.42				

SOURCE: World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>). Sourced from United Nations, Comtrade database through the World Integrated Trade Solution (WITS) platform.

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.2.3 Software development

GitHub commits (per 1,000 population) | 2018

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Switzerland.....	135.17	100.00	68	Albania.....	4.46	3.30
2	Norway.....	126.65	93.70	69	Peru.....	4.26	3.15
3	Sweden.....	114.87	84.98	70	Mexico.....	4.04	2.99
4	Finland.....	112.56	83.27	71	Dominican Republic.....	3.97	2.94
5	Netherlands.....	106.88	79.07	72	Jamaica.....	3.86	2.86
6	New Zealand.....	104.45	77.28	73	Thailand.....	3.71	2.74
7	Denmark.....	96.99	71.76	74	Kenya.....	3.48	2.57
8	United States of America.....	96.69	71.54	75	Ecuador.....	3.33	2.46
9	Canada.....	95.02	70.30	76	Kyrgyzstan.....	3.23	2.39
10	United Kingdom.....	93.62	69.26	77	Nepal.....	3.19	2.36
11	Estonia.....	85.39	63.17	78	Tunisia.....	2.96	2.19
12	Iceland.....	84.69	62.66	79	El Salvador.....	2.93	2.17
13	Australia.....	82.75	61.22	80	Botswana.....	2.92	2.16
14	Ireland.....	81.88	60.58	81	Bolivia, Plurinational St.....	2.60	1.92
15	Germany.....	79.30	58.66	82	Qatar.....	2.55	1.89
16	Luxembourg.....	78.39	57.99	83	India.....	2.55	1.89
17	Singapore.....	76.53	56.62	84	Philippines.....	2.40	1.77
18	Czech Republic.....	66.30	49.05	85	Mongolia.....	2.36	1.75
19	France.....	65.43	48.41	86	Brunei Darussalam.....	2.35	1.74
20	Malta.....	61.89	45.79	87	Indonesia.....	2.28	1.68
21	Austria.....	60.12	44.48	88	Kuwait.....	2.08	1.54
22	Belgium.....	58.06	42.95	89	Jordan.....	2.05	1.52
23	Slovenia.....	44.77	33.12	90	Iran, Islamic Rep.....	2.01	1.48
24	Lithuania.....	43.79	32.39	91	Georgia.....	2.00	1.48
25	Latvia.....	41.38	30.61	92	Bahrain.....	1.95	1.45
26	Portugal.....	41.32	30.57	93	Paraguay.....	1.88	1.39
27	Bulgaria.....	40.76	30.16	94	Guatemala.....	1.83	1.35
28	Poland.....	40.08	29.66	95	Nicaragua.....	1.76	1.30
29	Israel.....	40.02	29.61	96	Egypt.....	1.67	1.23
30	Spain.....	38.15	28.23	97	Honduras.....	1.60	1.19
31	Belarus.....	37.42	27.68	98	Azerbaijan.....	1.58	1.17
32	Hungary.....	32.28	23.88	99	Bangladesh.....	1.44	1.07
33	Ukraine.....	29.47	21.80	100	Cambodia.....	1.37	1.01
34	Croatia.....	29.37	21.73	101	Nigeria.....	1.35	1.00
35	Greece.....	24.65	18.23	102	Morocco.....	1.06	0.78
36	Serbia.....	22.61	16.73	103	Ghana.....	1.02	0.75
37	Slovakia.....	21.71	16.06	104	Namibia.....	1.01	0.75
38	Cyprus.....	18.97	14.04	105	Uganda.....	1.01	0.75
39	Japan.....	18.93	14.00	106	Cabo Verde.....	0.90	0.67
40	Russian Federation.....	18.75	13.87	107	Benin.....	0.77	0.57
41	Uruguay.....	18.56	13.73	108	Pakistan.....	0.66	0.49
42	Korea, Rep.....	18.24	13.50	109	Saudi Arabia.....	0.62	0.46
43	Romania.....	17.90	13.24	110	Cameroon.....	0.59	0.44
44	Mauritius.....	17.34	12.83	111	Rwanda.....	0.54	0.40
45	Italy.....	16.75	12.39	112	Zimbabwe.....	0.46	0.34
46	Costa Rica.....	13.59	10.05	113	Algeria.....	0.45	0.33
47	Brazil.....	12.75	9.43	114	Senegal.....	0.45	0.33
48	Montenegro.....	12.33	9.12	115	Zambia.....	0.41	0.31
49	Moldova, Rep.....	11.97	8.86	116	Tanzania, United Rep.....	0.33	0.24
50	Armenia.....	11.28	8.35	117	Gambia.....	0.27	0.20
51	Argentina.....	11.11	8.22	118	Mozambique.....	0.27	0.20
52	North Macedonia.....	10.58	7.82	119	Côte d'Ivoire.....	0.22	0.16
53	Panama.....	10.12	7.48	120	Madagascar.....	0.19	0.14
54	Chile.....	9.85	7.29	121	Oman.....	0.18	0.13
55	Bosnia and Herzegovina.....	9.59	7.09	122	Angola.....	0.12	0.09
56	United Arab Emirates.....	7.33	5.42	123	Malawi.....	0.12	0.09
57	South Africa.....	6.45	4.77	124	Mali.....	0.10	0.07
58	Colombia.....	5.95	4.40	125	Ethiopia.....	0.09	0.06
59	Eswatini.....	5.83	4.31	126	Lao PDR.....	0.09	0.06
60	Sri Lanka.....	5.79	4.28	127	Lesotho.....	0.07	0.05
61	Trinidad and Tobago.....	5.74	4.25	128	Guinea.....	0.04	0.03
62	Kazakhstan.....	5.47	4.05	129	Mauritania.....	0.02	0.02
63	Lebanon.....	5.17	3.83	130	Burundi.....	0.01	0.01
64	Türkiye.....	5.01	3.71	131	Burkina Faso.....	0.01	0.01
65	Viet Nam.....	4.72	3.50	132	Chad.....	0.00	0.00
66	China.....	4.58	3.39	133	Congo, Dem. Rep.....	0.00	0.00
67	Malaysia.....	4.56	3.37				

SOURCE: Gousios, G. (2013). *The GHTorrent dataset and tool suite*. Data accessed through Google BigQuery. Data on population are sourced from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.2.4 New business density

New corporate registrations (per 1,000 working-age population) | 2020

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Estonia	24.19	100.00	68	Kenya	1.55	8.35
1	United Kingdom	18.11	100.00	69	Albania	1.52	8.22
3	Botswana	17.98	99.32	70	Oman	1.52	8.17
4	New Zealand	17.88	98.77	71	Dominican Republic	1.48	7.97
5	Luxembourg	17.19	94.93	72	Lesotho	1.47	7.93
6	Australia	14.27	78.78	73	Bulgaria	1.41	7.57
7	Cyprus	13.26	73.21	74	Germany	1.36	7.30
8	Cabo Verde	13.04	71.99	75	Nepal	1.36	7.30
9	South Africa	12.50	68.96	76	Azerbaijan	1.30	6.98
10	Chile	12.11	66.80	77	Thailand	1.29	6.91
11	Iceland	10.44	57.55	78	Kyrgyzstan	1.27	6.84
12	Malta	10.05	55.43	79	Belarus	1.14	6.10
13	Denmark	10.02	55.22	80	Zambia	1.07	5.73
14	Singapore	9.99	55.06	81	Bosnia and Herzegovina	1.01	5.35
15	Norway	9.44	52.05	82	Brunei Darussalam	1.00	5.33
16	Sweden	8.98	49.48	83	Nigeria	0.88	4.68
17	China	8.58	47.29	84	Ghana	0.87	4.59
18	Montenegro	7.95	43.77	85	Uganda	0.86	4.56
19	Georgia	7.47	41.14	86	Mexico	0.79	4.18
20	Mauritius	7.05	38.83	87	Côte d'Ivoire	0.78	4.10
21	Latvia	6.89	37.90	88	Sri Lanka	0.74	3.89
22	Ireland	6.78	37.31	89	Saudi Arabia	0.64	3.31
23	Qatar	6.26	34.45	90	Iran, Islamic Rep.	0.63	3.25
24	Romania	6.23	34.28	91	Benin	0.61	3.15
25	Mongolia	5.92	32.54	92	Guatemala	0.60	3.10
26	Finland	5.88	32.32	93	Namibia	0.56	2.90
27	Portugal	5.45	29.98	94	Cambodia	0.54	2.79
28	France	5.25	28.86	95	Austria	0.53	2.72
29	Slovakia	5.13	28.17	96	Ethiopia	0.51	2.62
30	Belgium	4.67	25.62	97	Bolivia, Plurinational St.	0.51	2.62
31	Switzerland	4.64	25.46	98	Senegal	0.47	2.39
32	Trinidad and Tobago	4.54	24.89	99	Guinea	0.45	2.27
33	Croatia	4.44	24.36	100	Japan	0.45	2.27
34	Eswatini	4.36	23.91	101	Jordan	0.43	2.17
35	Panama	4.22	23.15	102	El Salvador	0.42	2.12
36	Hungary	4.01	22.00	103	Mauritania	0.38	1.91
37	Peru	3.80	20.80	104	Algeria	0.35	1.74
38	Czech Republic	3.79	20.79	105	Indonesia	0.33	1.62
39	Costa Rica	3.61	19.78	106	Burkina Faso	0.33	1.60
40	Kazakhstan	3.49	19.10	107	Mali	0.27	1.27
41	North Macedonia	3.46	18.92	108	Egypt	0.24	1.10
42	Kuwait	3.29	17.98	109	Mozambique	0.24	1.09
43	Bahrain	3.11	17.00	110	Canada	0.22	0.98
44	Netherlands	3.10	16.96	111	Philippines	0.21	0.97
45	Israel	3.07	16.76	112	Argentina	0.20	0.88
46	Lithuania	2.97	16.22	113	Tanzania, United Rep.	0.18	0.76
47	Italy	2.96	16.17	114	India	0.15	0.63
48	Armenia	2.86	15.59	115	Lao PDR	0.15	0.62
49	Brazil	2.73	14.92	116	Pakistan	0.15	0.60
50	Spain	2.50	13.60	117	Madagascar	0.13	0.49
51	Zimbabwe	2.48	13.49	118	Chad	0.11	0.41
52	Slovenia	2.42	13.20	119	Paraguay	0.05	0.06
53	United Arab Emirates	2.30	12.49	120	Bangladesh	0.04	0.01
54	Uruguay	2.29	12.46	121	Congo, Dem. Rep.	0.04	0.00
55	Russian Federation	2.26	12.27		Angola	n/a	n/a
56	Morocco	2.24	12.18		Burundi	n/a	n/a
57	Rwanda	2.17	11.77		Cameroon	n/a	n/a
58	Malaysia	2.13	11.58		Ecuador	n/a	n/a
59	Tunisia	2.00	10.85		Gambia	n/a	n/a
60	Serbia	1.99	10.82		Honduras	n/a	n/a
61	Jamaica	1.98	10.75		Korea, Rep.	n/a	n/a
62	Colombia	1.97	10.66		Lebanon	n/a	n/a
63	Türkiye	1.77	9.61		Malawi	n/a	n/a
64	Greece	1.76	9.50		Moldova, Rep.	n/a	n/a
65	Ukraine	1.68	9.08		Nicaragua	n/a	n/a
66	Viet Nam	1.66	8.98		United States of America	n/a	n/a
67	Poland	1.64	8.87				

SOURCE: World Bank, Entrepreneurship Database (<https://www.worldbank.org/en/programs/entrepreneurship>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

6.2.5 Scientific journal articles

Number of scientific and technical journal articles (per 10,000 inhabitants) | 2018

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Switzerland.....	25.11	100.00	68	Georgia.....	1.48	5.85
2	Denmark.....	24.13	96.09	69	Colombia.....	1.45	5.73
3	Norway.....	22.22	88.49	70	Morocco.....	1.40	5.55
4	Australia.....	21.46	85.46	71	Egypt.....	1.35	5.36
5	Singapore.....	20.32	80.93	72	Kazakhstan.....	1.30	5.12
6	Sweden.....	20.07	79.92	73	Mexico.....	1.30	5.12
7	Iceland.....	19.30	76.87	74	Ecuador.....	1.25	4.96
8	Finland.....	19.22	76.52	75	Belarus.....	1.25	4.94
9	Netherlands.....	17.68	70.38	76	Botswana.....	1.24	4.92
10	Canada.....	16.18	64.42	77	Algeria.....	1.24	4.90
11	New Zealand.....	16.10	64.10	78	Costa Rica.....	1.01	4.00
12	Slovenia.....	15.46	61.56	79	Indonesia.....	1.01	3.97
13	Ireland.....	14.74	58.69	80	India.....	1.00	3.96
14	United Kingdom.....	14.70	58.52	81	Mauritius.....	1.00	3.96
15	Czech Republic.....	14.65	58.34	82	Moldova, Rep.....	0.78	3.06
16	Luxembourg.....	14.30	56.92	83	Azerbaijan.....	0.77	3.01
17	Austria.....	13.98	55.67	84	Namibia.....	0.64	2.50
18	Portugal.....	13.90	55.34	85	Albania.....	0.63	2.47
19	Israel.....	13.77	54.84	86	Sri Lanka.....	0.62	2.44
20	Belgium.....	13.73	54.66	87	Pakistan.....	0.61	2.38
21	United States of America.....	12.94	51.50	88	Jamaica.....	0.56	2.19
22	Korea, Rep.....	12.87	51.23	89	Peru.....	0.51	1.99
23	Germany.....	12.59	50.13	90	Viet Nam.....	0.45	1.75
24	Italy.....	11.79	46.94	91	Mongolia.....	0.44	1.73
25	Spain.....	11.65	46.39	92	Ghana.....	0.43	1.67
26	Estonia.....	10.70	42.60	93	Panama.....	0.41	1.61
27	Cyprus.....	10.47	41.68	94	Cameroon.....	0.35	1.34
28	Croatia.....	10.46	41.65	95	Eswatini.....	0.30	1.15
29	Greece.....	10.16	40.45	96	Nigeria.....	0.29	1.10
30	France.....	9.89	39.36	97	Nepal.....	0.28	1.08
31	Slovakia.....	9.77	38.89	98	Zimbabwe.....	0.25	0.95
32	Poland.....	9.39	37.38	99	Senegal.....	0.24	0.94
33	Malta.....	8.71	34.66	100	Kenya.....	0.24	0.93
34	Lithuania.....	8.09	32.21	101	Kyrgyzstan.....	0.22	0.82
35	Japan.....	7.79	31.00	102	Philippines.....	0.21	0.80
36	Malaysia.....	7.50	29.86	103	Benin.....	0.20	0.75
37	Latvia.....	7.36	29.27	104	Bangladesh.....	0.19	0.74
38	Hungary.....	6.85	27.27	105	Ethiopia.....	0.18	0.69
39	Brunei Darussalam.....	6.85	27.26	106	Cabo Verde.....	0.16	0.60
40	Serbia.....	6.48	25.77	107	Uganda.....	0.16	0.59
41	Iran, Islamic Rep.....	5.91	23.49	108	Gambia.....	0.15	0.55
42	Russian Federation.....	5.65	22.46	109	Paraguay.....	0.14	0.52
43	Qatar.....	5.40	21.48	110	Rwanda.....	0.14	0.51
44	Romania.....	5.31	21.13	111	Burkina Faso.....	0.13	0.47
45	Tunisia.....	4.81	19.13	112	Malawi.....	0.13	0.47
46	Bulgaria.....	4.71	18.74	113	Lao PDR.....	0.12	0.45
47	Türkiye.....	4.07	16.19	114	Zambia.....	0.12	0.45
48	Montenegro.....	4.01	15.94	115	Tanzania, United Rep.....	0.11	0.39
49	Chile.....	3.80	15.11	116	Côte d'Ivoire.....	0.10	0.36
50	China.....	3.77	14.97	117	Bolivia, Plurinational St.....	0.09	0.32
51	United Arab Emirates.....	3.27	12.97	118	Cambodia.....	0.09	0.32
52	Saudi Arabia.....	3.23	12.84	119	Lesotho.....	0.09	0.31
53	Brazil.....	2.87	11.40	120	El Salvador.....	0.07	0.24
54	Jordan.....	2.64	10.47	121	Nicaragua.....	0.07	0.23
55	Lebanon.....	2.59	10.28	122	Guatemala.....	0.06	0.20
56	Uruguay.....	2.47	9.80	123	Madagascar.....	0.05	0.15
57	Kuwait.....	2.43	9.63	124	Mali.....	0.05	0.15
58	North Macedonia.....	2.37	9.42	125	Mozambique.....	0.05	0.15
59	Ukraine.....	2.33	9.23	126	Honduras.....	0.05	0.15
60	South Africa.....	2.25	8.93	127	Dominican Republic.....	0.05	0.15
61	Bosnia and Herzegovina.....	2.12	8.40	128	Mauritania.....	0.05	0.14
62	Bahrain.....	2.05	8.12	129	Guinea.....	0.02	0.05
63	Argentina.....	1.98	7.85	130	Burundi.....	0.02	0.04
64	Thailand.....	1.80	7.14	131	Congo, Dem. Rep.....	0.02	0.03
65	Oman.....	1.77	7.03	132	Chad.....	0.01	0.00
66	Armenia.....	1.77	7.00	133	Angola.....	0.01	0.00
67	Trinidad and Tobago.....	1.52	6.02				

SOURCE: World Bank, World Development Indicators based on National Science Foundation, Science and Engineering Indicators; population data come from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

For some countries, the latest year for which data are available may differ from the year that appears at the top of the page. The cut-off year is 2011.

Appendices

Appendix I: Technical Notes

Audit by the Joint Research Centre of the European Commission

The Joint Research Centre (JRC) of the European Commission has conducted extensive research on the development of composite indicators, most notably publishing the *Handbook on Constructing Composite Indicators: Methodology and User Guide* in collaboration with the Organisation for Economic Co-operation and Development (OECD). For the ninth consecutive edition of the Global Talent Competitiveness Index (GTCI), the GTCI development team engaged the JRC to conduct an audit.¹ This exercise has provided external validation and further improved the statistical analyses to ensure the consistency and rigour of the GTCI model.

A preliminary audit was carried out by the JRC in July 2022, following which a final audit was completed in August–September 2022. The results and report of the final audit can be found in Chapter 2.

Composite Indicators

The GTCI framework builds on six pillars: (1) Enable, (2) Attract, (3) Grow, (4) Retain, (5) Vocational and Technical Skills, and (6) Global Knowledge Skills. Each pillar consists of two to three sub-pillars. Each sub-pillar is composed of four to seven variables. Each sub-pillar score is derived from the simple arithmetic average of its individual variables. The successive arithmetic aggregation continues at the pillar level.

Overall, the GTCI includes three indices:

- The Talent Competitiveness Input sub-index is the simple average of the first four pillars.
- The Talent Competitiveness Output sub-index is the simple average of the last two pillars.
- The Global Talent Competitiveness Index is the simple average of the six pillars.

Individual Variables

The GTCI 2022 model includes 69 variables, which fall within the following categories:²

1. Hard/quantitative data (33 variables)
2. Index/composite indicator data (17 variables)
3. Survey/qualitative data (19 variables)

Hard Data

The 33 variables based on hard data were drawn from a variety of public sources, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Labour Organization (ILO), the World Bank, the OECD, and The

Conference Board. Most variables were already scaled at their source and therefore did not need to be re-scaled.

Indices

The 17 variables measured as indices come from sources such as the World Bank (the World Governance Indicators and the *Women, Business and the Law* report series) and Transparency International. They also come from other composite indicators such as the Social Progress Index, the Global Innovation Index (Cornell, INSEAD, and the World Intellectual Property Organization), and the Environmental Performance Index (Yale University and Columbia University).

There are two main concerns about using ‘indices within an index’: (1) doubts over its methodology to derive a single score, and (2) the risk of duplicating variables. Despite these concerns, the GTCI team determined that the gains outweighed the downsides, as there are certain phenomena that are best captured by a multi-dimensional index. To address these concerns, only indices that transparently indicate their methodology and are widely well received were included in the GTCI. Additionally, to avoid double-counting, only indices with a narrow focus were selected.

Survey Data

The 19 variables based on survey data were mainly extracted from the World Economic Forum’s Executive Opinion Survey. Qualitative information tends to provide the most current assessment of certain areas related to talent competitiveness for which hard data either do not exist or have low country coverage.

Country Coverage and Missing Data

The 133 countries covered in the GTCI 2022 were selected based on an aggregate data availability threshold of at least 80% (55 out of 69 variables) and a sub-pillar level data availability threshold of at least 40%. The most recent data points for each country were considered in the calculation, with 2011 as the cut-off year. Meanwhile, each variable had to pass a country-based availability threshold of 50% (67 out of 133 countries). In order to provide transparency and replicability, there was no imputation effort to fill in missing values in the data set. Missing values were noted with ‘n/a’ and were not considered in the calculation of sub-pillar scores and, by extension, the index scores.

Treatment of Series with Outliers

Inclusion of series with outliers can be problematic and potentially bias the rankings. Outliers were detected based on an absolute value of skewness greater than 2 and kurtosis greater than 3.5.³ In our data set, there were five variables with outliers.⁴ As a

general rule, for variables with one to four outliers, the Winsorisation method should be applied. The values distorting the variable distribution were assigned the next highest value until the reported skewness and/or kurtosis fell within the ranges specified above. For variables with five outliers and above, transformation by natural logarithms, with the following formula, was used:⁵

$$\ln \left[(\max \times \text{factor} - 1) \times \frac{(\text{value} - \min)}{(\max - \min)} + 1 \right]$$

In addition, the choice was made to perform log transformation on indicator 2.1.3 Migrant stock because it often includes four to five outliers, which means it might be treated differently from year to year. Consistently log transforming the variable thus ensures that it is treated similarly over time.

Normalisation

To adjust for differences in units of measurement and ranges of variation, all 69 variables were normalised into the [0, 100] range, with higher scores representing better outcomes. A min-max normalisation method was adopted, based on the minimum and maximum values of each variable respectively.

For variables where higher values indicate better outcomes, the following normalisation formula was applied:

$$100 \times \frac{(\text{value} - \min)}{(\max - \min)}$$

For variables where higher values indicate worse outcomes, the following reverse normalisation formula was applied:⁶

$$100 \times \frac{(\max - \text{value})}{(\max - \min)}$$

ENDNOTES

- 1 The JRC has audited various index projects, including the Global Innovation Index (Cornell, INSEAD, and WIPO), the Environment Performance Index (Yale and Columbia), and the Corruption Perceptions Index (Transparency international).
- 2 The GTCI 2021 had 68 variables in total, 29 of which were hard/quantitative data, 15 were index/composite indicators, and 24 were survey/qualitative data.
- 3 Adopted from Groeneveld & Meeden (1984).
- 4 The indicators are 1.3.1 Labour rights, 2.1.4 International students, 6.1.5 Senior officials and managers, 6.2.2 High-value exports, and 6.2.4 New business density.
- 5 The formula ensures that natural logarithms are positive and start at zero.
- 6 Reverse normalisation was needed for five indicators: 1.3.1 Labour rights, 2.1.1 FDI regulatory restrictiveness, 2.2.1 Tolerance of minorities, 3.3.2 Youth inclusion, and 5.2.4 Highly educated unemployment.

REFERENCES

- Groeneveld, R. A. & Meeden, G. (1984). Measuring skewness and kurtosis. *Journal of the Royal Statistical Society, Series D (The Statistician)*, 33, 391–399.
- OECD & EC JRC (2008). *Handbook on constructing composite indicators: Methodology and user guide*. Paris: OECD, available at <http://www.oecd.org/std/42495745.pdf>
- Paruolo, P., Saisana, M., & Saltelli, A. (2013). Ratings and rankings: Voodoo or science? *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 176, (3), 609–634.

Appendix II: Sources and Definitions

1 ENABLE

1.1 Regulatory Landscape

1.1.1 Government effectiveness

Government effectiveness indicator | 2020

The government effectiveness indicator captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Scores are standardised (–2.5 = low; 2.5 = high).

Source: World Bank, Worldwide Governance Indicators 2021 Update (www.govindicators.org)

1.1.2 Rule of law

Rule of law indicator | 2020

The rule of law indicator 'reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence'. Scores are standardised (–2.5 = low; 2.5 = high).

Source: World Bank, Worldwide Governance Indicators 2021 Update (www.govindicators.org)

1.1.3 Political stability

Political stability and absence of violence indicator | 2020

The political stability and absence of violence indicator measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. Scores are standardised (–2.5 = low; 2.5 = high).

Source: World Bank, Worldwide Governance Indicators 2021 Update (www.govindicators.org)

1.1.4 Regulatory quality

Regulatory quality indicator | 2020

The regulatory quality indicator captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Scores are standardised (–2.5 = low; 2.5 = high).

Source: World Bank, Worldwide Governance Indicators 2021 Update (www.govindicators.org)

1.1.5 Corruption

Corruption Perceptions Index | 2021

The Corruption Perceptions Index aggregates data from a number of different sources that provide perceptions of business people and country experts of the level of corruption in the public sector.

Source: Transparency International, *The Corruption Perceptions Index 2021* (<http://www.transparency.org/en/cpi>)

1.2 Market Landscape

1.2.1 Extent of market dominance

Average answer to the question: In your country, how do you characterise corporate activity? [1 = dominated by a few business groups; 7 = spread among many firms] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<http://reports.weforum.org/reports>)

1.2.2 Domestic credit to private sector

Domestic credit to private sector (% GDP) | 2020

This indicator refers to loans, purchases of nonequity securities, trade credits, and other financial resources that need to be repaid and that are provided to the private sector by financial corporations. Financial corporations include monetary authorities, deposit money banks, finance and leasing companies, and money lenders, among others.

Source: International Monetary Fund (IMF) International Financial Statistics and data files, and World Bank and Organisation for Economic Co-operation and Development (OECD) GDP estimates. Downloaded from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

1.2.3 Cluster development

Average answer to the question: In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialised institutions in a particular field)? [1 = nonexistent; 7 = widespread in many fields] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

1.2.4 R&D expenditure

Gross expenditure on R&D (%) | 2021

R&D expenditure refers to the total domestic intramural expenditure on research and development (R&D) during a given period as a percentage of GDP. Intramural R&D expenditure is all expenditure for R&D performed within a statistical unit or sector of the economy during a specific period, whatever the source of funds.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

1.2.5 ICT infrastructure

NRI Access sub-pillar | 2021

The Access sub-pillar is part of the Network Readiness Index (NRI) and comprises seven ICT indicators that are given equal weights: (1) mobile tariffs, (2) handset prices, (3) Internet access, (4) SMS sent by population 15–69, (5) population covered by at least a 3G mobile network, (6) international Internet bandwidth, and (7) Internet access in schools. The Access sub-pillar is one of three dimensions included in the NRI's Technology pillar.

Source: Portulans Institute, *The Network Readiness Index 2021: Shaping the Global Recovery: How digital technologies can make the post-Covid world more equal* (<https://networkreadinessindex.org/>)

1.2.6 Urbanisation

Population of urban areas (%) | 2018

Urbanisation refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by the United Nations Population Division.

Source: United Nations, Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2018 Revision* (<https://population.un.org/wup/>)

1.3 Business and Labour Landscape

Labour Market

1.3.1 Labour rights

Level of national compliance with labour rights | 2020

This indicator measures the level of national compliance with fundamental labour rights (freedom of association and collective bargaining or FACB). It has a range from 0 to 10, with 0 being the best possible score (indicating higher levels of compliance with FACB rights) and 10 the worst (indicating lower levels of compliance with FACB rights). It is based on six ILO supervisory body textual sources and on national legislation.

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>)

1.3.2 Labour-employer cooperation

Average answer to the question: In your country, how do you characterise labor-employer relations? [1 = generally confrontational; 7 = generally cooperative] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

Management Practice

1.3.3 Professional management

Average answer to the question: In your country, who holds senior management positions in companies? [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

1.3.4 Relationship of pay to productivity

Average answer to the question: In your country, to what extent is pay related to employee productivity? [1 = not at all; 7 = to a great extent] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

Technology Adoption

1.3.5 Enterprise software

Enterprise software market (weighted GDP) | 2021

The *Enterprise software market* indicator refers to the size of the market for software that is used for essential large-scale business activities in professional business-to-business (B2B) environments, including Enterprise Resource Planning, Customer Relationship Management, Business Intelligence, and Supply Chain Management. The indicator is weighted by national GDP.

Source: Statista, Technology Market Outlook: Enterprise Software (<https://www.statista.com/outlook/tmo/software/enterprise-software/worldwide?currency=usd>); GDP data from World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

1.3.6 Cloud computing

Cloud computing market (weighted by GDP) | 2021

The *Cloud computing* indicator refers to the size of the market for the three standard cloud computing service models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). The indicator is weighted by national GDP.

Source: Statista, Technology Market Outlook: Public Cloud (<https://www.statista.com/outlook/tmo/public-cloud/worldwide>); GDP data come from World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

1.3.7 Firms with website

Firms with website (% of total) | 2021

Firms with website refers to the share of businesses that have their own website, expressed as a percentage of all firms. The data are based on enterprise surveys conducted by the OECD and the World Bank. The former survey is used for OECD countries and accession countries or key partners, while the latter is used for all other countries.

Source: OECD, ICT Access and Use by Businesses, OECD Telecommunications and Internet Statistics (<https://doi.org/10.1787/9d2cb97b-en>); World Bank, Enterprise Surveys (www.enterprisesurveys.org)

2 ATTRACT

2.1 External Openness

Attract Business

2.1.1 FDI regulatory restrictiveness

FDI Regulatory Restrictiveness Index score | 2020

The Foreign Direct Investment (FDI) Regulatory Restrictiveness Index measure is a composite indicator developed by the OECD that provides a measure of the openness of FDI rules and regulations towards overseas investors. Four types of statutory restrictions are considered in the computation of the index: (1) foreign equity restrictions, (2) screening and prior approval requirements, (3) rules for key personnel, and (4) other restrictions on the operation of foreign enterprises. The index is measured on a scale of 0 (no restrictions) to 1 (completely restricted).

Source: OECD, FDI Regulatory Restrictiveness Index (FDI Index) (<https://www.oecd.org/investment/fdiindex.htm>)

2.1.2 Financial globalisation

Financial Globalisation (de facto) sub-index | 2019

The Financial Globalisation (de facto) sub-index is one of the dimensions of the KOF Globalisation Index. It provides a measure of the degree of a country's integration in global financial flows. It is made up of five variables: (1) foreign direct investment, (2) portfolio investment, (3) international debt, (4) international reserves, and (5) international income payments. The sub-index is calculated by aggregating the five (normalised) variables, where each variable has been given a specific weight based on principal components analysis (PCA).

Source: Gygli, Savina, Florian Haelg, Niklas Potrafke, & Jan-Egbert Sturm (2019). The KOF Globalisation Index – Revisited. *Review of International Organizations*, 14(3), 543–574 (<https://doi.org/10.1007/s11558-019-09344-2>)

Attract People

2.1.3 Migrant stock

Adult migrant stock (%) | 2020

Adult migrant stock refers to the number of the migrant stock population above 25 years old as a percentage of the total population of the same age group.

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex (<https://www.un.org/development/desa/pd/content/international-migrant-stock>)

2.1.4 International students

Tertiary inbound mobility ratio (%) | 2021

Tertiary inbound mobility ratio refers to the number of students from abroad studying in a given country as a percentage of the total tertiary enrolment in that country.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

2.1.5 Brain gain

Average answer to the question: To what extent does your country attract talented people from abroad? [1 = not at all; 7 = to a great extent—the country attracts the best and brightest from around the world] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

2.2 Internal Openness

Social Inclusion

2.2.1 Tolerance of minorities

Discrimination and violence against minorities | 2021

Tolerance of minorities is based on the Group Grievance indicator included in the *Fragile States Index* published by The Fund for Peace. Group Grievance 'focuses on divisions and schisms between different groups in society—particularly divisions based on social or political characteristics—and their role in access to services or resources, and inclusion in the political process'. Its dimensions include post-conflict response, equality, divisions, and communal violence. It is measured on a scale of 0 (low pressures) to 10 (very high pressures).

Source: The Fund for Peace, *Fragile States Index* 2021 (<https://fragilestatesindex.org/>)

2.2.2 Tolerance of immigrants

The percentage of respondents answering 'Good place' to the question: Is the city or area where you live a good place or not a good place to live for immigrants from other countries? | 2020

The Gallup World Poll is an annual survey carried out in more than 140 countries. One of the topics included in the poll concerns social issues, where the question related to the Tolerance of immigrants indicator is one of four questions asked.

Source: The Gallup World Poll (2006–2020). Data kindly provided by Gallup, Inc. (<https://www.gallup.com/analytics/318875/global-research.aspx>)

2.2.3 Social mobility

Average answer to the question: In your country, to what extent do individuals have the opportunity to improve their economic situation through their personal efforts regardless of the socio-economic status of their parents? [1 = not at all; 7 = to a great extent] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

Gender Equality

2.2.4 Economic empowerment of women

Women, Business and the Law index score | 2021

The Women, Business and the Law index is a composite indicator that provides a measure of the degree of gender equality with respect to legal rights in economic participation. The index is composed of eight pillars, where each pillar represents a different aspect of a woman's life: (1) mobility, (2) workplace, (3) pay, (4) marriage, (5) parenthood, (6) entrepreneurship, (7) assets, and (8) pension. The index is measured on a scale of 0 (women have no legal economic rights equal to those of men) to 100 (women and men have equal economic opportunities).

Source: World Bank (2022). *Women, Business and the Law* 2022. Washington, DC: World Bank. (<https://wbl.worldbank.org/en/wbl>)

2.2.5 Gender parity in high-skilled jobs

Adjusted gender parity in high-skilled jobs | 2020

Gender parity in high-skilled jobs refers to the ratio of managers, professionals, or technicians and associate professionals who are female to those who are male. Possible values range from 0 (total inequality) to 1 (perfect equality). The parity index is adjusted following the methodology of the United Nations Education, Scientific and Cultural Organization (UNESCO). The occupations correspond to skill levels 3 and 4 (high) in the International Standard Classification of Occupations 2008 (ISCO-08).

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>)

2.2.6 Leadership opportunities for women

Average answer to the question: In your country, to what extent do companies provide women with the same opportunities as men to rise to positions of leadership? [1 = not at all; 7 = to a great extent] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

3 Grow

3.1 Formal Education

Enrolment

3.1.1 Vocational enrolment

Vocational enrolment (%) | 2021

Vocational enrolment refers to the total number of students enrolled in vocational programmes in secondary education, expressed as a percentage of the total number of students enrolled in all programmes (vocational and general) at that level. The secondary level is based on International Standard Classification of Education 2011 (ISCED 2011) levels 2–4.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2021

Tertiary enrolment refers to the ratio of total tertiary enrolment, regardless of age, to the population of the age group that officially corresponds to the tertiary level of education. Tertiary education, whether or not it leads to an advanced research qualification, normally requires as a minimum condition of admission the successful completion of education at the secondary level. The tertiary level is based on International Standard Classification of Education 2011 (ISCED 2011) levels 5–8.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

Quality

3.1.3 Tertiary education expenditure

Initial government funding per tertiary student (constant PPP\$) | 2020

This indicator refers to the amount of resources invested by central, regional, and local governments per student enrolled at the tertiary level. The amount is divided by the constant PPP\$ conversion factor. Tertiary education is based on International Standard Classification of Education 2011 (ISCED 2011) levels 5–8.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

3.1.4 Reading, maths, and science

PISA average scores in reading, mathematics, and science | 2018

The OECD Programme for International Student Assessment (PISA) develops triennial surveys that examine 15-year-old students' performance in reading, mathematics, and science. The scores are calculated so that the mean is 500 and the standard deviation is 100. The scores for China come from Beijing-Shanghai-Jiangsu-Guangdong.

Source: OECD Programme for International Student Assessment (PISA) (www.oecd.org/pisa)

3.1.5 University ranking

QS World University Ranking | 2022

The QS World University Ranking is based on six indicators (with their weights in parentheses): (1) Academic reputation from the QS global survey (40%), (2) Employer reputation from the QS global survey (10%), (3) Citations per faculty from SciVerse Scopus database (20%), (4) Faculty-student ratio (20%), (5) Proportion of international students (5%), and (6) Proportion of international faculty (5%). The value is derived from the average score of the top three universities per country. A country without any university in the ranking is given a score of 0.

Source: QS Quacquarelli Symonds, QS World University Ranking 2023, Top Universities (<https://www.topuniversities.com/qs-world-university-rankings>)

3.2 Lifelong Learning

3.2.1 Business masters education

QS Global MBA and Business Masters Rankings scores | 2021

Business masters education is a composite indicator computed by the GTCI team based on the scores of six business masters programmes, where the Global MBA is given a weight of 50% because of its status as a business master's programme. The six pillars (weights in parentheses) refer to the following business masters: (1) Global MBA (50%); (2) Business Analytics (11.25%); (3) Finance (11.25%); (4) Management (11.25%); (5) Marketing (11.25%), and (6) Supply Chain Management (5%). The value is derived from the top university per country and per business master's programme. Countries without an institution in a business master's programme are given a value of 0 for the programme in question.

Source: Own computation based on QS Quacquarelli Symonds (2021). *QS Higher Ed Report: Global MBA and Business Masters 2022* (<https://www.topmba.com/>)

3.2.2 Prevalence of training in firms

Proportion of firms offering formal training (%) | 2021

This indicator refers to the percentage of firms that offered formal training programmes in the most recent complete fiscal year for its permanent, full-time employees. The Enterprise Survey is a firm-level survey of a representative sample of an economy's private sector. The survey covers a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. Since 2005–06, under its developed Global Methodology, the World Bank's Enterprise Analysis Unit has collected these data based on over 180,000 interviews with top managers and business owners in 154 economies.

Source: World Bank, Enterprise Surveys (www.enterprisesurveys.org)

3.2.3 Employee development

Average answer to the question: In your country, to what extent do companies invest in training and employee development? [1 = not at all; 7 = to a great extent] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement the *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

3.2.4 Formal and non-formal studies

Participation rate of youth and adults in formal or non-formal education and training in the previous 12 months (%) | 2018

This indicator refers to the share adults aged 16–65 who participated in formal or non-formal education and training in the 12 months prior to the interview. It is expressed as a percentage of the population of the same age.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

3.3 Access to Growth Opportunities

Empowerment

3.3.1 Delegation of authority

Average answer to the question: In your country, to what extent does senior management delegate authority to subordinates? [1 = not at all; 7 = to a great extent] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

3.3.2 Youth inclusion

Proportion of youth (aged 15–24 years) not in education, employment or training (%) | 2021

This indicator refers to the share of young people aged 15–24 who are not in education, employment, or training. It is known as the 'NEET rate' and is expressed as a percentage of the population of the same age.

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>)

Collaboration

3.3.3 Use of virtual social networks

Social media users (% of population) | 2022

Use of virtual social networks refers to the penetration of active social media users, expressed as a percentage of total population. The original data are sourced from Kepios and ultimately come from a variety of sources, including company earnings announcements and media statements, as well as platforms' self-service advertising tools.

Source: We Are Social and Hootsuite (2022) *Digital 2022 report series* (<https://wearesocial.com/digital-2022>)

3.3.4 Use of virtual professional networks

LinkedIn's potential advertising audience (%) | 2022

Use of virtual professional networks refers to the potential advertising audience that marketers can reach using advertisements on LinkedIn. The potential audience is expressed as a percentage of the population who are 18 years old or above. The data are based on LinkedIn's self-service advertising tools.

Source: We Are Social and Hootsuite (2022) *Digital 2022 report series* (<https://wearesocial.com/digital-2022>)

4 RETAIN

4.1 Sustainability

4.1.1 Pension coverage

Population above statutory pensionable age receiving a pension (%) | 2020

Pension coverage refers to the share of people above statutory retirement age who receive an old-age pension, expressed as a percentage of the population above statutory retirement age. Data are originally sourced from International Labour Organization (ILO) estimates, which are based on country data compiled through the ILO Social Security Inquiry (SSI).

Source: United Nations, Global SDG Indicators Database (<https://unstats.un.org/sdgs/indicators/database/>)

4.1.2 Social protection

Average answer to the question: In your country, to what extent does a formal social safety net provide protection to the general population from economic insecurity in the event of job loss or disability? [1 = not at all; 7 = provides full protection] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

4.1.3 Brain retention

Average answer to the question: To what extent does your country retain talented people? [1 = not at all—the best and brightest leave to pursue opportunities abroad; 7 = to a great extent—the best and brightest stay and pursue opportunities in the country] | 2018

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2017–2018 (<https://www.weforum.org/reports/>)

4.1.4 Environmental performance

Environmental Performance Index | 2022

The Environmental Performance Index (EPI) ranks how well countries perform in two fundamental dimensions of sustainable development: environmental health and ecosystem vitality. Within these two policy objectives, the EPI scores country performance in eleven issue areas comprising a total of 32 indicators. Indicators in the EPI measure how close countries are to meeting internationally established targets or, in the absence of agreed-upon targets, how they compare relative to the best-performing countries.

Source: Wolf, M. J., Emerson, J. W., Esty, D. C., de Sherbinin, A., Wendling, Z. A., et al. (2022). *2022 Environmental Performance Index*. New Haven, CT: Yale Center for Environmental Law & Policy. (<https://epi.yale.edu>)

4.2 Lifestyle

4.2.1 Personal rights

Personal rights indicator | 2021

Personal Rights are a component in the Opportunity dimension of the Social Progress Index. This component is based on five variables: Political rights (0 = no rights; 40 = full rights), Freedom of expression (0 = no freedom; 1 = full freedom), Freedom of religion (0 = no freedom; 4 = full freedom), Access to justice (0 = non-existent; 1 = observed), and Property rights for women (0 = no right; 5 = full rights).

Source: Social Progress Imperative, The Social Progress Index 2021 (<https://www.socialprogress.org/>)

4.2.2 Personal safety

Personal safety indicator | 2021

Personal safety is a component in the Basic Human Needs dimension of the Social Progress Index. This component is based on four variables: Deaths from interpersonal violence (deaths/100,000), Perceived criminality (1 = low; 5 = high), Political killings and torture (0 = low freedom; 1 = high freedom), and Transportation-related fatalities (deaths/100,000).

Source: Social Progress Imperative, The Social Progress Index 2021 (<https://www.socialprogress.org/>)

4.2.3 Physician density

Medical doctors (per 10,000 people) | 2020

Physician density refers to the number of medical doctors (physicians), including generalist and specialist medical practitioners, per 10,000 people.

Source: World Health Organization, Global Health Observatory (<https://www.who.int/data/gho>)

4.2.4 Sanitation

Population using at least basic sanitation services (%) | 2020

This indicator refers to the percentage of the population using at least basic sanitation services—that is, improved sanitation facilities that are not shared with other households. This indicator encompasses both people using basic sanitation services as well as those using safely managed sanitation services. Improved sanitation facilities include flush/pour-flush to piped sewer systems, septic tanks or pit latrines; pit latrines with slabs (including ventilated pit latrines), and composting toilets.

Source: World Health Organization, Global Health Observatory (<https://www.who.int/data/gho>)

5 VOCATIONAL AND TECHNICAL SKILLS

5.1 Mid-Level Skills

5.1.1 Workforce with secondary education

Labour force with secondary education (%) | 2021

Workforce with secondary education refers to the percentage of the labour force (above 15 years old) whose highest educational attainment is at the secondary level. Secondary level includes both upper secondary and post-secondary non-tertiary education based on International Standard Classification of Education 2011 (ISCED 2011) levels 3–4.

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>)

5.1.2 Population with secondary education

Population with secondary education (%) | 2021

Population with secondary education refers to the percentage of the population (above 25 years old) whose highest educational attainment is at the secondary level. This is based on International Standard Classification of Education 2011 (ISCED 2011) levels 3–4.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

5.1.3 Technicians and associate professionals

Technicians and associate professionals (%) | 2021

Technicians and associate professionals refers to the number of technicians and associate professionals as a share of the total workforce. The employment by occupation is based on the International Standard Classification of Occupation (ISCO) Revision 2008 (data based on ISCO Rev. 1988 are used for those countries where ISCO Rev. 2008 is not available). It includes physical and engineering science associate professionals, life science and health associate professionals, teaching associate professionals, and other associate professionals (finance and sales, social work, artistic, entertainment and sports, religious associate professionals, police inspectors and detectives, administrative, customs, and tax and related government associate professionals). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

5.1.4 Labour productivity per employee

Labour productivity per person employed (2021 US\$ PPP) | 2022

Labour productivity estimates are obtained by dividing the total output (GDP in 2021 US\$ PPP) by the total labour input used (labour force) to produce that output. For China and the United States, the adjusted values (which take into account drops in prices of ICT goods) have been used.

Source: The Conference Board, Total Economy Database™ (www.conference-board.org/data/economydatabase)

5.2 Employability

5.2.1 Base of finding skilled employees

Average answer to the question: In your country, to what extent can companies find people with the skills required to fill their vacancies? [1 = not at all; 7 = to a great extent] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

5.2.2 Relevance of education system to the economy

Average answer to the question: In your country, how well does the education system meet the needs of a competitive economy? [1 = not well at all; 7 = extremely well] | 2021

The World Economic Forum's Executive Opinion Survey (EOS) is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or nonexistent. It is part of the effort to supplement *The Global Competitiveness Report* in assessing issues that drive national competitiveness.

Source: World Economic Forum, Executive Opinion Survey 2020–2021 (<https://www.weforum.org/reports/>)

5.2.3 Skills matching

Workers whose education matches their occupation (%) | 2021

Skills matching refers to the percentage of the workforce whose education matches their occupation. The data relate to the so-called normative approach to measure 'educational mismatch', whereby a worker's educational match/mismatch is defined based on the correspondence of a worker's education with that person's occupation. The correspondence table used to determine the standard level of education required in each occupation has been derived from the International Standard Classification of Education 2011 (ISCED 2011) and the International Standard Classification of Occupations (ISCO). Workers who do not have the identified standard level of education are regarded as mismatched.

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>)

5.2.4 Highly educated unemployment

Workers whose education matches their occupation (%) | 2021

This indicator refers to the percentage of the labour force with high education who are unemployed. *High education* refers to intermediate and advanced education; it comprises upper secondary and post-secondary non-tertiary education, short-cycle tertiary education, a bachelor's degree or equivalent education level, a master's degree or equivalent education level, and a doctoral degree or equivalent education level according to the International Standard Classification of Education 2011 (ISCED 2011). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

6 GLOBAL KNOWLEDGE SKILLS

6.1 High-Level Skills

6.1.1 Workforce with tertiary education

Labour force with tertiary education (%) | 2021

Workforce with tertiary education refers to the percentage of the labour force (above 15 years old) whose highest educational attainment is at the tertiary level. The tertiary level is based on International Standard Classification of Education 2011 (ISCED 2011) levels 5–8.

Source: International Labour Organization (ILO), ILOSTAT (<https://ilostat.ilo.org/>)

6.1.2 Population with tertiary education

Population with tertiary education (%) | 2021

Population with tertiary education refers to the percentage of the population (above 25 years old) whose highest educational attainment is at the tertiary level. The tertiary level is based on International Standard Classification of Education 2011 (ISCED 2011) levels 5–8.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

6.1.3 Professionals

Professionals (%) | 2021

Professionals refers to the number of professionals as a share of the total workforce. The employment by occupation is based on the International Standard Classification of Occupation (ISCO) Revision 2008 (data based on ISCO Rev. 1988 are used for those countries where ISCO Rev. 2008 is not available). It includes physical, mathematical, and engineering science professionals; life science and health professionals; teaching professionals; and other professionals (business, legal, archivists, librarians, social science, religious professionals, and writers and creative or performing artists). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

6.1.4 Researchers

Full-time equivalent researchers (per million population) | 2021

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods, or systems, as well as the management of these projects. Full-time equivalent (FTE) R&D data are a measure of the actual volume of human resources devoted to R&D and are especially useful for international comparisons. 'One FTE may be thought of as one person-year. Thus, a person who normally spends 30% of time on R&D and the rest on other activities (such as teaching, university administration, and student counselling) should be considered as 0.3 FTE. Similarly, if a full-time R&D worker is employed at an R&D unit for only six months, this results in an FTE of 0.5.' The data are reported per million population.

Source: UNESCO Institute for Statistics, UIS.Stat (<http://data.uis.unesco.org/>)

6.1.5 Senior officials and managers

Legislators, senior officials, and managers (%) | 2021

This variable measures the percentage of legislators, senior officials, and managers within total employment. The employment by occupation is based on the International Standard Classification of Occupation (ISCO) Revision 2008 (data based on ISCO Rev. 1988 are used for those countries where ISCO Rev. 2008 is not available). For those countries where ILOSTAT data are unavailable, data from the JOIN database have been used instead.

Source: International Labour Organization, ILOSTAT (<https://ilostat.ilo.org/>); World Bank, Global Jobs Indicators Database (JOIN) (<https://datacatalog.worldbank.org/dataset/global-jobs-indicators-database>)

6.1.6 Digital skills

Individuals with advanced ICT skills (%) | 2020

This indicator measures the prevalence of advanced *digital skills* in the population. More specifically, it refers to the share of youth and adults who have written a computer program using a specialised programming language in the last three months, expressed as a percentage of individuals that have undertaken computer-related activities during that period.

Source: International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database, November 2021 (<https://www.itu.int/itu-d/sites/statistics/>)

6.2 Talent Impact

6.2.1 Innovation output

Innovation Output Sub-Index | 2020

The Global Innovation Index (GII), developed jointly by INSEAD and the World Intellectual Property Organization, aims to capture the richness of innovation in society. Innovation Output is one of the two sub-indices in the GI, which is derived by aggregating two output pillars: Knowledge and Technology Outputs and Creative Outputs. The first pillar covers elements of knowledge creation, impact, and diffusion, while the second pillar includes creative intangibles, creative goods and services, and online creativity.

Source: INSEAD, Cornell University, and World Intellectual Property Organization, *The Global Innovation Index 2021: Tracking Innovation through the COVID-19 Crisis* (<https://www.globalinnovationindex.org>)

6.2.2 High-value exports

High-technology exports (% of manufactured exports) | 2020

High-value exports here refers to manufactures with high R&D intensity (e.g., computers, pharmaceuticals, scientific instruments, and electrical machinery), expressed as a percentage of exports of all manufactured goods. The definition of *high-technology* is based on the importance of expenditures on research and development relative to the gross output and value added of different types of industries that produce goods for export.

Source: World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>). Sourced from United Nations, Comtrade database through the World Integrated Trade Solution (WITS) platform (<https://wits.worldbank.org/>)

6.2.3 Software development

GitHub commits (per 1,000 population) | 2018

GitHub is the world's largest host of source code, and a *commit* is the term used for a saved change on this platform. *GitHub commits* therefore refers to the number of saved changes on the GitHub website that are publicly available.

Source: Gousios, G. (2013), *The GHTorrent dataset and tool suite*. Proceedings of the 10th Working Conference on Mining Software Repositories (MSR), 233–236. (<https://dl.acm.org/doi/10.5555/2487085.2487132>). Data accessed through Google BigQuery (<https://cloud.google.com/bigquery>). Data on population are sourced from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

6.2.4 New business density

New corporate registrations (per 1,000 working-age population) | 2020

New business density is defined as the number of newly registered firms with limited liability per 1,000 working-age people (between 15 and 64 years old) per calendar year. The Entrepreneurship Database contains annual data on entrepreneurial activity in more than 170 economies over the period 2006–2020.

Source: World Bank, Entrepreneurship Database (<https://www.worldbank.org/en/programs/entrepreneurship>)

6.2.5 Scientific journal articles

Number of scientific and technical journal articles (per 10,000 inhabitants) | 2018

Scientific and technical journal articles refers to the number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences. The data are reported per 10,000 inhabitants.

Source: World Bank, World Development Indicators based on National Science Foundation, Science and Engineering Indicators; population data come from World Bank, World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>)

Appendix III: About the Contributors



Michael Bratt

Michael Bratt is Lead Researcher for Portulans Institute. Previously he was a Consultant for INSEAD, leading the analytical work of the Global Talent Competitiveness Index by being responsible for the calculation and analysis of the country and city rankings.

Prior to his current role he was Consultant and Associate Economic Affairs Officer at United Nations Conference on Trade and Development (UNCTAD), working primarily on issues of trade and development related to least-developed countries and landlocked developing countries. Other past work experience includes consulting for the World Trade Organization and working as an analyst at the Swedish National Board of Trade, CUTS International, and Mintel International. He holds a PhD in Economics from the University of Geneva and a Master of International Law and Economics from the World Trade Institute (University of Bern).



Giulio Caperna

Giulio Caperna is a Researcher and Statistician at the European Commission's Joint Research Centre in Ispra, Italy. Before joining the Competence Centre on Composite Indicators and Scoreboards (COIN), Dr Caperna worked at the University of Padua as a Post-Doc Researcher where he taught

statistics and the construction of composite indicators. Before earning his PhD in Statistical Science at the University of Padua, he worked as Data-Manager and Data-Analyst in a medical department in Rome. He studied Statistical Science and Demography at the Sapienza University of Rome. His main research interests include the methodology of composite indicators, as well as their use for the description of complex concepts such as civic participation and well-being.



Anna Henry

Anna Henry is a Senior Project Manager and independent consultant. Currently, she leads various projects on future-readiness, inclusion and prosperity, and on the Global Talent Competitiveness Index (GTCL), with responsibilities such as building the report, event management, media relations, and dissemination. Prior to this role, she was a Team Coordinator at Procter & Gamble (P&G) and a Project Coordinator at the World Economic Forum (WEF), working primarily on multilateral projects on Internet and connectivity (dealing with academia, governments, and public and private sectors as well as organising world-class conferences in Davos). She holds an MBA from the University of Geneva and co-founded in 2019 an L.L.C. called PminD, collaborating on various projects related to the digital architecture of smart cities and innovation. She has lived in nine countries and is fluent in four languages. Her volunteer experience includes

the New Zealand winter games and educational projects in Ecuador. In her free time, she reads extensively and enjoys traveling across the globe with her son and husband.



Bruno Lanvin

Bruno Lanvin is Co-Founder of Portulans Institute and INSEAD Distinguished Fellow. For 30 years, he was an economist in the United Nations and then at the World Bank, where he was inter alia Manager of the InfoDev Programme, Senior Advisor for E-strategies, Regional Coordinator (Europe and Central Asia) for ICT and e-government issues, and Chairman of the Bank's e-Thematic Group. He is also the President of IMD's Smart City Observatory.

Since 2002 he has been co-authoring the *Global Information Technology Report* (INSEAD-World Economic Forum), now the *Network Readiness Index Report* (Portulans Institute), and he is currently (and has been since 2007) the co-editor of the *Global Innovation Index Report* (WIPO-Portulans Institute). His most recent book is *The Future is Young* (2022).

Dr Lanvin holds a BA in Mathematics and Physics from the University of Valenciennes (France), an MBA from Ecole des Hautes Etudes Commerciales (HEC) in Paris, and a PhD in Economics from the University of Paris I (La Sorbonne) in France. He is also an INSEAD alumnus (IDP-C) and an MIT Media Lab alumnus (Beyond Smart Cities-C). A frequent speaker at high-level meetings, he advises a number of global companies and governments and has been a member of numerous boards, including those of IDA Infocomm (Singapore), ICANN, GovTech (Singapore), the Mohammed Bin Rashid Center for Government Innovation (United Arab Emirates), IPWatch, and the Association for Accountability and Internet Democracy (AAID).



Felipe Monteiro

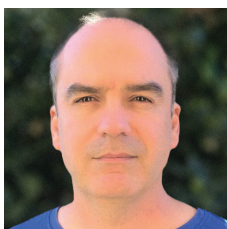
Felipe Monteiro is the Academic Director of the GTCL, Senior Affiliate Professor of Strategy at INSEAD, France, and a Senior Fellow of the Wharton School Mack Institute for Innovation Management. Before joining INSEAD, he was a standing faculty member at the Wharton School. He has also worked

as a Senior Researcher at the Harvard Business School's Latin American Research Center in Brazil and taught at the London School of Economics (LSE).

His research explaining the patterns of inter- and intra-firm knowledge-sourcing processes in multinational organisations has been published in top academic journals such as the *Strategic Management Journal*, *Organization Science*, *Research Policy*, and the *Journal of International Business Studies*, among others. His research has also received prestigious awards from the Strategic Management Society, the Academy of Management, and the Academy of International Business. He has received multiple teaching awards and published several case studies

at Harvard Business School, London Business School, and INSEAD. His new book on Global Strategic Management (<https://www.bloomsbury.com/uk/global-strategic-management-9781350932968/>) is published by Bloomsbury.

Professor Monteiro obtained his PhD in Strategic and International Management at the London Business School. He also has an LLB (JD equivalent) degree, cum laude, from the Federal University of Rio de Janeiro, an MSc in Business Administration from COPPEAD/UFRJ, Brazil, and an MRes in Business Studies from London Business School.



Carlos Moura

Carlos Moura currently works at the European Commission's Joint Research Centre – Competence Centre on Composite Indicators and Scoreboards (COIN), where he has been part of the team developing several visualisation platforms as the Cultural and Creative Cities Monitor, the Social Scoreboard, the ASEM Sustainable Connectivity Portal, and the Composite Indicators and Scoreboards Explorer. Prior to joining the European Commission, he worked in the Portuguese fisheries administration.

At the fisheries administration he was responsible for managing the Portuguese statistical system relating to fisheries. He developed several visual tools for controlling the fisheries and the Portuguese quotas and automated the data collection procedures.



Ana Rita Neves

Ana Rita Neves currently works at the European Commission's Joint Research Centre – Competence Centre on Composite Indicators and Scoreboards (COIN), where she has been part of the team developing the Asia-Europe Meeting sustainable connectivity index and the Composite Indicators and Scoreboards Explorer. Prior to joining the European Commission,

she worked for six years at Climate Alliance, an international network of cities dedicated to climate action. At Climate Alliance, she coordinated the development of the energy and climate reporting framework for over 7,000 cities engaged in the Covenant of Mayors initiative and was involved in policy and advocacy activities linked to the international climate process. She was also an external expert evaluator of Horizon 2020, the biggest European Union's research and innovation programme. She has worked in research and international organisations for over 12 years at the intersection between science and policy. She holds a PhD in Sustainable Energy Systems from the MIT-Portugal Programme, a Master's in Urban and Environmental Planning, and a degree in Environmental Engineering.



Michaela Saisana

Michaela Saisana is Head of the Monitoring, Indicators and Impact Evaluation at the European Commission's Joint Research Centre, whereby she oversees the activities of the Competence Centre on Composite Indicators and Scoreboards (COIN) and the Competence Centre on Microeconomic Evaluation (C-ME). She has been working at the JRC since 1998, where she obtained a prize as 'best young scientist of the year' in 2004 and together with her team won the 'JRC policy impact award' for the Social Scoreboard of the European Pillar of Social Rights in 2018. She collaborates, by auditing performance indices, with over 150 international organisations and world-class universities, including the United Nations, Transparency International, Oxfam, the World Economic Forum, INSEAD, the World Intellectual Property Organization, Yale University, Columbia University, and Harvard University. She is a highly cited scientist with almost 19,000 citations in Google Scholar and is a co-author of three books: 2021 *Data Science for Economics and Finance: Methodologies and Applications*, 2008 OECD/JRC *Handbook on Constructing Composite Indicators*, and 2008 *Global Sensitivity Analysis: The Primer* (Wiley).



Doris Sohmen-Pao

Doris Sohmen-Pao is Chief Executive Officer of the Human Capital Leadership Institute (HCLI). She joins HCLI from the Singapore Public Service Division where she was the Director for External Outreach, with a focus on developing relationships and synergies between the public and private sector.

Before her work with the Singapore Public Service, she was one of the founding leaders of Yale-NUS College. Her first role at the College was the EVP of administration where she set up and oversaw the admissions, finance, human resources, public affairs, and grounds and building departments. Her last posting at Yale-NUS was as the EVP for Institutional Projects—a role that covered public affairs, institutional research, alumni affairs, and external outreach.

Her experience spans industries and geographies. She was the Director of Human Capital at Bain & Company (SEA), and before that, the Director of the MBA Programme at INSEAD and then at Singapore Management University, where she created and launched the MBA Programme. She was also briefly at Ngee Ann Polytechnic as a Visiting Lecturer. Her experience extends to working in multiple media ventures, including an Internet start-up, Time Inc. International, Hearst New Media and Price Waterhouse LLP in their telecom and media division. Over the years, she has worked in Hong Kong, London, New York, France, and Singapore.

Doris Sohmen-Pao graduated with a BA in Politics and Environmental Studies from Princeton University and an MBA from Harvard University. She has experience working on several boards of educational institutions including Princeton University, United World College (SEA), and the INSEAD Advisory Committee of Southeast Asia. Currently, she serves on the Yong Siew Toh Conservatory, Singapore National Gallery, and Singapore's Institute for HR Practitioners (IHRP). She is also an EXCO member of the International Women's Forum Singapore.

Appendix III: About the Partners



About the Human Capital Leadership Institute (<https://hcli.org>)

The Human Capital Leadership Institute is a centre of excellence that facilitates the acceleration of leadership development and strategic human capital management capabilities in Asia. Through its efforts, HCLI aims to develop global leaders with a strong understanding of leading in Asia, as well as to strengthen the ability of Asian leaders to lead on the global stage. The institute achieves this by creating Asia-specific research and insights, providing industry relevant executive development programmes and fostering rich networks between thought leaders in business, government and academia.

HCLI is a subsidiary of Temasek Management Services, which is wholly owned by Temasek Holdings (Private) Limited, and is supported by the Singapore Ministry of Manpower and the Singapore Economic Development Board.

For further information, please visit www.hcli.org



About INSEAD, The Business School for the World (www.insead.edu)

As one of the world's leading and largest graduate business schools, INSEAD brings together people, cultures and ideas to develop responsible leaders who transform business and society. Our research, teaching and partnerships reflect this global perspective and cultural diversity.

With locations in [Europe](#) (France), [Asia](#) (Singapore), the [Middle East](#) (Abu Dhabi), and now [North America](#) (San Francisco), INSEAD's business education and research spans four regions. Our 166 renowned [Faculty](#) members from 41 countries inspire more than 1,500 degree participants annually in our [Master in Management](#), [MBA](#), [Global Executive MBA](#), Specialised Master's degrees ([Executive Master in Finance](#), and [Executive Master in Change](#)) and [PhD](#) programmes. In addition, more than 11,000 executives participate in INSEAD [Executive Education](#) programmes each year.

INSEAD continues to conduct cutting-edge research and innovate across all our programmes. We provide business leaders with the knowledge and awareness to operate anywhere. Our core values drive academic excellence and serve the global community as The Business School for the World. More information about INSEAD can be found at www.insead.edu.



About Portulans Institute (<https://portulansinstitute.org/>)

Founded in 2019, the Portulans Institute (PI) is an independent nonprofit, nonpartisan research and educational institute based in Washington DC. Portulans (or portolans) are ancient nautical maps, first made in the 13th century in the Mediterranean basin and later expanded to include other regions. The word portolan comes from the Italian portulano, meaning "related to ports or harbors", and which since at least the 17th century designates "a collection of sailing directions". In these maps, only a few harbors were visible, and much of the coastlines were hypothetical. This is how we see our mission: in an uncertain world, much is yet to be explored, and many opportunities have yet to be identified. Like the navigators of the 16th century, modern leaders have to make decisions on the basis of imperfect information and incomplete maps. The Portulans Institute aims at providing them with the best available data and analyses, and the directions that they need. This is why our logo combines a compass, and pi, which is not only a powerful number found in geometry, algebra, physics and arts, but also an infinite series of digits, with no pre-written rule telling us what the next one might be. More information about PI can be found at <https://portulansinstitute.org/>

