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The Global Talent Competitiveness Index 2018

Diversity for Competitiveness

Bruno Lanvin and **Paul Evans,** Editors

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Preface

With this 2018 edition, the Global Talent Competitiveness Index (GTCI) report completes its fifth year. By pioneering the concept of talent competitiveness and anchoring it to an original model and a set of authoritative measures, our expectation five years ago was that the GTCI would attract growing attention to the challenges of talent attraction, development, and retention. This has proved correct. During this last year alone, more than 1,500 press articles from around the world reported GTCI findings, often with extensive reflection on the challenges highlighted by the report. The usefulness of its robust model in providing new insights has been corroborated by reactions from government and business leaders at presentations and conferences in places as diverse as Belgium, Botswana, Denmark, Estonia, France, Jamaica, Jordan, Luxembourg, the Netherlands, Singapore, South Africa, Spain, Switzerland, and the United Arab Emirates, to name only a few. Academic scholars are paying increasing attention to the country and city challenges that the GTCI illuminates, with various forthcoming scholarly books that build on GTCI measures and insights.

Entitled 'Talent and Technology', last year's report looked at how automation would influence the future of work. So it was natural for the GTCI to focus on *Diversity for Competitiveness,* since diversity plays such a critical role in linking talent policies to innovation strategies. Views of diversity have evolved significantly during the last few decades. In the ethos of standardisation that characterised the 20th century, diversity was problematic, a feature of society largely ignored; today it is increasingly recognised as a resource for innovation and problem solving that we are beginning to tap through collaboration between people with different personalities, knowledge sets, experiences, and perspectives.

How are organisations leveraging diversity? How are they building the more inclusive norms of organisational behaviour that appear to be necessary? How are educational systems around the world developing the skills needed in collaborative problem solving? How are cities capitalising on diversity? Which nations are leading the way in channelling diversity in productive ways? These are some of the questions behind this report. There are of course many more aspects of diversity that deserve special attention. Previous editions of the GTCI—notably the GTCI's 2015–16 report on international mobility and 'brain circulation'—have focused on some aspects of diversity, such as the openness of economies to talent from abroad. The concept of diversity is also intricately linked to that of inclusion. It is hence important to consider additional facets of diversity, including in particular gender, culture, and ethnic background. How will the call for greater inclusiveness and collaboration open up opportunities for demographic groups that in the past have often been sidelined on the talent scene?

The GTCI's model went through some incremental changes this year, notably the introduction of new variables that provide indicators at the country level of collaboration across the boundaries of diversity. The broad coverage of countries was maintained, indeed increasing from 118 to 119 countries. The special section on Cities and Regions that was introduced last year has been greatly broadened to cover 90 cities across the world, in comparison with 46 last year. Here also the Global Cities Talent Competitiveness Index (GCTCI) model has been updated, making it more clearly distinct from the country-based GTCI one. Case studies have also been included in that section, describing how individual cities have chosen to deal with diversity and leverage it as a tool for competitiveness.

Collaboration between social partners in society is vital to confronting the immense challenges that we face in a world that is increasingly dependent on talent. The GTCI itself is a partnership, and we owe deep thanks to our founding partner, namely Singapore's Human Capital Leadership Institute (HCLI). Our formal collaboration has come successfully to its five-year end, although we value the informal exchanges that continue. Continuity is provided by our close partnership with the Adecco Group, and we are delighted to welcome a global high-technology organisation, Tata Communications, as our new partner. Our thanks go to the executives in these organisations, and also to all the individuals, institutions, and organisations that have contributed chapters to the present edition. 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.

As in previous years, we hope that this report makes for good reading for those interested in talent-related issues. Your feedback is always appreciated!

Bruno Lanvin
Executive Director for Global Indices, INSEAD

Paul Evans
Academic Director of the Global Talent Competitiveness Index, the Shell Chaired Professor of Human Resources and Organisational Development, Emeritus, INSEAD

The Adecco Group | Foreword

Today's world economy stands out for its complexity, uncertainty, and breathtaking pace of technological change. Disruption has become the new normal. Keeping abreast of developments requires extraordinary understanding and agility. Both can be enhanced by greater diversity and inclusion. For this reason, together with INSEAD and Tata Communications, we are pleased to share the 2018 GTCI, which focuses on 'diversity and talent competitiveness'. This is another opportunity to share learning and best practices to improve the talent strategies of our countries, cities, and companies.

Previously, diversity principally signified compliance—achieving the numbers and demonstrating good corporate citizenship. Then it began to be promoted as a tool to match the different strata of societies in which companies operated to better understand and predict stakeholders' needs. Eventually, diversity has come to be understood as an essential enhancer of corporate productivity and performance. Recruiting the best talent is essential. But the evidence shows that diversity can actually trump talent. Cognitively diverse teams regularly outperform their counterparts comprising 'only' the highly gifted by significant margins. While the former may have the edge in routine tasks and 'business-as-usual' situations, examples show diverse groups' superiority when it comes to complex problem solving and innovation in conditions of ambiguity.

While such findings are relatively uncontroversial nowadays, the 2018 GTCI results show it is difficult to find an absolute champion of diversity and inclusion. Even top-ranking GTCI countries such as Switzerland, Singapore, and the United States can boast high results in some variables related to diversity and inclusion, but never an unequivocal position. Switzerland, for example, does not score as well as the top GTCI position would imply in variables related to gender equality. The Nordics score amazingly in all variables related to internal openness and social mobility, but struggle in external openness, and hence in attracting talent.

That is because ensuring diversity is challenging. Experience from personal relationships shows humans tend to prefer bonding with people like themselves—it is simply easier and less taxing to count on common language and traits. By contrast, diversity requires more commitment, with excesses in value diversity putting social cohesion at risk. But excellence stems from embracing diversity and overcoming the challenges. Achieving the superior performance that diversity can produce requires accompanying measures: most notably, a commitment to social skills and collective intelligence. Just think of all those times a team of ill-coordinated star soccer players has been beaten by a less sparkling, but more cohesive, rival.

The 2018 GTCI shows that such hurdles can be overcome by boosting openness—by shaping multicultural societies and by encouraging individuals to gain international experience. 'Brain circulation', which occurs in the context of open environments and international exposure, boosts diverse personal experience—and therefore cognitive diversity. Learning through exposure to different cultures and being challenged by different systems stimulates deeper and more complex thinking, problem solving, flexibility, and creativity.

How should we stimulate such traits? Starting early is crucial. Nurturing a culture of diversity and inclusion begins in the family and at school. Formal education is essential to building the skills needed for a more inclusive world, including appreciating diversity and collaborative skills. We must learn better how to interact effectively with people who are different; we must burnish our intercultural knowledge, and our empathy, openness, and respect for what is different. And we must refocus education on collaborative, challenge-oriented programmes.

Diversity does not work just by ticking boxes—indeed, that can backfire. What is essential is to invest in developing a culture of inclusion. People not only need to be different, they need to be fully involved. Agile, flexible organisations that are open to fast changes tend to foster cross-fertilisation across teams and individuals. That means moving from vertical, hierarchical organisational structures to flat collaborative ones. Accelerating speed to market demands the elimination of internal silos and the creation of small interdisciplinary teams in their stead.

Achieving such aims requires action from both governments and employers. Our political leaders must focus more on innovation in education policy and on stimulating openness. That also applies to administrative structures: just take the case of Zurich. Switzerland's business and finance capital is ranked 1st in this year's cities section. Zurich scored highly for openness, business-government relations, and international relations.

Employers, for their part, must set diversity and inclusion as priorities from the top. It starts with ensuring that companies have effective mechanisms to govern, monitor, and guarantee anti-discrimination across all levels of their operations, and continues with operationalising diversity. This means fostering cultures of inclusion, through training and by creating environments in which everyone feels respected and heard, beyond any purely superficial 'identity diversity.' The journey to excellence is long and challenging, but the promise of a shared future, overcoming the fractures of our age, is worth it.

Alain Dehaze
Chief Executive Officer, The Adecco Group

Tata Communications | Foreword

On behalf of Tata Communications, I would like to extend our warmest thanks for the opportunity to join INSEAD and the Adecco Group in supporting the Global Talent Competitiveness Index (GTCI) in this, our very first year of partnership. This annual report's scope, depth, and rigour reflect a philosophy with which we can readily identify.

As a technology business connecting our clients and their customers throughout the world, we thrive on diversity in all its forms. It is the lifeblood that flows through the teamwork, fresh ideas, and operational excellence on which they—and we—depend. So the theme of this year's GTCI report, 'Diversity for Competitiveness', is a perfect fit not only for Tata Communications, but also for the countless other enterprises and organisations that take a similarly broad world view of their ambitions.

In this, the theme adds richly to the archives of the GTCI report programme to make the index an indispensable reference and tool for any management team wishing to take stock of the global talent competiveness picture and inform its future strategy. We look forward to further INSEAD/Adecco collaboration.

As individuals increasingly shape their experience of the world around their personal preferences and aspirations, it follows that this resource holds huge potential value for the world of work and business—especially when leveraged through the lens of powerful network technology and Big Data. The diversity and inclusion agenda is therefore wholly deserving of a place at the very heart of business strategy when it comes to designing organisational frameworks, developing the staff that populate them, and creating forward-facing working environments. The urgency to make this a priority is underlined at a time when the human-technology relationship is evolving exponentially—and is poised to take us into a future where speed-of-light change is the one true constant.

The idea that diversity delivers to the bottom line is one that is supported by recent research (see Chapter 3). Moving towards the goal of furthering a more diverse workplace, we have had to take a long hard look at ourselves to understand how we, as a global tech player, can tip the balance towards the kind of diversity that talented millennials not only prioritise and expect, but that also makes sound business sense.

Acknowledging that, for too long and for too many businesses, diversity has been a tough topic about which to engage the workforce, we took a top-down approach to our key gender initiative Winning Mix—starting with the entire 200-strong management team. By establishing its importance as the catalyst for our strategy, we paved the way for its dissemination among the many thousands of employees in the international teams they lead. A comprehensive programme covering all aspects of talent, recruitment, training, and retention is now embedded across the business, constantly evolving and adapting, and in its third year of delivering results.

At the same time that we are reaching out to more women, we are also taking steps to broaden our talent pool in other directions. AI-driven technology is poised to match our job descriptions to diverse profiles internally and worldwide—programmed to support our 'non-quota' recruitment process with suitably qualified shortlists that take diversity fully into account. AI also has the potential to take diversity into exciting but hitherto little explored dimensions—a thought with which we concur in light of Professor Ken Goldberg's work on 'Multiplicity' (see Chapter 3). This positions the global community at the dawn of a positive new age when diverse groups of people and machines will work together to combine machine learning with human intuition—creatively expanding our collective capability and achievement.

We look forward to sharing—and learning—even more, as diversity in all its forms consolidates its position as the key driver of the digital business age.

Vinod Kumar
Chief Executive Officer and Managing Director,
Tata Communications

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Chapters

CHAPTER 1

DIVERSITY AS A LEVER FOR TALENT COMPETITIVENESS

Bruno Lanvin, Paul Evans, and Eduardo Rodriguez-Montemayor
INSEAD

It is time for parents to teach young people early on that in diversity there is beauty and there is strength.

— Maya Angelou (American poet)

世界多样性是人类社会的基本特征，也是我们今天看到的生动活泼的世界的关键条件

Diversity in the world is a basic characteristic of human society, and also the key condition for a lively and dynamic world as we see today.

—Hu Jintao

الكثير من الزهور المختلفة تشكل باقة

A lot of different flowers make a bouquet.

— Old proverb of Muslim origin

विविधिता में एकता प्राप्त करने की हमारी क्षमता हमारी सभ्यता की सुन्दरता और परीक्षा होगी।

Our ability to reach unity in diversity will be the beauty and the test of our civilisation.

— Mahatma Gandhi

Comment voulez-vous gouverner un pays qui a deux cent quarante-six variétés de fromage?

How can you govern a country which has 246 varieties of cheese?

— Charles de Gaulle

Talent diversity has long been heralded as a key ingredient needed to build innovative teams and to equip companies and organisations with the ability to address the needs of markets and operations in multicultural environments. More recently, diversity was advocated as a way to enhance the performance and effectiveness of boards, as well as to influence national and regional strategies in a broad array of domains, from social policies to cultural branding. Today, rapid changes affecting the talent arena and world of work (explored in the GTCI's last edition on *Technology and Talent*) call for an operational and strategic definition of diversity that governments, enterprises, and individuals can translate into higher levels of competitiveness.

Malcolm Forbes once defined diversity as *'the art of thinking independently together'*. Indeed, over the last few decades, many organisations, public and private, have learned that there is a difference between singing in unison (uniformity) and singing in harmony (diversity), and that this difference can be measured in terms of efficiency, competitiveness, and innovation. Yet a number of institutional, social, and cultural obstacles remain in the way of those who aim to stimulate and manage diversity—from

the level of countries and cities down to that of small teams and individuals.

This fifth edition of the *Global Talent Competitiveness Report* (GTCI) aims to inform the current debate around diversity, providing practical tools and approaches to leverage the full potential of diversity as a pillar of innovation, sustainability, and ultimately competitiveness. The overriding question that the GTCI 2018 tries to tackle is: how can diversity be generated, enhanced, and leveraged by governments, regions, cities, corporations, teams, and individuals to design and implement the talent strategies required in the uncertain future that lies ahead of us?

The various chapters in this report provide different lenses through which we can view and understand diversity. In this opening chapter, we deal with three key issues, namely: (1) how should one define diversity? (2) how can diversity be addressed, leveraged, and managed at various levels of action and decision making? and (3), more generally, what do the current GTCI data tell us about how talent competitiveness is evolving globally?

DEFINING DIVERSITY

There is no agreed definition of *diversity.*

Whether we turn to economics, sociology, or psychology, diversity is generally described as the opposite of uniformity. It is relatively easy to agree on a mathematical definition of diversity, which offers both absolute and relative measures of what diversity means within a specific group of individuals.[1] Such definitions have been used successfully in the field of bio-diversity, for example. However, when used in the socioeconomic field, the term *diversity* is generally viewed in the operational or political context of limiting or fighting the exclusion of one or several specific groups from a particular entity, process, or structure. Its definition (implicit or explicit) is then tightly linked to the group(s) in question. This is why policies and literature have focused on specific types of diversity, including cultural or linguistic diversity, gender diversity, and age and ethnic diversity, to name only a few.

The purpose of this report is different: it is to look at diversity as a component of talent competitiveness. How does diversity help nations, cities, and organisations to be more productive and innovative, and more competitive? And how do nations, cities, organisations, and individuals need to equip themselves to live and operate in diverse environments and to maximise the benefits of diversity?

So, without disputing its value, we shall not use a mathematical (absolute) definition of diversity. Instead we shall rely on a typology, grounded in research, that should make immediate sense to those who have the responsibility to work, innovate, manage, and above all lead in modern nations, cities, and organisations.

One way to establish an operational typology of diversity is to ask ourselves what kind of diversity is relevant to problem-solving and innovative tasks. Many kinds of differences get lumped together under the rubric of diversity: race, age, gender, functional differences in expertise and experience, and differences in attitudes, beliefs, and personality. Yet it is not always easy to tell what differences 'make a difference'. Guided by the rich research in this domain that is discussed further in **Chapter 6,** [2] three types of diversity can be distinguished.

The first is *cognitive diversity*—diversity of knowledge, experience, and perspectives or ways of tackling problems. This is also called *acquired diversity* (see **Chapter 4**) because it encompasses not what you are born with but what you acquire at school and through experience. And as network theory reminds us, this should be extended to include the knowledge that people can acquire through social networking and distributed knowledge systems.

By and large, the abundant research generated by this theme over recent decades points to the same conclusion: cognitive diversity is associated with higher performance and creative innovation on problem-solving and predictive tasks.[3] To use the phrase of one leading researcher on diversity, *'diversity trumps talent'*—that is, cognitively diverse teams will outperform teams of the most talented individuals by a sizeable margin.[4] This is evident in the composition of top management teams in organisations, in integrated product development processes, in the use of multifunctional teams, and in project work.[5] Cities and nations can stimulate innovation by ensuring an appropriate degree of openness to foreign talent with relevant skills and perspectives.

The problem with cognitive diversity is that it is hard to measure—and to determine *what* knowledge and *which* perspectives will stimulate creative problem solving on a given task. **It is much easier to measure a second type of diversity, namely *identity diversity.*** This includes the visible demographic categorisations that have traditionally been used to circumscribe diversity, such as gender, ethnic background, religious belief, sexual preference, nationality, and age. Although it has been firmly established that a group of people with diverse individual expertise (cognitive diversity) would be better than a homogeneous group at solving complex problems, it is less obvious that demographic diversity should give the same results. Yet the predominantly US research shows that demographically diverse groups do indeed outperform homogeneous groups on some occasions.[6] For example, some studies have found that financial firms with more women managers perform better and are more profitable.[7] The important point to be made here is that it is not being male or female, black or white, that leads to increased performance; it is the increased cognitive diversity (and possibly the greater collaboration shown by mixed gender teams, as discussed later in the chapter).[8] There is a probability that bringing more women, for example, into senior leadership and board positions will lead to broader perspectives and more creative ways of tackling problems, as well as helping remove the unconscious biases that prevent women and other outgroups from being given challenging opportunities. A key issue associated with identity diversity is inclusion, because it is inclusion of diversity of thought and perspectives that opens doors to people who can contribute—regardless of gender, ethnic background, or culture of origin.[9]

The third type of diversity is *preference* (or *value*) *diversity.* This refers to the differences in fundamental interests and values that may exist among individuals, as well as among

organisations, cities, and nations. People with different values will have differing views of missions, goals, and the aim of a task, sometimes leading to deep conflict rather than productive discussion. Take the example of teams in biotech firms made up of scientists and executives.[10] By virtue of their training, the scientists embrace experimentation, accept failure as part of the discovery process, and value the continued pursuit of breakthroughs, regardless of time horizon or potential for commercial applications. That mindset jars their MBA-trained peers, who seek predictability in results and prefer to kill projects that fail to meet expectations. Where value diversity is strong, a great deal of time and energy may be lost on unproductive and unresolved conflict, so organisations tend to recruit, socialise, and promote people with a certain degree of 'cultural' or value fit. However, this is a fine balancing act since it can easily lead to cloning or the elimination of cognitive diversity.

From an operational point of view, it is very important to acknowledge that, although there is agreement across the research and studies that diversity, notably cognitive diversity, is a key to innovation and complex problem solving, there is also agreement that **there is a price to all three types of diversity.** It is not easy to work in a diverse team or organisation. It requires a high level of social and collaborative skills, and it means finding ways to overcome the unconscious biases that we all hold. Diversity can fuel creative problem solving but, when managed imperfectly, it can also lead teams and organisations into unproductive, frustrating, and time-consuming conflicts. The importance of *collaborative inclusion* is discussed further in **Chapter 6** of the report.

FROM INDIVIDUALS TO NATIONS: LEVERAGING DIVERSITY AT FIVE LEVELS

Diversity has practical and operational value as a tool for competitiveness if it is considered at the different levels of decision making where it can make a difference. In line with the philosophy and purpose of the GTCI, five key levels of analysis are considered here: individuals, teams, organisations, cities, and nation states.

The Benefits of Diverse Personal Experiences

While the 20th century was characterised by standardisation—of schools, products, services—today we face the reality that every one of us is unique and different. We each have different genes, personalities, and families, and our different experiences accentuate this. As **Chapter 5** by the OECD indicates, the educational reform that has been underway across the world in recent years is focused on tapping into those differences rather than suppressing or ignoring them. The competences for a global and inclusive world build on individual diversity and collaboration and must be inculcated from early stages of education. The OECD's Programme for International Student Assessment (PISA) is expanding in order to measure such global competences, in addition to the basic skills in maths, reading, and problem solving that it currently assesses. These competences give humans the edge in a future where technology is taking over work that is standardised and routine, as discussed in the GTCI 2017.

People develop through diverse and challenging personal experiences combined with integrative sense making of those experiences, and thereby they become cognitively more complex. This is illustrated by recent research on how international experience develops creativity and complex thinking.[11] Children from bicultural families display deeper information processing ability, greater perspective taking, and less inter-ethnic tension.[12] In-depth international experience, acquired through education abroad or via work assignments in other countries, not only brings cultural fluency but also nurtures the creative mindset, enhances problem-solving capabilities, and expands the networks that are needed to succeed in the global knowledge economy.[13] This is a robust finding that has been replicated in different cultures and regions.[14] By way of illustration, there are many creative individuals who did their best work while they were living abroad. Picasso, Handel, Hemingway, and Stravinsky all created their most well-regarded work while living in foreign countries. The movement of talented people between countries, known as 'brain circulation', leads to new knowledge and creative ideas—the GTCI 2015–16 provides some examples, including the leaders of creative industries such as fashion; that report also notes that a surprisingly high percentage of entrepreneurial inventors are immigrants or belong to ethnic minorities.

The Benefits of Diversity for Teams

The benefits of diversity are more visible and measurable at the level of teams than they are at the level of individuals—as are the costs. In fact, it is through teamwork that diversity of experience, expertise, and perspective pays off on complex tasks. If jobs were the focus of the 20th century, teams are what is important in the 21st century. As discussed in **Chapter 6,** diverse teams outsmart teams of more talented but similar individuals in terms of innovation and performance. The evidence is clear. But it is equally clear that diversity means conflict and communication problems: the greater the diversity, the higher the risk that this *social process loss,* as it is called, will undermine the potential of teams for performance, frequently leading the team to implode or explode. Hence the importance of collaborative and interpersonal skills, as mentioned earlier. Among the pioneering companies that are built on these insights about team diversity is Ideo, the award-winning design consultancy, complementing diversity of their project teams with perspective changing experiences outside and with process lessons to ensure innovation (at certain stages in the team process rigid norms are imposed on the teams).[15]

Cultural diversity is important for teams as well. Multicultural teams outperform culturally uniform teams on creative tasks, but only if members are able to communicate effectively and manage the team process —though women in countries like China may see gender inequality as less unfair than those in the United States.[16]

The Benefits of Diversity for Organisations

A growing number of organisations have realised that diversity is a resource that can enhance performance, rather than just

As a global leader in professional and educational services, our most valuable asset is our staff. Diversity in hiring and in promoting personnel is core to our success. We would not have grown to our present size and success in over 100 offices in all continents without insisting on hiring the most talented regardless of national origin, gender, or religion. We also have a strong legacy in the promotion and appointment of female professionals to high executive positions. We have created an environment in which all our personnel feel valued and encouraged to bring to us great ideas for improvement and growth.

— T. Abu-Ghazaleh , GTCI Advisory Board Member

being a constraint imposed by anti-discrimination legislation. A member of the GTCI Advisory Board, Talal Abu-Ghazaleh—the founder and chairman of the Jordan-based TAG-Org group of 140 companies in intellectual property, accounting, and consultancy services—views diversity as core to success in a sector that depends on talent and innovation. A truly diverse and inclusive corporate culture is rapidly becoming a competitive advantage for attracting talent and building a sustainable high-performing workplace that is flexible and innovative. The world leader in human resource (HR) solutions, the Adecco Group, is a case in point, as seen in **Chapter 2.** Guided by its philosophy of 'talent without labels', Adecco goes beyond fairness in employing underrepresented groups, embracing a holistic approach to thinking about diversity. It offers training and career development opportunities to everybody, guided by merit. As a global provider of workforce solutions, Adecco plays a critical role in building the cooperation between business, government, and civil society that is needed in the area of inclusion. In **Chapter 3,** Tata Communications offers another example of how to move diversity from box-ticking compliance to driving agility and performance capability, steered by appropriate metrics. Given its position in the fast-moving high-technology sector, Tata Communications looks at the unfolding future as it explores where the diversity agenda is heading in the age of artificial intelligence (AI).

How are organisations leveraging diversity for innovation and performance? Based on a review of the large body of research undertaken during the last 20 years and on the practice of leading corporations around the world, **Chapter 6** outlines four channels for leveraging diversity. The first is *injecting diversity* into the firm by avoiding hidden biases in recruiting and HR practice. Since the cognitive diversity that adds value is difficult to measure and evaluate, AI and data analytics hold the prospect of cutting through such biases and stereotypes, focusing on the substantive cognitive competences that characterise high performers. The second channel is *educating and developing the skills to handle diversity.* This involves training people so that they are aware of the biases that influence their judgments and decisions concerning other people. More importantly, it also involves developing the collaborative skills that are vital in diverse teams. The third channel is *building inclusive norms of behaviour* so that all people, regardless of demographic qualities, have their voices heard without being coloured by others' unconscious biases and stereotypes. Inclusion is an essential part of deep cultural change that is underway in organisations, and it is linked to a fourth channel focused on *organising work around agile project teams so as to harness that diversity.* In today's globalised and fast-changing world, organisations have to adapt and innovate quickly.

Diversity goes hand in hand with inclusion. The latter is all about behavioural change, starting above all with leadership. This is the focus of **Chapter 4** by the New York–based Center for Talent Innovation. It highlights two inter-related practices to facilitate a culture of innovation: building diversity into leadership and fostering inclusive leadership behaviours. Their research emphasises the importance of six inclusive leadership behaviours such as making sure that everyone gets heard, and making it safe to propose novel ideas. High-performing organisations build confidence so that people can express views and act.

The Benefits of Diversity for Cities

Descartes, exiled in Amsterdam in the 1630s, described the city as *'an inventory of the possible',* storing *'all the commodities and curiosities one could wish for'.* In his 2009 book *Vermeer's Hat: The Seventeenth Century and the Dawn of the Global World,*[17] Timothy Brook showed how much the prosperity of Amsterdam owed to the diversity created by exchanges with other parts of the world (China, Indonesia, and the Americas).

In today's world, many cities are vying to become such talent hubs. In this quest, they are devoting increasing efforts to foster diversity by attracting individuals (and companies) with very different backgrounds and profiles. The benefits of migrations and 'corridors of inventors' have been described and analysed in the 2015–16 edition of the present report, focusing mainly on national economies. Similar findings have emerged from economic research over the last decade. For example, Ottaviano and Peri (2006), considering evidence from a sample of 226 US cities from 1980 to 2010, showed that linguistic, racial, and composite diversity *increased* the average income of working-age population in American cities. They also showed that such positive effects are generally higher at city level than at that of the nation.

Later in this report, the **Special Section on Cities and Regions** will look into such issues in greater detail, and provide a ranking of some 90 cities in terms of talent competitiveness.

The Benefits of Diversity for Nations

Nations thrive on the diversity of talents and skills that sustain the industries and clusters characterising a modern economy. As expected from our assessment, research shows that the educational diversity of the workforce is particularly beneficial for the

As a prime business location in Europe and worldwide, the City of Zurich considers diversity clearly as a strength. Diversity is essential to prosperity for any city: diversity of cultures, experiences, socioeconomic backgrounds, age and genders. We won't get anywhere by trying to solve our challenges with polarization and populism. By devising policies to include and empower all newcomers and residents, the City of Zurich is prepared to tackle the challenges of the future. The right answer is not isolation but openness.

— Corine Mauch, Mayor of Zurich

Diversity is an important part of life in Singapore, and we believe that our unity in the face of diversity is a source of strength. Diversity can be a challenge, but in embracing it we are not only better off in social terms, but also more innovative and competitive.

— Dr Janil Puthucheary, Senior Minister of State for Communications and Information of Singapore

economy, significantly increasing the productivity of firms and enhancing entrepreneurial behaviour.[18] Furthermore, if there is a high degree of social mobility—talent that comes from different socioeconomic segments of society and from different cultural and ethnic backgrounds—then the richness of knowledge, perspectives, and networks pushes economic performance even higher via increased innovation. Diversity becomes a national resource.

Using GTCI data for the 119 countries, we ask two questions: (1) To what extent is the cognitive resource view on diversity shared across nations? (2) How widespread is the belief across nations in gender diversity and inclusion? Additionally, we comment on the external openness of the nations in the GTCI sample, discussed in the GTCI 2015–16: US data show that foreign talents are twice as likely to start a business (including tech startups) as domestic workers, and they patent at double the native rate (this is often referred to as 'ethnic patenting').[19]

It is cognitive diversity above all that adds value—and so it is useful to determine the extent to which different nations support the cognitive or resource perspective on diversity. It is difficult to assess systematically the extent to which diversity and inclusiveness constitute an important part of institutional norms across countries. Most of the studies focus on the Anglo-Saxon countries, particularly the United States, and the Nordic region,[20] and data that would allow a truly global perspective are lacking. However, as noted earlier and discussed in **Chapter 6,** exploiting diversity as a resource is mainly about collaboration between people with different knowledge and perspectives. Two indicators that are included in the GTCI 2018 provide a reasonable indication of the extent to which this resource perspective is shared within the country: (1) the degree of inter-functional collaboration in firms in the 119 countries covered in the report, and (2) the degree of collaboration between firms.[21] Firms are unlikely to invest in such collaboration between functions and between enterprises if they do not see a concommittant resource value.

Collaboration can thus be used as an indication of the normative acceptance of the resource view of diversity. Figure 1a shows countries' performance on collaboration indicators.

Turning to identity diversity, we focus on gender since half the human race is female. Research suggests that the institutional norms are important to legitimise changes that will result in greater gender diversity and inclusion—for example, the market valuation for gender diverse firms is higher in countries where there is regulatory and management support for diversity (such as the United States) than where this regulatory and management support is weak—as in Japan, South Korea, or Brazil.[22] The GTCI includes a measure of the normative acceptance of gender diversity, namely the extent to which companies provide women with the same opportunities as men to rise to positions of leadership, as perceived by a panel of locally credible executives (see Figure 1b).[23]

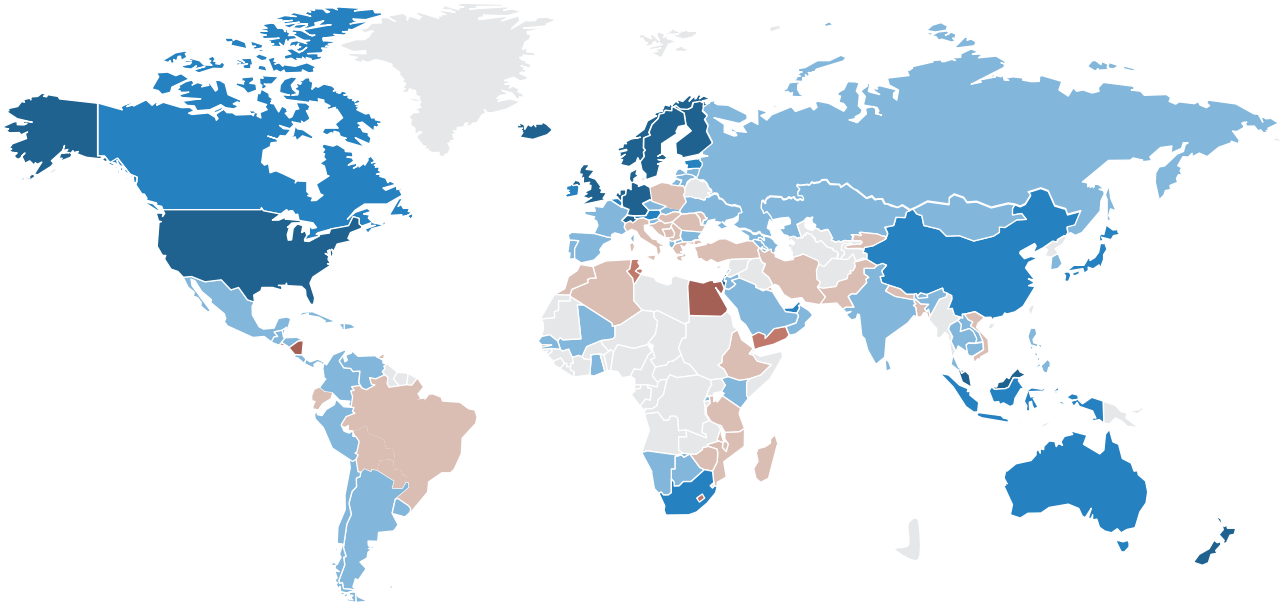
There is a strong correlation (0.67) between collaboration (acceptance of the resource view of diversity) and normative acceptance of gender diversity,[24] although a number of countries are strong on one but not the other:

- The GTCI sample has a relatively tight cluster of seven countries that are strongly committed to both gender diversity and collaboration/resource diversity. This cluster covers all the Nordic countries including Iceland, with Sweden as the country in the world that ranks highest on collaboration (one is reminded of its strongly inclusive consensus culture) and Norway, which ranks the highest on gender diversity. Singapore and the United Arab Emirates are also in this cluster.

- Not all countries with a strong collaborative culture are as committed to gender equality, however. The United States and Switzerland head this list of countries with a strong commitment to collaboration but weaker commitment to gender equality. This list also includes Malaysia, New Zealand, the United Kingdom, the three Benelux countries, Ireland, and Canada. These countries may subscribe to the view outlined in **Chapter 6** that collaboration

Figure 1a

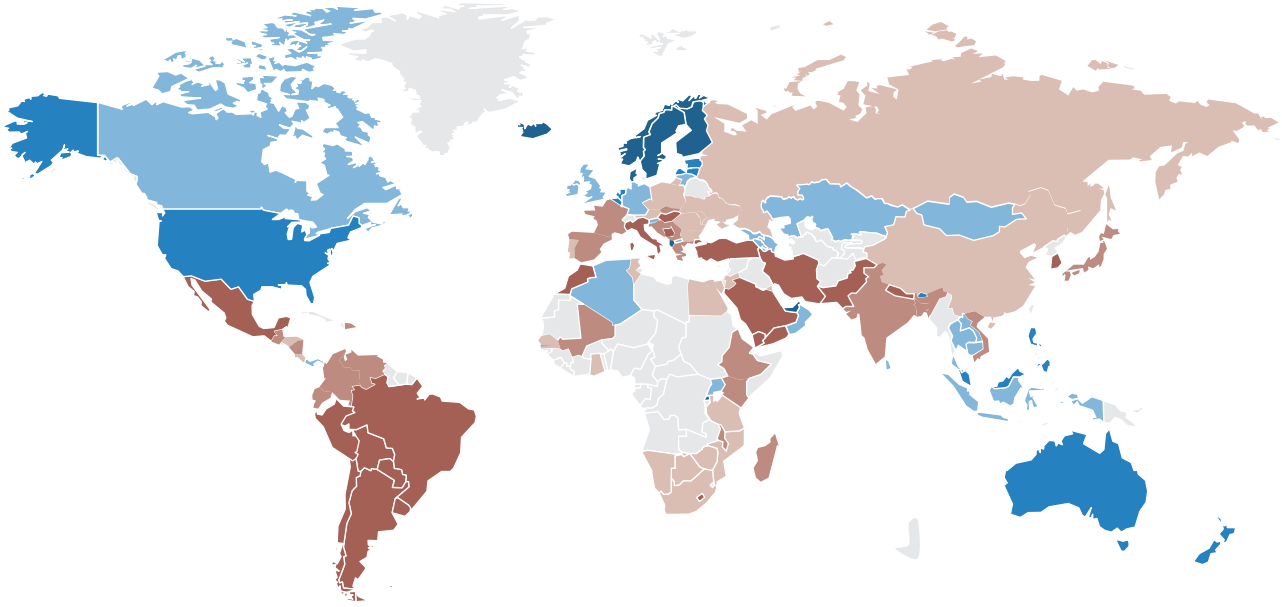
Collaboration (within and across organisations): Scores used in the GTCI



Note: Colours range from dark blue (best scores) to dark red (worst scores). Countries without data appear in grey.

Figure 1b

Leadership opportunities for women: Scores used in the GTCI



Note: Colours range from dark blue (best scores) to dark red (worst scores). Countries without data appear in grey.

HOW OTHMAN WOK LAID THE FOUNDATIONS FOR SINGAPORE'S MULTIRACIAL DIVERSITY

As Singapore's Minister for Communications and Information commented at the eulogy ceremony for Othman Wok, who died there in April 2017 at the age of 92, the ethos of multiracialism is vital today with extreme ideologies proliferating on many fronts.[1]

Othman was celebrated as one of the founding fathers of Singapore, the Minister for Social Affairs in Lee Kuan Yew's first cabinet in 1965, which laid the foundations for social cohesion in a racially diverse country where today 74% of the population is Chinese, 13% Malay, 9% Indian, and 4% is of other nationalities.

When Singapore was still part of Malaysia, one of the most contentious issues between the two was whether the federal country should be multicultural, with all races enjoying equal rights, or a system based on ethnic politics and racial dominance. Lee wanted the former, and Malaysia's dominant Malay political party UMNO wanted the latter. As one of the Malay minority in Singapore, Othman actively joined Lee Kuan Yew, suffering abuse as a 'traitor' to his ethnic group and death threats against him. When Singapore became independent in 1965, multiracial equality became one of the foundations of the new state. Specifically, the government pledged to provide equal footing and status to every constituent race in Singapore, with the aim not only of recognising the differences in the society, but also of maintaining and strengthening these cultural identities. But to provide cohesion, there should be a superordinate identity characterised as 'Singaporean'.

Political representation, schooling, and housing were the vehicles for this policy. At all instances of political governance, there should be representatives of all four ethnic constituencies. In schools, English became the lingua franca—every student then and today learns English and their assigned mother tongue; schools became a vehicle for building common social values and collaboration. And in a country where 80% of the population lives in public housing, every block, precinct, and enclave has ethnic quotas. Singapore's Deputy Prime Minister, Tharman Shanmugaratnam, believes that the natural workings of a market or society will never produce social harmony or equal opportunity. He commented: *'The most intrusive social policy in Singapore has turned out to be the most important. . . . It turns out that when you ensure every neighborhood is mixed, people do everyday things together, become comfortable with each other, and most importantly, their kids go to the same schools. When the kids grow up together, they begin to share a future together.'*[2]

Notes

1 Remembering Othman Wok: A champion of multi-culturalism. *Straits Times,* 17 April 2017.

2 Zakaria, F. (2015). What America can learn from Singapore about racial integration. *Washington Post,* 25 June, available at https://www.washingtonpost.com/opinions/from-singapore-lessons-in-harmony-and-diversity/2015/06/25/86fcbfa2-1b72-11e5-93b7-5eddc056ad8a_story.html?utm_term=.0c5a6d91dda3

is imperative for innovation and competitiveness, and that promoting female talents is important not because they are women but because it expands the pool of cognitive diversity and collaborative capabilities.

- The commitment to collaboration is equally strong in Germany, Austria, and Israel, but much weaker on gender diversity.

- Japan and South Korea show moderately strong commitment to collaboration, but they are among the weakest countries in the GTCI sample of 119 on gender diversity. This constrasts with three moderately developed nations that show remarkable commitment to gender diversity but less to collaboration—Rwanda stands out in this regard (it almost equals Norway on gender equality), as well as Albania and the Philippines.

Summarising diversity at the level of nations, this means **openness**—openness above all to the necessity for collaboration, openness to gender and other forms of identity diversity, openness to providing opportunities for people regardless of their socioeconomic background, and an appropriate degree of openness to talented immigrants. The Nordic countries, along with Singapore and indeed the United Arab Emirates (UAE) (which has rapidly moved up in the GTCI rankings), show the link between openness, talent competitiveness, and sustainable prosperity.

To capture the benefits of innovation, organisational leaders need to be committed to diversity and to build an inclusive culture. Similarly, nations need strong political will, as well as appropriate legal and regulatory instruments. Singapore has a deep political commitment to diversity (see the box on *'How Othman Wok laid the foundations for Singapore's multiracial diversity',* including a recent quote by Singapore's Deputy Prime Minister). Although there is ample evidence that diversity benefits national economies, efforts to stimulate and support diversity are best seen in societies that were multicultural (and often multiethnic) from the start, as was the case for Singapore.[25] Indeed, fundamental disagreements over diversity policy were at the core of Singapore's breakaway from Malaysia, testifying to the need for vision, determination, and dedication on the part of political leaders.[26]

KEY MESSAGES EMERGING FROM THE GTCI 2018

- **Message 1: Talent diversity still is a largely untapped resource for innovation. Organisations, cities, and nations are slowly learning how to leverage it.** Diversity was largely ignored during the industrial age of the 20th century when standardisation was a key objective in production and in education; diversity was then viewed at best as a constraint imposed by law and regulations. It should now be regarded as a core pillar of competitiveness in a rapidly growing global digital economy.[27]

- **Message 2: It is above all cognitive diversity (diversity of knowledge, experience, and perspectives) that, through teamwork and collaboration, leads to innovation and outstanding performance.** Teams of diverse people outperform teams of talented but similar people. The GTCI assesses cognitive diversity across the world indirectly through measures of collaboration within and across organisations; it also measures attention to gender diversity.[28] It points towards the relatively slow pace at which progress is made in leveraging potential benefits from such diversities. Awareness and active strategies are required.

- **Message 3: Inclusion and diversity go hand in hand when it comes to diversity strategies.** The difference between the two can be summarised as *'diversity is being invited to the party, but inclusion is being asked to dance'*. To leverage diversity, organisations have to build more inclusive norms and cultures where voices will be heard without the filter of unconscious bias. More inclusive organisations will help remove the obstacles to identity diversity (gender, ethnicity, age, etc.). Organisations are also organising work around agile project teams to harness the benefits of diversity, but the payoff in terms of innovation and performance requires more inclusive norms.

- **Message 4: Formal educational systems (from kindergarten to tertiary education) have a crucial responsibility in building the competences (knowledge + skills + attitude) that are needed for a more inclusive world.**[29] These formal educational systems should be accompanied by more systematic and pervasive diversity training in organisations (focused on developing respect for identity differences such as gender, culture and ethnicity, as well as awareness of our unconscious biases) as well as vital training in collaborative skills.

- **Message 5: The capacity to leverage diversity requires bold and visionary leadership—at the level of organisations, cities, and nations.** By themselves, the natural forces of society will not lead to diversity and inclusiveness. To the contrary: in the absence of such leadership, similar people tend to cluster together in the shape of tribes, cliques, and cohorts.

- **Message 6: Cities will continue to change the global talent scene.** Municipal leadership and local engagement will be key in their success. The energy deployed by mayors and associated teams have characterised the efforts made by some of the high performers of the Global Cities Talent Competitiveness Index (GCTCI). Such leadership has often been visible enough to entice entire communities to combine forces to project a positive and attractive image of their respective cities. This will continue to be a key ingredient for the success of cities aiming to become global talent hubs.

- **Message 7: Cities are perfect labs to promote diversity.** The experience of cities of different sizes and historical backgrounds shows how much diversity can contribute to innovation. In many cities around the world, promoting diversity has led to significant advances, especially from the point of view of inclusion: concepts such as 'inclusive prosperity' or 'smart cities' need to be revisited from that particular angle. These concepts provide ample room for concertation with local stakeholders.

THE GTCI CONCEPTUAL FRAMEWORK

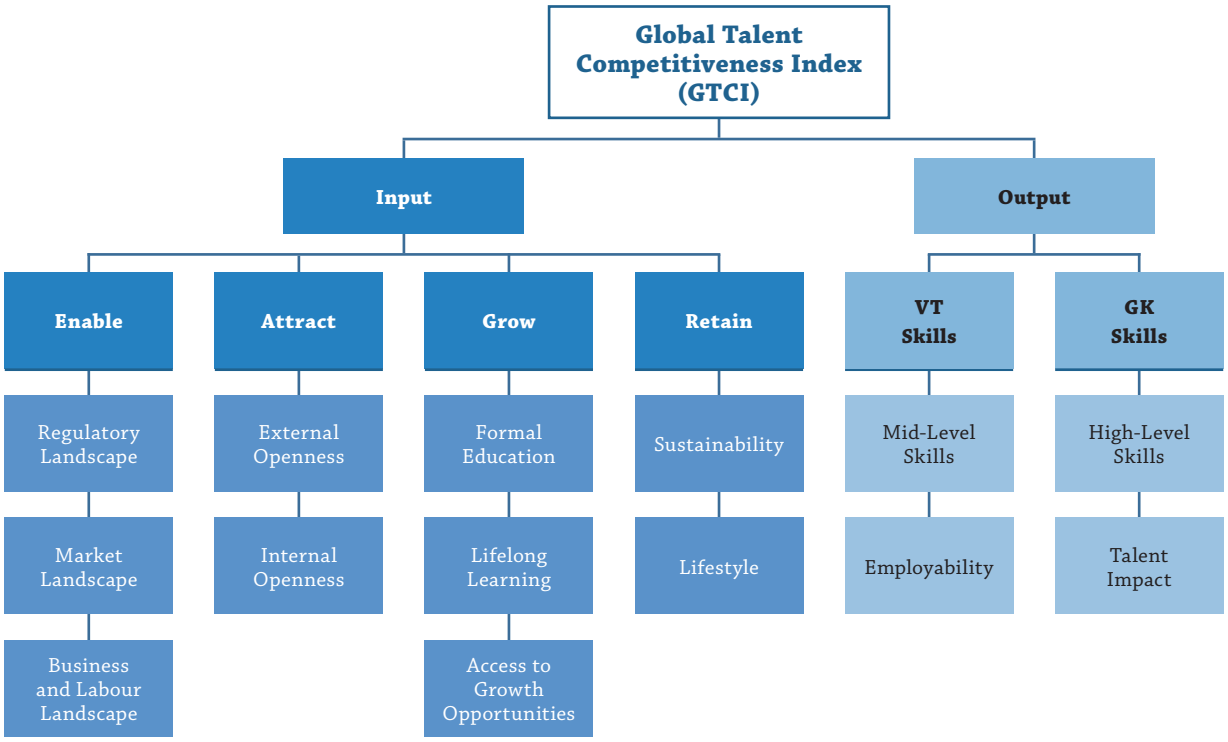
As underlined in the previous four editions of the GTCI, countries are competing globally to grow better talent; attract the talent they need; and retain those workers who contribute to competitiveness, innovation, and growth. Countries seek to put economic and social policies in place that will facilitate 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 (119 this year). Although a number of 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

Figure 2
The GTCI 2018 model



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

enable them to: (1) assess the effectiveness of talent-related policies and practices, (2) identify priorities for action in relevant areas, and (3) 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 2) 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.

Regarding Output, the GTCI differentiates between two levels of talent, which can be broadly thought of as mid-level 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 educational 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 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.[30] Since the GTCI focuses on efforts made by countries, the model is largely fed by macroeconomic and country-level variables. **Attracting** talent, in the context of national competitiveness, should be viewed in terms of luring foreign valuable resources, both productive businesses (through foreign direct investment and the like) and creative people (through high-skilled migration), while internal attraction is focused on removing barriers to entering the talent pool for groups such as those from underprivileged backgrounds, women, and older 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). The more talented the person, the wider the global opportunities he or she can find elsewhere. **Retaining** talent is thus necessary to ensure sustainability, and one of the main components of retention is 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 part of the **Enable** pillar. Together, Enable, Attract, Grow, and Retain constitute the four Input 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 2. 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 2018 edition with respect to the 2017 edition. In particular, the model now includes questions about the quality of collaboration within and across organisations in each country. Collaboration is becoming more and more important in the knowledge economy and it is the key to leveraging the diversity of skills and knowledge of the global talent pool. Moreover, the model has strengthened its components that have to do with the labour market by incorporating measurements of the quality of active labour market policies and improved measurements of 'Employability'—the extent to which the available skills match the needs of the economy.

The total number of variables in this year's model has increased from 65 to 68. Country coverage has increased from 118 to 119 countries, representing almost 98% of the world's GDP and 89% of its population. The audit carried out by the Joint Research Centre (JRC) of the European Commission (see **Chapter 7**) has confirmed that the changes introduced in the model have improved its accuracy, while maintaining its solidity and robustness.[31] Further details on the variable definitions and the method of calculation can be found in the Sources and Definitions and Technical Notes sections in the 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 2018: MAIN FINDINGS

The top GTCI scores continue to be dominated by developed, high-income countries (see Table 1) and there is a high correlation between GDP per capita and GTCI scores (see Figure 3 on pages 16–17). 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, with 16 of them in the top 25. Switzerland maintains its position at the top, followed by Singapore and the United States. If we consider the top 25, seven additional non-European countries make the grade: Australia, New Zealand, Canada, the United Arab Emirates, Japan, Qatar, and Israel.

An assessment of the top 15 countries in this ranking can be found in the Statistical Annex, along with an analysis and commentary on the 119 countries according to (1) five income groups and (2) seven regional groups.

Table 1

Global Talent Competitiveness Index 2018 rankings

COUNTRY	SCORE	OVERALL RANK	INCOME GROUP	REGIONAL GROUP	REGIONAL GROUP RANK
Switzerland	79.90	1	High income	Europe	1
Singapore	78.42	2	High income	East, Southeastern Asia and Oceania	1
United States of America	75.34	3	High income	Northern America	1
Norway	74.56	4	High income	Europe	2
Sweden	74.32	5	High income	Europe	3
Finland	73.95	6	High income	Europe	4
Denmark	73.79	7	High income	Europe	5
United Kingdom	73.11	8	High income	Europe	6
Netherlands	72.56	9	High income	Europe	7
Luxembourg	71.64	10	High income	Europe	8
Australia	71.61	11	High income	East, Southeastern Asia and Oceania	2
New Zealand	71.52	12	High income	East, Southeastern Asia and Oceania	3
Ireland	71.38	13	High income	Europe	9
Iceland	70.48	14	High income	Europe	10
Canada	69.63	15	High income	Northern America	2
Belgium	69.56	16	High income	Europe	11
United Arab Emirates	68.88	17	High income	Northern Africa and Western Asia	1
Austria	68.63	18	High income	Europe	12
Germany	67.77	19	High income	Europe	13
Japan	62.63	20	High income	East, Southeastern Asia and Oceania	4
France	62.61	21	High income	Europe	14
Estonia	61.93	22	High income	Europe	15
Qatar	61.90	23	High income	Northern Africa and Western Asia	2
Israel	61.79	24	High income	Northern Africa and Western Asia	3
Czech Republic	60.02	25	High income	Europe	16
Malta	58.77	26	High income	Europe	17
Malaysia	58.51	27	Upper-midle income	East, Southeastern Asia and Oceania	5
Slovenia	55.77	28	High income	Europe	18
Portugal	55.75	29	High income	Europe	19
Korea, Rep.	55.57	30	High income	East, Southeastern Asia and Oceania	6
Spain	54.91	31	High income	Europe	20
Lithuania	53.31	32	High income	Europe	21
Chile	52.95	33	High income	Latin, Central America and the Caribbean	1
Latvia	52.27	34	High income	Europe	22
Costa Rica	51.38	35	Upper-midle income	Latin, Central America and the Caribbean	2
Italy	50.55	36	High income	Europe	23
Cyprus	50.29	37	High income	Northern Africa and Western Asia	4
Bahrain	50.16	38	High income	Northern Africa and Western Asia	5
Poland	50.06	39	High income	Europe	24

(continued on next page)

Table 1 *(continued)*

Global Talent Competitiveness Index 2018 rankings

COUNTRY	SCORE	OVERALL RANK	INCOME GROUP	REGIONAL GROUP	REGIONAL GROUP RANK
Slovakia	50.02	40	High income	Europe	25
Saudi Arabia	49.61	41	High income	Northern Africa and Western Asia	6
Greece	48.21	42	High income	Europe	26
China	48.01	43	Upper-midle income	East, Southeastern Asia and Oceania	7
Uruguay	47.67	44	High income	Latin, Central America and the Caribbean	3
Panama	46.88	45	Upper-midle income	Latin, Central America and the Caribbean	4
Mauritius	46.79	46	Upper-midle income	Sub-Saharan Africa	1
Bulgaria	45.72	47	Upper-midle income	Europe	27
Croatia	45.42	48	High income	Europe	28
Argentina	44.92	49	Upper-midle income	Latin, Central America and the Caribbean	5
Jordan	44.70	50	Upper-midle income	Northern Africa and Western Asia	7
Kazakhstan	44.44	51	Upper-midle income	Central and Southern Asia	1
Hungary	44.25	52	High income	Europe	29
Russian Federation	44.22	53	Upper-midle income	Europe	30
Philippines	44.17	54	Lower-midle income	East, Southeastern Asia and Oceania	8
Trinidad and Tobago	44.02	55	High income	Latin, Central America and the Caribbean	6
Oman	43.93	56	High income	Northern Africa and Western Asia	8
Azerbaijan	43.63	57	Upper-midle income	Northern Africa and Western Asia	9
Montenegro	43.47	58	Upper-midle income	Europe	31
Macedonia, FYR	43.08	59	Upper-midle income	Europe	32
Lebanon	41.91	60	Upper-midle income	Northern Africa and Western Asia	10
Ukraine	41.50	61	Lower-midle income	Europe	33
Botswana	41.27	62	Upper-midle income	Sub-Saharan Africa	2
South Africa	41.22	63	Upper-midle income	Sub-Saharan Africa	3
Romania	41.13	64	Upper-midle income	Europe	34
Kuwait	40.85	65	High income	Northern Africa and Western Asia	11
Armenia	40.76	66	Lower-midle income	Northern Africa and Western Asia	12
Colombia	40.57	67	Upper-midle income	Latin, Central America and the Caribbean	7
Turkey	40.45	68	Upper-midle income	Northern Africa and Western Asia	13
Serbia	40.05	69	Upper-midle income	Europe	35
Thailand	39.96	70	Upper-midle income	East, Southeastern Asia and Oceania	9
Mexico	39.08	71	Upper-midle income	Latin, Central America and the Caribbean	8
Georgia	38.89	72	Upper-midle income	Northern Africa and Western Asia	14
Brazil	38.86	73	Upper-midle income	Latin, Central America and the Caribbean	9
Peru	38.51	74	Upper-midle income	Latin, Central America and the Caribbean	10
Mongolia	38.29	75	Lower-midle income	East, Southeastern Asia and Oceania	10
Rwanda	38.07	76	Low income	Sub-Saharan Africa	4
Indonesia	38.04	77	Lower-midle income	East, Southeastern Asia and Oceania	11
Albania	37.47	78	Upper-midle income	Europe	36
Dominican Republic	37.25	79	Upper-midle income	Latin, Central America and the Caribbean	11

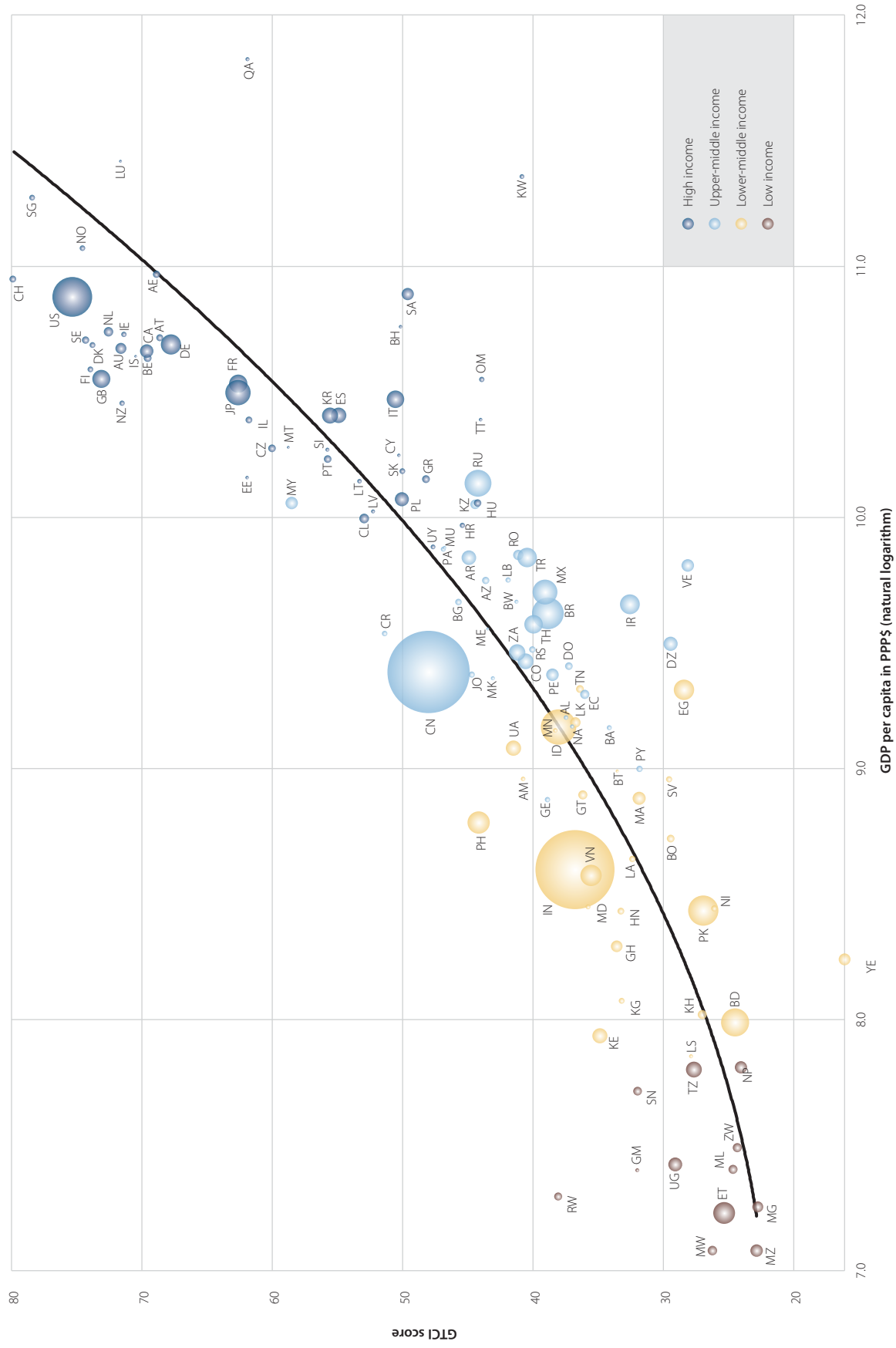
(continued on next page)

Table 1 *(continued)*

Global Talent Competitiveness Index 2018 rankings

COUNTRY	SCORE	OVERALL RANK	INCOME GROUP	REGIONAL GROUP	REGIONAL GROUP RANK
Namibia	37.00	80	Upper-midle income	Sub-Saharan Africa	5
India	36.78	81	Lower-midle income	Central and Southern Asia	2
Sri Lanka	36.75	82	Lower-midle income	Central and Southern Asia	3
Tunisia	36.40	83	Lower-midle income	Northern Africa and Western Asia	15
Guatemala	36.18	84	Lower-midle income	Latin, Central America and the Caribbean	12
Ecuador	36.03	85	Upper-midle income	Latin, Central America and the Caribbean	13
Moldova, Rep.	35.78	86	Lower-midle income	Europe	37
Viet Nam	35.55	87	Lower-midle income	East, Southeastern Asia and Oceania	12
Kenya	34.87	88	Lower-midle income	Sub-Saharan Africa	6
Bosnia and Herzegovina	34.15	89	Upper-midle income	Europe	38
Ghana	33.58	90	Lower-midle income	Sub-Saharan Africa	7
Bhutan	33.54	91	Lower-midle income	Central and Southern Asia	4
Honduras	33.26	92	Lower-midle income	Latin, Central America and the Caribbean	14
Kyrgyzstan	33.20	93	Lower-midle income	Central and Southern Asia	5
Iran, Islamic Rep.	32.57	94	Upper-midle income	Central and Southern Asia	6
Lao PDR	32.38	95	Lower-midle income	East, Southeastern Asia and Oceania	13
Gambia	32.00	96	Low income	Sub-Saharan Africa	8
Senegal	31.98	97	Low income	Sub-Saharan Africa	9
Morocco	31.86	98	Lower-midle income	Northern Africa and Western Asia	16
Paraguay	31.83	99	Upper-midle income	Latin, Central America and the Caribbean	15
El Salvador	29.56	100	Lower-midle income	Latin, Central America and the Caribbean	16
Algeria	29.45	101	Upper-midle income	Northern Africa and Western Asia	17
Bolivia, Plurinational St.	29.44	102	Lower-midle income	Latin, Central America and the Caribbean	17
Uganda	29.09	103	Low income	Sub-Saharan Africa	10
Egypt	28.42	104	Lower-midle income	Northern Africa and Western Asia	18
Venezuela, Bolivarian Rep.	28.13	105	Upper-midle income	Latin, Central America and the Caribbean	18
Lesotho	27.88	106	Lower-midle income	Sub-Saharan Africa	11
Tanzania, United Rep.	27.66	107	Low income	Sub-Saharan Africa	12
Cambodia	27.02	108	Lower-midle income	East, Southeastern Asia and Oceania	14
Pakistan	26.94	109	Lower-midle income	Central and Southern Asia	7
Malawi	26.24	110	Low income	Sub-Saharan Africa	13
Nicaragua	26.10	111	Lower-midle income	Latin, Central America and the Caribbean	19
Ethiopia	25.34	112	Low income	Sub-Saharan Africa	14
Mali	24.66	113	Low income	Sub-Saharan Africa	15
Bangladesh	24.50	114	Lower-midle income	Central and Southern Asia	8
Zimbabwe	24.33	115	Low income	Sub-Saharan Africa	16
Nepal	24.05	116	Low income	Central and Southern Asia	9
Mozambique	22.85	117	Low income	Sub-Saharan Africa	17
Madagascar	22.76	118	Low income	Sub-Saharan Africa	18
Yemen	16.10	119	Lower-midle income	Northern Africa and Western Asia	19

Figure 3
GTCI scores versus GDP per capita



Note: GDP per capita in PPP$ and population data (represented by the size of the bubbles) are drawn from the World Bank's World Development Indicators database. The trend line is a polynomial of degree two ($R^2 = 0.77$).

Figure 3 *(continued)*

GTCI scores versus GDP per capita: ISO-2 country codes

CODE	COUNTRY
AE	United Arab Emirates
AL	Albania
AM	Armenia
AR	Argentina
AT	Austria
AU	Australia
AZ	Azerbaijan
BA	Bosnia and Herzegovina
BD	Bangladesh
BE	Belgium
BG	Bulgaria
BH	Bahrain
BO	Bolivia, Plurinational St.
BR	Brazil
BT	Bhutan
BW	Botswana
CA	Canada
CH	Switzerland
CL	Chile
CN	China
CO	Colombia
CR	Costa Rica
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
DO	Dominican Republic
DZ	Algeria
EC	Ecuador
EE	Estonia

CODE	COUNTRY
EG	Egypt
ES	Spain
ET	Ethiopia
FI	Finland
FR	France
GB	United Kingdom
GE	Georgia
GH	Ghana
GM	Gambia
GR	Greece
GT	Guatemala
HN	Honduras
HR	Croatia
HU	Hungary
ID	Indonesia
IE	Ireland
IL	Israel
IN	India
IR	Iran, Islamic Rep.
IS	Iceland
IT	Italy
JO	Jordan
JP	Japan
KE	Kenya
KG	Kyrgyzstan
KH	Cambodia
KR	Korea, Rep.
KW	Kuwait
KZ	Kazakhstan
LA	Laos

CODE	COUNTRY
LB	Lebanon
LK	Sri Lanka
LS	Lesotho
LT	Lithuania
LU	Luxembourg
LV	Latvia
MA	Morocco
MD	Moldova, Rep.
ME	Montenegro
MG	Madagascar
MK	Macedonia, FYR
ML	Mali
MN	Mongolia
MT	Malta
MU	Mauritius
MW	Malawi
MX	Mexico
MY	Malaysia
MZ	Mozambique
NA	Namibia
NI	Nicaragua
NL	Netherlands
NO	Norway
NP	Nepal
NZ	New Zealand
OM	Oman
PA	Panama
PE	Peru
PH	Philippines
PK	Pakistan

CODE	COUNTRY
PL	Poland
PT	Portugal
PY	Paraguay
QA	Qatar
RO	Romania
RS	Serbia
RU	Russian Federation
RW	Rwanda
SA	Saudi Arabia
SE	Sweden
SG	Singapore
SI	Slovenia
SK	Slovakia
SN	Senegal
SV	El Salvador
TH	Thailand
TN	Tunisia
TR	Turkey
TT	Trinidad and Tobago
TZ	Tanzania, United Rep.
UA	Ukraine
UG	Uganda
US	United States of America
UY	Uruguay
VE	Venezuela, Bolivarian Rep.
VN	Viet Nam
YE	Yemen
ZA	South Africa
ZW	Zimbabwe

ENDNOTES

1 In mathematical terms, one of the most commonly used measures of diversity is the 'index of fractionalisation'. This index is simply the probability that two randomly selected individuals in a community belong to different groups. It accounts for the two main dimensions of diversity—that is, 'richness' (number of groups) and 'evenness' (balanced distribution of individuals across groups). For example, to evaluate diversity in terms of geographical origins if 'cultural diversity' happens to be what is of interest, one can use the variable *CoB* (Country of Birth of a person) to define the cultural identity of each group in a particular country, city, or organisation. The diversity index would then be defined as:

$$divct = 1 - \sum Mi = 1\ (CoBci)2t$$

where (*CoBci*) is the share of people born in country *i* among the residents of city *c* (or workers in organization *j,* etc.) in year *t*. This index is a measure of both the cultural richness of a country, city, or organisation (i.e., the number of groups) and its cultural diversity (i.e., the evenness of groups' sizes). It reaches its minimum value 0 when all individuals were born in the same country, and its maximum value 1 when no two individuals were born in the same country. Intuitively, when all individuals belong to the same group, the probability that two randomly selected individuals belong to different groups is 0, whereas it equals 1 when all individuals belong to different groups. On the other hand, for a given number of groups *M* (i.e., controlling for richness), the index reaches its maximum at $(1 - 1/M)$ when individuals are uniformly distributed across groups (making diversity closely akin to what physicists know as entropy).

2 A key reference for building a typology of diversity is Page (2007a, 2007b). Other relevant references are discussed in Chapter 6.

3 See, for instance, Wanous & Youtz (1986).

4 See Page (2007b).

5 Team research has repeatedly demonstrated the saliency of functional background diversity to map differences in expertise and experience of team members (Bunderson & Sutcliffe, 2002; Bunderson, 2003).

6 One influential study of a US national sample of for-profit businesses showed that racial and gender diversity is clearly associated with increased sales revenues, more customers, and greater relative profits (Herring, 2009).

7 See Rock & Grant (2016). See also a recent example featured in the *Financial Times:* https://www.ft.com/content/28236564-b5a1-11e7-8007-554f9eaa90ba?mhq5j=e6

8 See Page (2007b) and Pelled (1996).

9 INSEAD's Herminia Ibarra points out that gender or identity diversity can be polarising while the notion of diversity of thought and opinion is something that everybody can buy into. See Ibarra (2014).

10 See Toegel & Barsoux (2016).

11 See Leung et al. (2008); Galinsky et al. (2015).

12 See Galinsky et al. (2015), who also provide multiple references.

13 There are already measurable returns to the 'career capital' of internationally mobile professionals, particularly for certain occupations. These returns seem to always be present in the managerial and professional categories, occupations that particularly value creativity and innovation (see the evidence presented by Pozo, 2014).

14 In different experiments, some carried out by INSEAD scholars, people who have in-depth international experience are, statistically, more likely to solve certain problems than people who have never lived abroad (or even people who travel widely).

15 For the Ideo story, see Kelley (2001).

16 Stahl et al. (2010) show this in a meta-analysis of 108 studies, also emphasizing significant moderator effects. See also Tadmor et al. (2012). See Kinias & Kim (2012) for research on cultural differences about how justifiable gender inequality is.

17 Brook (2009).

18 See Marino et al. (2012, 2016); Garnero et al. (2014).

19 Hunt and Gauthier-Loiselle (2010). Note that this is entirely accounted for by foreign workers disproportionately holding degrees in science and engineering.

20 See Jonsen et al. (2011).

21 Both these collaboration variables are measured by executive perceptions, based on the World Economic Forum's Executive Opinion Survey carried out in the context of the *Global Competitiveness Report.*

22 Zhang (2017). See also Kinias & Kim (2012), who show that Chinese women in Hong Kong saw gender inequality as less unjust than European American women did.

23 This indicator is derived from the World Economic Forum's Executive Opinion Survey, conducted annually on a global basis and used by the GTCI under the pillar Attract (in the Internal Openness sub-pillar).

24 As seen in Chapter 6, inclusive norms pave the way for leveraging diversity as a resource.

25 Singapore had a multiracial and multicultural society long before its independence in 1965, with ethnic Chinese, Indians, and indigenous Malays making up the majority of the population.

26 One might argue that there may be support for the importance of inclusiveness as a concept that embraces both the resource/cognitive view on diversity and the identity view. Singapore would be a good example of a country with a strong orientation to inclusiveness since its talent policies focus on all demographic segments—from young to old; from vocationally trained to highly educated; and across gender, nationality, and race.

27 Diversity is a particularly vital resource in an age of innovation and transformation where machines are taking over routine work—see the GTCI 2017 (Lanvin & Evans, 2016).

28 The Nordic countries, along with Singapore and the UAE, show the strongest awareness of the importance of both cognitive and gender diversity. Other countries, such as the United States and Switzerland (also Malaysia, the United Kingdom, the Benelux countries, Ireland, Germany, and Israel) are sensitive to cognitive diversity but pay less attention to gender diversity. Japan and South Korea are among the countries with the least concern for gender diversity, while the Philippines, Rwanda, and Albania are the reverse (open to gender diversity but less to the values of collaboration).

29 For example, PISA today assesses students' abilities in collaborative problem solving, in addition to maths, literacy, and individual problem solving (see Schleicher, 2017).

30 See Cappelli & Keller (2014); Stahl et al. (2012).

31 The method and results of this audit are the subject of Chapter 7 in this report.

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Statistical Annex to Chapter 1

OVERVIEW

The statistics in this annex analyse country performance in the GTCI 2018 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]

Figure 1 presents the dispersion of GTCI scores by income group and region. Regarding the former, although scores are widely dispersed among high-income countries, even the group's poor performers are well above countries in the other income groups (the worst performer of the high-income group is above the median of countries in the upper-middle income group). Regarding regions, the performance of countries in East, Southeastern Asia and Oceania is very heterogeneous, as shown by the dispersion of scores between the 25th and 75th percentiles (shown by the wide bars). Europe also shows a large heterogeneity, including large performance differences between the top (Switzerland) and the bottom (Albania).

European countries continue to lead the GTCI rankings: 16 of them are in the top 25, as last year. Switzerland maintains its position at the top, and this year the index sees two non-European countries make up the top 10—Singapore (2nd) and the United States of America (3rd). If we consider the top 25, seven additional non-European countries make the grade: Australia (11th), New Zealand (12th), Canada (15th), the United Arab Emirates (17th), Japan (20th), Qatar (23rd), and Israel (24th).

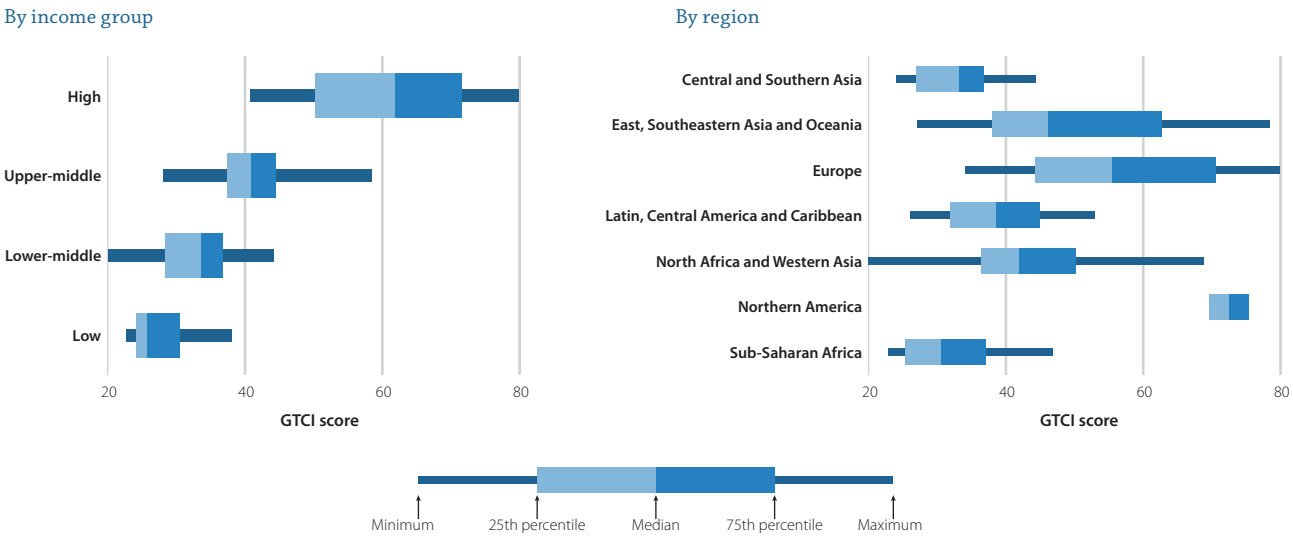
The non-European leaders of the GTCI rankings can be broadly classified into two groups: economies that have long benefitted from global talent (the United States, Canada, Australia), and economies that have a clear focus on becoming 'talent hubs' (Singapore, the United Arab Emirates, and Qatar).

The large differences in GTCI scores across countries are driven by differences in performance in particular pillars. Countries differ substantially in the Retain pillar whereas they are more similar in the Grow pillar (see Figure 2). In other words, the performance of countries in retaining talent differs much more than their capacity in growing them.

The heatmap of Figure 3 on page 24 presents the overall rankings in the GTCI and those in each pillar, coloured by the quartile to which the rankings of each of the 119 countries belong. The 30 countries that make up the top 25% of the overall

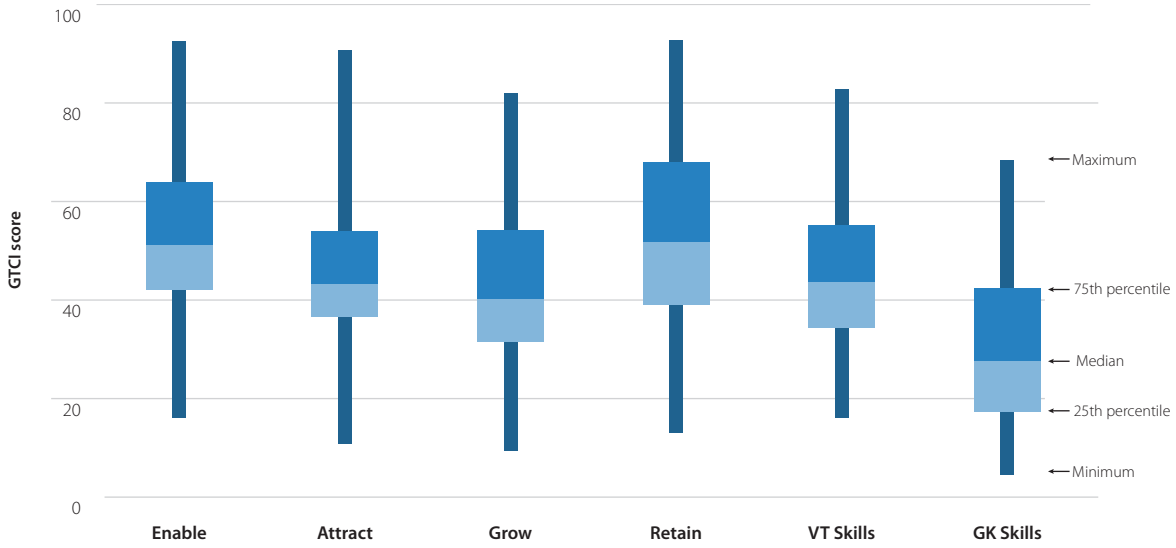
Figure 1

Country dispersion of GTCI scores



Note: The five vertical lines for each sub-group represent, from left to right, the minimum, the 25th percentile, the median, the 75th percentile, and the maximum scores (the figure for Northern America has only two lines because it only contains two countries: Canada and the United States).

Figure 2
Dispersion of country scores for each pillar



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

GTCI scores (the fourth quartile) are shown in the darkest shade and clearly dominate many of the pillars, particularly Enable (with the exception of Slovenia, which ranks 41st in this pillar, and Portugal, at 31st).

TOP 15 COUNTRIES IN THE GTCI 2018

In general, countries within the top 15 overall GTCI scores show a strong performance in each of the six pillars of the GTCI model. Some high-performing countries just outside the top 15 lead in some pillars. Germany (19th overall) is one of the leaders in Vocational and Technical Skills, and Austria (18th) also consistently ranks highly in this domain. The United Arab Emirates (19th) and Qatar (21st) are strong magnets of talent, as shown by their high rankings in the Attract pillar. Estonia (22nd) is a top performer in Global Knowledge Skills, as is Israel (24th).

Switzerland and Singapore continue to occupy the first two positions in the overall GTCI, as in previous editions. Switzerland excels at retaining domestically developed talent, particularly by offering an ideal economic environment in terms of its Regulatory, Market, and Business and Labour Landscapes. Singapore is the leader in the Enable pillar, which facilitates the city-state in becoming the best performer in attracting talent from abroad.

Although sometimes switching positions, the group of countries that make up the top 15 is quite stable. Germany has slipped a few positions outside this group, while Iceland makes it into the top 15 this year. The group of countries that form the top 25 is virtually unchanged. Since few methodological changes were made to the GTCI model with respect to the 2017 edition, the changes in ranking from last year to this can be considered reliable, particularly in the first quartile of countries—for lower positions in the GTCI ranking, one should take into account the countries that were dropped this year as a result of lack of available data as well as those countries that were newly included.

Switzerland (1st) is at the top overall by virtue of its strong performance across all six pillars of the GTCI model. Switzerland performs consistently well across the Enable (2nd), Retain (1st), and Vocational and Technical Skills (3rd) pillars and their constituent sub-pillars. Performance in the Attract pillar (5th) is strong in terms of the External Openness sub-pillar (5th), with the country showing an excellent capacity to attract and retain global talent. The Internal Openness sub-pillar (13th) shows a relatively poorer performance, however—there is good social mobility (2nd), but gender equality variables such as Female graduates (86th) and Leadership opportunities for women (21st) lag behind.

Singapore (2nd) is the top performer across the Enable and Attract pillars, with uniformly high scores across their underlying sub-pillars—only the variable Tolerance of immigrants shows a relatively poorer performance. Dimensions for which Singapore has room for improvement include Access to Growth Opportunities (16th), Innovation output (it is 17th in the main innovation indicator), and more Social protection for labour (it is currently 36th in this domain).

The United States (3rd) continues to stand out as a top performer in the Grow pillar (2nd) as a consequence of its high ranking in Formal Education (2nd), its leading network of universities, and also its unrivalled Access to Growth Opportunities (1st). This allows it to have an outstanding pool of Global Knowledge Skills (2nd). Although the United States is not among the countries with a large stock of migrants, at least as a percentage of the total population, it remains a highly attractive country to immigrants, as noted in the GTCI 2015–16, since it is one of the best performers in terms of Brain gain (5th). Yet the Attract pillar is not among the best (currently 18th), showing room for improvement in the variables related to social inclusion—including tolerance of minorities and immigrants and also the degree of social mobility for talent coming from diverse segments of society. The performance in the VT Skills pillar must be interpreted

with caution.[2] The United States shows a good performance in terms of Employability (13th) but more reliable data are needed regarding the availability of vocational skills and technicians that the economy needs.

Norway (4th) is one of the top countries in retaining its talent (2nd in Retain), which is driven by wide access to social protection and benefits (it is 2nd in Sustainability) and also by a high-quality Lifestyle (4th). Domestic talent is already strong as a consequence of a strong Grow pillar (5th), which in turn is the result of good performance in all its constituent sub-pillars: 12th in Formal Education, 6th in Lifelong Learning, and 4th in Access to Growth Opportunities. One area that has room for improvement is attracting foreign talent (12th in Attract), which is not on par with leading developed countries despite good Internal Openness (4th)—which posts a strong performance in variables related to Social Inclusion. Greater access to foreign talent could also boost Norway's performance in Global Knowledge Skills (17th).

Sweden (5th) performs consistently well across all six pillars, belonging to the top 15 of each of them. In particular, Sweden excels at retaining talent (4th in the Retain pillar). With strong Formal Education and, above all, excellent access to Lifelong Learning (7th), the country can count on a well-balanced pool of both Vocational and Technical Skills (11th) and Global Knowledge Skills (8th). Even though Sweden is not one of the top attractors of talent in terms of External Openness (22nd) despite its Lifestyle advantages (3rd), it is a top country in terms of Internal Openness (2nd) with an exemplary Tolerance of minorities. One of the dimensions that shows room for improvement is the Business and Labour Landscape sub-pillar (19th)—particularly in its Labour Market component.

Finland (6th) is the best in the world in Formal Education (1st). The country ranks highly in the Grow pillar (4th) as a consequence—and because the sub-pillars of Lifelong Learning and Access to Growth Opportunities are also in the top 15. Although the pool of Global Knowledge Skills (14th) can still be improved, the educational system is one of the world's best at matching the skills of people with the needs of the economy (it is ranked 2nd in the Employability sub-pillar). The Enable pillar (9th) is also solid, led by a very strong Regulatory Landscape (4th). Although Finland exhibits robust Internal Openness (3rd), with high Tolerance of minorities and strong Social mobility, External Openness (35th) is not among the best and the country can still do much more to attract global talent.

Denmark (7th) is a top performer in the Enable pillar (3rd) and is also within the top 10 in Grow (8th), Retain (6th), and Vocational and Technical Skills (10th). The enabling environment is supported by Ease of doing business (3rd) and low Corruption (1st). The strong Regulatory and Market Landscapes (9th and 8th, respectively) are complemented by an exemplary Labour and Business Landscape (3rd) that has flexible labour markets but without neglecting social protection. Attract belongs to the top 15 but there is still room to lure foreign talent, given the excellent economic environment of the country. Formal Education (5th) is among the best in the world, as is Access to Growth Opportunities (6th). Danish people can count on excellent Personal rights and empowerment in the workplace.

The United Kingdom (8th) ranks consistently around the top 10 in all pillars except Vocational and Technical Skills (25th), which contrasts markedly with the pool of Global Knowledge Skills (3rd). The United Kingdom has been an attractor of talent with its good External Openness (6th), and it uses these skills to achieve top marks in Talent Impact (3rd)—in terms of entrepreneurship and innovation outcomes in a business-friendly Market Landscape (7th). It remains to be determined whether Brexit alters this good performance. This performance is complemented by flexible labour markets and strong sustainability in retaining talent. Internal Openness (18th), by contrast, has room for improvement—particularly in the indicators related to gender equality, which is still lagging behind.

The Netherlands (9th) is the world's top country in the Grow pillar (1st). This is the result of a strong combination of Formal Education (3rd), Lifelong Learning (4th), and Access to Growth Opportunities (3rd). Despite this top performance in developing domestic talent that matches very well the needs of the economy (it ranks 6th in Employability), the Netherlands does not rank higher because it is lagging slightly behind in attracting foreign talent (17th in Attract) and in its pool of Global Knowledge Skills (16th). In any case, Talent Impact is high (14th), driven by a top Innovation output (2nd) taking place in a strong Market Landscape (9th). Another dimension in which the Netherlands can still improve is the Business and Labour Landscape (23rd)—particularly in terms of the Labour Market (where, as mentioned above, Denmark is a European model).

Luxembourg (10th) owes a great part of its position within the top 10 of the GTCI to its excellent performance in Attract (2nd), the result of combining strong External Openness (3rd) with good Internal Openness (6th). The country attracts foreign businesses and also talent—it is 8th in Brain gain and also has a large stock of International students. Foreign talent is received in an environment of strong Social Inclusion (it is 2nd in Tolerance of immigrants and 1st in closing the Gender earnings gap). As a small country that has built an international reputation as a centre of finance and industry, Luxembourg also excels at retaining its domestic talent (8th in this pillar). There are many areas that need improvement, however. Formal Education (51st) does not figure at the top, particularly in terms of universities (as a small country, its universities do not appear in the global ranking of the best). The country has good Social protection (3rd) and Active labour market policies (3rd) but can still improve in ensuring the Employability (32nd) of domestic talent in the private sector.

Australia (11th) is one of the top countries in the Attract pillar (7th), the result of combining good External Openness (8th) with good Internal Openness (10th)—the country shows a high Tolerance of immigrants (5th) and a large degree of Social mobility (6th) for talent coming from different segments of society (including migrants). Australia also has one of the best pools of Global Knowledge Skills (6th), which translates into effective Talent Impact (7th). Formal Education (4th) is among the best in the world, although Lifelong Learning (16th) has room for improvement; Vocational and Technical Skills (24th) could also improve.

New Zealand (12th) ranks among the top 10 in the Enable (4th), Attract (6th), and Global Knowledge Skills (7th) pillars. The

Figure 3

Heatmap: Rankings on GTCI overall and by pillar

COUNTRY	GTCI RANKING	ENABLE	ATTRACT	GROW	RETAIN	VT SKILLS[3]	GK SKILLS
Countries ABOVE the median in the overall GTCI score							
Switzerland	1	2	5	3	1	3	9
Singapore	2	1	1	10	25	8	1
United States of America	3	8	18	2	14	2	2
Norway	4	10	12	5	2	6	17
Sweden	5	5	11	6	4	11	8
Finland	6	9	16	4	5	5	14
Denmark	7	3	13	8	6	10	13
United Kingdom	8	6	8	7	11	25	3
Netherlands	9	12	17	1	9	9	16
Luxembourg	10	18	2	19	8	17	18
Australia	11	17	7	11	12	24	6
New Zealand	12	4	6	13	21	20	7
Ireland	13	13	9	12	15	14	12
Iceland	14	19	19	15	7	13	5
Canada	15	14	10	14	18	22	11
Belgium	16	21	15	9	13	12	20
United Arab Emirates	17	11	3	21	28	1	43
Austria	18	16	21	16	3	7	27
Germany	19	15	22	18	10	4	30
Japan	20	7	54	20	20	18	23
France	21	29	25	17	16	15	21
Estonia	22	23	27	22	27	27	10
Qatar	23	20	4	23	38	16	62
Israel	24	24	50	26	24	23	4
Czech Republic	25	26	29	27	17	19	33
Malta	26	27	26	33	22	33	19
Malaysia	27	22	23	32	34	21	39
Slovenia	28	41	47	30	26	26	25
Portugal	29	31	30	35	19	40	35
Korea, Rep.	30	25	81	25	40	35	15
Spain	31	38	34	28	23	45	32
Lithuania	32	28	45	36	30	52	28
Chile	33	32	42	24	39	38	45
Latvia	34	34	46	42	36	36	28
Costa Rica	35	39	24	31	42	39	64
Italy	36	52	83	36	32	28	37
Cyprus	37	47	38	67	47	32	24
Bahrain	38	30	14	40	54	47	79
Poland	39	36	61	43	43	29	44
Slovakia	40	40	51	44	35	31	51
Saudi Arabia	41	35	44	53	33	37	60
Greece	42	75	74	47	29	49	31
China	43	43	76	29	64	66	22
Uruguay	44	49	28	39	31	75	70
Panama	45	60	20	73	50	65	53
Mauritius	46	33	33	64	37	46	91
Bulgaria	47	53	71	57	46	57	38
Croatia	48	71	92	46	45	42	46
Argentina	49	92	68	34	51	48	56
Jordan	50	51	39	82	53	54	57
Kazakhstan	51	58	58	79	48	53	52
Hungary	52	56	77	80	41	50	49
Russia	53	83	106	50	55	51	26
Philippines	54	59	56	41	68	74	36
Trinidad and Tobago	55	64	43	60	60	43	69
Oman	56	42	32	84	49	55	93
Azerbaijan	57	54	53	92	44	34	75
Montenegro	58	74	70	72	63	30	48
Macedonia, FYR	59	45	80	58	56	60	67
Lebanon	60	87	79	62	91	41	34

(continued on next page)

Figure 3 *(continued)*

Heatmap: Rankings on GTCI overall and by pillar

COUNTRY	GTCI RANKING	ENABLE	ATTRACT	GROW	RETAIN	VT SKILLS[3]	GK SKILLS
Countries BELOW the median in the overall GTCI score							
Ukraine	61	99	98	66	58	44	42
Botswana	62	46	36	48	90	82	77
South Africa	63	62	40	38	97	67	76
Romania	64	67	75	77	57	76	58
Kuwait	65	65	41	90	52	68	87
Armenia	66	72	63	106	65	56	41
Colombia	67	57	72	45	82	64	71
Turkey	68	61	108	63	59	85	47
Serbia	69	89	102	70	67	58	40
Thailand	70	48	55	69	71	89	68
Mexico	71	69	82	49	77	81	72
Georgia	72	50	85	97	62	72	65
Brazil	73	79	86	56	61	88	74
Peru	74	82	63	68	81	62	78
Mongolia	75	84	65	81	84	91	50
Rwanda	76	37	37	75	92	96	102
Indonesia	77	70	84	61	88	58	89
Albania	78	68	59	71	74	70	100
Dominican Republic	79	66	52	85	87	84	83
Namibia	80	55	31	78	95	109	86
India	81	78	98	54	99	71	63
Sri Lanka	82	63	88	87	78	69	90
Tunisia	83	103	96	94	66	80	54
Guatemala	84	73	67	55	94	94	85
Ecuador	85	95	93	51	76	77	94
Moldova	86	96	95	89	69	79	66
Viet Nam	87	77	87	91	86	100	61
Kenya	88	81	57	76	109	73	92
Bosnia and Herzegovina	89	97	111	83	70	61	95
Ghana	90	76	48	74	108	95	99
Bhutan	91	44	90	99	85	97	114
Honduras	92	100	78	64	93	86	101
Kyrgyzstan	93	104	102	98	73	63	96
Iran	94	107	118	95	79	78	55
Lao PDR	95	80	62	107	75	99	116
Gambia	96	85	35	102	104	90	118
Senegal	97	91	49	88	102	98	106
Morocco	98	93	100	103	83	106	81
Paraguay	99	102	69	93	89	105	97
El Salvador	100	90	107	86	100	104	110
Algeria	101	112	113	116	72	83	88
Bolivia	102	117	110	59	105	93	84
Uganda	103	86	66	104	110	111	108
Egypt	104	108	115	118	80	116	59
Venezuela	105	119	117	52	96	86	80
Lesotho	106	94	91	96	112	101	119
Tanzania	107	105	60	100	113	112	111
Cambodia	108	88	97	111	103	113	113
Pakistan	109	114	116	108	107	92	73
Malawi	110	106	104	101	111	115	98
Nicaragua	111	97	94	110	98	117	115
Ethiopia	112	110	105	112	100	114	103
Mali	113	109	101	109	114	108	117
Bangladesh	114	101	112	114	115	110	104
Zimbabwe	115	113	109	105	116	102	105
Nepal	116	115	114	115	106	103	109
Mozambique	117	111	73	117	118	118	107
Madagascar	118	116	89	113	119	107	112
Yemen	119	118	119	119	117	119	82

Note: The darkest blue means the country belongs to the 4th quartile (i.e., to the top 25% of best performers in the given pillar); the other three shades of blue represent (from darker to lighter) countries in the 3rd, 2nd, and 1st quartile. The data coloured tan must be interpreted with caution. We have reason to doubt the reliability of one of the indicators used for computation. GK Skills = Global Knowledge Skills; VT Skills = Vocational and Technical Skills..

Table 1

Countries with highest GTCI scores by income and regional groups

COMPARISON GROUP	TOP 3 OF THE GROUP
By region	
Central and Southern Asia	Kazakhstan, India, Sri Lanka
East, Southeastern Asia and Oceania	Singapore, Australia, New Zealand
Europe	Switzerland, Norway, Sweden
Latin, Central America and Caribbean	Chile, Costa Rica, Uruguay
Northern America	United States, Canada
North Africa and Western Asia	United Arab Emirates, Qatar, Israel
Sub-Saharan Africa	Mauritius, Botswana, South Africa
By income group	
High-income countries	Switzerland, Singapore, United States
Upper-middle-income countries	Malaysia, Costa Rica, China
Lower-middle-income countries	Philippines, Ukraine, Armenia
Low-income countries	Rwanda, Gambia, Senegal

country performs consistently well in the Enable sub-pillars: particularly the Regulatory Landscape (2nd) and the Business and Labour Landscape (6th). Although the country is ranked 1st in Ease of doing business, there is room for improvement in other variables related to the Market Landscape, such as Cluster development (45th) and R&D expenditure (33rd). The educational system is strong (New Zealand ranks in the top 20 in both Formal Education and Lifelong Learning), but it is mainly its strong showing in Access to Growth Opportunities (8th) that leads to its high ranking in the Grow pillar (13th).

Ireland (13th) is a top 15 performer in all pillars, although only in the Attract pillar—in 9th place—does it break into the top 10. Good talent attraction is the result of balancing good performance in both External and Internal Openness (ranked 10th and 12th, respectively). Ireland is one of the best attractors of foreign businesses and thus it also experiences a Brain gain (7th). Such talents come to an environment of high Social Inclusion, including a high Tolerance of immigrants (4th). The country's pools of Vocational and Technical Skills and Global Knowledge Skills are well balanced. In the Grow pillar, Ireland presents a good performance in Lifelong Learning (12th) and Access to Growth Opportunities (9th), but it still has room to improve in Formal Education (22nd).

Iceland (14th) demonstrates a strong performance in Global Knowledge Skills (5th), with a good pool of higher competences and the ability to innovate. Iceland achieves this without neglecting the pool of Vocational and Technical Skills (13th), whose performance is driven by very good Employability (7th) of the skills available in the country. Although the country has a desirable Lifestyle (7th), which translates into a strong Retain pillar score (7th), it still has room for improvement in attracting talent—it ranks 19th in the Attract pillar. The consistently strong Regulatory, Market, and Business and Labour Landscapes ensure a solid ranking in the Enable pillar (19th).

Canada (15th) is one of the top 10 performers for luring foreign talent (it ranks 10th in the Attract pillar), which is achieved as a result of a good balance between External Openness (11th) and Internal Openness (11th). The country is the 2nd most tolerant of immigrants in the world and, as a consequence, it is experiencing a large Brain gain (9th). The share of tertiary-educated population is high and Employability is good (16th), which means that Canada is developing and attracting the skills needed by the economy. The country has many world-renowned universities, although it can still improve its production of Vocational and Technical Skills (22nd).

ANALYSIS BY INCOME AND REGIONAL GROUPS

The GTCI top performers are all high-income countries. As shown in Table 1, the GTCI leaders overall (Switzerland, Singapore, the United States) also lead the group of high-income countries. Malaysia leads the group of upper-middle-income countries and the Philippines the lower-middle-income group. The regions that have no countries within the highest quartile in the overall GTCI index (i.e., the top 30 countries) are Central and Southern Asia; Latin, Central America and the Caribbean; and Sub-Saharan Africa. The case of Chile deserves particular attention: it has the highest ranking within its region and for years it topped the group of upper-middle-income countries. Starting in 2016 Chile was classified as a high-income country.

Income Groups

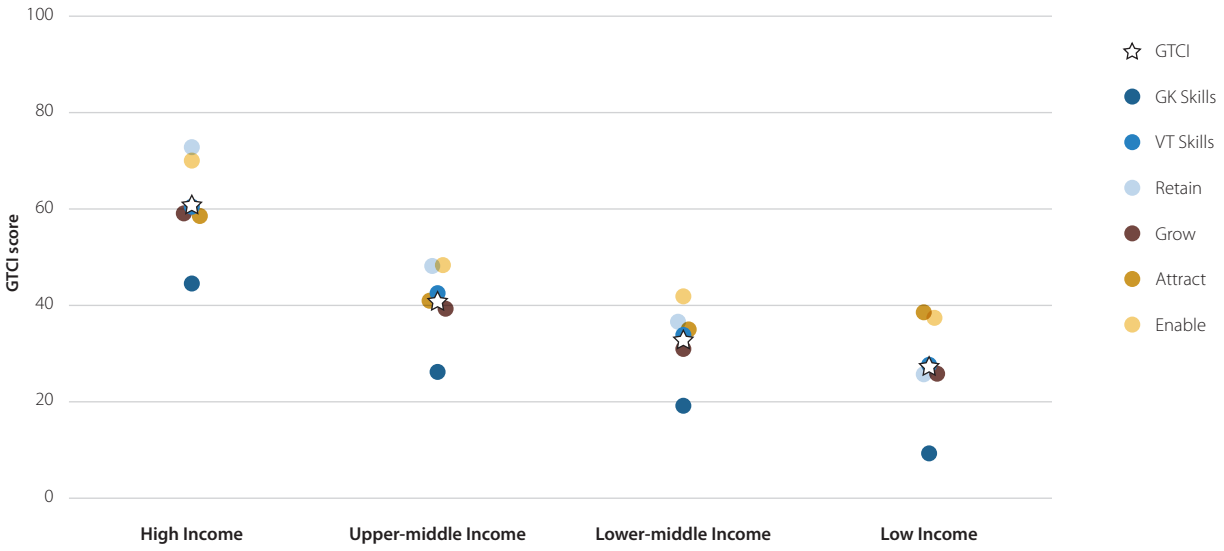
Bearing in mind the strong positive correlation between GTCI scores and GDP per capita, analysing the relative positions of economies within their respective income groups brings additional insights. A cursory glance at the pillar-specific performance by income groups (see Figure 4) again highlights the observation that differences are more significant on the Output side (most noticeably for the Global Knowledge Skills pillar) than on the Input side. This is perhaps not surprising. High-income countries rely more on innovation, entrepreneurship, and collaborative partnerships for growth—a reliance that is reflected in knowledge workers with professional, managerial, and global leadership skills—than do lower-income countries.

Unsurprisingly, the high-income group dominates the GTCI rankings again this year, with a virtual stranglehold on the top 25th percentile of the list (i.e., the fourth quartile, comprising the 30 countries in the heatmap shown in Figure 3), ranging from Switzerland (1st) all the way down to the Republic of Korea (South Korea, 30th). Switzerland is the most consistent high performer, never once dropping out of the top 10, regardless of the pillar in question.

The high-income countries that are not part of the top 50 are **Hungary** (52nd), **Trinidad and Tobago** (55th), **Oman** (56th), and **Kuwait** (65th). **Uruguay** has improved positions by breaking into the top 50 (it is currently ranked 44th). Oman and Kuwait are particularly affected by weak Grow pillars, which mainly translate into a poor pool of Global Knowledge Skills. Countries that were classified in the high-income group in previous years and that

Figure 4

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.

have dropped to the upper-middle-income group are **Argentina** (49th), the Russian Federation (Russia, 53rd), and the **Bolivarian Republic of Venezuela** (Venezuela, 105th), all of which continue performing below their potential—although Argentina has improved since last year's GTCI. These three countries are particularly affected by a relatively poor performance in the Enable pillar—showing weaker Regulatory and Market Landscapes. This is especially the case for Venezuela, which comes in last of all 119 countries in this domain.

Table 2a–2d (pages 28–30) tabulates the better-performing (top 10) countries in each pillar by income group. Most economies display a good balance between the Input and Output sub-indices. One pillar where not all developed countries are consistently good is the Global Knowledge Skills pillar (see the heatmap in Figure 3). Anglo-Saxon countries have performed well in this domain: the United States (2nd in Global Knowledge Skills), the United Kingdom (3rd), Australia (6th), and New Zealand (7th); Ireland and Canada also perform well. This is in part explained by the structural shift of their economies towards knowledge jobs and services. Yet some gaps are left in the area of Technical and Vocational Skills (for instance, the United Kingdom ranks 25th in this area, while Australia ranks 24th). In terms of Vocational and Technical Skills, Switzerland (3rd in this pillar), **Germany** (4th), and Austria (7th) continue leading the way. Finland and Norway are also top performers. The **United Arab Emirates (UAE)** needs a special mention here because it is ranked 1st in Vocational and Technical Skills but, given its less up-to-date data, its position is less reliable than that of other countries—the UAE's data for some of the key variables relevant for this pillar were older that the threshold imposed by the GTCI and the lack of available data affected the ranking (in this case upward).

We look now at the best performers of the upper-middle-income group and the lower-middle-income group, both of which are seeking to advance into the corresponding next income group. These two countries—Malaysia and the Philippines—are the same as last year; Malaysia has advanced in the GTCI rankings this year, but the Philippines has dropped back two spots.

Malaysia (27th) is the top-ranked country in the group of upper-middle-income countries, and it belongs to the fourth quartile of top-performing countries (see Figure 3). It is ranked above many high-income countries such as **Slovenia** (28th), **Portugal** (29th), and South Korea (30th). Malaysia performs particularly well in the Enable (22nd) and the Vocational and Technical Skills (21st) pillars, in both of which it is in the top quartile. Furthermore, after **Panama** (60th overall; 20th in Attract), it is the upper-middle-income country that attracts the most foreign talent (23rd in Attract). However, although Malaysia has experienced a significant Brain gain (10th in this area) and the sub-pillar of External Openness (18th) is solid, it can still improve its Tolerance of immigrants—and also of minorities. The attraction of talent is explained in part by the country's excellent performance in variables related to management practices and growth opportunities: Employee development (9th), Relationship of pay to productivity (5th), and, above all, Collaboration across organisations (where Malaysia is 1st in the world). **Costa Rica** (35th) is the next in the rankings of upper-middle-income countries, coming in above high-income countries such as Italy (36th), Poland (39th), Slovakia (40st), and Saudi Arabia (41st).

The Philippines (54th) is the top-ranked lower-middle-income country, coming in above three high-income countries (Trinidad and Tobago at 55th, Oman at 56th, and Kuwait at 65th) and also several upper-middle-income countries—notably Turkey (68th) and Thailand (70th). Its greatest strength is its good pool of Global Knowledge Skills (36th). The Philippines' performance in the VT Skills pillar must be interpreted with

Table 2a

Best performers by income group: High-income countries (46 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
Switzerland (1)	Singapore (2)	Singapore (2)	Netherlands (9)	Switzerland (1)	United Arab Emirates (17)	Singapore (2)
Singapore (2)	Switzerland (1)	Luxembourg (10)	United States of America (3)	Norway (4)	United States (3)	United States of America (3)
United States of America (3)	Denmark (7)	United Arab Emirates (17)	Switzerland (1)	Austria (18)	Switzerland (1)	United Kingdom (8)
Norway (4)	New Zealand (12)	Qatar (23)	Finland (6)	Sweden (5)	Germany (19)	Israel (24)
Sweden (5)	Sweden (5)	Switzerland (1)	Norway (4)	Finland (6)	Finland (6)	Iceland (14)
Finland (6)	United Kingdom (8)	New Zealand (12)	Sweden (5)	Denmark (7)	Norway (4)	Australia (11)
Denmark (7)	Japan (20)	Australia (11)	United Kingdom (8)	Iceland (14)	Austria (18)	New Zealand (12)
United Kingdom (8)	United States of America (3)	United Kingdom (8)	Denmark (7)	Luxembourg (10)	Singapore (2)	Sweden (5)
Netherlands (9)	Finland (6)	Ireland (13)	Belgium (16)	Netherlands (9)	Netherlands (9)	Switzerland (1)
Luxembourg (10)	Norway (4)	Canada (15)	Singapore (2)	Germany (19)	Denmark (7)	Estonia (22)

Note: Numbers in parentheses are overall GTCI ranks. The performance of the United Arab Emirates and the United States on the VT Skills pillar must be interpreted with caution (see Endnote 2).

caution (see Endnote 2). The next lower-middle-income country in the rankings is **Ukraine** (61st), which performs better than many upper-middle-income countries such as South Africa (63rd), Colombia (67th), and Mexico (71st).

Although in recent years we have witnessed a cooling off in the growth of emerging markets, the **BRICS** cannot be ignored in the global talent race. It is **China** (43rd) that leads the pack. China is ranked in the top quartile in the Grow (29th) and Global Knowledge Skills (22nd) pillars. Formal Education in particular posts a good performance, as reflected in the reading, maths, and science competences of Chinese students (PISA scores) and in the rise of Chinese universities in international rankings. China is also using these skills to produce innovations, and thus the sub-pillar for Talent Impact (2nd) exhibits an excellent performance. The areas that need improvement have to do with personal rights, tolerance of both immigrants and minorities, and also variables linked to lifestyle. China is followed by **Russia** (53rd), which has a strong pool of Global Knowledge Skills (26th in this domain) but has other areas that need important improvements. The country has a solid system of Formal Education (29th). But its biggest challenge continues to be the attraction of talent (Russia is ranked 106th in the Attract pillar), where both External and Internal Openness show a poor performance (98th and 102nd, respectively). In addition to improving the latter, a more friendly business and regulatory environment will help attract global talent. **South Africa** is ranked 63rd. Although the system of Formal Education is not exemplary (ranked 76th), the private sector does facilitate Lifelong Learning (24th) and Access to Growth Opportunities (28th). The country also seems open to attracting global talent (it ranks 45th in External Openness and 39th in Internal Openness); yet its greatest challenge is in retaining talent, which is particularly affected by its unattractive Lifestyle (where it ranks 114th in terms of Personal Safety). **Brazil** (73rd) shows its greatest strength in the Grow pillar (ranked 56th in this domain); it has some renowned universities in particular. Yet its performance in the other pillars rarely reaches the 70th position (the pillars are mainly located in the second quartile of lower scores) and Brazil is outperformed by many other upper-middle-income countries as well as by some lower-middle-income ones. The Brazilian labour market in particular needs attention, since Labour-employer cooperation is low and Active labour market policies are absent or ineffective. **India** (81st) is the laggard of this group. Formal Education (67th) and Lifelong Learning (37th) are keeping pace—and thus the pool of Global Knowledge Skills (63rd) is solid compared with other emerging markets. Where the country has plenty of room for improvement is in minimising brain drain while achieving a brain gain by luring back some of its talented diaspora members (it ranks 98th in the Attract pillar) and in retaining its own talent (99th in Retain)—particularly in the context of high emigration rates of high-skilled people (India is at serious risk of worsening its brain drain despite the connection with the diasporas working in the information technology sector).

The low-income countries in the GTCI sample come in last, ranging from the 76th position held by **Rwanda** (the best performer of this income group) to the 118th position of **Madagascar.** There are 12 countries of the GTCI sample that are classified as low-income countries (many low-income countries do not have enough data available to be included in the GTCI computations) and the majority are located in Sub-Saharan Africa (the only exception is Nepal).

Table 2b

Best performers by income group: Upper-middle-income countries (34 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
Malaysia (27)	Malaysia (27)	Panama (45)	China (43)	Malaysia (27)	Malaysia (27)	China (43)
Costa Rica (35)	Mauritius (46)	Malaysia (27)	Costa Rica (35)	Mauritius (46)	Montenegro (58)	Russian Federation (53)
China (43)	Costa Rica (35)	Costa Rica (35)	Malaysia (27)	Costa Rica (35)	Azerbaijan (57)	Lebanon (60)
Panama (45)	China (43)	Namibia (80)	Argentina (49)	Azerbaijan (57)	Costa Rica (35)	Bulgaria (47)
Mauritius (46)	Macedonia (59)	Mauritius (46)	South Africa (63)	Bulgaria (47)	Lebanon (60)	Malaysia (27)
Bulgaria (47)	Botswana (62)	Botswana (62)	Colombia (67)	Kazakhstan (51)	Mauritius (46)	Serbia (69)
Argentina (49)	Thailand (70)	Jordan (50)	Botswana (62)	Panama (45)	Argentina (49)	Turkey (68)
Jordan (50)	Georgia (72)	South Africa (63)	Mexico (71)	Argentina (49)	Russian Federation (53)	Montenegro (58)
Kazakhstan (51)	Jordan (50)	Dominican Republic (79)	Russian Federation (53)	Jordan (50)	Kazakhstan (51)	Kazakhstan (51)
Russian Federation (53)	Bulgaria (47)	Azerbaijan (57)	Ecuador (85)	Russian Federation (53)	Jordan (50)	Panama (45)

Note: Numbers in parentheses are overall GTCI ranks.

Table 2c

Best performers by income group: Lower-middle-income countries (27 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
Philippines (54)	Bhutan (91)	Ghana (90)	Philippines (54)	Ukraine (61)	Ukraine (61)	Philippines (54)
Ukraine (61)	Philippines (54)	Philippines (54)	India (81)	Armenia (66)	Armenia (66)	Armenia (66)
Armenia (66)	Sri Lanka (82)	Kenya (88)	Guatemala (84)	Tunisia (83)	Indonesia (77)	Ukraine (61)
Mongolia (75)	Indonesia (77)	Lao PDR (95)	Bolivia, Plurinational St. (102)	Philippines (54)	Kyrgyzstan (93)	Mongolia (75)
Indonesia (77)	Armenia (66)	Armenia (66)	Indonesia (77)	Moldova, Rep. (86)	Sri Lanka (82)	Tunisia (83)
India (81)	Guatemala (84)	Mongolia (75)	Honduras (92)	Kyrgyzstan (93)	India (81)	Egypt (104)
Sri Lanka (82)	Ghana (90)	Guatemala (84)	Ukraine (61)	Lao PDR (95)	Kenya (88)	Viet Nam (87)
Tunisia (83)	Viet Nam (87)	Honduras (92)	Ghana (90)	Sri Lanka (82)	Philippines (54)	India (81)
Guatemala (84)	India (81)	Indonesia (77)	Kenya (88)	Egypt (104)	Moldova, Rep. (86)	Moldova, Rep. (86)
Moldova, Rep. (86)	Lao PDR (95)	Viet Nam (87)	Mongolia (75)	Morocco (98)	Tunisia (83)	Pakistan (109)

Note: Numbers in parentheses are overall GTCI ranks.

Regional Groups

Regions are composed of very heterogeneous countries. For example, Sub-Saharan Africa includes eleven low-income countries, with Rwanda (76th) as the highest-ranked among them; three lower-middle-income countries; and four upper-middle-income countries, which occupy the highest rankings in the region. Northern America, on the other hand, includes only high-income countries (the United States and Canada), which show smaller differences in terms of development and GDP per capita. Figure 5 shows how regions perform across the various pillars of the GTCI model. Table 3 on page 32 then lists the top 10 performers by regional group.

Below are some highlights for the top-ranked countries in each region:

Central and Southern Asia (9 countries): Despite this group only having nine countries represented in the GTCI, it has

Table 2d

Best performers by income group: Low-income countries (12 countries)

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
Rwanda (76)	Rwanda (76)	Gambia (96)	Rwanda (76)	Rwanda (76)	Gambia (96)	Malawi (110)
Gambia (96)	Gambia (96)	Rwanda (76)	Senegal (97)	Ethiopia (112)	Rwanda (76)	Rwanda (76)
Senegal (97)	Uganda (103)	Senegal (97)	Tanzania, United Rep. (107)	Senegal (97)	Senegal (97)	Ethiopia (112)
Uganda (103)	Senegal (97)	Tanzania, United Rep. (107)	Malawi (110)	Gambia (96)	Zimbabwe (115)	Zimbabwe (115)
Tanzania, United Rep. (107)	Tanzania, United Rep. (107)	Uganda (103)	Gambia (96)	Nepal (116)	Nepal (116)	Senegal (97)
Malawi (110)	Malawi (110)	Mozambique (117)	Uganda (103)	Uganda (103)	Madagascar (118)	Mozambique (117)
Ethiopia (112)	Mali (113)	Madagascar (118)	Zimbabwe (115)	Malawi (110)	Mali (113)	Uganda (103)
Mali (113)	Ethiopia (112)	Mali (113)	Mali (113)	Tanzania, United Rep. (107)	Uganda (103)	Nepal (116)
Zimbabwe (115)	Mozambique (117)	Malawi (110)	Ethiopia (112)	Mali (113)	Tanzania, United Rep. (107)	Tanzania, United Rep. (107)
Nepal (116)	Zimbabwe (115)	Ethiopia (112)	Madagascar (118)	Zimbabwe (115)	Ethiopia (112)	Madagascar (118)

Note: Numbers in parentheses are overall GTCI ranks. The performance of the United Arab Emirates and the United States on the VT Skills pillar must be interpreted with caution (see Endnote 2).

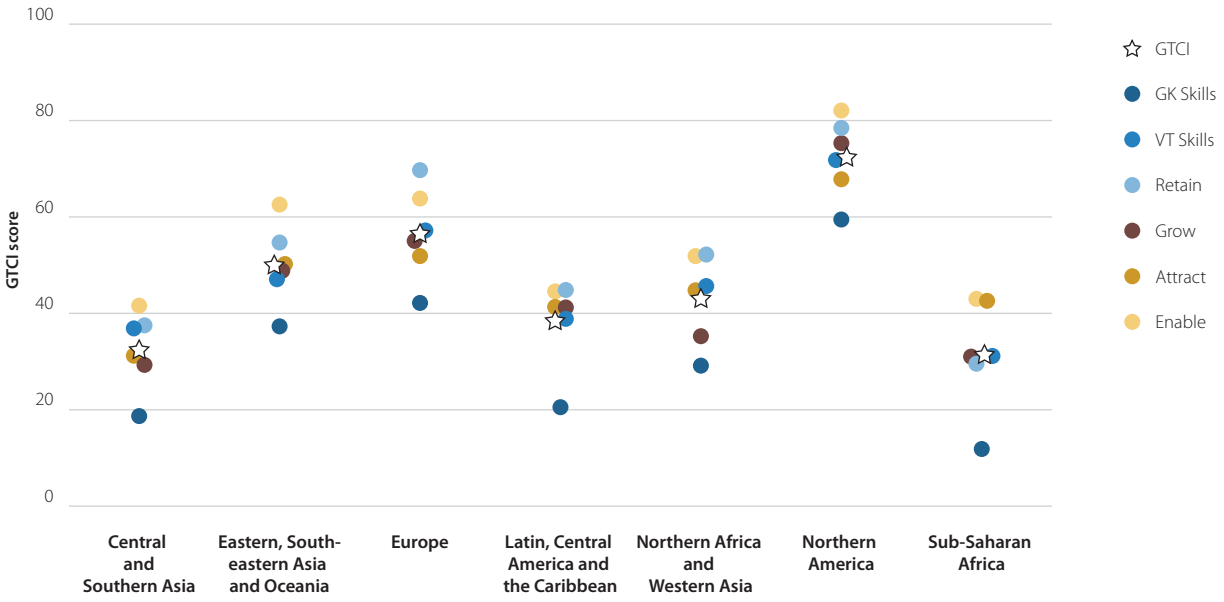
the largest potential pool of human capital of all the regions: more than 1.7 billion people live in Central and Southern Asia, with India leading the way with a population of over 1.25 billion. Unfortunately, the region's talent performance is not good. Kazakhstan (51st) is one of two upper-middle-income countries (the other is the **Islamic Republic of Iran** (94th). Kazakhstan ranks above the median of performance in the GTCI sample (mainly supported by its relatively good Enable pillar, ranked 58th) but is an outlier: 2nd place is taken by India (81st) and 3rd by **Sri Lanka** (82nd), which are well below the regional median in terms of ranking. **Kazakhstan** is able to attract foreign businesses and some talent, fuelled by its oil industry and an eagerness to diversify its economy (Attract pillar: 58th). Yet the country is lagging behind in the Grow pillar (79th)—particularly because Lifelong Learning and Access to Growth Opportunities are immature. Without doubt, an improvement in India would have the greatest impact in terms of the pool of talent not only in this region but also globally. As discussed in the BRICS section, India has been able to create a stable pool of Global Knowledge Skills but it has suffered in the Retain pillar (99th). Although diasporas have been engaged successfully in some industries, a great deal of talent continues to leave the country, and thus India still experiences a brain drain.

Eastern, Southeastern Asia and Oceania (14 countries): Singapore (2nd) is the flag bearer of performance in the region. Next comes Australia (11th) and New Zealand (12th); the performance of these three countries has been described above. This region shows wide variety in terms of performance. **Japan** (20th) has a solid overall performance, although its talent competitiveness is held back by a low performance in the Attract pillar (54th); Japan is far behind the top three countries of this region, and even middle-income countries such as Malaysia attract more foreign talent. **Indonesia** (77th) has a long way to go to catch up on all the pillars, yet the country has strong Employability (29th in this area) of its domestic population—and it is increasingly perceived by business leaders as being attractive to high-skilled people, scoring relatively high on potential Brain gain (even though the stock of migrants in the country is still small). **Thailand** (70th) also needs to catch up across the different pillars, but it does boast a relatively better performance in the Enable pillar (48th)—particularly driven by the Market Landscape and the Business and Labour Landscape, both of which perform well relative to the performance of emerging markets. Although **South Korea** (30th) makes it into the top quartile of this year's rankings, it is the lowest-ranking high-income country in the region. Despite being a top country in dimensions such as Tertiary enrolment (2nd) and ICT Infrastructure (1st), as well as an excellent Market Landscape ranking (3rd), the country has major room for improvement in the Attract pillar (81st).

Europe (38 countries): Eight European countries are within the top 10 high performers group in this year's GTCI (all described above)—the only non-Europeans in this group are Singapore and the United States. Ireland and Iceland join in the top 15 this year. Yet performance in this region is largely heterogeneous. In general, smaller European countries tend to perform better than larger ones: for example, the Benelux countries (Belgium, the Netherlands, and Luxembourg) all rank higher than larger European economies such as Germany and France. **France** (21st) exhibits a solid Grow pillar (17th), given the quality of its higher education institutions. The country lags behind particularly in the Enable pillar (29th)—its Business and Labour Landscape has room for improvement, especially in terms of labour

Figure 5

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.

market flexibility. Among other big economies, **Italy** (36th) has the lowest overall performance, ranking lower than several Eastern European countries. Although the country has excellent clusters (it is a world-class performer here), Italy's showing is affected by the Regulatory Landscape (56th) and, above all, the Business and Labour Landscape (103rd)—Labour-employer cooperation exhibits a lower performance than many less-developed nations. Italy has ample room for improvement in its External Openness, especially in attracting talent from abroad.

Latin, Central America and the Caribbean (19 countries): Chile (33rd) is the top performer of the region, particularly given its strong Grow pillar (24th). Although its stock of migrant population is still rather low, Chile is increasingly considered a country that is attractive to foreign talent. This is especially the case given recent policies intended to attract foreign entrepreneurs. Such success is likely to continue given the good business environment prevalent in the country (Enable pillar: 32nd). The economy is supported by a solid pool of Global Knowledge Skills (45th) and is able to retain a large share of its talent, given its good Lifestyle by regional standards. Costa Rica (35th) and Panama (45th) stand out for their strong Attract pillars (24th and 20th, respectively). These countries have become hubs in Central America. **Uruguay** (44th), as the other large high-income country in the region after Chile, is another country with a strong Attract pillar (28th), in addition to its relatively good Grow pillar (39th). None of the other countries in the region exhibit an impressive performance or even a performance corresponding to their level of development. Brazil and Mexico, the two largest economies of the region, are below the median in terms of GTCI score. Brazil has been discussed above (in the BRICS section). **Mexico** (71st) has a relatively good Grow pillar (49th), with improving Access to Growth Opportunities and Lifelong Learning. But the country faces a big challenge in retaining its talent (it ranks 77th in this pillar)—a challenge that is more likely to be met once Mexico improves in Lifestyle (80th in this sub-pillar), particularly by offering more security to its citizens.

Northern Africa and Western Asia (19 countries): The United Arab Emirates (UAE, 17th), **Qatar** (23rd), and **Israel** (24th) are all part of the high-performing 25th percentile of countries (i.e., the top quartile comprising 30 countries). The two Gulf Cooperation Council (GCC) nations perform relatively better in the Input pillars. They are good at attracting foreign workers (Qatar comes in at 4th and the UAE at 3rd in the Attract pillar) and at creating the proper context for the operation of businesses by having a solid Enable pillar (Qatar is 20th here; the UAE is 11th). Israel performs better in the Output pillars and, in particular, it is a top country in terms of Global Knowledge Skills (4th)—a dimension where the GCC countries lag behind. Aside from Yemen (at the bottom of the rankings at 119th), the Northern African countries of the GTCI sample have the lowest overall GTCI score in the region (**Tunisia** is 83rd; **Morocco,** 98th; **Algeria,** 101st; **Egypt,** 104th). Two countries have particular potential to host creative talent. **Turkey** (68th) is relatively solid in terms of Global Knowledge Skills (47th) and also has a relatively strong Enable pillar (61st)—at least compared with other middle-income countries. Its main weakness is that it does not attract foreign talent (its Attract pillar ranks a low 108th). **Jordan** (50th) can be highlighted as a place to which corporations may gravitate, with a relatively high score for Global Knowledge Skills (57th). Unlike Turkey, Jordan does increasingly attract foreign talent (it has become a technology and start-up hub for its region and it ranks 39th in the Attract pillar). **Saudi Arabia** (41st) performs even better than some European countries—such as Greece (42nd) and Bulgaria (47th)—but it still lags behind the regional leaders.

Northern America (2 countries): Both North American economies—the United States (3rd) and Canada (15th)—feature in the top 15 high performers of this year's GTCI. The countries are fairly evenly matched in the Enable pillar (Canada at 14th; the United States at 8th), with good Regulatory and Market Landscapes—Canada performs better in the Regulatory Landscape (Canada: 8th; the United States: 21st) whereas the United States outperforms Canada in the Market Landscape (Canada: 23rd; the United States: 1st). Although Canada is slightly better at attracting talent (10th versus 18th in the Attract pillar), particularly given its high tolerance of immigrants and minorities, the United States ranks slightly higher in the Retain pillar. Given the leading position of the United States in the Grow pillar (2nd, compared with 14th for Canada), it has been able to create a stronger pool of Global Knowledge Skills (2nd, compared with 11th in Canada).

Sub-Saharan Africa (18 countries): Four upper-middle-income countries of this group dominate the five top places of the region: **Mauritius** (46th), **Botswana** (62nd), **South Africa** (63rd), and **Namibia** (80th). The other country in the top five of the region is Rwanda (76th). Only Mauritius is above the median GTCI score, supported by a solid Enable pillar (33rd in the rankings); the Regulatory Landscape of the country is particularly good (24th). This edition of the GTCI has improved country coverage in this region, which often shows data limitations: big economies such as Nigeria are still not covered.

Table 3
Ten best performers by regional group

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
Central and Southern Asia (9 countries)						
Kazakhstan (51)	Bhutan (91)	Kazakhstan (51)	India (81)	Kazakhstan (51)	Kazakhstan (51)	Kazakhstan (51)
India (81)	Kazakhstan (51)	Sri Lanka (82)	Kazakhstan (51)	Kyrgyzstan (93)	Kyrgyzstan (93)	Iran (94)
Sri Lanka (82)	Sri Lanka (82)	Bhutan (91)	Sri Lanka (82)	Sri Lanka (82)	Sri Lanka (82)	India (81)
Bhutan (91)	India (81)	India (81)	Iran (94)	Iran (94)	India (81)	Pakistan (109)
Kyrgyzstan (93)	Bangladesh (114)	Kyrgyzstan (93)	Kyrgyzstan (93)	Bhutan (91)	Iran (94)	Sri Lanka (82)
Iran (94)	Kyrgyzstan (93)	Bangladesh (114)	Bhutan (91)	India (81)	Pakistan (109)	Kyrgyzstan (93)
Pakistan (109)	Iran (94)	Nepal (116)	Pakistan (109)	Nepal (116)	Bhutan (91)	Bangladesh (114)
Bangladesh (114)	Pakistan (109)	Pakistan (109)	Bangladesh (114)	Pakistan (109)	Nepal (116)	Nepal (116)
Nepal (116)	Nepal (116)	Iran (94)	Nepal (116)	Bangladesh (114)	Bangladesh (114)	Bhutan (91)
Eastern, Southeastern Asia and Oceania (14 countries)						
Singapore (2)	Singapore (2)	Singapore (2)	Singapore (2)	Australia (11)	Singapore (2)	Singapore (2)
Australia (11)	New Zealand (12)	New Zealand (12)	Australia (11)	Japan (20)	Japan (20)	Australia (11)
New Zealand (12)	Japan (20)	Australia (11)	New Zealand (12)	New Zealand (12)	New Zealand (12)	New Zealand (12)
Japan (20)	Australia (11)	Malaysia (27)	Japan (20)	Singapore (2)	Malaysia (27)	South Korea (30)
Malaysia (27)	Malaysia (27)	Japan (20)	South Korea (30)	Malaysia (27)	Australia (11)	China (43)
South Korea (30)	South Korea (30)	Thailand (70)	China (43)	South Korea (30)	South Korea (30)	Japan (20)
China (43)	China (43)	Philippines (54)	Malaysia (27)	China (43)	Indonesia (77)	Philippines (54)
Philippines (54)	Thailand (70)	Laos (95)	Philippines (54)	Philippines (54)	China (43)	Malaysia (27)
Thailand (70)	Philippines (54)	Mongolia (75)	Indonesia (77)	Thailand (70)	Philippines (54)	Mongolia (75)
Mongolia (75)	Indonesia (77)	China (43)	Thailand (70)	Laos (95)	Thailand (70)	Vietnam (87)

(continued on next page)

Table 3 *(continued)*

Ten best performers by regional group

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
Europe (38 countries)						
Switzerland (1)	Switzerland (1)	Luxembourg (10)	Netherlands (9)	Switzerland (1)	Switzerland (1)	United Kingdom (8)
Norway (4)	Denmark (7)	Switzerland (1)	Switzerland (1)	Norway (4)	Germany (19)	Iceland (14)
Sweden (5)	Sweden (5)	United Kingdom (8)	Finland (6)	Austria (18)	Finland (6)	Sweden (5)
Finland (6)	United Kingdom (8)	Ireland (13)	Norway (4)	Sweden (5)	Norway (4)	Switzerland (1)
Denmark (7)	Finland (6)	Sweden (5)	Sweden (5)	Finland (6)	Austria (18)	Estonia (22)
United Kingdom (8)	Norway (4)	Norway (4)	United Kingdom (8)	Denmark (7)	Netherlands (9)	Ireland (13)
Netherlands (9)	Netherlands (9)	Denmark (7)	Denmark (7)	Iceland (14)	Denmark (7)	Denmark (7)
Luxembourg (10)	Ireland (13)	Belgium (16)	Belgium (16)	Luxembourg (10)	Sweden (5)	Finland (6)
Ireland (13)	Germany (19)	Finland (6)	Ireland (13)	Netherlands (9)	Belgium (16)	Netherlands (9)
Iceland (14)	Austria (18)	Netherlands (9)	Iceland (14)	Germany (19)	Iceland (14)	Norway (4)
Latin, Central America and the Caribbean (19 countries)						
Chile (33)	Chile (33)	Panama (45)	Chile (33)	Uruguay (44)	Chile (33)	Chile (33)
Costa Rica (35)	Costa Rica (35)	Costa Rica (35)	Costa Rica (35)	Chile (33)	Costa Rica (35)	Panama (45)
Uruguay (44)	Uruguay (44)	Uruguay (44)	Argentina (49)	Costa Rica (35)	Trinidad and Tobago (55)	Argentina (49)
Panama (45)	Colombia (67)	Chile (33)	Uruguay (44)	Panama (45)	Argentina (49)	Costa Rica (35)
Argentina (49)	Panama (45)	Trinidad and Tobago (55)	Colombia (67)	Argentina (49)	Peru (74)	Trinidad and Tobago (55)
Trinidad and Tobago (55)	Trinidad and Tobago (55)	Dominican Republic (79)	Mexico (71)	Trinidad and Tobago (55)	Colombia (67)	Uruguay (44)
Colombia (67)	Dominican Republic (79)	Peru (74)	Ecuador (85)	Brazil (73)	Panama (45)	Colombia (67)
Mexico (71)	Mexico (71)	Guatemala (84)	Venezuela (105)	Ecuador (85)	Uruguay (44)	Mexico (71)
Brazil (73)	Guatemala (84)	Argentina (49)	Guatemala (84)	Mexico (71)	Ecuador (85)	Brazil (73)
Peru (74)	Brazil (73)	Paraguay (99)	Brazil (73)	Peru (74)	Mexico (71)	Peru (74)
Northern Africa and Western Asia (19 countries)						
United Arab Emirates (17)	United Arab Emirates (17)	United Arab Emirates (17)	United Arab Emirates (17)	Israel (24)	United Arab Emirates (17)	Israel (24)
Qatar (23)	Qatar (23)	Qatar (23)	Qatar (23)	United Arab Emirates (17)	Qatar (23)	Cyprus (37)
Israel (24)	Israel (24)	Bahrain (38)	Israel (24)	Saudi Arabia (41)	Israel (24)	Lebanon (60)
Cyprus (37)	Bahrain (38)	Oman (56)	Bahrain (38)	Qatar (23)	Cyprus (37)	Armenia (66)
Bahrain (38)	Saudi Arabia (41)	Cyprus (37)	Saudi Arabia (41)	Azerbaijan (57)	Azerbaijan (57)	United Arab Emirates (17)
Saudi Arabia (41)	Oman (56)	Jordan (50)	Lebanon (60)	Cyprus (37)	Saudi Arabia (41)	Turkey (68)
Jordan (50)	Cyprus (37)	Kuwait (65)	Turkey (68)	Oman (56)	Lebanon (60)	Tunisia (83)
Oman (56)	Georgia (72)	Saudi Arabia (41)	Cyprus (37)	Kuwait (65)	Bahrain (38)	Jordan (50)
Azerbaijan (57)	Jordan (50)	Israel (24)	Jordan (50)	Jordan (50)	Jordan (50)	Egypt (104)
Lebanon (60)	Azerbaijan (57)	Azerbaijan (57)	Oman (56)	Bahrain (38)	Oman (56)	Saudi Arabia (41)

(continued on next page)

Table 3 *(continued)*

Ten best performers by regional group

GTCI	ENABLE	ATTRACT	GROW	RETAIN	VOCATIONAL AND TECHNICAL SKILLS	GLOBAL KNOWLEDGE SKILLS
North America (2 countries)						
United States (3)	United States (3)	Canada (15)	United States (3)	United States (3)	United States (3)	United States (3)
Canada (15)	Canada (15)	United States (3)	Canada (15)	Canada (15)	Canada (15)	Canada (15)
Sub-Saharan Africa (18 countries)						
Mauritius (46)	Mauritius (46)	Namibia (80)	South Africa (63)	Mauritius (46)	Mauritius (46)	South Africa (63)
Botswana (62)	Rwanda (76)	Mauritius (46)	Botswana (62)	Botswana (62)	South Africa (63)	Botswana (62)
South Africa (63)	Botswana (62)	Gambia (96)	Mauritius (46)	Rwanda (76)	Kenya (88)	Namibia (80)
Rwanda (76)	Namibia (80)	Botswana (62)	Ghana (90)	Namibia (80)	Botswana (62)	Mauritius (46)
Namibia (80)	South Africa (63)	Rwanda (76)	Rwanda (76)	South Africa (63)	Gambia (96)	Kenya (88)
Kenya (88)	Ghana (90)	South Africa (63)	Kenya (88)	Ethiopia (112)	Ghana (90)	Malawi (110)
Ghana (90)	Kenya (88)	Ghana (90)	Namibia (80)	Senegal (97)	Rwanda (76)	Ghana (90)
Gambia (96)	Gambia (96)	Senegal (97)	Senegal (97)	Gambia (96)	Senegal (97)	Rwanda (76)
Senegal (97)	Uganda (103)	Kenya (88)	Lesotho (106)	Ghana (90)	Lesotho (106)	Ethiopia (112)
Uganda (103)	Senegal (97)	Tanzania (107)	Tanzania (107)	Kenya (88)	Zimbabwe (115)	Zimbabwe (115)

ENDNOTES

1 Countries are grouped according to the World Bank Income Classifications. Economies are divided based on their 2015 gross national income (GNI) per capita, calculated using the World Bank Atlas method (see https://blogs.worldbank.org/opendata/new-country-classifications-2016). The groups are: low income; lower-middle income; upper-middle income; and high income. Regional groups are based on the United Nations Regional Classifications: Central and Southern Asia; Eastern, Southeastern Asia and Oceania; Europe; Latin, Central America and the Caribbean; Northern Africa and Western Asia; Northern America; and Sub-Saharan Africa.

2 The scores and ranks on the VT Skills pillar must be interpreted with caution. As a result of a restructuring of the source database of one of the indicators (workforce with secondary education), the VT results for a few countries, particularly the sub-pillar of Mid-level skills, have changed significantly with respect to the GTCI 2017 and may not be reliable. Data sources will be harmonized in the next edition of the GTCI.

3 See Endnote 2.

CHAPTER 2

How Diversity Unleashes the Power of Work

Alain Dehaze
The Adecco Group

The clothing group Diesel has won notoriety for its original, often provocative, advertising designed to stimulate unconventional thinking among its audience. One very recent commercial was entitled 'Go with the Flaws', playing on atypical traits in people's appearance and personality, disruptively suggesting that what may be perceived superficially as blemishes can in fact be seen as the beauty of diversity.

By implying differences should be celebrated, not criticised, the company's video, set against Edith Piaf's most famous soundtrack, unwittingly makes a wider point about the value of diversity—not just in selling jeans and shirts but in society as a whole, where difference should be regarded as a quality, not an obstacle.

At a time when the global economy is characterised by spiralling uncertainty and fast and unpredictable change, flexibility and continuous learning have become essential to survive and compete. To adapt and thrive in such a highly dynamic environment, organisations need to think and work in as diverse a way as possible. A truly diverse and inclusive corporate culture becomes a competitive advantage to attract talent and create a more sustainable, creative, high-performing, and engaging workplace. Diversity and inclusion strategies are, in a nutshell, essential to enhancing talent competitiveness.

This picture does not reflect the reality yet: in the United Kingdom, for example, over one in five of 2,000 public and private sector employees surveyed admitted to having taken action to hide their age, disability, social background, or sexuality—either in the workplace or when applying for a job—with age as the most likely culprit (6.4%), followed by disability (5.6%).[1]

The Adecco Group views diversity and inclusion as pillars in striving to be among the most engaging, inspiring, and healthy places to work. This focus on diversity goes beyond just seeking fairness in employing under-represented or legally protected groups: the full power of diversity involves true 'diversity of thought, experiences and perspectives'.[2]

Such a holistic approach to diversity can improve decision making because diversity prompts more careful and creative information processing than in homogeneous groups. It boosts

new insights, as generating an idea quickly can require connecting multiple tasks and inputs. It can, moreover, improve an organisation's ability to attract talent through a learning culture where people feel accepted, are comfortable contributing ideas, and seek to learn from each other: the 'one right way' approach is replaced by leaders stimulating an inclusive culture.

Diversity is all the more important when seen in the context of the unprecedented skills gaps confronting many countries. Nurturing creative ways of thinking and staffing becomes essential. That means removing barriers to diversity in the workplace, urging managers and incentivising training and a concerted effort by policymakers and organisations to create the conditions for diversity to thrive.

What then is the role of employers to address the diversity gap? Changing policies and practices within a single company is a good start. But companies must work together, and partner with government and civil society to truly move the dial. Workforce solutions providers play a critical part in this equation. Providing more than 1 million people around the world with career opportunities, guidance, and insights, the Adecco Group has the reach and influence to drive durable change. Its approach tackles the problem from multiple angles, and hinges on changing mindsets and behaviours, not only policies.

DIVERSITY FROM TOP TO BOTTOM

Setting the right tone from the top of an organisation is essential, but not sufficient. Organisations also need to 'operationalise' diversity and inclusion by embedding such concepts into everyday business practice. That means, for example, redefining the way managers hire, run teams, assign targets, and promote and remunerate individuals.

In the hiring process, beyond fighting bias, recruiters must think proactively about the differences in culture, mindset, and leadership styles in their teams. They must challenge confirmation biases all the way to the top. A premium must be put on having the right mix to foster creativity, open debate, and avoid falling into self-affirming group thinking.

Research reveals correlation between high cognitive diversity and high performance—that is, different types of brains and personalities.[3,4] Studies also report that diversity and inclusion stimulate innovation and entrepreneurship.[5] That all suggests existing and entrenched competency-based interview processes should be enhanced by questions helping to single out cognitively diverse candidates who can add value beyond the formal job requirements.[6]

In career succession, alongside traditional factors considered in decisions about internal promotions (performance, potential, learning agility, leadership skills, etc.), diversity thinking, experience, and perspectives should also play a role. That ensures a culture of inclusion empowering staff, boosting collaboration, increasing engagement, and inspiring innovation.

GOING BEYOND THE BASICS

While diversity of thought, experience, and perspective is a genuine enabler that enhances performance, it is also important to look at diversity in terms of specifically defined groups. Women, for example, today account for an average of just 16% of executive teams in the United States, 12% in the United Kingdom, and a mere 6% in Brazil—wholly under-represented at the top of corporations globally.

A 2015 study by Adecco Group UK and Ireland, entitled *The Gender Agenda: STEMing the gap,*[7] found women comprised nearly half of Britain's workforce, but only 13% had jobs in science, technology, engineering, or maths (STEM)-related fields. Raising such inadequate levels can succeed only through cooperation between government, parents, and teachers. Family and school role models play a vital role. And it is crucial for STEM employers to invest in developing a more inclusive culture where women feel supported.

Ethnicity is another weakness. In the United Kingdom, 78% of senior leadership teams do not reflect the country's racial mix. In Brazil, the corresponding figure is 91% and an astonishing 97% in the United States.[8] Yet ethnically diverse companies are 35% more likely to outperform and gender diverse companies are 15% more likely to do so.[9]

Diversity is all the more important when seen in the context of the unprecedented skills gaps confronting many countries. Nurturing creative ways of thinking and staffing becomes essential.

Diversity and inclusion, however, are not just about making up the numbers. They must be managed properly for optimum results. Obligatory diversity training and hiring tests can go wrong, exacerbating existing prejudices. Companies should look instead to models based on 'learning-and-effectiveness' that focus on integration and involve learning and adapting as staff members progress. Such techniques grant equal opportunity to all, but recognise and value individuals' differences.[10]

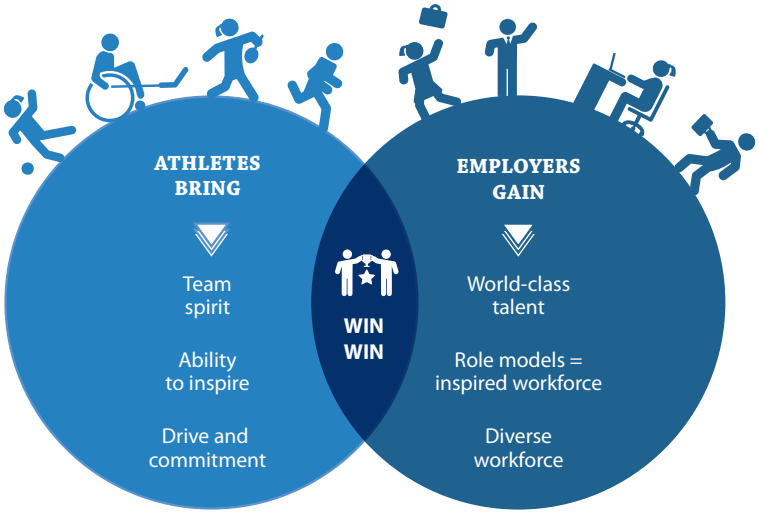
WALKING THE TALK

The Adecco Group strives to create a workplace where every employee feels valued, regardless of age, gender, ethnicity, social background, or physical attributes. In an indication of its achievements, the Adecco Group in 2017 came in second worldwide in the annual Great Place to Work® survey and also came in second in the European ranking.

Such recognition is grounded on a culture of inclusion—one of the most frequently cited reasons why employees judged the Adecco Group to be their employer of choice. Large numbers commented that their opinions were respected and valued, regardless of seniority, origin, or gender. Staff members also drew attention to what they saw as a strong culture of trust and empowerment, stemming directly from top management.

How are such strong and positive opinions formed and nurtured? Training and career development opportunities open to everybody play a major part. So do a culture of meritocracy

Figure 1
The power of sport: Driving inclusion



The IOC and IPC Athlete Career programmes, in collaboration with the Adecco Group, have placed in employment, trained, and supported over 35,000 athletes and para-athletes since 2005.

By giving job opportunities to former athletes, employers gain unique profiles and skills for their business while increasing diversity in the workplace.

and the ability to take motivated, high-potential candidates from entry-level positions to leadership roles. In 2017, the National Association of Female Executives named Adecco North America as one of the top companies for executive women. The personal story of Joyce Russell, president of Adecco Staffing USA, is instructive. She started with the company 26 years ago as a branch manager. Today she manages a workforce that is 70% female, including all four of the senior vice presidents.

The same 'branch-to-top-management' path has been trodden by many others. Andrea Malacrida, Country Manager of Italy, is one example. So is Enrique Sanchez, regional head of Iberia and Latin America, who in 2017 received 'The Best Workplace Executive special award'.[11] Adecco Group Spain has ranked in the top three Great Places to Work for the past three years and the Adecco Group Italy in the top 10. Proving that engagement and diversity sustain performance, the company's revenues in Spain and Italy have consistently grown in double digits during 2017.

Developing transparent and meritocratic corporate structures requires innovative thinking. One example is C-Connect, a scheme launched in 2017 across the Adecco Group. The project was designed to reinforce links and engagement between group executive committee members and less senior staff. Groups of six to eight employees can engage with an executive committee member in very open and frank dialogue to identify opportunities, address day-to-day challenges, and strengthen personal connections.

Look at the Young

We at the Adecco Group also strive to give special emphasis to integrating young people—a concern reinforced by the acute levels of youth unemployment after the financial crisis. Among our own youth-orientated initiatives is Adecco Way to Work™, which creates a bridge between the world of education and the world of work. Since 2015 the programme has offered almost 20,000 internships and apprenticeships around the world.

The related 'CEO for One Month' programme provides young people the opportunity to apply to shadow the Adecco Group chief executive in their home country for a month. One successful candidate is then selected to become the Group's 'CEO for One Month', gaining an irreplaceable opportunity to work alongside me at our Group headquarters.

Through mentorship and reverse mentorship in action, we all come to benefit deeply from the exchange of perspectives with these dynamic, brilliant minds. In fact, during their internships, the young 'CEOs' are challenged to design innovation projects that will revolutionise the world of work. It is a great way for us to innovate and gain exposure to different ways of thinking. A number of these young people go on to join the Adecco Group and even put their ideas into practice. Ernesto Lamaina, who leads the ADIA start-up within the Adecco Group,[12] came on board after his 'CEO for One Month' internship in Italy. Harnessing young talent like this provides the ability to think differently and approach problems in a fresh way.

As a leading member of the Global Apprenticeship Network, the Adecco Group is also spearheading work by an international alliance of leading companies to champion the apprenticeship model worldwide as an alternative pathway to work.

Talent without Labels

The path to inclusion starts with a single-minded focus on skills: on what each candidate or employee can do, rather than what he or she cannot undertake. The Adecco Group embraces such convictions through global programmes, national foundations, and local initiatives, helping people to gain better access to the

jobs and prospects they deserve. Such an approach not only helps candidates, it also enhances the companies' clients' talent pipelines, innovation ability, and competitiveness.

The Adecco Group has adopted the broad slogan of 'Talent without Labels' to define its approach. In Spain, Talent without Labels is applied both internally and with customers to eradicate prejudices and stereotypes. Its components include a new Signing Manifesto and novel recruitment and selection processes, such as the 'blind CV' (which prioritises information connected to skills, competences, and achievements, while changing the personal data in contact data and placing them at the end of the CV), as an innovative way of presenting a candidate's résumé. In 2016 in Spain this led to hiring more than 21,000 people aged under 25, more than 12,000 over 50, and more than 6,000 at risk of exclusion.

... faster integration could reduce refugees' fiscal impact, lead to long-term GDP growth, and correct labour market imbalances.

The same approach applies to the integration of people with disabilities in the labour market. More than 1 billion people in the world suffer from some kind of disability. That represents 15–20% of the global population—the largest single minority group. Such individuals span all age ranges, ethnicities, gender, socioeconomic levels, and sexual orientations.

Every day brings evidence of prejudice, discrimination, and limited accessibility for such individuals' efforts to integrate into the labour force. In Badenoch & Clark's 2017 survey, almost half of those with a disability have said they have either left a job, or not applied for a role or promotion, as a result of workplace bias, in comparison with just 20% of those who do not have a disability.

The Adecco Group aspires to reflect the composition of the societies in which it operates. It places around 10,500 people with a disability every year. Most are in Europe, through its Foundations in Spain and Italy and through its normal business operations in France and Belgium. Between 2004 and 2015, the total amounted to more than 72,000 people with a disability being placed in jobs ranging from receptionist to graphic designer.

In more than half its markets, the Adecco Group runs programmes to integrate people with disabilities in the workforce, including training. Adecco North America, for example, works through its Veteran's scheme. In Japan, Adecco Soleil promotes 'barrier-free' employment. To that end, it has placed 47 teleworkers in 18 locations around the country, with daily contact ensured via texts and video chats. Indeed, with advances in hyper connectivity, technology, and flexible working, physical disabilities no longer have to be the barriers they once were.

The Power of Sport

Sport can be a source of immense, but often sadly untapped, potential. Competitive games can be catalysts for change—and therefore integration—thanks to the inspiration and excitement they engender in athletes and audience alike. Through the International Olympic Committee (IOC) and International Paralympic Committee (IPC) Athlete Career Programmes (ACP) in cooperation with the Adecco Group, companies are offered access to a pool of world-class talent. Former elite Olympic and Paralympic athletes can transfer the unique skills and traits—such as discipline, determination, and endurance—they have acquired during their sports careers into the labour market. And companies gain access to world-class employees who have accumulated extraordinary traits and abilities, along with the determination to excel in whatever they do.

Seeing para-athletes in action drives home the message of 'Champions for Life'—people who have overcome extraordinary challenges through their passion, determination, and goal-setting skills: attributes invariably valued by employers. Para-athletes personify the concept of 'Talent without Labels': if they can reach such heights on the field, no one can dispute their ability in the workplace, let alone their role in encouraging and inspiring others.

Through the IOC and the IPC ACP, more than 35,000 athletes' lives have been touched and transformed (Figure 1).

The Potential of Refugees

Employing refugees can help to address labour force imbalances. In the European Union, however, it takes a refugee between 15 and 19 years to reach average employment levels. That is despite the fact that 70% of first-time asylum seekers are of working age, and most of them want to work. The greatest barriers are regulatory complexities, long waiting periods, lack of evidence of individual qualifications, and inadequate language skills.

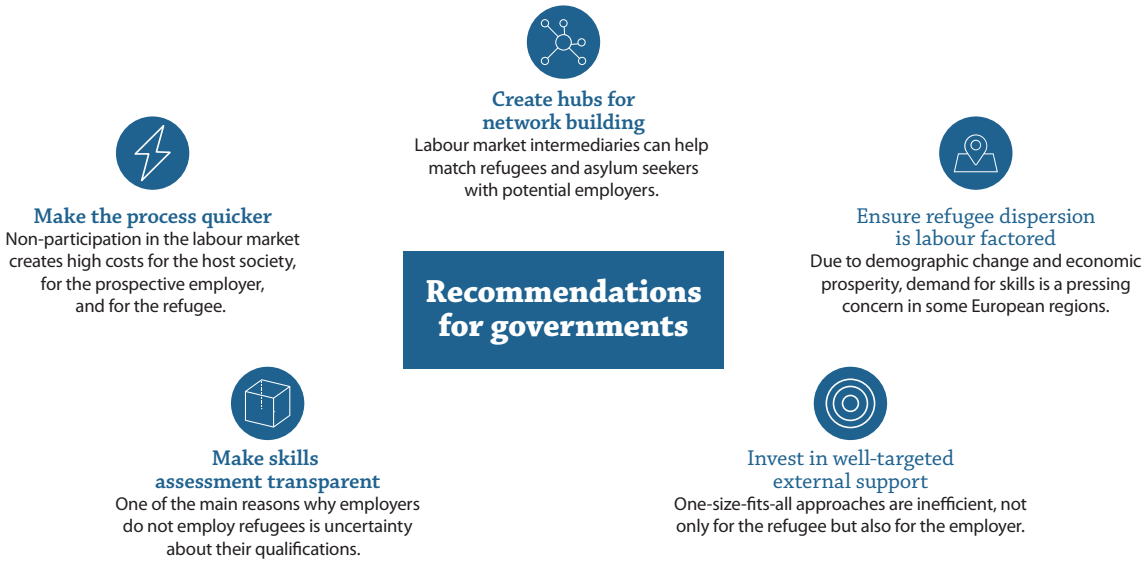
The Adecco Group raises awareness of the potential and the pitfalls, shares best practices, and makes policy recommendations. In 2017, the Adecco Group joined the European Commission's Employers for Integration initiative and became the 150th member to join the UNHCR #WithRefugees Coalition.

The Adecco Group's recommendations have been encapsulated in a white paper launched on World Refugee Day 2017 entitled 'The Labour Market Integration of Refugees'.[13] Prepared with researchers from the Reallabor Asyl, an initiative of Heidelberg University and the Centre for European Economic Research, the report highlights the contribution refugees can make. It reveals that faster integration could reduce refugees' fiscal impact, lead to long-term GDP growth, and correct labour market imbalances. The paper presents best practices from 18 European employers and offers recommendations for companies and policymakers.

The Adecco Group also matches employers with refugee and asylum networks and helps make their skills transparent. In Italy, the Adecco Foundation works with local nongovernmental organisations to offer language courses, vocational training, internships, and information on the educational system. In Germany, the Adecco Group implemented an easy-access electronic recruitment system and hotline for refugees searching for a job. In France, the project Horizon is a multi-stakeholder initiative promoting social and labour market inclusion of refugees. By 2018, 5,000 refugees in these three countries alone will be supported and placed in job opportunities (Figure 2).

Figure 2

Refugees can fill labour market gaps and bring cultural diversity to the workplace



CONCLUSION AND RECOMMENDATIONS

Companies are making far greater efforts to embrace diversity, but much remains to be done. It is now more a matter of stepping up and doing integration the 'right way'. With talent and diversity becoming increasingly valuable for business performance, there is a competitive advantage for companies seeking to get ahead. Diversity and inclusion are, it is evident, incontestable ways of improving talent competitiveness.

That means implementing effective integration and inclusion policies that not only flatter the headline numbers, but also achieve palpable results for all concerned. To that end, we recommend mechanisms to guarantee anti-discrimination practices and comprehensive talent strategies, ensuring companies better reflect the demographic footprint of their respective country, city, or region. That requires meticulous planning ahead of hiring decisions to see how given candidates may not only meet specific job requirements, but contribute to diversity too. Organisations would also benefit from expanding the definition of diversity beyond demographic and social identities, as we have seen that one of the biggest sources of bias at companies is a lack of diversity of thought.

More broadly, we would argue that flexibility, engagement, learning, and openness make it easier for companies to embrace the full range of talent diversity, while also reshaping their organisations to better reflect the societies in which they operate.

Workforce solutions providers such as the Adecco Group have a major role here, given their prominence in recruitment and career development. We can help train leadership to understand and leverage the values of diverse teams to enhance competitiveness. We can help candidates overcome barriers to enter the workforce and reach career goals. And we can assist employers in promoting diversity and managing inclusion to the benefit of all.

ENDNOTES

1 Badenoch & Clark (2017).

2 Diaz-Uda et al. (2013).

3 *Cognitive diversity* has been defined as differences in perspective or information processing styles: how individuals think about and engage with new, uncertain, and complex situations. While cognitive diversity is not predicted by factors such as gender, ethnicity, or age, it is reasonable to think that a diverse environment is more likely to foster cognitive diversity.

4 See Reynolds & Lewis (2017); Stiles (2017).

5 See Ali (2017).

6 Stiles (2017).

7 Adecco Group UK & Ireland (2015).

8 Hunt et al. (2015); Mercer (2016).

9 Hunt et al. (2015).

10 Thomas & Ely (1996).

11 In Spanish, this is 'Premio especial al Mejor Directivo Best Workplace 2017'. See http://www.equiposytalento.com/noticias/2017/03/31/great-place-to-work-entrega-los-premios-a-las-mejores-empresas-para-trabajar-en-espana-en-2017 for details.

12 Adia is a mobile-first, cloud-based end-to-end platform that enables employers to easily request temporary staff for hourly or daily assignments. It targets hospitality and events and candidate profiles for the SME segment. Adia's algorithm matches jobs to workers based on skills, level of experience, and proximity to the place of work as well as the job seeker's real-time availability. See https://adia.com/ch-en/ for further details.

13 The Adecco Group (2017).

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CHAPTER 3

Discovering New Benefits of Diversity in the Artificial Intelligence Age

Vinod Kumar
Tata Communications

The Forbes contributor Glenn Llopis made an apposite observation when he said that diversity and inclusion (D&I) is *'becoming less about the business defining the individual and much more about the individual defining the business.'*[1] Understanding this shift—and how enterprises can make the most of it—underlines how D&I is a critical current driver of talent competitiveness that is both a challenge and an opportunity for large multi-national groups.

Tata Communications provides connectivity and collaboration solutions to help drive its clients' diverse business activities throughout every corner of the world. From data centres and cloud services to low-latency fibre rings linking the world's financial capitals, the very nature of its advanced solutions depends on integrating and leveraging diversity at physical, technological, as well as human levels. For this type of enterprise, a culture that is diverse, inclusive, collaborative, and heavily interconnected is an organisational must-have.

An enterprise's business objective should be infused into every aspect of how it operates internally. Tata Communications is no exception. It follows that creating conscious, aware leaders who value and recognise the positive impacts of diversity is a fundamental principle across all its business units. This is the starting point that drives a strong outreach—both internally and externally—to widen the funnel, thus bringing in a healthily diverse mix of the very best talent at all levels. At the same time, the company is equally dedicated to creating a supportive and encouraging environment through inclusive policies designed to retain that talent.

This approach to diversity means that individual capability development is prioritised—to encourage employees to recognise their potential and successfully create careers for themselves within the organisation. At its heart is concentrated exposure to learning and development opportunities that capitalise on the value of collective experience, knowledge, and insights. A company thrives when its employees can collaborate and innovate in teams working face to face, as well as remotely across national and international geographies.

Promoting a positive diversity agenda is supported by widespread evidence. For example, PwC's 2015 report, entitled

'The female millennial: A new era of talent',[2] underscores how important the diversity picture overall is for both genders. The report highlights the fact that 86% of female and 74% of male millennials said an employer's policy on diversity, equality, and workforce inclusion was important to them when deciding whether or not to work for an organisation. Critically, a 2015 McKinsey survey of 366 public companies shows that those in the top quartile for gender diversity specifically were 15% more likely to deliver returns above the industry mean.[3]

If the high-tech, high-speed, always-on world Tata Communications makes possible for its clients—and, in turn, for their end-user customers—is a natural fit for a culture that embraces diversity in all its forms, how has the journey to nourish that culture been so far? What has been learned in the move from an era where diversity moves from box-ticking compliance towards an elemental component that drives agility and performance capability?

And, of special significance for a business that is always looking towards what lies beyond the horizon—with tech running through its very DNA—where might the diversity agenda take us next as we move rapidly further into the age of artificial intelligence (AI)?

THE JOURNEY TO DATE

Any opportunity to explore the impact and potential of diversity in an information technology (IT)/tech context has, of course, to focus on one of the biggest challenges of all facing the sector: that of gender imbalance. Despite a progressive Tata group heritage that saw female employees eligible for maternity benefits decades before these benefits became law in India, this is a challenge from which no enterprise—including Tata—is immune.

Recognising that big improvements to address the gender gap would be critical for the next step in its evolution, Tata Communications launched its Winning Mix initiative in October 2014. Its aim was to make the most of the proven added value that the presence of more women brings to group performance.

Many studies confirm the importance of human diversity for collaboration specifically. Among them is Woolley et al.'s 2010 study[4]—a celebrated example that provides particularly compelling evidence of the benefits of gender diversity. This study shows a direct relationship between the proportion of females to males in a group and that group's performance in problem solving and innovation. Research in Spain also supporting the idea that companies with gender diversity are more innovative further justifies the business case.[5]

However, although 60% of global college graduates are female, recent figures for women in IT-related jobs continue to cause concern about on-going gender imbalance. For example, the National Center for Women in Information Technology reported that, although some 25% of the US professional computing workforce was female in 2015, women in high tech industries were twice as likely to quit their jobs as those working in other sectors.[6]

SHIFTING THE BALANCE WITH WINNING MIX

Tata Communications realised it was behind the curve in 2014, with a workforce of only 17% women across all core business units including sales. So the company embarked on a new programme—Winning Mix—to improve its position, with an aspirational target of 30%/70% female/male employees. This is the generally accepted tipping point at which gender rebalancing can take on its own positive momentum.

Central to the programme's launch was in-depth work facilitated by global bias experts Cook Ross. This started with a Conscious and Inclusive Workshop for Tata Communication's 200-strong leadership team, which revealed unconscious gender biases that existed in the company even at the highest levels. These leaders then cascaded the Winning Mix message down through the organisation, reaching wider employee audiences through online games designed to highlight those biases. An example of such a bias is the idea that a role involving frequent overnight travel may not suit a woman for family reasons.

The Winning Mix takes a holistic approach to gender diversity and inclusion and was underpinned from the start by a robust oversight structure—the company's Diversity Council—and comprehensive, company-wide communication campaigns. These included invitations for all employees to participate in discussions on diversity and inclusion, and to share best practices through the interactive Winning Mix forum on Tata Communications' intranet, along with specific employee campaigns. The initiative is now hard-wired into talent acquisition guidelines and human resources policies.

Although the programme has a long way to go and faced some early challenges of understanding across the business, Tata Communications' gender rebalancing is moving in the right direction towards the 30:70 target. In 2017, nearly 33% of new hires were women and the cross-company figure rose to 21%—with ambitious plans to strengthen Winning Mix further. These plans include:

- extending the company's pioneering family care leave policy to the primary carer rather than solely to women (a gender-agnostic approach that positively signals the value the company attaches to family care for both women and men);
- gaining a deeper understanding of employee perceptions through externally conducted exit interviews;
- promoting a cross-organisation inclusivity guide; and
- raising further awareness of external recognition, such as the company's inclusion in the 'Best Companies in India 2016' study conducted by the AVTAR talent strategy consultancy and the multi-platform publisher Working Mother.

Although Tata Communications has made great strides forward, its D&I strategy is still a work in progress. The time it would take to move the needle on gender diversity was certainly underestimated. Equally, the company acknowledges that it has some way to go in fully embracing non-gender diversity. To help Tata Communications stay true to its D&I aspirations, it has embarked on a range of international and cross-functional collaboration initiatives. These are designed not only to speed up the transfer of knowledge and experience between geographies and teams, but also to help negate bias and challenge assumptions in decision making.

DIGGING DEEPER INTO THE TALENT POOL

If Tata Communications' role as a global player in connectivity, cloud, and related IT services makes diversity an imperative, then using its own technology to extend and tune its gene pool by drawing from talent worldwide is a logical next step.

One new tool, currently at the prototype stage, uses cognitive AI and analytics to match a job description to relevant employee profiles and the thousands of CVs received each year, as well as those on LinkedIn and other large global databases. This tool will be programmed to generate an appropriately diverse shortlist of candidates—even though the company does not operate any kind of quota system at the selection stage.

Another programme in development employs smart CV masking to ensure that no cultural or gender identification is visible to the recruiter. Meanwhile, as automation begins to make some roles redundant, the company is also looking at ways that employees can re-shape their careers by matching their profiles with those of other similarly qualified and experienced people across global databases. This way they can learn of other possible career 'next steps'.

Other projects that bring added long-reach value to Tata Communications' diversity mix include Project Marketplace, where anyone across the Tata group can post a project and create virtual global teams to solve a problem. With up to 80 new teams created in its first year, the company is now looking to open up Project Marketplace still further to include external freelance talent.

TOWARDS A NEW DIVERSITY

Looking ahead, however, it is the potential offered by AI for leveraging diversity that looks a particularly promising area, as recently outlined by Tata Communications' CEO Summit speaker Professor Ken Goldberg of the University of California, Berkeley, in the *Wall Street Journal* and in his follow-on paper.[7] Tata Communications shares his positive view that 'Multiplicity'—the combination of machine learning, crowd sourcing, and cloud computing—can bring diverse groups of machines and humans together synergistically to solve problems and innovate, in contrast to the AI-dominated future world that some fear.[8]

It is clear that diversity is a powerful tool that needs to be carefully enhanced and managed by businesses and organisations as they strive for greater competitiveness, innovation and productivity. Ultimately, this will optimise the talent mix in ways we may never yet have imagined.

ENDNOTES

1 Llopis (2016).

2 PwC (2015).

3 Hunt et al. (2015).

4 Woolley et al. (2010).

5 Díaz-García et al. (2013).

6 Ashcraft et al. (2016).

7 Goldberg (2017a, b).

8 Goldberg (2017b).

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CHAPTER 4

Diversity's Positive Impact on Innovation and Outcomes

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Center for Talent Innovation and Hewlett Consulting Partners LLC

Corporate leaders have long recognised that diverse talent supports innovation, but many organisations fail to fully realise this innovative potential. Diverse talent often have difficulty winning endorsement for their ideas. Many may also be hesitant to speak up and offer their suggestions.

Studies by the Center for Talent Innovation (CTI), a non-profit research organisation focused on global talent and inclusiveness, provide data on these problems and suggest the following two-pronged approach for companies seeking to reap the benefits of diversity through inclusion:

- Build inclusive team cultures, in which team leaders exhibit three of six specific behaviours.
- Foster diversity (both *inherent* and *acquired,* as defined below) in top company leaders.

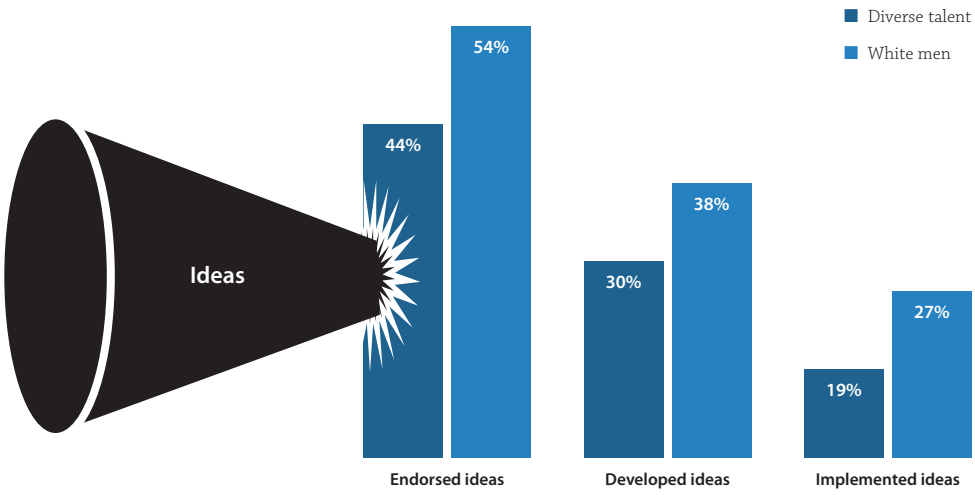
Inclusive leaders unlock the innovative potential of their teams. With multi-dimensional diversity in senior management, employees are more likely to say they have team leaders who demonstrate inclusive behaviours—and that their companies are growing market share and capturing new markets.

Companies interested in fully leveraging diverse employees should therefore consider a 'package deal': when leadership is both diverse and inclusive, companies can have robust support in place for innovation.

This chapter begins with famous examples of how the lack of diverse viewpoints in leadership can hinder organisations. It then presents CTI research that quantifies some of the benefits that inherent employee diversity brings to a company, and how this value often goes unrealised.

The chapter proceeds with an analysis of proprietary data on how six specific inclusive leadership behaviours at the team level can create an environment that is more conducive to innovation. Additional data on how having inclusive leaders correlates with greater employee engagement and retention are then presented. The chapter concludes by explaining another kind of diversity: acquired. When acquired diversity is present in

Figure 1
Ideas from diverse talent: Stuck in the pipeline



Note: Fifty-six percent of respondents said leaders at their companies do not value ideas for which they personally do not see a need.

senior management, it supports inclusive leadership behaviours. Data on the market benefits that two-dimensional (inherent and acquired) diversity in senior leadership can offer companies are then presented.

Unless otherwise noted in the text or endnotes, the data in this chapter come from a nationally representative survey that CTI conducted in the United States of 1,800 college-educated respondents, ages 21 to 62, working full time in white-collar occupations at companies with more than 50 employees. Forty case studies, Insights In-Depth® sessions (a proprietary web-based tool used to facilitate online focus groups) with over 100 participants from CTI's Task Force organisations, and more than 60 one-on-one interviews helped CTI analyse and interpret the survey findings.

THE DANGER OF NON-DIVERSE LEADERSHIP

A lack of diverse viewpoints can have harmful consequences, as a famous example illustrates: the International Monetary Fund (IMF) failed to predict the enormity of 2008's global financial crisis, and was hampered in its ability to respond. Why did the IMF, which had in its ranks some of the world's most brilliant and experienced economists, stumble in its task of protecting global financial stability?

In a report from 2011, the IMF openly blamed the failure on 'a high degree of groupthink'. IMF leadership, the report explained, suffered from its own homogeneity. The organisation's leaders, mostly men from developed economies with similar educational backgrounds and résumés, ruled out the possibility that a global crisis might start in advanced financial systems. Members from less developed economies who dissented saw their opinions dismissed, the report said.[1]

Evidence of the dangers of non-diversity also abounds in the corporate space. To take two examples from the Middle East: Eurostar's offering of a computer tablet for women (called the 'ePadFemme') and Mattel's attempt to market a Muslim Barbie named 'Leila' both failed to win consumers. Middle Eastern women did not appreciate a pink tablet that steered them to recipes and pregnancy tips,[2] while families preferred a doll designed in Syria that represented Muslim values.[3] Viewpoints put forth by women in Eurostar and Muslims in Mattel might have avoided these costly mistakes.

These examples offer a key insight: a lack of diversity in leadership can hinder an organisation's ability to respond well to a novel situation where innovative thinking is required. Even when diverse viewpoints are present in an organisation (as was the case in the IMF, which included members from less-developed economies), those viewpoints have little impact if a homogeneous leadership team fails to consider them.

FAILING TO FULLY REALISE THE DIVERSITY DIVIDEND

Evidence exists that companies with diverse workforces outperform financially,[4] and CTI research has identified at least one explanation for this 'diversity dividend'. Inherently diverse employees—with *inherent diversity* referring to an individual's gender, race/ethnicity, age, religious background, socioeconomic background, sexual orientation, disability status, and nationality—can be founts of insights that can help new products match the market. For example, a recent immigrant from Latin America to the United States who speaks Spanish may understand her fellow immigrants' needs and aspirations better than someone from a different background would. Learning Spanish in school generally does not provide the same cultural nuance or empathy as lived experience, or membership in a given community. Someone with that recent immigration experience, thus, could better design a product, service, or marketing campaign that responds to those needs.

Inherent diversity is powerful. CTI research has found that when teams have one or more members who represent the gender, ethnicity, culture, generation, or sexual orientation of the team's target end user, the entire team is at least 144% more likely to say that they understand that end user. A team that understands its target user may be more likely to perceive issues unique to that user, and to home in on solutions that address those issues. As a result, that team may be more likely to come up with ideas for unmet market needs.

Ideas to serve new markets, however, are merely a first step towards the creation of value. To fully innovate, organisations must develop these ideas and deploy them in the marketplace. That process requires decision makers' buy-in and endorsement. In many larger companies, this endorsement must come from powerful leaders scattered throughout divisions and ranks.

CTI research indicates that, when it comes to the ability to recognise the importance of a new idea or concept, leaders are hampered by their own blind spots. The CTI survey revealed that 56% of respondents say that leaders at their companies do not value ideas for which they personally do not see a need. A mostly male leadership, for example, may not show any interest in innovative ideas for better breast pumps, even if many women could speak to a possible market demand.[5]

Leadership's blind spot for ideas that do not fill their personal needs is a serious problem in the United States, where women make up 47.8% of the workforce but only 29.7% of senior management.[6] Racial and ethnic minorities make up 37.7% of the US workforce, but only 14.0% of senior management.[7] At the very top, the under-representation is even greater. At Fortune 500 companies, women comprise just 4.8% of CEOs; racial and ethnic minorities comprise 5% of CEOs.[8]

CTI's data indicate that the wisdom of the crowd can be easily lost: women and people of colour are less likely to have their ideas realised (see Figure 1). In the survey, only 44% of women and people of colour reported having an idea endorsed, compared with 54% of white men. Thirty percent said an idea of theirs had been developed, compared with 38% of white men. And only 19% said an idea had been implemented, compared with 27% of white men.

MAXIMISING INNOVATIVE POTENTIAL

To discover how companies can assure employees that their innovative ideas are valued, CTI started at the team level. After all, a manager can be the first barrier to an innovative idea being shared or adopted. CTI conducted focus groups and created a list of common behaviours that team leaders employ to generate innovation. Survey respondents were then asked which of these behaviours their team leaders displayed, as well as whether they agreed with the following three statements that indicate that a team's innovative potential is maximised:

- My ideas are heard and recognised.
- I feel welcome and included within my team.
- I feel free to express my views and opinions.

CTI looked to see which of the leadership behaviours gave the highest boost to a team's innovative potential, and concluded that these would be considered 'inclusive leadership behaviours'. The top six behaviours were:

- ensuring that everyone gets heard,
- giving actionable feedback,
- making it safe to risk proposing novel ideas,
- taking advice and implementing feedback,
- empowering team members to make decisions, and
- sharing credit for team success.

Inclusive leaders were defined as those who exhibit at least three of these six inclusive behaviours. These are leaders who, the interviewees said, enable them to speak up and contribute innovative ideas to their companies.

'I had a great manager once', a healthcare marketing executive told us. *'She said if you didn't have a chance to speak up during a meeting but you had something to contribute, we should speak to her later or send an email. And she made clear that she meant it. She occasionally would announce to the team that she'd received an email with a great idea from so-and-so. It made everyone eager to contribute, that they knew they'd be listened to'.*

There is a second reason that fostering inclusive leadership should be a high priority for companies: with inclusive leaders, team members are far less likely to perceive bias.

DIVERSITY AND EMPLOYEE PERCEPTIONS OF BIAS

CTI's most recent research has also been able to measure an additional way in which inclusive leaders help inherently diverse employees thrive: inclusive leaders reduce the experience of bias in the workplace, an area of great interest for many companies.

A nationally representative survey that CTI undertook in the United States of 3,570 white-collar, college-educated employees found that, in large companies, people of colour, those born abroad, and people with disabilities are especially likely to perceive bias around assessments of their potential. For example, 11.2% of Asians, 13.9% of employees with disabilities, and 19.7% of employees born in Latin America perceive this kind of bias, compared with 9.2% of the overall sample.[9]

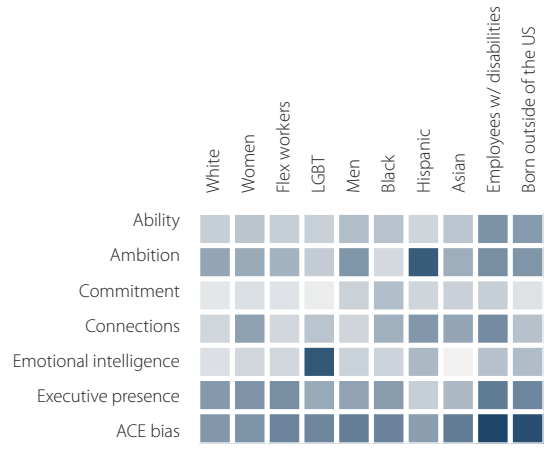
To measure whether employees perceive bias, CTI first identified six key areas on which their potential is assessed (termed the *ACE model*): ability, ambition, commitment, connections, emotional intelligence, and executive presence. Employees were then asked how they assess their own potential on each of these six ACE elements, how they believe their superiors assess them on these elements, and what kind of feedback they have received on these elements.

When respondents reported that their superiors' assessment was lower than their self-assessment, CTI researchers deduced that these respondents perceive negative bias around assessments of their potential in this area. When they perceived negative bias in two or more areas, this result was defined as *ACE bias,* since (see below) it has significant correlations.

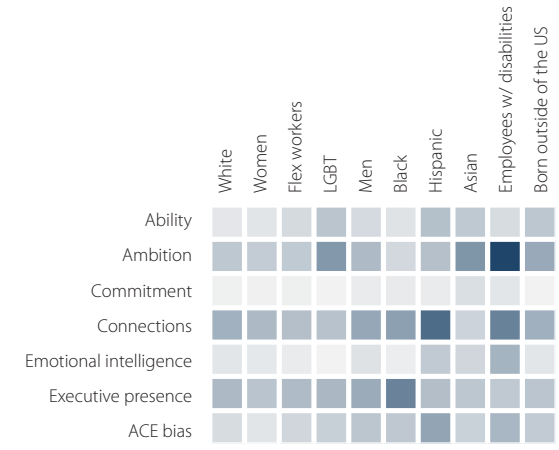
Figure 2

Bias perceived by employees in large companies

2a: Employees without inclusive leaders



2b: Employees with inclusive leaders



Note: *ACE bias* means the rate of bias perception in two or more ACE areas. The darkest blue indicates a rate of more than 15%; the lightest white indicates a rate of 0%, and intermediate shades indicate intermediate rates of ACE bias perception. With inclusive team leaders, employees at large companies are 87% less likely to perceive ACE bias and 39% more likely to be engaged.

CTI organised the results into a heatmap (Figure 2) that shows the rate at which different talent cohorts perceive bias in each of the six key areas. The symbols in the left-most column represent (from top to bottom) ability, ambition, commitment, connections, emotional intelligence, executive presence, and overall ACE bias (rate of bias perceived in two or more areas). The boxes represent the level of bias reported, with white indicating 0% in that cohort perceiving bias, dark blue indicating over 15% in that cohort perceiving bias, and intermediate shades indicating intermediate rates of bias perception. The heatmap in Figure 2a shows bias perception levels for employees at large companies who do not have inclusive team leaders. The heatmap in Figure 2b shows bias perception levels for employees at large companies who have inclusive team leaders.

As the heatmaps in Figure 2 show, with inclusive team leaders, employees are less likely to perceive bias. When employees at large companies have inclusive team leaders, they are on average 87% less likely to perceive ACE bias around assessments of their potential than employees on teams without inclusive leaders.[10]

For example, at large companies, 20.5% of foreign-born employees perceive bias on two or more ACE elements when their team leaders are not inclusive. But when their team leaders are inclusive, only 3.0% of foreign-born employees perceive ACE bias. Among employees with disabilities at large companies, 21.2% perceive this ACE bias around assessments of potential when their team leaders are not inclusive. When they have inclusive team leaders, only 4.6% of them do.[11]

This reduction is important, since a perception of ACE bias correlates both with poorer career outcomes for individuals and with behaviours that may prove damaging to their employers.

Compared with colleagues at large companies who do not perceive ACE bias, over the last year those who do perceive it are 32% less likely to have received a raise, 45% less likely to have had their job responsibilities increased, and 25% less likely to have received a promotion.[12]

Those who perceive bias are also more likely to be disengaged, to leave their companies, and to engage in sabotage.

Compared with employees at large companies who do not perceive ACE bias, employees who do are nearly three times as likely (20% versus 7%) to report that they are not engaged at work and 2.6 times as likely (34% versus 13%) to say that they have withheld ideas or solutions from their companies over the previous six months. They are also more than three times as likely (31% versus 10%) to plan to leave their employers within the year, and 60% more likely (48% versus 30%) to have looked for a job while on the job in the past six months. Finally, they engage more frequently in sabotage: they are five times as likely (5% versus 1%) to have discussed their companies negatively on social media and 4.5 times as likely (9% versus 2%) to have intentionally failed to follow through on an important assignment in the past six months.[13]

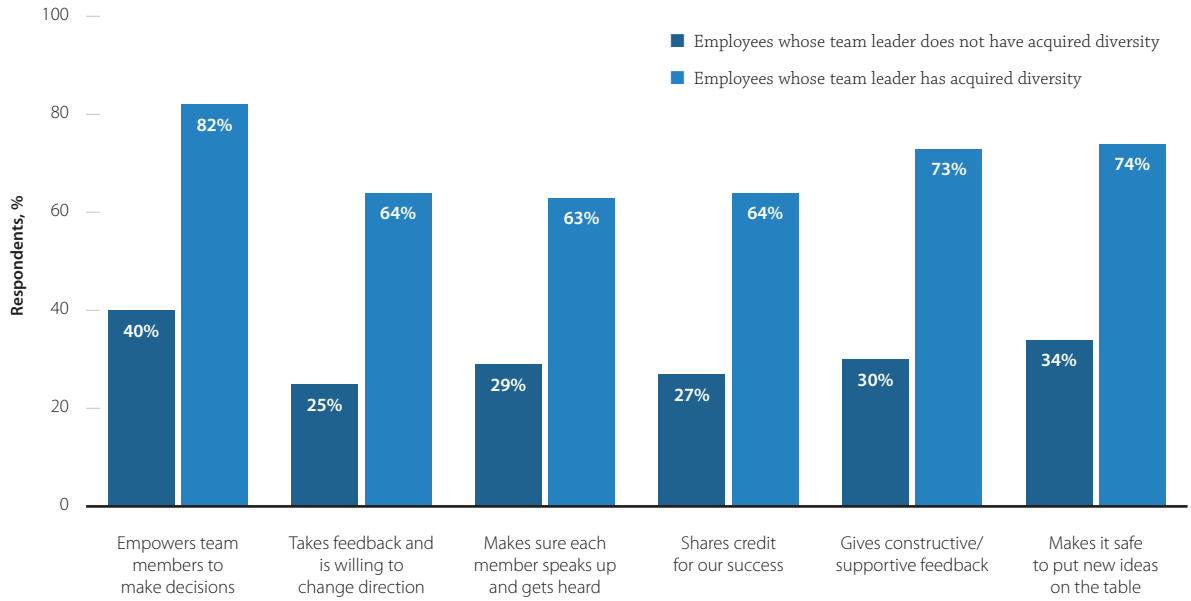
Inclusive behaviours may be taught, and leadership training likely has a role to play in many organisations, alongside building inclusivity into performance reviews and/or bonus structures for team leaders. But there is another way that leaders can support inclusive leadership: through attention to two kinds of diversity in top leadership.

ACQUIRED DIVERSITY

As companies look to fully leverage inherent diversity at their companies, there is yet another piece to the puzzle beyond inclusive leadership. After all, the ideas an inclusive team leader elicits can wither on the vine if they are not endorsed by top leaders. CTI's research has found that varied backgrounds and experiences can give leaders an appreciation for difference,

Figure 3

Team leadership behaviours: Leaders with and without acquired diversity



Note: All leadership behaviours are as reported by team members.

whether that difference is rooted in gender, age, culture, socio-economic background, nationality, disability status, or sexual orientation. The kind of experience that leads to this appreciation for difference is called *acquired diversity*.

Consider a European who has worked many years in Nigeria. While there, this European has likely developed cultural fluency: a keen sense of the economy and the people, including their needs and aspirations. To take another example, someone who has grown up with a gay sibling may know well the LGBT community's challenges and sensibilities.

Acquired diversity includes not just cultural fluency, but also generational savvy, gender smarts, social media skills, cross-functional knowledge, a global mind set, military experience, and language skills. The CTI survey showed that when team leaders, according to their direct reports, have three or more of these acquired diversity characteristics, they are more than twice as likely (see Figure 3) as team leaders without any acquired diversity to demonstrate each of the six inclusive leadership behaviours.

When acquired diversity joins with inherent diversity at the senior management level, CTI data also indicate a significant rise in inclusive leadership at the team level—and in innovation and market growth.

TWO-DIMENSIONAL DIVERSITY, INNOVATION, AND MARKET GROWTH

To examine how both kinds of diversity can work together in senior leadership, CTI's research looked at what is termed *two-dimensional (2D) diversity:* when company leadership displays at least three inherent and three acquired diversity characteristics.

Only 22% of CTI survey respondents worked for companies with 2D diversity in senior leadership, but many of these firms have a big leg up on the competition. For a start, 2D diversity in senior leadership correlates strongly with inclusive leadership behaviours at the team level (see Figure 4).

Common markers of innovation also correlate with 2D diversity. Employees at firms with 2D diversity in senior leadership are 95% more likely to say 'We're not afraid to fail', 90% more likely to say 'We take risks', 72% more likely to say 'Nobody's afraid to challenge the status quo', 68% more likely to say 'We embrace the input of members whose background or expertise differs from our own', 63% more likely to say 'We're passionate to succeed', and 60% more likely to say 'We prioritise team success over personal gain'.

Leadership with 2D diversity is also far more likely to reward innovative behaviour: organisations with 2D diversity in leadership are more than four times as likely to reward proposing radical changes to existing models and incentivising employee creativity, for example (see Figure 5).

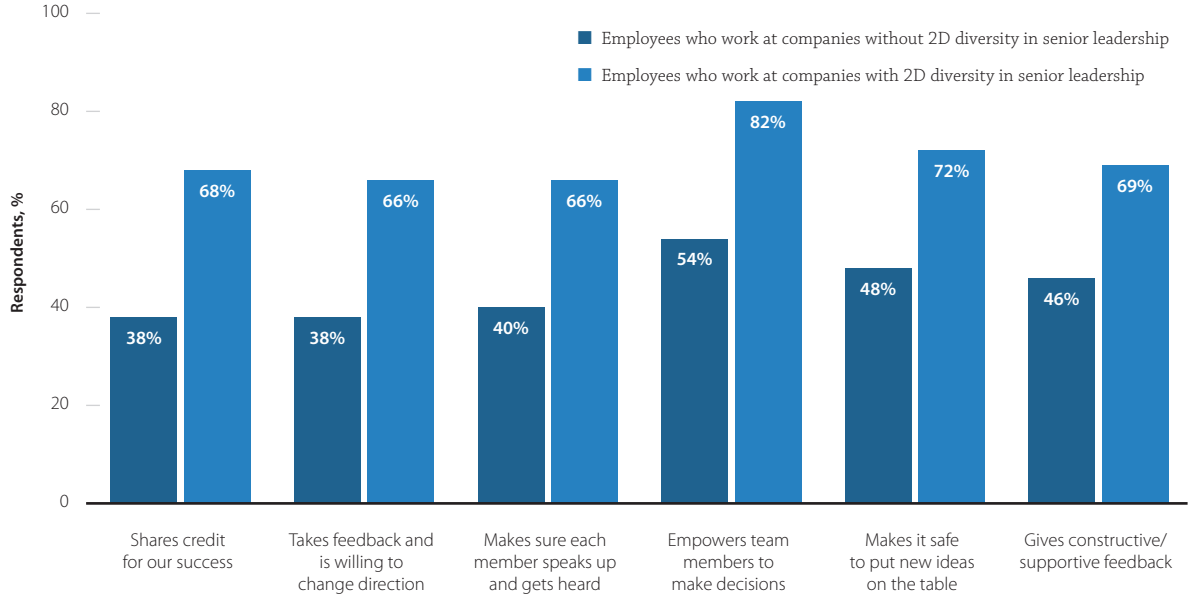
Two-dimensional diversity also correlates highly with reduced chokeholds on innovation. Employees at companies with 2D diversity in senior leadership are:

- 38% less likely to say 'groupthink is a problem' in their teams,
- 40% less likely to say 'leadership at my firm does not perceive value in ideas they don't personally see a need for', and
- 46% less likely to say 'ideas at my company rarely make it to market'.

Two-dimensional diversity has a notably positive impact on inherently diverse talent's ability to win endorsement for their

Figure 4

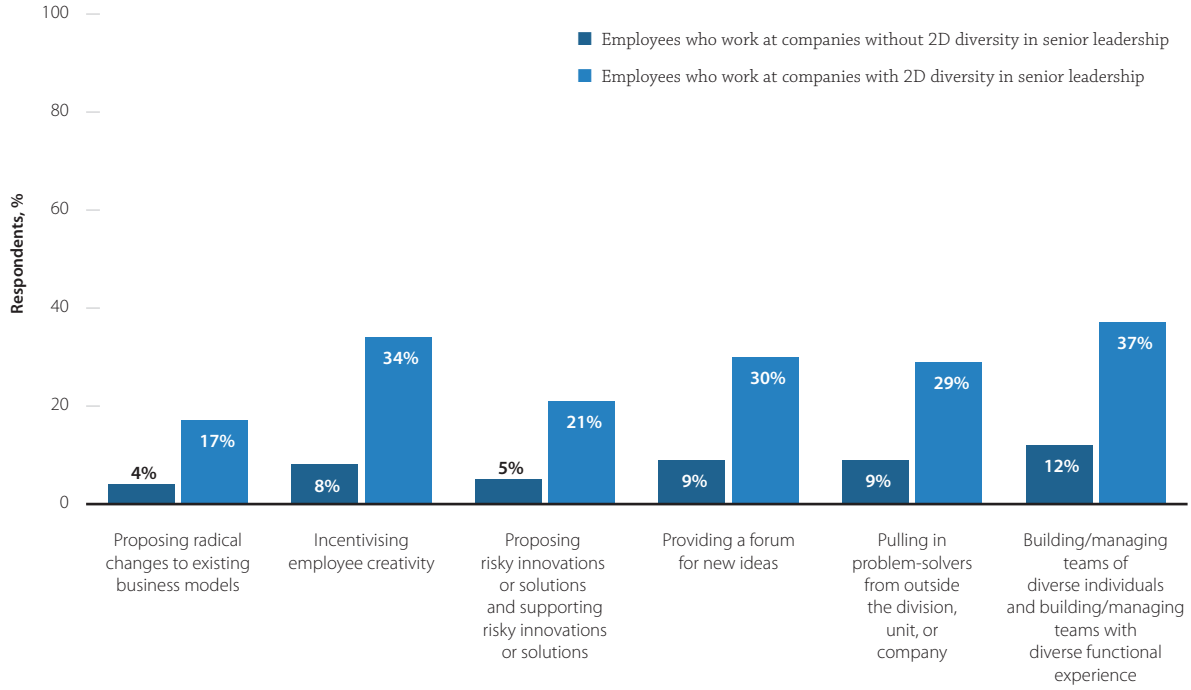
Team leadership behaviours: Companies with and without 2D diversity



Note: All leadership behaviours are as reported by team members. Data were obtained in answer to the question 'Which of the following behaviours does your team leader exhibit?'

Figure 5

Rewarded behaviours: Companies with and without 2D diversity



Note: Data were obtained in answer to the question 'Which behaviours at your company get rewarded either formally or informally?'

ideas. In companies that lack 2D diversity in senior leadership, straight white men are 28% more likely to win endorsement for their ideas than are women and they are 34% more likely to win endorsement than people of colour.

With 2D diversity in senior leadership, this difference in endorsement rates vanishes.

The results appear in the marketplace. Employees who work for publically traded companies with 2D diversity are, compared with those in publically traded companies without 2D diversity:

- 45% more likely to report that their company improved market share over the past 12 months, and
- 70% more likely to report that their company captured a new market over the past 12 months.

Johnson & Johnson offers an example. When she was director of global marketing services at the healthcare giant, Colombia-born Liliana Gil Valletta cofounded a Hispanic employee resource group (ERG) that formed a clear business agenda: to map the Latino market opportunity for each disease area. Senior management provided strong support, and Valletta was able to hold meetings with the company's chairman and present her strategy and recommendations to the executive committee. The firm discovered an unmet business opportunity as a result.[14]

CONCLUSION

Innovation is an imperative for corporations. It is crucial for companies to encourage employees to come up with new ideas and to encourage leaders to implement them.

CTI's data indicate two practices to facilitate a culture of innovation. These practices are open to nearly any company, from a high-tech start-up to a long-established conglomerate. The first is to establish 2D (inherent and acquired) diversity in leadership. The second is to foster a set of six inclusive leadership behaviours.

Each method is effective on its own, but implementing both is recommended because they have the potential to build on each other. Two-dimensional diversity in leadership correlates with inclusive leadership behaviours. Inclusive leadership behaviours, in turn, correlate with reduced perceptions of bias around assessments of potential. By reducing employees' likelihood of perceiving bias, inclusive leadership behaviours may thus help diverse talent rise to leadership.

To achieve 2D diversity in leadership, companies may need to re-examine hiring and assessment methodologies and refocus sponsorship programs. To make inclusive leadership behaviours more prevalent, diverse leadership itself is a driver. Other drivers include top leaders setting the tone through town halls and messaging, training programmes for managers, and linking promotion and pay to inclusive behaviours.[15]

The desired future state should be leadership that is both diverse and inclusive. With such leadership, CTI data indicate that companies are likely to improve their chances of fully utilising all their employees' potential to contribute innovation and grow their companies' market share.

ENDNOTES

1 IEO of the IMF (2011).

2 Adekola (2013).

3 Zoepf (2005).

4 Hunt et al. (2015).

5 Winter (2017).

6 U.S. Equal Employment Opportunity Commission (2015).

7 U.S. Equal Employment Opportunity Commission (2015).

8 Zarya (2016); Diversity Inc. (2015).

9 Hewlett et al. (2017, p. 13) and unpublished data from report research.

10 Hewlett et al. (2017, p. 22).

11 Hewlett et al. (2017, p. 13).

12 Hewlett et al. (2017, p. 14).

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CHAPTER 5

Education and Diversity: Challenges and Opportunities

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Over the past decades, societies in member countries of the Organisation for Economic Co-operation and Development (OECD) have become increasingly diverse. Facilitated by fast-changing technology and decreasing transport costs, individuals are moving more freely than ever before across countries and continents, bringing greater ethnic, linguistic, and cultural diversity to OECD countries.[1] This multiplicity of backgrounds joins the differences in class, gender, intellectual and physical ability, and sexual orientation already present in our societies and schools.

From an educational perspective, increasing diversity raises the question: what is the best way to ensure that all students can succeed at school and beyond? Traditional educational systems have focused on uniformity and standardisation: uniform aims, identical content, standardised learning progression, undifferentiated amount of time assigned for learning, and common criteria for success—regardless of the diversity of talents in the student population. The emphasis has been on *homogeneity* of learners (and outcomes). This paradigm of homogeneity required that learners were seen as similar in many ways and that differences were deliberately not acknowledged.[2]

This approach might have been appropriate in a time of massification and expansion of education, but it is simply not tenable in a modern world. It is no longer uncommon for teachers to have a class with a diverse range of backgrounds, cultures, learning preferences, and abilities. There is ample evidence from the OECD's Programme for International Student Assessement (PISA) test that diversity matters, but perhaps not always in the way we would hope it would:[3] students with immigrant backgrounds perform less well on average on the PISA assessment than their native peers; those from wealthier families outperform the less wealthy; and there are long-standing gender differences in performance that, on average, favour boys (in mathematics) and girls (in reading). And while these performance gaps are important, the large variation in their magnitude across countries indicates that these differences can be largely mitigated, if not overcome. Providing all students with the skills and

THE SEVEN LEARNING PRINCIPLES

In order to be most effective, schools and other learning environments should attend to all of the following learning principles:

1. Make learning central, encourage engagement, and be where learners come to understand themselves as learners.
2. Ensure that learning is social and often collaborative.
3. Be highly attuned to learners' motivations and the importance of emotions.
4. Be acutely sensitive to individual differences, including in prior knowledge.
5. Be demanding of each learner but without overloading them excessively.
6. Use assessments consistent with these aims, with a strong emphasis on formative feedback.
7. Promote horizontal connectedness across learning activities and subjects, both in and out of school.

Implementing these research-based principles means embedding them in daily practice. More demanding still, *all* the principles should be worked towards rather than a selected few. Although these principles were originally intended to optimise learning in individual learning environments, they also serve to guide wider reforms and system change.

Source

Dumont et al. (2010).

competencies required to thrive in school and beyond means being able to meet their diverse sets of needs.

Diversity is not a problem to be solved. It is a reality of our world, a fundamental aspect of being human. Recent trends in migration and inequality have only highlighted an issue that has existed for centuries. Challenging the paradigm of homogeneity in our education is part of a larger process wherein negative stereotypes, assumptions, and values for our citizens are addressed and placed on the table for discussion. But changing such beliefs does not happen overnight.

This chapter, based on OECD research, will look at the issue through the lens of a series of challenges. It begins with a review of the pedagogical challenge and the importance of learning principles for diversity. It then explores the curriculum challenge (*what* to teach) as well as the professional challenge (*how* to support teachers). It ends with a discussion of the policy challenge and how this might work on a systems level.

HOW STUDENTS LEARN: REDESIGNING LEARNING ENVIRONMENTS

The main challenge that educational systems around the world now face is to turn diversity in its various dimensions away from being seen as a challenge to be overcome into an asset that drives overall quality and performance. The PISA data demonstrate that this is perfectly possible: some high-performing countries such as Canada and the Netherlands serve diverse learners well, while other equally well-performing countries such as Japan seem to struggle to cope with the diversity challenge, especially in its social and ethnic dimensions.[4]

Research on pedagogies in innovative learning environments tells us that a first step in better serving all students is to move away from the ideal of homogeneity in learning and teaching. Sliwka (2010) sets out an argument for how change happens. She sees it as a continuum of three steps:

1. **Homogeneity:** Learners grouped into one kind of educational instution are perceived to be similar and get the same kind of treatment. Difference is not acknowledged.
2. **Heterogenity:** Learners are perceived to be different and adjustments are made to address their different needs. Difference is seen a challenge to be dealt with.
3. **Diversity:** Learners are perceived to be different from each other. Their difference serves as a resource for individual and mutual learning and development. Here difference is seen as an asset and an opportunity.

Various systems across OECD countries are arguably in different stages of this continuum. Creating a system that can take advantage of the opportunities diversity provides is a distinct challenge for many educational systems across the OECD, where the fundamental paradigm is the assumption that the homogeneity of learners in a group best facilitates their individual learning. With such a complex combination, maintaining a balance among equity, delivering a fair and excellent education to all, and catering to individual learning needs has made a teacher's job extremely challenging.[5]

What, then, is the best way forward? How can our systems best harness the benefits that diverse teachers and students bring, not only to learning environments but also to the workplace? In order to address these questions, we must first delve more deeply into the nature of learning itself.

Learning Principles for Diversity

In order to better meet the needs of learners, education has been shifting from traditional hierarchical teacher-centred classrooms to a more in-depth focus on learning. Extensive work from the OECD has focused on what this means in theory and in practice, and how best to effect change on the micro (classroom), meso

(networks), and macro (system) levels.[6] A starting point is the identification of the seven learning principles.

As set out in the box, applying the seven principles requires addressing all of them at the same time. A full analysis and examples of how this can be done in a wide range of different contexts is provided by OECD (2013). The following section highlights examples adapted from that work of Principles 4 (Individualisation) and 5 (Learning matrices).

Individualisation

Teachers need to be able to adapt learning activities to the different abilities, competencies, and motivations of their students as well as to their linguistic, cultural, and social backgrounds. This must be complemented with sensitive assessment that allows learner strengths and weaknesses to be identified. For example (adapted from OECD, 2013):

- At the Quality Learning Center and Enquiry Zone in *Mordialloc College (Victoria, Australia),* students in Grades 7 to 9 spend three-quarters of their school time in 'Learning Centres': open and flexible spaces characterised by an individualised learning approach. One teacher described this environment as follows:

  > You can walk over and find one student who's working on maths problems, another student will be working on the computer and doing something about Power Point […] some other students will be building something with clay […]. They are not all doing the same thing. And they'll be sitting at the same table talking to each other about the same thing, doing different tasks.

- *Europaschule Linz, (Austria)* uses a combination of student-initiated and traditional forms of learning to embrace differences in ability and learner types. Open structures are used to foster self-determination and independence. Autonomous, self-determined learning and alternating social modes are seen as a basis for differentiation and individualisation: '[They] are indispensable requirements for the necessary differentiation and individual support of all children.'

Technology plays a key role in permitting the individualisation of information, communication, and materials. For instance:

- The teacher–pupil message exchange in the e-classroom enables individual communication of teachers with pupils in the *Internet Classroom, Kkofja Loka Primary School, (Slovenia).* Others in the e-classroom cannot see those exchanges so that the learners can feel comfortable discussing matters that they might not want revealed to their fellow students. This kind of communication contributes to a better relationship between pupils and teachers and it encourages their personal responsibility. That is particularly desirable when the teacher gives instruction to a larger number of pupils whom (s)he meets only once or twice per week for regular teaching.

Learning Matrices

Homogeneous learning environments—which tune the pedagogical encounter to the 'average' learner—risk providing an overload of learning challenges to some students while not offering enough stimulation to others. In both cases the learning outcomes will be suboptimal. Managing cognitive load and learning challenges in such a way that all learners can take a equal benefit requires well-designed pedagogies and appropriate assessment systems. Recording individual progress in a formal way, with the active involvement of the learners themselves, permits the information to move from inside the teacher's mind to become more visible and useful—to the learner, to the teachers in general, and to others (including parents). The following examples are based on the OECD's Innovative Learning Environments report (2013).

- At *Mordialloc College, (Victoria, Australia),* each student has a 'learning matrix'—a two-dimensional grid made up of a series of vertical and horizontal axes used to structure the content of learning and capture the student's learning progress. It is based on the 'Victorian Essential Learning Standards', which is a set of common statewide standards that schools use to plan student learning programs, assess progress, and report to parents. These matrices, which are kept by students in a learning folder, are used for regular conversations between teachers and students about the learning progress being made. They can also be used for self-assessment purposes by students.

- Working with checklists supports individualised learning processes at the *ImPULS-Schule, (Thuringia, Germany).* For orientation and for planning purposes, the requirements are made very transparent:

  > Supported by the checklists, the instructive element of the learning process is getting individualised. Individualising is necessary because the pupils have different pre-knowledge, successes in learning processes, and learning strategies. The checklists give them an orientation. (Teacher).

The personal orientation is an important precondition for an effective handling of differences; the mixed-age groups make individual learning paths, learning speed, and learning strategies possible.

WHAT STUDENTS LEARN: FROM CURRICULUM TO COMPETENCY

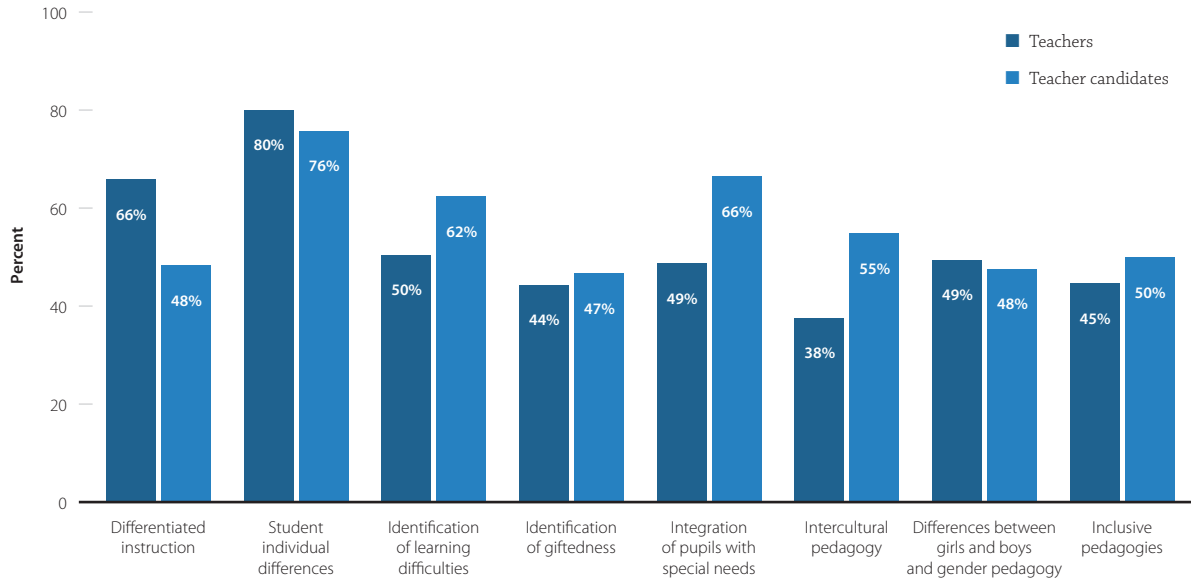
Uniformity and standardisation have shaped not only the *how* of teaching and learning environments in schools, but also *what* students are supposed to learn and teachers to teach. Many educational systems struggle to move away from a curriculum framework where uniform learning objectives and content are prescribed in a centralised way to be taught in all schools of the nation.

Global Competency

One of the ways that the debate has been opened is through the discourse on global competency as a required skill for the

Figure 1

Teaching diverse classrooms: What teachers and teacher candidates report learning



Source: Sonmark et al. (2017).
Note: Data are from a pilot study, in five OECD countries, of teacher, teacher candidate, and teacher educator pedagogical knowledge.

21st century. As defined by the OECD: *'Global competence is the capacity to examine local, global and intercultural issues, to understand and appreciate the perspectives and world views of others, to engage in open, appropriate and effective interactions with people from different cultures, and to act for collective well-being and sustainable development.'*[7]

Global competency is generally argued to be made up of four dimenions:[8]

1. **Examine** issues and situations of local, global, and cultural significance (e.g., poverty, economic interdependence, migration, inequality, environmental risks, conflicts, cultural differences and stereotypes);

2. **Understand** and appreciate different perspectives and world views;

3. **Establish and engage** in positive interactions with people of different national, ethnic, religious, social or cultural backgrounds or gender; and

4. **Take action** towards collective well-being and sustainable development.

Redefining Knowledge and Schools of Study

As suggested above, diversity also questions the cultural hegemony in the contemporary organisation of knowledge. What students learn at school and in universities is very much the product of a 19th and 20th century global world order in which particular forms and strands of knowledge have gained hegemony. The organisation of scientific knowledge in disciplines, for example, has its origins in a particular temporal and special context. In the 21st century a more multipolar world also engenders more variety and diversity in knowledge systems.

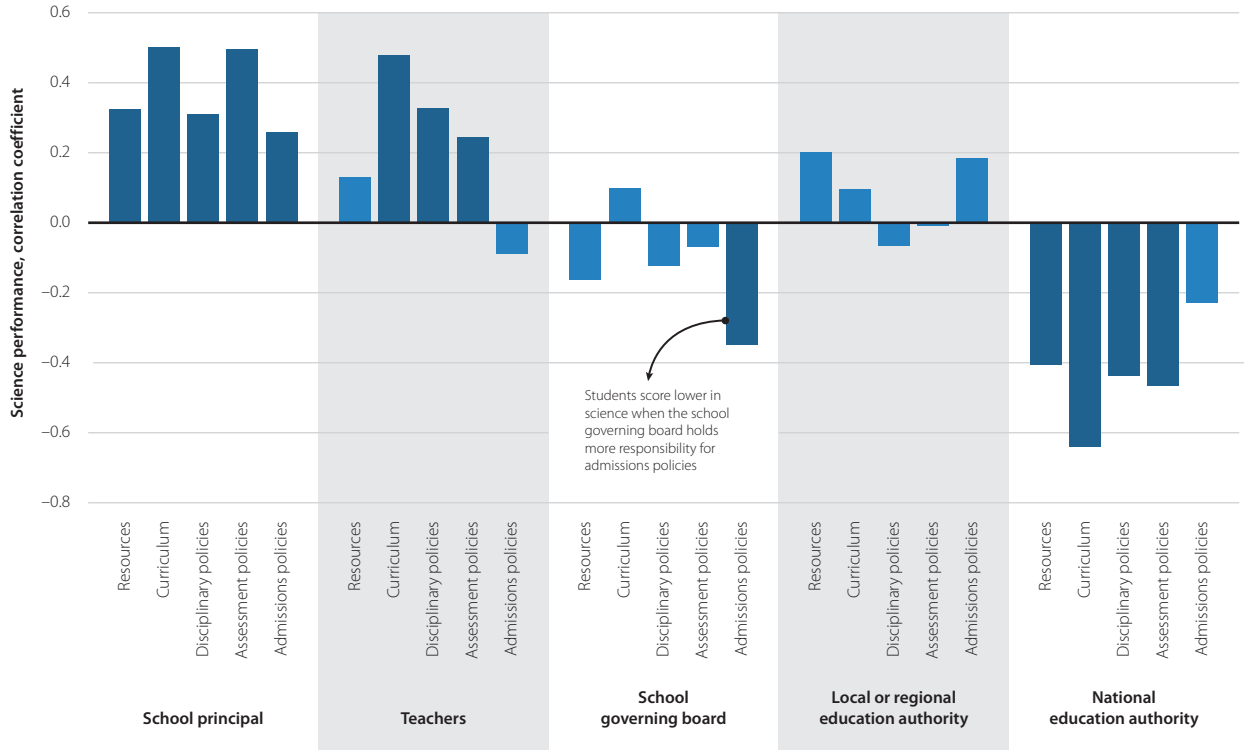
Such developments challenge the power of the established disciplines over knowledge creation, but also over knowledge transmission through school and university curricula. Today the most fascinating discoveries and frontier developments in scientific research are to be found at the boundaries or in the intersections of disciplines. Interdisciplinarity should not be understood as simply mixing multiple disciplines, but as a smart way to spell out the interconnectivity among various complementary viewpoints and a necessary condition to solve today's complex problems.

So what does this mean for models of education and work? One way to answer this question is to look at the match (or mismatch) between field of study and employment. Recent OECD research has found that 'field-of-study' mismatch between graduation and employment is actually rather high, including for Science, Technology, Engineering, and Mathematics (STEM) graduates.[9] Across countries that participated in the OECD Survey of Adult Skills, no less than 65% of workers trained in 'science, life sciences, math and computing' are actually working in a field other than the one for which they have been trained—this is much higher than the average mismatch across fields of study of 39%. These data nuance the widespread concern about low numbers of STEM graduates as being not only a problem of the choice of study at the entry of higher education, but also for suitable employment opportunities afterwards.

A recent report on the STEM workforce of the US National Science Foundation has further qualified the debate.[10] It shows that there are loose links between field of study and actual STEM occupations, and also that there are multiple pathways leading to STEM jobs. As a result, the report requests that policymakers

Figure 2

Correlations between the responsibilities for school governance and science performance, PISA 2015



Source: OECD (2016c).
Notes: Results are based on system-level analyses of 70 educational systems. Statistically significant correlation coefficients are shown in a darker tone.

move away from a narrow focus on STEM qualifications to better understand the heterogeneity of the STEM workforce.

Although the focus has been on STEM, these arguments can be extended to other areas of study. This discussion so far seems to provide support for smart new combinations of disciplines in higher education curricula. Interdisciplinarity might have become a fashionable and often superficial mode of curriculum reform, but interdisciplinarity also is a core component of many interesting examples of curriculum and pedagogical reforms in higher education, such as problem-based learning.[11]

HOW TO SUPPORT TEACHERS: COMPETENCES FOR DIVERSITY

Diverse classrooms, new pedagogies, and curriculum frameworks focusing on new competences will require different skills sets and behaviours from teachers.[12] The question thus becomes: are teachers ready for this? Or are teachers themselves educated for professional roles that put uniformity and conformity first?

The OECD's Teaching and Learning International Survey (TALIS) has consistently demonstrated that teachers report a high need for professional development for teaching diverse students (those with special needs and teaching in a multicultural setting).[13] In addition, many of these teachers do not receive appraisal and feedback that concentrate sufficiently on these issues, and they also work in schools where this is not a strong focus of school evaluations.[14] More recently, a pilot study in five OECD countries of lower-secondary teachers' pedagogical knowledge demonstrated that approximately half of the teachers and teacher candidates in those countries have not learned to deal with essential dimensions of diversity in their teaching (see Figure 1 on page 56).[15]

The result of this discussion was—and still is—that large parts of the student population are not served well. There is ample evidence that struggling students, or students with disadvantaged backgrounds or special needs, as well as the brightest students, tend to suffer from standardised and homogeneous teaching practices. Other dimensions of diversity, such as linguistic or cultural diversity, might equally suffer.[16]

WHERE DECISIONS ARE TAKEN: THE POLICY CHALLENGES

Educational systems that take diversity seriously can no longer rely on governance models of command and control. The policy equivalent of uniformisation and standardisation is a heavily centralised governance system in which all schools are treated in the same way through central steering and accountability arrangements that force schools into compliance with decisions taken in the centre.

In increasingly diverse societies, local conditions tend to vary enormously and schools cannot realise their social mission without adjusting themselves to those conditions. Diversity thus induces flexibility and deregulation, with schools assuming ownership of pedagogy and curricula. Figure 2, based on PISA 2015 data, shows that students' learning outcomes are positively influenced

when responsibilities over curriculum or assessment are located at the level of the school management and teachers and removed from that of national education authorities such as ministries.

TOWARDS A CONCLUSION

Crafting an agenda (from a policy, school, or research perspective) to best address the issues raised in this chapter is complex and encompasses a number of different disciplines. It must also take into account the following (adapted from OECD, 2010):

- *Diversity* is a broad term with multiple meanings. Charting courses of action for systems and classrooms can be done only with careful consideration of the particular context and tradition.

- When diversity is viewed as an asset rather than a liability, it becomes easier to consider and implement the advantages that it can bring to classrooms, schools, and systems.

- Changing attitudes and behaviours is neither simple nor rapid. Real change requires embedding diversity issues within training and development options rather than presenting them as as one-off optional modules.

- Suggestions for reform (of curricula, programme design, teaching practice, etc.) must also be considered in light of the incentives available to support and encourage the change desired. One key element too often overlooked is the role of parents, employers, and communities in effecting lasting change.

This chapter ends by reiterating its central argument: diversity is not a problem to be solved. It is a fundamental aspect of being human. Living in a global and inclusive world means that we must challenge the long-standing paradigm of homogeneity in education as part of a larger process wherein our values and expectations for our citizens—in all their diversity—are addressed. It will take time, and it will take explicit, intentional effort. But we owe it to ourselves, our children, and our future to ensure that all students can succeed at school, and beyond.

ENDNOTES

1 OECD (2016a). The OECD countries are Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, the Republic of Korea, Latvia, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

2 Sliwka (2010).

3 OECD (2016b). The Programme for International Student Assessment (PISA) is a triennial international survey of 15-year-old students that aims to evaluate eduational systems worldwide. See http://www.oecd.org/pisa/aboutpisa/ for more details.

4 OECD (2016b).

5 Lamport et al. (2012); OECD (2006).

6 Dumont et al. (2010); OECD (2013, 2015).

7 OECD (2018).

8 OECD (2018); see also Council of Europe (2016) for a thorough review of the numerous competence schemes available.

9 Montt (2015).

10 NSF (2015).

11 Van Damme (2016).

12 OECD (2010).

13 OECD (2009, 2014).

14 Jensen (2010).

15 These five countries are Estonia, Greece, Hungary, Israel, and the Slovak Republic.

16 OECD (2016b).

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CHAPTER 6

Organising to Leverage Diversity: A GTCI Research Commentary

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INSEAD

In today's globalised and connected world, it is surprising that diversity should remain such an under-tapped resource, as discussed in **Chapter 1.** Focusing on diversity as a resource, the aim of this research-based chapter is to explore the link between diversity and performance/innovation and consider how organisations today can leverage this relationship.

Although the topic of diversity has a long history in organisations, it has often been driven by the need to comply with national directives and regulations that seek to achieve the inclusion of and equal opportunity for different segments of society in the workplace (women, people from different racial or ethnic backgrounds, etc.). To this focus on inclusion, equality, and fairness—which are certainly important normative themes—a more recent perspective with a marketing orientation has been added: that the diversity of an organisation and its leadership should reflect that of its markets, thus providing legitimacy and access to those markets.[1]

But the idea that diversity is a resource that can enhance productivity, performance, and innovation in organisations is relatively new. Research carried out during the last 20 years suggests that viewing diversity as a resource, not as an obligation, actually has the greatest prospect of providing a solid and sustainable rationale for leveraging diversity.[2] Indeed, there is a widespread belief among managers, scholars, and social thinkers that diversity in teams will bring different perspectives to bear on problems, that it will enhance the sharing of information and expertise, and so consequently result in better performance and innovation.[3] A lot of popular press has been saying that companies with great diversity outperform their peers by a significant margin. But when one reviews 60 years of social science research, the reality is more nuanced.[4] This research shows that diverse teams perform well only if certain conditions are satisfied.

So before reviewing how organisations are leveraging diversity, the concept must be understood. Diversity flies in the face of the natural human tendency to associate with people who are similar to ourselves. And not all forms of diversity become a resource that can be used to increase performance. Identity categories such as gender and ethnic origin can polarise views on diversity,

whereas viewing diversity in terms of knowledge and perspectives is something that everyone can buy into. Furthermore, diversity as a resource comes with liability, namely that there are difficulties in collaborating with people who are different from ourselves.

UNPACKING DIVERSITY

We have to unpack the concept of diversity in order to understand how to leverage it. The starting point is to recognise that diversity is not a natural state when it comes to friendship and social ties. As noted earlier, we have a tendency to associate with people who are similar to ourselves.

Professional Networks Must Be Different from Friendship Networks

Sociology studies have long documented the existence of homophily, the desire to associate with those similar to you—people who look like you and think like you, as expressed by the phrase 'birds of a feather flock together'. This is true for the strongest social ties such as marriage and close friendships, but it also extends to weaker ties such as professional networks as well as relationships of advice or support.[5] In organisations, colleagues gravitate towards the people who think and express themselves in a similar way—the 'comfortable clone syndrome', as it is sometimes called.[6]

In the business and civic worlds this leads to cronyism and corruption, and the professionalisation of management combats this natural tendency. Indeed, 'professional management' is measured in the Global Talent Competitiveness Index (GTCI) by indicators on the extent to which top managers are selected on the basis of merit and qualifications rather than family ties and friendship. And, as reported in the GTCI 2015–16, some leading economists argue that such professional management practices are closely linked to national economic prosperity.[7]

Meritocracy and diversity of talent should go hand in hand, but achieving meritocracy is easier said than done—choosing people 'on merit' can exacerbate inequalities, pushing discrimination under the rug.[8] Experiments and practice show that even people who see themselves as objective show deep unconscious bias in their evaluations that is hidden by the cloak of objectivity. In companies emphasising meritocratic values, managers awarded larger rewards to male employees than to equally performing females.[9] Although meritocracy is a necessary condition for teams to perform better, teams and appointments based on merit do not ensure diversity of perspectives and skills, regardless of background. Professional managers need to open the doors to a wider pool of people with diverse knowledge, experience, and competence.

It may be natural and easy to associate with people who are similar to us, but the reality that social network theory has illuminated is that associating with people who are quite different from us is fundamental to creativity, innovation, and outstanding performance, both within organisations and on wider societal issues.[10] Innovators and inventors—from Thomas Edison to Amazon's Jeff Bezos and Tesla's Elon Musk—have backgrounds of diverse experience; they tap into networks of ideas and also have the connections to make things happen. Studies of innovative business leaders today—from Apple's Steve Jobs to David Neeleman of JetBlue airlines—show that the same is true of them.[11] Frameworks for organisational leadership emphasise the behavioural importance of networking externally rather than internally, and learning to do this is seen as one of the major elements in the transition to leadership.[12] Innovation and creative performance involve bridging different networks where there are no close links (bridging what are known as 'structural holes'),[13] and bringing together diverse collaborative teams of people with various backgrounds of relevant experience to the problem-solving task at hand. Today, fuelled by the explosion of information in the knowledge economy, exploiting local innovation opportunities is becoming more important for the competitive advantage of corporations than exploiting R&D at corporate headquarters. And corporations begin to understand that their innovative potential depends on the reach of the social networks of employees, and on their firms' capacity for cross-boundary collaborations—diversity extends far beyond the boundaries of the enterprise via its brokers and connectors.[14]

It Is Cognitive Diversity that Adds Value

To understand how to leverage diversity, we have next to ask what kind of diversity is relevant to problem-solving and innovative tasks. Many kinds of differences get lumped together under the rubric of diversity: race, age, gender, functional differences in expertise and experience, and differences in attitudes, beliefs, and personality. Yet it is not always easy to tell what differences make a difference.

As discussed in **Chapter 1,** the rich research on diversity distinguishes between three types of diversity: *cognitive, identity,* and *preference/value diversity.* It is *cognitive diversity*—diversity of knowledge, experience, and perspectives or ways of tackling problems—that is associated with higher performance and creative innovation on problem-solving and predictive tasks.[15] The knowledge and perspectives of people with under-represented identities often get, at best, token attention because of unconscious biases that discount their contribution and potential (see the box on *'Unconscious bias: Are men and women really different?'* on page 63). Although the validity of research showing that there is a business case for gender and other forms of identity diversity can be questioned, the professional differences between men and women get widely exaggerated by pervasive popular stereotypes, becoming an obstacle to diversity. This is explored later in the chapter, when discussing inclusion.

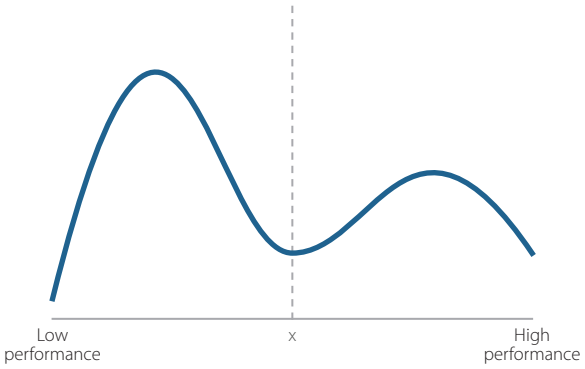
Cognitive diversity is not important for all tasks or organisations. Diversity will not beat ability on routine tasks, only on tasks requiring complex problem solving and innovation under conditions of ambiguity. There is clear value to involving people with different backgrounds and functional skills on a complex task of creating a new web marketing programme, but little value in a McDonald's hamburger delivery operation.

One problem with cognitive diversity is that it is hard to measure. The diversity of knowledge that we need to bring to bear to a problem-solving or creative task depends on the task at hand. So we tend to organise cognitive diversity in rudimentary terms, using educational disciplines and corporate functions (note that functional diversity of top management teams has indeed

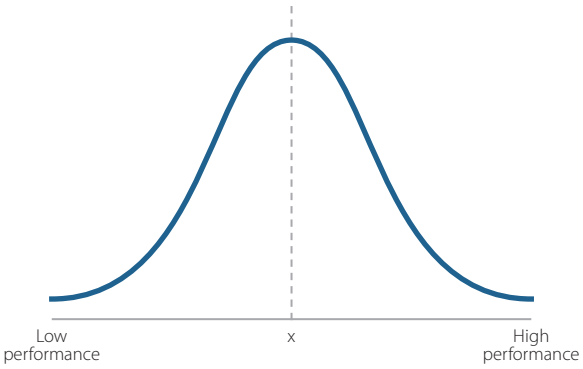
Figure 1

The distribution of performance for homogeneous and diverse groups: A summary of research meta-analyses

1a: Diverse groups



1b: Homogenous groups



been linked to firm performance as long as it is accompanied by collaborative behaviour and accurate information exchange).[16] As discussed later, algorithms and technology may soon assist us to better measure diversity and create high-performing teams.

Diversity Requires Social Skills and Collective Intelligence

At INSEAD, the popular belief that diversity is an asset is evident in our classroom teaching with executives. We sometimes ask them which of two teams will perform best on a complex problem-solving task: a group of diverse people of different functional backgrounds, nationalities, comprising both males and females; or a team of similar people, for example, all German and all male and all engineers. An overwhelming majority—more than nine out of ten—predict that the diverse team will do best.

However, decades of research show no consistent main effects for diversity on various team and firm performance metrics.[17] A meta-analysis of studies would show that the average performance for diverse teams and homogeneous teams is not significantly different on problem-solving or innovative tasks.[18] But what is noteworthy about the effects found in those studies is that the distribution of performance for diverse and homogeneous teams is quite different (see Figure 1). For the homogeneous groups, there are few innovative high-performing teams and few poor teams. Similarity in ethnic background, gender, and education lifts most teams towards median or average

UNCONSCIOUS BIAS: ARE MEN AND WOMEN REALLY DIFFERENT?

In the context of identity groups, unconscious biases are the social stereotypes that we hold of social groups that influence our decisions and actions, though outside our conscious awareness. Even though we may see our decisions as rational, they may be influenced by such biases. The research on gender difference of Catherine Tinsley and Robin Ely, to be published soon in *Harvard Business Review,* is a good illustration.[1]

Are men and women different, they ask? Popular belief says yes, and this viewpoint is captured by bestselling books.[2] Tinsley and Ely looked into this question, taking qualities that are important competences for business leaders, such as risk taking, negotiation, and confidence. There are many research studies over the decades that have rigorously studied whether such gender differences are real, summarised in meta-analyses. Tinsley and Ely show that such differences may be real in the sense of being statistically significant, but the differences between men and women are small to negligible compared to the differences within each sex. Men, for example, are slightly more risk taking than women, although many women are much more risk taking than the average man.

That is the *actual* difference. But they show that the *perceived* difference is much bigger—in the minds of both men and women. The average woman is seen to be much less of a risk taker, and the small differences between the average man and the average woman widen into a black-and-white stereotype: men are risk takers, and women avoid risk. So when we look for leadership candidates to take bold strategic decisions, the many women who are comfortable with risk get screened out by what has become a widely shared unconscious bias.

Notes

1 Presentation by C. Tinsley on 'Men are from Mars … maybe women are too' at the INSEAD Conference on Business & Public Policy, Fontainebleau, November 2017. Professor Tinsley is at Georgetown University; Professor Ely is from Harvard Business School. Their research will be published in the May 2018 issue of *Harvard Business Review.*

2 One of these best sellers is John Gray's *Men are from Mars, Women are from Venus,* HarperCollins (1992).

THE COLLECTIVE INTELLIGENCE OF TEAMS

Soccer fans and those of other team sports know what lies behind the idea of collective intelligence. A team of the best players gets beaten by the teamwork of competent but undistinguished players.

Building on decades of work by Harvard's late Richard Hackman, collective intelligence focuses on a group's capability to collaborate and coordinate efforts.[1] Research suggests that collective intelligence is a stronger predictor of team performance on complex ambiguous tasks than individual ability alone. The research looks at strategy (how teams form goals and break them into different tasks), structure (how activities and roles are organised), processes (how the flow of information and activities are organised), rewards and incentives for individuals, and the selection of people.[2]

One series of experiments on smart diverse teams with productive track records showed that they had three attributes.[3] First, the team members contributed equally to discussions rather than being dominated by one or a few members. Second, the members of smart teams were better than those in teams with lower collective intelligence at 'reading the minds' of others—detecting and decoding complex emotional reactions to the points under discussion. Indeed, women were better at this than men, and teams with female members tending to outperform male-only groups. And third, the smart teams built a collective memory of what members knew and how they felt about issues (what is known as *transactive memory*).[4]

Notes

1 Hackman (2011).

2 Woolley, Aggarwal, & Malone (2015). See also Malone & Bernstein (2015).

3 Woolley, Malone, & Chabris (2015).

4 We might add that one of the most disappointing findings from the group decision-making area in recent years is that information exchange in groups typically focuses on information that is known and shared by all group members before the interaction, rather than searching for new information externally or using information that is uniquely held by individual experts. This process is known as *confirmation bias*.

performance, but not into the elite of high performers.[19] Indeed, high performance is more likely to come from diverse teams, reflecting the popular belief.

As one scholar put it, *'diverse teams are in fact quite diverse';* for a large number of diverse groups, the differences blow the group apart. There is a high probability that diverse groups are among the worst performers because they find it difficult to handle group processes—such as agreeing on goals, establishing norms, reaching decisions, and handling conflict. A universal tendency to use self-categorisation—distancing oneself from the norms, beliefs, and behaviours of outgroup people who are different from oneself—adds to this difficulty, as do differences in values. This is called the *social process loss* associated with diversity, and it interferes with teams' ability to capitalise on the increased access to information and knowledge that diversity permits.[20] It takes a lot of social skill to collaborate in a diverse environment.

In summary, diversity leads to process gains through increased creativity counterbalanced by process losses through task conflict and decreased social cohesion. Given the importance of collaborative skills in teams where the diversity of people matters for creativity—indeed matters more than the combined IQ of the team members—the emerging field of collective intelligence will stimulate progress (see the box on *'The collective intelligence of teams'*).

The implication of the negative effect of diversity as a resource—that it disrupts social cohesion—has important implications for organisations that want to leverage diversity, as well as for educational systems. Indeed, the GTCI 2017 emphasised the importance of social and collaborative skills in the emerging technology-driven machine age. People who have been finding jobs easily during the last 20 years have strong social skills as well as specialised knowledge that makes them employable.[21]

MANAGING DIVERSITY

As mentioned above, most people naturally prefer to work with others who are similar to themselves. But teams of similar people typically produce average results, they are unlikely to be innovative and creative, and indeed there is evidence that the performance of similar people tends to weaken over time.

Nobel Prize winner Francois Jacob once stated that *'for the group, as well as for the species, what gives an individual his genetic value is not the quality of his genes; it is the fact that he does not have the same collection of genes as anyone else; it is the fact that he is unique; the success of the human species is due notably to its biological diversity; its potential lies in this diversity.'*[22]

Organisations can create a unique and inimitable resource by supporting diversity. So what organisations have been doing is (1) injecting diversity into their organisations (hiring), (2) educating and developing the skills to handle workforce diversity, (3) building inclusive norms of behaviour, and (4) organising around agile project teams to harness that diversity.

Each of these four aspects of organising for diversity is considered below in turn.

Hiring and Appointments

The belief in a 'science' of hiring—in predictive testing to guide recruitment—started to fade 40 years ago, when companies became scared of lawsuits around the validity of such tests.[23] What replaced such tests was recruitment based on multiple, informal, qualitative interviews. Yet mountains of literature show that the intuitive way in which we judge professional fit and performance potential is rife with snap judgments—and the use of stereotypes and hidden biases[24]—rooted in our upbringing

and perhaps on deep neurological connections. Properly used, multi-measure and cognitive ability tests are far more effective in matching people to jobs than are personality tests or interviews,[25] and they avoid unconscious bias that works against diversity. Recruitment and staffing is a domain where there is a big disconnect between practice and research evidence, although this is changing.

Technology is becoming a game changer in recruiting for diversity. Artificial intelligence (AI) and algorithms based on big data analytics hold the prospect of cutting through biases and stereotypes, focusing on the substantive cognitive competences that characterise high performers[26]—and not on superficial identity factors such as gender, race, or even graduation from an elite university.[27] Seventy percent of recruitment applications in the United States are reportedly never seen by a human eye.[28] Standardised tests based on data analytics are broadly used in call centres and big retail stores; the online assessment of candidates results in red (reject)/orange (possible)/green (consider) signals. Studies of the use of algorithms to recruit software engineers highlight characteristics—such as affinity for certain websites and the use of certain words and phrases—that allow one to identify people with no software experience who would be gifted at the programming work.

Even in tech giants such as Google, recruitment still involves structured interviews and committees. However, people analytics leads companies to talent pools that were untapped until recently, such as candidates for tech and sales positions who did not attend college and who do not fit with traditional profiles and yet perform well because they have relevant experience. People analytics puts a blinder on identity bias. AI can help detect the people who are best suited to the job, although there is a risk that machine learning may replicate some of the biases and negative impulses of human activity.[29]

Even without algorithms and AI, recruitment practices are changing. Hiring managers are advised to use software that strips age, gender, race, socioeconomic background, and similar identity-related information out of résumés so that recruiters focus only on the experience and skills needed for the job. This approach is analogous to the blind recruitment used by concert orchestras since the 1970s to prevent conductors from excessively favouring their former students—candidates for the orchestra play behind a blind screen. The candidates get selected on pure competence and ability to perform.[30] Blind auditions used by technology platforms to assess skills resulted in no less than 60% of candidates coming from under-represented backgrounds, to the surprise of qualified hiring managers.[31] A growing number of companies—such as Tata Consulting Services (TCS)—use performance and behaviour on games and competitions as a filter to find professional hires.

Using people analytics, Google's Aristotle project is studying everything from team composition to email patterns to figure out how to build a perfect team. One of the most important discoveries is that demographic diversity in the composition of teams is not as important for team performance as inclusion—so that all people have their voices and opinions heard.[32] This finding underlines the importance of developing social skills for collaboration.

Educating and Developing the Skills to Handle Diversity

Two aspects of education and training for diversity are worth highlighting. The first is the need to train people so that they are aware of the biases that influence their judgments and decisions about other people. The second is the need to train people in collaboration so as to minimise the social process loss of diversity—the communication problems, conflicts, and difficulties of goal setting in teams built on diversity. Both of these challenges are so important and run so deep across societies that they are leading to reforms in education, from primary school through to higher education. Schools face the challenge not only of building individual skills in maths, problem-solving, and literacy but also of building the collaborative project skills needed for a more inclusive world.

Diversity training has proliferated, especially in the United States, during the last 20 years. Its goal is to make people aware of the many biases that influence their judgments on people matters—from recruitment to performance appraisal and talent development to coaching behaviours. But the overriding conclusion of many recent reviews is that such training has had little impact on organisations—either in terms of increasing diversity and inclusion or on organisational performance. Some studies even show that diversity training may actually lead to backlash.[33] Those biases run deep, and without a broader inclusiveness strategy at all levels of the organisation such training has little effect. According to renowned behavioural economist and Nobel Prize winner Daniel Kahneman, trying to outsmart bias at the individual level is a fool's errand, even with training.[34] When it comes to injecting more diversity into an organisation, data analytics and the deeper process changes focused on inclusion, discussed in the next section, seem to work better.

Training in collaborative skills—learning to collaborate with people who are different from oneself in terms of culture and ethnicity, function, and educational background—holds more promise. Recruiters who come to business schools such as INSEAD always note that what they are looking for above all is individuals with the people skills to work across boundaries with others of different nationalities, disciplines, ethnic backgrounds, and the like in today's flexible, project-oriented organisations.

A key point in collaborative skill development is the specification and clarification of goals and deliverables of teams—alignment around goals is imperative for the functioning of diverse groups. Early studies in social psychology showed that clear goals unify teamwork, and that ambiguous or ill-defined goals contribute to social conflict in groups.[35] When the goals and deliverables on a task are unclear or not shared, conflict and lack of progress typically get attributed unfairly to cultural, personality, or functional difference, while clear goals and targets unite teams. Similarly, skill in facing up to conflict is another vital competence to build—team conflict can add value or destroy it. Good conflict fosters respectful debate and yields mutually agreed-upon solutions that are often far superior to those first offered—it is an integral element of problem solving in a diverse team.[36] Bad conflict occurs when team members cannot get past their differences, thereby damaging productivity and

stifling innovation.[37] Given the amount of time spent in meetings and in collaborative teams, it is useful to ask about the quality of conversations in an organisation. Where there is trust and analytic rationality, creative dialogue is most often found in diverse teams whereas 'dehydrated talk' often characterises collaboration between similar people.[38]

The societal challenge of leveraging diversity is so critical and broad that one can argue that the necessary collaborative competences should be developed not through company or Master of Business Administration (MBA) programmes but through *education—from basic primary school education through higher education.* Building on a number of years of discussion and analysis, this is the view of the Organisation for Economic Co-operation and Development (OECD), which argues that young people need to learn to collaborate with others from different disciplines and cultures in a way that solves complex problems and creates economic and social value (see **Chapter 5**). Educators have been discussing for decades how best to build these capacities; schools in Scandinavia and elsewhere have been moving fast from teacher-centred learning to pedagogies building on project-centred learning. Is there a distinctive set of competences that equips young people for their culturally diverse and digitally connected communities? Can students learn to mobilise knowledge, cognitive and creative skills, and values and attitudes so as to act creatively, collaboratively and ethically?

The concept of *Global Competence* is a response to such questions. The OECD proposes to extend the Programme for International Student Assessment (PISA) of educational competences across countries of the world that today measures the skill of 15-year-old students on maths, verbal literacy, and problem-solving ability. As outlined in **Chapter 5,** various 'global competences' are needed to leverage diversity and to avoid its conflictual side. These global competences include skills such as the ability to interact effectively with others who are different, as well as empathy; intercultural knowledge and an understanding of global issues; and attitudes of openness and respect for people from other cultures.

Inclusion and Inclusive Leadership

Diversity and inclusion are closely associated, and corporate policy in this arena typically links them hand in hand as 'D&I'. Diversity is being invited to the party, but inclusion is being asked to dance, as the authors of **Chapter 4** often express it.

Inclusion is an integral part of identity diversity. Women, for example, may be recruited to an organisation, and they may hold managerial responsibilities and be seen as competent. But they often are not part of the informal inner circle of bold, confident, strategic risk takers (all stereotyped inaccurately as being male qualities—see the earlier box on *'Unconscious bias'*); they are consulted less frequently, equal performance does not get equal pay, and their career progression slows as they reach senior management. It is one thing to have a diverse demographic leadership profile, but another thing to build a frank open culture where the relevance and importance of views and opinions is not coloured by unconscious biases and stereotypes. Although there is no accepted definition of *inclusion* in the research literature,[39] the key element of inclusion can be seen as giving voice to those who have relevant knowledge, experience and perspectives, regardless of demographic identity. The ideas of many people are not heard or do not have equal footing with those of senior team members, for example, who may dominate conversations. The confidence of outgroups is undermined so that they discourage voice, contribution, and performance.

Despite all the US studies that show that companies with a high percentage of women in senior leadership positions perform better, the business case for having quotas of women at the top is less obvious than the business case for inclusive behaviours, starting with leadership, that capitalise on all forms of diversity. Without inclusive leadership, the views of those women may be unconsciously downgraded because 'she is only the token woman'. A woman should not be in top management because she is a woman, but because she has skills and perspectives to bring to the table.

Researchers and practitioners today see inclusion as creating a leadership and organisational culture that on the one hand is free of unconscious bias, and on the other hand encourages constructive exchange of views and perspectives, leading to more productive and innovative decision making, where demographic qualities (male/female, cultural background, old school background, age) are largely irrelevant—it is the ability to contribute to problem solving that counts.[40] It is about *behavioural change*—promoting voice, building confidence to express views and act, coaching and providing feedback so that people can contribute. Inclusion also involves norms reflecting the importance of collective rather than individual intelligence, as discussed in the previous section—contributing equally to discussions, showing sensitivity to complex emotional reactions. This behavioural view of inclusion is well captured with the story from an INSEAD colleague described in the box on *'Inclusive leadership: Unlocking diverse talent'*, where the manager of a Swiss reinsurance company turns a polarising debate on gender diversity into a productive environment for diversity, building on flexibility and inclusiveness.

Inclusion is less about percentages of women in senior management positions and on boards of directors, and more about the leadership behaviours that contribute to innovation and performance (see **Chapter 4**) —though many argue that leadership behavioural change will result in a broader demographic profile of senior management, as the Swiss company story indicates. Inclusive leaders focus more on the process of work and less on the content, guiding their teams to build shared understanding and laying the foundation for effective collaboration. This way they can facilitate targeted discussions that explore the varying ways team members look, act, speak, think, and feel, to immunise the team against unproductive conflict when the pressure is on.[41] Indeed, if an organisation cannot crack the gender barrier, then it is unlikely to be able to crack the broader behavioural barriers to capitalising on diversity.

Without an inclusive cultural infrastructure, the resource benefits of diversity in terms of innovation and productivity may fail to materialise. But obviously this is not an overnight or simple process, as with any process of deep cultural change. It starts

with top management leadership, as in the instance of Swiss Re; McKinsey studies estimate that it takes three to five years at minimum.[42] The head of DeLoitte's practice in this domain views the following steps and strategies as important:[43]

- creating a top-level focus and strategy at the CEO/COO/CHRO level;
- assigning a top executive the responsibility for leading and sponsoring the inclusion and diversity program;
- creating behavioural standards and diversity metrics, and holding leaders accountable for results;
- training people at all levels on topics such as unconscious bias, similarity bias, structural bias, and self-rater bias;
- integrating diversity and inclusion strategies in recruitment, performance management, leadership assessment, and training; and
- creating employee networks (D&I champions, employee resource groups, and communities of practice) to bring people together.

The experience of South Africa in inclusion over the last 25 years since the end of apartheid is a good illustration of action at all these levels, and is captured well by the experience of Nene Molefi, an international thought leader on inclusion.[44] Her experience in breaking through from a background as a black woman from the slums of Soweto under apartheid to becoming a leader of employment equity—first at Eskom, the African energy corporation, and then in the national transformation as the country tried to free itself from the apartheid legacy—is a testimony to the many facets of inclusion.

Organising to Harness Diversity

Organisations in today's rapidly changing business environment—often characterised as VUCA, or volatile-uncertain-complex-and-ambiguous—have to bring together ideas, skills, perspectives, and resources rapidly and flexibly to solve problems and generate creative innovative solutions. How should the firm respond to a new customer need, a competitive threat, or a new technology? How should it commercialise a new service rapidly across multiple markets?

The way we organise in such fast-moving environments is necessarily evolving. In the past, the ideas, skills, and resources needed to tackle such strategic questions were located in hierarchical ladders captured by organisational charts. Coming up with innovative answers was a slow process. If the job was the unit of analysis in the 20th century, it is the multifunctional diverse team in the 21st century. Ever since NASA succeeded in sending man to the moon by grouping engineers from different functions on projects (the first formal matrix organisation), large organisations from McKinsey and the World Bank to pharma and

INCLUSIVE LEADERSHIP: UNLOCKING DIVERSE TALENT

Joynson-Romanzina, head of Global Diversity and Inclusion at Swiss Re, embarked on a journey three years ago to transform the company's thinking on diversity and inclusion. Many companies have implemented far-reaching gender diversity initiatives without seeing much by way of results.

Knocking on doors and talking to executive committee members, it became clear to her that *'we were divided into two camps. One wanted to get more women in leadership, the other camp said "if this is all about women, count me out". I realised quickly that this is a very polarising topic.'*

But there was one thread that everyone seemed to agree upon—there was a broad-based commitment to diversity of thought and opinion. This evolved into a discussion around a strategy that everyone could buy into for inclusion of diverse perspectives in leadership. Swiss Re was already a diverse company, but unconscious biases were discouraging employees from grabbing the next rungs on the ladder or creating the most inclusive teams.

A chance to show what was possible came her way with the appointment of a new, change-minded CEO to head a Swiss Re business. The executive was convinced that more diversity of viewpoints, gender, culture, education—you name it—on his team would mean more client-centricity, his ultimate goal. Although the business was doing well, he opened up all of the most senior management positions, encouraging everyone in the layer below to apply.

With applications about to close, he noticed that virtually no women were vying for the jobs. Puzzled, he consulted with Joynson-Romanzina who told him he just had to ask. *'Research shows that women are less likely to feel qualified, even when they are,'* she explained. *'You need to go out and tell women, and men, very specifically that they should be applying. Tell them there is no guarantee that they will get the job, but they should at least apply.'*

He extended the application deadline and brought on board a diverse hiring team that was put through unconscious bias training to ensure an equal playing field for all. The end result? Everyone agreed that the best person got each job and the executive team got more cross-functionality, generational balance, and women: 40% up from 17% before the exercise.

Source

Adapted from the article of the same name published on INSEAD Knowledge; see Ibarra (2016).

telecom companies have organised work and teams around projects.[45] International corporations have long expanded the number of horizontal coordinators—business and area leaders, global competence leaders, and global account managers—so that managerial work becomes working on multiple projects at the same time.[46] Even the production of academic knowledge through research and scholarship increasingly draws on diversity through teams; teams produce more frequently cited research than individuals, and this trend has increased over time.[47]

In today's emerging 'agile organisation', different domains of expertise and perspective are brought together through agile teams and squads. For example, the core unit at the Swedish music streaming company Spotify is the squad of up to eight people who have full accountability for a specific aspect of a product.[48] These squads also have autonomy over how they achieve their targets. There are no appointed leaders; they undertake regular 'stop-the-music' reviews to take stock of successes and failures; performance management processes focus on feedback and coaching rather than evaluation. These squads are organised into a light matrix called a 'tribe', and tribes are linked horizontally through 'chapters' that focus on internal competence development as well as on quality, learning, and web development.

The need to organise talent with diverse skills and perspectives around shifting projects has long characterised professional service firms in areas such as consulting. Agile organisation is spreading into banking services. ING, one of the world's largest banks, has overhauled its operating model in the Netherlands to create a scaled agile organisation. The company began this multiyear transformation by focusing on changing employees' behaviour. It introduced a new way of working, breaking up internal silos and creating small, interdisciplinary teams with members from information technology (IT), marketing, product management, business units, and other functions.[49] These squads had the authority to develop a new product or process from start to finish and then focus on a new mission.[50] Over time, the model was scaled up and rolled out across the organisation. Already the move has significantly increased the pace of development in several areas, boosting speed to market and reducing the size of the workforce by up to 30% in some departments.

The focus of Google's Aristotle project in its People Operations department is on how technology and analytics can facilitate assigning the right people to the right projects (regardless of their occupation or position within a company), matching people who are likely to work well together (based, for example, on a good chemistry of personalities and behaviours identified by the data) and for reorganising teams in new ways to meet changing needs. Staff may belong to multiple squads and tribes depending on where their knowledge and experiences can bring value. There are challenges, of course, in such agile organisations—among these is frequent over-commitment, since key individuals are parts of multiple teams.[51] But perhaps the most important dimension of organising is the nature of the task.

Diversity and project organisation are not needed on all tasks; using conventional hierarchy and ignoring diversity since people who are similar can communicate easily is sometimes the best option. Building on the distinction between exploration and exploitation,[52] diversity and teamwork are well suited to *exploration tasks* that involve innovation and investigating new ideas, opportunities, and products, but less clearly relevant for tasks that focus on *exploitation and implementation,* where similarity in orientation may well facilitate performance.[53] As noted earlier, there is little value to teamwork building on diversity in a fast-food restaurant operation. Organisation theorists have long argued for an ambidextrous architecture that differentiates activities depending on whether they are oriented to exploration (such as research, product development, new ventures) or exploitation (sales and service, for example), integrated by a top management team.[54] However, many projects go through innovative exploration stages followed by focused implementation. Leadership can be rotated, matching differences in orientation to the requirements of a project. During the more creative phases, the freethinkers would be in charge, while analytical and detail-oriented members would take over evaluation, organisation, and implementation activities. It is important that all team members come to understand the value of the different approaches.

CONCLUSION

There is an enormous body of research on diversity that cuts across different disciplines. It reflects a broad belief that, in an age of innovation, transformation and pressing societal challenges requiring collective action—and where machines are taking over the routine, as reported in the GTCI 2017—diversity is one of mankind's most precious resources.

Three key takeaways emerge from this research review. First, diversity means teamwork, collaboration, and networking, but it is not easy. The fact is that teamwork and collaboration requires a high level of social skill. It requires what today is called *collective intelligence* rather than only *individual intelligence.* Organisations seek out people with these social skills, and they try to foster their development, but we have to face up to the challenge of how we can build the development of these collective competences into the way that we educate and bring up our children.

The importance of individual talent should not be dismissed, however. Although the focus of this chapter has been on how we can organise to leverage that diversity, the tremendous benefits of diversity in individual experience should be acknowledged, as discussed in **Chapter 1.**

Second, although there is broad agreement that it is cognitive diversity that is important—diversity of experience, know-how, and perspectives on problem solving—the relevant cognitive skills for problem solving are hard to measure and manage. In the future, algorithms and machines may help us tap more effectively into that cognitive diversity. Meanwhile, identity diversity—notably gender diversity—may be a good starting point. After all, half of the human race is female, and statistics unambiguously show a high degree of gender discrimination in organisations around the world.

But there is a twist here. Organisations will often find that actions to tackle gender diversity are polarising, leading to disinterest or even accusations of reverse discrimination. It is important to recognise that tackling gender inequalities involves deep changes in norms and behaviours. Organisations will find that they have

to tackle a deeper problem, namely the need to introduce more inclusive behaviours and cultures. In so doing, research and growing body of experience suggests that they will benefit in terms of innovation and performance—and end up with a broader demographic profile of leaders and contributors: men and women, people with different sexual orientations, dynamic millennials and older people with the wisdom of experience, and those with different ethnicities and cultural backgrounds. So the challenges of diversity are the challenges of deep cultural change. We return to the headlines of the ongoing extension of the PISA student assessment that measures secondary school performance in countries across the world: how can we develop and foster the competences, norms, and behaviours for a world that needs inclusive prosperity?

Third, the arena where diversity is important is that of creative problem solving under conditions of ambiguity—the VUCA side of our world. Inclusion will have benefits for those involved in more routine work, but the business case for diversity here is less obvious.

The obstacles should not be minimised. Hammered by the social consequences of globalisation and by unequal and ineffective educational reform, there is a visible tendency to polarisation in many of our societies. The have-nots are splintering from the haves—there is a move towards the disaggregation of social groups that want to split off and take care of themselves. The human tendency to stick with one's own kind is strong—the haves and the have-nots congregate in separate communities with radically opposed agendas. We must fight against the tendency to fragmentation.

ENDNOTES

1 Ely & Thomas (2001). This rationale is still important for business, though. For instance, Sue Dodsworth, Kimberly-Clark's chief diversity officer, once explained that diversity of its workforce brings the company closer to its markets: *'we want to look, think and behave like the people who use our products. If we don't represent them, we're not necessarily making all the right decisions.'* That was the reason behind the measures to increase the number of women at the top management. See Bhalla et al. (2017).

2 See Ely & Thomas (2001); Page (2007b).

3 Some of these benefits have been quantified, including in large samples of enterprises (see, for instance, Ostergaard et al. 2011; Garnero et al. 2014). INSEAD's Vikas Aggarwal (and co-authors David H. Hsu and Andy Wu from the Wharton School) studied the implications for firm-level innovation of different approaches to organising the diversity of inventors' technical experience. They used data from 476 biotechnology start-ups (from their founding date onwards) and paid particular attention to the interplay between knowledge production and coordination. Companies organised with higher levels of across-team diversity—for example, creating very different teams each specialising in a particular area—had a greater positive impact on company innovation than those organised with higher levels of diversity within the unit. See Aggarwal (2015).

4 See Williams & O'Reilly (1998); Ely & Thomas (2001); Harrison & Klein (2007); Klein & Harrison (2007); Page (2007a, 2007b); Herring (2009); MacMahon (2010); Stahl et al. (2010); Edmondson & Harvey, 2017. For earlier studies, see Hoffman & Maier (1961); Triandis et al. (1965).

5 See McPherson et al. (2001); Gompers et al. (2017).

6 This is the term used by Leonard & Straus (1997).

7 See Bloom & Van Reenen (2010).

8 Research shows that organisational cultures and practices designed to promote meritocracy actually often accomplish the opposite, largely because they trigger bias. Castilla & Benard (2010) call this result the 'Paradox of Meritocracy'.

9 Strong commitment to meritocratic ideals can lead to suspicion of efforts that aim to support particular demographic groups. For example, initiatives designed to recruit or provide development opportunities to under-represented groups often come under attack as 'reverse discrimination'. Some companies even justify not having diversity policies by highlighting their commitment to meritocracy. If a company evaluates people on their skills, abilities, and merit, without consideration of their gender, race, sexuality, and so on, and managers are objective in their assessments, then there is no need for diversity policies—or so the thinking goes. Yet achieving meritocracy is easier said than done and many biases still persist in organisations at the moment of giving promotions and rewarding different employees. See the examples presented in Cooper (2015).

10 Connecting to different people can also lead to economic development. For instance, diversity of individuals' relationships has been found to be correlated with the economic development of communities (Eagle et al., 2010).

11 See Dyer et al. (2011).

12 Ibarra (2016).

13 A *structural hole*, a concept introduced by the seminal work by Burt (1995), refers to a gap between two individuals who have complementary sources or information. Also see Cross & Parker (2004) for a discussion about how social networks help organisations get work done.

14 See Arena et al. (2017).

15 See, for instance, Wanous & Youtz (1986).

16 See Boone & Hendriks (2009).

17 Williams & O'Reilly (1998) offer a review of the literature of the 40 years leading up to the 1990s. More recent reviews of the literature are covered in the modelling of diversity by Harrison & Klein (2007).

18 See for example the meta-analysis of the performance of multicultural work groups by Stahl et al. (2010).

19 Gompers et al. (2017).

20 Dahlin et al. (2005) focus on the factors that enable information use in diverse teams and make a clear distinction between cognitive diversity (directed towards information processing) and identity diversity (based on opposing values and focused on emotional/affective states). While educational diversity enhances information use, national diversity invokes social categorisation, thus hindering information use. Mannix & Neale (2005) also conceptualise neatly the three primary theoretical perspectives: the similarity–attraction paradigm, self- and social categorisation, and information processing.

21 Evans & Rodriguez-Montemayor (2016).

22 This was reported in *Le Monde* in 1980 in an article that later appeared in *The New York Times* (see Yardley, 2013).

23 See, for instance, Orlitzky (2007).

24 See, for instance, Burrell (2016).

25 Martin (2014).

26 See Ferguson et al. (2014).

27 Michael Lewis' *Moneyball* book (and more recent film) on baseball player acquisition captures this. Decisions to recruit baseball players were typically made by committees of experienced baseball coaches, scouts and players. Under the leadership of a new coach in 2002, the Oakland A's (a team stuck in the lower league) ignored scouts and entrusted player acquisition decisions to algorithms developed by a young Harvard-trained statistical genius who had no experience of baseball. The A's went on to longest winning streak in American league history, launching a revolution in the baseball industry around recruitment.

28 O'Neil (2016).

29 See Buranyi (2017).

30 See Bohnet (2016).

31 Cooper (2015).

32 Other experiments on smart teams show that a key feature is that team members contributed equally to discussions rather than being dominated by one or a few members (Woolley, Malone, & Chabris, 2015).

33 See Lindsey et al. (2017); see also Combs & Luthans (2007); Kulik & Roberson (2008); and Bezrukova et al. (2016).

34 See Kahneman (2011).

35 See Sherif (1958).

36 See Davey (2017).

37 See Toegel & Barsoux (2016).

38 See Gratton & Ghoshal (2002).

39 This concern was raised by Shore et al. (2011).

40 Specific techniques can help people embrace productive conflict: define roles to drive agendas, measure problem-solving styles and act on the results, set ground rules around dissension, and define appropriate conflict behaviours (see Davey, 2017).

41 See Toegel & Barsoux (2016).

42 McKinsey Global Institute (2016).

43 Bersin (2015).

44 Molefi (2017).

45 See Bunderson & Sutcliffe (2002).

46 Pucik et al. (2017).

47 See Wuchty et al. (2007).

48 For more details about this case, see Mankins & Garton (2017).

49 Team research has repeatedly demonstrated the saliency of functional background diversity to map differences in expertise and experience of team members (Bunderson & Sutcliffe, 2002; Bunderson, 2003).

50 The decentralised decision making implied by agile practices spurs the effectiveness of functionally diverse teams. Boone & Hendricks (2009) show empirical evidence of this, although they also show that decentralisation reinforces the negative consequences of 'locus-of-control' diversity on firm performance.

51 See Mortensen & Gardner (2017).

52 March (1991).

53 See the discussion in Mannix & Neale (2005).

54 See O'Reilly & Tushman (2004); Anderson et al. (1997).

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CHAPTER 7

JRC Statistical Audit of the Global Talent Competitiveness Index 2018

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The Global Talent Competitiveness Index (GTCI) aims to summarise complex and versatile concepts related to human capital and talent competitiveness at the national scale in 119 countries worldwide. In so doing, it raises some conceptual and practical challenges, which are discussed in the GTCI 2018 report. This chapter focuses on the practical challenges related to the data quality and the methodological choices made in the grouping of 68 variables into 14 sub-pillars, six pillars, two sub-indices, and an overall index.

The GTCI 2018 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 ±2 positions with respect to the simulated median in 95% 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 one-third of the countries included in this year's GTCI.

This audit represents the fifth analysis of the GTCI performed by the European Commission's Competence Centre on Composite Indicators and Scoreboards at the Joint Research Centre (JRC). The previous two audits identified a few minor issues concerning variables that had little correlation with the output, but those remaining in the 2017 index have largely been addressed in the 2018 edition. Overall, the JRC concluded that the GTCI 2018 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, and potentially to guide their choices on priority setting and policy formulation.

As in the previous audits, the present JRC assessment of the GTCI 2018 focuses on two main issues: (1) the statistical coherence of the 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 competitiveness and innovation. Its main conclusions can be summarised as follows: the version of the GTCI model presented in 2018 is coherent, balanced, and robust, displaying strong associations between the underlying variables and the GTCI sub-pillars, pillars, and sub-indices, and hence offers a sound basis for policy interpretations. Some minor issues, which are outlined in this chapter, are also recommended for examination in the next version of the GTCI.

The practical items addressed in this chapter relate to the statistical soundness of the GTCI, which should be considered to be 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

An initial assessment of the GTCI 2018 was undertaken by the JRC in July 2017. The latest GTCI model provided by the development team largely incorporated the issues identified and discussed in the previous edition, in particular full normalisation of the data in order to scale all variables onto the same scale. No critical issues were identified in the 2018 model during this preliminary phase of the audit.

The underlying concepts and framework used to describe global talent competitiveness in the GTCI 2018 have remained essentially the same as those in the GTCI 2017. However, with the aim of improving the quality of the data, several variables have been removed and several others have been added to the model. As a result of the deletion/replacement of some of the indicators, the total number of variables in the GTCI 2018 is now 68, three more than the 65 used in the 2017 version.

Five new variables coming from the World Economic Forum's Executive Opinion Survey have been added to enhance the conceptual framework of the GTCI 2018. Active labour market policies has been included in the Business and Labour Landscape sub-pillar, while Collaboration within organisations and Collaboration across organisations provide significant added value to the Access to Growth Opportunities sub-pillar. The variable Social protection has been included in the Sustainability sub-pillar. Finally, two new indicators, Skills matching with secondary education and Skills matching with tertiary education have been added to the Employability sub-pillar.

Two variables have also been re-allocated to a better-fitting sub-pillar. The Scientific journal articles indicator has been moved to the Talent Impact sub-pillar, for both conceptual and statistical reasons. And the Availability of scientists and engineers indicator has been reallocated to the High-Level Skills sub-pillar.

Two variables—Skills gap as a major constraint and Taxation—have been deleted entirely from the framework since, as pointed out by the JRC last year, they did not have a solid showing in the correlations matrix.

Following the iterative process during which the index has been fine-tuned, the current assessment of the statistical coherence in this final version of the GTCI 2018 followed four steps:

Step 1: Relevance

Candidate 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 most recently released data were used for each country. The cut-off year was set to 2006. 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 2018 data set comprises 119 countries and 68 variables. Consequently, data availability is at least 88% 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). For variables with five outliers or more, a log transformation is used (see the Technical Notes of the main GTCI report for details). These criteria follow the WIPO-INSEAD Global Innovation Index practice (formulated with the JRC in 2011). Data checks confirm that no outliers or problematic indicators are present in the normalised data set as facilitated by the development team.

Step 3: Statistical Coherence

This section presents the JRC's analysis of the statistical coherence of the GTCI 2018, which consists of a principal components analysis to analyse 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 composite indicators. This latter investigation demonstrates the added value of the GTCI both against its component pillars and against other similar indexes.

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	0.96	0.88	0.85	0.86	0.82	0.73
	1.2 Market Landscape	0.94	0.77	0.90	0.88	0.88	0.84
	1.3 Business and Labour Landscape	0.91	0.80	0.74	0.71	0.74	0.62
	2.1 External Openness	0.80	0.93	0.69	0.64	0.69	0.56
	2.2 Internal Openness	0.80	0.90	0.77	0.71	0.70	0.56
	3.1 Formal Education	0.70	0.51	0.87	0.82	0.79	0.85
	3.2 Lifelong Learning	0.84	0.81	0.94	0.73	0.81	0.68
	3.3 Access to Growth Opportunities	0.90	0.84	0.94	0.83	0.85	0.78
	4.1 Sustainability	0.91	0.82	0.88	0.94	0.87	0.79
	4.2 Lifestyle	0.70	0.54	0.72	0.92	0.81	0.80
OUTPUT	5.1 Mid-Level Skills	0.68	0.53	0.69	0.83	0.86	0.73
	5.2 Employability	0.79	0.76	0.81	0.68	0.82	0.65
	6.1 High-Level Skills	0.76	0.61	0.80	0.83	0.83	0.95
	6.2 Talent Impact	0.72	0.55	0.79	0.78	0.73	0.94

Source: European Commission, Joint Research Centre (2018).
Note: The values are the bivariate Pearson correlation coefficients; values greater than 0.70 are desirable as they imply that the pillar captures at least 50% (≈ 0.70 × 0.70) of the variation in the underlying sub-pillars and vice-versa.

1. Principal Components Analysis and Reliability 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., no more than one principal component with an eigenvalue significantly greater than 1.0) in the great majority (11) of the 14 sub-pillars, which captures 53% (Formal Education) to 83% (Employability) of the total variance in the underlying variables.[4] A more detailed analysis of the correlation structure within and across the six pillars confirms the expectation that the sub-pillars are more correlated to their own pillar than to any other, and all correlations within a pillar are positive, strong, and similar and well above 0.7 (see Table 1). These results suggest that the conceptual grouping of sub-pillars into pillars is statistically confirmed and that the six pillars are statistically well balanced in the underlying sub-pillars.

The six pillars also share a single statistical dimension that summarises 86% of the total variance, and the six loadings (correlation coefficients) are quite high and very similar to each other, ranging from 0.85 to 0.95. The latter suggests that the six pillars contribute in a similar 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 0.7 threshold for a reliable aggregate.[5]

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 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 imply that the Input aspect is twice as important as the Output aspect 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 0.96, respectively, which suggests that the sub-indices are effectively placed on an equal footing. 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 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 68 variables at the various levels of aggregation in the GTCI structure. As a statistical measure of the importance of variables in an index we use the squared Pearson correlation coefficient (otherwise known as the *coefficient of determination* R^2).[6] The importance of the selected variables is taken to be equivalent to the contribution of those variables to the variation of the aggregate scores, be those 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 our analysis appear in Table 2. Examining the importance measures of the 68 variables, we see that almost all variables are important at the various levels of aggregation. For example,

Table 2

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

PILLAR	SUB-PILLAR	VARIABLE NAME	SUB-PILLAR	PILLAR	INPUT/OUTPUT	GTCI INDEX
1. ENABLE	1.1 Regulatory Landscape	Government effectiveness	91%	90%	91%	91%
		Business-government relations	45%	43%	32%	26%
		Political stability	69%	52%	54%	48%
		Regulatory quality	88%	84%	83%	81%
		Corruption	90%	82%	84%	82%
	1.2 Market Landscape	Competition intensity	56%	47%	40%	38%
		Ease of doing business	65%	65%	62%	64%
		Cluster development	65%	61%	56%	53%
		R&D expenditure	67%	50%	49%	53%
		ICT infrastructure	72%	63%	74%	80%
		Technology utilisation	82%	79%	79%	76%
	1.3 Business and Labour Landscape	Ease of hiring	39%	17%	9%	8%
		Ease of redundancy	31%	18%	13%	11%
		Active labour market policies	62%	63%	62%	61%
		Labour-employer cooperation	67%	61%	53%	49%
		Professional management	66%	77%	76%	72%
2. ATTRACT	2.1 External Openness	Relationship of pay to productivity	79%	71%	63%	62%
		FDI and technology transfer	62%	57%	56%	52%
		Prevalence of foreign ownership	55%	54%	45%	39%
		Migrant stock	55%	43%	31%	30%
		International students	69%	57%	40%	38%
		Brain gain	70%	63%	44%	38%
	2.2 Internal Openness	Tolerance of minorities	61%	44%	43%	39%
		Tolerance of immigrants	32%	30%	21%	17%
		Social mobility	64%	75%	72%	66%
		Female graduates	17%	8%	13%	14%
		Gender earnings gap	30%	14%	9%	7%
		Leadership opportunities for women	51%	44%	35%	31%
3. GROW	3.1 Formal Education	Vocational enrolment	44%	27%	19%	21%
		Tertiary enrolment	71%	44%	38%	45%
		Tertiary education expenditure	18%	12%	8%	7%
		Reading, maths, and science	72%	52%	50%	54%
		University ranking	65%	63%	51%	54%
	3.2 Lifelong Learning	Quality of management schools	78%	72%	65%	65%
		Prevalence of training in firms	45%	28%	9%	8%
		Employee development	80%	73%	75%	71%
	3.3 Access to Growth Opportunities	Delegation of authority	82%	75%	73%	69%
		Personal rights	46%	38%	34%	33%
		Use of virtual social networks	61%	49%	56%	57%
		Use of virtual professional networks	73%	67%	67%	67%
		Collaboration within organisations	76%	69%	71%	69%
		Collaboration across organisations	52%	49%	46%	45%
4. RETAIN	4.1 Sustainability	Pension system	65%	80%	56%	63%
		Social protection	86%	69%	78%	74%
		Brain retention	56%	31%	55%	49%
	4.2 Lifestyle	Environmental performance	81%	69%	54%	59%
		Personal safety	51%	57%	50%	51%
		Physician density	79%	63%	38%	44%
		Sanitation	77%	61%	39%	44%
5. VOCATIONAL AND TECHNICAL SKILLS	5.1 Mid-Level Skills	Workforce with secondary education	67%	31%	28%	19%
		Population with secondary education	69%	32%	29%	19%
		Technicians and associate professionals	79%	73%	73%	67%
		Labour productivity per employee	59%	66%	60%	65%
	5.2 Employability	Ease of finding skilled employees	83%	56%	51%	56%
		Relevance of education system to the economy	86%	58%	52%	59%
		Skills matching with secondary education	82%	61%	53%	56%
		Skills matching with tertiary education	81%	47%	38%	46%
6. GLOBAL KNOWLEDGE SKILLS	6.1 Higher-Level Skills	Workforce with tertiary education	84%	72%	69%	56%
		Population with tertiary education	61%	45%	39%	29%
		Professionals	75%	74%	73%	66%
		Researchers	76%	75%	75%	71%
		Senior officials and managers	49%	45%	37%	27%
		Availability of scientists and engineers	58%	53%	60%	57%
	6.2 Talent Impact	Innovation output	75%	77%	77%	74%
		High-value exports	38%	35%	31%	28%
		New product entrepreneurial activity	18%	9%	6%	4%
		New business density	39%	31%	23%	23%
		Scientific journal articles	65%	60%	55%	46%

Source: European Commission, Joint Research Centre (2018).
Note: The values are the squared Pearson correlation coefficients, expressed as percentages.

Table 3

Distribution of differences between pillar and GTCI rankings

	GTCI INPUT SUB-INDEX				GTCI OUTPUT SUB-INDEX	
Shifts with respect to the overall GTCI rank	Enable	Attract	Grow	Retain	Vocational and Technical Skills	Global Knowledge Skills
More than 30 positions	5%	18%	6%	2%	2%	7%
20 to 29 positions	7%	13%	10%	7%	8%	18%
10 to 19 positions	26%	30%	17%	27%	29%	24%
More than 10 positions	**38%**	**61%**	**33%**	**35%**	**39%**	**48%**
5 to 9 positions	27%	18%	26%	27%	31%	29%
Less than 5 positions	29%	18%	34%	34%	26%	23%
0 positions	6%	3%	8%	4%	3%	1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: European Commission, Joint Research Centre (2018).

Table 4

Distribution of differences between the GTCI 2018 and other international rankings

Shifts with respect to the GTCI 2018	2017 Global Innovation Index (Cornell, INSEAD, and WIPO)	2016–2017 Global Competitiveness Index (World Economic Forum)
More than 30 positions	4%	8%
20 to 29 positions	13%	10%
10 to 19 positions	25%	25%
More than 10 positions	**41%**	**44%**
5 to 9 positions	26%	21%
Less than 5 positions	29%	25%
0 positions	4%	9%
Total	**100%**	**100%**

Source: European Commission, Joint Research Centre (2018).

country variations in 1.1.1 Government effectiveness scores can capture 91% of the variance in the respective sub-pillar scores (Regulatory Landscape), 90% of the variance in the respective pillar (Enable), and 91% both in the Input sub-index and overall GTCI scores. Similarly, country variations in 2.1.1 Foreign direct investment (FDI) and technology transfer scores can capture 62%, 57%, 56%, and 52% of the variance in the External Openness, Attract, Input, and GTCI scores, respectively. In the 2018 data set, there are five variables that have a very low impact on the GTCI variance (less than 10%): 1.3.1 Ease of hiring, 2.2.5 Gender earnings gap, 3.1.3 Tertiary education expenditure, 3.2.2 Prevalence of training in firms, and 6.2.3 New product entrepreneurial activity. Although conceptually enriching the current GTCI framework and despite the sufficient though modest statistical relevance (ranging between 12% and 24%) of four of them to last year's framework, these variables are not found to be important at the overall index level in the 2018 data framework. In fact, 1.3.1 Ease of hiring has consistently been a low-impact variable in the overall index and has been flagged in the JRC's audits since 2014. Accordingly, the GTCI development team should monitor closely how the statistical relevance of all five of these low-impact variables evolve over time in next year's release.

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 2018 ranking differs from any of the six pillar rankings by 10 positions or more in at least one-third of the 119 countries included in the 2018 edition, peaking at two-thirds in 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, we compared the GTCI 2018 with both the World Economic Forum's 2016–2017 Global Competitiveness Index and Cornell University, INSEAD, and WIPO's 2017 Global Innovation Index. After having extracted data from both projects' websites, we find that the rank correlation between GTCI 2018 with both indices is substantially high (correlation ≈ 0.9), which suggests that the GTCI has many aspects in common with both these two indices. Looking at the shifts in rankings (see Table 4), we nevertheless find that 41% and 44% out of the countries

Table 5

Uncertainty analysis for the GTCI 2018: Weights, missing data, and aggregation

		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]

Source: European Commission, Joint Research Centre (2018).

included in the GTCI 2018 that feature in the other two indices differ in ranking by more than 10 positions when comparing the GTCI 2018 with, respectively, the 2016–2017 Global Competitiveness Index and the 2017 Global Innovation Index. This indicates that the GTCI 2018 offers additional insights into nations' human capital and competitiveness compared to the two other international indices.

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 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), driven by statistical analysis (e.g., treatment of outliers) or simplicity (e.g., no imputation of missing data). The robustness analysis is aimed 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,[7] 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, 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 12% to 20%. 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 4.7% of data were missing in the data set of 119 countries for all 68 variables). The 'no imputation' choice, which is common in similar contexts, might encourage countries not to report low data values. To overcome this limitation, the JRC also estimated missing data using the Expectation Maximisation (EM) algorithm.[8]

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.[9] 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

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 2018).

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 (black line), the 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 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 for meaningful inferences to be drawn.

GTCI 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 GTCI rank is close to the median rank (differing by two positions or less) for 95% of the countries suggests that the GTCI 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 95% of the countries) imply that the GTCI ranks are also, for most countries, robust to changes in the pillar weights, the imputation method, and the aggregation formula.

Results for the Input and Output sub-index 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 two positions away) for 97% of the countries and the rank intervals are less than or equal to 10 positions for 88% of the countries. Similarly, the Output rank is close to the median rank (less than or equal to two positions away) for 81% of the countries, and the rank intervals are less than or equal to 10 positions for 87% of the countries.

Overall, country ranks in the GTCI 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 GTCI 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 GTCI 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 GTCI).

The most influential methodological assumption turns out to be the choice of geometric aggregation versus arithmetic aggregation (given that a lower rank correlation indicates greater sensitivity). This choice has the largest impact on differences in ranking for the GTCI 2018 and the Output sub-index, less so for the Input sub-index. For example, in the most extreme case, a country falls by 13 positions in the Output ranking when geometric aggregation is applied, yet the country increases by four positions if missing data are imputed. Note, however, that these assumptions concern methodological choices only and might overall be less influential than choices related to the background assumptions in the conceptual framework.[10]

Overall, given the fairly modest ranges of uncertainty on the final rankings, the JRC recommendation is not to alter the GTCI methodology at this point, but to consider country ranks in the GTCI 2018 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 GTCI, their ranks in the overall GTCI 2018 and the Input and Output sub-indices are the result of the underlying data and not of modelling choices.[11]

Figure 1a

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

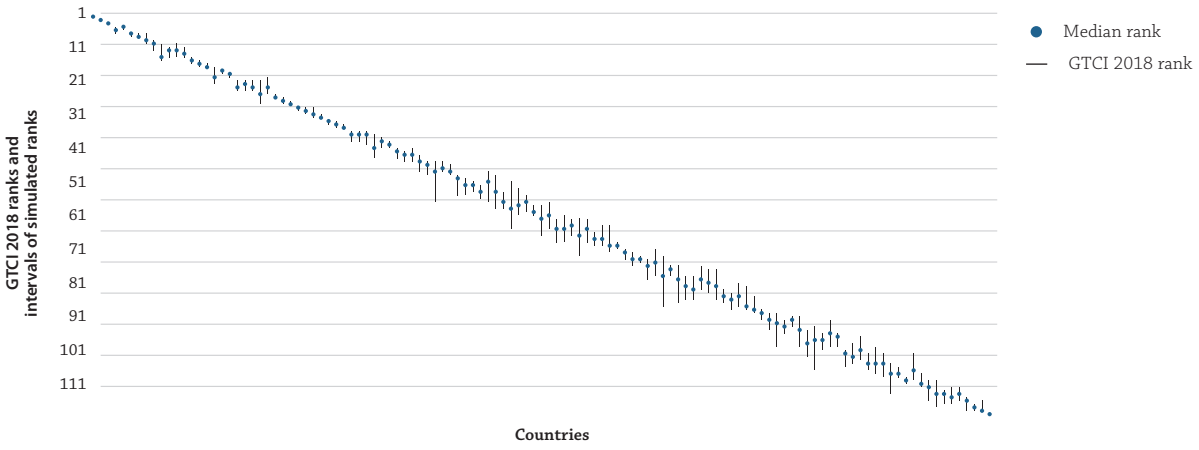


Figure 1b

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

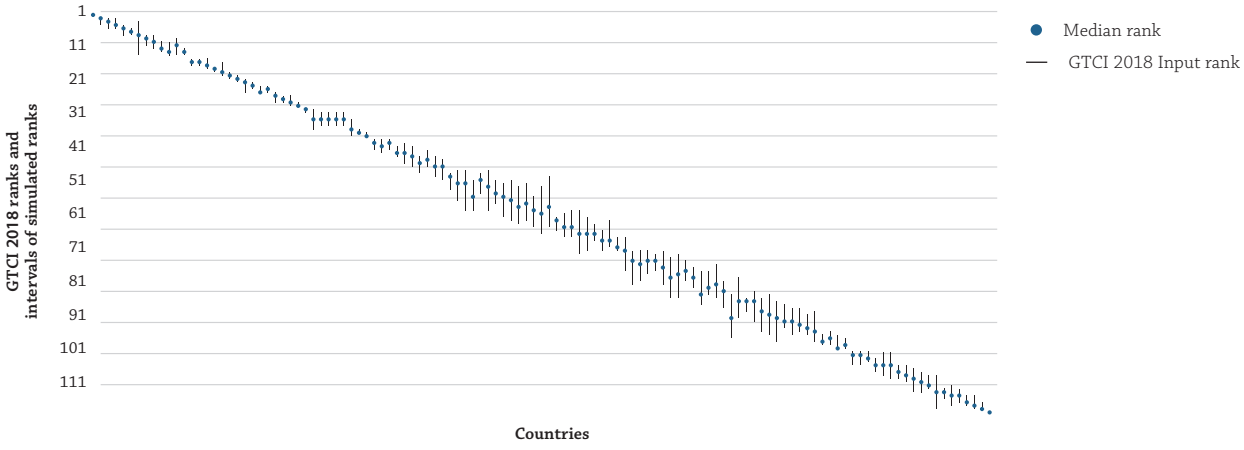
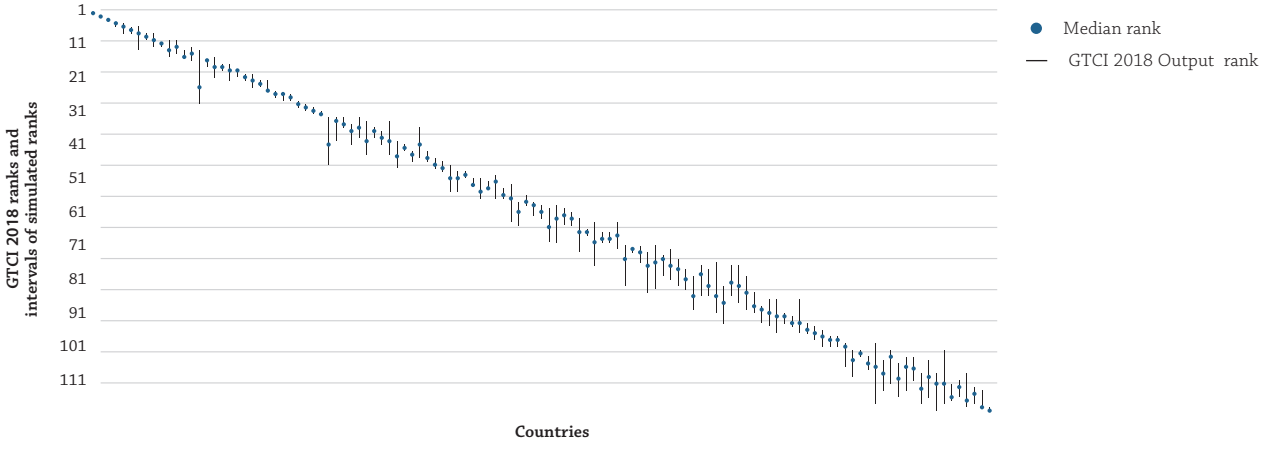


Figure 1c

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



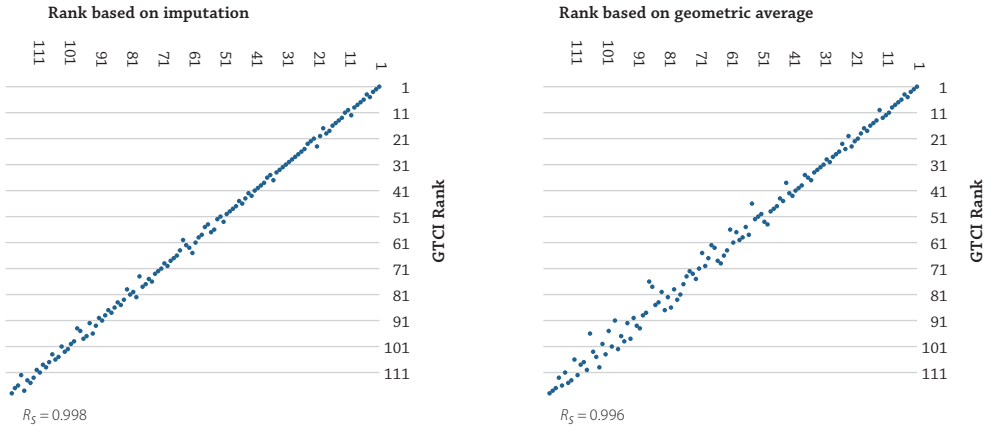
Source: European Commission, Joint Research Centre (2018).

Notes: The Spearman rank correlation between the median rank and the GTCI 2018 rank is 0.999; between the median rank and the GTCI 2018 Input rank is 0.999; and between the median rank and the GTCI 2018 Output rank is 0.998. 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.

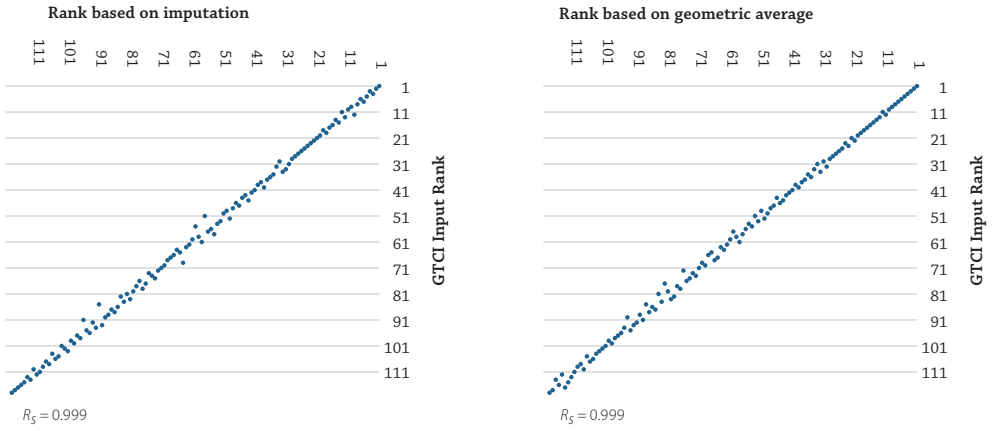
Figure 2

Sensitivity analysis: Impact of modelling choices

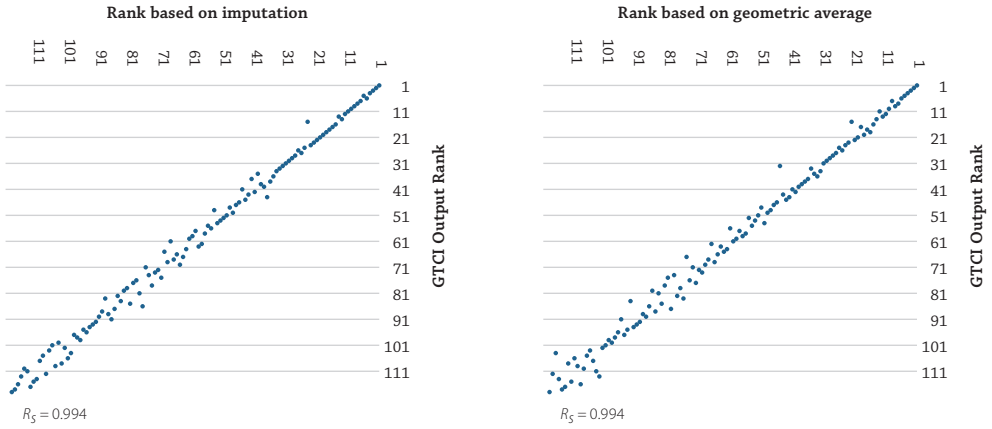
Global Talent Competitiveness Index 2018



GTCI Input Sub-Index 2018



GTCI Output Sub-Index 2018



Source: European Commission, Joint Research Centre (2018).
Notes: R_S represents the Spearman rank correlation coefficient.

Table 6

Country ranks and 90% confidence intervals for the GTCI 2017 and its Input/Output sub-indices

COUNTRY	GTCI 2018		INPUT SUB-INDEX		OUTPUT SUB-INDEX	
	RANK	INTERVAL	RANK	INTERVAL	RANK	INTERVAL
Switzerland	1	[1, 1]	1	[1, 1]	3	[3, 3]
Singapore	2	[2, 2]	2	[2, 4]	2	[2, 2]
United States of America	3	[3, 3]	11	[9, 13]	1	[1, 1]
Norway	4	[4, 6]	3	[2, 5]	7	[5, 12]
Sweden	5	[4, 5]	4	[2, 5]	6	[5, 7]
Finland	6	[6, 7]	8	[7, 10]	4	[4, 5]
Denmark	7	[6, 7]	5	[4, 7]	8	[7, 9]
United Kingdom	8	[6, 9]	6	[5, 7]	12	[9, 13]
Netherlands	9	[8, 11]	9	[7, 11]	11	[9, 14]
Luxembourg	10	[9, 14]	7	[3, 13]	20	[18, 20]
Australia	11	[10, 13]	10	[9, 12]	14	[11, 15]
New Zealand	12	[9, 13]	12	[8, 13]	13	[12, 14]
Ireland	13	[10, 13]	13	[11, 13]	10	[10, 11]
Iceland	14	[13, 15]	17	[17, 18]	5	[4, 7]
Canada	15	[14, 16]	15	[14, 16]	16	[15, 17]
Belgium	16	[15, 16]	14	[14, 16]	18	[16, 18]
United Arab Emirates	17	[16, 21]	18	[15, 19]	15	[12, 28]
Austria	18	[17, 18]	16	[14, 17]	22	[19, 23]
Germany	19	[18, 19]	19	[18, 20]	17	[14, 20]
Japan	20	[20, 23]	21	[20, 24]	23	[21, 23]
France	21	[20, 23]	22	[21, 23]	21	[19, 21]
Estonia	22	[20, 23]	24	[22, 24]	19	[16, 21]
Qatar	23	[20, 27]	20	[19, 21]	32	[32, 46]
Israel	24	[19, 24]	27	[25, 28]	9	[7, 11]
Czech Republic	25	[24, 25]	23	[22, 24]	27	[25, 27]
Malta	26	[25, 27]	26	[25, 27]	26	[25, 27]
Malaysia	27	[26, 27]	25	[24, 27]	29	[28, 30]
Slovenia	28	[28, 29]	33	[30, 34]	25	[24, 26]
Portugal	29	[28, 30]	28	[27, 28]	34	[32, 35]
Korea, Rep.	30	[28, 31]	35	[32, 37]	24	[21, 24]
Spain	31	[30, 31]	29	[29, 30]	38	[35, 38]
Lithuania	32	[32, 33]	31	[30, 34]	39	[36, 40]
Chile	33	[32, 34]	34	[30, 34]	42	[40, 42]
Latvia	34	[33, 34]	37	[36, 37]	30	[29, 31]
Costa Rica	35	[35, 38]	32	[30, 34]	52	[50, 56]
Italy	36	[35, 38]	42	[39, 45]	31	[30, 31]
Cyprus	37	[35, 39]	45	[41, 46]	28	[27, 29]
Bahrain	38	[36, 43]	30	[29, 35]	62	[58, 69]
Poland	39	[37, 40]	41	[40, 43]	33	[32, 39]
Slovakia	40	[38, 40]	40	[38, 41]	43	[42, 45]
Saudi Arabia	41	[40, 43]	38	[38, 41]	48	[46, 54]
Greece	42	[41, 44]	47	[44, 50]	37	[33, 43]
China	43	[40, 44]	46	[43, 49]	40	[33, 43]
Uruguay	44	[42, 47]	36	[35, 36]	73	[70, 75]
Panama	45	[44, 48]	43	[40, 46]	58	[55, 58]
Mauritius	46	[44, 56]	39	[38, 42]	67	[63, 76]
Bulgaria	47	[44, 47]	48	[48, 53]	46	[44, 47]
Croatia	48	[45, 48]	56	[50, 62]	45	[42, 45]
Argentina	49	[48, 54]	50	[47, 59]	51	[50, 52]
Jordan	50	[49, 54]	49	[47, 56]	55	[53, 56]
Kazakhstan	51	[50, 53]	54	[50, 57]	53	[51, 53]
Hungary	52	[51, 55]	59	[55, 64]	50	[48, 50]
Russian Federation	53	[47, 56]	66	[61, 71]	36	[32, 38]
Philippines	54	[48, 58]	55	[51, 61]	54	[49, 56]
Trinidad and Tobago	55	[53, 58]	52	[48, 54]	57	[57, 64]
Oman	56	[50, 64]	44	[43, 48]	75	[70, 83]
Azerbaijan	57	[52, 60]	57	[52, 63]	56	[52, 63]
Montenegro	58	[54, 59]	69	[62, 70]	41	[39, 47]
Macedonia, FYR	59	[57, 60]	51	[50, 59]	63	[59, 64]
Lebanon	60	[57, 66]	82	[77, 84]	35	[34, 40]

Table 6 *(continued)*

Country ranks and 90% confidence intervals for the GTCI 2018 and its Input/Output sub-indices

	GTCI 2018		INPUT SUB-INDEX		OUTPUT SUB-INDEX	
COUNTRY	RANK	INTERVAL	RANK	INTERVAL	RANK	INTERVAL
Ukraine	61	[56, 64]	78	[72, 85]	44	[35, 44]
Botswana	62	[61, 68]	53	[47, 59]	79	[77, 83]
South Africa	63	[60, 68]	61	[49, 64]	72	[71, 72]
Romania	64	[61, 66]	63	[60, 67]	64	[60, 64]
Kuwait	65	[61, 72]	58	[51, 62]	78	[74, 82]
Armenia	66	[61, 68]	77	[73, 85]	47	[45, 48]
Colombia	67	[65, 69]	64	[59, 67]	68	[66, 69]
Turkey	68	[63, 69]	71	[67, 77]	59	[57, 61]
Serbia	69	[63, 71]	84	[80, 88]	49	[48, 54]
Thailand	70	[68, 70]	62	[61, 65]	77	[71, 80]
Mexico	71	[70, 73]	68	[65, 71]	76	[73, 79]
Georgia	72	[71, 75]	72	[71, 81]	69	[66, 69]
Brazil	73	[72, 74]	67	[63, 68]	82	[77, 85]
Peru	74	[73, 79]	74	[71, 78]	71	[70, 82]
Mongolia	75	[70, 78]	79	[74, 80]	65	[62, 72]
Rwanda	76	[72, 87]	60	[52, 66]	99	[97, 100]
Indonesia	77	[75, 78]	75	[72, 77]	74	[72, 84]
Albania	78	[75, 86]	70	[67, 71]	91	[86, 96]
Dominican Republic	79	[78, 85]	73	[71, 80]	88	[84, 90]
Namibia	80	[78, 85]	65	[59, 72]	97	[95, 100]
India	81	[75, 82]	88	[83, 92]	66	[65, 67]
Sri Lanka	82	[76, 83]	80	[76, 82]	81	[76, 85]
Tunisia	83	[76, 85]	94	[88, 95]	60	[58, 62]
Guatemala	84	[82, 86]	76	[71, 81]	93	[91, 94]
Ecuador	85	[83, 88]	83	[75, 85]	89	[88, 93]
Moldova, Rep.	86	[80, 87]	92	[87, 94]	70	[63, 71]
Viet Nam	87	[81, 88]	87	[85, 89]	83	[75, 90]
Kenya	88	[84, 89]	89	[85, 95]	86	[76, 87]
Bosnia and Herzegovina	89	[88, 91]	96	[89, 98]	80	[79, 89]
Ghana	90	[89, 94]	86	[79, 91]	98	[97, 100]
Bhutan	91	[89, 99]	81	[77, 87]	106	[101, 111]
Honduras	92	[91, 95]	91	[86, 98]	96	[94, 98]
Kyrgyzstan	93	[90, 93]	98	[95, 99]	84	[82, 93]
Iran, Islamic Rep.	94	[90, 99]	105	[101, 108]	61	[59, 69]
Lao PDR	95	[94, 102]	85	[84, 97]	108	[103, 113]
Gambia	96	[93, 106]	90	[84, 96]	104	[99, 117]
Senegal	97	[95, 100]	93	[88, 96]	101	[101, 109]
Morocco	98	[91, 99]	97	[96, 99]	95	[93, 96]
Paraguay	99	[95, 99]	95	[90, 96]	100	[99, 106]
El Salvador	100	[100, 105]	100	[97, 100]	105	[104, 113]
Algeria	101	[98, 104]	108	[105, 110]	90	[86, 94]
Bolivia, Plurinational St.	102	[96, 103]	106	[101, 109]	92	[90, 93]
Uganda	103	[101, 106]	99	[96, 100]	110	[108, 117]
Egypt	104	[99, 107]	109	[106, 113]	94	[86, 96]
Venezuela, Bolivarian Rep.	105	[101, 108]	112	[108, 118]	85	[76, 85]
Lesotho	106	[104, 113]	101	[101, 105]	112	[108, 119]
Tanzania	107	[105, 108]	102	[101, 105]	115	[110, 115]
Cambodia	108	[108, 110]	104	[103, 107]	117	[112, 117]
Pakistan	109	[101, 109]	115	[112, 116]	87	[79, 89]
Malawi	110	[107, 111]	107	[105, 109]	111	[104, 115]
Nicaragua	111	[109, 115]	103	[101, 104]	119	[118, 119]
Ethiopia	112	[109, 117]	110	[107, 113]	116	[108, 118]
Mali	113	[112, 116]	111	[108, 112]	114	[111, 116]
Bangladesh	114	[111, 116]	113	[112, 115]	107	[105, 115]
Zimbabwe	115	[111, 115]	116	[114, 117]	102	[101, 103]
Nepal	116	[114, 118]	117	[114, 118]	103	[103, 107]
Mozambique	117	[116, 118]	114	[111, 117]	118	[113, 118]
Madagascar	118	[115, 118]	118	[116, 118]	109	[103, 110]
Yemen	119	[119, 119]	119	[119, 119]	113	[101, 117]

Source: European Commission, Joint Research Centre (2018).

CONCLUSIONS

The JRC analysis suggests that the conceptualised multi-level structure of the GTCI 2018 is statistically coherent and balanced (i.e., 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 GTCI). Furthermore, the analysis has offered statistical justification for the use of equal weights and arithmetic averaging at the various levels of aggregation, showing that the GTCI 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 0.7 threshold for a reliable aggregate).

Points that call for possible refinements of the GTCI framework were also identified. These refinements mainly concern five out of the 68 variables, namely 1.3.1 Ease of hiring, 2.2.5 Gender earnings gap, 3.1.3 Tertiary education expenditure, 3.2.2 Prevalence of training in firms, and 6.2.3 New product entrepreneurial activity. Although present in the conceptual framework, these variables do not appear to contribute significantly to the variation of the GTCI country scores and, consequently, do not have an impact on the GTCI rankings.

On the whole, the analysis of the correlations at the sub-pillar level reveals that the statistical structure of the GTCI is coherent with its conceptual framework, given that sub-pillars correlate strongly with their respective pillars. Furthermore, all pillars correlate strongly and fairly evenly with the GTCI itself, which indicates that the framework is well balanced.

The GTCI and both sub-index country ranks are relatively robust to methodological assumptions related to the estimation of missing data, weighting, and aggregation formula. It is reassuring that for a large majority of the countries included in the GTCI, 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 GTCI, although some caution may be needed for a few countries. Note that perfect robustness would have been undesirable because this would have implied that the GTCI components are perfectly correlated and hence redundant, which is not the case for the GTCI 2018. In fact, one way in which the GTCI 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 GTCI and each of the six pillars: the GTCI ranking differs from any of the six pillar rankings by 10 positions or more for at least one-third (up to two-thirds) of the countries. This outcome both 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 Global Talent Competitiveness Index 2018, subject to some minor hints for future releases, in reliably identifying weaknesses and best practices and ultimately monitoring national performance in human capital and competitiveness issues around the world.

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 http://composite-indicators.jrc.ec.europa.eu/ (all audits were carried 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 to account for the small sample (119 countries).

4 Only in three of the sub-pillars is there a second principal component with an eigenvalue slightly above the 1.0 threshold: 1.3 Business and Labour Landscape (eigenvalue of 1.01), 2.2 Internal Openness (eigenvalue of 1.05), and 6.2 Talent Impact (eigenvalue of 1.03). This suggests that relevant information might be lost when directly aggregating the variables into sub-pillars.

5 See Nunnally (1978).

6 Becker et al. (2017).

7 Saisana et al. (2005), (2011); Saisana & Saltelli (2011); Saltelli et al. (2008).

8 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.

9 Munda (2008).

10 Saltelli & Funtowicz (2014).

11 As already mentioned in the uncertainty analysis, about 95% of the simulated median ranks for the GTCI and Input (sub-) indices are less than two positions away from the reported 2018 rank—this percentage drops only to 81% in the Output sub-index.

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Special Section

Cities and Regions

Special Section

Diversity, Inclusion, and Urban Strategies: How Cities Compete and Innovate on the Global Talent Scene

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Last year, the 4th edition of the Global Talent Competitiveness Index Report (GTCI 2017) included a beta version of a Global City Talent Competitiveness Index (GCTCI). At the time, the report underlined that *'innovative talent strategies are emerging from all parts of the world, and cities are playing an increasingly significant role in these strategies. Such strategies affect all aspects of talent competitiveness, including education, skilling and re-skilling, attracting external talents and fostering co-creation with local ones, as well as encouraging imported (or returning) talent to stay and contribute to long-term local objectives. When competing for talents, cities benefit from three key advantages over nation-states, namely (1) economic growth rates that can be significantly higher than the average national growth rate of their respective countries; (2) specific advantages related to geography, culture, or quality of life (environment, culture, cost of living, safety); and (3) a higher degree of agility and branding abilities'*.[1]

In offering its initial attempt at creating a talent competitiveness index for cities, the 2017 report emphasised the need for a cautious approach—that is, one that should be both *'coherent but differentiated'* and *'ambitious but realistic'*. Those are the two axes that have been kept at the core of the improved version of GCTCI presented this year.

Thanks to the abundant feedback and comments received since the launch of the first attempt at ranking cities in terms of their abilities to compete on the global talent scene, several significant improvements could be made to the initial GCTCI proposal. Those improvements (described in greater detail below) can be summarised as (1) a streamlined version of the model; (2) the introduction of an updated set of variables; and (3) broader coverage, translating into a significant increase (+ 90%) in the number of cities included.

Last but not least, this special section includes a series of short case studies that considers how the theme of this year's

Figure 1
The architecture of the Global Cities Talent Competitiveness Index

report ('Diversity for Competitiveness') applies to the strategies and situations of three particular cities.

BENCHMARKING CITIES' TALENT COMPETITIVENESS: RATIONALE AND METHODOLOGY

As indicated earlier, this year's version of the GCTCI model has benefited from three major improvements having to do with the model's architecture, the variables/data used, and the city coverage.

Architecture of the GCTCI Model

As in last year's beta version of the GCTCI, the first four pillars of the model used this year very closely reflect those of the GTCI, using all data that could either be collected at the city level or for which the use of national data (i.e., those used in the GTCI model) made sense at the city level. The main difference introduced in this year's version of the GCTCI model concerns the 'right-hand side' of the model. Former pillars 5 and 6 have now been replaced by one single pillar (called 'Be Global'), which aims to measure the degree of internationalisation of cities. This new pillar includes a city's ability to develop global knowledge skills (measured through its tertiary-educated workforce and population), as well as by its global transport connectivity (measured by the presence of international airports) and its role in international relations (measured through the presence of intergovernmental organisations).

Final GCTCI scores have been calculated as the average of the corresponding five pillar scores of each city.

The resulting GCTCI model hence can be represented as follows (see Figure 1):

Data and Variables Used

Using the same holistic definition of *talent* as the GTCI model, GCTCI uses a significantly smaller number of variables (17) to assess the talent competitiveness of cities. This smaller number is the result of the 'double threshold' approach, used also for the GTCI, by which (1) a variable is included if it is available for a sufficient number of cities (75) and (2) a city is included if it can be described by a sufficient number (50%) of variables in the model.

As in last year's beta version of the GCTCI, the following considerations were taken into account to arrive at coherent decisions about which data to use:

- **Data availability.** Some of the GTCI's variables are available only at national rather than sub-national levels. In some instances, this lack of availability was mitigated through the use of proxies.

- **Data applicability.** Some GTCI variables directly reflect trends and policies set by central governments (e.g., legal frameworks and labour laws). As such, they are of limited use when making direct comparisons of cities and regions on a global scale.

Compared with last year, main changes at the level of variable levels include the deletion of former variable 3.2 (vocational enrolment), which generated erratic values at the city level; and the introduction of variable 5.4 (presence of intergovernmental organisations), which offers an interesting proxy of the degree to which specific cities are perceived as 'global hubs'.

Additional improvements have been brought to the GCTCI model through the identification of new sources, as described in Annex 1 to this section.

The resulting structure of the GCTCI model at the variable level is shown in Figure 2.

Typically, in this improved version, the following data sources were used in populating the GCTCI:[2]

- European Union (EU)-wide statistical engines such as Eurostat

- National-level statistical bureaus

- Local sources, including government agency websites, reports, and related press releases

- Publicly available global rankings such as the EIU Safe Cities Index

Figure 2
GCTCI variables

Note: IGO = intergovernmental organization.

- Where applicable, recognised global data sets such as Forbes Global 2000 or the Academic Ranking of World Universities (ARWU)

- Survey- and self-report-based online data aggregators such as Numbeo

In addition, several types of proxies have been used:

- **Regional-level data points taken to represent cities.** These are used particularly where up-to-date, detailed information on EU regions was available and where 'Region X' and 'City of X' are often used interchangeably in a number of contexts.

- **Country-level GTCI data appropriated to represent cities.** These are applicable to smaller-sized cities located in small countries, where the city's population (without suburbs/adjacent metropolitan areas) amounts to at least 25% of the total country population.

- **Data points from online tools injected into published indices.** Where existing branded indices such as EIU rankings did not include a particular city listed in the GCTCI, the city's corresponding ranking/score on Numbeo.com was supplemented, after having its score correlated or traced to a city that was ranked as a leader in both sources (i.e., in EIU and Numbeo).

Having applied those proxies, the data set was tested for missing data. As mentioned earlier when discussing the double threshold approach adopted in the GTCI and the GCTCI, cities as well as variables where 50% or more of the data points were not available were eliminated, thus ensuring that the sample remained representative. The resulting set was then normalised.

City Coverage

The number of cities covered in the GCTCI has grown from a total of 46 last year to 90 in this edition of the report (Figure 3). This significant increase is the result of a combination of factors, including the proactive work of the GCTCI's research team in identifying new sources and indicators, as well as the contributions and feedback received from a number of municipalities around the world, which volunteered to share verifiable local data.

Altogether, the GCTCI coverage remains largely European (47 cities out of 90; Figure 4), for the same reasons as those indicated last year—in particular, the significant amount of work produced by Eurostat in collecting data at the city level. As of now, this effort has no comparable equivalent in other parts of the world. However, it is an encouraging sign that enough data could be gathered this year to allow the inclusion in the index of 43 non-European cities, including 7 in North America (6 from

Figure 3

Cities included in this year's GCTCI*

Note: Highlighted cities are those in the top 10 of this year's GCTCI.
* European cities are displayed separately (see Figure 4 below).

Figure 4

A strong European presence

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

the United States), 10 from Latin America, 10 from Africa and the Middle East, and 16 from Asia-Pacific (of which 6 are Chinese cities). Like last year, these cities represent a mix of large and small urban centres, some of which are national capitals or leading urban centres 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 this selection.[3]

GCTCI FINDINGS

This section presents the findings of the GCTCI, looking first at the overall rankings of the 90 cities covered by this year's index, and then at specific rankings on each of the five pillars of the GCTCI model.

Overall GCTCI Rankings

The aggregate results that combine data points and the corresponding scores across the five pillars of talent competitiveness have produced the rankings shown in Table 1. Detailed results (by city and by variable) can be found in Annex 2 at the end of this section.

This year's leader in the GCTCI rankings is the Swiss city of Zurich (which was 2nd last year). It is followed by a tight group of four Nordic cities: Stockholm (Sweden), Oslo (Norway), Copenhagen (Denmark), and Helsinki (Finland). The top 10 list also includes two US cities (Washington DC at 6th and San Francisco at 8th), as well as three more European cities: Dublin (Ireland), Paris (France), and Brussels (Belgium).

The next cluster (11th to 27th) is constituted by a group of cities with similar talent performances (differences in scores between them are fairly small). This group includes Dutch cities such as Amsterdam (11th) and The Hague (27th), but also large metropolises such as Tokyo (12th), Los Angeles (13th), London (14th), Seoul (18th), and Madrid (22nd), as well as three large US cities: Boston (17th), Chicago (21st), and New York (26th).

In the third and fourth groups of cities (28th to 60th, and 61st to 90th, respectively) , performance is more widely scattered. Out of the 33 cities included in the former group, 26 are European cities, while the latter has only 3 (out of a total of 30): Sofia (63rd), Belgrade (64th), and Bucharest (68th). This is also the group where most emerging countries cities can be found.

Findings from the GCTCI Pillars

Like last year, a consideration of cities' performance at the pillar level provides a rather uneven picture (see Table 2 on page 95). The three observations made in 2017,[4] however, are confirmed by this year's results, namely:

Each City Has Its Own Strengths and Weaknesses

As underlined in the GCTCI 2017, the pillars of talent competitiveness do not exist in isolation. Particularly, in high-performing cities, there is evidence of complementarities: for instance,

Table 1

Global City Talent Competitiveness Index rankings and overall scores

RANK	CITY	OVERALL SCORE
1	**Zurich (Switzerland)**	**71.0**
2	**Stockholm (Sweden)**	**68.2**
3	**Oslo (Norway)**	**68.1**
4	**Copenhagen (Denmark)**	**67.1**
5	**Helsinki (Finland)**	**66.8**
6	***Washington DC (United States)***	**66.5**
7	**Dublin (Ireland)**	**66.1**
8	***San Francisco (United States)***	**63.4**
9	**Paris (France)**	**63.2**
10	**Brussels (Belgium)**	**62.7**
11	Amsterdam (Netherlands)	61.6
12	*Tokyo (Japan)*	60.2
13	*Los Angeles (United States)*	59.8
14	London (United Kingdom)	59.6
15	Vienna (Austria)	59.5
16	Luxembourg (Luxembourg)	59.4
17	*Boston (United States)*	58.6
18	*Seoul (Korea, Rep.)*	57.8
19	Lisbon (Portugal)	57.0
20	*Sydney (Australia)*	56.9
21	*Chicago (United States)*	56.8
22	Madrid (Spain)	56.8
23	Gothenburg (Sweden)	56.3
24	*Ottawa (Canada)*	55.4
25	Prague (Czech Rep.)	55.2
26	*New York (United States)*	55.0
27	The Hague (Netherlands)	54.9
28	Athens (Greece)	53.9
29	Berlin (Germany)	53.6
30	Barcelona (Spain)	53.5
31	Eindhoven (Netherlands)	53.5
32	Bilbao (Spain)	53.0
33	*Singapore (Singapore)*	52.7
34	Rotterdam (Netherlands)	51.4
35	*Buenos Aires (Argentina)*	50.9
36	Cardiff (United Kingdom)	50.0
37	Kiel (Germany)	49.4
38	Birmingham (United Kingdom)	49.3
39	Warsaw (Poland)	48.1
40	Hanover (Germany)	48.0
41	Budapest (Hungary)	47.9
42	Zaragoza (Spain)	47.6
43	Tallinn (Estonia)	46.9
44	Vilnius (Lithuania)	46.7
45	Nantes (France)	46.1

(continued on next page)

Table 1 *(continued)*

Global City Talent Competitiveness Index rankings and overall scores

RANK	CITY	OVERALL SCORE
46	*Auckland (New Zealand)*	46.0
47	Bologna (Italy)	45.8
48	Bratislava (Slovakia)	45.8
49	Ljubljana (Slovenia)	45.7
50	Rome (Italy)	44.3
51	Brno (Czech Rep.)	44.2
52	Turin (Italy)	44.0
53	Milan (Italy)	43.0
54	*Abu Dhabi (United Arab Emirates)*	42.9
55	*Beijing (China)*	42.3
56	Riga (Latvia)	41.3
57	*Doha (Qatar)*	40.9
58	Zagreb (Croatia)	40.5
59	Krakow (Poland)	40.4
60	*Mexico City (Mexico)*	40.0
61	*Sao Paulo (Brazil)*	39.9
62	*Istanbul (Turkey)*	39.7
63	*Sofia (Bulgaria)*	39.4
64	Belgrade (Serbia)	39.4
65	*Dubai (United Arab Emirates)*	39.3
66	*Hangzhou (China)*	38.1
67	*Kuala Lumpur (Malaysia)*	37.9
68	Bucharest (Romania)	37.2
69	*Santiago (Chile)*	36.5
70	*Shanghai (China)*	35.6
71	*Tunis (Tunisia)*	35.1
72	*Montevideo (Uruguay)*	35.0
73	*Shenzhen (China)*	34.7
74	*Rio de Janeiro (Brazil)*	34.7
75	*Bogota (Colombia)*	34.3
76	*Lima (Peru)*	34.1
77	*Guangzhou (China)*	33.9
78	*Bangkok (Thailand)*	33.8
79	*Johannesburg (South Africa)*	33.0
80	*Quito (Ecuador)*	32.0
81	Valletta (Malta)	30.8
82	*Brasilia (Brazil)*	29.5
83	*Tianjin (China)*	27.3
84	*Cairo (Egypt)*	26.3
85	*Hanoi (Viet Nam)*	25.7
86	*Casablanca (Morocco)*	23.8
87	*Nairobi (Kenya)*	23.6
88	*Kuwait City (Kuwait)*	21.7
89	*Mumbai (India)*	15.5
90	*Delhi (India)*	14.9

Note: Non-European cities are italicised.

higher GDP levels will over time naturally lead to higher technology penetration rates and a better quality of education and healthcare. Many of these complementary developments will take the form of virtuous cycles, such as higher-ranked universities attracting a higher calibre of teaching and research staff and producing graduates whose quality and skills will in turn be demanded and rewarded in the marketplace. This observation is confirmed this year, although examples exist of some cities ranking high on a particular pillar (e.g., Singapore is the world champion of 'talent growth') while failing to turn this advantage into a similar overall ranking on GCTCI.

Overall Low Performers Are Not without Ammunition in the Market for Talent

A comparison across the five pillars of the GCTCI model shows that only seven cities rank in the top 10 of three pillars out of five: namely Zurich (in pillars 1, 2, and 5), Oslo (in pillars 2, 3, and 5), Copenhagen (in pillars 1, 2, and 3), Washington DC (in pillars 2, 4, and 5), Dublin (in pillars 1, 2, and 5), San Francisco (in pillars 1, 3, and 5), and Luxembourg (in pillars 1, 2, and 5). Lower-ranking cities can also build specific advantages around their relatively low cost living—as exemplified in pillar 4 (Retain), in which cities such as Athens and Lisbon fare better than most of their European rivals, for example. Similarly, cities with high densities of information networks (such as Singapore, Dubai, Abu Dhabi, and Doha) have strong arguments to attract talents. It is likely that a different (and closer) look at the performance of smart cities would provide a significantly (and complementary) picture of the GCTCI in this respect. Such an exercise would certainly be worth undertaking.

Pillar-Level Analyses Create Ample Room for Strategy and Planning

In the race for talents, each of the cities included in the GCTCI have very valuable cards to play. Local policies and strategies, combined with the energy with which local leaders and local communities will strive to make their cities known on the world scene, will continue to play a critical role in this respect. As underlined last year, metropolises (defined as cities with more than 1 million people) will continue to enjoy 'natural advantages' linked to the historical presence of key business players (e.g., the City in London, the studios of Los Angeles, Silicon Valley), large universities (in US and UK cities for example), or cultural and touristic landmarks (Paris), but the strong presence of middle-sized cities (typically of a few hundred thousand people) in the GCTCI also demonstrates that agility, innovation, and the appropriate mix of originality and authenticity are a good recipe for being talent competitive on the global scene. Moreover, the dynamism displayed by emerging cities to rival the advantages of established hubs through the creation of active cultural scenes (exemplified by the opening of the Guggenheim museum in Bilbao, or more recently of the Louvre Abu Dhabi) will clearly combine with other efforts to change urban landscapes, develop smart cities, and

Table 2
Top 10 city rankings and scores, by GCTCI pillar

Pillar 1: Enable

RANK	CITY	SCORE
1	Dublin	90.2
2	Stockholm	77.1
3	Zurich	72.8
4	Luxembourg	72.5
5	Seoul	70.1
6	Paris	68.6
7	Copenhagen	63.6
8	Helsinki	61.7
9	San Francisco	60.9
10	Boston	60.3

Pillar 2: Attract

RANK	CITY	SCORE
1	Washington DC	89.1
2	Oslo	87.5
3	Zurich	84.5
4	Dublin	80.3
5	Amsterdam	78.5
6	Luxembourg	77.9
7	London	77.3
8	Tokyo	76.9
9	Stockholm	76.8
10	Copenhagen	75.8

Pillar 3: Grow

RANK	CITY	SCORE
1	Singapore	77.1
2	Oslo	75.7
3	Copenhagen	74.6
4	Boston	73.9
4	Chicago	73.9
4	Los Angeles	73.9
4	New York	73.9
4	San Francisco	73.9
9	Brussels	73.3
10	Seoul	73.0

Pillar 4: Retain

RANK	CITY	SCORE
1	Athens	87.4
2	Vienna	82.0
3	Prague	81.3
4	Tunis	81.2
5	Cairo	80.7
6	Zaragoza	80.5
7	Montevideo	79.1
8	Lisbon	77.7
9	Washington DC	76.2
10	Bucharest	76.1

Pillar 5: Be Global

RANK	CITY	SCORE
1	Washington DC	69.5
2	Zurich	61.1
3	San Francisco	60.7
4	Luxembourg	59.9
5	Oslo	59.0
6	Helsinki	53.6
7	Brussels	53.0
8	Amsterdam	52.8
9	Paris	52.8
10	Dublin	50.7

provide both a high quality of life and development opportunities for workers as well as for their families.

THREE CASE STUDIES ON CITIES AND DIVERSITY: ADDING CONTEXT TO THE GCTCI DATA

To illustrate how diversity is considered, stimulated, and managed at city level, three case studies (Eindhoven, Copenhagen, and Bilbao) look at the history and recent orientations of their specific strategies and approaches in this respect.[5]

Diversity Drives Innovation: The Experience of Brainport Eindhoven

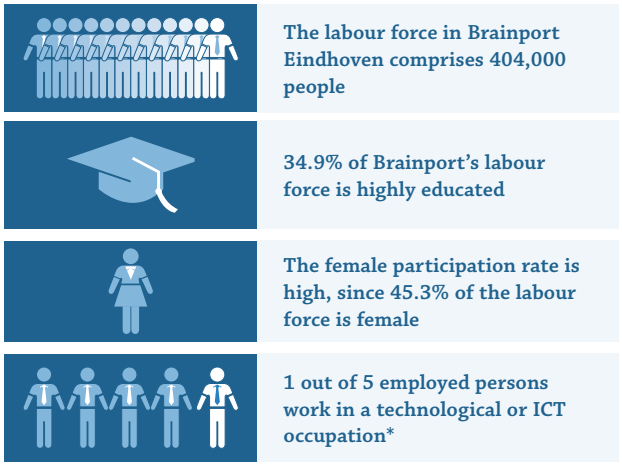
Brainport Eindhoven defines itself as *'a world-class high tech hotspot in the south of the Netherlands . . . [with] exceptional innovative strength, the world's highest patent density per capita and above average private R&D expenditure'*.[6] Because of shortages in high-tech and information technology (IT) talent available in the Dutch labour market, the number of international knowledge workers has shown a steep increase in Eindhoven's city and region over the last few years. In that context, diversity has proven to be both a necessity and a strength, as well as an engine behind companies' innovation power.

Diversity in Eindhoven: Historical and Economic Background

Brainport Eindhoven has long been seen as a leader in innovation,[7] as it is the region with the highest patent application rate and the highest number of patents in Europe: 42% of all patents in the Netherlands are filed in Brainport.[8] As a consequence, Brainport Eindhoven has helped define and represent Dutch international competitiveness and the country's innovative strength for years. It has received many prestigious international awards for its inventiveness and unique form of collaboration. In and around Eindhoven, path-breaking technologies have been developed; the region excels at inventing, developing, and integrating high-tech machines, systems, and system parts of utmost precision and accuracy and is known for its integral and multi-disciplinary way of working. Jobs in IT and technology in Brainport are numerous. To fill the many vacancies, the region has been attracting talent from abroad for over 10 years now. It therefore has a fast-growing and thriving international workforce.

Figure 5

Talent pool of highly skilled workers: Brainport Eindhoven



* In total there are 67,000 people working in tech and 17,000 people in ICT. A relatively high proportion of the people in Brainport Eindhoven has a technology or IT job.
Source: Compiled from data provided by the Dutch Central Bureau of Statistics (https://www.cbs.nl/en-gb).

Brainport Eindhoven has a highly educated and multilingual labour force that comprises 404,000 people, both of Dutch and foreign origin (out of a population of 761,763). Almost 35% of the labour force is highly educated, the labour participation of women—compared with that of other European countries—is high (45.3%), and one out of five persons has a job in technology or information and communication technology (ICT). In 2016 the region counted a total of 44,847 people with a foreign nationality, almost 65% of whom originated from Europe (28,512) and almost 20% from Asia (8,432) (see Figure 5).

Eindhoven's Multi-Disciplinary Approach to 'Diversity for Innovation'

For Brainport Eindhoven, the diversity imperative is not just about attracting talent: it also requires mobilising local players across the local ecosystems.

As underlined earlier, attracting international talent for Brainport Eindhoven is both a necessity and an important factor for the region's success and innovative strength. Over the last few years the region has shown a rapidly rising economic growth, and it is headed for 3.6% growth in 2017.[9] Local shortages for skilled IT and technology professionals have been considerable for years and keep increasing. That is why international talent attraction is one of the main points of focus of the region and of its high-tech small and medium-sized enterprises and large multinational companies. The shortage, however, is not the only reason for attracting talent from abroad: diversity of all kinds is seen as the motor behind innovation.

Besides the fact that attracting talent from abroad is necessary for filling vacancies, stimulating diversity is crucial for the region's inventiveness. Migrated scientists, engineers, and highly skilled professionals contribute directly to process and product innovation. Although there is a sense of satisfaction when everyone agrees, there is much more to be said for a diversity of thought and constructive conflict. Diversity in nationality, gender, and discipline drives innovation and creativity in all aspects and in all types of businesses—from small start-ups to multinational companies.

An interesting example of the required multi-disciplinary approach can be found at Holst Centre, an independent research and development (R&D) centre in Eindhoven that develops technologies for wireless autonomous sensor technologies and flexible electronics. Its workforce includes 30 nationalities. Besides their different cultural backgrounds, they work in a wide variety of technology domains. This allows people from different backgrounds to interact on various topics from different angles. This multi-disciplinary character triggers team members to look further than strictly their own domain and their own perception.

Handling Diversity on the Ground

At the operational level, the experience of Brainport Eindhoven has been linked strongly to the industrial and innovation dynamics of the region. It boils down to four key ingredients, namely (1) an understanding of different cultures, (2) an ability to ensure a high quality of life, (3) a willingness to adapt the local education system, and (4) an ability to build knowledge about multicultural societies and organisations. Various local examples illustrate how those priorities are addressed concretely.

- **A need to understand different cultures.** The world's leading chip-making equipment manufacturer ASML needs its teams to be mixed. The company, headquartered in Veldhoven, employs almost 10,000 workers of 90 different nationalities. ASML works on highly complex technical problems and its team managers want to work with teams that are as diverse as possible in order to have the problems looked at from as many angles as possible. Moreover, ASML simply is an international company. It operates on a global scale and therefore needs employees who understand the cultures of the markets in which ASML operates and of the suppliers and customers with whom it works.

- **Ensuring a high quality of life.** Besides attracting talent, the region's focus is on retaining talents by making them feel at home in Brainport Eindhoven. Quality of life in the Netherlands in general is good,[10] the work-life balance and healthcare system are excellent,[11] and Eindhoven offers a very competitive cost of living.[12] To make sure international workers find their way, extra attention is paid to making it easy for them to join sports clubs and international networks, and for their spouses to study or find a job. The educational system does not only offer the international community an excellent international school, but also easily accessible regular education.

- **International skills as an integral part of education.** Cultural diversity is a current topic in education. As the world—and the Eindhoven region in particular—is rapidly becoming more and more international, going about diversity is high on the agenda of primary and secondary schools, schools for vocational education, and universities in the Eindhoven region. They have recently embraced a vision of education entitled 'We are the future'. This vision states that international skills need to be an integral part of the school's curricula within the next five years. The economic development agency, Brainport Development, coordinates the vision's implementation.

- **Learning how to live and cooperate in a multicultural society.** These international skills concern not only learning (and teaching) English to four-year-olds but are also aimed at embracing the riches of cultural diversity. To be able to live together and cooperate in a multicultural society and work environment, a mutual understanding among cultures is required. Moreover, the future generation faces cross-border challenges such as climate change and refugees coming to Europe. People who learn to look at these problems from a variety of perspectives are more capable of understanding and solving these challenges.

The Brainport Eindhoven region considers that stimulating cultural diversity, and diversity in general, are of utmost importance for nurturing the region's innovative strength in the years to come. Therefore it is important not only to keep on attracting international talent but also to ensure that diversity is used optimally by preparing the next generation of Brainport inhabitants for life in a multicultural and fast-changing society. As is often said in Eindhoven, *'tomorrow starts today'*.

Mangfoldighed: How Copenhagen Lives and Drives Diversity

'Mangfoldighed' is Danish for 'diversity': Danes often use the word to express equality, openness, and likeness between cultures and races, and to promote a mindset within which there is room for everyone. Of course, the degree of diversity expressed differs between Danish cities. Copenhagen has established very high standards in this regard, to the point where it is often referred to as a leading example of an international, open-minded, and diverse city. This is a result of both history and strategy.

Cultural Diversity in Copenhagen's History

Historically, diversity in Denmark stems primarily from Copenhagen as an international seaport and the country's key connection to the world since the 18th century. In 2011, building on that heritage, a Copenhagen Diversity Charter was launched. It quickly stimulated similar efforts in the second and third most international cities of Denmark (Aarhus and Odense), which adopted diversity charters of their own. In 2014, a national Danish Diversity Charter was adopted, which unified several regional and local charters in Denmark—focusing within the areas of labour markets, inclusion, countering discrimination, demographic change, and so on.[13]

The population of Copenhagen has been increasing steadily since the 1800s in number (from 100,000 to its current size of 1,300,000) and in diversity.[14] Copenhagen needed to attract professionals, both from the other parts of the Danish Kingdom and from abroad. Research shows that, around the 19th century, immigrants mostly came from Germany and Poland.[15] Later on, the war period brought many Jewish and Eastern European people. Although Danish people were migrating abroad too, the same trend of increasing immigrants prevailed through the 20th century until the oil crisis hit in the mid-1970s—when more restrictive policies came out towards the immigrants. Nevertheless, a great many immigrants came to Denmark during the 1980s and 1990s as a result of rising conflicts and wars around the world. Being part of the European Union and the Schengen area, Denmark saw a gradual increase in its number of EU citizens. Today it appears that the country's major migrant groups are of European and Asian origin, together totalling 12% of the population of the capital region (Copenhagen).[16]

How Copenhagen Approaches Diversity: A Few Examples

It is important to note that diversity lies not only in the gender, age, or ethnicity of a population. The way Copenhagen is approaching diversity is unique because in that city diversity is understood as a source for growth and innovation. The origins of this understanding lie within the rise of globalisation, technology, and innovation. Companies, as well as cities, must compete in different international and global markets where diversity is also considered to be a competitive advantage. One of the great examples of Copenhagen's method of dealing with different companies and helping them to become more diverse is the Copenhagen Business Centre,[17] which focuses on growth generated via diversity. It encourages companies in Copenhagen to emphasise personnel policies and strategies that support diversity, with a focus on well-being and talent development. Another organisation—Copenhagen Capacity[18]—focuses on investment promotion, but part of the organisation is also working with talent attraction and management as a result of Denmark's need for highly skilled foreign talent, especially when it comes to IT and engineering jobs.[19]

With the acceleration of the global competition for growth and innovation, talent management becomes of major importance. But to attract the right talents, many organisations must participate. For example, Wonderful Copenhagen[20]—which focuses on city attractiveness and branding—has had a major influence in making the city a prime destination. Wide-ranging projects that help to promote Denmark and Copenhagen as a big career playing field also raise its appeal as a global talent or investment destination. One of those projects, a collaboration between Copenhagen and three other Nordic cities (Gothenburg in Sweden, Kristiansand in Norway, and Reykjavik in Iceland),

is called Nordic Talent Ambassador.[21] The programme's goal is to identify international professionals living in the Nordic countries and assist them to become 'collective ambassadors' of the Nordic countries abroad. The programme is built on top of and as a supplement to the Danish Youth Goodwill Ambassadors Programme, which seeks to retain the foreign talents who are already studying in Denmark.[22]

To be an attractive location for international workers, talent management cooperation is needed between various stakeholders—including business, civil society/nongovernmental organisations, public bodies, and academia. The orchestration of such different stakeholders can not only help companies to grow, but can also boost growth on a local, regional, national, and even international level by increasing diversity in competences, experiences, and nationalities.[23] To ensure that this process is working effectively, policies and regulations must be supportive of enabling such prospective growth. It is also important to consider the political environment, since in many cities of the world policies are influenced by national political debate. Furthermore, the rise of the nationalism across the globe often brings negative notions about diversity. This growing sentiment has not left Denmark unmarked: more restrictive policies for immigration have recently been introduced. So far, however, it has been observed that Copenhagen proceeds differently than other cities and continues to see diversity as a fundamental part of growth and innovation. Great collaboration between the stakeholders strengthens the pursuit of remaining a competitive, diverse, and thriving city.

The Bilbao Experience: Best Practices Related to Diversity and Talent

The city of Bilbao is becoming one of the emerging talent hubs in Europe. In the GCTCI, it ranked particularly high on the Retain pillar, owing to its high indicators on the standard of living and the health system, among others. Another key strength derives from its capability to build global knowledge, leveraging its high level of tertiary-educated population and workforce. Formal recognitions, such as the best European City of the year 2018,[24] confirm the great effort that is being made to make the city a destination point.

However, the current demographic situation[25]—together with a relatively low immigration rate[26]—makes urgent the challenge and need for working on innovative talent attraction strategies in the Basque Country.[27]

Within this bilingual society, 33.9% of the population are active speakers of the Basque language.[28] Religion is not a critical issue any longer (85% of marriages are civil weddings), and nowadays Bilbao could also be described as one of the most open-minded places in the world because of its acceptance of plurality (sexual, political, social, etc.). It is worth mentioning the importance that Basque society places on preserving its own traditions and culture, especially its language (which is the oldest in Europe).

The question to be answered is how should a city or a region find a balance between its most precious identity and an urgently needed and inevitable diversity? How could finding this balance point towards the improvement of regional talent competitiveness?

The 'Be Basque' Strategy

A possible answer to that question was offered by the Be Basque initiative. The 'Bilbao Bizkaia, Be Basque' brand was launched in 2013 by the City Council of Bilbao, the Country Council of Biscay, and the Basque government. Its main objective is to promote a positive, coherent, and stable image of the territory—within the framework of a comprehensive strategy that is key for attracting visitors, investments, events, and talent. This is meant to be an invitation to join one of the oldest but most innovative nodes of southern Europe—that is, to feel part of and be proud of an authentic place. The concept also claims the capability to innovate even in complex and hazardous situations.

The Be Basque motto is used by some programmes focused on attracting, retaining, or even connecting international talent to the region. One example is the Be Basque Talent Network, an online platform that has more than 9,000 highly qualified professionals operating in more than 90 countries. As a result of the combination of the Be Basque message and an active dissemination of career opportunities, almost half are not Basque-born.[29] They are typically professionals who would like to be professionally connected with other specialists worldwide and with Basque organisations.[30]

However, when dealing with diversity, numbers are not the only thing on which one ought to focus. Qualitative actions are at least as important as quantitative data. This is especially evident in situations such as the one at issue here, where the need to attract international talent has positioned the region in a relatively novel situation. In this regard, the Be Basque Dual Career Centre was founded in 2015 with the firm intention of, first, being a negotiating asset for Basque organisations competing to hire the best talent (offering professional opportunities to a worker's spouse can often make the difference); and, second, helping newly hired workers integrate themselves into their new labour environment and lifestyle.

The Be Basque Dual Career Centre was the first centre of this kind in Spain. Unlike similar other European initiatives, it operates along three axes: job search, entrepreneurship, and voluntarism. In addition to that triple focus, the centre—promoted by Bizkaia Talent[31]—is backed up by the collaboration of several social and labour regional stakeholders that actively contribute to the aforementioned axes as appropriate to their scope of activity.[32]

Moreover, meetings and leisure activities are organised for the international community—both foreign-born professionals and returnees—by Bizkaia Talent itself or jointly with other local organisations. These activities are intended to foster a multicultural and cross-sectoral environment based on interpersonal and professional experience that helps participants to integrate

socially, and also encourages local residents to see diversity as adding value to the city.

Leveraging a Diverse Local Workforce: Two Telling Examples

Nevertheless, talent attraction is not the only field where there is room to manoeuvre regarding diversity. Cities and regions must pay special attention to how they deploy their wide-ranging local workforce.

Initiatives such as Talentia Challenge and business model proposals such as Urbegi Group's provide a hint about where resources should be directed.

- The latter example is a project of high social commitment. Urbegi Group provides competitive solutions, principally in the environmental and industrial fields; through that path, it generates equitable job opportunities for people with disabilities or people in situations of vulnerability—integrating them into regular labour markets—and supports collaborations across the public, private, and academic spheres.

- For its part, Talentia Challenge—a five-month programme where university graduates deal with a real challenge faced by Basque organisations in interdisciplinary work teams—not only demonstrates how rewarding it is to collaborate with people with other professional profiles, but also how young people can provide valuable solutions to experienced professionals working at benchmark companies.

All in all, the Bilbao area is discovering its own way to compete for the best talent among the different cities and regions worldwide, looking for the best approaches to value its differentiated identity, leveraging the duality 'South of the North, North of the South'—which not only refers to its geographical location in Europe but also to the balance it seeks and promotes between the lifestyle of the south and the industrial mindset, high social protection, and low inequality that are generally attributed to the north.[33] This invites every highly skilled professional to join in with a deep and sincere *'You Be Basque too'* wherever he or she comes from.

CONCLUSIONS AND KEY MESSAGES

Some of the main findings that emerge from last year's first attempt to build a Global City Talent Competitiveness Index have been reinforced (or at least confirmed) by this year's improved and broadened approach. Additional messages also result from the data, as well as from the specific actions taken at the local level from the diversity perspective.

European (particularly Scandinavian) Cities Continue to Dominate the Rankings

Even if one needs to acknowledge the high proportion of European cities in the sample included in this year's edition of GCTCI (47 out of 90), it remains that a large number of the best practices registered in terms of talent attraction, as well as of other related aspects of talent competitiveness, can still be found among those cities, and in particular in Nordic cities. High quality of life and reliable local services and connectivity, allied to deliberate efforts to advertise and brand cities on 'authenticity' (culture, history), has generated solid comparative advantages for those cities.

Municipal Leadership and Local Engagement Make a Difference

The energy deployed by mayors and municipal teams, as well as by the organisations with which they chose to work, have characterised the efforts made by some of the high performers of the GCTCI. Such leadership has often been visible enough to entice entire communities to combine forces to project a positive and attractive image of their respective cities.

Cities Are 'Perfect Labs' to Promote Diversity

The experience of cities of different sizes and cultures shows how much diversity can contribute to innovation. In a city context, however, innovation can to be seen beyond the sole context of technological innovation: cities have a unique ability to leverage agility and proximity to test, fine-tune, and implement innovations in social relations, and even policies and governance. In many cases, promoting diversity has led to significant advances in various cities around the world, especially from the point of view of inclusion. Concepts such as *'inclusive prosperity'* or *'innovation through diversity'* take on a different connotation, and a higher level of actionability when brought to the city level.

The 'Future of Work' Context Calls for Different Strategies at the City Level

As underlined already in the GTCI 2017, labour markets are moving towards a continuous reduction of the proportion of salaried workers as opposed to 'free agents'. Future generations will work and live in environments in which having many employers in a lifetime (and often several employers at the same time) will be the norm rather than the exception. In such a context, it will not be enough for cities to attract one major company or employer to be talent competitive; they will also need to provide an environment in which talent can find multiple employment opportunities at any point in time. This requires building a critical mass and diversity by attracting as many potential employers as possible. It also requires specific efforts to provide local opportunities to those talents who seek upskilling and reskilling opportunities.

Smart Cities Will Usher In New Ways of Competing for Talent

A number of new services are being deployed in places where connectivity and information infrastructure allow it. This is reflected in the current GCTCI model (e.g., through variable 1.2, ICT access). However, this model does not do justice to the other dimensions of smart cities, which include, for example, improved urban architecture, transport services, and sanitation and waste management, and better energy grids. It is likely that the emergence of smart cities will contribute to changing the geography of talent hubs. Specific efforts should therefore be deployed to better track the development of smart cities, and to assess their role (current and future) in changing the dynamics of global talent competition.

ENDNOTES

1 Lanvin & Evans (2016), p. 99.

2 A complete list of sources is provided as an annex to the present special section.

3 As underlined in the GTCI 2017, the definition of what constitutes a city is obviously a critical element here. For example, Vienna is defined here as a region more than as a city *stricto sensu*. Similarly, San Francisco can be described in different ways. In 2017, the US Census Bureau defined 'the City and County of San Francisco' as an entity with a population of 871,000, whereas Silicon Valley alone (the southern portion of the San Francisco Bay Area) has some 3 million inhabitants. Some analysts would hence consider the 5-county entity covering San Francisco–Oakland-Hayward Metropolitan Statistical Area (MSA) to include core areas more directly economically influenced by San Francisco rather than other nearby cities such as San Jose, which has its own MSA, (the San Jose–Sunnyvale–Santa Clara MSA; population 4.7 million).

Other definitions would include the 9-county San Francisco Bay Area (7.6 million inhabitants), or even the 12-county San Jose–San Francisco–Oakland combined statistical area (8.7 million inhabitants). For this version of the GCTCI, the US Census Bureau definition (871,000 inhabitants) has been used.

4 See the GTCI 2017, p. 108 (Lanvin & Evans, 2016).

5 This section is built around the valuable inputs provided by Richard Kerste (Project Manager at Brainport Development) and Yvonne van Hest (Programme Director at Brainport Development); Nikolaj Lubanski (Director of Talent Attraction, Copenhagen Capacity) and Silvestra Valciukaite (Project Assistant, Copenhagen Capacity); and Carmen Mendez de Castro (Be Basque Dual Career Centre at Bizkaia Talent, Bilbao), Leire Lagunilla Ramos, (Be Basque Talent Conferences at Bizkaia Talent, Bilbao), and Ivan Jimenez Aira (Managing Director at Bizkaia Talent, Bilbao).

6 See https://www.brainport.nl/en/brainport-traineeship-program for more information about Brainport.

7 It is important to note that this case study refers to 'Brainport Eindhoven', which is different from the 'city of Eindhoven' considered in this year's GCTCI rankings (see above).

8 Eurostat (2011), available at http://ec.europa.eu/eurostat/data/database, accessed November 2017.

9 IMF (2017).

10 IMD World Competitiveness Online (2016).

11 See EHCI (2016) and OECD (2017), accessed November 2017.

12 Numbeo (2016), cost of living index rates, https://www.numbeo.com/cost-of-living/rankings_current.jsp, accessed November 2017.

13 For information about the Danish Diversity Charter, see http://ec.europa.eu/justice/discrimination/diversity/charters/denmark_en.htm

14 Data from the Danish Statistics Bank, Denmarks Statistik, available at www.statistikbanken.dk, accessed 10 October 2017.

15 Penninx (2008).

16 These data are from the Danish Statistic Bank, Denmarks Statistik, available at http://statistikbanken.dk/statbank5a/default.asp?w=1366, accessed 26 November 2017.

17 See https://international.kk.dk/business for details about the Copenhagen Business Centre.

18 For further information about Copenhagen Capacity, see http://www.copcap.com/

19 Dansk Industri (2016).

20 Details about Wonderful Copenhagen can be found at http://www.visitcopenhagen.com/wonderful-copenhagen/copenhagen/who-we-are

21 Information about the Nordic Talent Ambassador programme is available at http://www.risingnorth.org/funded-projects/2017/9/8/nordic-talent-ambassador

22 Information about the Youth Goodwill Ambassadors Programme can be found at http://ygadenmark.org/

23 Andersson et al. (2016, pp. 30–33).

24 Bilbao was named European City of the Year at the 2018 Urbanism Awards given out by the Academy of Urbanism. The Academy judges a number of social, economic, and environmental factors, including good governance and commercial success.

Judges praised the Basque city for having transformed itself from the post-industrial economic doldrums of the 1990s through investment in culture, bold leadership, and the clever use of economic policies.

25 In the coming years, the Basque Country is expected to face a loss of 200,000 working-age people owing to demographic changes, including retirements, which will represent 10% to 15% of its workforce. See Lagunilla & Jimenez (2016).

26 The immigration rate in the Basque Country is only 8.6% (see Ikuspegi – Basque Immigration Observatory, 2016, available at http://test.ikuspegi-inmigracion.net/es/index_english.php).

27 Bilbao is the largest city in the Basque Country; its metropolitan area has roughly 1 million inhabitants. It is important to note that this definition is not the one used above in the GCTCI rankings, which considered the Bilbao city to have 345,000 inhabitants.

28 Data from the VI Encuesta Sociolingüística: Comunidad Autónoma de Euskadi *VI Sociolinguistic Survey: Basque Autonomous Community*, 2016.

29 Be Basque Talent Conferences & Meetings are part of those networking and dissemination activities. These events are supported by Basque organisations in the public, private, and academic spheres. They generate business, scientific, and technological networking, which not only promotes mobility and talent flow but also backs economic growth in the Basque region.

30 Apart from highly qualified professionals, more than 250 Basque organisations are also part of the Be Basque Talent Network.

31 Bizkaia Talent is a private non-profit organisation that, as of 2005, has been carrying out intense work with the support of the Provincial Council of Bizkaia, the Basque universities and technology centres, and some leading companies in the surrounding area. Its main goal is to turn Bilbao/Bizkaia/Basque Country into a talent hub at the international level. Therefore it offers companies as well as professionals a comprehensive service on talent mobility matters.

32 Eighteen organisations within the public, private, and academic spheres are part of this network promoted by Bizkaia Talent. They contribute with their know-how, resources, and/or services in one or several of the axes around which the Be Basque Dual Career Center hinges (job search, entrepreneurship, and voluntarism).

33 The Basque Country is well positioned in terms of Gini coefficient (Eurostat, 2016).

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Annex 1

Definition and sources of GCTCI variables

PILLAR	VARIABLE	SOURCE
Enable	1.1 Gross expenditure on R&D (% of GDP)	Eurostat, OECD, national statistics
	1.2 ICT access (% households with internet access at home)	Eurostat, OECD, national statistics
	1.3 Presence of Forbes Global 2000 companies	Forbes
Attract	2.1 GDP per capita	Eurostat, OECD, Global Metro Monitor
	2.2 Quality of life	UN Habitat, Numbeo
	2.3 Environmental quality	WHO Air Pollution database May 2016
Grow	3.1 Major universities (%)	Academic Ranking of World Universities (ARWU)
	3.2 Tertiary enrolment (%)	Eurostat, national statistics with GTCI values used as a proxy
	3.3 Individuals in social networks (%)	Eurostat with 'We are social' data used as a proxy
Retain	4.1 Personal safety score	EIU and NEC Safe Cities Index (Personal safety), Numbeo
	4.2 Physician density (physicians per 1000 people)	Eurostat, OECD, national statistics
	4.3 Monthly expenses for four-person family (PPP-adjusted US$)	Numbeo
	4.4 Rent per month, three-bedroom apartment city centre (PPP-adjusted US$)	Numbeo
Be Global	5.1 Workforce with tertiary education %)	Eurostat with the GTCI and OECD used as a proxy
	5.2 Population with tertiary education (%)	Eurostat, OECD, and UNESCO UIS with GTCI values used as a proxy
	5.3 Airport connectivity (largest airport servicing the city; adjusted by population)	Airports Council International
	5.4 Intergovernmental organisations (number of IGOs adjusted by population)	Yearbook of International Organizations*

Note: EIU = Economist Intelligence Unit; OECD = Organisation for Economic Co-operation and Development; UNESCO UIS = United Nations Educational, Scientific and Cultural Organization Institute for Statistics; WHO = World Health Organization.
* Selected intergovernmental organisations were those of type 1 (in categories A, B, C, D, E, F, and G) as defined by the Yearbook of International Organizations.

Annex 2

GCTCI cities and rankings: Overall and by variable

Rank	City	Country	GCTCI OVERALL	1. ENABLE			2. ATTRACT		
				1.1 R&D expenditure	1.2 ICT access (households with internet)	1.3 Presence of Forbes Global 2000 companies	2.1 GDP per capita	2.2 Quality of life	2.3 Environmental quality
1	Zurich	Switzerland	71.0	49.8	90.4	78.0	57.5	100.0	95.9
2	Stockholm	Sweden	68.2	64.4	96.6	70.2	38.6	98.8	93.1
3	Oslo	Norway	68.1	47.6	95.1	21.4	73.0	94.6	95.0
4	Copenhagen	Denmark	67.1	79.8	93.5	17.6	37.0	97.7	92.7
5	Helsinki	Finland	66.8	64.6	93.5	27.0	30.0	93.8	96.3
6	Washington	United States	66.5	52.5	70.4	8.4	100.0	69.6	97.7
7	Dublin	Ireland	66.1	n/a	87.4	93.0	49.6	93.7	97.7
8	San Francisco	United States	63.4	74.9	78.2	29.5	34.2	87.3	97.7
9	Paris	France	63.2	48.6	85.8	71.4	32.6	95.4	92.2
10	Brussels	Belgium	62.7	24.7	82.7	16.8	37.6	90.7	93.1
11	Amsterdam	Netherlands	61.6	27.7	92.0	25.0	51.4	89.7	94.5
12	Tokyo	Japan	60.2	n/a	69.2	41.6	38.9	99.7	92.2
13	Los Angeles	United States	59.8	74.9	67.8	2.2	34.2	72.5	95.9
14	London	United Kingdom	59.6	17.1	95.1	19.3	40.6	96.4	95.0
15	Vienna	Austria	59.5	58.9	82.7	9.2	28.4	94.2	94.0
16	Luxembourg	Luxembourg	59.4	20.8	96.6	100.0	54.4	84.4	95.0
17	Boston	United States	58.6	89.2	70.5	21.2	38.7	78.9	99.5
18	Seoul	Korea, Rep.	57.8	96.3	100.0	14.1	16.2	67.4	83.9
19	Lisbon	Portugal	57.0	25.5	73.5	15.5	13.3	93.1	98.2
20	Sydney	Australia	56.9	36.5	78.1	12.6	28.5	92.7	100.0
21	Chicago	United States	56.8	38.8	62.8	14.8	32.6	86.7	95.0
22	Madrid	Spain	56.8	27.7	82.7	13.5	18.5	95.3	96.3
23	Gothenburg	Sweden	56.3	60.2	92.0	15.4	31.7	81.2	96.3
24	Ottawa	Canada	55.4	33.3	76.7	0.0	23.0	86.4	100.0
25	Prague	Czech Rep.	55.2	47.4	87.4	2.2	18.9	96.6	92.7
26	New York	United States	55.0	24.5	70.7	19.4	39.3	62.3	97.7
27	The Hague	Netherlands	54.9	35.6	93.5	19.0	29.5	79.8	94.5
28	Athens	Greece	53.9	15.2	67.3	6.3	22.3	89.6	86.7
29	Berlin	Germany	53.6	59.1	90.4	1.6	21.0	90.1	94.0
30	Barcelona	Spain	53.5	24.3	75.0	8.9	18.6	87.7	94.0
31	Eindhoven	Netherlands	53.5	45.2	96.6	10.0	24.3	94.9	94.5
32	Bilbao	Spain	53.0	33.9	75.0	8.3	19.7	83.8	96.3
33	Singapore	Singapore	52.7	38.6	82.7	8.7	36.2	61.4	91.3
34	Rotterdam	Netherlands	51.4	35.6	96.6	3.6	29.3	76.8	94.0
35	Buenos Aires	Argentina	50.9	9.9	55.6	2.8	12.1	78.4	93.1
36	Cardiff	United Kingdom	50.0	18.6	87.4	0.0	20.6	72.0	96.3
37	Kiel	Germany	49.4	23.8	90.4	0.0	31.7	99.5	94.5
38	Birmingham	United Kingdom	49.3	29.2	84.3	0.0	20.3	82.1	96.3
39	Warsaw	Poland	48.1	27.9	63.1	6.5	22.1	93.1	89.9
40	Hanover	Germany	48.0	46.9	92.0	16.1	29.0	n/a	95.9
41	Budapest	Hungary	47.9	29.2	82.7	3.3	13.1	89.2	91.7
42	Zaragoza	Spain	47.6	14.7	73.5	0.0	17.1	95.8	97.2
43	Tallinn	Estonia	46.9	36.0	90.4	0.0	12.8	74.7	98.6
44	Vilnius	Lithuania	46.7	11.7	68.4	0.0	12.3	66.1	92.7
45	Nantes	France	46.1	19.8	78.1	0.0	22.9	n/a	96.3

3. GROW			4. RETAIN				5. BE GLOBAL			
3.1 Major universities	3.2 Tertiary enrolment	3.3 Use of social networks	4.1 Personal safety	4.2 Physicians density	4.3 Monthly expenses	4.4 Monthly rental	5.1 Workforce with tertiary education	5.2 Population with tertiary education	5.3 Airport connectivity	5.4 Presence of IGOs
100.0	70.3	34.1	83.7	54.7	63.1	73.0	61.6	82.8	100.0	0.0
90.0	48.2	56.5	87.9	50.7	79.5	78.9	63.4	82.0	36.0	9.4
80.0	72.9	74.1	59.9	56.1	61.3	76.7	71.8	88.0	56.3	19.8
90.0	70.3	63.5	85.6	45.7	85.3	76.9	56.9	80.8	32.6	21.7
80.0	69.1	62.4	82.6	45.8	87.8	82.4	65.6	84.4	39.4	24.9
40.0	60.6	61.2	84.3	97.7	68.2	54.6	59.7	96.4	26.4	95.5
60.0	54.6	52.9	53.1	19.9	77.2	63.8	56.6	66.7	73.1	6.4
100.0	60.6	61.2	83.7	22.8	68.7	17.4	100.0	100.0	43.0	0.0
90.0	51.4	31.8	77.2	39.9	70.3	67.2	66.3	75.7	42.8	26.3
60.0	95.3	64.7	82.1	38.0	83.1	84.3	64.9	69.3	8.5	69.4
70.0	48.8	60.0	87.4	49.0	74.3	64.9	52.6	66.9	90.1	1.7
100.0	44.0	43.5	91.6	29.2	68.8	77.2	62.5	82.2	12.5	1.1
100.0	60.6	61.2	83.4	22.8	83.3	61.6	100.0	56.9	29.6	0.0
100.0	38.2	69.4	85.5	30.4	75.2	47.1	80.6	95.4	12.4	3.6
60.0	57.5	45.9	84.9	76.7	85.7	80.8	54.2	60.9	18.2	20.7
0.0	11.0	63.5	81.0	26.7	74.1	64.8	51.4	49.7	38.5	100.0
100.0	60.6	61.2	72.2	44.4	77.9	47.4	59.7	6.6	38.4	0.0
70.0	67.7	81.2	85.3	20.3	51.5	62.8	55.7	74.9	8.5	0.8
60.0	70.5	50.6	73.2	66.4	91.6	79.4	40.0	45.7	59.1	17.5
80.0	64.0	60.0	86.5	36.8	87.6	60.5	47.4	68.5	14.4	0.2
100.0	60.6	61.2	82.8	24.1	85.2	64.3	59.7	63.3	20.2	0.0
50.0	79.2	45.9	85.6	49.9	78.2	76.5	64.3	74.3	23.2	5.3
60.0	43.1	57.6	63.2	41.4	87.1	91.1	47.6	61.1	16.7	1.6
50.0	n/a	57.6	82.6	14.0	90.5	86.3	90.5	93.8	5.1	3.9
50.0	46.0	37.6	77.9	91.3	76.9	78.9	55.7	67.7	14.9	1.4
100.0	60.6	61.2	81.0	34.2	64.1	23.5	100.0	64.9	10.1	8.2
80.0	45.9	54.1	75.0	32.6	78.2	83.1	43.5	54.3	3.2	19.9
40.0	87.3	41.2	69.0	99.6	80.8	100.0	53.0	57.1	9.1	1.1
40.0	48.9	52.9	64.8	56.4	85.1	82.9	50.0	59.3	8.8	0.5
60.0	63.4	49.4	85.3	35.4	76.7	79.3	52.1	58.3	40.0	1.6
50.0	43.8	51.8	81.2	21.0	87.0	86.1	39.4	49.9	24.2	0.0
30.0	64.0	31.8	87.7	53.9	72.8	83.6	71.1	78.3	19.4	2.5
80.0	n/a	74.1	94.9	19.2	39.5	17.4	66.5	66.9	15.5	0.9
60.0	45.9	54.1	67.9	32.6	83.3	82.7	43.5	54.3	3.1	0.0
60.0	58.5	65.9	68.4	31.3	78.4	92.4	19.4	22.0	4.7	2.9
70.0	32.4	58.8	67.9	22.8	97.9	91.1	48.8	57.9	5.6	0.0
60.0	27.9	49.4	89.4	41.0	n/a	90.0	24.3	29.2	0.0	3.6
70.0	30.7	58.8	52.4	14.0	99.2	88.7	41.4	46.1	14.9	0.0
30.0	82.9	29.4	76.2	24.4	66.7	76.3	53.4	57.9	10.7	2.5
30.0	28.4	56.5	67.3	36.2	89.3	93.5	23.0	27.0	14.8	0.0
0.0	72.6	62.4	67.4	40.2	64.2	83.2	45.8	52.1	9.5	3.0
0.0	55.4	41.2	99.8	39.8	83.1	99.4	47.8	53.7	0.9	0.0
0.0	48.6	42.4	85.4	27.9	71.0	91.1	48.7	58.7	7.5	10.3
0.0	100.0	45.9	71.1	70.0	63.0	83.7	86.4	17.6	10.4	3.3
50.0	37.1	24.7	74.8	25.8	100.0	94.7	42.0	45.5	20.9	0.0

(continued on next page)

Annex 2 *(continued)*

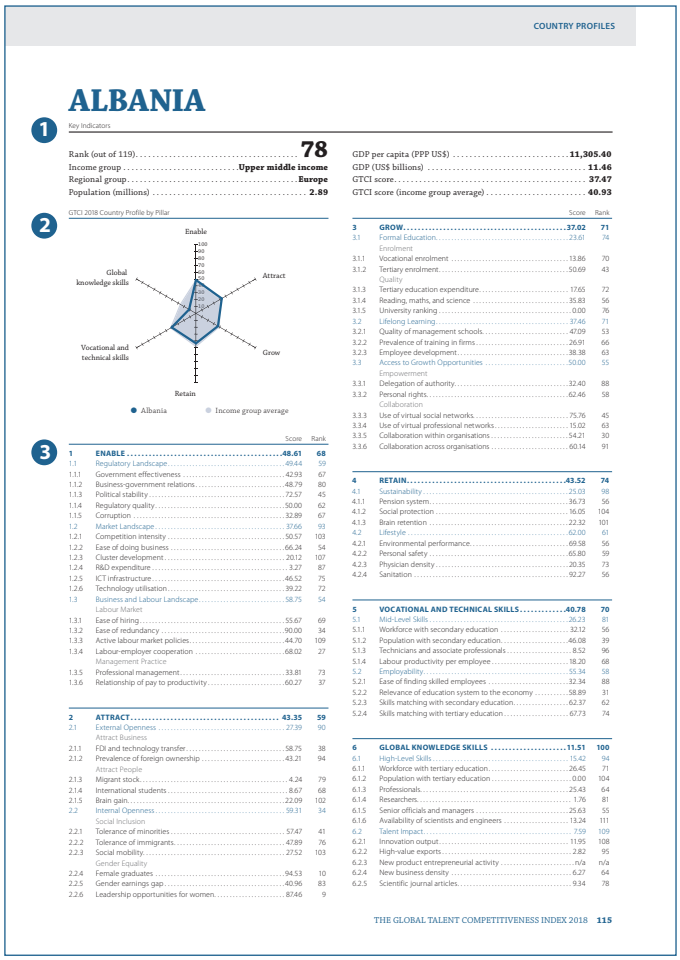
GCTCI cities and rankings: Overall and by variable

Rank	City	Country	GCTCI OVERALL	1. ENABLE			2. ATTRACT		
				1.1 R&D expenditure	1.2 ICT access (households with internet)	1.3 Presence of Forbes Global 2000 companies	2.1 GDP per capita	2.2 Quality of life	2.3 Environmental quality
46	Auckland	New Zealand	46.0	20.6	78.1	0.0	25.7	73.2	98.6
47	Bologna	Italy	45.8	28.7	73.5	7.4	27.2	61.9	93.6
48	Bratislava	Slovakia	45.8	24.2	78.1	0.0	20.8	67.2	92.7
49	Ljubljana	Slovenia	45.7	49.3	70.4	0.0	15.3	75.6	93.6
50	Rome	Italy	44.3	26.5	70.4	7.0	24.5	39.0	92.2
51	Brno	Czech Rep.	44.2	48.3	71.9	0.0	9.8	72.0	93.6
52	Turin	Italy	44.0	37.5	70.4	6.4	20.9	96.9	87.2
53	Milan	Italy	43.0	21.6	73.5	16.9	35.8	54.2	88.1
54	Abu Dhabi	United Arab Emirates	42.9	13.9	92.4	16.6	38.3	80.3	44.5
55	Beijing	China	42.3	100.0	29.8	9.7	7.6	82.1	55.5
56	Riga	Latvia	41.3	10.3	69.8	0.0	13.7	60.2	89.4
57	Doha	Qatar	40.9	7.7	94.8	38.9	68.6	65.2	28.0
58	Zagreb	Croatia	40.5	15.9	65.8	0.0	12.2	68.8	88.5
59	Krakow	Poland	40.4	22.5	57.6	0.0	11.9	55.6	81.7
60	Mexico City	Mexico	40.0	n/a	44.0	4.0	10.4	75.2	85.8
61	Sao Paulo	Brazil	39.9	22.5	45.7	2.6	10.5	75.3	89.0
62	Istanbul	Turkey	39.7	n/a	87.0	1.7	12.8	46.6	80.7
63	Sofia	Bulgaria	39.4	22.7	47.2	0.0	7.4	52.5	85.3
64	Belgrade	Serbia	39.4	12.4	66.5	0.0	10.9	45.6	88.1
65	Dubai	United Arab Emirates	39.3	13.9	92.4	8.2	12.8	69.5	105.0
66	Hangzhou	China	38.1	49.4	67.2	3.1	5.2	56.9	56.4
67	Kuala Lumpur	Malaysia	37.9	n/a	n/a	20.8	5.8	38.7	82.6
68	Bucharest	Romania	37.2	17.6	53.9	0.0	10.9	50.3	90.8
69	Santiago	Chile	36.5	4.1	42.0	3.0	8.2	44.5	75.7
70	Shanghai	China	35.6	59.2	23.3	3.5	7.2	81.6	66.5
71	Tunis	Tunisia	35.1	n/a	n/a	0.0	n/a	51.7	63.8
72	Montevideo	Uruguay	35.0	n/a	n/a	0.0	13.4	40.5	93.1
73	Shenzhen	China	34.7	66.6	41.5	4.8	4.3	31.5	77.1
74	Rio de Janeiro	Brazil	34.7	n/a	45.7	1.8	4.9	21.8	82.6
75	Bogota	Colombia	34.3	n/a	n/a	1.4	8.7	72.3	81.2
76	Lima	Peru	34.1	0.0	41.1	0.6	4.8	78.5	64.7
77	Guangzhou	China	33.9	38.2	41.5	1.8	4.3	40.8	72.0
78	Bangkok	Thailand	33.8	n/a	67.3	7.2	4.1	74.9	85.8
79	Johannesburg	South Africa	33.0	23.7	58.3	1.8	4.4	47.2	66.1
80	Quito	Ecuador	32.0	n/a	21.1	0.0	2.2	78.0	88.5
81	Valletta	Malta	30.8	13.4	72.2	0.0	12.2	n/a	n/a
82	Brasilia	Brazil	29.5	n/a	33.4	1.0	13.7	52.1	n/a
83	Tianjin	China	27.3	49.1	0.0	0.8	8.2	n/a	36.2
84	Cairo	Egypt	26.3	n/a	n/a	0.0	0.3	25.3	22.9
85	Hanoi	Viet Nam	25.7	n/a	n/a	1.7	0.9	88.2	41.1
86	Casablanca	Morocco	23.8	n/a	n/a	2.6	1.2	60.8	77.1
87	Nairobi	Kenya	23.6	n/a	n/a	0.0	0.0	53.9	89.9
88	Kuwait City	Kuwait	21.7	0.7	62.7	3.1	16.6	n/a	28.4
89	Mumbai	India	15.5	n/a	n/a	3.4	3.2	30.0	51.4
90	Delhi	India	14.9	n/a	n/a	1.7	1.0	31.7	0.0

3. GROW			4. RETAIN				5. BE GLOBAL			
3.1 Major universities	3.2 Tertiary enrolment	3.3 Use of social networks	4.1 Personal safety	4.2 Physicians density	4.3 Monthly expenses	4.4 Monthly rental	5.1 Workforce with tertiary education	5.2 Population with tertiary education	5.3 Airport connectivity	5.4 Presence of IGOs
0.0	57.0	65.9	57.2	27.9	88.1	78.6	37.1	53.7	18.7	0.7
50.0	56.7	30.6	60.9	41.3	79.5	88.9	21.4	22.4	28.8	0.0
0.0	36.2	47.1	75.1	75.9	71.4	80.8	50.2	59.1	6.0	8.3
0.0	58.5	37.6	81.8	29.2	75.2	88.2	40.4	42.5	7.3	15.7
30.0	71.4	34.1	74.4	46.2	78.5	70.4	27.3	27.2	21.1	13.5
0.0	62.1	34.1	78.3	50.7	82.1	88.9	27.8	32.2	1.6	0.0
50.0	37.6	27.1	50.2	34.1	85.6	91.3	15.2	15.0	6.5	4.0
50.0	42.8	28.2	76.8	34.8	70.6	69.8	19.8	19.6	20.9	0.0
80.0	18.4	100.0	79.0	24.0	33.6	11.0	12.3	16.9	31.4	4.4
80.0	29.2	50.6	80.8	36.8	77.7	48.9	n/a	0.4	6.7	0.5
0.0	46.7	31.8	62.1	68.5	67.3	91.3	42.3	47.9	12.3	5.5
0.0	9.8	100.0	86.0	21.6	26.6	0.0	15.0	22.8	92.6	3.0
30.0	41.4	35.3	79.2	31.3	65.5	91.1	28.3	27.2	5.9	3.8
30.0	63.4	28.2	73.1	19.1	71.9	82.8	41.0	42.5	9.5	0.0
60.0	19.2	52.9	64.6	39.3	80.2	80.3	12.2	14.6	7.1	0.8
60.0	33.5	51.8	70.1	21.6	71.9	82.2	15.3	10.6	4.4	0.1
0.0	61.0	54.1	65.8	11.4	67.5	82.8	22.0	19.8	5.9	0.4
0.0	56.9	44.7	59.8	44.2	55.6	86.0	53.2	59.9	5.9	2.1
50.0	40.2	29.4	67.7	n/a	57.6	84.7	25.0	20.9	4.3	0.5
0.0	18.4	100.0	87.4	31.7	23.4	3.3	12.3	16.9	49.8	0.4
70.0	29.2	50.6	73.9	21.6	n/a	80.4	n/a	0.4	7.2	0.0
30.0	16.3	67.1	81.0	n/a	45.7	68.4	23.3	n/a	42.9	4.4
0.0	36.5	41.2	77.4	70.0	69.9	87.2	17.8	9.9	8.5	0.9
40.0	62.7	67.1	71.0	0.0	69.0	91.0	11.7	17.7	4.3	2.1
70.0	29.2	50.6	80.1	20.3	57.2	27.4	n/a	0.4	4.0	0.1
0.0	22.7	49.4	68.1	n/a	77.6	97.8	17.0	7.5	11.2	13.8
0.0	43.8	68.2	47.7	100.0	78.0	90.9	21.6	5.8	2.0	8.3
60.0	29.2	50.6	50.1	15.2	67.6	65.8	n/a	0.4	5.7	0.0
40.0	33.5	51.8	69.9	34.5	72.0	80.2	15.3	10.6	3.6	0.3
0.0	38.2	50.6	55.7	n/a	76.0	88.5	21.0	25.4	5.6	0.5
0.0	27.0	57.6	60.9	38.3	72.7	82.2	34.8	22.8	2.8	0.9
50.0	29.2	50.6	53.7	15.2	83.1	77.6	n/a	0.4	7.0	0.0
0.0	33.2	62.4	60.8	n/a	13.1	30.9	6.1	14.8	14.6	5.5
50.0	11.4	15.3	57.7	n/a	59.2	73.8	25.8	5.0	3.8	0.2
0.0	27.0	55.3	55.4	18.3	75.2	89.9	11.7	4.1	5.4	2.7
0.0	31.8	76.5	73.5	37.9	n/a	75.6	25.8	13.9	18.1	2.2
0.0	33.5	51.8	38.6	35.6	78.1	86.9	15.3	10.6	8.9	1.2
40.0	29.2	50.6	70.2	19.0	n/a	81.5	n/a	0.4	2.2	0.0
30.0	23.9	27.1	69.8	n/a	77.0	95.5	16.4	n/a	3.1	3.3
0.0	18.4	40.0	52.8	n/a	49.7	72.7	10.1	n/a	5.8	0.2
0.0	17.9	30.6	62.6	5.4	70.6	71.4	0.0	n/a	3.7	0.8
0.0	0.0	0.0	38.9	n/a	74.4	85.0	n/a	n/a	2.4	5.2
0.0	17.0	70.6	74.8	15.2	0.0	26.2	16.4	0.0	6.2	0.0
0.0	15.9	0.0	77.9	9.1	48.1	19.8	1.4	2.2	3.1	0.0
0.0	15.9	0.0	76.6	15.9	48.9	76.7	1.4	0.7	5.0	0.5

Country Profiles

How to Read the Country Profiles



COUNTRY PROFILES

ALBANIA

1 Key Indicators

Rank (out of 119)	78	GDP per capita (PPP US$)	11,305.40
Income group	Upper middle income	GDP (US$ billions)	11.46
Regional group	Europe	GTCI score	37.47
Population (millions)	2.89	GTCI score (income group average)	40.93

2 GTCI 2018 Country Profile by Pillar

3

		Score	Rank
1	ENABLE	48.61	68
1.1	Regulatory Landscape	49.44	59
1.1.1	Government effectiveness	42.93	67
1.1.2	Business-government relations	48.79	80
1.1.3	Political stability	72.57	45
1.1.4	Regulatory quality	50.00	62
1.1.5	Corruption	32.89	67
1.2	Market Landscape	37.66	93
1.2.1	Competition intensity	50.57	103
1.2.2	Ease of doing business	66.24	54
1.2.3	Cluster development	20.12	107
1.2.4	R&D expenditure	3.27	87
1.2.5	ICT infrastructure	46.52	75
1.2.6	Technology utilisation	39.22	72
1.3	Business and Labour Landscape	58.75	54
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	44.70	109
1.3.4	Labour-employer cooperation	68.02	27
	Management Practice		
1.3.5	Professional management	33.81	73
1.3.6	Relationship of pay to productivity	60.27	37
2	ATTRACT	43.35	59
2.1	External Openness	27.39	90
	Attract Business		
2.1.1	FDI and technology transfer	58.75	38
2.1.2	Prevalence of foreign ownership	43.21	94
	Attract People		
2.1.3	Migrant stock	4.24	79
2.1.4	International students	8.67	68
2.1.5	Brain gain	22.09	102
2.2	Internal Openness	59.31	34
	Social Inclusion		
2.2.1	Tolerance of minorities	57.47	41
2.2.2	Tolerance of immigrants	47.89	76
2.2.3	Social mobility	27.52	103
	Gender Equality		
2.2.4	Female graduates	94.53	10
2.2.5	Gender earnings gap	40.96	83
2.2.6	Leadership opportunities for women	87.46	9
3	GROW	37.02	71
3.1	Formal Education	23.61	74
	Enrolment		
3.1.1	Vocational enrolment	13.86	70
3.1.2	Tertiary enrolment	50.69	43
	Quality		
3.1.3	Tertiary education expenditure	17.65	72
3.1.4	Reading, maths, and science	35.83	56
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	37.46	71
3.2.1	Quality of management schools	47.09	53
3.2.2	Prevalence of training in firms	26.91	66
3.2.3	Employee development	38.38	63
3.3	Access to Growth Opportunities	50.00	55
	Empowerment		
3.3.1	Delegation of authority	32.40	88
3.3.2	Personal rights	62.46	58
	Collaboration		
3.3.3	Use of virtual social networks	75.76	45
3.3.4	Use of virtual professional networks	15.02	63
3.3.5	Collaboration within organisations	54.21	30
3.3.6	Collaboration across organisations	60.14	91
4	RETAIN	43.52	74
4.1	Sustainability	25.03	98
4.1.1	Pension system	36.73	56
4.1.2	Social protection	16.05	104
4.1.3	Brain retention	22.32	101
4.2	Lifestyle	62.00	61
4.2.1	Environmental performance	69.58	56
4.2.2	Personal safety	65.80	59
4.2.3	Physician density	20.35	73
4.2.4	Sanitation	92.27	56
5	VOCATIONAL AND TECHNICAL SKILLS	40.78	70
5.1	Mid-Level Skills	26.23	81
5.1.1	Workforce with secondary education	32.12	56
5.1.2	Population with secondary education	46.08	39
5.1.3	Technicians and associate professionals	8.52	96
5.1.4	Labour productivity per employee	18.20	68
5.2	Employability	55.34	58
5.2.1	Ease of finding skilled employees	32.34	88
5.2.2	Relevance of education system to the economy	58.89	31
5.2.3	Skills matching with secondary education	62.37	62
5.2.4	Skills matching with tertiary education	67.73	74
6	GLOBAL KNOWLEDGE SKILLS	11.51	100
6.1	High-Level Skills	15.42	94
6.1.1	Workforce with tertiary education	26.45	71
6.1.2	Population with tertiary education	0.00	104
6.1.3	Professionals	25.43	64
6.1.4	Researchers	1.76	81
6.1.5	Senior officials and managers	25.63	55
6.1.6	Availability of scientists and engineers	13.24	111
6.2	Talent Impact	7.59	109
6.2.1	Innovation output	11.95	108
6.2.2	High-value exports	2.82	95
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	6.27	64
6.2.5	Scientific journal articles	9.34	78

THE GLOBAL TALENT COMPETITIVENESS INDEX 2018 115

The country profiles provide more granular information on how each of the 119 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.

1 The first section introduces the country's key indicators. It comprises its rank within the GTCI (out of 119 countries), its income group (based on the World Bank's Income Group Classification as of June 2016), and its regional group (based on the United Nations' sub-regional groups). Additionally, basic country statistics are included. 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, it 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., 1.1 Regulatory 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 68 variables are indicated by a three-digit notation (e.g., 1.1.1 Government effectiveness).

For more information about variable definitions and the method of calculation, please refer to the Sources and Definitions and Technical Notes sections in the Appendices.

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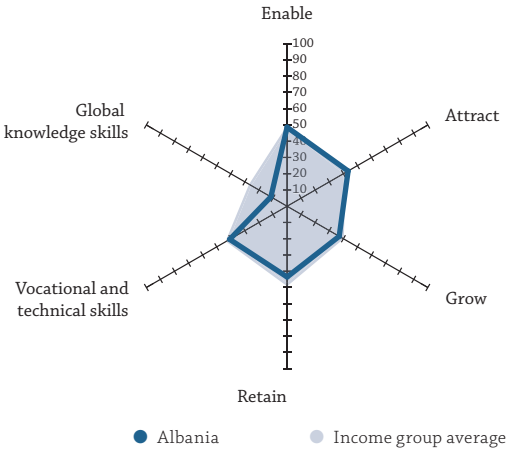
ALBANIA

Key Indicators

Rank (out of 119)	**78**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**2.89**
GDP per capita (PPP US$)	**11,305.40**
GDP (US$ billions)	**11.46**
GTCI score	**37.47**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



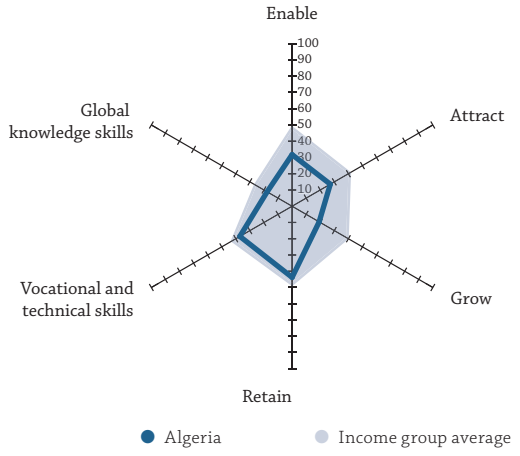
		Score	Rank
1	**ENABLE**	**48.61**	**68**
1.1	Regulatory Landscape	49.44	59
1.1.1	Government effectiveness	42.93	67
1.1.2	Business-government relations	48.79	80
1.1.3	Political stability	72.57	45
1.1.4	Regulatory quality	50.00	62
1.1.5	Corruption	32.89	67
1.2	Market Landscape	37.66	93
1.2.1	Competition intensity	50.57	103
1.2.2	Ease of doing business	66.24	54
1.2.3	Cluster development	20.12	107
1.2.4	R&D expenditure	3.27	87
1.2.5	ICT infrastructure	46.52	75
1.2.6	Technology utilisation	39.22	72
1.3	Business and Labour Landscape	58.75	54
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	44.70	109
1.3.4	Labour-employer cooperation	68.02	27
	Management Practice		
1.3.5	Professional management	33.81	73
1.3.6	Relationship of pay to productivity	60.27	37
2	**ATTRACT**	**43.35**	**59**
2.1	External Openness	27.39	90
	Attract Business		
2.1.1	FDI and technology transfer	58.75	38
2.1.2	Prevalence of foreign ownership	43.21	94
	Attract People		
2.1.3	Migrant stock	4.24	79
2.1.4	International students	8.67	68
2.1.5	Brain gain	22.09	102
2.2	Internal Openness	59.31	34
	Social Inclusion		
2.2.1	Tolerance of minorities	57.47	41
2.2.2	Tolerance of immigrants	47.89	76
2.2.3	Social mobility	27.52	103
	Gender Equality		
2.2.4	Female graduates	94.53	10
2.2.5	Gender earnings gap	40.96	83
2.2.6	Leadership opportunities for women	87.46	9
3	**GROW**	**37.02**	**71**
3.1	Formal Education	23.61	74
	Enrolment		
3.1.1	Vocational enrolment	13.86	70
3.1.2	Tertiary enrolment	50.69	43
	Quality		
3.1.3	Tertiary education expenditure	17.65	72
3.1.4	Reading, maths, and science	35.83	56
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	37.46	71
3.2.1	Quality of management schools	47.09	53
3.2.2	Prevalence of training in firms	26.91	66
3.2.3	Employee development	38.38	63
3.3	Access to Growth Opportunities	50.00	55
	Empowerment		
3.3.1	Delegation of authority	32.40	88
3.3.2	Personal rights	62.46	58
	Collaboration		
3.3.3	Use of virtual social networks	75.76	45
3.3.4	Use of virtual professional networks	15.02	63
3.3.5	Collaboration within organisations	54.21	30
3.3.6	Collaboration across organisations	60.14	91
4	**RETAIN**	**43.52**	**74**
4.1	Sustainability	25.03	98
4.1.1	Pension system	36.73	56
4.1.2	Social protection	16.05	104
4.1.3	Brain retention	22.32	101
4.2	Lifestyle	62.00	61
4.2.1	Environmental performance	69.58	56
4.2.2	Personal safety	65.80	59
4.2.3	Physician density	20.35	73
4.2.4	Sanitation	92.27	56
5	**VOCATIONAL AND TECHNICAL SKILLS**	**40.78**	**70**
5.1	Mid-Level Skills	26.23	81
5.1.1	Workforce with secondary education	32.12	56
5.1.2	Population with secondary education	46.08	39
5.1.3	Technicians and associate professionals	8.52	96
5.1.4	Labour productivity per employee	18.20	68
5.2	Employability	55.34	58
5.2.1	Ease of finding skilled employees	32.34	88
5.2.2	Relevance of education system to the economy	58.89	31
5.2.3	Skills matching with secondary education	62.37	62
5.2.4	Skills matching with tertiary education	67.73	74
6	**GLOBAL KNOWLEDGE SKILLS**	**11.51**	**100**
6.1	High-Level Skills	15.42	94
6.1.1	Workforce with tertiary education	26.45	71
6.1.2	Population with tertiary education	0.00	104
6.1.3	Professionals	25.43	64
6.1.4	Researchers	1.76	81
6.1.5	Senior officials and managers	25.63	55
6.1.6	Availability of scientists and engineers	13.24	111
6.2	Talent Impact	7.59	109
6.2.1	Innovation output	11.95	108
6.2.2	High-value exports	2.82	95
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	6.27	64
6.2.5	Scientific journal articles	9.34	78

ALGERIA

Key Indicators

Rank (out of 119)	**101**
Income group	**Upper middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**39.67**
GDP per capita (PPP US$)	**14,687.40**
GDP (US$ billions)	**166.84**
GTCI score	**29.45**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



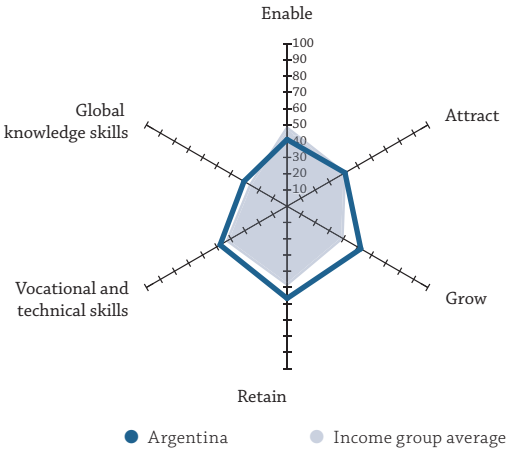
		Score	Rank
1	**ENABLE**	**31.74**	**112**
1.1	Regulatory Landscape	31.19	106
1.1.1	Government effectiveness	29.05	94
1.1.2	Business-government relations	45.47	88
1.1.3	Political stability	38.35	105
1.1.4	Regulatory quality	16.75	116
1.1.5	Corruption	26.32	83
1.2	Market Landscape	26.25	113
1.2.1	Competition intensity	30.00	118
1.2.2	Ease of doing business	26.83	113
1.2.3	Cluster development	22.29	104
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	39.43	83
1.2.6	Technology utilisation	12.72	110
1.3	Business and Labour Landscape	37.78	106
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	52.61	84
1.3.4	Labour-employer cooperation	33.88	98
	Management Practice		
1.3.5	Professional management	4.01	118
1.3.6	Relationship of pay to productivity	20.54	108
2	**ATTRACT**	**27.14**	**113**
2.1	External Openness	14.81	116
	Attract Business		
2.1.1	FDI and technology transfer	27.94	108
2.1.2	Prevalence of foreign ownership	22.96	114
	Attract People		
2.1.3	Migrant stock	1.19	99
2.1.4	International students	3.08	77
2.1.5	Brain gain	18.88	108
2.2	Internal Openness	39.46	97
	Social Inclusion		
2.2.1	Tolerance of minorities	20.69	99
2.2.2	Tolerance of immigrants	43.66	83
2.2.3	Social mobility	30.79	97
	Gender Equality		
2.2.4	Female graduates	90.24	19
2.2.5	Gender earnings gap	1.20	116
2.2.6	Leadership opportunities for women	50.18	42
3	**GROW**	**19.23**	**116**
3.1	Formal Education	16.72	89
	Enrolment		
3.1.1	Vocational enrolment	13.35	71
3.1.2	Tertiary enrolment	31.94	69
	Quality		
3.1.3	Tertiary education expenditure	27.62	41
3.1.4	Reading, maths, and science	10.68	67
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	17.06	116
3.2.1	Quality of management schools	20.37	110
3.2.2	Prevalence of training in firms	18.34	82
3.2.3	Employee development	12.46	115
3.3	Access to Growth Opportunities	23.90	115
	Empowerment		
3.3.1	Delegation of authority	14.53	116
3.3.2	Personal rights	9.99	111
	Collaboration		
3.3.3	Use of virtual social networks	46.36	103
3.3.4	Use of virtual professional networks	7.01	85
3.3.5	Collaboration within organisations	11.83	116
3.3.6	Collaboration across organisations	53.71	110
4	**RETAIN**	**43.75**	**72**
4.1	Sustainability	30.55	79
4.1.1	Pension system	35.71	58
4.1.2	Social protection	33.39	72
4.1.3	Brain retention	22.55	100
4.2	Lifestyle	56.94	70
4.2.1	Environmental performance	61.93	74
4.2.2	Personal safety	61.18	69
4.2.3	Physician density	18.75	76
4.2.4	Sanitation	85.91	69
5	**VOCATIONAL AND TECHNICAL SKILLS**	**37.11**	**83**
5.1	Mid-Level Skills	26.44	78
5.1.1	Workforce with secondary education	31.53	57
5.1.2	Population with secondary education	24.54	73
5.1.3	Technicians and associate professionals	17.04	87
5.1.4	Labour productivity per employee	32.65	49
5.2	Employability	47.78	81
5.2.1	Ease of finding skilled employees	47.52	58
5.2.2	Relevance of education system to the economy	33.41	75
5.2.3	Skills matching with secondary education	45.98	110
5.2.4	Skills matching with tertiary education	64.21	84
6	**GLOBAL KNOWLEDGE SKILLS**	**17.74**	**88**
6.1	High-Level Skills	24.30	70
6.1.1	Workforce with tertiary education	32.18	56
6.1.2	Population with tertiary education	12.69	79
6.1.3	Professionals	27.17	61
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	15.63	70
6.1.6	Availability of scientists and engineers	33.82	74
6.2	Talent Impact	11.19	98
6.2.1	Innovation output	11.78	109
6.2.2	High-value exports	0.38	107
6.2.3	New product entrepreneurial activity	28.59	69
6.2.4	New business density	3.19	78
6.2.5	Scientific journal articles	12.03	71

ARGENTINA

Key Indicators

Rank (out of 119)	**49**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**43.42**
GDP per capita (PPP US$)	**22,303.20**
GDP (US$ billions)	**548.05**
GTCI score	**44.92**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



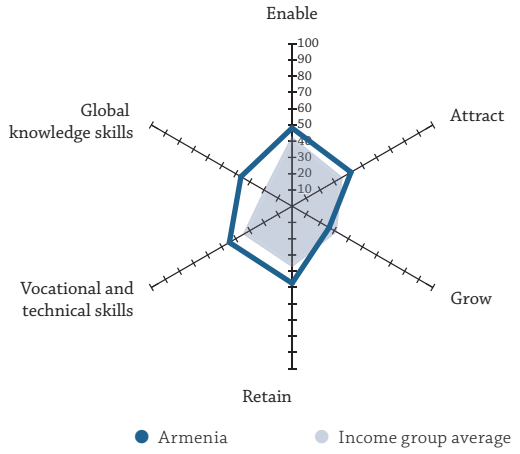
		Score	Rank
1	**ENABLE**	**41.07**	**92**
1.1	Regulatory Landscape	33.12	104
1.1.1	Government effectiveness	39.85	75
1.1.2	Business-government relations	12.80	118
1.1.3	Political stability	62.14	64
1.1.4	Regulatory quality	21.84	112
1.1.5	Corruption	28.95	76
1.2	Market Landscape	38.97	89
1.2.1	Competition intensity	48.29	108
1.2.2	Ease of doing business	44.89	95
1.2.3	Cluster development	27.86	93
1.2.4	R&D expenditure	14.02	52
1.2.5	ICT infrastructure	68.35	48
1.2.6	Technology utilisation	30.39	94
1.3	Business and Labour Landscape	51.12	77
	Labour Market		
1.3.1	Ease of hiring	44.33	94
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	54.70	77
1.3.4	Labour-employer cooperation	31.71	104
	Management Practice		
1.3.5	Professional management	46.70	54
1.3.6	Relationship of pay to productivity	29.29	94
2	**ATTRACT**	**41.14**	**68**
2.1	External Openness	26.34	97
	Attract Business		
2.1.1	FDI and technology transfer	15.67	116
2.1.2	Prevalence of foreign ownership	52.35	74
	Attract People		
2.1.3	Migrant stock	10.46	53
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	26.91	88
2.2	Internal Openness	55.93	42
	Social Inclusion		
2.2.1	Tolerance of minorities	57.47	41
2.2.2	Tolerance of immigrants	83.10	21
2.2.3	Social mobility	31.34	95
	Gender Equality		
2.2.4	Female graduates	95.94	5
2.2.5	Gender earnings gap	n/a	n/a
2.2.6	Leadership opportunities for women	11.83	104
3	**GROW**	**52.35**	**34**
3.1	Formal Education	46.73	32
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	72.63	10
	Quality		
3.1.3	Tertiary education expenditure	26.60	45
3.1.4	Reading, maths, and science	39.12	50
3.1.5	University ranking	48.57	28
3.2	Lifelong Learning	56.97	34
3.2.1	Quality of management schools	57.14	35
3.2.2	Prevalence of training in firms	79.42	6
3.2.3	Employee development	34.34	70
3.3	Access to Growth Opportunities	53.35	46
	Empowerment		
3.3.1	Delegation of authority	43.85	62
3.3.2	Personal rights	66.43	48
	Collaboration		
3.3.3	Use of virtual social networks	70.30	60
3.3.4	Use of virtual professional networks	30.81	29
3.3.5	Collaboration within organisations	35.05	73
3.3.6	Collaboration across organisations	73.68	39
4	**RETAIN**	**56.72**	**51**
4.1	Sustainability	39.98	61
4.1.1	Pension system	40.82	54
4.1.2	Social protection	33.80	70
4.1.3	Brain retention	45.33	51
4.2	Lifestyle	73.47	41
4.2.1	Environmental performance	79.77	42
4.2.2	Personal safety	58.25	75
4.2.3	Physician density	59.94	16
4.2.4	Sanitation	95.91	43
5	**VOCATIONAL AND TECHNICAL SKILLS**	**47.59**	**48**
5.1	Mid-Level Skills	39.28	54
5.1.1	Workforce with secondary education	34.55	44
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	59.19	26
5.1.4	Labour productivity per employee	24.10	59
5.2	Employability	55.90	57
5.2.1	Ease of finding skilled employees	55.78	44
5.2.2	Relevance of education system to the economy	31.49	83
5.2.3	Skills matching with secondary education	59.73	73
5.2.4	Skills matching with tertiary education	76.61	37
6	**GLOBAL KNOWLEDGE SKILLS**	**30.62**	**56**
6.1	High-Level Skills	23.52	71
6.1.1	Workforce with tertiary education	29.59	63
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	13.29	83
6.1.4	Researchers	14.43	44
6.1.5	Senior officials and managers	30.00	46
6.1.6	Availability of scientists and engineers	30.29	86
6.2	Talent Impact	37.71	37
6.2.1	Innovation output	24.08	80
6.2.2	High-value exports	16.95	44
6.2.3	New product entrepreneurial activity	45.20	43
6.2.4	New business density	2.32	84
6.2.5	Scientific journal articles	16.12	63

ARMENIA

Key Indicators

Rank (out of 119)	**66**
Income group	**Lower middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**3.02**
GDP per capita (PPP US$)	**8,393.51**
GDP (US$ billions)	**10.56**
GTCI score	**40.76**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



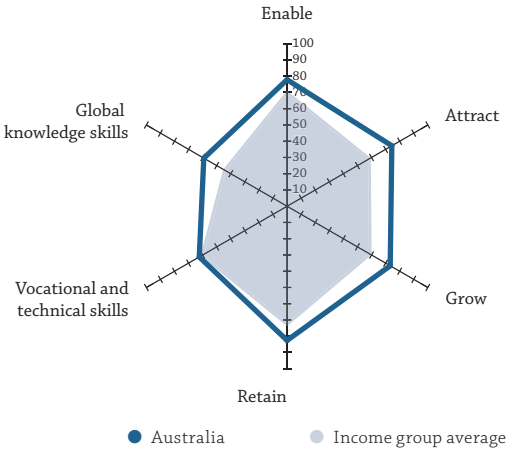
		Score	Rank
1	**ENABLE**	**48.12**	**72**
1.1	Regulatory Landscape	44.47	80
1.1.1	Government effectiveness	38.56	77
1.1.2	Business-government relations	50.77	74
1.1.3	Political stability	56.80	77
1.1.4	Regulatory quality	51.21	59
1.1.5	Corruption	25.00	86
1.2	Market Landscape	43.60	72
1.2.1	Competition intensity	59.43	83
1.2.2	Ease of doing business	75.06	35
1.2.3	Cluster development	30.96	89
1.2.4	R&D expenditure	5.37	78
1.2.5	ICT infrastructure	55.80	62
1.2.6	Technology utilisation	34.98	82
1.3	Business and Labour Landscape	56.30	62
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	51.28	89
1.3.4	Labour-employer cooperation	59.89	37
	Management Practice		
1.3.5	Professional management	31.81	78
1.3.6	Relationship of pay to productivity	49.16	57
2	**ATTRACT**	**41.85**	**63**
2.1	External Openness	31.50	76
	Attract Business		
2.1.1	FDI and technology transfer	46.74	69
2.1.2	Prevalence of foreign ownership	47.16	90
	Attract People		
2.1.3	Migrant stock	13.83	48
2.1.4	International students	21.47	44
2.1.5	Brain gain	28.31	86
2.2	Internal Openness	52.20	52
	Social Inclusion		
2.2.1	Tolerance of minorities	52.87	46
2.2.2	Tolerance of immigrants	47.89	76
2.2.3	Social mobility	32.15	93
	Gender Equality		
2.2.4	Female graduates	86.02	25
2.2.5	Gender earnings gap	43.37	78
2.2.6	Leadership opportunities for women	50.90	40
3	**GROW**	**26.33**	**106**
3.1	Formal Education	15.57	94
	Enrolment		
3.1.1	Vocational enrolment	16.88	63
3.1.2	Tertiary enrolment	38.48	59
	Quality		
3.1.3	Tertiary education expenditure	6.91	94
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	22.82	114
3.2.1	Quality of management schools	26.98	100
3.2.2	Prevalence of training in firms	16.89	83
3.2.3	Employee development	24.58	96
3.3	Access to Growth Opportunities	40.62	92
	Empowerment		
3.3.1	Delegation of authority	22.63	109
3.3.2	Personal rights	37.30	85
	Collaboration		
3.3.3	Use of virtual social networks	70.61	59
3.3.4	Use of virtual professional networks	7.84	81
3.3.5	Collaboration within organisations	42.15	50
3.3.6	Collaboration across organisations	63.17	83
4	**RETAIN**	**47.36**	**65**
4.1	Sustainability	24.46	100
4.1.1	Pension system	30.61	64
4.1.2	Social protection	17.48	99
4.1.3	Brain retention	25.28	95
4.2	Lifestyle	70.26	45
4.2.1	Environmental performance	83.05	36
4.2.2	Personal safety	65.38	61
4.2.3	Physician density	44.55	38
4.2.4	Sanitation	88.07	65
5	**VOCATIONAL AND TECHNICAL SKILLS**	**44.55**	**56**
5.1	Mid-Level Skills	43.14	43
5.1.1	Workforce with secondary education	57.59	7
5.1.2	Population with secondary education	58.77	24
5.1.3	Technicians and associate professionals	43.50	49
5.1.4	Labour productivity per employee	12.71	76
5.2	Employability	45.96	85
5.2.1	Ease of finding skilled employees	24.09	108
5.2.2	Relevance of education system to the economy	41.35	59
5.2.3	Skills matching with secondary education	58.69	76
5.2.4	Skills matching with tertiary education	59.69	103
6	**GLOBAL KNOWLEDGE SKILLS**	**36.35**	**41**
6.1	High-Level Skills	48.72	23
6.1.1	Workforce with tertiary education	41.03	38
6.1.2	Population with tertiary education	79.59	3
6.1.3	Professionals	34.97	49
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	41.25	30
6.1.6	Availability of scientists and engineers	46.76	49
6.2	Talent Impact	23.98	65
6.2.1	Innovation output	39.89	45
6.2.2	High-value exports	9.98	66
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	8.65	55
6.2.5	Scientific journal articles	37.42	45

AUSTRALIA

Key Indicators

Rank (out of 119)	**11**
Income group	**High income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**23.78**
GDP per capita (PPP US$)	**45,514.20**
GDP (US$ billions)	**1,339.54**
GTCI score	**71.61**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



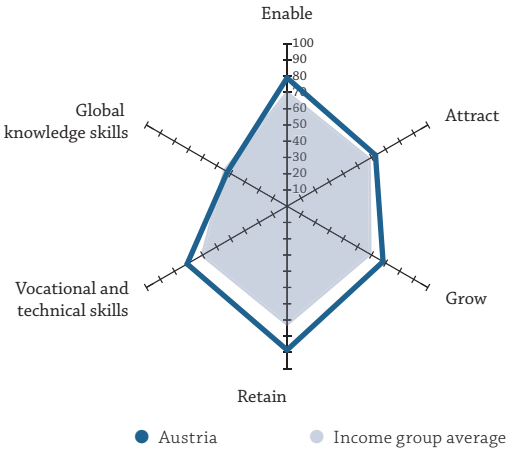
		Score	Rank
1	**ENABLE**	**77.86**	**17**
1.1	Regulatory Landscape	81.40	14
1.1.1	Government effectiveness	82.26	14
1.1.2	Business-government relations	64.68	37
1.1.3	Political stability	85.68	23
1.1.4	Regulatory quality	88.83	7
1.1.5	Corruption	85.53	13
1.2	Market Landscape	74.42	17
1.2.1	Competition intensity	91.14	5
1.2.2	Ease of doing business	87.42	13
1.2.3	Cluster development	50.77	41
1.2.4	R&D expenditure	51.17	14
1.2.5	ICT infrastructure	91.13	13
1.2.6	Technology utilisation	74.91	22
1.3	Business and Labour Landscape	77.77	15
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	75.44	25
1.3.4	Labour-employer cooperation	54.47	50
	Management Practice		
1.3.5	Professional management	89.68	11
1.3.6	Relationship of pay to productivity	68.01	23
2	**ATTRACT**	**74.42**	**7**
2.1	External Openness	73.85	8
	Attract Business		
2.1.1	FDI and technology transfer	59.53	36
2.1.2	Prevalence of foreign ownership	84.69	10
	Attract People		
2.1.3	Migrant stock	62.11	12
2.1.4	International students	95.45	6
2.1.5	Brain gain	67.47	18
2.2	Internal Openness	74.99	10
	Social Inclusion		
2.2.1	Tolerance of minorities	64.37	30
2.2.2	Tolerance of immigrants	92.96	5
2.2.3	Social mobility	91.83	6
	Gender Equality		
2.2.4	Female graduates	77.63	51
2.2.5	Gender earnings gap	55.42	46
2.2.6	Leadership opportunities for women	67.74	22
3	**GROW**	**73.27**	**11**
3.1	Formal Education	65.72	4
	Enrolment		
3.1.1	Vocational enrolment	53.82	14
3.1.2	Tertiary enrolment	79.16	3
	Quality		
3.1.3	Tertiary education expenditure	32.74	26
3.1.4	Reading, maths, and science	76.78	18
3.1.5	University ranking	86.10	6
3.2	Lifelong Learning	74.52	16
3.2.1	Quality of management schools	76.98	15
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	72.05	21
3.3	Access to Growth Opportunities	79.56	14
	Empowerment		
3.3.1	Delegation of authority	79.61	10
3.3.2	Personal rights	98.80	2
	Collaboration		
3.3.3	Use of virtual social networks	81.82	28
3.3.4	Use of virtual professional networks	76.41	9
3.3.5	Collaboration within organisations	70.85	20
3.3.6	Collaboration across organisations	69.85	56
4	**RETAIN**	**82.55**	**12**
4.1	Sustainability	79.25	15
4.1.1	Pension system	90.82	15
4.1.2	Social protection	82.48	14
4.1.3	Brain retention	64.46	25
4.2	Lifestyle	85.84	12
4.2.1	Environmental performance	93.54	13
4.2.2	Personal safety	96.14	10
4.2.3	Physician density	53.69	22
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**62.40**	**24**
5.1	Mid-Level Skills	47.98	31
5.1.1	Workforce with secondary education	34.68	42
5.1.2	Population with secondary education	41.65	47
5.1.3	Technicians and associate professionals	56.95	30
5.1.4	Labour productivity per employee	58.63	12
5.2	Employability	76.83	20
5.2.1	Ease of finding skilled employees	78.88	17
5.2.2	Relevance of education system to the economy	77.40	14
5.2.3	Skills matching with secondary education	71.87	28
5.2.4	Skills matching with tertiary education	79.17	30
6	**GLOBAL KNOWLEDGE SKILLS**	**59.17**	**6**
6.1	High-Level Skills	60.48	9
6.1.1	Workforce with tertiary education	54.10	21
6.1.2	Population with tertiary education	54.72	9
6.1.3	Professionals	59.54	15
6.1.4	Researchers	54.81	15
6.1.5	Senior officials and managers	70.00	9
6.1.6	Availability of scientists and engineers	69.71	17
6.2	Talent Impact	57.86	7
6.2.1	Innovation output	53.08	29
6.2.2	High-value exports	25.42	31
6.2.3	New product entrepreneurial activity	42.51	52
6.2.4	New business density	86.36	4
6.2.5	Scientific journal articles	81.91	7

AUSTRIA

Key Indicators

Rank (out of 119)	**18**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**8.61**
GDP per capita (PPP US$)	**47,824.20**
GDP (US$ billions)	**374.06**
GTCI score	**68.63**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



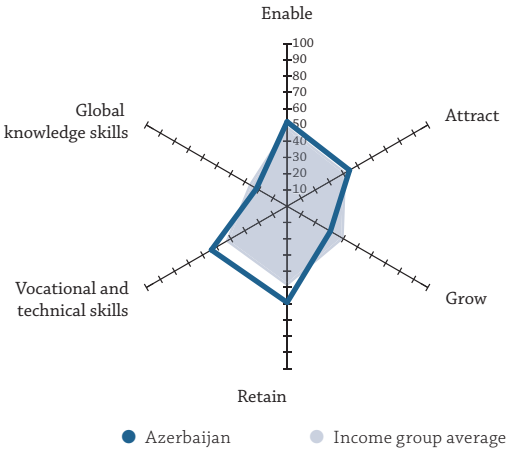
		Score	Rank
1	**ENABLE**	**78.96**	**16**
1.1	Regulatory Landscape	80.42	17
1.1.1	Government effectiveness	79.95	18
1.1.2	Business-government relations	69.32	31
1.1.3	Political stability	92.72	7
1.1.4	Regulatory quality	79.85	16
1.1.5	Corruption	80.26	16
1.2	Market Landscape	79.11	13
1.2.1	Competition intensity	81.71	20
1.2.2	Ease of doing business	84.92	17
1.2.3	Cluster development	77.40	17
1.2.4	R&D expenditure	69.63	7
1.2.5	ICT infrastructure	84.31	21
1.2.6	Technology utilisation	76.68	19
1.3	Business and Labour Landscape	77.35	18
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	87.48	6
1.3.4	Labour-employer cooperation	86.45	8
	Management Practice		
1.3.5	Professional management	76.50	23
1.3.6	Relationship of pay to productivity	64.65	28
2	**ATTRACT**	**62.81**	**21**
2.1	External Openness	60.52	14
	Attract Business		
2.1.1	FDI and technology transfer	56.66	43
2.1.2	Prevalence of foreign ownership	70.86	38
	Attract People		
2.1.3	Migrant stock	38.39	17
2.1.4	International students	82.86	10
2.1.5	Brain gain	53.82	32
2.2	Internal Openness	65.09	23
	Social Inclusion		
2.2.1	Tolerance of minorities	65.52	27
2.2.2	Tolerance of immigrants	80.28	24
2.2.3	Social mobility	82.02	15
	Gender Equality		
2.2.4	Female graduates	70.97	65
2.2.5	Gender earnings gap	43.37	78
2.2.6	Leadership opportunities for women	48.39	50
3	**GROW**	**68.18**	**16**
3.1	Formal Education	59.60	10
	Enrolment		
3.1.1	Vocational enrolment	57.87	11
3.1.2	Tertiary enrolment	71.41	12
	Quality		
3.1.3	Tertiary education expenditure	43.73	13
3.1.4	Reading, maths, and science	72.06	24
3.1.5	University ranking	52.91	24
3.2	Lifelong Learning	75.55	15
3.2.1	Quality of management schools	66.93	28
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	84.18	11
3.3	Access to Growth Opportunities	69.40	19
	Empowerment		
3.3.1	Delegation of authority	73.46	18
3.3.2	Personal rights	88.17	16
	Collaboration		
3.3.3	Use of virtual social networks	71.21	57
3.3.4	Use of virtual professional networks	19.26	50
3.3.5	Collaboration within organisations	80.18	13
3.3.6	Collaboration across organisations	84.13	20
4	**RETAIN**	**88.45**	**3**
4.1	Sustainability	84.16	9
4.1.1	Pension system	93.88	6
4.1.2	Social protection	92.77	7
4.1.3	Brain retention	65.83	23
4.2	Lifestyle	92.74	1
4.2.1	Environmental performance	92.46	18
4.2.2	Personal safety	96.29	8
4.2.3	Physician density	82.21	2
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**71.00**	**7**
5.1	Mid-Level Skills	64.39	7
5.1.1	Workforce with secondary education	45.84	21
5.1.2	Population with secondary education	71.04	12
5.1.3	Technicians and associate professionals	84.75	6
5.1.4	Labour productivity per employee	55.93	16
5.2	Employability	77.60	19
5.2.1	Ease of finding skilled employees	78.88	17
5.2.2	Relevance of education system to the economy	59.62	29
5.2.3	Skills matching with secondary education	83.04	10
5.2.4	Skills matching with tertiary education	88.87	13
6	**GLOBAL KNOWLEDGE SKILLS**	**42.40**	**27**
6.1	High-Level Skills	44.53	29
6.1.1	Workforce with tertiary education	46.94	29
6.1.2	Population with tertiary education	26.59	52
6.1.3	Professionals	46.53	32
6.1.4	Researchers	59.96	11
6.1.5	Senior officials and managers	26.88	52
6.1.6	Availability of scientists and engineers	60.29	27
6.2	Talent Impact	40.27	31
6.2.1	Innovation output	60.46	21
6.2.2	High-value exports	25.24	32
6.2.3	New product entrepreneurial activity	58.17	21
6.2.4	New business density	4.06	75
6.2.5	Scientific journal articles	53.41	28

AZERBAIJAN

Key Indicators

Rank (out of 119)	**57**
Income group	**Upper middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**9.65**
GDP per capita (PPP US$)	**17,739.90**
GDP (US$ billions)	**53.05**
GTCI score	**43.63**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



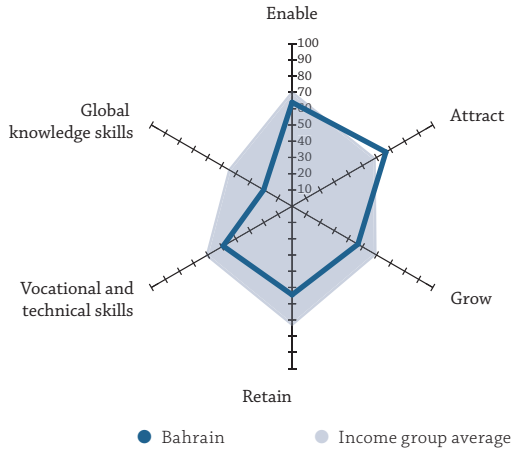
		Score	Rank
1	**ENABLE**	**51.98**	**54**
1.1	Regulatory Landscape	40.61	88
1.1.1	Government effectiveness	36.25	82
1.1.2	Business-government relations	59.60	59
1.1.3	Political stability	47.09	94
1.1.4	Regulatory quality	39.08	83
1.1.5	Corruption	21.05	95
1.2	Market Landscape	46.86	64
1.2.1	Competition intensity	51.14	102
1.2.2	Ease of doing business	64.54	60
1.2.3	Cluster development	42.72	65
1.2.4	R&D expenditure	4.67	80
1.2.5	ICT infrastructure	65.08	51
1.2.6	Technology utilisation	53.00	46
1.3	Business and Labour Landscape	68.47	30
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	67.74	37
1.3.4	Labour-employer cooperation	55.28	45
	Management Practice		
1.3.5	Professional management	35.82	70
1.3.6	Relationship of pay to productivity	61.95	31
2	**ATTRACT**	**44.35**	**53**
2.1	External Openness	38.24	58
	Attract Business		
2.1.1	FDI and technology transfer	60.05	35
2.1.2	Prevalence of foreign ownership	55.31	68
	Attract People		
2.1.3	Migrant stock	5.83	69
2.1.4	International students	10.55	62
2.1.5	Brain gain	59.44	24
2.2	Internal Openness	50.47	57
	Social Inclusion		
2.2.1	Tolerance of minorities	41.38	65
2.2.2	Tolerance of immigrants	53.52	66
2.2.3	Social mobility	36.78	81
	Gender Equality		
2.2.4	Female graduates	69.59	67
2.2.5	Gender earnings gap	40.96	83
2.2.6	Leadership opportunities for women	60.57	32
3	**GROW**	**30.76**	**92**
3.1	Formal Education	15.84	93
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	21.83	85
	Quality		
3.1.3	Tertiary education expenditure	6.91	94
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	18.80	65
3.2	Lifelong Learning	30.74	95
3.2.1	Quality of management schools	35.71	80
3.2.2	Prevalence of training in firms	22.16	74
3.2.3	Employee development	34.34	70
3.3	Access to Growth Opportunities	45.69	66
	Empowerment		
3.3.1	Delegation of authority	44.13	61
3.3.2	Personal rights	10.24	109
	Collaboration		
3.3.3	Use of virtual social networks	89.39	14
3.3.4	Use of virtual professional networks	3.52	95
3.3.5	Collaboration within organisations	45.49	43
3.3.6	Collaboration across organisations	81.33	23
4	**RETAIN**	**59.19**	**44**
4.1	Sustainability	43.71	54
4.1.1	Pension system	33.67	59
4.1.2	Social protection	41.88	48
4.1.3	Brain retention	55.58	35
4.2	Lifestyle	74.67	39
4.2.1	Environmental performance	87.12	31
4.2.2	Personal safety	69.55	50
4.2.3	Physician density	54.17	20
4.2.4	Sanitation	87.84	66
5	**VOCATIONAL AND TECHNICAL SKILLS**	**53.77**	**34**
5.1	Mid-Level Skills	50.47	26
5.1.1	Workforce with secondary education	57.85	6
5.1.2	Population with secondary education	83.45	4
5.1.3	Technicians and associate professionals	41.26	52
5.1.4	Labour productivity per employee	19.31	67
5.2	Employability	57.08	53
5.2.1	Ease of finding skilled employees	43.89	64
5.2.2	Relevance of education system to the economy	40.63	63
5.2.3	Skills matching with secondary education	72.58	27
5.2.4	Skills matching with tertiary education	71.21	59
6	**GLOBAL KNOWLEDGE SKILLS**	**21.75**	**75**
6.1	High-Level Skills	34.63	45
6.1.1	Workforce with tertiary education	37.89	42
6.1.2	Population with tertiary education	42.54	18
6.1.3	Professionals	34.39	50
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	6.88	93
6.1.6	Availability of scientists and engineers	51.47	40
6.2	Talent Impact	8.86	104
6.2.1	Innovation output	20.39	86
6.2.2	High-value exports	4.71	87
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	5.57	68
6.2.5	Scientific journal articles	4.77	96

BAHRAIN

Key Indicators

Rank (out of 119)	**38**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**1.38**
GDP per capita (PPP US$)	**46,946.30**
GDP (US$ billions)	**32.22**
GTCI score	**50.16**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



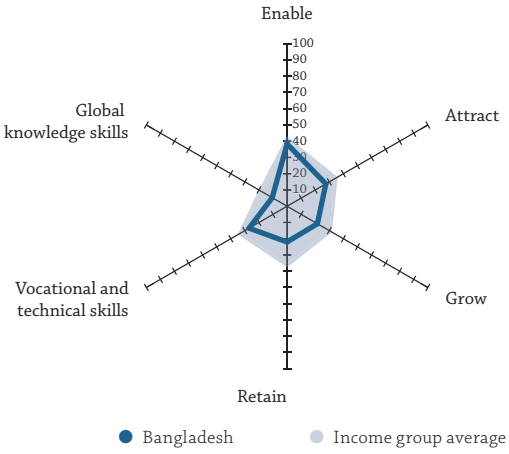
		Score	Rank
1	**ENABLE**	**63.90**	**30**
1.1	Regulatory Landscape	57.06	46
1.1.1	Government effectiveness	56.81	39
1.1.2	Business-government relations	87.42	10
1.1.3	Political stability	37.62	108
1.1.4	Regulatory quality	65.29	35
1.1.5	Corruption	38.16	57
1.2	Market Landscape	59.06	35
1.2.1	Competition intensity	70.86	56
1.2.2	Ease of doing business	65.38	58
1.2.3	Cluster development	70.90	22
1.2.4	R&D expenditure	2.10	92
1.2.5	ICT infrastructure	81.17	25
1.2.6	Technology utilisation	63.96	34
1.3	Business and Labour Landscape	75.58	22
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	75.86	24
1.3.4	Labour-employer cooperation	72.09	19
	Management Practice		
1.3.5	Professional management	56.16	30
1.3.6	Relationship of pay to productivity	69.36	20
2	**ATTRACT**	**66.64**	**14**
2.1	External Openness	76.42	7
	Attract Business		
2.1.1	FDI and technology transfer	62.40	31
2.1.2	Prevalence of foreign ownership	81.73	15
	Attract People		
2.1.3	Migrant stock	100.00	1
2.1.4	International students	72.31	12
2.1.5	Brain gain	65.66	19
2.2	Internal Openness	56.87	40
	Social Inclusion		
2.2.1	Tolerance of minorities	26.44	89
2.2.2	Tolerance of immigrants	70.42	40
2.2.3	Social mobility	71.12	25
	Gender Equality		
2.2.4	Female graduates	85.17	26
2.2.5	Gender earnings gap	15.66	105
2.2.6	Leadership opportunities for women	72.40	16
3	**GROW**	**46.76**	**40**
3.1	Formal Education	22.40	75
	Enrolment		
3.1.1	Vocational enrolment	11.55	77
3.1.2	Tertiary enrolment	32.35	68
	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	23.31	54
3.2	Lifelong Learning	64.38	25
3.2.1	Quality of management schools	62.43	32
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	66.33	24
3.3	Access to Growth Opportunities	53.49	44
	Empowerment		
3.3.1	Delegation of authority	52.79	36
3.3.2	Personal rights	25.01	103
	Collaboration		
3.3.3	Use of virtual social networks	88.18	17
3.3.4	Use of virtual professional networks	30.63	30
3.3.5	Collaboration within organisations	51.38	35
3.3.6	Collaboration across organisations	72.95	42
4	**RETAIN**	**54.49**	**54**
4.1	Sustainability	49.06	41
4.1.1	Pension system	18.37	78
4.1.2	Social protection	66.18	23
4.1.3	Brain retention	62.64	27
4.2	Lifestyle	59.91	66
4.2.1	Environmental performance	61.53	75
4.2.2	Personal safety	64.29	65
4.2.3	Physician density	14.74	82
4.2.4	Sanitation	99.09	20
5	**VOCATIONAL AND TECHNICAL SKILLS**	**48.97**	**47**
5.1	Mid-Level Skills	27.31	77
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	2.71	101
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	51.91	22
5.2	Employability	70.64	25
5.2.1	Ease of finding skilled employees	64.36	33
5.2.2	Relevance of education system to the economy	63.46	23
5.2.3	Skills matching with secondary education	71.24	30
5.2.4	Skills matching with tertiary education	83.49	23
6	**GLOBAL KNOWLEDGE SKILLS**	**20.18**	**79**
6.1	High-Level Skills	28.49	62
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	30.36	41
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	4.24	66
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	50.88	41
6.2	Talent Impact	11.87	96
6.2.1	Innovation output	28.12	66
6.2.2	High-value exports	1.88	98
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	5.61	89

BANGLADESH

Key Indicators

Rank (out of 119)	**114**
Income group	**Lower middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**161.00**
GDP per capita (PPP US$)	**3,332.80**
GDP (US$ billions)	**195.08**
GTCI score	**24.50**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



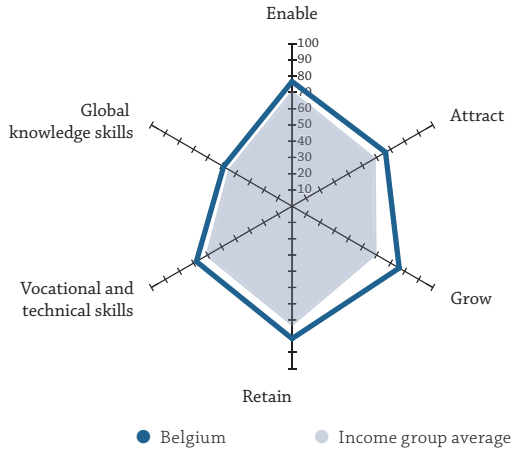
		Score	Rank
1	**ENABLE**	**38.37**	**101**
1.1	Regulatory Landscape	29.38	111
1.1.1	Government effectiveness	23.39	106
1.1.2	Business-government relations	49.23	78
1.1.3	Political stability	35.92	110
1.1.4	Regulatory quality	22.57	111
1.1.5	Corruption	15.79	110
1.2	Market Landscape	33.57	101
1.2.1	Competition intensity	68.00	66
1.2.2	Ease of doing business	13.93	117
1.2.3	Cluster development	40.56	71
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	11.46	109
1.2.6	Technology utilisation	33.92	84
1.3	Business and Labour Landscape	52.16	72
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	46.96	103
1.3.4	Labour-employer cooperation	44.72	79
	Management Practice		
1.3.5	Professional management	24.93	92
1.3.6	Relationship of pay to productivity	36.36	76
2	**ATTRACT**	**27.53**	**112**
2.1	External Openness	20.46	111
	Attract Business		
2.1.1	FDI and technology transfer	31.07	101
2.1.2	Prevalence of foreign ownership	39.75	99
	Attract People		
2.1.3	Migrant stock	1.79	95
2.1.4	International students	0.37	96
2.1.5	Brain gain	29.32	84
2.2	Internal Openness	34.60	108
	Social Inclusion		
2.2.1	Tolerance of minorities	18.39	103
2.2.2	Tolerance of immigrants	64.79	46
2.2.3	Social mobility	38.42	74
	Gender Equality		
2.2.4	Female graduates	35.00	95
2.2.5	Gender earnings gap	27.71	102
2.2.6	Leadership opportunities for women	23.30	92
3	**GROW**	**21.54**	**114**
3.1	Formal Education	11.22	105
	Enrolment		
3.1.1	Vocational enrolment	6.59	91
3.1.2	Tertiary enrolment	11.18	95
	Quality		
3.1.3	Tertiary education expenditure	8.95	87
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	18.16	67
3.2	Lifelong Learning	24.39	112
3.2.1	Quality of management schools	29.89	96
3.2.2	Prevalence of training in firms	24.41	72
3.2.3	Employee development	18.86	108
3.3	Access to Growth Opportunities	29.00	112
	Empowerment		
3.3.1	Delegation of authority	23.18	106
3.3.2	Personal rights	30.33	94
	Collaboration		
3.3.3	Use of virtual social networks	46.97	100
3.3.4	Use of virtual professional networks	0.88	110
3.3.5	Collaboration within organisations	18.22	110
3.3.6	Collaboration across organisations	54.44	109
4	**RETAIN**	**22.00**	**115**
4.1	Sustainability	11.01	117
4.1.1	Pension system	1.02	103
4.1.2	Social protection	1.71	118
4.1.3	Brain retention	30.30	85
4.2	Lifestyle	33.00	104
4.2.1	Environmental performance	8.72	117
4.2.2	Personal safety	62.12	67
4.2.3	Physician density	5.93	92
4.2.4	Sanitation	55.23	97
5	**VOCATIONAL AND TECHNICAL SKILLS**	**27.01**	**110**
5.1	Mid-Level Skills	9.54	105
5.1.1	Workforce with secondary education	17.94	81
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	7.17	101
5.1.4	Labour productivity per employee	3.52	91
5.2	Employability	44.48	93
5.2.1	Ease of finding skilled employees	27.72	101
5.2.2	Relevance of education system to the economy	35.82	74
5.2.3	Skills matching with secondary education	51.20	103
5.2.4	Skills matching with tertiary education	63.17	90
6	**GLOBAL KNOWLEDGE SKILLS**	**10.56**	**104**
6.1	High-Level Skills	15.53	92
6.1.1	Workforce with tertiary education	8.77	94
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	10.98	90
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	5.00	97
6.1.6	Availability of scientists and engineers	37.35	66
6.2	Talent Impact	5.60	115
6.2.1	Innovation output	13.88	103
6.2.2	High-value exports	n/a	n/a
6.2.3	New product entrepreneurial activity	0.99	88
6.2.4	New business density	0.35	91
6.2.5	Scientific journal articles	7.17	83

BELGIUM

Key Indicators

Rank (out of 119)	**16**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**11.29**
GDP per capita (PPP US$)	**43,991.60**
GDP (US$ billions)	**454.04**
GTCI score	**69.56**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



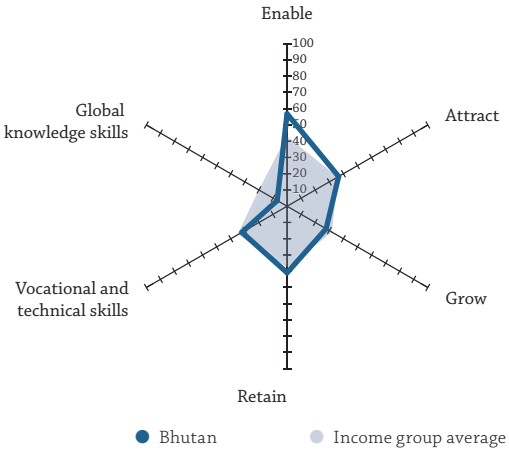
		Score	Rank
1	**ENABLE**	**76.73**	**21**
1.1	Regulatory Landscape	72.92	22
1.1.1	Government effectiveness	79.18	20
1.1.2	Business-government relations	47.90	81
1.1.3	Political stability	78.40	36
1.1.4	Regulatory quality	76.21	19
1.1.5	Corruption	82.89	15
1.2	Market Landscape	75.57	15
1.2.1	Competition intensity	89.14	11
1.2.2	Ease of doing business	73.88	39
1.2.3	Cluster development	70.59	23
1.2.4	R&D expenditure	57.24	11
1.2.5	ICT infrastructure	86.22	20
1.2.6	Technology utilisation	76.33	20
1.3	Business and Labour Landscape	81.71	12
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	81.01	15
1.3.4	Labour-employer cooperation	60.43	34
	Management Practice		
1.3.5	Professional management	91.12	10
1.3.6	Relationship of pay to productivity	68.69	21
2	**ATTRACT**	**66.40**	**15**
2.1	External Openness	60.42	15
	Attract Business		
2.1.1	FDI and technology transfer	74.15	10
2.1.2	Prevalence of foreign ownership	84.69	10
	Attract People		
2.1.3	Migrant stock	26.94	30
2.1.4	International students	58.31	14
2.1.5	Brain gain	58.03	27
2.2	Internal Openness	72.38	14
	Social Inclusion		
2.2.1	Tolerance of minorities	67.82	22
2.2.2	Tolerance of immigrants	77.46	30
2.2.3	Social mobility	76.57	19
	Gender Equality		
2.2.4	Female graduates	82.54	34
2.2.5	Gender earnings gap	57.83	38
2.2.6	Leadership opportunities for women	72.04	18
3	**GROW**	**76.09**	**9**
3.1	Formal Education	62.98	5
	Enrolment		
3.1.1	Vocational enrolment	73.57	4
3.1.2	Tertiary enrolment	64.14	22
	Quality		
3.1.3	Tertiary education expenditure	33.50	24
3.1.4	Reading, maths, and science	76.89	17
3.1.5	University ranking	66.77	15
3.2	Lifelong Learning	87.57	5
3.2.1	Quality of management schools	93.65	3
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	81.48	14
3.3	Access to Growth Opportunities	77.72	15
	Empowerment		
3.3.1	Delegation of authority	77.65	13
3.3.2	Personal rights	85.76	23
	Collaboration		
3.3.3	Use of virtual social networks	83.33	25
3.3.4	Use of virtual professional networks	66.01	14
3.3.5	Collaboration within organisations	68.03	22
3.3.6	Collaboration across organisations	85.55	19
4	**RETAIN**	**81.44**	**13**
4.1	Sustainability	83.77	10
4.1.1	Pension system	90.82	15
4.1.2	Social protection	93.76	6
4.1.3	Brain retention	66.74	22
4.2	Lifestyle	79.11	25
4.2.1	Environmental performance	80.35	40
4.2.2	Personal safety	89.37	21
4.2.3	Physician density	47.28	33
4.2.4	Sanitation	99.43	17
5	**VOCATIONAL AND TECHNICAL SKILLS**	**67.99**	**12**
5.1	Mid-Level Skills	51.28	25
5.1.1	Workforce with secondary education	34.48	46
5.1.2	Population with secondary education	46.79	38
5.1.3	Technicians and associate professionals	60.09	25
5.1.4	Labour productivity per employee	63.74	10
5.2	Employability	84.70	9
5.2.1	Ease of finding skilled employees	80.53	13
5.2.2	Relevance of education system to the economy	86.54	4
5.2.3	Skills matching with secondary education	84.00	8
5.2.4	Skills matching with tertiary education	87.75	15
6	**GLOBAL KNOWLEDGE SKILLS**	**48.70**	**20**
6.1	High-Level Skills	54.96	18
6.1.1	Workforce with tertiary education	59.81	13
6.1.2	Population with tertiary education	30.87	40
6.1.3	Professionals	66.47	10
6.1.4	Researchers	59.00	12
6.1.5	Senior officials and managers	51.25	19
6.1.6	Availability of scientists and engineers	62.35	22
6.2	Talent Impact	42.44	27
6.2.1	Innovation output	55.01	26
6.2.2	High-value exports	24.48	33
6.2.3	New product entrepreneurial activity	59.59	19
6.2.4	New business density	11.72	45
6.2.5	Scientific journal articles	61.38	21

BHUTAN

Key Indicators

Rank (out of 119)	**91**
Income group	**Lower middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**0.77**
GDP per capita (PPP US$)	**8,076.96**
GDP (US$ billions)	**1.96**
GTCI score	**33.54**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



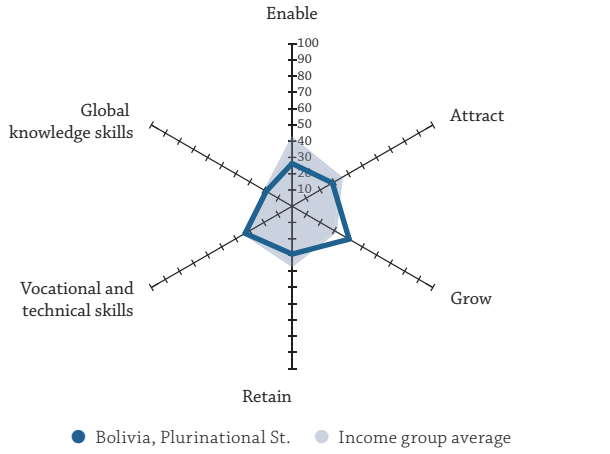
		Score	Rank
1	**ENABLE**	**56.86**	**44**
1.1	Regulatory Landscape	59.66	42
1.1.1	Government effectiveness	52.70	46
1.1.2	Business-government relations	60.04	56
1.1.3	Political stability	90.53	9
1.1.4	Regulatory quality	27.91	104
1.1.5	Corruption	67.11	25
1.2	Market Landscape	41.63	77
1.2.1	Competition intensity	54.57	92
1.2.2	Ease of doing business	59.66	66
1.2.3	Cluster development	38.39	76
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	30.42	94
1.2.6	Technology utilisation	25.09	99
1.3	Business and Labour Landscape	69.29	29
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	69.64	33
1.3.4	Labour-employer cooperation	68.29	24
	Management Practice		
1.3.5	Professional management	47.28	51
1.3.6	Relationship of pay to productivity	50.51	55
2	**ATTRACT**	**36.62**	**90**
2.1	External Openness	26.57	94
	Attract Business		
2.1.1	FDI and technology transfer	28.98	107
2.1.2	Prevalence of foreign ownership	16.30	116
	Attract People		
2.1.3	Migrant stock	14.41	47
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	46.59	46
2.2	Internal Openness	46.68	78
	Social Inclusion		
2.2.1	Tolerance of minorities	24.14	95
2.2.2	Tolerance of immigrants	59.15	53
2.2.3	Social mobility	60.76	30
	Gender Equality		
2.2.4	Female graduates	14.57	99
2.2.5	Gender earnings gap	49.40	67
2.2.6	Leadership opportunities for women	72.04	18
3	**GROW**	**27.73**	**99**
3.1	Formal Education	3.11	118
	Enrolment		
3.1.1	Vocational enrolment	2.98	98
3.1.2	Tertiary enrolment	8.96	97
	Quality		
3.1.3	Tertiary education expenditure	0.51	104
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	36.96	76
3.2.1	Quality of management schools	41.01	66
3.2.2	Prevalence of training in firms	29.82	61
3.2.3	Employee development	40.07	60
3.3	Access to Growth Opportunities	43.11	81
	Empowerment		
3.3.1	Delegation of authority	48.04	47
3.3.2	Personal rights	45.16	80
	Collaboration		
3.3.3	Use of virtual social networks	51.52	98
3.3.4	Use of virtual professional networks	9.38	71
3.3.5	Collaboration within organisations	37.83	62
3.3.6	Collaboration across organisations	66.75	72
4	**RETAIN**	**40.92**	**85**
4.1	Sustainability	35.68	68
4.1.1	Pension system	12.24	83
4.1.2	Social protection	42.86	43
4.1.3	Brain retention	51.94	38
4.2	Lifestyle	46.17	92
4.2.1	Environmental performance	52.05	91
4.2.2	Personal safety	85.13	23
4.2.3	Physician density	3.85	97
4.2.4	Sanitation	43.64	101
5	**VOCATIONAL AND TECHNICAL SKILLS**	**32.09**	**97**
5.1	Mid-Level Skills	9.52	106
5.1.1	Workforce with secondary education	13.30	92
5.1.2	Population with secondary education	0.00	104
5.1.3	Technicians and associate professionals	15.25	89
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	54.67	60
5.2.1	Ease of finding skilled employees	28.05	99
5.2.2	Relevance of education system to the economy	54.33	39
5.2.3	Skills matching with secondary education	65.21	53
5.2.4	Skills matching with tertiary education	71.08	60
6	**GLOBAL KNOWLEDGE SKILLS**	**7.03**	**114**
6.1	High-Level Skills	12.32	102
6.1.1	Workforce with tertiary education	7.30	97
6.1.2	Population with tertiary education	5.49	91
6.1.3	Professionals	22.54	68
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	11.25	87
6.1.6	Availability of scientists and engineers	15.00	108
6.2	Talent Impact	1.75	117
6.2.1	Innovation output	n/a	n/a
6.2.2	High-value exports	0.00	110
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	0.17	93
6.2.5	Scientific journal articles	5.08	93

BOLIVIA, PLURINATIONAL ST.

Key Indicators

Rank (out of 119)	**102**
Income group	**Lower middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**10.72**
GDP per capita (PPP US$)	**6,880.90**
GDP (US$ billions)	**33.20**
GTCI score	**29.44**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



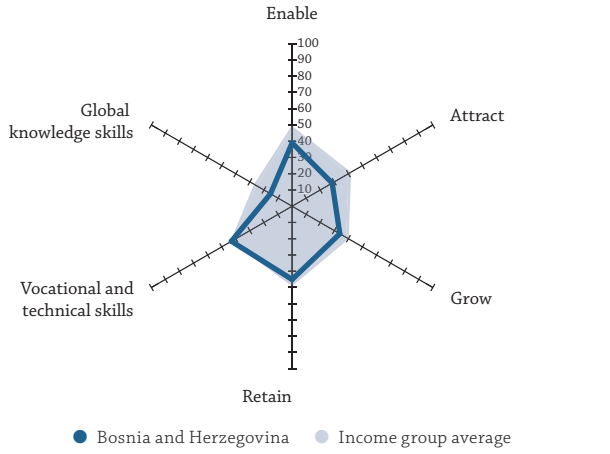
		Score	Rank
1	**ENABLE**	**26.29**	**117**
1.1	Regulatory Landscape	33.56	103
1.1.1	Government effectiveness	25.19	100
1.1.2	Business-government relations	37.53	100
1.1.3	Political stability	57.04	76
1.1.4	Regulatory quality	23.06	110
1.1.5	Corruption	25.00	86
1.2	Market Landscape	26.97	111
1.2.1	Competition intensity	63.14	76
1.2.2	Ease of doing business	30.72	112
1.2.3	Cluster development	16.10	115
1.2.4	R&D expenditure	3.50	86
1.2.5	ICT infrastructure	34.24	89
1.2.6	Technology utilisation	14.13	109
1.3	Business and Labour Landscape	18.32	119
	Labour Market		
1.3.1	Ease of hiring	11.00	114
1.3.2	Ease of redundancy	0.00	118
1.3.3	Active labour market policies	44.39	111
1.3.4	Labour-employer cooperation	26.02	113
	Management Practice		
1.3.5	Professional management	14.04	111
1.3.6	Relationship of pay to productivity	14.48	115
2	**ATTRACT**	**28.67**	**110**
2.1	External Openness	19.88	113
	Attract Business		
2.1.1	FDI and technology transfer	25.33	111
2.1.2	Prevalence of foreign ownership	27.90	111
	Attract People		
2.1.3	Migrant stock	2.78	88
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	23.49	98
2.2	Internal Openness	37.45	103
	Social Inclusion		
2.2.1	Tolerance of minorities	40.23	68
2.2.2	Tolerance of immigrants	66.20	45
2.2.3	Social mobility	30.25	99
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	50.60	62
2.2.6	Leadership opportunities for women	0.00	119
3	**GROW**	**40.50**	**59**
3.1	Formal Education	48.85	27
	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	46.55	10
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	37.01	75
3.2.1	Quality of management schools	26.72	102
3.2.2	Prevalence of training in firms	70.84	12
3.2.3	Employee development	13.47	114
3.3	Access to Growth Opportunities	35.65	103
	Empowerment		
3.3.1	Delegation of authority	24.58	101
3.3.2	Personal rights	42.21	82
	Collaboration		
3.3.3	Use of virtual social networks	45.76	104
3.3.4	Use of virtual professional networks	8.44	75
3.3.5	Collaboration within organisations	15.89	113
3.3.6	Collaboration across organisations	77.02	33
4	**RETAIN**	**29.44**	**105**
4.1	Sustainability	15.78	113
4.1.1	Pension system	10.20	84
4.1.2	Social protection	13.68	108
4.1.3	Brain retention	23.46	98
4.2	Lifestyle	43.10	96
4.2.1	Environmental performance	63.44	67
4.2.2	Personal safety	58.22	76
4.2.3	Physician density	7.21	91
4.2.4	Sanitation	43.52	102
5	**VOCATIONAL AND TECHNICAL SKILLS**	**33.34**	**93**
5.1	Mid-Level Skills	24.43	83
5.1.1	Workforce with secondary education	32.91	53
5.1.2	Population with secondary education	26.25	70
5.1.3	Technicians and associate professionals	31.39	69
5.1.4	Labour productivity per employee	7.17	86
5.2	Employability	42.26	100
5.2.1	Ease of finding skilled employees	28.71	97
5.2.2	Relevance of education system to the economy	19.23	105
5.2.3	Skills matching with secondary education	58.00	80
5.2.4	Skills matching with tertiary education	63.08	91
6	**GLOBAL KNOWLEDGE SKILLS**	**18.39**	**84**
6.1	High-Level Skills	14.93	96
6.1.1	Workforce with tertiary education	20.47	82
6.1.2	Population with tertiary education	35.85	27
6.1.3	Professionals	18.21	74
6.1.4	Researchers	1.86	80
6.1.5	Senior officials and managers	4.38	99
6.1.6	Availability of scientists and engineers	8.82	114
6.2	Talent Impact	21.85	71
6.2.1	Innovation output	17.22	95
6.2.2	High-value exports	12.24	58
6.2.3	New product entrepreneurial activity	74.86	8
6.2.4	New business density	3.13	79
6.2.5	Scientific journal articles	1.80	111

BOSNIA AND HERZEGOVINA

Key Indicators

Rank (out of 119)	**89**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**3.81**
GDP per capita (PPP US$)	**10,509.70**
GDP (US$ billions)	**16.00**
GTCI score	**34.15**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



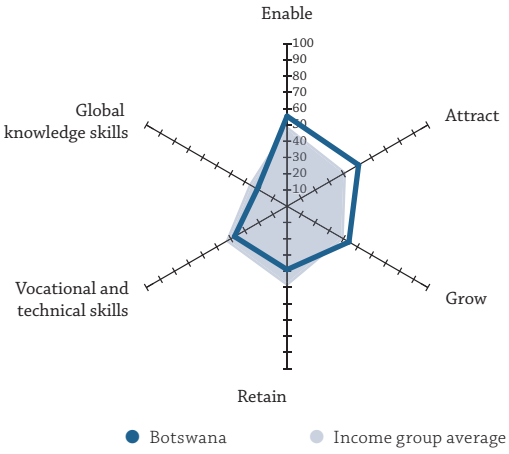
		Score	Rank
1	**ENABLE**	**38.95**	**97**
1.1	Regulatory Landscape	43.33	81
1.1.1	Government effectiveness	28.28	96
1.1.2	Business-government relations	61.81	48
1.1.3	Political stability	52.91	83
1.1.4	Regulatory quality	40.78	77
1.1.5	Corruption	32.89	67
1.2	Market Landscape	38.20	90
1.2.1	Competition intensity	49.43	106
1.2.2	Ease of doing business	56.86	73
1.2.3	Cluster development	25.39	97
1.2.4	R&D expenditure	5.84	76
1.2.5	ICT infrastructure	51.02	67
1.2.6	Technology utilisation	40.64	70
1.3	Business and Labour Landscape	35.32	111
	Labour Market		
1.3.1	Ease of hiring	44.33	94
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	46.01	107
1.3.4	Labour-employer cooperation	30.35	108
	Management Practice		
1.3.5	Professional management	7.45	117
1.3.6	Relationship of pay to productivity	13.80	116
2	**ATTRACT**	**28.49**	**111**
2.1	External Openness	22.66	105
	Attract Business		
2.1.1	FDI and technology transfer	26.89	109
2.1.2	Prevalence of foreign ownership	37.04	101
	Attract People		
2.1.3	Migrant stock	1.85	94
2.1.4	International students	38.87	23
2.1.5	Brain gain	8.63	116
2.2	Internal Openness	34.32	109
	Social Inclusion		
2.2.1	Tolerance of minorities	33.33	79
2.2.2	Tolerance of immigrants	36.62	94
2.2.3	Social mobility	11.99	116
	Gender Equality		
2.2.4	Female graduates	82.01	37
2.2.5	Gender earnings gap	33.73	96
2.2.6	Leadership opportunities for women	8.24	109
3	**GROW**	**33.90**	**83**
3.1	Formal Education	30.88	59
	Enrolment		
3.1.1	Vocational enrolment	61.76	9
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	32.77	91
3.2.1	Quality of management schools	22.22	108
3.2.2	Prevalence of training in firms	64.64	20
3.2.3	Employee development	11.45	117
3.3	Access to Growth Opportunities	38.06	98
	Empowerment		
3.3.1	Delegation of authority	24.02	103
3.3.2	Personal rights	51.20	70
	Collaboration		
3.3.3	Use of virtual social networks	61.52	83
3.3.4	Use of virtual professional networks	10.29	69
3.3.5	Collaboration within organisations	24.11	101
3.3.6	Collaboration across organisations	57.23	101
4	**RETAIN**	**45.07**	**70**
4.1	Sustainability	29.06	84
4.1.1	Pension system	70.41	33
4.1.2	Social protection	10.84	110
4.1.3	Brain retention	5.92	115
4.2	Lifestyle	61.09	63
4.2.1	Environmental performance	48.86	97
4.2.2	Personal safety	71.42	45
4.2.3	Physician density	29.97	60
4.2.4	Sanitation	94.09	51
5	**VOCATIONAL AND TECHNICAL SKILLS**	**43.13**	**61**
5.1	Mid-Level Skills	49.76	27
5.1.1	Workforce with secondary education	58.16	5
5.1.2	Population with secondary education	70.33	13
5.1.3	Technicians and associate professionals	40.81	54
5.1.4	Labour productivity per employee	29.74	54
5.2	Employability	36.51	112
5.2.1	Ease of finding skilled employees	20.13	111
5.2.2	Relevance of education system to the economy	11.78	113
5.2.3	Skills matching with secondary education	58.49	77
5.2.4	Skills matching with tertiary education	55.63	112
6	**GLOBAL KNOWLEDGE SKILLS**	**15.33**	**95**
6.1	High-Level Skills	17.60	87
6.1.1	Workforce with tertiary education	20.32	83
6.1.2	Population with tertiary education	15.61	74
6.1.3	Professionals	30.92	54
6.1.4	Researchers	3.84	69
6.1.5	Senior officials and managers	18.13	67
6.1.6	Availability of scientists and engineers	16.76	105
6.2	Talent Impact	13.07	91
6.2.1	Innovation output	18.28	92
6.2.2	High-value exports	5.27	84
6.2.3	New product entrepreneurial activity	18.91	80
6.2.4	New business density	4.64	74
6.2.5	Scientific journal articles	18.25	60

BOTSWANA

Key Indicators

Rank (out of 119)	**62**
Income group	**Upper middle income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**2.26**
GDP per capita (PPP US$)	**15,807.10**
GDP (US$ billions)	**14.39**
GTCI score	**41.27**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



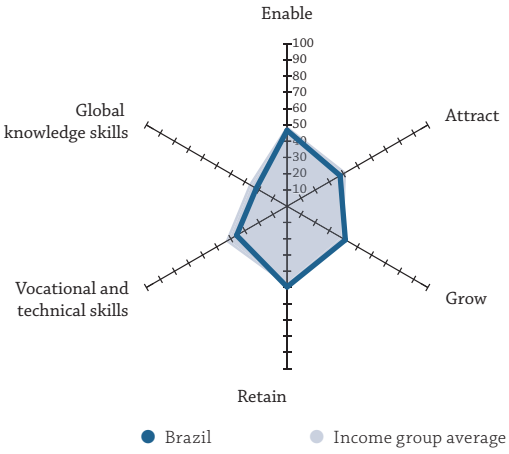
		Score	Rank
1	**ENABLE**	**55.40**	**46**
1.1	Regulatory Landscape	66.37	29
1.1.1	Government effectiveness	55.27	41
1.1.2	Business-government relations	70.20	27
1.1.3	Political stability	88.83	12
1.1.4	Regulatory quality	57.04	46
1.1.5	Corruption	60.53	31
1.2	Market Landscape	41.46	78
1.2.1	Competition intensity	72.57	47
1.2.2	Ease of doing business	59.99	65
1.2.3	Cluster development	34.37	84
1.2.4	R&D expenditure	5.61	77
1.2.5	ICT infrastructure	36.29	87
1.2.6	Technology utilisation	39.93	71
1.3	Business and Labour Landscape	58.35	55
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	56.33	71
1.3.4	Labour-employer cooperation	49.59	62
	Management Practice		
1.3.5	Professional management	51.86	39
1.3.6	Relationship of pay to productivity	32.32	91
2	**ATTRACT**	**50.80**	**36**
2.1	External Openness	38.75	54
	Attract Business		
2.1.1	FDI and technology transfer	40.47	85
2.1.2	Prevalence of foreign ownership	76.79	23
	Attract People		
2.1.3	Migrant stock	15.51	46
2.1.4	International students	8.36	70
2.1.5	Brain gain	52.61	34
2.2	Internal Openness	62.85	25
	Social Inclusion		
2.2.1	Tolerance of minorities	52.87	46
2.2.2	Tolerance of immigrants	74.65	34
2.2.3	Social mobility	52.32	43
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	86.75	3
2.2.6	Leadership opportunities for women	47.67	51
3	**GROW**	**43.95**	**48**
3.1	Formal Education	33.17	54
	Enrolment		
3.1.1	Vocational enrolment	9.05	81
3.1.2	Tertiary enrolment	23.62	81
	Quality		
3.1.3	Tertiary education expenditure	100.00	1
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	48.01	51
3.2.1	Quality of management schools	31.22	94
3.2.2	Prevalence of training in firms	63.98	21
3.2.3	Employee development	48.82	44
3.3	Access to Growth Opportunities	50.69	53
	Empowerment		
3.3.1	Delegation of authority	47.77	48
3.3.2	Personal rights	76.03	34
	Collaboration		
3.3.3	Use of virtual social networks	56.97	90
3.3.4	Use of virtual professional networks	17.10	57
3.3.5	Collaboration within organisations	39.26	59
3.3.6	Collaboration across organisations	67.00	70
4	**RETAIN**	**39.01**	**90**
4.1	Sustainability	29.02	85
4.1.1	Pension system	7.14	90
4.1.2	Social protection	35.05	67
4.1.3	Brain retention	44.87	52
4.2	Lifestyle	49.00	89
4.2.1	Environmental performance	62.75	70
4.2.2	Personal safety	69.09	54
4.2.3	Physician density	5.77	94
4.2.4	Sanitation	58.41	94
5	**VOCATIONAL AND TECHNICAL SKILLS**	**37.33**	**82**
5.1	Mid-Level Skills	24.36	84
5.1.1	Workforce with secondary education	14.64	89
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	34.08	61
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	50.29	74
5.2.1	Ease of finding skilled employees	35.31	83
5.2.2	Relevance of education system to the economy	41.83	57
5.2.3	Skills matching with secondary education	54.60	96
5.2.4	Skills matching with tertiary education	69.43	68
6	**GLOBAL KNOWLEDGE SKILLS**	**21.15**	**77**
6.1	High-Level Skills	17.30	88
6.1.1	Workforce with tertiary education	22.46	79
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	17.05	78
6.1.4	Researchers	1.98	79
6.1.5	Senior officials and managers	20.00	64
6.1.6	Availability of scientists and engineers	25.00	95
6.2	Talent Impact	25.00	58
6.2.1	Innovation output	13.18	105
6.2.2	High-value exports	1.13	104
6.2.3	New product entrepreneurial activity	27.26	70
6.2.4	New business density	75.91	7
6.2.5	Scientific journal articles	7.50	81

BRAZIL

Key Indicators

Rank (out of 119)	**73**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**207.85**
GDP per capita (PPP US$)	**15,359.30**
GDP (US$ billions)	**1,774.73**
GTCI score	**38.86**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



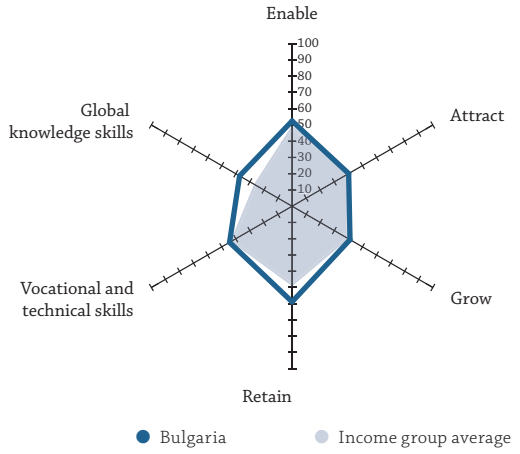
		Score	Rank
1	**ENABLE**	**46.66**	**79**
1.1	Regulatory Landscape	42.24	83
1.1.1	Government effectiveness	37.28	79
1.1.2	Business-government relations	45.03	89
1.1.3	Political stability	54.61	79
1.1.4	Regulatory quality	40.05	80
1.1.5	Corruption	34.21	64
1.2	Market Landscape	50.17	55
1.2.1	Competition intensity	72.29	49
1.2.2	Ease of doing business	43.18	99
1.2.3	Cluster development	50.46	42
1.2.4	R&D expenditure	28.74	30
1.2.5	ICT infrastructure	61.12	56
1.2.6	Technology utilisation	45.23	61
1.3	Business and Labour Landscape	47.58	88
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	47.43	99
1.3.4	Labour-employer cooperation	33.33	100
	Management Practice		
1.3.5	Professional management	46.70	54
1.3.6	Relationship of pay to productivity	35.69	81
2	**ATTRACT**	**37.69**	**86**
2.1	External Openness	26.58	93
	Attract Business		
2.1.1	FDI and technology transfer	51.70	59
2.1.2	Prevalence of foreign ownership	50.62	78
	Attract People		
2.1.3	Migrant stock	0.60	108
2.1.4	International students	1.10	89
2.1.5	Brain gain	28.92	85
2.2	Internal Openness	48.79	65
	Social Inclusion		
2.2.1	Tolerance of minorities	47.13	56
2.2.2	Tolerance of immigrants	71.83	37
2.2.3	Social mobility	33.24	90
	Gender Equality		
2.2.4	Female graduates	84.72	27
2.2.5	Gender earnings gap	49.40	67
2.2.6	Leadership opportunities for women	6.45	113
3	**GROW**	**41.39**	**56**
3.1	Formal Education	30.69	61
	Enrolment		
3.1.1	Vocational enrolment	5.91	93
3.1.2	Tertiary enrolment	42.88	52
	Quality		
3.1.3	Tertiary education expenditure	25.58	51
3.1.4	Reading, maths, and science	26.34	62
3.1.5	University ranking	52.74	25
3.2	Lifelong Learning	42.20	61
3.2.1	Quality of management schools	33.33	87
3.2.2	Prevalence of training in firms	51.19	32
3.2.3	Employee development	42.09	55
3.3	Access to Growth Opportunities	51.28	51
	Empowerment		
3.3.1	Delegation of authority	43.58	63
3.3.2	Personal rights	64.55	52
	Collaboration		
3.3.3	Use of virtual social networks	80.61	31
3.3.4	Use of virtual professional networks	26.88	34
3.3.5	Collaboration within organisations	28.90	86
3.3.6	Collaboration across organisations	63.17	83
4	**RETAIN**	**49.64**	**61**
4.1	Sustainability	45.22	49
4.1.1	Pension system	54.08	46
4.1.2	Social protection	33.06	73
4.1.3	Brain retention	48.52	41
4.2	Lifestyle	54.06	79
4.2.1	Environmental performance	78.01	44
4.2.2	Personal safety	28.45	112
4.2.3	Physician density	29.33	61
4.2.4	Sanitation	80.45	75
5	**VOCATIONAL AND TECHNICAL SKILLS**	**35.86**	**88**
5.1	Mid-Level Skills	32.57	67
5.1.1	Workforce with secondary education	35.79	40
5.1.2	Population with secondary education	41.80	46
5.1.3	Technicians and associate professionals	36.32	58
5.1.4	Labour productivity per employee	16.38	73
5.2	Employability	39.16	110
5.2.1	Ease of finding skilled employees	30.03	93
5.2.2	Relevance of education system to the economy	13.46	112
5.2.3	Skills matching with secondary education	51.29	102
5.2.4	Skills matching with tertiary education	61.84	96
6	**GLOBAL KNOWLEDGE SKILLS**	**21.92**	**74**
6.1	High-Level Skills	22.95	77
6.1.1	Workforce with tertiary education	26.01	72
6.1.2	Population with tertiary education	21.44	62
6.1.3	Professionals	27.46	59
6.1.4	Researchers	8.32	55
6.1.5	Senior officials and managers	31.25	41
6.1.6	Availability of scientists and engineers	23.24	98
6.2	Talent Impact	20.89	74
6.2.1	Innovation output	24.25	79
6.2.2	High-value exports	23.16	35
6.2.3	New product entrepreneurial activity	13.63	83
6.2.4	New business density	16.54	37
6.2.5	Scientific journal articles	26.86	50

BULGARIA

Key Indicators

Rank (out of 119)	**47**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**7.18**
GDP per capita (PPP US$)	**17,511.80**
GDP (US$ billions)	**48.95**
GTCI score	**45.72**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



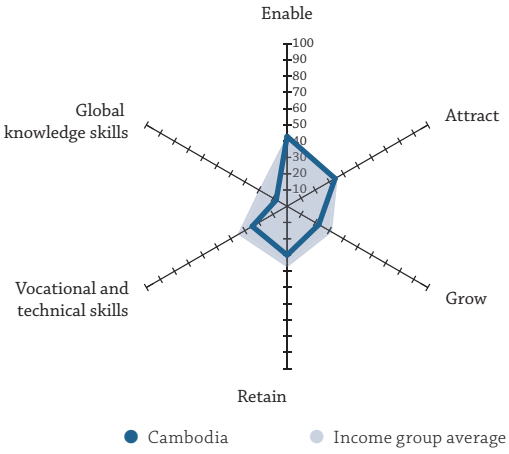
		Score	Rank
1	**ENABLE**	**52.42**	**53**
1.1	Regulatory Landscape	47.85	62
1.1.1	Government effectiveness	47.81	56
1.1.2	Business-government relations	33.11	110
1.1.3	Political stability	64.32	57
1.1.4	Regulatory quality	58.50	45
1.1.5	Corruption	35.53	60
1.2	Market Landscape	51.28	51
1.2.1	Competition intensity	54.00	95
1.2.2	Ease of doing business	74.83	36
1.2.3	Cluster development	40.25	72
1.2.4	R&D expenditure	18.46	41
1.2.5	ICT infrastructure	70.67	42
1.2.6	Technology utilisation	49.47	52
1.3	Business and Labour Landscape	58.13	57
	Labour Market		
1.3.1	Ease of hiring	72.33	48
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	62.40	54
1.3.4	Labour-employer cooperation	44.72	79
	Management Practice		
1.3.5	Professional management	25.21	89
1.3.6	Relationship of pay to productivity	44.11	64
2	**ATTRACT**	**40.19**	**71**
2.1	External Openness	31.96	75
	Attract Business		
2.1.1	FDI and technology transfer	57.96	41
2.1.2	Prevalence of foreign ownership	52.10	75
	Attract People		
2.1.3	Migrant stock	3.00	87
2.1.4	International students	22.05	41
2.1.5	Brain gain	24.70	93
2.2	Internal Openness	48.41	67
	Social Inclusion		
2.2.1	Tolerance of minorities	55.17	45
2.2.2	Tolerance of immigrants	29.58	103
2.2.3	Social mobility	20.44	111
	Gender Equality		
2.2.4	Female graduates	82.99	32
2.2.5	Gender earnings gap	57.83	38
2.2.6	Leadership opportunities for women	44.44	58
3	**GROW**	**41.15**	**57**
3.1	Formal Education	39.25	40
	Enrolment		
3.1.1	Vocational enrolment	49.76	19
3.1.2	Tertiary enrolment	64.68	21
	Quality		
3.1.3	Tertiary education expenditure	14.32	81
3.1.4	Reading, maths, and science	47.29	43
3.1.5	University ranking	20.18	63
3.2	Lifelong Learning	35.82	77
3.2.1	Quality of management schools	29.37	97
3.2.2	Prevalence of training in firms	51.85	31
3.2.3	Employee development	26.26	89
3.3	Access to Growth Opportunities	48.37	59
	Empowerment		
3.3.1	Delegation of authority	32.12	89
3.3.2	Personal rights	60.94	62
	Collaboration		
3.3.3	Use of virtual social networks	73.94	50
3.3.4	Use of virtual professional networks	17.90	55
3.3.5	Collaboration within organisations	36.98	65
3.3.6	Collaboration across organisations	68.33	64
4	**RETAIN**	**58.82**	**46**
4.1	Sustainability	41.48	57
4.1.1	Pension system	78.57	30
4.1.2	Social protection	26.04	82
4.1.3	Brain retention	19.82	107
4.2	Lifestyle	76.17	35
4.2.1	Environmental performance	86.41	33
4.2.2	Personal safety	70.39	48
4.2.3	Physician density	63.78	10
4.2.4	Sanitation	84.09	71
5	**VOCATIONAL AND TECHNICAL SKILLS**	**44.43**	**57**
5.1	Mid-Level Skills	46.53	34
5.1.1	Workforce with secondary education	49.37	15
5.1.2	Population with secondary education	71.75	11
5.1.3	Technicians and associate professionals	41.26	52
5.1.4	Labour productivity per employee	23.74	62
5.2	Employability	42.33	99
5.2.1	Ease of finding skilled employees	21.45	109
5.2.2	Relevance of education system to the economy	32.45	81
5.2.3	Skills matching with secondary education	57.50	85
5.2.4	Skills matching with tertiary education	57.91	107
6	**GLOBAL KNOWLEDGE SKILLS**	**37.30**	**38**
6.1	High-Level Skills	38.29	37
6.1.1	Workforce with tertiary education	43.98	34
6.1.2	Population with tertiary education	40.99	21
6.1.3	Professionals	46.53	32
6.1.4	Researchers	23.99	38
6.1.5	Senior officials and managers	36.88	35
6.1.6	Availability of scientists and engineers	37.35	66
6.2	Talent Impact	36.31	44
6.2.1	Innovation output	51.32	31
6.2.2	High-value exports	14.31	49
6.2.3	New product entrepreneurial activity	25.95	73
6.2.4	New business density	51.25	12
6.2.5	Scientific journal articles	38.73	43

CAMBODIA

Key Indicators

Rank (out of 119)	**108**
Income group	**Lower middle income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**15.58**
GDP per capita (PPP US$)	**3,483.33**
GDP (US$ billions)	**18.05**
GTCI score	**27.02**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



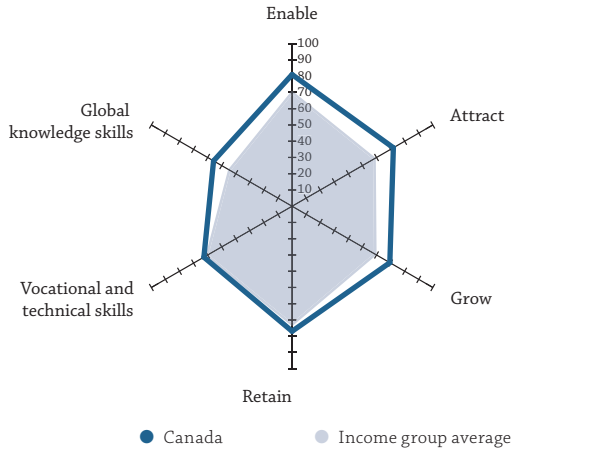
		Score	Rank
1	**ENABLE**	**42.95**	**88**
1.1	Regulatory Landscape	35.55	100
1.1.1	Government effectiveness	24.42	104
1.1.2	Business-government relations	49.23	78
1.1.3	Political stability	61.41	67
1.1.4	Regulatory quality	33.50	96
1.1.5	Corruption	9.21	117
1.2	Market Landscape	40.41	83
1.2.1	Competition intensity	57.14	88
1.2.2	Ease of doing business	39.93	103
1.2.3	Cluster development	50.15	43
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	21.96	98
1.2.6	Technology utilisation	32.86	89
1.3	Business and Labour Landscape	52.89	68
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	57.68	68
1.3.4	Labour-employer cooperation	49.32	64
	Management Practice		
1.3.5	Professional management	27.22	86
1.3.6	Relationship of pay to productivity	46.46	59
2	**ATTRACT**	**34.08**	**97**
2.1	External Openness	33.14	71
	Attract Business		
2.1.1	FDI and technology transfer	54.83	50
2.1.2	Prevalence of foreign ownership	64.20	46
	Attract People		
2.1.3	Migrant stock	0.88	104
2.1.4	International students	0.21	99
2.1.5	Brain gain	45.58	48
2.2	Internal Openness	35.01	107
	Social Inclusion		
2.2.1	Tolerance of minorities	29.89	84
2.2.2	Tolerance of immigrants	0.00	117
2.2.3	Social mobility	30.52	98
	Gender Equality		
2.2.4	Female graduates	37.33	93
2.2.5	Gender earnings gap	61.45	30
2.2.6	Leadership opportunities for women	50.90	40
3	**GROW**	**22.54**	**111**
3.1	Formal Education	3.62	117
	Enrolment		
3.1.1	Vocational enrolment	3.61	97
3.1.2	Tertiary enrolment	10.87	96
	Quality		
3.1.3	Tertiary education expenditure	0.00	105
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	23.71	113
3.2.1	Quality of management schools	19.05	112
3.2.2	Prevalence of training in firms	24.80	69
3.2.3	Employee development	27.27	88
3.3	Access to Growth Opportunities	40.29	93
	Empowerment		
3.3.1	Delegation of authority	30.73	90
3.3.2	Personal rights	35.99	88
	Collaboration		
3.3.3	Use of virtual social networks	69.39	61
3.3.4	Use of virtual professional networks	1.98	100
3.3.5	Collaboration within organisations	37.18	64
3.3.6	Collaboration across organisations	66.49	73
4	**RETAIN**	**30.06**	**103**
4.1	Sustainability	32.48	70
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	19.40	96
4.1.3	Brain retention	45.56	50
4.2	Lifestyle	27.65	111
4.2.1	Environmental performance	26.39	108
4.2.2	Personal safety	47.25	96
4.2.3	Physician density	2.40	101
4.2.4	Sanitation	34.55	105
5	**VOCATIONAL AND TECHNICAL SKILLS**	**24.75**	**113**
5.1	Mid-Level Skills	7.27	109
5.1.1	Workforce with secondary education	5.26	100
5.1.2	Population with secondary education	5.85	95
5.1.3	Technicians and associate professionals	15.70	88
5.1.4	Labour productivity per employee	2.28	95
5.2	Employability	42.23	101
5.2.1	Ease of finding skilled employees	21.12	110
5.2.2	Relevance of education system to the economy	32.93	77
5.2.3	Skills matching with secondary education	44.80	112
5.2.4	Skills matching with tertiary education	70.06	64
6	**GLOBAL KNOWLEDGE SKILLS**	**7.71**	**113**
6.1	High-Level Skills	7.05	113
6.1.1	Workforce with tertiary education	3.82	102
6.1.2	Population with tertiary education	1.54	102
6.1.3	Professionals	10.12	91
6.1.4	Researchers	0.22	97
6.1.5	Senior officials and managers	11.88	85
6.1.6	Availability of scientists and engineers	14.71	109
6.2	Talent Impact	8.38	108
6.2.1	Innovation output	21.09	85
6.2.2	High-value exports	1.51	99
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	2.53	107

CANADA

Key Indicators

Rank (out of 119)	**15**
Income group	**High income**
Regional group	**Northern America**
Population (millions)	**35.85**
GDP per capita (PPP US$)	**44,310.10**
GDP (US$ billions)	**1,550.54**
GTCI score	**69.63**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



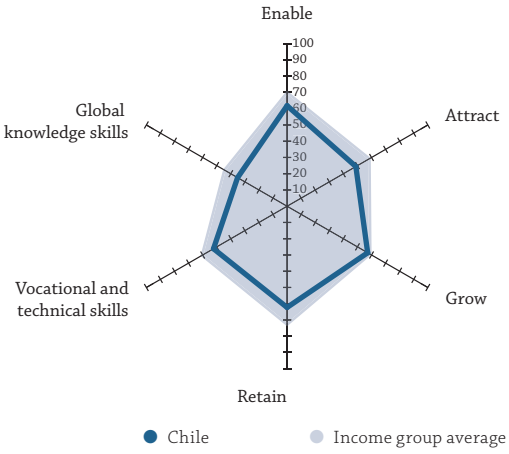
		Score	Rank
1	**ENABLE**	**81.01**	**14**
1.1	Regulatory Landscape	87.39	8
1.1.1	Government effectiveness	87.66	10
1.1.2	Business-government relations	79.25	16
1.1.3	Political stability	93.93	5
1.1.4	Regulatory quality	86.65	11
1.1.5	Corruption	89.47	9
1.2	Market Landscape	71.23	23
1.2.1	Competition intensity	77.71	28
1.2.2	Ease of doing business	84.27	20
1.2.3	Cluster development	73.99	18
1.2.4	R&D expenditure	37.38	22
1.2.5	ICT infrastructure	83.36	23
1.2.6	Technology utilisation	70.67	29
1.3	Business and Labour Landscape	84.40	11
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	81.95	13
1.3.4	Labour-employer cooperation	73.17	18
	Management Practice		
1.3.5	Professional management	84.81	14
1.3.6	Relationship of pay to productivity	77.44	12
2	**ATTRACT**	**71.96**	**10**
2.1	External Openness	69.20	11
	Attract Business		
2.1.1	FDI and technology transfer	69.19	19
2.1.2	Prevalence of foreign ownership	82.96	13
	Attract People		
2.1.3	Migrant stock	47.95	15
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	76.71	9
2.2	Internal Openness	74.72	11
	Social Inclusion		
2.2.1	Tolerance of minorities	70.11	17
2.2.2	Tolerance of immigrants	95.77	2
2.2.3	Social mobility	83.11	13
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	59.04	37
2.2.6	Leadership opportunities for women	65.59	24
3	**GROW**	**69.45**	**14**
3.1	Formal Education	52.97	20
	Enrolment		
3.1.1	Vocational enrolment	7.07	89
3.1.2	Tertiary enrolment	n/a	n/a
	Quality		
3.1.3	Tertiary education expenditure	31.71	31
3.1.4	Reading, maths, and science	86.70	4
3.1.5	University ranking	86.41	5
3.2	Lifelong Learning	73.65	20
3.2.1	Quality of management schools	83.33	8
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	63.97	26
3.3	Access to Growth Opportunities	81.71	12
	Empowerment		
3.3.1	Delegation of authority	75.42	15
3.3.2	Personal rights	98.80	2
	Collaboration		
3.3.3	Use of virtual social networks	88.48	16
3.3.4	Use of virtual professional networks	79.67	7
3.3.5	Collaboration within organisations	67.33	23
3.3.6	Collaboration across organisations	80.56	25
4	**RETAIN**	**76.93**	**18**
4.1	Sustainability	72.76	20
4.1.1	Pension system	66.33	37
4.1.2	Social protection	79.73	18
4.1.3	Brain retention	72.21	15
4.2	Lifestyle	81.10	21
4.2.1	Environmental performance	89.51	25
4.2.2	Personal safety	95.68	12
4.2.3	Physician density	39.42	48
4.2.4	Sanitation	99.77	14
5	**VOCATIONAL AND TECHNICAL SKILLS**	**62.67**	**22**
5.1	Mid-Level Skills	45.38	37
5.1.1	Workforce with secondary education	22.05	73
5.1.2	Population with secondary education	32.81	60
5.1.3	Technicians and associate professionals	74.44	14
5.1.4	Labour productivity per employee	52.23	20
5.2	Employability	79.96	16
5.2.1	Ease of finding skilled employees	79.87	16
5.2.2	Relevance of education system to the economy	75.96	15
5.2.3	Skills matching with secondary education	78.61	18
5.2.4	Skills matching with tertiary education	85.41	19
6	**GLOBAL KNOWLEDGE SKILLS**	**55.79**	**11**
6.1	High-Level Skills	68.10	4
6.1.1	Workforce with tertiary education	91.67	2
6.1.2	Population with tertiary education	80.79	2
6.1.3	Professionals	51.45	22
6.1.4	Researchers	54.67	16
6.1.5	Senior officials and managers	50.00	21
6.1.6	Availability of scientists and engineers	80.00	6
6.2	Talent Impact	43.48	25
6.2.1	Innovation output	57.64	23
6.2.2	High-value exports	25.99	27
6.2.3	New product entrepreneurial activity	59.69	18
6.2.4	New business density	7.25	60
6.2.5	Scientific journal articles	66.81	17

CHILE

Key Indicators

Rank (out of 119)	**33**
Income group	**High income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**17.95**
GDP per capita (PPP US$)	**22,316.20**
GDP (US$ billions)	**240.22**
GTCI score	**52.95**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



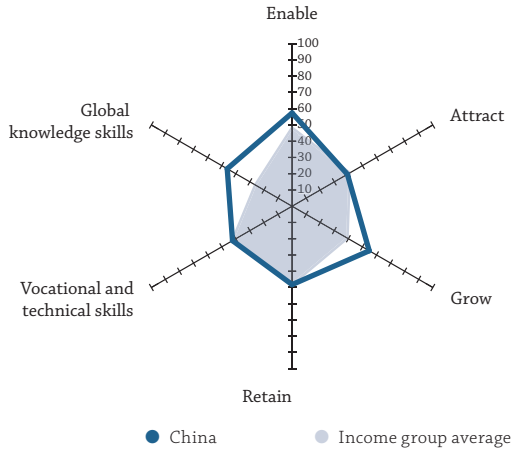
		Score	Rank
1	**ENABLE**	**61.86**	**32**
1.1	Regulatory Landscape	72.71	23
1.1.1	Government effectiveness	69.92	28
1.1.2	Business-government relations	73.73	21
1.1.3	Political stability	73.54	44
1.1.4	Regulatory quality	77.91	17
1.1.5	Corruption	68.42	23
1.2	Market Landscape	51.88	48
1.2.1	Competition intensity	70.57	59
1.2.2	Ease of doing business	67.47	53
1.2.3	Cluster development	32.82	85
1.2.4	R&D expenditure	8.64	65
1.2.5	ICT infrastructure	66.03	49
1.2.6	Technology utilisation	65.72	32
1.3	Business and Labour Landscape	60.99	45
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	57.96	67
1.3.4	Labour-employer cooperation	53.12	53
	Management Practice		
1.3.5	Professional management	53.30	35
1.3.6	Relationship of pay to productivity	54.88	47
2	**ATTRACT**	**48.86**	**42**
2.1	External Openness	43.93	40
	Attract Business		
2.1.1	FDI and technology transfer	69.71	16
2.1.2	Prevalence of foreign ownership	82.22	14
	Attract People		
2.1.3	Migrant stock	5.63	71
2.1.4	International students	1.46	86
2.1.5	Brain gain	60.64	23
2.2	Internal Openness	53.79	47
	Social Inclusion		
2.2.1	Tolerance of minorities	67.82	22
2.2.2	Tolerance of immigrants	77.46	30
2.2.3	Social mobility	54.77	37
	Gender Equality		
2.2.4	Female graduates	71.56	64
2.2.5	Gender earnings gap	42.17	81
2.2.6	Leadership opportunities for women	8.96	108
3	**GROW**	**57.25**	**24**
3.1	Formal Education	46.86	31
	Enrolment		
3.1.1	Vocational enrolment	32.38	35
3.1.2	Tertiary enrolment	77.63	5
	Quality		
3.1.3	Tertiary education expenditure	27.88	40
3.1.4	Reading, maths, and science	48.78	41
3.1.5	University ranking	47.63	30
3.2	Lifelong Learning	62.10	28
3.2.1	Quality of management schools	71.16	25
3.2.2	Prevalence of training in firms	71.37	11
3.2.3	Employee development	43.77	53
3.3	Access to Growth Opportunities	62.80	29
	Empowerment		
3.3.1	Delegation of authority	50.56	40
3.3.2	Personal rights	97.59	8
	Collaboration		
3.3.3	Use of virtual social networks	78.18	38
3.3.4	Use of virtual professional networks	47.19	18
3.3.5	Collaboration within organisations	29.63	84
3.3.6	Collaboration across organisations	73.64	40
4	**RETAIN**	**62.26**	**39**
4.1	Sustainability	58.45	31
4.1.1	Pension system	59.18	42
4.1.2	Social protection	42.58	45
4.1.3	Brain retention	73.58	14
4.2	Lifestyle	66.06	55
4.2.1	Environmental performance	75.72	50
4.2.2	Personal safety	73.38	42
4.2.3	Physician density	16.19	81
4.2.4	Sanitation	98.98	23
5	**VOCATIONAL AND TECHNICAL SKILLS**	**52.27**	**38**
5.1	Mid-Level Skills	43.38	42
5.1.1	Workforce with secondary education	44.73	23
5.1.2	Population with secondary education	50.50	32
5.1.3	Technicians and associate professionals	47.53	44
5.1.4	Labour productivity per employee	30.75	51
5.2	Employability	61.15	44
5.2.1	Ease of finding skilled employees	66.01	30
5.2.2	Relevance of education system to the economy	32.93	77
5.2.3	Skills matching with secondary education	62.76	60
5.2.4	Skills matching with tertiary education	82.92	24
6	**GLOBAL KNOWLEDGE SKILLS**	**35.19**	**45**
6.1	High-Level Skills	26.94	66
6.1.1	Workforce with tertiary education	22.89	78
6.1.2	Population with tertiary education	28.47	47
6.1.3	Professionals	30.64	56
6.1.4	Researchers	5.38	63
6.1.5	Senior officials and managers	12.50	82
6.1.6	Availability of scientists and engineers	61.76	23
6.2	Talent Impact	43.44	26
6.2.1	Innovation output	35.50	52
6.2.2	High-value exports	11.11	62
6.2.3	New product entrepreneurial activity	100.00	1
6.2.4	New business density	46.43	13
6.2.5	Scientific journal articles	24.15	54

CHINA

Key Indicators

Rank (out of 119)	**43**
Income group	**Upper middle income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**1,371.22**
GDP per capita (PPP US$)	**14,238.70**
GDP (US$ billions)	**10,866.44**
GTCI score	**48.01**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



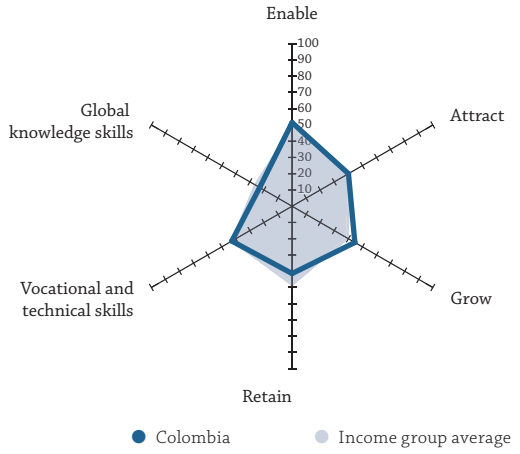
		Score	Rank
1	**ENABLE**	**57.37**	**43**
1.1	Regulatory Landscape	49.02	60
1.1.1	Government effectiveness	52.96	45
1.1.2	Business-government relations	69.09	32
1.1.3	Political stability	50.24	88
1.1.4	Regulatory quality	38.59	84
1.1.5	Corruption	34.21	64
1.2	Market Landscape	58.53	36
1.2.1	Competition intensity	76.57	33
1.2.2	Ease of doing business	57.62	71
1.2.3	Cluster development	72.14	19
1.2.4	R&D expenditure	47.66	16
1.2.5	ICT infrastructure	50.20	68
1.2.6	Technology utilisation	47.00	56
1.3	Business and Labour Landscape	64.55	34
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	50.00	98
1.3.3	Active labour market policies	78.64	19
1.3.4	Labour-employer cooperation	56.37	43
	Management Practice		
1.3.5	Professional management	47.28	51
1.3.6	Relationship of pay to productivity	65.99	25
2	**ATTRACT**	**39.29**	**76**
2.1	External Openness	34.96	65
	Attract Business		
2.1.1	FDI and technology transfer	54.05	55
2.1.2	Prevalence of foreign ownership	57.78	57
	Attract People		
2.1.3	Migrant stock	0.00	119
2.1.4	International students	1.31	88
2.1.5	Brain gain	61.65	22
2.2	Internal Openness	43.62	84
	Social Inclusion		
2.2.1	Tolerance of minorities	19.54	100
2.2.2	Tolerance of immigrants	30.99	101
2.2.3	Social mobility	46.87	52
	Gender Equality		
2.2.4	Female graduates	60.63	77
2.2.5	Gender earnings gap	54.22	48
2.2.6	Leadership opportunities for women	49.46	45
3	**GROW**	**54.80**	**29**
3.1	Formal Education	59.52	11
	Enrolment		
3.1.1	Vocational enrolment	32.75	34
3.1.2	Tertiary enrolment	37.67	61
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths, and science	82.46	7
3.1.5	University ranking	85.20	7
3.2	Lifelong Learning	66.92	22
3.2.1	Quality of management schools	46.56	54
3.2.2	Prevalence of training in firms	100.00	1
3.2.3	Employee development	54.21	37
3.3	Access to Growth Opportunities	37.96	99
	Empowerment		
3.3.1	Delegation of authority	41.62	66
3.3.2	Personal rights	0.00	119
	Collaboration		
3.3.3	Use of virtual social networks	45.15	106
3.3.4	Use of virtual professional networks	0.69	111
3.3.5	Collaboration within organisations	52.93	34
3.3.6	Collaboration across organisations	87.35	16
4	**RETAIN**	**48.21**	**64**
4.1	Sustainability	45.85	47
4.1.1	Pension system	25.51	67
4.1.2	Social protection	54.41	33
4.1.3	Brain retention	57.63	32
4.2	Lifestyle	50.57	88
4.2.1	Environmental performance	52.26	90
4.2.2	Personal safety	53.17	85
4.2.3	Physician density	23.56	70
4.2.4	Sanitation	73.30	82
5	**VOCATIONAL AND TECHNICAL SKILLS**	**42.33**	**66**
5.1	Mid-Level Skills	17.43	93
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	19.12	86
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	15.75	74
5.2	Employability	67.23	31
5.2.1	Ease of finding skilled employees	61.39	38
5.2.2	Relevance of education system to the economy	54.33	39
5.2.3	Skills matching with secondary education	76.56	22
5.2.4	Skills matching with tertiary education	76.65	36
6	**GLOBAL KNOWLEDGE SKILLS**	**46.09**	**22**
6.1	High-Level Skills	29.07	60
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	13.38	77
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	14.12	45
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	59.71	28
6.2	Talent Impact	63.11	2
6.2.1	Innovation output	73.81	11
6.2.2	High-value exports	48.59	11
6.2.3	New product entrepreneurial activity	86.46	3
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	43.57	41

COLOMBIA

Key Indicators

Rank (out of 119)	**67**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**48.23**
GDP per capita (PPP US$)	**13,800.80**
GDP (US$ billions)	**292.08**
GTCI score	**40.57**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



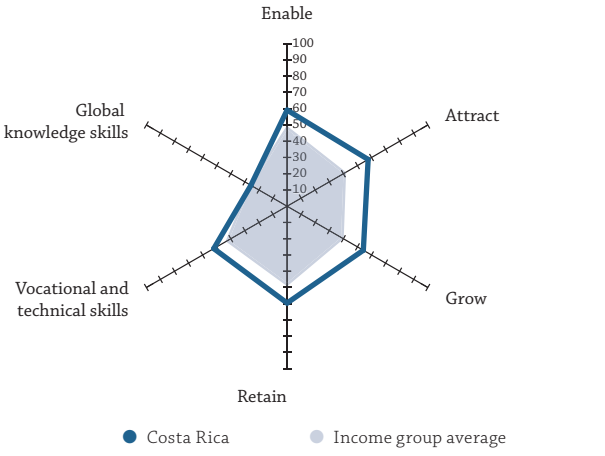
		Score	Rank
1	**ENABLE**	**51.47**	**57**
1.1	Regulatory Landscape	45.22	75
1.1.1	Government effectiveness	41.39	70
1.1.2	Business-government relations	60.26	54
1.1.3	Political stability	38.11	107
1.1.4	Regulatory quality	56.07	49
1.1.5	Corruption	30.26	72
1.2	Market Landscape	47.18	63
1.2.1	Competition intensity	81.43	22
1.2.2	Ease of doing business	70.00	50
1.2.3	Cluster development	39.63	73
1.2.4	R&D expenditure	4.44	81
1.2.5	ICT infrastructure	49.80	70
1.2.6	Technology utilisation	37.81	77
1.3	Business and Labour Landscape	62.00	40
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	55.35	75
1.3.4	Labour-employer cooperation	55.83	44
	Management Practice		
1.3.5	Professional management	35.82	70
1.3.6	Relationship of pay to productivity	36.03	78
2	**ATTRACT**	**40.05**	**72**
2.1	External Openness	29.31	82
	Attract Business		
2.1.1	FDI and technology transfer	49.61	64
2.1.2	Prevalence of foreign ownership	58.77	55
	Attract People		
2.1.3	Migrant stock	0.46	112
2.1.4	International students	0.78	92
2.1.5	Brain gain	36.95	73
2.2	Internal Openness	50.79	55
	Social Inclusion		
2.2.1	Tolerance of minorities	22.99	97
2.2.2	Tolerance of immigrants	80.28	24
2.2.3	Social mobility	39.51	72
	Gender Equality		
2.2.4	Female graduates	69.67	66
2.2.5	Gender earnings gap	61.45	30
2.2.6	Leadership opportunities for women	30.82	78
3	**GROW**	**44.59**	**45**
3.1	Formal Education	31.39	57
	Enrolment		
3.1.1	Vocational enrolment	11.85	76
3.1.2	Tertiary enrolment	48.46	46
	Quality		
3.1.3	Tertiary education expenditure	22.25	59
3.1.4	Reading, maths, and science	33.43	57
3.1.5	University ranking	40.97	33
3.2	Lifelong Learning	51.17	42
3.2.1	Quality of management schools	44.18	58
3.2.2	Prevalence of training in firms	81.40	5
3.2.3	Employee development	27.95	86
3.3	Access to Growth Opportunities	51.20	52
	Empowerment		
3.3.1	Delegation of authority	48.32	45
3.3.2	Personal rights	62.10	60
	Collaboration		
3.3.3	Use of virtual social networks	65.45	76
3.3.4	Use of virtual professional networks	24.29	42
3.3.5	Collaboration within organisations	35.93	71
3.3.6	Collaboration across organisations	71.10	49
4	**RETAIN**	**41.41**	**82**
4.1	Sustainability	31.44	74
4.1.1	Pension system	29.59	65
4.1.2	Social protection	23.96	88
4.1.3	Brain retention	40.77	64
4.2	Lifestyle	51.37	85
4.2.1	Environmental performance	72.47	54
4.2.2	Personal safety	29.66	111
4.2.3	Physician density	24.84	67
4.2.4	Sanitation	78.52	77
5	**VOCATIONAL AND TECHNICAL SKILLS**	**42.84**	**64**
5.1	Mid-Level Skills	29.11	72
5.1.1	Workforce with secondary education	26.25	66
5.1.2	Population with secondary education	36.66	53
5.1.3	Technicians and associate professionals	36.77	57
5.1.4	Labour productivity per employee	16.75	71
5.2	Employability	56.56	56
5.2.1	Ease of finding skilled employees	52.48	50
5.2.2	Relevance of education system to the economy	30.29	87
5.2.3	Skills matching with secondary education	68.73	39
5.2.4	Skills matching with tertiary education	74.76	43
6	**GLOBAL KNOWLEDGE SKILLS**	**23.05**	**71**
6.1	High-Level Skills	22.71	78
6.1.1	Workforce with tertiary education	31.01	62
6.1.2	Population with tertiary education	26.93	50
6.1.3	Professionals	4.34	102
6.1.4	Researchers	1.24	84
6.1.5	Senior officials and managers	36.25	36
6.1.6	Availability of scientists and engineers	36.47	70
6.2	Talent Impact	23.38	67
6.2.1	Innovation output	26.19	74
6.2.2	High-value exports	17.89	43
6.2.3	New product entrepreneurial activity	48.56	37
6.2.4	New business density	11.43	46
6.2.5	Scientific journal articles	12.85	68

COSTA RICA

Key Indicators

Rank (out of 119)	**35**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**4.81**
GDP per capita (PPP US$)	**15,377.20**
GDP (US$ billions)	**51.11**
GTCI score	**51.38**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**59.15**	**39**
1.1	Regulatory Landscape	61.80	39
1.1.1	Government effectiveness	51.93	48
1.1.2	Business-government relations	64.24	38
1.1.3	Political stability	77.91	37
1.1.4	Regulatory quality	57.04	46
1.1.5	Corruption	57.89	33
1.2	Market Landscape	54.23	43
1.2.1	Competition intensity	73.43	45
1.2.2	Ease of doing business	65.49	57
1.2.3	Cluster development	49.23	47
1.2.4	R&D expenditure	12.85	54
1.2.5	ICT infrastructure	65.35	50
1.2.6	Technology utilisation	59.01	39
1.3	Business and Labour Landscape	61.41	42
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	63.40	53
1.3.4	Labour-employer cooperation	71.00	21
	Management Practice		
1.3.5	Professional management	50.14	41
1.3.6	Relationship of pay to productivity	61.62	33

2	**ATTRACT**	**57.58**	**24**
2.1	External Openness	52.92	25
	Attract Business		
2.1.1	FDI and technology transfer	70.50	15
2.1.2	Prevalence of foreign ownership	72.59	29
	Attract People		
2.1.3	Migrant stock	19.20	42
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	49.40	38
2.2	Internal Openness	62.24	26
	Social Inclusion		
2.2.1	Tolerance of minorities	60.92	37
2.2.2	Tolerance of immigrants	74.65	34
2.2.3	Social mobility	60.76	30
	Gender Equality		
2.2.4	Female graduates	90.79	18
2.2.5	Gender earnings gap	49.40	67
2.2.6	Leadership opportunities for women	36.92	69

		Score	Rank
3	**GROW**	**54.17**	**31**
3.1	Formal Education	36.86	46
	Enrolment		
3.1.1	Vocational enrolment	38.68	28
3.1.2	Tertiary enrolment	46.72	48
	Quality		
3.1.3	Tertiary education expenditure	40.92	14
3.1.4	Reading, maths, and science	36.10	53
3.1.5	University ranking	21.90	60
3.2	Lifelong Learning	64.02	27
3.2.1	Quality of management schools	69.84	27
3.2.2	Prevalence of training in firms	67.68	18
3.2.3	Employee development	54.55	36
3.3	Access to Growth Opportunities	61.62	30
	Empowerment		
3.3.1	Delegation of authority	54.19	32
3.3.2	Personal rights	89.15	14
	Collaboration		
3.3.3	Use of virtual social networks	79.09	35
3.3.4	Use of virtual professional networks	30.59	31
3.3.5	Collaboration within organisations	39.46	58
3.3.6	Collaboration across organisations	77.24	30

4	**RETAIN**	**59.56**	**42**
4.1	Sustainability	53.53	38
4.1.1	Pension system	55.10	45
4.1.2	Social protection	41.70	50
4.1.3	Brain retention	63.78	26
4.2	Lifestyle	65.60	56
4.2.1	Environmental performance	80.12	41
4.2.2	Personal safety	70.40	47
4.2.3	Physician density	18.11	79
4.2.4	Sanitation	93.75	53

5	**VOCATIONAL AND TECHNICAL SKILLS**	**52.09**	**39**
5.1	Mid-Level Skills	28.22	73
5.1.1	Workforce with secondary education	17.28	85
5.1.2	Population with secondary education	22.68	80
5.1.3	Technicians and associate professionals	49.33	42
5.1.4	Labour productivity per employee	23.58	63
5.2	Employability	75.96	21
5.2.1	Ease of finding skilled employees	77.23	21
5.2.2	Relevance of education system to the economy	62.26	25
5.2.3	Skills matching with secondary education	78.85	16
5.2.4	Skills matching with tertiary education	85.50	18

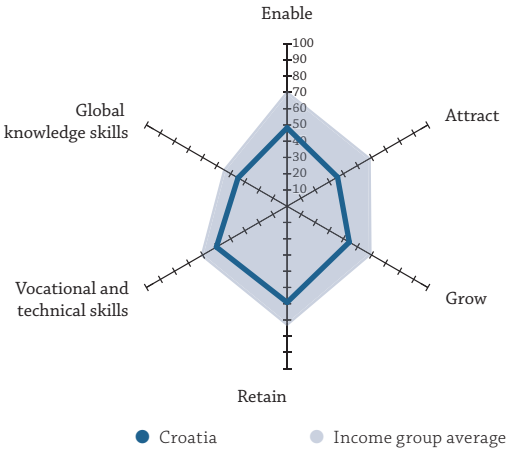
6	**GLOBAL KNOWLEDGE SKILLS**	**25.72**	**64**
6.1	High-Level Skills	26.98	65
6.1.1	Workforce with tertiary education	28.91	64
6.1.2	Population with tertiary education	31.73	37
6.1.3	Professionals	21.39	70
6.1.4	Researchers	6.80	61
6.1.5	Senior officials and managers	11.88	85
6.1.6	Availability of scientists and engineers	61.18	24
6.2	Talent Impact	24.45	61
6.2.1	Innovation output	37.43	49
6.2.2	High-value exports	31.64	19
6.2.3	New product entrepreneurial activity	40.48	56
6.2.4	New business density	6.21	65
6.2.5	Scientific journal articles	6.52	86

CROATIA

Key Indicators

Rank (out of 119)	**48**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**4.22**
GDP per capita (PPP US$)	**21,880.50**
GDP (US$ billions)	**48.73**
GTCI score	**45.42**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



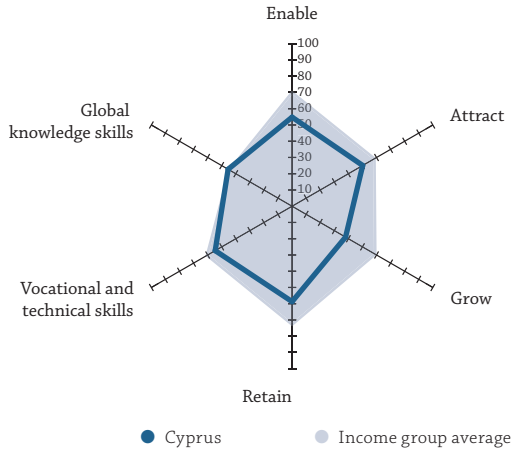
		Score	Rank
1	**ENABLE**	**48.24**	**71**
1.1	Regulatory Landscape	52.67	51
1.1.1	Government effectiveness	55.27	41
1.1.2	Business-government relations	30.24	114
1.1.3	Political stability	77.91	37
1.1.4	Regulatory quality	53.88	55
1.1.5	Corruption	46.05	45
1.2	Market Landscape	47.27	61
1.2.1	Competition intensity	59.14	84
1.2.2	Ease of doing business	73.86	40
1.2.3	Cluster development	19.50	109
1.2.4	R&D expenditure	18.22	42
1.2.5	ICT infrastructure	75.44	34
1.2.6	Technology utilisation	37.46	78
1.3	Business and Labour Landscape	44.77	96
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	52.62	83
1.3.4	Labour-employer cooperation	26.02	113
	Management Practice		
1.3.5	Professional management	29.51	82
1.3.6	Relationship of pay to productivity	44.78	63
2	**ATTRACT**	**35.84**	**92**
2.1	External Openness	24.44	102
	Attract Business		
2.1.1	FDI and technology transfer	30.81	103
2.1.2	Prevalence of foreign ownership	47.65	88
	Attract People		
2.1.3	Migrant stock	29.85	25
2.1.4	International students	1.83	83
2.1.5	Brain gain	12.05	115
2.2	Internal Openness	47.23	74
	Social Inclusion		
2.2.1	Tolerance of minorities	49.43	52
2.2.2	Tolerance of immigrants	39.44	91
2.2.3	Social mobility	23.16	108
	Gender Equality		
2.2.4	Female graduates	82.41	35
2.2.5	Gender earnings gap	67.47	18
2.2.6	Leadership opportunities for women	21.51	96
3	**GROW**	**44.19**	**46**
3.1	Formal Education	46.70	33
	Enrolment		
3.1.1	Vocational enrolment	64.70	7
3.1.2	Tertiary enrolment	60.79	27
	Quality		
3.1.3	Tertiary education expenditure	23.27	55
3.1.4	Reading, maths, and science	64.16	33
3.1.5	University ranking	20.59	62
3.2	Lifelong Learning	40.04	66
3.2.1	Quality of management schools	38.36	74
3.2.2	Prevalence of training in firms	60.55	25
3.2.3	Employee development	21.21	106
3.3	Access to Growth Opportunities	45.82	65
	Empowerment		
3.3.1	Delegation of authority	32.96	85
3.3.2	Personal rights	74.91	36
	Collaboration		
3.3.3	Use of virtual social networks	59.09	87
3.3.4	Use of virtual professional networks	26.81	35
3.3.5	Collaboration within organisations	25.95	96
3.3.6	Collaboration across organisations	55.17	107
4	**RETAIN**	**59.17**	**45**
4.1	Sustainability	38.13	63
4.1.1	Pension system	82.65	28
4.1.2	Social protection	21.02	94
4.1.3	Brain retention	10.71	113
4.2	Lifestyle	80.20	23
4.2.1	Environmental performance	93.09	15
4.2.2	Personal safety	81.29	31
4.2.3	Physician density	49.84	30
4.2.4	Sanitation	96.59	41
5	**VOCATIONAL AND TECHNICAL SKILLS**	**50.22**	**42**
5.1	Mid-Level Skills	56.72	17
5.1.1	Workforce with secondary education	54.90	9
5.1.2	Population with secondary education	74.47	8
5.1.3	Technicians and associate professionals	64.13	21
5.1.4	Labour productivity per employee	33.38	47
5.2	Employability	43.72	97
5.2.1	Ease of finding skilled employees	30.36	92
5.2.2	Relevance of education system to the economy	27.16	94
5.2.3	Skills matching with secondary education	57.52	84
5.2.4	Skills matching with tertiary education	59.84	101
6	**GLOBAL KNOWLEDGE SKILLS**	**34.86**	**46**
6.1	High-Level Skills	31.70	50
6.1.1	Workforce with tertiary education	37.15	43
6.1.2	Population with tertiary education	30.36	41
6.1.3	Professionals	45.66	36
6.1.4	Researchers	18.07	42
6.1.5	Senior officials and managers	27.50	49
6.1.6	Availability of scientists and engineers	31.47	82
6.2	Talent Impact	38.02	35
6.2.1	Innovation output	39.89	45
6.2.2	High-value exports	16.95	44
6.2.3	New product entrepreneurial activity	23.55	75
6.2.4	New business density	26.70	23
6.2.5	Scientific journal articles	83.02	5

CYPRUS

Key Indicators

Rank (out of 119)	**37**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**1.17**
GDP per capita (PPP US$)	**30,734.20**
GDP (US$ billions)	**19.32**
GTCI score	**50.29**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



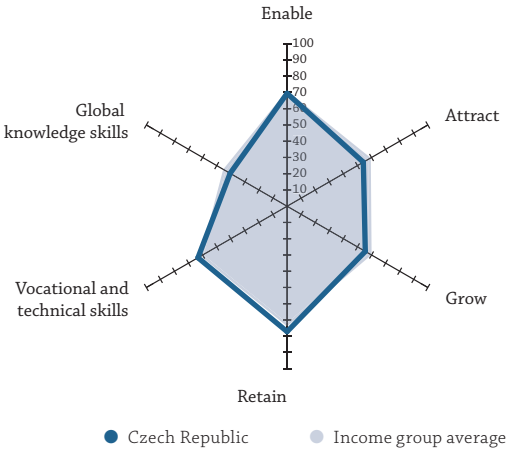
		Score	Rank
1	**ENABLE**	**54.79**	**47**
1.1	Regulatory Landscape	66.54	28
1.1.1	Government effectiveness	68.89	30
1.1.2	Business-government relations	62.03	46
1.1.3	Political stability	76.94	40
1.1.4	Regulatory quality	70.87	31
1.1.5	Corruption	53.95	37
1.2	Market Landscape	50.58	53
1.2.1	Competition intensity	73.71	40
1.2.2	Ease of doing business	73.23	42
1.2.3	Cluster development	45.51	55
1.2.4	R&D expenditure	10.75	60
1.2.5	ICT infrastructure	68.49	47
1.2.6	Technology utilisation	31.80	92
1.3	Business and Labour Landscape	47.25	89
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	61.60	56
1.3.4	Labour-employer cooperation	50.41	59
	Management Practice		
1.3.5	Professional management	19.48	103
1.3.6	Relationship of pay to productivity	36.36	76
2	**ATTRACT**	**50.16**	**38**
2.1	External Openness	50.20	30
	Attract Business		
2.1.1	FDI and technology transfer	42.04	79
2.1.2	Prevalence of foreign ownership	46.67	91
	Attract People		
2.1.3	Migrant stock	36.98	18
2.1.4	International students	91.59	8
2.1.5	Brain gain	33.73	80
2.2	Internal Openness	50.13	60
	Social Inclusion		
2.2.1	Tolerance of minorities	34.48	75
2.2.2	Tolerance of immigrants	53.52	66
2.2.3	Social mobility	37.87	77
	Gender Equality		
2.2.4	Female graduates	90.85	17
2.2.5	Gender earnings gap	61.45	30
2.2.6	Leadership opportunities for women	22.58	93
3	**GROW**	**37.99**	**67**
3.1	Formal Education	29.29	65
	Enrolment		
3.1.1	Vocational enrolment	13.14	72
3.1.2	Tertiary enrolment	52.45	41
	Quality		
3.1.3	Tertiary education expenditure	34.53	22
3.1.4	Reading, maths, and science	46.32	44
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	33.24	88
3.2.1	Quality of management schools	32.80	89
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	33.67	72
3.3	Access to Growth Opportunities	51.43	50
	Empowerment		
3.3.1	Delegation of authority	33.80	83
3.3.2	Personal rights	93.98	10
	Collaboration		
3.3.3	Use of virtual social networks	60.61	86
3.3.4	Use of virtual professional networks	37.07	25
3.3.5	Collaboration within organisations	23.15	104
3.3.6	Collaboration across organisations	59.99	93
4	**RETAIN**	**58.69**	**47**
4.1	Sustainability	41.47	58
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	42.61	44
4.1.3	Brain retention	40.32	67
4.2	Lifestyle	75.91	36
4.2.1	Environmental performance	80.52	39
4.2.2	Personal safety	83.38	27
4.2.3	Physician density	39.74	47
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**54.63**	**32**
5.1	Mid-Level Skills	45.73	36
5.1.1	Workforce with secondary education	32.98	52
5.1.2	Population with secondary education	45.79	40
5.1.3	Technicians and associate professionals	59.19	26
5.1.4	Labour productivity per employee	44.96	29
5.2	Employability	63.52	37
5.2.1	Ease of finding skilled employees	66.67	28
5.2.2	Relevance of education system to the economy	50.96	47
5.2.3	Skills matching with secondary education	64.57	55
5.2.4	Skills matching with tertiary education	71.89	57
6	**GLOBAL KNOWLEDGE SKILLS**	**45.46**	**24**
6.1	High-Level Skills	39.13	35
6.1.1	Workforce with tertiary education	63.18	8
6.1.2	Population with tertiary education	40.99	21
6.1.3	Professionals	48.27	30
6.1.4	Researchers	12.15	48
6.1.5	Senior officials and managers	23.75	59
6.1.6	Availability of scientists and engineers	46.47	50
6.2	Talent Impact	51.79	16
6.2.1	Innovation output	54.13	27
6.2.2	High-value exports	11.68	61
6.2.3	New product entrepreneurial activity	60.53	17
6.2.4	New business density	79.34	6
6.2.5	Scientific journal articles	53.28	29

CZECH REPUBLIC

Key Indicators

Rank (out of 119)	**25**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**10.55**
GDP per capita (PPP US$)	**32,167.10**
GDP (US$ billions)	**181.81**
GTCI score	**60.02**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



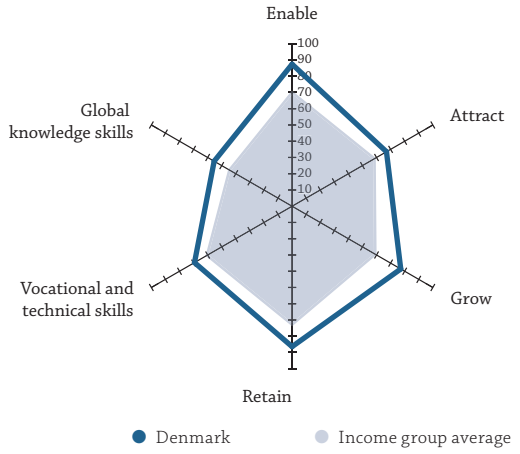
		Score	Rank
1	**ENABLE**	**69.45**	**26**
1.1	Regulatory Landscape	65.24	33
1.1.1	Government effectiveness	69.15	29
1.1.2	Business-government relations	44.59	91
1.1.3	Political stability	87.14	17
1.1.4	Regulatory quality	71.36	30
1.1.5	Corruption	53.95	37
1.2	Market Landscape	66.88	26
1.2.1	Competition intensity	86.57	12
1.2.2	Ease of doing business	80.80	25
1.2.3	Cluster development	45.51	55
1.2.4	R&D expenditure	46.50	17
1.2.5	ICT infrastructure	78.31	27
1.2.6	Technology utilisation	63.60	35
1.3	Business and Labour Landscape	76.24	21
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	69.85	32
1.3.4	Labour-employer cooperation	57.99	40
	Management Practice		
1.3.5	Professional management	70.20	27
1.3.6	Relationship of pay to productivity	70.37	19
2	**ATTRACT**	**54.18**	**29**
2.1	External Openness	52.45	27
	Attract Business		
2.1.1	FDI and technology transfer	67.36	22
2.1.2	Prevalence of foreign ownership	94.81	5
	Attract People		
2.1.3	Migrant stock	8.32	60
2.1.4	International students	51.20	20
2.1.5	Brain gain	40.56	59
2.2	Internal Openness	55.90	43
	Social Inclusion		
2.2.1	Tolerance of minorities	71.26	15
2.2.2	Tolerance of immigrants	18.31	113
2.2.3	Social mobility	64.03	27
	Gender Equality		
2.2.4	Female graduates	83.39	30
2.2.5	Gender earnings gap	51.81	55
2.2.6	Leadership opportunities for women	46.59	52
3	**GROW**	**55.55**	**27**
3.1	Formal Education	49.32	25
	Enrolment		
3.1.1	Vocational enrolment	63.03	8
3.1.2	Tertiary enrolment	57.68	33
	Quality		
3.1.3	Tertiary education expenditure	20.20	66
3.1.4	Reading, maths, and science	71.39	27
3.1.5	University ranking	34.28	37
3.2	Lifelong Learning	57.54	32
3.2.1	Quality of management schools	45.50	55
3.2.2	Prevalence of training in firms	68.21	16
3.2.3	Employee development	58.92	33
3.3	Access to Growth Opportunities	59.80	32
	Empowerment		
3.3.1	Delegation of authority	58.94	26
3.3.2	Personal rights	75.44	35
	Collaboration		
3.3.3	Use of virtual social networks	80.61	31
3.3.4	Use of virtual professional networks	21.92	45
3.3.5	Collaboration within organisations	53.87	31
3.3.6	Collaboration across organisations	68.06	65
4	**RETAIN**	**77.15**	**17**
4.1	Sustainability	67.69	22
4.1.1	Pension system	94.90	3
4.1.2	Social protection	63.31	26
4.1.3	Brain retention	44.87	52
4.2	Lifestyle	86.60	9
4.2.1	Environmental performance	88.78	27
4.2.2	Personal safety	100.00	1
4.2.3	Physician density	58.65	17
4.2.4	Sanitation	98.98	23
5	**VOCATIONAL AND TECHNICAL SKILLS**	**63.32**	**19**
5.1	Mid-Level Skills	69.41	3
5.1.1	Workforce with secondary education	62.50	4
5.1.2	Population with secondary education	100.00	1
5.1.3	Technicians and associate professionals	76.23	11
5.1.4	Labour productivity per employee	38.89	39
5.2	Employability	57.24	51
5.2.1	Ease of finding skilled employees	37.95	72
5.2.2	Relevance of education system to the economy	46.63	51
5.2.3	Skills matching with secondary education	70.56	32
5.2.4	Skills matching with tertiary education	73.80	48
6	**GLOBAL KNOWLEDGE SKILLS**	**40.46**	**33**
6.1	High-Level Skills	31.50	52
6.1.1	Workforce with tertiary education	33.40	54
6.1.2	Population with tertiary education	6.69	88
6.1.3	Professionals	41.62	38
6.1.4	Researchers	43.67	25
6.1.5	Senior officials and managers	31.25	41
6.1.6	Availability of scientists and engineers	32.35	81
6.2	Talent Impact	49.42	18
6.2.1	Innovation output	65.55	16
6.2.2	High-value exports	28.06	24
6.2.3	New product entrepreneurial activity	54.51	27
6.2.4	New business density	19.67	33
6.2.5	Scientific journal articles	79.31	10

DENMARK

Key Indicators

Rank (out of 119)	**7**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**5.68**
GDP per capita (PPP US$)	**46,635.20**
GDP (US$ billions)	**295.16**
GTCI score	**73.79**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



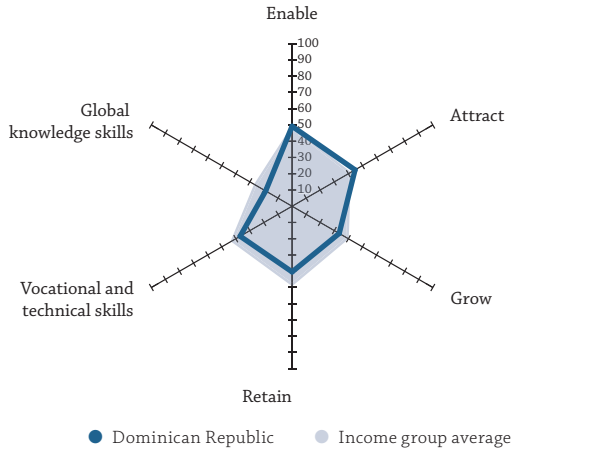
		Score	Rank
1	**ENABLE**	**87.37**	**3**
1.1	Regulatory Landscape	87.34	9
1.1.1	Government effectiveness	89.72	5
1.1.2	Business-government relations	74.39	20
1.1.3	Political stability	85.44	24
1.1.4	Regulatory quality	87.14	10
1.1.5	Corruption	100.00	1
1.2	Market Landscape	83.76	8
1.2.1	Competition intensity	77.71	28
1.2.2	Ease of doing business	96.01	3
1.2.3	Cluster development	71.52	20
1.2.4	R&D expenditure	71.73	6
1.2.5	ICT infrastructure	98.64	3
1.2.6	Technology utilisation	86.93	10
1.3	Business and Labour Landscape	91.02	3
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	82.91	11
1.3.4	Labour-employer cooperation	95.66	4
	Management Practice		
1.3.5	Professional management	89.11	13
1.3.6	Relationship of pay to productivity	78.45	10
2	**ATTRACT**	**67.05**	**13**
2.1	External Openness	54.64	20
	Attract Business		
2.1.1	FDI and technology transfer	63.45	30
2.1.2	Prevalence of foreign ownership	80.49	18
	Attract People		
2.1.3	Migrant stock	22.13	37
2.1.4	International students	51.72	17
2.1.5	Brain gain	55.42	29
2.2	Internal Openness	79.45	8
	Social Inclusion		
2.2.1	Tolerance of minorities	73.56	11
2.2.2	Tolerance of immigrants	90.14	10
2.2.3	Social mobility	86.38	11
	Gender Equality		
2.2.4	Female graduates	78.56	46
2.2.5	Gender earnings gap	60.24	35
2.2.6	Leadership opportunities for women	87.81	8
3	**GROW**	**77.20**	**8**
3.1	Formal Education	62.98	5
	Enrolment		
3.1.1	Vocational enrolment	38.12	29
3.1.2	Tertiary enrolment	71.39	13
	Quality		
3.1.3	Tertiary education expenditure	57.03	3
3.1.4	Reading, maths, and science	77.73	15
3.1.5	University ranking	70.61	14
3.2	Lifelong Learning	81.02	11
3.2.1	Quality of management schools	79.89	11
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	82.15	13
3.3	Access to Growth Opportunities	87.59	6
	Empowerment		
3.3.1	Delegation of authority	93.85	2
3.3.2	Personal rights	89.38	13
	Collaboration		
3.3.3	Use of virtual social networks	89.09	15
3.3.4	Use of virtual professional networks	85.74	4
3.3.5	Collaboration within organisations	86.47	5
3.3.6	Collaboration across organisations	81.02	24
4	**RETAIN**	**86.39**	**6**
4.1	Sustainability	84.73	7
4.1.1	Pension system	92.86	8
4.1.2	Social protection	92.76	8
4.1.3	Brain retention	68.56	21
4.2	Lifestyle	88.06	8
4.2.1	Environmental performance	97.26	4
4.2.2	Personal safety	97.26	4
4.2.3	Physician density	58.17	18
4.2.4	Sanitation	99.55	16
5	**VOCATIONAL AND TECHNICAL SKILLS**	**69.34**	**10**
5.1	Mid-Level Skills	56.87	16
5.1.1	Workforce with secondary education	36.29	38
5.1.2	Population with secondary education	60.06	22
5.1.3	Technicians and associate professionals	75.78	12
5.1.4	Labour productivity per employee	55.35	17
5.2	Employability	81.81	15
5.2.1	Ease of finding skilled employees	80.20	15
5.2.2	Relevance of education system to the economy	75.48	16
5.2.3	Skills matching with secondary education	82.42	12
5.2.4	Skills matching with tertiary education	89.15	10
6	**GLOBAL KNOWLEDGE SKILLS**	**55.37**	**13**
6.1	High-Level Skills	55.96	15
6.1.1	Workforce with tertiary education	48.09	27
6.1.2	Population with tertiary education	55.57	8
6.1.3	Professionals	70.52	7
6.1.4	Researchers	90.64	2
6.1.5	Senior officials and managers	15.63	70
6.1.6	Availability of scientists and engineers	55.29	36
6.2	Talent Impact	54.78	12
6.2.1	Innovation output	69.95	12
6.2.2	High-value exports	30.13	22
6.2.3	New product entrepreneurial activity	61.13	16
6.2.4	New business density	25.13	26
6.2.5	Scientific journal articles	87.55	4

DOMINICAN REPUBLIC

Key Indicators

Rank (out of 119)	**79**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**10.53**
GDP per capita (PPP US$)	**14,211.70**
GDP (US$ billions)	**67.10**
GTCI score	**37.25**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



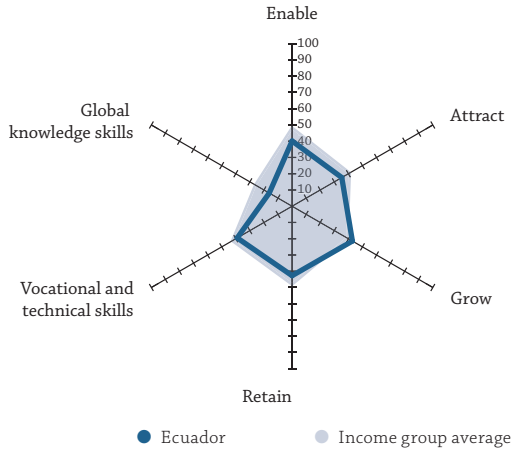
		Score	Rank
1	**ENABLE**	**49.20**	**66**
1.1	Regulatory Landscape	46.39	69
1.1.1	Government effectiveness	33.42	87
1.1.2	Business-government relations	64.02	39
1.1.3	Political stability	67.96	53
1.1.4	Regulatory quality	44.17	70
1.1.5	Corruption	22.37	92
1.2	Market Landscape	51.96	47
1.2.1	Competition intensity	82.00	19
1.2.2	Ease of doing business	48.43	86
1.2.3	Cluster development	43.96	61
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	38.06	84
1.2.6	Technology utilisation	47.35	55
1.3	Business and Labour Landscape	49.25	83
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	51.52	87
1.3.4	Labour-employer cooperation	49.32	64
	Management Practice		
1.3.5	Professional management	19.48	103
1.3.6	Relationship of pay to productivity	19.53	110
2	**ATTRACT**	**44.72**	**52**
2.1	External Openness	38.88	52
	Attract Business		
2.1.1	FDI and technology transfer	58.75	38
2.1.2	Prevalence of foreign ownership	71.85	36
	Attract People		
2.1.3	Migrant stock	8.56	59
2.1.4	International students	12.07	60
2.1.5	Brain gain	43.17	56
2.2	Internal Openness	50.56	56
	Social Inclusion		
2.2.1	Tolerance of minorities	48.28	54
2.2.2	Tolerance of immigrants	54.93	62
2.2.3	Social mobility	29.43	100
	Gender Equality		
2.2.4	Female graduates	91.06	15
2.2.5	Gender earnings gap	57.83	38
2.2.6	Leadership opportunities for women	21.86	95
3	**GROW**	**33.47**	**85**
3.1	Formal Education	10.93	107
	Enrolment		
3.1.1	Vocational enrolment	7.94	84
3.1.2	Tertiary enrolment	41.32	54
	Quality		
3.1.3	Tertiary education expenditure	5.37	98
3.1.4	Reading, maths, and science	0.00	68
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	44.36	58
3.2.1	Quality of management schools	36.77	77
3.2.2	Prevalence of training in firms	70.71	13
3.2.3	Employee development	25.59	93
3.3	Access to Growth Opportunities	45.12	68
	Empowerment		
3.3.1	Delegation of authority	38.27	72
3.3.2	Personal rights	45.83	79
	Collaboration		
3.3.3	Use of virtual social networks	71.21	57
3.3.4	Use of virtual professional networks	12.73	66
3.3.5	Collaboration within organisations	31.01	81
3.3.6	Collaboration across organisations	71.66	48
4	**RETAIN**	**40.39**	**87**
4.1	Sustainability	26.99	93
4.1.1	Pension system	24.49	69
4.1.2	Social protection	17.29	100
4.1.3	Brain retention	39.18	70
4.2	Lifestyle	53.79	81
4.2.1	Environmental performance	71.33	55
4.2.2	Personal safety	38.45	105
4.2.3	Physician density	23.56	70
4.2.4	Sanitation	81.82	74
5	**VOCATIONAL AND TECHNICAL SKILLS**	**36.90**	**84**
5.1	Mid-Level Skills	28.12	74
5.1.1	Workforce with secondary education	30.45	61
5.1.2	Population with secondary education	31.95	63
5.1.3	Technicians and associate professionals	29.15	71
5.1.4	Labour productivity per employee	20.91	66
5.2	Employability	45.69	88
5.2.1	Ease of finding skilled employees	37.95	72
5.2.2	Relevance of education system to the economy	17.31	108
5.2.3	Skills matching with secondary education	59.91	72
5.2.4	Skills matching with tertiary education	67.61	75
6	**GLOBAL KNOWLEDGE SKILLS**	**18.79**	**83**
6.1	High-Level Skills	21.85	80
6.1.1	Workforce with tertiary education	31.69	60
6.1.2	Population with tertiary education	20.24	65
6.1.3	Professionals	18.21	74
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	15.00	74
6.1.6	Availability of scientists and engineers	24.12	96
6.2	Talent Impact	15.72	87
6.2.1	Innovation output	27.42	71
6.2.2	High-value exports	7.16	77
6.2.3	New product entrepreneurial activity	37.24	58
6.2.4	New business density	6.79	61
6.2.5	Scientific journal articles	0.00	119

ECUADOR

Key Indicators

Rank (out of 119)	**85**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**16.14**
GDP per capita (PPP US$)	**11,388.20**
GDP (US$ billions)	**100.87**
GTCI score	**36.03**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**40.13**	**95**
1.1	Regulatory Landscape	35.43	101
1.1.1	Government effectiveness	30.85	89
1.1.2	Business-government relations	45.03	89
1.1.3	Political stability	61.41	67
1.1.4	Regulatory quality	17.48	115
1.1.5	Corruption	22.37	92
1.2	Market Landscape	37.10	95
1.2.1	Competition intensity	65.43	70
1.2.2	Ease of doing business	45.86	93
1.2.3	Cluster development	28.79	91
1.2.4	R&D expenditure	7.71	70
1.2.5	ICT infrastructure	41.61	80
1.2.6	Technology utilisation	33.22	87
1.3	Business and Labour Landscape	47.87	86
	Labour Market		
1.3.1	Ease of hiring	44.33	94
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	46.10	105
1.3.4	Labour-employer cooperation	50.68	58
	Management Practice		
1.3.5	Professional management	26.36	88
1.3.6	Relationship of pay to productivity	39.73	71
2	**ATTRACT**	**35.30**	**93**
2.1	External Openness	21.38	110
	Attract Business		
2.1.1	FDI and technology transfer	29.24	106
2.1.2	Prevalence of foreign ownership	31.85	107
	Attract People		
2.1.3	Migrant stock	5.14	73
2.1.4	International students	2.93	78
2.1.5	Brain gain	37.75	69
2.2	Internal Openness	49.21	64
	Social Inclusion		
2.2.1	Tolerance of minorities	25.29	91
2.2.2	Tolerance of immigrants	74.65	34
2.2.3	Social mobility	38.15	76
	Gender Equality		
2.2.4	Female graduates	79.36	41
2.2.5	Gender earnings gap	50.60	62
2.2.6	Leadership opportunities for women	27.24	85
3	**GROW**	**42.84**	**51**
3.1	Formal Education	32.70	55
	Enrolment		
3.1.1	Vocational enrolment	24.51	50
3.1.2	Tertiary enrolment	35.09	64
	Quality		
3.1.3	Tertiary education expenditure	52.43	4
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	18.77	66
3.2	Lifelong Learning	53.26	38
3.2.1	Quality of management schools	43.65	61
3.2.2	Prevalence of training in firms	82.45	4
3.2.3	Employee development	33.67	72
3.3	Access to Growth Opportunities	42.56	86
	Empowerment		
3.3.1	Delegation of authority	41.06	68
3.3.2	Personal rights	53.66	67
	Collaboration		
3.3.3	Use of virtual social networks	53.33	95
3.3.4	Use of virtual professional networks	20.37	48
3.3.5	Collaboration within organisations	30.34	82
3.3.6	Collaboration across organisations	56.59	102
4	**RETAIN**	**42.72**	**76**
4.1	Sustainability	31.26	75
4.1.1	Pension system	24.49	69
4.1.2	Social protection	35.13	66
4.1.3	Brain retention	34.17	82
4.2	Lifestyle	54.18	78
4.2.1	Environmental performance	55.02	85
4.2.2	Personal safety	52.63	87
4.2.3	Physician density	26.44	64
4.2.4	Sanitation	82.61	73
5	**VOCATIONAL AND TECHNICAL SKILLS**	**38.98**	**77**
5.1	Mid-Level Skills	24.62	82
5.1.1	Workforce with secondary education	25.55	68
5.1.2	Population with secondary education	40.80	49
5.1.3	Technicians and associate professionals	19.73	83
5.1.4	Labour productivity per employee	12.42	77
5.2	Employability	53.33	64
5.2.1	Ease of finding skilled employees	40.26	70
5.2.2	Relevance of education system to the economy	37.50	71
5.2.3	Skills matching with secondary education	65.56	52
5.2.4	Skills matching with tertiary education	70.00	65
6	**GLOBAL KNOWLEDGE SKILLS**	**16.23**	**94**
6.1	High-Level Skills	16.18	90
6.1.1	Workforce with tertiary education	22.94	77
6.1.2	Population with tertiary education	20.24	65
6.1.3	Professionals	20.81	71
6.1.4	Researchers	4.71	65
6.1.5	Senior officials and managers	6.88	93
6.1.6	Availability of scientists and engineers	21.47	100
6.2	Talent Impact	16.28	85
6.2.1	Innovation output	23.37	82
6.2.2	High-value exports	13.56	53
6.2.3	New product entrepreneurial activity	26.09	72
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	2.11	108

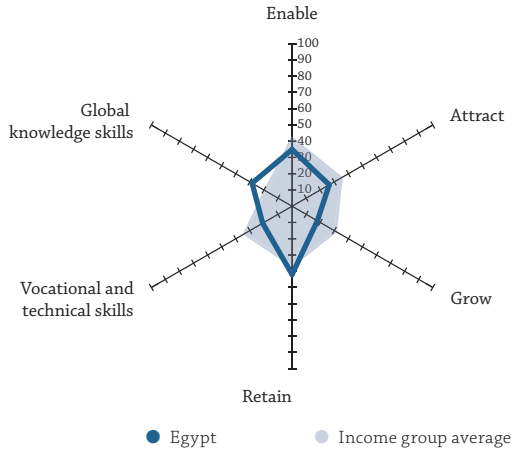
EGYPT

Key Indicators

Rank (out of 119) **104**
Income group ..... **Lower middle income**
Regional group ..... **North Africa and Western Asia**
Population (millions) **91.51**

GDP per capita (PPP US$) **10,891.30**
GDP (US$ billions) **330.78**
GTCI score **28.42**
GTCI score (income group average) **32.92**

GTCI 2018 Country Profile by Pillar



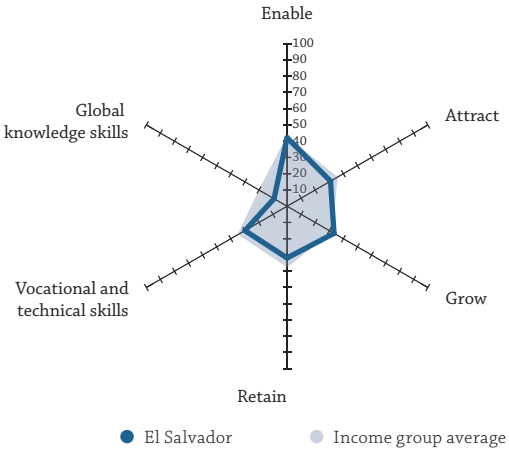
		Score	Rank
1	**ENABLE**	**34.89**	**108**
1.1	Regulatory Landscape	29.19	112
1.1.1	Government effectiveness	22.62	108
1.1.2	Business-government relations	39.96	97
1.1.3	Political stability	31.31	113
1.1.4	Regulatory quality	25.73	107
1.1.5	Corruption	26.32	83
1.2	Market Landscape	40.44	82
1.2.1	Competition intensity	43.14	111
1.2.2	Ease of doing business	43.38	98
1.2.3	Cluster development	60.06	30
1.2.4	R&D expenditure	15.65	49
1.2.5	ICT infrastructure	39.97	81
1.2.6	Technology utilisation	n/a	n/a
1.3	Business and Labour Landscape	35.03	112
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	0.00	118
1.3.4	Labour-employer cooperation	43.09	85
	Management Practice		
1.3.5	Professional management	8.60	116
1.3.6	Relationship of pay to productivity	18.52	111
2	**ATTRACT**	**26.37**	**115**
2.1	External Openness	23.61	103
	Attract Business		
2.1.1	FDI and technology transfer	49.35	65
2.1.2	Prevalence of foreign ownership	29.88	109
	Attract People		
2.1.3	Migrant stock	1.04	101
2.1.4	International students	9.67	65
2.1.5	Brain gain	28.11	87
2.2	Internal Openness	29.13	116
	Social Inclusion		
2.2.1	Tolerance of minorities	14.94	109
2.2.2	Tolerance of immigrants	32.39	99
2.2.3	Social mobility	11.17	117
	Gender Equality		
2.2.4	Female graduates	63.97	73
2.2.5	Gender earnings gap	13.25	107
2.2.6	Leadership opportunities for women	39.07	65
3	**GROW**	**17.95**	**118**
3.1	Formal Education	31.30	58
	Enrolment		
3.1.1	Vocational enrolment	33.82	32
3.1.2	Tertiary enrolment	31.33	71
	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	28.76	48
3.2	Lifelong Learning	0.79	119
3.2.1	Quality of management schools	0.00	119
3.2.2	Prevalence of training in firms	2.37	91
3.2.3	Employee development	0.00	119
3.3	Access to Growth Opportunities	21.77	118
	Empowerment		
3.3.1	Delegation of authority	16.76	114
3.3.2	Personal rights	8.78	113
	Collaboration		
3.3.3	Use of virtual social networks	74.85	49
3.3.4	Use of virtual professional networks	6.54	88
3.3.5	Collaboration within organisations	23.66	103
3.3.6	Collaboration across organisations	0.00	118
4	**RETAIN**	**41.97**	**80**
4.1	Sustainability	30.91	78
4.1.1	Pension system	54.08	46
4.1.2	Social protection	9.96	112
4.1.3	Brain retention	28.70	89
4.2	Lifestyle	53.02	83
4.2.1	Environmental performance	54.78	86
4.2.2	Personal safety	50.66	92
4.2.3	Physician density	12.66	85
4.2.4	Sanitation	93.98	52
5	**VOCATIONAL AND TECHNICAL SKILLS**	**20.91**	**116**
5.1	Mid-Level Skills	31.66	68
5.1.1	Workforce with secondary education	33.87	49
5.1.2	Population with secondary education	34.09	58
5.1.3	Technicians and associate professionals	34.53	60
5.1.4	Labour productivity per employee	24.13	58
5.2	Employability	10.16	118
5.2.1	Ease of finding skilled employees	37.29	75
5.2.2	Relevance of education system to the economy	3.37	117
5.2.3	Skills matching with secondary education	0.00	118
5.2.4	Skills matching with tertiary education	0.00	118
6	**GLOBAL KNOWLEDGE SKILLS**	**28.42**	**59**
6.1	High-Level Skills	37.31	41
6.1.1	Workforce with tertiary education	27.01	70
6.1.2	Population with tertiary education	21.61	60
6.1.3	Professionals	32.37	52
6.1.4	Researchers	8.10	57
6.1.5	Senior officials and managers	86.25	4
6.1.6	Availability of scientists and engineers	48.53	44
6.2	Talent Impact	19.52	77
6.2.1	Innovation output	18.28	92
6.2.2	High-value exports	1.51	99
6.2.3	New product entrepreneurial activity	40.52	55
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	17.78	61

EL SALVADOR

Key Indicators

Rank (out of 119)	**100**
Income group	**Lower middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**6.13**
GDP per capita (PPP US$)	**8,602.07**
GDP (US$ billions)	**25.85**
GTCI score	**29.56**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



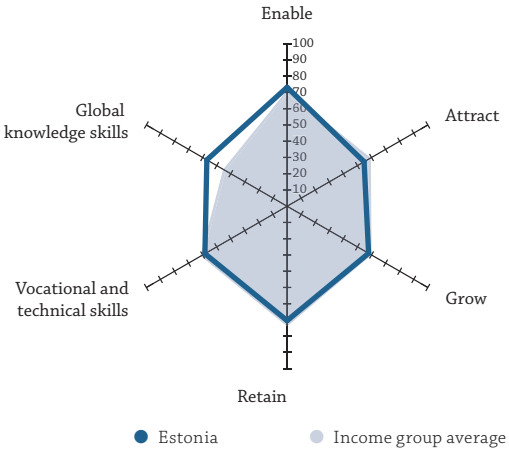
		Score	Rank
1	**ENABLE**	**42.14**	**90**
1.1	Regulatory Landscape	45.40	74
1.1.1	Government effectiveness	35.99	83
1.1.2	Business-government relations	49.45	77
1.1.3	Political stability	62.62	63
1.1.4	Regulatory quality	50.00	62
1.1.5	Corruption	28.95	76
1.2	Market Landscape	34.83	99
1.2.1	Competition intensity	72.29	49
1.2.2	Ease of doing business	51.55	81
1.2.3	Cluster development	26.01	96
1.2.4	R&D expenditure	1.64	95
1.2.5	ICT infrastructure	30.29	95
1.2.6	Technology utilisation	27.21	97
1.3	Business and Labour Landscape	46.18	94
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	47.48	98
1.3.4	Labour-employer cooperation	38.21	93
	Management Practice		
1.3.5	Professional management	20.92	100
1.3.6	Relationship of pay to productivity	14.81	114
2	**ATTRACT**	**30.86**	**107**
2.1	External Openness	22.52	106
	Attract Business		
2.1.1	FDI and technology transfer	34.20	98
2.1.2	Prevalence of foreign ownership	53.83	70
	Attract People		
2.1.3	Migrant stock	1.37	97
2.1.4	International students	1.93	81
2.1.5	Brain gain	21.29	104
2.2	Internal Openness	39.20	100
	Social Inclusion		
2.2.1	Tolerance of minorities	42.53	62
2.2.2	Tolerance of immigrants	52.11	71
2.2.3	Social mobility	20.16	112
	Gender Equality		
2.2.4	Female graduates	73.44	57
2.2.5	Gender earnings gap	39.76	86
2.2.6	Leadership opportunities for women	7.17	111
3	**GROW**	**33.34**	**86**
3.1	Formal Education	14.63	97
	Enrolment		
3.1.1	Vocational enrolment	28.86	42
3.1.2	Tertiary enrolment	24.81	78
	Quality		
3.1.3	Tertiary education expenditure	4.86	100
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	39.17	69
3.2.1	Quality of management schools	26.46	103
3.2.2	Prevalence of training in firms	66.49	19
3.2.3	Employee development	24.58	96
3.3	Access to Growth Opportunities	46.22	62
	Empowerment		
3.3.1	Delegation of authority	34.08	80
3.3.2	Personal rights	71.24	42
	Collaboration		
3.3.3	Use of virtual social networks	62.12	82
3.3.4	Use of virtual professional networks	12.30	67
3.3.5	Collaboration within organisations	24.27	100
3.3.6	Collaboration across organisations	73.31	41
4	**RETAIN**	**31.82**	**100**
4.1	Sustainability	19.52	111
4.1.1	Pension system	21.43	74
4.1.2	Social protection	15.72	105
4.1.3	Brain retention	21.41	103
4.2	Lifestyle	44.12	94
4.2.1	Environmental performance	57.80	83
4.2.2	Personal safety	16.62	115
4.2.3	Physician density	30.45	58
4.2.4	Sanitation	71.59	85
5	**VOCATIONAL AND TECHNICAL SKILLS**	**29.96**	**104**
5.1	Mid-Level Skills	20.68	88
5.1.1	Workforce with secondary education	11.30	94
5.1.2	Population with secondary education	23.82	75
5.1.3	Technicians and associate professionals	26.91	73
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	39.24	109
5.2.1	Ease of finding skilled employees	31.35	91
5.2.2	Relevance of education system to the economy	6.97	115
5.2.3	Skills matching with secondary education	56.00	92
5.2.4	Skills matching with tertiary education	62.64	93
6	**GLOBAL KNOWLEDGE SKILLS**	**9.27**	**110**
6.1	High-Level Skills	6.58	114
6.1.1	Workforce with tertiary education	0.00	107
6.1.2	Population with tertiary education	15.95	71
6.1.3	Professionals	8.96	93
6.1.4	Researchers	0.64	88
6.1.5	Senior officials and managers	11.25	87
6.1.6	Availability of scientists and engineers	2.65	118
6.2	Talent Impact	11.96	95
6.2.1	Innovation output	14.76	101
6.2.2	High-value exports	8.29	71
6.2.3	New product entrepreneurial activity	33.21	64
6.2.4	New business density	2.84	81
6.2.5	Scientific journal articles	0.67	117

ESTONIA

Key Indicators

Rank (out of 119)	**22**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**1.31**
GDP per capita (PPP US$)	**28,094.80**
GDP (US$ billions)	**22.69**
GTCI score	**61.93**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



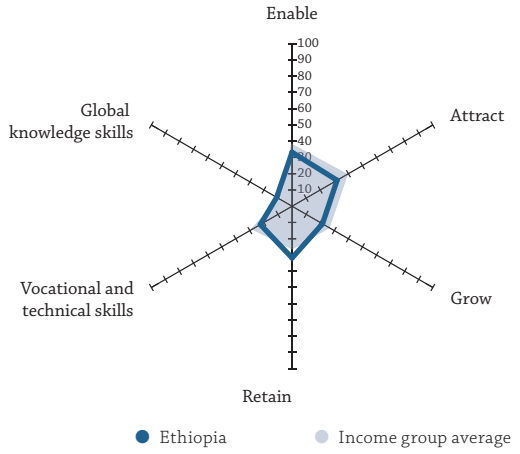
		Score	Rank
1	**ENABLE**	**73.17**	**23**
1.1	Regulatory Landscape	75.24	19
1.1.1	Government effectiveness	70.18	27
1.1.2	Business-government relations	67.99	34
1.1.3	Political stability	78.88	35
1.1.4	Regulatory quality	85.44	14
1.1.5	Corruption	73.68	21
1.2	Market Landscape	69.54	25
1.2.1	Competition intensity	86.29	14
1.2.2	Ease of doing business	88.89	10
1.2.3	Cluster development	44.27	60
1.2.4	R&D expenditure	33.41	24
1.2.5	ICT infrastructure	89.50	17
1.2.6	Technology utilisation	74.91	22
1.3	Business and Labour Landscape	74.72	25
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	80.33	16
1.3.4	Labour-employer cooperation	71.00	21
	Management Practice		
1.3.5	Professional management	72.21	25
1.3.6	Relationship of pay to productivity	78.11	11
2	**ATTRACT**	**54.70**	**27**
2.1	External Openness	50.00	31
	Attract Business		
2.1.1	FDI and technology transfer	59.27	37
2.1.2	Prevalence of foreign ownership	89.38	8
	Attract People		
2.1.3	Migrant stock	33.87	21
2.1.4	International students	26.91	32
2.1.5	Brain gain	40.56	59
2.2	Internal Openness	59.41	33
	Social Inclusion		
2.2.1	Tolerance of minorities	40.23	68
2.2.2	Tolerance of immigrants	7.04	115
2.2.3	Social mobility	81.47	16
	Gender Equality		
2.2.4	Female graduates	100.00	1
2.2.5	Gender earnings gap	54.22	48
2.2.6	Leadership opportunities for women	73.48	14
3	**GROW**	**57.92**	**22**
3.1	Formal Education	48.23	28
	Enrolment		
3.1.1	Vocational enrolment	30.92	37
3.1.2	Tertiary enrolment	60.80	26
	Quality		
3.1.3	Tertiary education expenditure	32.48	27
3.1.4	Reading, maths, and science	87.14	3
3.1.5	University ranking	29.82	45
3.2	Lifelong Learning	56.50	35
3.2.1	Quality of management schools	63.23	29
3.2.2	Prevalence of training in firms	41.95	44
3.2.3	Employee development	64.31	25
3.3	Access to Growth Opportunities	69.04	20
	Empowerment		
3.3.1	Delegation of authority	59.22	25
3.3.2	Personal rights	98.80	2
	Collaboration		
3.3.3	Use of virtual social networks	86.97	19
3.3.4	Use of virtual professional networks	26.10	39
3.3.5	Collaboration within organisations	65.38	24
3.3.6	Collaboration across organisations	77.77	29
4	**RETAIN**	**70.37**	**27**
4.1	Sustainability	58.99	30
4.1.1	Pension system	93.88	6
4.1.2	Social protection	46.42	40
4.1.3	Brain retention	36.67	74
4.2	Lifestyle	81.75	19
4.2.1	Environmental performance	96.10	8
4.2.2	Personal safety	81.18	32
4.2.3	Physician density	52.88	24
4.2.4	Sanitation	96.82	39
5	**VOCATIONAL AND TECHNICAL SKILLS**	**58.39**	**27**
5.1	Mid-Level Skills	51.49	24
5.1.1	Workforce with secondary education	44.05	25
5.1.2	Population with secondary education	74.18	9
5.1.3	Technicians and associate professionals	52.02	36
5.1.4	Labour productivity per employee	35.73	46
5.2	Employability	65.29	35
5.2.1	Ease of finding skilled employees	41.58	68
5.2.2	Relevance of education system to the economy	62.98	24
5.2.3	Skills matching with secondary education	77.36	19
5.2.4	Skills matching with tertiary education	79.24	29
6	**GLOBAL KNOWLEDGE SKILLS**	**57.02**	**10**
6.1	High-Level Skills	55.87	16
6.1.1	Workforce with tertiary education	55.19	19
6.1.2	Population with tertiary education	63.46	5
6.1.3	Professionals	56.07	18
6.1.4	Researchers	38.54	27
6.1.5	Senior officials and managers	73.13	7
6.1.6	Availability of scientists and engineers	48.82	43
6.2	Talent Impact	58.18	6
6.2.1	Innovation output	63.27	18
6.2.2	High-value exports	21.47	39
6.2.3	New product entrepreneurial activity	48.01	39
6.2.4	New business density	92.98	3
6.2.5	Scientific journal articles	65.17	18

ETHIOPIA

Key Indicators

Rank (out of 119)	**112**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**99.39**
GDP per capita (PPP US$)	**1,625.61**
GDP (US$ billions)	**61.54**
GTCI score	**25.34**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



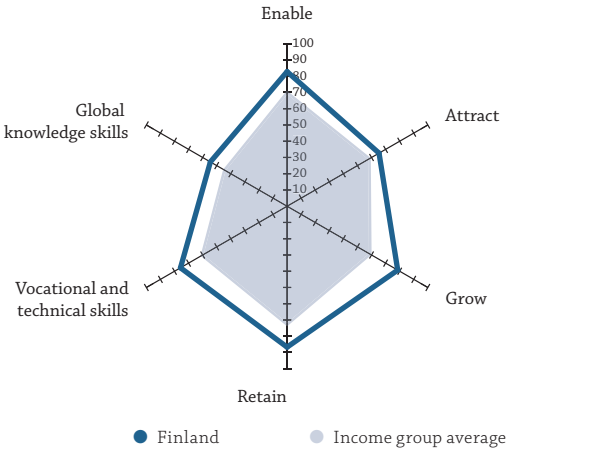
		Score	Rank
1	**ENABLE**	**33.18**	**110**
1.1	Regulatory Landscape	30.14	107
1.1.1	Government effectiveness	25.71	99
1.1.2	Business-government relations	49.89	76
1.1.3	Political stability	27.91	114
1.1.4	Regulatory quality	20.87	113
1.1.5	Corruption	26.32	83
1.2	Market Landscape	19.68	117
1.2.1	Competition intensity	32.86	117
1.2.2	Ease of doing business	25.88	114
1.2.3	Cluster development	37.46	77
1.2.4	R&D expenditure	13.79	53
1.2.5	ICT infrastructure	0.00	119
1.2.6	Technology utilisation	8.13	112
1.3	Business and Labour Landscape	49.70	81
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	65.60	45
1.3.4	Labour-employer cooperation	33.33	100
	Management Practice		
1.3.5	Professional management	23.21	94
1.3.6	Relationship of pay to productivity	39.39	72
2	**ATTRACT**	**31.94**	**105**
2.1	External Openness	32.66	72
	Attract Business		
2.1.1	FDI and technology transfer	37.08	93
2.1.2	Prevalence of foreign ownership	41.73	96
	Attract People		
2.1.3	Migrant stock	2.23	92
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	49.60	37
2.2	Internal Openness	31.22	115
	Social Inclusion		
2.2.1	Tolerance of minorities	17.24	105
2.2.2	Tolerance of immigrants	59.15	53
2.2.3	Social mobility	37.60	78
	Gender Equality		
2.2.4	Female graduates	0.00	102
2.2.5	Gender earnings gap	51.81	55
2.2.6	Leadership opportunities for women	21.51	96
3	**GROW**	**21.61**	**112**
3.1	Formal Education	16.52	92
	Enrolment		
3.1.1	Vocational enrolment	12.80	74
3.1.2	Tertiary enrolment	6.48	104
	Quality		
3.1.3	Tertiary education expenditure	46.80	9
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	25.08	110
3.2.1	Quality of management schools	24.34	105
3.2.2	Prevalence of training in firms	22.96	73
3.2.3	Employee development	27.95	86
3.3	Access to Growth Opportunities	23.24	116
	Empowerment		
3.3.1	Delegation of authority	19.83	112
3.3.2	Personal rights	12.66	108
	Collaboration		
3.3.3	Use of virtual social networks	23.94	118
3.3.4	Use of virtual professional networks	0.00	113
3.3.5	Collaboration within organisations	10.72	117
3.3.6	Collaboration across organisations	72.29	45
4	**RETAIN**	**31.82**	**100**
4.1	Sustainability	40.16	60
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	37.50	59
4.1.3	Brain retention	42.82	56
4.2	Lifestyle	23.47	115
4.2.1	Environmental performance	16.29	115
4.2.2	Personal safety	59.24	74
4.2.3	Physician density	0.16	110
4.2.4	Sanitation	18.18	112
5	**VOCATIONAL AND TECHNICAL SKILLS**	**22.53**	**114**
5.1	Mid-Level Skills	3.76	114
5.1.1	Workforce with secondary education	3.21	103
5.1.2	Population with secondary education	3.99	98
5.1.3	Technicians and associate professionals	7.62	98
5.1.4	Labour productivity per employee	0.23	100
5.2	Employability	41.30	104
5.2.1	Ease of finding skilled employees	26.73	103
5.2.2	Relevance of education system to the economy	37.26	72
5.2.3	Skills matching with secondary education	44.29	113
5.2.4	Skills matching with tertiary education	56.92	111
6	**GLOBAL KNOWLEDGE SKILLS**	**10.96**	**103**
6.1	High-Level Skills	10.86	106
6.1.1	Workforce with tertiary education	23.21	76
6.1.2	Population with tertiary education	0.86	103
6.1.3	Professionals	1.16	108
6.1.4	Researchers	0.40	91
6.1.5	Senior officials and managers	2.50	103
6.1.6	Availability of scientists and engineers	37.06	68
6.2	Talent Impact	11.06	99
6.2.1	Innovation output	19.86	87
6.2.2	High-value exports	7.53	74
6.2.3	New product entrepreneurial activity	17.51	81
6.2.4	New business density	0.00	95
6.2.5	Scientific journal articles	10.37	76

FINLAND

Key Indicators

Rank (out of 119)	**6**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**5.48**
GDP per capita (PPP US$)	**40,600.90**
GDP (US$ billions)	**229.81**
GTCI score	**73.95**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



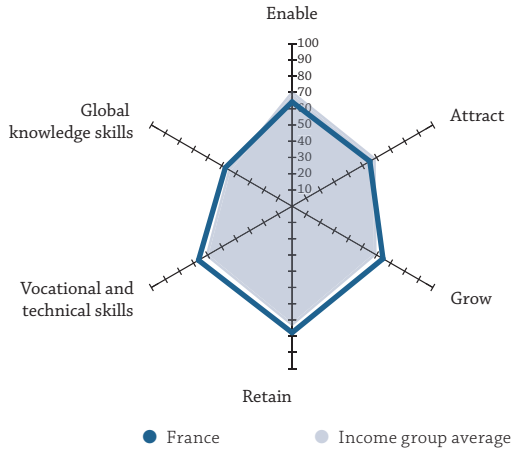
		Score	Rank
1	**ENABLE**	**82.81**	**9**
1.1	Regulatory Landscape	91.58	4
1.1.1	Government effectiveness	88.95	7
1.1.2	Business-government relations	91.61	5
1.1.3	Political stability	89.08	10
1.1.4	Regulatory quality	89.56	4
1.1.5	Corruption	98.68	3
1.2	Market Landscape	80.22	11
1.2.1	Competition intensity	58.57	86
1.2.2	Ease of doing business	88.50	11
1.2.3	Cluster development	79.26	16
1.2.4	R&D expenditure	73.83	4
1.2.5	ICT infrastructure	89.63	16
1.2.6	Technology utilisation	91.52	6
1.3	Business and Labour Landscape	76.62	20
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	79.13	18
1.3.4	Labour-employer cooperation	71.54	20
	Management Practice		
1.3.5	Professional management	100.00	1
1.3.6	Relationship of pay to productivity	73.40	16
2	**ATTRACT**	**65.33**	**16**
2.1	External Openness	44.40	35
	Attract Business		
2.1.1	FDI and technology transfer	54.31	52
2.1.2	Prevalence of foreign ownership	71.60	37
	Attract People		
2.1.3	Migrant stock	12.51	52
2.1.4	International students	39.81	22
2.1.5	Brain gain	43.78	54
2.2	Internal Openness	86.25	3
	Social Inclusion		
2.2.1	Tolerance of minorities	96.55	3
2.2.2	Tolerance of immigrants	76.06	33
2.2.3	Social mobility	100.00	1
	Gender Equality		
2.2.4	Female graduates	84.13	29
2.2.5	Gender earnings gap	65.06	22
2.2.6	Leadership opportunities for women	95.70	4
3	**GROW**	**78.60**	**4**
3.1	Formal Education	70.02	1
	Enrolment		
3.1.1	Vocational enrolment	76.80	3
3.1.2	Tertiary enrolment	76.49	6
	Quality		
3.1.3	Tertiary education expenditure	49.10	6
3.1.4	Reading, maths, and science	86.41	5
3.1.5	University ranking	61.32	17
3.2	Lifelong Learning	82.97	9
3.2.1	Quality of management schools	76.72	17
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	89.23	6
3.3	Access to Growth Opportunities	82.80	11
	Empowerment		
3.3.1	Delegation of authority	85.47	5
3.3.2	Personal rights	98.80	2
	Collaboration		
3.3.3	Use of virtual social networks	91.21	11
3.3.4	Use of virtual professional networks	36.65	26
3.3.5	Collaboration within organisations	86.23	6
3.3.6	Collaboration across organisations	98.42	3
4	**RETAIN**	**86.69**	**5**
4.1	Sustainability	88.04	4
4.1.1	Pension system	89.80	18
4.1.2	Social protection	94.83	4
4.1.3	Brain retention	79.50	10
4.2	Lifestyle	85.34	14
4.2.1	Environmental performance	100.00	1
4.2.2	Personal safety	96.19	9
4.2.3	Physician density	47.92	31
4.2.4	Sanitation	97.27	35
5	**VOCATIONAL AND TECHNICAL SKILLS**	**75.74**	**5**
5.1	Mid-Level Skills	58.20	14
5.1.1	Workforce with secondary education	40.39	28
5.1.2	Population with secondary education	55.06	27
5.1.3	Technicians and associate professionals	83.86	7
5.1.4	Labour productivity per employee	53.50	18
5.2	Employability	93.28	2
5.2.1	Ease of finding skilled employees	98.35	2
5.2.2	Relevance of education system to the economy	90.14	3
5.2.3	Skills matching with secondary education	93.20	3
5.2.4	Skills matching with tertiary education	91.42	4
6	**GLOBAL KNOWLEDGE SKILLS**	**54.51**	**14**
6.1	High-Level Skills	60.99	8
6.1.1	Workforce with tertiary education	59.10	15
6.1.2	Population with tertiary education	38.42	23
6.1.3	Professionals	66.47	10
6.1.4	Researchers	82.55	5
6.1.5	Senior officials and managers	19.38	66
6.1.6	Availability of scientists and engineers	100.00	1
6.2	Talent Impact	48.04	19
6.2.1	Innovation output	68.89	13
6.2.2	High-value exports	16.38	47
6.2.3	New product entrepreneurial activity	53.87	28
6.2.4	New business density	19.73	32
6.2.5	Scientific journal articles	81.33	8

FRANCE

Key Indicators

Rank (out of 119)	**21**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**66.81**
GDP per capita (PPP US$)	**39,678.00**
GDP (US$ billions)	**2,421.68**
GTCI score	**62.61**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



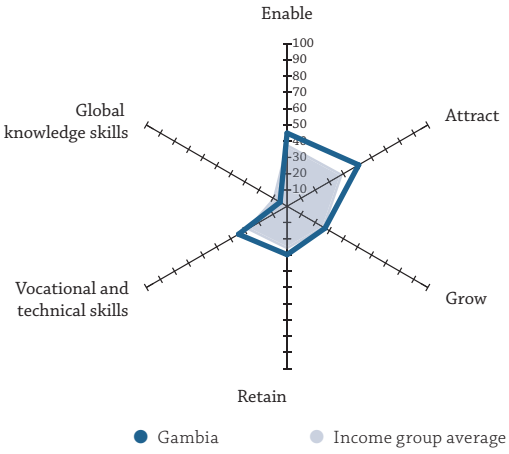
		Score	Rank
1	**ENABLE**	**64.16**	**29**
1.1	Regulatory Landscape	66.24	30
1.1.1	Government effectiveness	79.18	20
1.1.2	Business-government relations	36.20	103
1.1.3	Political stability	70.39	48
1.1.4	Regulatory quality	73.06	26
1.1.5	Corruption	72.37	22
1.2	Market Landscape	74.11	18
1.2.1	Competition intensity	86.57	12
1.2.2	Ease of doing business	79.98	27
1.2.3	Cluster development	69.04	24
1.2.4	R&D expenditure	52.57	13
1.2.5	ICT infrastructure	90.04	15
1.2.6	Technology utilisation	66.43	31
1.3	Business and Labour Landscape	52.12	73
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	61.82	55
1.3.4	Labour-employer cooperation	37.94	94
	Management Practice		
1.3.5	Professional management	76.79	22
1.3.6	Relationship of pay to productivity	53.87	50
2	**ATTRACT**	**55.25**	**25**
2.1	External Openness	54.64	20
	Attract Business		
2.1.1	FDI and technology transfer	64.75	27
2.1.2	Prevalence of foreign ownership	83.70	12
	Attract People		
2.1.3	Migrant stock	26.52	31
2.1.4	International students	51.25	19
2.1.5	Brain gain	46.99	43
2.2	Internal Openness	55.86	44
	Social Inclusion		
2.2.1	Tolerance of minorities	36.78	73
2.2.2	Tolerance of immigrants	78.87	27
2.2.3	Social mobility	55.31	35
	Gender Equality		
2.2.4	Female graduates	72.11	62
2.2.5	Gender earnings gap	66.27	19
2.2.6	Leadership opportunities for women	25.81	87
3	**GROW**	**64.57**	**17**
3.1	Formal Education	53.75	19
	Enrolment		
3.1.1	Vocational enrolment	29.95	38
3.1.2	Tertiary enrolment	56.24	35
	Quality		
3.1.3	Tertiary education expenditure	29.41	37
3.1.4	Reading, maths, and science	73.71	23
3.1.5	University ranking	79.45	10
3.2	Lifelong Learning	73.97	18
3.2.1	Quality of management schools	78.57	14
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	69.36	22
3.3	Access to Growth Opportunities	65.99	22
	Empowerment		
3.3.1	Delegation of authority	61.17	24
3.3.2	Personal rights	80.64	30
	Collaboration		
3.3.3	Use of virtual social networks	77.88	42
3.3.4	Use of virtual professional networks	43.98	22
3.3.5	Collaboration within organisations	57.29	26
3.3.6	Collaboration across organisations	74.99	36
4	**RETAIN**	**77.78**	**16**
4.1	Sustainability	73.40	17
4.1.1	Pension system	86.73	23
4.1.2	Social protection	97.46	2
4.1.3	Brain retention	35.99	75
4.2	Lifestyle	82.17	18
4.2.1	Environmental performance	95.37	10
4.2.2	Personal safety	83.36	28
4.2.3	Physician density	51.44	28
4.2.4	Sanitation	98.52	29
5	**VOCATIONAL AND TECHNICAL SKILLS**	**66.48**	**15**
5.1	Mid-Level Skills	60.47	11
5.1.1	Workforce with secondary education	38.94	32
5.1.2	Population with secondary education	55.21	26
5.1.3	Technicians and associate professionals	90.13	3
5.1.4	Labour productivity per employee	57.62	13
5.2	Employability	72.49	24
5.2.1	Ease of finding skilled employees	80.53	13
5.2.2	Relevance of education system to the economy	59.38	30
5.2.3	Skills matching with secondary education	70.00	35
5.2.4	Skills matching with tertiary education	80.05	27
6	**GLOBAL KNOWLEDGE SKILLS**	**47.42**	**21**
6.1	High-Level Skills	48.86	22
6.1.1	Workforce with tertiary education	53.50	22
6.1.2	Population with tertiary education	36.02	25
6.1.3	Professionals	48.55	28
6.1.4	Researchers	50.42	21
6.1.5	Senior officials and managers	43.75	27
6.1.6	Availability of scientists and engineers	60.88	26
6.2	Talent Impact	45.98	21
6.2.1	Innovation output	63.27	18
6.2.2	High-value exports	50.47	7
6.2.3	New product entrepreneurial activity	52.78	30
6.2.4	New business density	12.94	44
6.2.5	Scientific journal articles	50.46	32

GAMBIA

Key Indicators

Rank (out of 119)	**96**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**1.99**
GDP per capita (PPP US$)	**1,636.45**
GDP (US$ billions)	**0.85**
GTCI score	**32.00**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



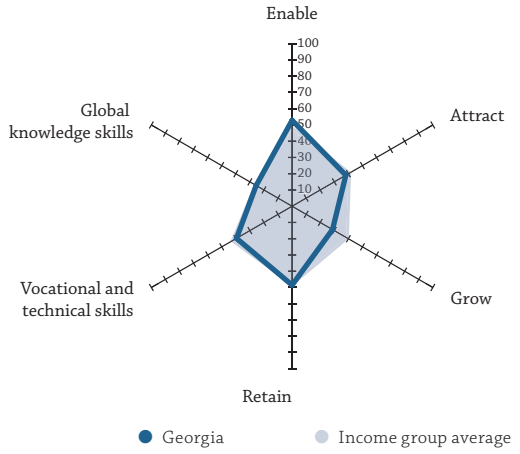
		Score	Rank
1	**ENABLE**	**44.98**	**85**
1.1	Regulatory Landscape	41.18	86
1.1.1	Government effectiveness	19.28	111
1.1.2	Business-government relations	73.51	22
1.1.3	Political stability	64.08	58
1.1.4	Regulatory quality	33.25	97
1.1.5	Corruption	15.79	110
1.2	Market Landscape	31.62	104
1.2.1	Competition intensity	60.29	79
1.2.2	Ease of doing business	34.17	110
1.2.3	Cluster development	45.20	57
1.2.4	R&D expenditure	2.80	90
1.2.5	ICT infrastructure	12.96	107
1.2.6	Technology utilisation	34.28	83
1.3	Business and Labour Landscape	62.15	39
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	60.67	58
1.3.4	Labour-employer cooperation	50.14	60
	Management Practice		
1.3.5	Professional management	49.57	44
1.3.6	Relationship of pay to productivity	52.53	52
2	**ATTRACT**	**50.84**	**35**
2.1	External Openness	44.05	38
	Attract Business		
2.1.1	FDI and technology transfer	40.73	84
2.1.2	Prevalence of foreign ownership	67.90	43
	Attract People		
2.1.3	Migrant stock	21.18	40
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	46.39	47
2.2	Internal Openness	57.62	37
	Social Inclusion		
2.2.1	Tolerance of minorities	72.41	13
2.2.2	Tolerance of immigrants	n/a	n/a
2.2.3	Social mobility	41.14	67
	Gender Equality		
2.2.4	Female graduates	49.67	88
2.2.5	Gender earnings gap	61.45	30
2.2.6	Leadership opportunities for women	63.44	25
3	**GROW**	**26.97**	**102**
3.1	Formal Education	5.71	113
	Enrolment		
3.1.1	Vocational enrolment	15.43	68
3.1.2	Tertiary enrolment	2.03	112
	Quality		
3.1.3	Tertiary education expenditure	5.37	98
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	35.18	81
3.2.1	Quality of management schools	43.92	59
3.2.2	Prevalence of training in firms	29.29	62
3.2.3	Employee development	32.32	76
3.3	Access to Growth Opportunities	40.02	96
	Empowerment		
3.3.1	Delegation of authority	56.70	28
3.3.2	Personal rights	27.21	99
	Collaboration		
3.3.3	Use of virtual social networks	54.24	94
3.3.4	Use of virtual professional networks	4.35	93
3.3.5	Collaboration within organisations	37.51	63
3.3.6	Collaboration across organisations	60.12	92
4	**RETAIN**	**29.79**	**104**
4.1	Sustainability	27.69	90
4.1.1	Pension system	1.02	103
4.1.2	Social protection	39.67	53
4.1.3	Brain retention	42.37	58
4.2	Lifestyle	31.89	106
4.2.1	Environmental performance	27.98	106
4.2.2	Personal safety	44.84	99
4.2.3	Physician density	1.44	103
4.2.4	Sanitation	53.30	99
5	**VOCATIONAL AND TECHNICAL SKILLS**	**34.45**	**90**
5.1	Mid-Level Skills	7.96	108
5.1.1	Workforce with secondary education	10.09	96
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	5.83	104
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	60.93	45
5.2.1	Ease of finding skilled employees	46.53	61
5.2.2	Relevance of education system to the economy	56.01	36
5.2.3	Skills matching with secondary education	66.80	46
5.2.4	Skills matching with tertiary education	74.38	44
6	**GLOBAL KNOWLEDGE SKILLS**	**4.98**	**118**
6.1	High-Level Skills	4.15	119
6.1.1	Workforce with tertiary education	0.84	106
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	8.38	94
6.1.4	Researchers	0.26	96
6.1.5	Senior officials and managers	1.88	106
6.1.6	Availability of scientists and engineers	9.41	113
6.2	Talent Impact	5.81	114
6.2.1	Innovation output	n/a	n/a
6.2.2	High-value exports	0.00	110
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	11.63	73

GEORGIA

Key Indicators

Rank (out of 119)	**72**
Income group	**Upper middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**3.68**
GDP per capita (PPP US$)	**9,679.19**
GDP (US$ billions)	**13.97**
GTCI score	**38.89**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



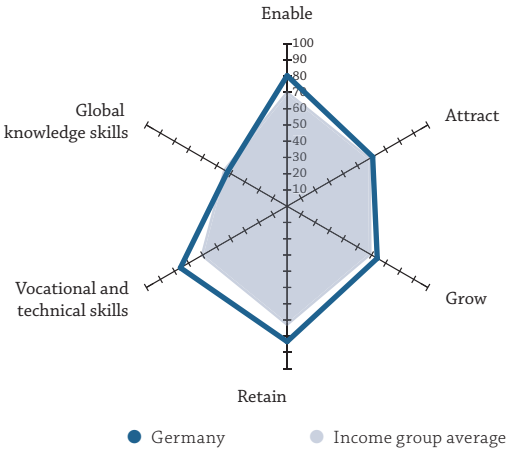
		Score	Rank
1	**ENABLE**	**52.86**	**50**
1.1	Regulatory Landscape	57.96	44
1.1.1	Government effectiveness	52.44	47
1.1.2	Business-government relations	59.16	61
1.1.3	Political stability	54.13	81
1.1.4	Regulatory quality	67.48	34
1.1.5	Corruption	56.58	35
1.2	Market Landscape	42.56	74
1.2.1	Competition intensity	64.00	72
1.2.2	Ease of doing business	87.30	14
1.2.3	Cluster development	19.81	108
1.2.4	R&D expenditure	2.10	92
1.2.5	ICT infrastructure	55.66	63
1.2.6	Technology utilisation	26.50	98
1.3	Business and Labour Landscape	58.06	58
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	47.76	95
1.3.4	Labour-employer cooperation	45.26	78
	Management Practice		
1.3.5	Professional management	47.28	51
1.3.6	Relationship of pay to productivity	41.41	69
2	**ATTRACT**	**38.19**	**85**
2.1	External Openness	29.01	84
	Attract Business		
2.1.1	FDI and technology transfer	39.16	89
2.1.2	Prevalence of foreign ownership	50.37	79
	Attract People		
2.1.3	Migrant stock	9.16	58
2.1.4	International students	19.44	48
2.1.5	Brain gain	26.91	88
2.2	Internal Openness	47.37	73
	Social Inclusion		
2.2.1	Tolerance of minorities	25.29	91
2.2.2	Tolerance of immigrants	40.85	87
2.2.3	Social mobility	44.96	57
	Gender Equality		
2.2.4	Female graduates	87.03	24
2.2.5	Gender earnings gap	37.35	89
2.2.6	Leadership opportunities for women	48.75	49
3	**GROW**	**28.72**	**97**
3.1	Formal Education	16.69	90
	Enrolment		
3.1.1	Vocational enrolment	7.13	88
3.1.2	Tertiary enrolment	37.69	60
	Quality		
3.1.3	Tertiary education expenditure	7.42	93
3.1.4	Reading, maths, and science	31.23	59
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	20.49	115
3.2.1	Quality of management schools	33.60	86
3.2.2	Prevalence of training in firms	9.37	88
3.2.3	Employee development	18.52	109
3.3	Access to Growth Opportunities	48.97	57
	Empowerment		
3.3.1	Delegation of authority	34.08	80
3.3.2	Personal rights	70.32	44
	Collaboration		
3.3.3	Use of virtual social networks	78.18	38
3.3.4	Use of virtual professional networks	8.69	74
3.3.5	Collaboration within organisations	39.62	57
3.3.6	Collaboration across organisations	62.93	86
4	**RETAIN**	**48.53**	**62**
4.1	Sustainability	23.81	103
4.1.1	Pension system	27.55	66
4.1.2	Social protection	14.28	107
4.1.3	Brain retention	29.61	86
4.2	Lifestyle	73.25	42
4.2.1	Environmental performance	52.00	92
4.2.2	Personal safety	80.28	34
4.2.3	Physician density	76.28	3
4.2.4	Sanitation	84.43	70
5	**VOCATIONAL AND TECHNICAL SKILLS**	**39.49**	**72**
5.1	Mid-Level Skills	38.91	55
5.1.1	Workforce with secondary education	54.73	10
5.1.2	Population with secondary education	64.19	21
5.1.3	Technicians and associate professionals	25.56	76
5.1.4	Labour productivity per employee	11.16	80
5.2	Employability	40.06	107
5.2.1	Ease of finding skilled employees	24.42	107
5.2.2	Relevance of education system to the economy	31.01	84
5.2.3	Skills matching with secondary education	47.79	108
5.2.4	Skills matching with tertiary education	57.04	110
6	**GLOBAL KNOWLEDGE SKILLS**	**25.53**	**65**
6.1	High-Level Skills	26.99	64
6.1.1	Workforce with tertiary education	44.57	33
6.1.2	Population with tertiary education	26.24	53
6.1.3	Professionals	34.39	50
6.1.4	Researchers	15.48	43
6.1.5	Senior officials and managers	21.25	62
6.1.6	Availability of scientists and engineers	20.00	102
6.2	Talent Impact	24.07	62
6.2.1	Innovation output	31.11	61
6.2.2	High-value exports	10.55	65
6.2.3	New product entrepreneurial activity	22.81	76
6.2.4	New business density	32.62	20
6.2.5	Scientific journal articles	23.26	56

GERMANY

Key Indicators

Rank (out of 119)	**19**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**81.41**
GDP per capita (PPP US$)	**47,268.40**
GDP (US$ billions)	**3,355.77**
GTCI score	**67.77**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



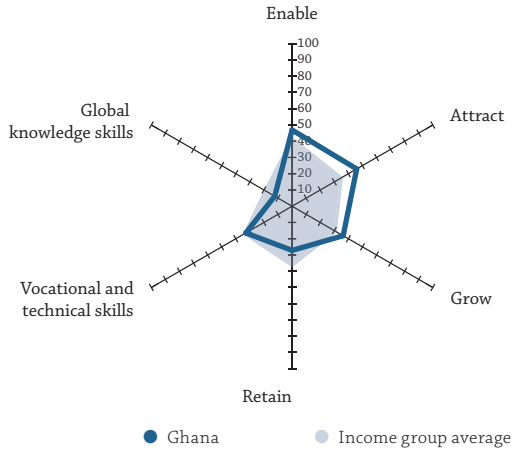
		Score	Rank
1	**ENABLE**	**80.33**	**15**
1.1	Regulatory Landscape	82.76	13
1.1.1	Government effectiveness	86.89	11
1.1.2	Business-government relations	71.74	25
1.1.3	Political stability	81.31	29
1.1.4	Regulatory quality	85.68	12
1.1.5	Corruption	88.16	10
1.2	Market Landscape	85.91	5
1.2.1	Competition intensity	90.57	7
1.2.2	Ease of doing business	86.69	15
1.2.3	Cluster development	93.81	3
1.2.4	R&D expenditure	66.82	9
1.2.5	ICT infrastructure	92.77	11
1.2.6	Technology utilisation	84.81	12
1.3	Business and Labour Landscape	72.33	26
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	85.13	8
1.3.4	Labour-employer cooperation	69.65	23
	Management Practice		
1.3.5	Professional management	83.09	15
1.3.6	Relationship of pay to productivity	80.47	9
2	**ATTRACT**	**60.80**	**22**
2.1	External Openness	56.02	19
	Attract Business		
2.1.1	FDI and technology transfer	69.71	16
2.1.2	Prevalence of foreign ownership	68.64	41
	Attract People		
2.1.3	Migrant stock	32.68	22
2.1.4	International students	39.97	21
2.1.5	Brain gain	69.08	15
2.2	Internal Openness	65.58	21
	Social Inclusion		
2.2.1	Tolerance of minorities	62.07	33
2.2.2	Tolerance of immigrants	88.73	12
2.2.3	Social mobility	74.39	21
	Gender Equality		
2.2.4	Female graduates	57.89	79
2.2.5	Gender earnings gap	60.24	35
2.2.6	Leadership opportunities for women	50.18	42
3	**GROW**	**64.06**	**18**
3.1	Formal Education	55.39	15
	Enrolment		
3.1.1	Vocational enrolment	29.84	40
3.1.2	Tertiary enrolment	59.67	30
	Quality		
3.1.3	Tertiary education expenditure	31.20	34
3.1.4	Reading, maths, and science	79.51	10
3.1.5	University ranking	76.72	11
3.2	Lifelong Learning	66.55	23
3.2.1	Quality of management schools	74.60	22
3.2.2	Prevalence of training in firms	42.22	43
3.2.3	Employee development	82.83	12
3.3	Access to Growth Opportunities	70.23	17
	Empowerment		
3.3.1	Delegation of authority	73.46	18
3.3.2	Personal rights	79.06	32
	Collaboration		
3.3.3	Use of virtual social networks	73.03	54
3.3.4	Use of virtual professional networks	13.23	65
3.3.5	Collaboration within organisations	83.18	7
3.3.6	Collaboration across organisations	99.42	2
4	**RETAIN**	**83.28**	**10**
4.1	Sustainability	80.55	13
4.1.1	Pension system	86.73	23
4.1.2	Social protection	82.93	12
4.1.3	Brain retention	71.98	16
4.2	Lifestyle	86.01	11
4.2.1	Environmental performance	88.02	30
4.2.2	Personal safety	91.06	15
4.2.3	Physician density	65.87	7
4.2.4	Sanitation	99.09	20
5	**VOCATIONAL AND TECHNICAL SKILLS**	**75.78**	**4**
5.1	Mid-Level Skills	68.05	4
5.1.1	Workforce with secondary education	50.79	14
5.1.2	Population with secondary education	69.19	15
5.1.3	Technicians and associate professionals	99.10	2
5.1.4	Labour productivity per employee	53.12	19
5.2	Employability	83.52	11
5.2.1	Ease of finding skilled employees	81.19	12
5.2.2	Relevance of education system to the economy	78.37	13
5.2.3	Skills matching with secondary education	85.45	5
5.2.4	Skills matching with tertiary education	89.07	11
6	**GLOBAL KNOWLEDGE SKILLS**	**42.34**	**30**
6.1	High-Level Skills	43.87	31
6.1.1	Workforce with tertiary education	40.15	40
6.1.2	Population with tertiary education	23.67	56
6.1.3	Professionals	48.27	30
6.1.4	Researchers	53.61	19
6.1.5	Senior officials and managers	27.50	49
6.1.6	Availability of scientists and engineers	70.00	16
6.2	Talent Impact	40.82	30
6.2.1	Innovation output	78.38	6
6.2.2	High-value exports	31.45	21
6.2.3	New product entrepreneurial activity	36.86	59
6.2.4	New business density	7.31	59
6.2.5	Scientific journal articles	50.08	33

GHANA

Key Indicators

Rank (out of 119)	**90**
Income group	**Lower middle income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**27.41**
GDP per capita (PPP US$)	**4,200.55**
GDP (US$ billions)	**37.86**
GTCI score	**33.58**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



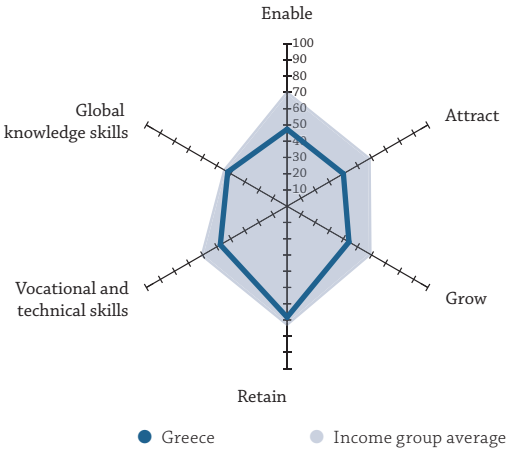
		Score	Rank
1	**ENABLE**	**46.91**	**76**
1.1	Regulatory Landscape	44.91	77
1.1.1	Government effectiveness	35.48	84
1.1.2	Business-government relations	41.94	94
1.1.3	Political stability	64.56	56
1.1.4	Regulatory quality	44.42	68
1.1.5	Corruption	38.16	57
1.2	Market Landscape	40.12	85
1.2.1	Competition intensity	67.43	67
1.2.2	Ease of doing business	47.45	90
1.2.3	Cluster development	50.15	43
1.2.4	R&D expenditure	8.64	65
1.2.5	ICT infrastructure	33.83	90
1.2.6	Technology utilisation	33.22	87
1.3	Business and Labour Landscape	55.71	64
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	50.00	98
1.3.3	Active labour market policies	55.57	74
1.3.4	Labour-employer cooperation	52.30	54
	Management Practice		
1.3.5	Professional management	54.73	31
1.3.6	Relationship of pay to productivity	32.66	90
2	**ATTRACT**	**45.89**	**48**
2.1	External Openness	38.48	57
	Attract Business		
2.1.1	FDI and technology transfer	45.69	72
2.1.2	Prevalence of foreign ownership	72.10	35
	Attract People		
2.1.3	Migrant stock	3.07	86
2.1.4	International students	22.15	38
2.1.5	Brain gain	49.40	38
2.2	Internal Openness	53.30	49
	Social Inclusion		
2.2.1	Tolerance of minorities	62.07	33
2.2.2	Tolerance of immigrants	63.38	47
2.2.3	Social mobility	45.50	55
	Gender Equality		
2.2.4	Female graduates	31.07	97
2.2.5	Gender earnings gap	68.67	17
2.2.6	Leadership opportunities for women	49.10	47
3	**GROW**	**36.29**	**74**
3.1	Formal Education	12.46	101
	Enrolment		
3.1.1	Vocational enrolment	2.79	100
3.1.2	Tertiary enrolment	13.39	93
	Quality		
3.1.3	Tertiary education expenditure	26.60	45
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	7.06	75
3.2	Lifelong Learning	47.34	53
3.2.1	Quality of management schools	51.85	47
3.2.2	Prevalence of training in firms	48.42	37
3.2.3	Employee development	41.75	56
3.3	Access to Growth Opportunities	49.07	56
	Empowerment		
3.3.1	Delegation of authority	45.53	56
3.3.2	Personal rights	73.40	40
	Collaboration		
3.3.3	Use of virtual social networks	61.52	83
3.3.4	Use of virtual professional networks	6.64	87
3.3.5	Collaboration within organisations	38.49	61
3.3.6	Collaboration across organisations	68.87	60
4	**RETAIN**	**27.18**	**108**
4.1	Sustainability	27.80	89
4.1.1	Pension system	6.12	91
4.1.2	Social protection	28.97	77
4.1.3	Brain retention	48.29	43
4.2	Lifestyle	26.56	112
4.2.1	Environmental performance	40.67	101
4.2.2	Personal safety	60.99	71
4.2.3	Physician density	1.28	104
4.2.4	Sanitation	3.30	117
5	**VOCATIONAL AND TECHNICAL SKILLS**	**32.86**	**95**
5.1	Mid-Level Skills	8.09	107
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	12.98	92
5.1.3	Technicians and associate professionals	7.17	101
5.1.4	Labour productivity per employee	4.11	89
5.2	Employability	57.63	50
5.2.1	Ease of finding skilled employees	55.45	45
5.2.2	Relevance of education system to the economy	44.71	52
5.2.3	Skills matching with secondary education	56.06	91
5.2.4	Skills matching with tertiary education	74.30	45
6	**GLOBAL KNOWLEDGE SKILLS**	**12.35**	**99**
6.1	High-Level Skills	13.33	100
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	4.29	93
6.1.3	Professionals	12.72	86
6.1.4	Researchers	0.32	94
6.1.5	Senior officials and managers	13.75	79
6.1.6	Availability of scientists and engineers	35.59	71
6.2	Talent Impact	11.36	97
6.2.1	Innovation output	n/a	n/a
6.2.2	High-value exports	9.23	68
6.2.3	New product entrepreneurial activity	15.51	82
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	9.35	77

GREECE

Key Indicators

Rank (out of 119)	**42**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**10.82**
GDP per capita (PPP US$)	**26,680.10**
GDP (US$ billions)	**195.21**
GTCI score	**48.21**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



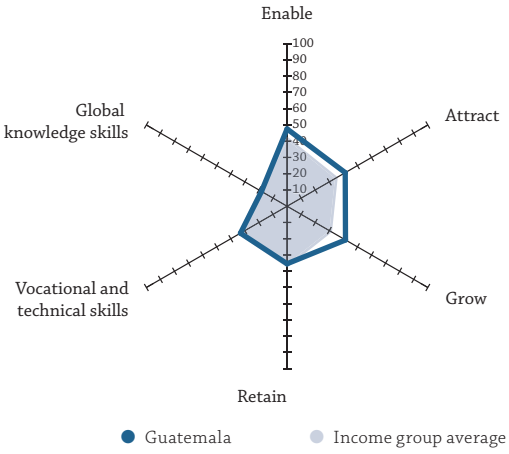
		Score	Rank
1	**ENABLE**	**47.37**	**75**
1.1	Regulatory Landscape	47.43	65
1.1.1	Government effectiveness	48.59	53
1.1.2	Business-government relations	35.98	104
1.1.3	Political stability	58.25	75
1.1.4	Regulatory quality	54.85	52
1.1.5	Corruption	39.47	56
1.2	Market Landscape	48.41	58
1.2.1	Competition intensity	66.57	68
1.2.2	Ease of doing business	65.81	56
1.2.3	Cluster development	21.05	105
1.2.4	R&D expenditure	19.39	39
1.2.5	ICT infrastructure	76.67	29
1.2.6	Technology utilisation	40.99	68
1.3	Business and Labour Landscape	46.28	93
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	47.27	102
1.3.4	Labour-employer cooperation	40.92	90
	Management Practice		
1.3.5	Professional management	27.79	84
1.3.6	Relationship of pay to productivity	36.03	78
2	**ATTRACT**	**40.00**	**74**
2.1	External Openness	29.84	80
	Attract Business		
2.1.1	FDI and technology transfer	36.55	95
2.1.2	Prevalence of foreign ownership	50.37	79
	Attract People		
2.1.3	Migrant stock	24.87	35
2.1.4	International students	21.73	42
2.1.5	Brain gain	15.66	112
2.2	Internal Openness	50.17	59
	Social Inclusion		
2.2.1	Tolerance of minorities	57.47	41
2.2.2	Tolerance of immigrants	54.93	62
2.2.3	Social mobility	32.43	92
	Gender Equality		
2.2.4	Female graduates	77.16	52
2.2.5	Gender earnings gap	48.19	70
2.2.6	Leadership opportunities for women	30.82	78
3	**GROW**	**43.96**	**47**
3.1	Formal Education	53.92	18
	Enrolment		
3.1.1	Vocational enrolment	27.71	43
3.1.2	Tertiary enrolment	100.00	1
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths, and science	56.20	39
3.1.5	University ranking	31.76	42
3.2	Lifelong Learning	33.07	89
3.2.1	Quality of management schools	39.95	72
3.2.2	Prevalence of training in firms	21.90	75
3.2.3	Employee development	37.37	64
3.3	Access to Growth Opportunities	44.88	69
	Empowerment		
3.3.1	Delegation of authority	32.96	85
3.3.2	Personal rights	63.34	54
	Collaboration		
3.3.3	Use of virtual social networks	57.27	89
3.3.4	Use of virtual professional networks	25.53	41
3.3.5	Collaboration within organisations	26.65	94
3.3.6	Collaboration across organisations	63.55	82
4	**RETAIN**	**68.29**	**29**
4.1	Sustainability	44.55	51
4.1.1	Pension system	85.71	27
4.1.2	Social protection	27.21	80
4.1.3	Brain retention	20.73	106
4.2	Lifestyle	92.02	2
4.2.1	Environmental performance	90.91	21
4.2.2	Personal safety	78.31	36
4.2.3	Physician density	100.00	1
4.2.4	Sanitation	98.86	26
5	**VOCATIONAL AND TECHNICAL SKILLS**	**47.44**	**49**
5.1	Mid-Level Skills	38.25	57
5.1.1	Workforce with secondary education	37.27	35
5.1.2	Population with secondary education	38.94	51
5.1.3	Technicians and associate professionals	35.87	59
5.1.4	Labour productivity per employee	40.90	36
5.2	Employability	56.64	55
5.2.1	Ease of finding skilled employees	62.38	35
5.2.2	Relevance of education system to the economy	25.24	97
5.2.3	Skills matching with secondary education	66.15	47
5.2.4	Skills matching with tertiary education	72.80	51
6	**GLOBAL KNOWLEDGE SKILLS**	**42.18**	**31**
6.1	High-Level Skills	44.33	30
6.1.1	Workforce with tertiary education	46.28	30
6.1.2	Population with tertiary education	36.02	25
6.1.3	Professionals	53.18	20
6.1.4	Researchers	38.69	26
6.1.5	Senior officials and managers	15.63	70
6.1.6	Availability of scientists and engineers	76.18	10
6.2	Talent Impact	40.02	32
6.2.1	Innovation output	33.57	58
6.2.2	High-value exports	20.72	40
6.2.3	New product entrepreneurial activity	36.69	60
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	69.12	15

GUATEMALA

Key Indicators

Rank (out of 119)	**84**
Income group	**Lower middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**16.34**
GDP per capita (PPP US$)	**7,706.74**
GDP (US$ billions)	**63.79**
GTCI score	**36.18**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



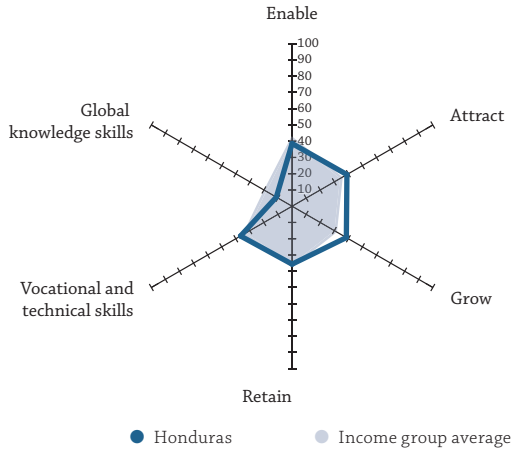
		Score	Rank
1	**ENABLE**	**47.56**	**73**
1.1	Regulatory Landscape	38.59	92
1.1.1	Government effectiveness	23.91	105
1.1.2	Business-government relations	62.25	44
1.1.3	Political stability	48.06	93
1.1.4	Regulatory quality	40.29	79
1.1.5	Corruption	18.42	106
1.2	Market Landscape	44.12	69
1.2.1	Competition intensity	79.71	23
1.2.2	Ease of doing business	55.11	76
1.2.3	Cluster development	46.75	51
1.2.4	R&D expenditure	0.70	100
1.2.5	ICT infrastructure	23.06	97
1.2.6	Technology utilisation	59.36	38
1.3	Business and Labour Landscape	59.98	48
	Labour Market		
1.3.1	Ease of hiring	44.33	94
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	53.33	81
1.3.4	Labour-employer cooperation	68.29	24
	Management Practice		
1.3.5	Professional management	42.41	60
1.3.6	Relationship of pay to productivity	51.52	54
2	**ATTRACT**	**41.31**	**67**
2.1	External Openness	38.83	53
	Attract Business		
2.1.1	FDI and technology transfer	54.31	52
2.1.2	Prevalence of foreign ownership	60.99	53
	Attract People		
2.1.3	Migrant stock	0.88	104
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	39.16	65
2.2	Internal Openness	43.79	83
	Social Inclusion		
2.2.1	Tolerance of minorities	24.14	95
2.2.2	Tolerance of immigrants	42.25	85
2.2.3	Social mobility	52.32	43
	Gender Equality		
2.2.4	Female graduates	78.59	45
2.2.5	Gender earnings gap	38.55	88
2.2.6	Leadership opportunities for women	26.88	86
3	**GROW**	**41.50**	**55**
3.1	Formal Education	16.69	90
	Enrolment		
3.1.1	Vocational enrolment	43.09	26
3.1.2	Tertiary enrolment	15.50	90
	Quality		
3.1.3	Tertiary education expenditure	8.18	91
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	57.12	33
3.2.1	Quality of management schools	53.17	43
3.2.2	Prevalence of training in firms	63.98	21
3.2.3	Employee development	54.21	37
3.3	Access to Growth Opportunities	50.68	54
	Empowerment		
3.3.1	Delegation of authority	49.44	44
3.3.2	Personal rights	51.20	70
	Collaboration		
3.3.3	Use of virtual social networks	73.33	52
3.3.4	Use of virtual professional networks	9.34	73
3.3.5	Collaboration within organisations	51.09	36
3.3.6	Collaboration across organisations	69.67	58
4	**RETAIN**	**35.39**	**94**
4.1	Sustainability	31.00	77
4.1.1	Pension system	18.37	78
4.1.2	Social protection	22.02	90
4.1.3	Brain retention	52.62	37
4.2	Lifestyle	39.78	98
4.2.1	Environmental performance	60.73	77
4.2.2	Personal safety	25.29	113
4.2.3	Physician density	14.10	84
4.2.4	Sanitation	58.98	92
5	**VOCATIONAL AND TECHNICAL SKILLS**	**33.11**	**94**
5.1	Mid-Level Skills	14.49	98
5.1.1	Workforce with secondary education	12.36	93
5.1.2	Population with secondary education	23.11	78
5.1.3	Technicians and associate professionals	12.11	92
5.1.4	Labour productivity per employee	10.37	81
5.2	Employability	51.73	71
5.2.1	Ease of finding skilled employees	51.49	52
5.2.2	Relevance of education system to the economy	14.66	110
5.2.3	Skills matching with secondary education	64.13	57
5.2.4	Skills matching with tertiary education	76.66	35
6	**GLOBAL KNOWLEDGE SKILLS**	**18.20**	**85**
6.1	High-Level Skills	12.90	101
6.1.1	Workforce with tertiary education	5.75	100
6.1.2	Population with tertiary education	12.86	78
6.1.3	Professionals	13.58	82
6.1.4	Researchers	0.18	99
6.1.5	Senior officials and managers	5.00	97
6.1.6	Availability of scientists and engineers	40.00	60
6.2	Talent Impact	23.51	66
6.2.1	Innovation output	19.33	89
6.2.2	High-value exports	9.42	67
6.2.3	New product entrepreneurial activity	85.23	4
6.2.4	New business density	2.84	81
6.2.5	Scientific journal articles	0.71	116

HONDURAS

Key Indicators

Rank (out of 119)	**92**
Income group	**Lower middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**8.08**
GDP per capita (PPP US$)	**5,084.47**
GDP (US$ billions)	**20.15**
GTCI score	**33.26**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



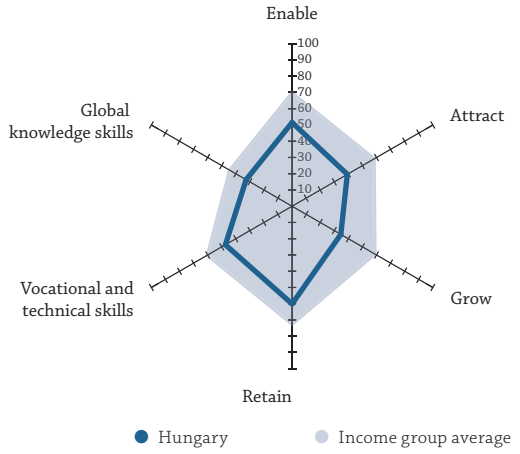
		Score	Rank
1	**ENABLE**	**38.59**	**100**
1.1	Regulatory Landscape	36.05	99
1.1.1	Government effectiveness	21.08	110
1.1.2	Business-government relations	51.21	71
1.1.3	Political stability	51.46	85
1.1.4	Regulatory quality	35.44	93
1.1.5	Corruption	21.05	95
1.2	Market Landscape	43.67	71
1.2.1	Competition intensity	63.43	73
1.2.2	Ease of doing business	47.95	87
1.2.3	Cluster development	43.34	64
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	21.56	99
1.2.6	Technology utilisation	42.05	65
1.3	Business and Labour Landscape	36.05	109
	Labour Market		
1.3.1	Ease of hiring	0.00	116
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	46.03	106
1.3.4	Labour-employer cooperation	60.16	36
	Management Practice		
1.3.5	Professional management	26.65	87
1.3.6	Relationship of pay to productivity	43.43	65
2	**ATTRACT**	**38.96**	**78**
2.1	External Openness	30.95	77
	Attract Business		
2.1.1	FDI and technology transfer	55.09	48
2.1.2	Prevalence of foreign ownership	56.05	66
	Attract People		
2.1.3	Migrant stock	0.62	107
2.1.4	International students	3.45	75
2.1.5	Brain gain	39.56	62
2.2	Internal Openness	46.97	76
	Social Inclusion		
2.2.1	Tolerance of minorities	41.38	65
2.2.2	Tolerance of immigrants	29.58	103
2.2.3	Social mobility	44.96	57
	Gender Equality		
2.2.4	Female graduates	95.89	6
2.2.5	Gender earnings gap	31.33	100
2.2.6	Leadership opportunities for women	38.71	66
3	**GROW**	**38.55**	**64**
3.1	Formal Education	26.23	68
	Enrolment		
3.1.1	Vocational enrolment	65.91	6
3.1.2	Tertiary enrolment	18.02	86
	Quality		
3.1.3	Tertiary education expenditure	20.97	62
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	41.58	65
3.2.1	Quality of management schools	33.86	85
3.2.2	Prevalence of training in firms	42.74	42
3.2.3	Employee development	48.15	46
3.3	Access to Growth Opportunities	47.84	60
	Empowerment		
3.3.1	Delegation of authority	47.21	51
3.3.2	Personal rights	62.72	57
	Collaboration		
3.3.3	Use of virtual social networks	68.48	66
3.3.4	Use of virtual professional networks	7.94	80
3.3.5	Collaboration within organisations	42.41	49
3.3.6	Collaboration across organisations	58.27	98
4	**RETAIN**	**35.64**	**93**
4.1	Sustainability	24.29	101
4.1.1	Pension system	15.31	82
4.1.2	Social protection	16.34	102
4.1.3	Brain retention	41.23	62
4.2	Lifestyle	46.99	90
4.2.1	Environmental performance	60.73	77
4.2.2	Personal safety	0.00	117
4.2.3	Physician density	n/a	n/a
4.2.4	Sanitation	80.23	76
5	**VOCATIONAL AND TECHNICAL SKILLS**	**36.61**	**86**
5.1	Mid-Level Skills	21.68	87
5.1.1	Workforce with secondary education	20.33	77
5.1.2	Population with secondary education	18.69	89
5.1.3	Technicians and associate professionals	26.01	74
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	51.54	73
5.2.1	Ease of finding skilled employees	47.19	59
5.2.2	Relevance of education system to the economy	29.81	88
5.2.3	Skills matching with secondary education	60.48	70
5.2.4	Skills matching with tertiary education	68.69	72
6	**GLOBAL KNOWLEDGE SKILLS**	**11.19**	**101**
6.1	High-Level Skills	15.43	93
6.1.1	Workforce with tertiary education	8.57	95
6.1.2	Population with tertiary education	15.78	73
6.1.3	Professionals	7.23	98
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	15.00	74
6.1.6	Availability of scientists and engineers	30.59	85
6.2	Talent Impact	6.95	112
6.2.1	Innovation output	15.99	99
6.2.2	High-value exports	4.52	88
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	0.35	118

HUNGARY

Key Indicators

Rank (out of 119)	**52**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**9.84**
GDP per capita (PPP US$)	**25,581.50**
GDP (US$ billions)	**120.69**
GTCI score	**44.25**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



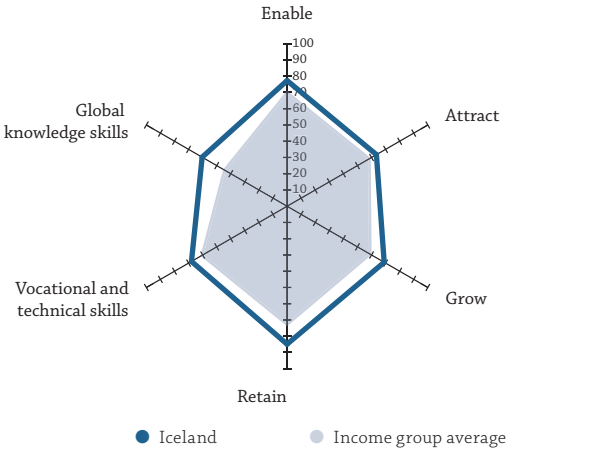
		Score	Rank
1	**ENABLE**	**51.49**	**56**
1.1	Regulatory Landscape	56.26	48
1.1.1	Government effectiveness	54.76	43
1.1.2	Business-government relations	36.42	102
1.1.3	Political stability	81.55	28
1.1.4	Regulatory quality	63.83	38
1.1.5	Corruption	44.74	47
1.2	Market Landscape	42.25	75
1.2.1	Competition intensity	40.86	114
1.2.2	Ease of doing business	74.01	38
1.2.3	Cluster development	31.89	86
1.2.4	R&D expenditure	31.78	25
1.2.5	ICT infrastructure	71.08	41
1.2.6	Technology utilisation	3.89	116
1.3	Business and Labour Landscape	55.95	63
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	48.88	92
1.3.4	Labour-employer cooperation	46.61	74
	Management Practice		
1.3.5	Professional management	22.92	95
1.3.6	Relationship of pay to productivity	28.28	97
2	**ATTRACT**	**39.25**	**77**
2.1	External Openness	35.12	63
	Attract Business		
2.1.1	FDI and technology transfer	50.39	62
2.1.2	Prevalence of foreign ownership	57.53	58
	Attract People		
2.1.3	Migrant stock	9.91	56
2.1.4	International students	36.68	26
2.1.5	Brain gain	21.08	105
2.2	Internal Openness	43.39	87
	Social Inclusion		
2.2.1	Tolerance of minorities	60.92	37
2.2.2	Tolerance of immigrants	36.62	94
2.2.3	Social mobility	16.08	114
	Gender Equality		
2.2.4	Female graduates	89.89	20
2.2.5	Gender earnings gap	51.81	55
2.2.6	Leadership opportunities for women	5.02	114
3	**GROW**	**34.62**	**80**
3.1	Formal Education	34.84	47
	Enrolment		
3.1.1	Vocational enrolment	20.55	56
3.1.2	Tertiary enrolment	44.27	51
	Quality		
3.1.3	Tertiary education expenditure	20.72	63
3.1.4	Reading, maths, and science	63.66	35
3.1.5	University ranking	24.99	52
3.2	Lifelong Learning	27.13	104
3.2.1	Quality of management schools	41.80	65
3.2.2	Prevalence of training in firms	16.36	84
3.2.3	Employee development	23.23	100
3.3	Access to Growth Opportunities	41.90	89
	Empowerment		
3.3.1	Delegation of authority	35.20	78
3.3.2	Personal rights	64.55	52
	Collaboration		
3.3.3	Use of virtual social networks	42.73	111
3.3.4	Use of virtual professional networks	16.79	59
3.3.5	Collaboration within organisations	12.99	115
3.3.6	Collaboration across organisations	79.16	26
4	**RETAIN**	**60.09**	**41**
4.1	Sustainability	41.36	59
4.1.1	Pension system	91.84	12
4.1.2	Social protection	16.08	103
4.1.3	Brain retention	16.17	112
4.2	Lifestyle	78.82	27
4.2.1	Environmental performance	88.65	28
4.2.2	Personal safety	76.01	39
4.2.3	Physician density	52.88	24
4.2.4	Sanitation	97.73	32
5	**VOCATIONAL AND TECHNICAL SKILLS**	**47.38**	**50**
5.1	Mid-Level Skills	55.07	19
5.1.1	Workforce with secondary education	53.73	11
5.1.2	Population with secondary education	66.05	19
5.1.3	Technicians and associate professionals	64.57	20
5.1.4	Labour productivity per employee	35.94	45
5.2	Employability	39.68	108
5.2.1	Ease of finding skilled employees	16.50	115
5.2.2	Relevance of education system to the economy	22.84	101
5.2.3	Skills matching with secondary education	56.00	92
5.2.4	Skills matching with tertiary education	63.40	89
6	**GLOBAL KNOWLEDGE SKILLS**	**32.67**	**49**
6.1	High-Level Skills	31.65	51
6.1.1	Workforce with tertiary education	35.89	46
6.1.2	Population with tertiary education	20.93	64
6.1.3	Professionals	41.04	42
6.1.4	Researchers	31.01	32
6.1.5	Senior officials and managers	27.50	49
6.1.6	Availability of scientists and engineers	33.53	75
6.2	Talent Impact	33.70	49
6.2.1	Innovation output	46.05	36
6.2.2	High-value exports	25.80	30
6.2.3	New product entrepreneurial activity	29.03	67
6.2.4	New business density	21.07	31
6.2.5	Scientific journal articles	46.55	35

ICELAND

Key Indicators

Rank (out of 119)	**14**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**0.33**
GDP per capita (PPP US$)	**46,547.00**
GDP (US$ billions)	**16.60**
GTCI score	**70.48**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



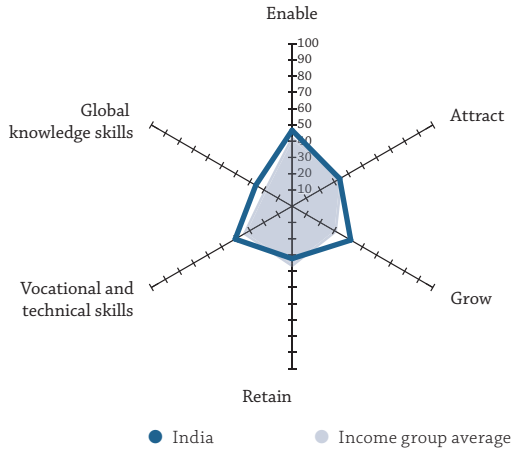
		Score	Rank
1	**ENABLE**	**77.30**	**19**
1.1	Regulatory Landscape	78.24	18
1.1.1	Government effectiveness	80.72	17
1.1.2	Business-government relations	55.63	65
1.1.3	Political stability	94.66	4
1.1.4	Regulatory quality	75.97	21
1.1.5	Corruption	84.21	14
1.2	Market Landscape	73.38	19
1.2.1	Competition intensity	60.29	79
1.2.2	Ease of doing business	84.90	18
1.2.3	Cluster development	54.49	40
1.2.4	R&D expenditure	43.93	19
1.2.5	ICT infrastructure	99.86	2
1.2.6	Technology utilisation	96.82	3
1.3	Business and Labour Landscape	80.27	14
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	89.74	4
1.3.4	Labour-employer cooperation	82.11	12
	Management Practice		
1.3.5	Professional management	77.65	20
1.3.6	Relationship of pay to productivity	76.43	13
2	**ATTRACT**	**63.47**	**19**
2.1	External Openness	37.85	59
	Attract Business		
2.1.1	FDI and technology transfer	45.43	74
2.1.2	Prevalence of foreign ownership	30.62	108
	Attract People		
2.1.3	Migrant stock	24.98	34
2.1.4	International students	34.01	28
2.1.5	Brain gain	54.22	31
2.2	Internal Openness	89.08	1
	Social Inclusion		
2.2.1	Tolerance of minorities	100.00	1
2.2.2	Tolerance of immigrants	84.51	18
2.2.3	Social mobility	91.01	8
	Gender Equality		
2.2.4	Female graduates	94.85	9
2.2.5	Gender earnings gap	66.27	19
2.2.6	Leadership opportunities for women	97.85	3
3	**GROW**	**68.98**	**15**
3.1	Formal Education	41.59	36
	Enrolment		
3.1.1	Vocational enrolment	33.70	33
3.1.2	Tertiary enrolment	71.16	14
	Quality		
3.1.3	Tertiary education expenditure	36.32	21
3.1.4	Reading, maths, and science	66.75	32
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	77.49	14
3.2.1	Quality of management schools	76.19	19
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	78.79	17
3.3	Access to Growth Opportunities	87.87	5
	Empowerment		
3.3.1	Delegation of authority	78.21	12
3.3.2	Personal rights	88.17	16
	Collaboration		
3.3.3	Use of virtual social networks	100.00	1
3.3.4	Use of virtual professional networks	92.67	2
3.3.5	Collaboration within organisations	79.45	15
3.3.6	Collaboration across organisations	88.72	14
4	**RETAIN**	**84.86**	**7**
4.1	Sustainability	80.81	12
4.1.1	Pension system	86.73	23
4.1.2	Social protection	81.90	16
4.1.3	Brain retention	73.80	13
4.2	Lifestyle	88.90	7
4.2.1	Environmental performance	99.68	2
4.2.2	Personal safety	96.88	6
4.2.3	Physician density	60.42	15
4.2.4	Sanitation	98.64	27
5	**VOCATIONAL AND TECHNICAL SKILLS**	**67.93**	**13**
5.1	Mid-Level Skills	49.69	29
5.1.1	Workforce with secondary education	33.09	50
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	65.47	18
5.1.4	Labour productivity per employee	50.51	25
5.2	Employability	86.17	7
5.2.1	Ease of finding skilled employees	92.08	3
5.2.2	Relevance of education system to the economy	79.81	10
5.2.3	Skills matching with secondary education	82.77	11
5.2.4	Skills matching with tertiary education	90.01	6
6	**GLOBAL KNOWLEDGE SKILLS**	**60.36**	**5**
6.1	High-Level Skills	65.12	5
6.1.1	Workforce with tertiary education	49.89	23
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	70.81	6
6.1.4	Researchers	71.46	8
6.1.5	Senior officials and managers	63.13	11
6.1.6	Availability of scientists and engineers	70.29	15
6.2	Talent Impact	55.60	9
6.2.1	Innovation output	74.69	10
6.2.2	High-value exports	37.48	15
6.2.3	New product entrepreneurial activity	51.62	31
6.2.4	New business density	54.85	11
6.2.5	Scientific journal articles	59.34	23

INDIA

Key Indicators

Rank (out of 119)	**81**
Income group	**Lower middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**1,311.05**
GDP per capita (PPP US$)	**6,088.65**
GDP (US$ billions)	**2,073.54**
GTCI score	**36.78**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



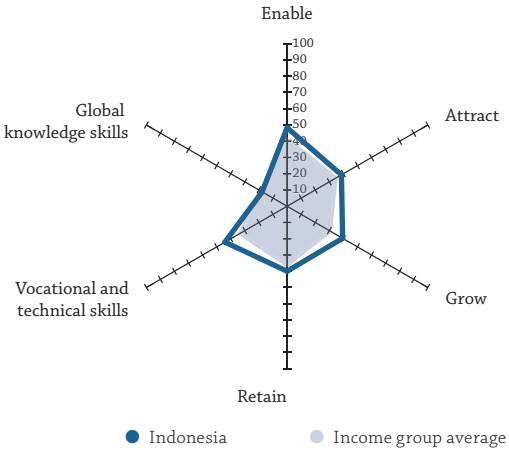
		Score	Rank
1	**ENABLE**	**46.72**	**78**
1.1	Regulatory Landscape	40.67	87
1.1.1	Government effectiveness	44.73	64
1.1.2	Business-government relations	47.24	83
1.1.3	Political stability	41.50	101
1.1.4	Regulatory quality	35.68	90
1.1.5	Corruption	34.21	64
1.2	Market Landscape	39.98	86
1.2.1	Competition intensity	57.71	87
1.2.2	Ease of doing business	40.83	102
1.2.3	Cluster development	67.80	25
1.2.4	R&D expenditure	18.93	40
1.2.5	ICT infrastructure	16.10	104
1.2.6	Technology utilisation	38.52	75
1.3	Business and Labour Landscape	59.51	51
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	74.22	26
1.3.4	Labour-employer cooperation	50.14	60
	Management Practice		
1.3.5	Professional management	42.41	60
1.3.6	Relationship of pay to productivity	63.64	30
2	**ATTRACT**	**33.84**	**98**
2.1	External Openness	34.97	64
	Attract Business		
2.1.1	FDI and technology transfer	54.57	51
2.1.2	Prevalence of foreign ownership	56.79	61
	Attract People		
2.1.3	Migrant stock	0.73	106
2.1.4	International students	0.52	93
2.1.5	Brain gain	62.25	21
2.2	Internal Openness	32.71	112
	Social Inclusion		
2.2.1	Tolerance of minorities	19.54	100
2.2.2	Tolerance of immigrants	26.76	107
2.2.3	Social mobility	55.86	34
	Gender Equality		
2.2.4	Female graduates	57.10	80
2.2.5	Gender earnings gap	7.23	113
2.2.6	Leadership opportunities for women	29.75	80
3	**GROW**	**41.66**	**54**
3.1	Formal Education	26.80	67
	Enrolment		
3.1.1	Vocational enrolment	1.92	104
3.1.2	Tertiary enrolment	21.88	84
	Quality		
3.1.3	Tertiary education expenditure	25.83	50
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	57.59	19
3.2	Lifelong Learning	53.49	37
3.2.1	Quality of management schools	55.29	39
3.2.2	Prevalence of training in firms	42.88	41
3.2.3	Employee development	62.29	28
3.3	Access to Growth Opportunities	44.68	73
	Empowerment		
3.3.1	Delegation of authority	47.77	48
3.3.2	Personal rights	36.98	86
	Collaboration		
3.3.3	Use of virtual social networks	43.64	110
3.3.4	Use of virtual professional networks	7.68	83
3.3.5	Collaboration within organisations	49.78	38
3.3.6	Collaboration across organisations	82.24	22
4	**RETAIN**	**32.24**	**99**
4.1	Sustainability	34.24	69
4.1.1	Pension system	8.16	86
4.1.2	Social protection	34.42	68
4.1.3	Brain retention	60.14	31
4.2	Lifestyle	30.24	107
4.2.1	Environmental performance	30.76	105
4.2.2	Personal safety	47.46	95
4.2.3	Physician density	11.38	88
4.2.4	Sanitation	31.36	107
5	**VOCATIONAL AND TECHNICAL SKILLS**	**40.41**	**71**
5.1	Mid-Level Skills	15.42	96
5.1.1	Workforce with secondary education	15.46	87
5.1.2	Population with secondary education	23.82	75
5.1.3	Technicians and associate professionals	13.90	90
5.1.4	Labour productivity per employee	8.51	84
5.2	Employability	65.39	34
5.2.1	Ease of finding skilled employees	58.75	42
5.2.2	Relevance of education system to the economy	61.30	27
5.2.3	Skills matching with secondary education	71.68	29
5.2.4	Skills matching with tertiary education	69.85	66
6	**GLOBAL KNOWLEDGE SKILLS**	**25.81**	**63**
6.1	High-Level Skills	23.44	73
6.1.1	Workforce with tertiary education	13.88	89
6.1.2	Population with tertiary education	15.95	71
6.1.3	Professionals	8.09	95
6.1.4	Researchers	2.47	74
6.1.5	Senior officials and managers	43.75	27
6.1.6	Availability of scientists and engineers	56.47	35
6.2	Talent Impact	28.18	53
6.2.1	Innovation output	33.74	57
6.2.2	High-value exports	14.12	50
6.2.3	New product entrepreneurial activity	68.01	12
6.2.4	New business density	0.52	89
6.2.5	Scientific journal articles	24.48	53

INDONESIA

Key Indicators

Rank (out of 119)	**77**
Income group	**Lower middle income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**257.56**
GDP per capita (PPP US$)	**11,035.10**
GDP (US$ billions)	**861.93**
GTCI score	**38.04**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



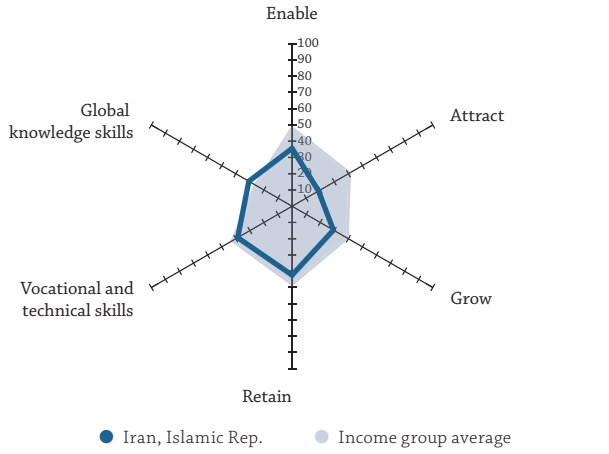
		Score	Rank
1	**ENABLE**	**48.31**	**70**
1.1	Regulatory Landscape	44.86	78
1.1.1	Government effectiveness	36.50	81
1.1.2	Business-government relations	68.21	33
1.1.3	Political stability	49.27	92
1.1.4	Regulatory quality	40.05	80
1.1.5	Corruption	30.26	72
1.2	Market Landscape	47.64	60
1.2.1	Competition intensity	72.57	47
1.2.2	Ease of doing business	52.48	78
1.2.3	Cluster development	65.94	27
1.2.4	R&D expenditure	1.64	95
1.2.5	ICT infrastructure	32.06	92
1.2.6	Technology utilisation	61.13	37
1.3	Business and Labour Landscape	52.42	71
	Labour Market		
1.3.1	Ease of hiring	27.67	104
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	70.78	29
1.3.4	Labour-employer cooperation	57.99	40
	Management Practice		
1.3.5	Professional management	52.44	37
1.3.6	Relationship of pay to productivity	65.66	26
2	**ATTRACT**	**38.60**	**84**
2.1	External Openness	35.52	62
	Attract Business		
2.1.1	FDI and technology transfer	55.87	47
2.1.2	Prevalence of foreign ownership	62.47	51
	Attract People		
2.1.3	Migrant stock	0.13	116
2.1.4	International students	0.47	94
2.1.5	Brain gain	58.63	26
2.2	Internal Openness	41.68	92
	Social Inclusion		
2.2.1	Tolerance of minorities	31.03	81
2.2.2	Tolerance of immigrants	16.90	114
2.2.3	Social mobility	47.41	51
	Gender Equality		
2.2.4	Female graduates	62.19	76
2.2.5	Gender earnings gap	37.35	89
2.2.6	Leadership opportunities for women	55.20	36
3	**GROW**	**39.47**	**61**
3.1	Formal Education	25.27	69
	Enrolment		
3.1.1	Vocational enrolment	29.87	39
3.1.2	Tertiary enrolment	26.80	76
	Quality		
3.1.3	Tertiary education expenditure	10.49	85
3.1.4	Reading, maths, and science	26.56	61
3.1.5	University ranking	32.62	40
3.2	Lifelong Learning	39.59	68
3.2.1	Quality of management schools	53.17	43
3.2.2	Prevalence of training in firms	5.67	89
3.2.3	Employee development	59.93	32
3.3	Access to Growth Opportunities	53.54	43
	Empowerment		
3.3.1	Delegation of authority	53.35	34
3.3.2	Personal rights	46.71	78
	Collaboration		
3.3.3	Use of virtual social networks	78.18	38
3.3.4	Use of virtual professional networks	4.02	94
3.3.5	Collaboration within organisations	56.16	27
3.3.6	Collaboration across organisations	82.81	21
4	**RETAIN**	**39.98**	**88**
4.1	Sustainability	36.53	67
4.1.1	Pension system	5.10	93
4.1.2	Social protection	47.76	38
4.1.3	Brain retention	56.72	33
4.2	Lifestyle	43.44	95
4.2.1	Environmental performance	53.66	88
4.2.2	Personal safety	61.75	68
4.2.3	Physician density	2.88	98
4.2.4	Sanitation	55.45	96
5	**VOCATIONAL AND TECHNICAL SKILLS**	**44.16**	**58**
5.1	Mid-Level Skills	20.68	88
5.1.1	Workforce with secondary education	24.79	69
5.1.2	Population with secondary education	32.67	61
5.1.3	Technicians and associate professionals	11.21	94
5.1.4	Labour productivity per employee	14.07	75
5.2	Employability	67.64	29
5.2.1	Ease of finding skilled employees	60.40	39
5.2.2	Relevance of education system to the economy	56.73	35
5.2.3	Skills matching with secondary education	74.71	24
5.2.4	Skills matching with tertiary education	78.73	31
6	**GLOBAL KNOWLEDGE SKILLS**	**17.73**	**89**
6.1	High-Level Skills	17.94	86
6.1.1	Workforce with tertiary education	14.62	88
6.1.2	Population with tertiary education	14.07	76
6.1.3	Professionals	13.01	84
6.1.4	Researchers	0.94	86
6.1.5	Senior officials and managers	10.00	89
6.1.6	Availability of scientists and engineers	55.00	37
6.2	Talent Impact	17.53	81
6.2.1	Innovation output	27.42	71
6.2.2	High-value exports	12.43	57
6.2.3	New product entrepreneurial activity	44.74	46
6.2.4	New business density	1.51	86
6.2.5	Scientific journal articles	1.57	113

IRAN, ISLAMIC REP.

Key Indicators

Rank (out of 119)	**94**
Income group	**Upper middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**79.11**
GDP per capita (PPP US$)	**17,365.80**
GDP (US$ billions)	**425.33**
GTCI score	**32.57**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



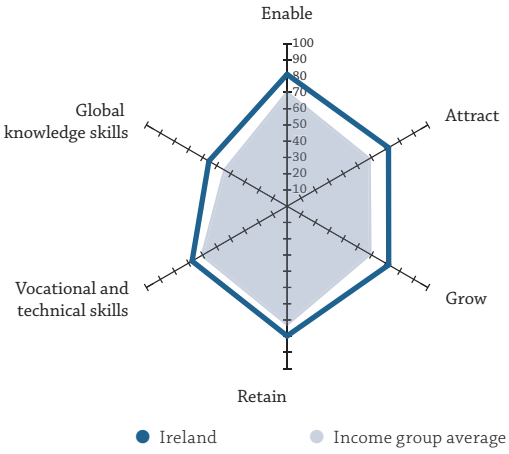
		Score	Rank
1	**ENABLE**	**35.57**	**107**
1.1	Regulatory Landscape	29.45	109
1.1.1	Government effectiveness	37.02	80
1.1.2	Business-government relations	34.66	107
1.1.3	Political stability	41.75	100
1.1.4	Regulatory quality	14.08	117
1.1.5	Corruption	19.74	101
1.2	Market Landscape	32.98	103
1.2.1	Competition intensity	43.14	111
1.2.2	Ease of doing business	44.54	97
1.2.3	Cluster development	39.32	75
1.2.4	R&D expenditure	7.48	71
1.2.5	ICT infrastructure	47.48	73
1.2.6	Technology utilisation	15.90	108
1.3	Business and Labour Landscape	44.29	98
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	50.00	98
1.3.3	Active labour market policies	57.08	69
1.3.4	Labour-employer cooperation	31.44	107
	Management Practice		
1.3.5	Professional management	12.32	112
1.3.6	Relationship of pay to productivity	25.93	101
2	**ATTRACT**	**18.76**	**118**
2.1	External Openness	15.50	115
	Attract Business		
2.1.1	FDI and technology transfer	43.86	76
2.1.2	Prevalence of foreign ownership	5.93	118
	Attract People		
2.1.3	Migrant stock	7.46	66
2.1.4	International students	1.36	87
2.1.5	Brain gain	18.88	108
2.2	Internal Openness	22.02	117
	Social Inclusion		
2.2.1	Tolerance of minorities	17.24	105
2.2.2	Tolerance of immigrants	39.44	91
2.2.3	Social mobility	27.25	104
	Gender Equality		
2.2.4	Female graduates	40.65	91
2.2.5	Gender earnings gap	0.00	117
2.2.6	Leadership opportunities for women	7.53	110
3	**GROW**	**29.36**	**95**
3.1	Formal Education	33.72	52
	Enrolment		
3.1.1	Vocational enrolment	23.40	52
3.1.2	Tertiary enrolment	62.86	23
	Quality		
3.1.3	Tertiary education expenditure	19.69	67
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	28.91	47
3.2	Lifelong Learning	28.33	103
3.2.1	Quality of management schools	35.45	81
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	21.21	106
3.3	Access to Growth Opportunities	26.03	113
	Empowerment		
3.3.1	Delegation of authority	16.20	115
3.3.2	Personal rights	1.25	118
	Collaboration		
3.3.3	Use of virtual social networks	37.88	112
3.3.4	Use of virtual professional networks	n/a	n/a
3.3.5	Collaboration within organisations	19.85	107
3.3.6	Collaboration across organisations	54.99	108
4	**RETAIN**	**42.38**	**79**
4.1	Sustainability	30.15	82
4.1.1	Pension system	32.65	61
4.1.2	Social protection	36.39	60
4.1.3	Brain retention	21.41	103
4.2	Lifestyle	54.60	75
4.2.1	Environmental performance	54.54	87
4.2.2	Personal safety	51.67	88
4.2.3	Physician density	23.56	70
4.2.4	Sanitation	88.64	64
5	**VOCATIONAL AND TECHNICAL SKILLS**	**38.65**	**78**
5.1	Mid-Level Skills	31.63	69
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	35.81	55
5.1.3	Technicians and associate professionals	21.97	82
5.1.4	Labour productivity per employee	37.11	41
5.2	Employability	45.66	89
5.2.1	Ease of finding skilled employees	36.63	80
5.2.2	Relevance of education system to the economy	30.53	86
5.2.3	Skills matching with secondary education	56.17	90
5.2.4	Skills matching with tertiary education	59.31	106
6	**GLOBAL KNOWLEDGE SKILLS**	**30.72**	**55**
6.1	High-Level Skills	25.59	69
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	30.02	44
6.1.3	Professionals	23.70	67
6.1.4	Researchers	8.24	56
6.1.5	Senior officials and managers	16.88	69
6.1.6	Availability of scientists and engineers	49.12	42
6.2	Talent Impact	35.84	46
6.2.1	Innovation output	34.45	55
6.2.2	High-value exports	n/a	n/a
6.2.3	New product entrepreneurial activity	26.79	71
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	46.30	36

IRELAND

Key Indicators

Rank (out of 119)	**13**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**4.64**
GDP per capita (PPP US$)	**54,654.40**
GDP (US$ billions)	**238.02**
GTCI score	**71.38**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



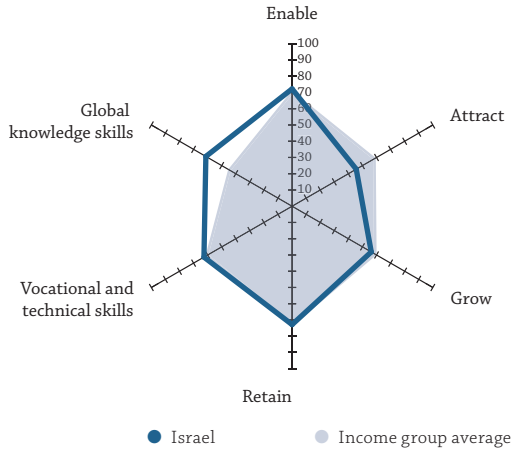
		Score	Rank
1	**ENABLE**	**81.15**	**13**
1.1	Regulatory Landscape	84.85	11
1.1.1	Government effectiveness	81.75	15
1.1.2	Business-government relations	89.40	8
1.1.3	Political stability	86.41	20
1.1.4	Regulatory quality	89.08	5
1.1.5	Corruption	77.63	18
1.2	Market Landscape	72.52	21
1.2.1	Competition intensity	70.29	60
1.2.2	Ease of doing business	86.06	16
1.2.3	Cluster development	81.11	15
1.2.4	R&D expenditure	35.28	23
1.2.5	ICT infrastructure	87.45	19
1.2.6	Technology utilisation	74.91	22
1.3	Business and Labour Landscape	86.09	9
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	77.75	20
1.3.4	Labour-employer cooperation	75.07	17
	Management Practice		
1.3.5	Professional management	96.85	6
1.3.6	Relationship of pay to productivity	87.88	6
2	**ATTRACT**	**72.06**	**9**
2.1	External Openness	71.16	10
	Attract Business		
2.1.1	FDI and technology transfer	100.00	1
2.1.2	Prevalence of foreign ownership	99.26	2
	Attract People		
2.1.3	Migrant stock	34.97	20
2.1.4	International students	36.42	27
2.1.5	Brain gain	85.14	7
2.2	Internal Openness	72.96	12
	Social Inclusion		
2.2.1	Tolerance of minorities	93.10	4
2.2.2	Tolerance of immigrants	94.37	4
2.2.3	Social mobility	75.48	20
	Gender Equality		
2.2.4	Female graduates	62.59	75
2.2.5	Gender earnings gap	50.60	62
2.2.6	Leadership opportunities for women	61.65	31
3	**GROW**	**72.19**	**12**
3.1	Formal Education	52.58	22
	Enrolment		
3.1.1	Vocational enrolment	25.99	47
3.1.2	Tertiary enrolment	67.95	18
	Quality		
3.1.3	Tertiary education expenditure	27.11	44
3.1.4	Reading, maths, and science	79.97	9
3.1.5	University ranking	61.86	16
3.2	Lifelong Learning	80.36	12
3.2.1	Quality of management schools	79.63	12
3.2.2	Prevalence of training in firms	92.08	2
3.2.3	Employee development	69.36	22
3.3	Access to Growth Opportunities	83.65	9
	Empowerment		
3.3.1	Delegation of authority	81.56	8
3.3.2	Personal rights	88.17	16
	Collaboration		
3.3.3	Use of virtual social networks	92.12	10
3.3.4	Use of virtual professional networks	80.78	6
3.3.5	Collaboration within organisations	73.13	19
3.3.6	Collaboration across organisations	86.12	18
4	**RETAIN**	**79.82**	**15**
4.1	Sustainability	80.40	14
4.1.1	Pension system	88.78	21
4.1.2	Social protection	82.71	13
4.1.3	Brain retention	69.70	17
4.2	Lifestyle	79.24	24
4.2.1	Environmental performance	92.39	19
4.2.2	Personal safety	90.99	16
4.2.3	Physician density	44.39	40
4.2.4	Sanitation	89.20	63
5	**VOCATIONAL AND TECHNICAL SKILLS**	**67.50**	**14**
5.1	Mid-Level Skills	49.63	30
5.1.1	Workforce with secondary education	32.35	55
5.1.2	Population with secondary education	38.66	52
5.1.3	Technicians and associate professionals	49.78	40
5.1.4	Labour productivity per employee	77.72	8
5.2	Employability	85.36	8
5.2.1	Ease of finding skilled employees	91.42	4
5.2.2	Relevance of education system to the economy	83.41	6
5.2.3	Skills matching with secondary education	77.00	21
5.2.4	Skills matching with tertiary education	89.63	8
6	**GLOBAL KNOWLEDGE SKILLS**	**55.55**	**12**
6.1	High-Level Skills	56.16	13
6.1.1	Workforce with tertiary education	62.08	9
6.1.2	Population with tertiary education	35.85	27
6.1.3	Professionals	58.96	16
6.1.4	Researchers	55.35	13
6.1.5	Senior officials and managers	50.63	20
6.1.6	Availability of scientists and engineers	74.12	12
6.2	Talent Impact	54.94	11
6.2.1	Innovation output	78.21	8
6.2.2	High-value exports	50.47	7
6.2.3	New product entrepreneurial activity	57.00	23
6.2.4	New business density	33.37	19
6.2.5	Scientific journal articles	55.67	25

ISRAEL

Key Indicators

Rank (out of 119)	**24**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**8.38**
GDP per capita (PPP US$)	**35,431.60**
GDP (US$ billions)	**296.08**
GTCI score	**61.79**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



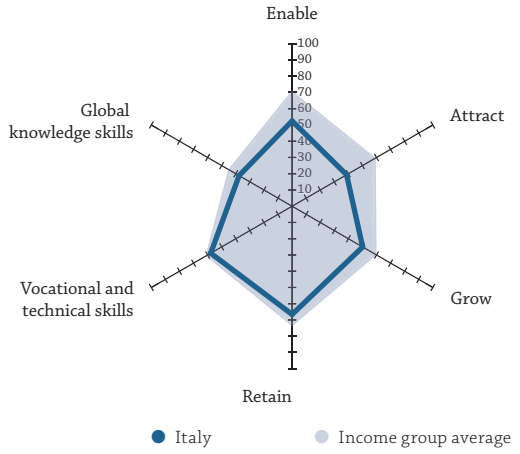
		Score	Rank
1	**ENABLE**	**72.19**	**24**
1.1	Regulatory Landscape	62.25	38
1.1.1	Government effectiveness	77.63	22
1.1.2	Business-government relations	55.19	66
1.1.3	Political stability	36.65	109
1.1.4	Regulatory quality	75.97	21
1.1.5	Corruption	65.79	26
1.2	Market Landscape	76.85	14
1.2.1	Competition intensity	70.29	60
1.2.2	Ease of doing business	71.36	49
1.2.3	Cluster development	58.82	32
1.2.4	R&D expenditure	95.79	2
1.2.5	ICT infrastructure	80.35	26
1.2.6	Technology utilisation	84.45	15
1.3	Business and Labour Landscape	77.47	17
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	69.06	34
1.3.4	Labour-employer cooperation	67.21	29
	Management Practice		
1.3.5	Professional management	73.93	24
1.3.6	Relationship of pay to productivity	65.66	26
2	**ATTRACT**	**45.58**	**50**
2.1	External Openness	53.82	23
	Attract Business		
2.1.1	FDI and technology transfer	77.55	6
2.1.2	Prevalence of foreign ownership	70.86	38
	Attract People		
2.1.3	Migrant stock	54.90	13
2.1.4	International students	14.37	56
2.1.5	Brain gain	51.41	35
2.2	Internal Openness	37.33	105
	Social Inclusion		
2.2.1	Tolerance of minorities	3.45	118
2.2.2	Tolerance of immigrants	30.99	101
2.2.3	Social mobility	55.04	36
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	50.60	62
2.2.6	Leadership opportunities for women	46.59	52
3	**GROW**	**56.25**	**26**
3.1	Formal Education	46.04	34
	Enrolment		
3.1.1	Vocational enrolment	31.87	36
3.1.2	Tertiary enrolment	57.82	32
	Quality		
3.1.3	Tertiary education expenditure	21.48	61
3.1.4	Reading, maths, and science	62.42	36
3.1.5	University ranking	56.61	21
3.2	Lifelong Learning	53.05	39
3.2.1	Quality of management schools	75.13	21
3.2.2	Prevalence of training in firms	20.05	76
3.2.3	Employee development	63.97	26
3.3	Access to Growth Opportunities	69.65	18
	Empowerment		
3.3.1	Delegation of authority	68.99	21
3.3.2	Personal rights	35.21	90
	Collaboration		
3.3.3	Use of virtual social networks	95.15	8
3.3.4	Use of virtual professional networks	47.02	19
3.3.5	Collaboration within organisations	80.42	12
3.3.6	Collaboration across organisations	91.08	11
4	**RETAIN**	**72.82**	**24**
4.1	Sustainability	70.14	21
4.1.1	Pension system	88.88	20
4.1.2	Social protection	56.84	31
4.1.3	Brain retention	64.69	24
4.2	Lifestyle	75.51	38
4.2.1	Environmental performance	76.60	47
4.2.2	Personal safety	67.74	57
4.2.3	Physician density	57.69	19
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**62.62**	**23**
5.1	Mid-Level Skills	46.58	33
5.1.1	Workforce with secondary education	36.97	36
5.1.2	Population with secondary education	48.79	35
5.1.3	Technicians and associate professionals	57.85	29
5.1.4	Labour productivity per employee	42.71	31
5.2	Employability	78.67	18
5.2.1	Ease of finding skilled employees	86.80	6
5.2.2	Relevance of education system to the economy	64.66	21
5.2.3	Skills matching with secondary education	78.75	17
5.2.4	Skills matching with tertiary education	84.46	20
6	**GLOBAL KNOWLEDGE SKILLS**	**61.27**	**4**
6.1	High-Level Skills	72.27	3
6.1.1	Workforce with tertiary education	65.08	7
6.1.2	Population with tertiary education	57.80	6
6.1.3	Professionals	69.65	9
6.1.4	Researchers	100.00	1
6.1.5	Senior officials and managers	63.13	11
6.1.6	Availability of scientists and engineers	77.94	8
6.2	Talent Impact	50.26	17
6.2.1	Innovation output	66.61	14
6.2.2	High-value exports	37.10	17
6.2.3	New product entrepreneurial activity	54.86	26
6.2.4	New business density	17.88	34
6.2.5	Scientific journal articles	74.87	13

ITALY

Key Indicators

Rank (out of 119)	**36**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**60.80**
GDP per capita (PPP US$)	**35,896.50**
GDP (US$ billions)	**1,814.76**
GTCI score	**50.55**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



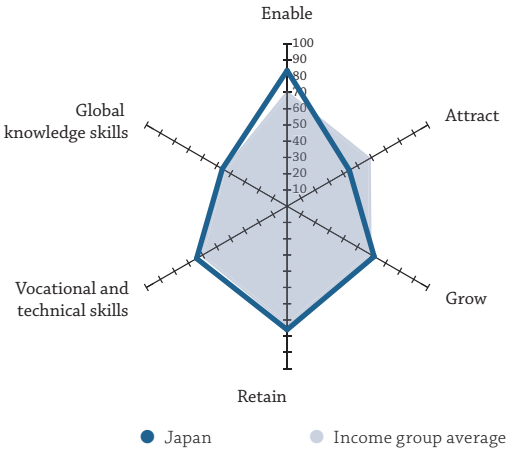
		Score	Rank
1	**ENABLE**	**52.44**	**52**
1.1	Regulatory Landscape	50.44	56
1.1.1	Government effectiveness	53.73	44
1.1.2	Business-government relations	20.09	117
1.1.3	Political stability	72.09	46
1.1.4	Regulatory quality	62.86	40
1.1.5	Corruption	43.42	50
1.2	Market Landscape	65.26	28
1.2.1	Competition intensity	73.71	40
1.2.2	Ease of doing business	72.48	47
1.2.3	Cluster development	93.50	4
1.2.4	R&D expenditure	29.91	26
1.2.5	ICT infrastructure	76.40	30
1.2.6	Technology utilisation	45.58	59
1.3	Business and Labour Landscape	41.61	103
	Labour Market		
1.3.1	Ease of hiring	72.33	48
1.3.2	Ease of redundancy	50.00	98
1.3.3	Active labour market policies	49.36	91
1.3.4	Labour-employer cooperation	36.59	95
	Management Practice		
1.3.5	Professional management	25.21	89
1.3.6	Relationship of pay to productivity	16.16	113
2	**ATTRACT**	**38.73**	**83**
2.1	External Openness	29.68	81
	Attract Business		
2.1.1	FDI and technology transfer	35.77	96
2.1.2	Prevalence of foreign ownership	40.00	98
	Attract People		
2.1.3	Migrant stock	21.20	39
2.1.4	International students	24.50	35
2.1.5	Brain gain	26.91	88
2.2	Internal Openness	47.78	71
	Social Inclusion		
2.2.1	Tolerance of minorities	58.62	40
2.2.2	Tolerance of immigrants	67.61	43
2.2.3	Social mobility	33.24	90
	Gender Equality		
2.2.4	Female graduates	82.20	36
2.2.5	Gender earnings gap	42.17	81
2.2.6	Leadership opportunities for women	2.87	117
3	**GROW**	**50.14**	**36**
3.1	Formal Education	50.12	24
	Enrolment		
3.1.1	Vocational enrolment	55.04	13
3.1.2	Tertiary enrolment	55.10	38
	Quality		
3.1.3	Tertiary education expenditure	18.41	70
3.1.4	Reading, maths, and science	68.67	30
3.1.5	University ranking	53.38	23
3.2	Lifelong Learning	46.30	55
3.2.1	Quality of management schools	70.37	26
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	22.22	102
3.3	Access to Growth Opportunities	54.01	40
	Empowerment		
3.3.1	Delegation of authority	23.74	104
3.3.2	Personal rights	89.15	14
	Collaboration		
3.3.3	Use of virtual social networks	77.27	44
3.3.4	Use of virtual professional networks	43.09	23
3.3.5	Collaboration within organisations	25.19	98
3.3.6	Collaboration across organisations	65.60	76
4	**RETAIN**	**66.55**	**32**
4.1	Sustainability	54.21	36
4.1.1	Pension system	89.80	18
4.1.2	Social protection	46.17	41
4.1.3	Brain retention	26.65	93
4.2	Lifestyle	78.90	26
4.2.1	Environmental performance	88.43	29
4.2.2	Personal safety	64.75	63
4.2.3	Physician density	62.98	11
4.2.4	Sanitation	99.43	17
5	**VOCATIONAL AND TECHNICAL SKILLS**	**57.82**	**28**
5.1	Mid-Level Skills	54.77	21
5.1.1	Workforce with secondary education	40.66	27
5.1.2	Population with secondary education	48.64	37
5.1.3	Technicians and associate professionals	77.58	10
5.1.4	Labour productivity per employee	52.21	21
5.2	Employability	60.86	46
5.2.1	Ease of finding skilled employees	62.05	37
5.2.2	Relevance of education system to the economy	43.27	54
5.2.3	Skills matching with secondary education	65.67	50
5.2.4	Skills matching with tertiary education	72.46	52
6	**GLOBAL KNOWLEDGE SKILLS**	**37.65**	**37**
6.1	High-Level Skills	33.06	47
6.1.1	Workforce with tertiary education	28.56	65
6.1.2	Population with tertiary education	23.67	56
6.1.3	Professionals	39.60	44
6.1.4	Researchers	24.33	36
6.1.5	Senior officials and managers	22.50	61
6.1.6	Availability of scientists and engineers	59.71	28
6.2	Talent Impact	42.24	28
6.2.1	Innovation output	53.78	28
6.2.2	High-value exports	13.56	53
6.2.3	New product entrepreneurial activity	75.21	7
6.2.4	New business density	13.29	42
6.2.5	Scientific journal articles	55.38	27

JAPAN

Key Indicators

Rank (out of 119)	**20**
Income group	**High income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**126.96**
GDP per capita (PPP US$)	**37,321.60**
GDP (US$ billions)	**4,123.26**
GTCI score	**62.63**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



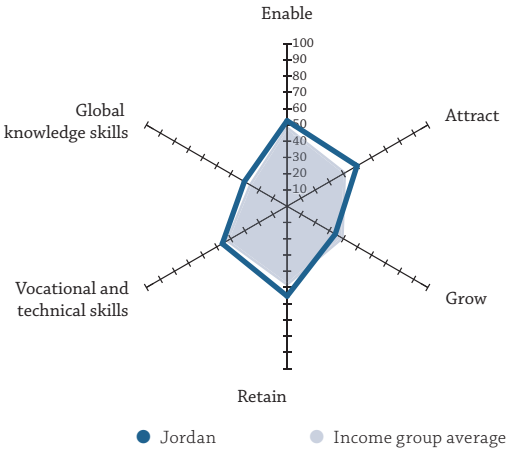
		Score	Rank
1	**ENABLE**	**83.47**	**7**
1.1	Regulatory Landscape	81.16	15
1.1.1	Government effectiveness	88.17	9
1.1.2	Business-government relations	79.91	15
1.1.3	Political stability	87.62	14
1.1.4	Regulatory quality	73.79	23
1.1.5	Corruption	76.32	19
1.2	Market Landscape	87.61	2
1.2.1	Competition intensity	100.00	1
1.2.2	Ease of doing business	78.60	32
1.2.3	Cluster development	89.47	7
1.2.4	R&D expenditure	83.41	3
1.2.5	ICT infrastructure	93.59	9
1.2.6	Technology utilisation	80.57	17
1.3	Business and Labour Landscape	81.64	13
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	72.39	27
1.3.4	Labour-employer cooperation	87.26	7
	Management Practice		
1.3.5	Professional management	82.81	16
1.3.6	Relationship of pay to productivity	68.35	22
2	**ATTRACT**	**44.22**	**54**
2.1	External Openness	40.06	49
	Attract Business		
2.1.1	FDI and technology transfer	62.40	31
2.1.2	Prevalence of foreign ownership	78.52	20
	Attract People		
2.1.3	Migrant stock	3.40	84
2.1.4	International students	17.82	50
2.1.5	Brain gain	38.15	67
2.2	Internal Openness	48.39	68
	Social Inclusion		
2.2.1	Tolerance of minorities	66.67	26
2.2.2	Tolerance of immigrants	38.03	93
2.2.3	Social mobility	71.93	24
	Gender Equality		
2.2.4	Female graduates	53.73	83
2.2.5	Gender earnings gap	40.96	83
2.2.6	Leadership opportunities for women	19.00	99
3	**GROW**	**61.83**	**20**
3.1	Formal Education	52.93	21
	Enrolment		
3.1.1	Vocational enrolment	18.58	58
3.1.2	Tertiary enrolment	55.33	36
	Quality		
3.1.3	Tertiary education expenditure	17.65	72
3.1.4	Reading, maths, and science	89.33	2
3.1.5	University ranking	83.78	8
3.2	Lifelong Learning	67.34	21
3.2.1	Quality of management schools	48.15	51
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	86.53	10
3.3	Access to Growth Opportunities	65.21	24
	Empowerment		
3.3.1	Delegation of authority	57.82	27
3.3.2	Personal rights	96.38	9
	Collaboration		
3.3.3	Use of virtual social networks	79.39	34
3.3.4	Use of virtual professional networks	2.41	99
3.3.5	Collaboration within organisations	77.43	16
3.3.6	Collaboration across organisations	77.83	28
4	**RETAIN**	**75.96**	**20**
4.1	Sustainability	73.28	19
4.1.1	Pension system	94.90	3
4.1.2	Social protection	70.50	21
4.1.3	Brain retention	54.44	36
4.2	Lifestyle	78.63	29
4.2.1	Environmental performance	81.17	38
4.2.2	Personal safety	96.83	7
4.2.3	Physician density	36.54	52
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**64.28**	**18**
5.1	Mid-Level Skills	61.99	9
5.1.1	Workforce with secondary education	45.68	22
5.1.2	Population with secondary education	56.78	25
5.1.3	Technicians and associate professionals	100.00	1
5.1.4	Labour productivity per employee	45.52	28
5.2	Employability	66.57	33
5.2.1	Ease of finding skilled employees	66.67	28
5.2.2	Relevance of education system to the economy	58.17	33
5.2.3	Skills matching with secondary education	67.49	44
5.2.4	Skills matching with tertiary education	73.97	46
6	**GLOBAL KNOWLEDGE SKILLS**	**46.02**	**23**
6.1	High-Level Skills	55.61	17
6.1.1	Workforce with tertiary education	67.23	6
6.1.2	Population with tertiary education	50.26	13
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	63.31	9
6.1.5	Senior officials and managers	13.13	80
6.1.6	Availability of scientists and engineers	84.12	3
6.2	Talent Impact	36.43	43
6.2.1	Innovation output	61.69	20
6.2.2	High-value exports	31.64	19
6.2.3	New product entrepreneurial activity	48.46	38
6.2.4	New business density	0.70	88
6.2.5	Scientific journal articles	39.67	42

JORDAN

Key Indicators

Rank (out of 119)	**50**
Income group	**Upper middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**7.59**
GDP per capita (PPP US$)	**10,880.30**
GDP (US$ billions)	**37.52**
GTCI score	**44.70**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



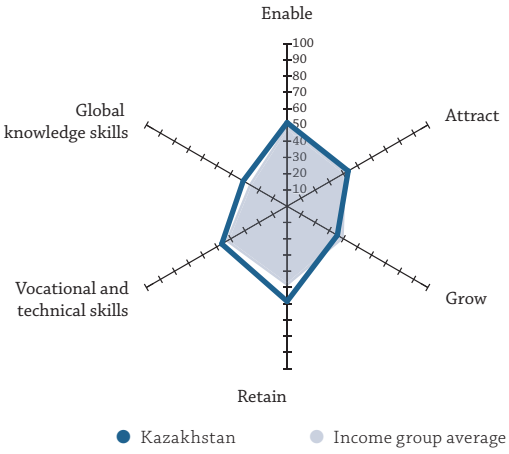
		Score	Rank
1	**ENABLE**	**52.60**	**51**
1.1	Regulatory Landscape	49.64	58
1.1.1	Government effectiveness	45.76	60
1.1.2	Business-government relations	61.59	50
1.1.3	Political stability	49.76	89
1.1.4	Regulatory quality	46.36	66
1.1.5	Corruption	44.74	47
1.2	Market Landscape	50.40	54
1.2.1	Competition intensity	76.29	34
1.2.2	Ease of doing business	44.61	96
1.2.3	Cluster development	60.37	29
1.2.4	R&D expenditure	9.81	63
1.2.5	ICT infrastructure	48.43	71
1.2.6	Technology utilisation	62.90	36
1.3	Business and Labour Landscape	57.77	60
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	66.76	40
1.3.4	Labour-employer cooperation	59.08	39
	Management Practice		
1.3.5	Professional management	39.26	67
1.3.6	Relationship of pay to productivity	52.53	52
2	**ATTRACT**	**49.68**	**39**
2.1	External Openness	63.02	13
	Attract Business		
2.1.1	FDI and technology transfer	56.66	43
2.1.2	Prevalence of foreign ownership	56.30	63
	Attract People		
2.1.3	Migrant stock	90.27	8
2.1.4	International students	67.29	13
2.1.5	Brain gain	44.58	52
2.2	Internal Openness	36.34	106
	Social Inclusion		
2.2.1	Tolerance of minorities	26.44	89
2.2.2	Tolerance of immigrants	47.89	76
2.2.3	Social mobility	46.59	53
	Gender Equality		
2.2.4	Female graduates	48.02	89
2.2.5	Gender earnings gap	0.00	117
2.2.6	Leadership opportunities for women	49.10	47
3	**GROW**	**34.24**	**82**
3.1	Formal Education	24.30	72
	Enrolment		
3.1.1	Vocational enrolment	6.01	92
3.1.2	Tertiary enrolment	38.98	58
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths, and science	28.21	60
3.1.5	University ranking	24.02	53
3.2	Lifelong Learning	33.66	87
3.2.1	Quality of management schools	49.47	50
3.2.2	Prevalence of training in firms	0.00	92
3.2.3	Employee development	51.52	39
3.3	Access to Growth Opportunities	44.74	71
	Empowerment		
3.3.1	Delegation of authority	34.08	80
3.3.2	Personal rights	18.43	106
	Collaboration		
3.3.3	Use of virtual social networks	81.21	30
3.3.4	Use of virtual professional networks	23.67	43
3.3.5	Collaboration within organisations	36.34	70
3.3.6	Collaboration across organisations	74.71	38
4	**RETAIN**	**55.31**	**53**
4.1	Sustainability	43.83	53
4.1.1	Pension system	36.73	56
4.1.2	Social protection	48.96	37
4.1.3	Brain retention	45.79	49
4.2	Lifestyle	66.80	52
4.2.1	Environmental performance	65.58	66
4.2.2	Personal safety	61.05	70
4.2.3	Physician density	42.15	43
4.2.4	Sanitation	98.41	30
5	**VOCATIONAL AND TECHNICAL SKILLS**	**46.03**	**54**
5.1	Mid-Level Skills	23.91	85
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	20.11	83
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	27.71	55
5.2	Employability	68.16	27
5.2.1	Ease of finding skilled employees	65.68	32
5.2.2	Relevance of education system to the economy	62.02	26
5.2.3	Skills matching with secondary education	68.21	41
5.2.4	Skills matching with tertiary education	76.73	34
6	**GLOBAL KNOWLEDGE SKILLS**	**30.35**	**57**
6.1	High-Level Skills	34.62	46
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	26.76	51
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	3.59	70
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	73.53	13
6.2	Talent Impact	26.08	57
6.2.1	Innovation output	26.54	73
6.2.2	High-value exports	3.39	92
6.2.3	New product entrepreneurial activity	61.16	15
6.2.4	New business density	5.57	68
6.2.5	Scientific journal articles	33.76	46

KAZAKHSTAN

Key Indicators

Rank (out of 119)	**51**
Income group	**Upper middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**17.54**
GDP per capita (PPP US$)	**25,876.50**
GDP (US$ billions)	**184.36**
GTCI score	**44.44**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



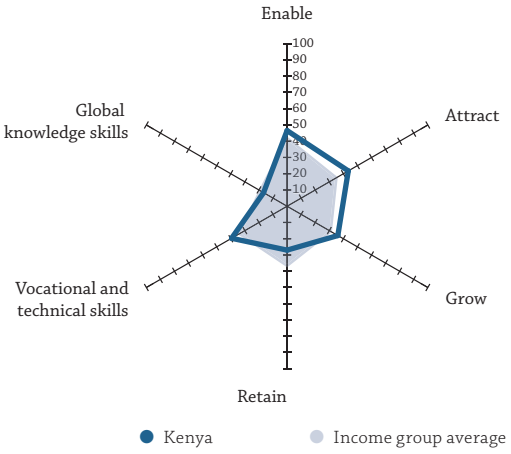
		Score	Rank
1	**ENABLE**	**51.43**	**58**
1.1	Regulatory Landscape	45.96	70
1.1.1	Government effectiveness	40.87	73
1.1.2	Business-government relations	63.36	40
1.1.3	Political stability	61.41	67
1.1.4	Regulatory quality	44.42	68
1.1.5	Corruption	19.74	101
1.2	Market Landscape	44.55	68
1.2.1	Competition intensity	54.29	94
1.2.2	Ease of doing business	77.78	33
1.2.3	Cluster development	20.74	106
1.2.4	R&D expenditure	3.74	84
1.2.5	ICT infrastructure	69.03	45
1.2.6	Technology utilisation	41.70	66
1.3	Business and Labour Landscape	63.79	37
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	71.63	28
1.3.4	Labour-employer cooperation	52.30	54
	Management Practice		
1.3.5	Professional management	27.51	85
1.3.6	Relationship of pay to productivity	61.28	34
2	**ATTRACT**	**43.40**	**58**
2.1	External Openness	37.54	60
	Attract Business		
2.1.1	FDI and technology transfer	39.69	87
2.1.2	Prevalence of foreign ownership	46.42	92
	Attract People		
2.1.3	Migrant stock	44.24	16
2.1.4	International students	10.34	63
2.1.5	Brain gain	46.99	43
2.2	Internal Openness	49.27	63
	Social Inclusion		
2.2.1	Tolerance of minorities	34.48	75
2.2.2	Tolerance of immigrants	36.62	94
2.2.3	Social mobility	43.60	61
	Gender Equality		
2.2.4	Female graduates	72.88	59
2.2.5	Gender earnings gap	48.19	70
2.2.6	Leadership opportunities for women	59.86	33
3	**GROW**	**35.69**	**79**
3.1	Formal Education	30.80	60
	Enrolment		
3.1.1	Vocational enrolment	17.54	62
3.1.2	Tertiary enrolment	40.21	56
	Quality		
3.1.3	Tertiary education expenditure	8.70	88
3.1.4	Reading, maths, and science	51.17	40
3.1.5	University ranking	36.40	36
3.2	Lifelong Learning	34.78	82
3.2.1	Quality of management schools	31.75	92
3.2.2	Prevalence of training in firms	32.85	57
3.2.3	Employee development	39.73	61
3.3	Access to Growth Opportunities	41.49	90
	Empowerment		
3.3.1	Delegation of authority	38.27	72
3.3.2	Personal rights	26.94	100
	Collaboration		
3.3.3	Use of virtual social networks	58.48	88
3.3.4	Use of virtual professional networks	6.02	89
3.3.5	Collaboration within organisations	50.85	37
3.3.6	Collaboration across organisations	68.35	63
4	**RETAIN**	**58.52**	**48**
4.1	Sustainability	47.86	44
4.1.1	Pension system	62.24	40
4.1.2	Social protection	38.29	56
4.1.3	Brain retention	43.05	55
4.2	Lifestyle	69.17	49
4.2.1	Environmental performance	67.54	63
4.2.2	Personal safety	59.90	73
4.2.3	Physician density	52.08	27
4.2.4	Sanitation	97.16	38
5	**VOCATIONAL AND TECHNICAL SKILLS**	**46.42**	**53**
5.1	Mid-Level Skills	39.39	53
5.1.1	Workforce with secondary education	34.59	43
5.1.2	Population with secondary education	43.22	44
5.1.3	Technicians and associate professionals	49.78	40
5.1.4	Labour productivity per employee	29.96	53
5.2	Employability	53.44	63
5.2.1	Ease of finding skilled employees	49.83	56
5.2.2	Relevance of education system to the economy	40.38	64
5.2.3	Skills matching with secondary education	62.52	61
5.2.4	Skills matching with tertiary education	61.03	97
6	**GLOBAL KNOWLEDGE SKILLS**	**31.17**	**52**
6.1	High-Level Skills	35.80	44
6.1.1	Workforce with tertiary education	49.74	24
6.1.2	Population with tertiary education	37.91	24
6.1.3	Professionals	45.95	34
6.1.4	Researchers	8.76	54
6.1.5	Senior officials and managers	31.25	41
6.1.6	Availability of scientists and engineers	41.18	59
6.2	Talent Impact	26.54	55
6.2.1	Innovation output	19.16	90
6.2.2	High-value exports	77.59	4
6.2.3	New product entrepreneurial activity	22.77	77
6.2.4	New business density	9.75	49
6.2.5	Scientific journal articles	3.46	101

KENYA

Key Indicators

Rank (out of 119)	**88**
Income group	**Lower middle income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**46.05**
GDP per capita (PPP US$)	**3,082.52**
GDP (US$ billions)	**63.40**
GTCI score	**34.87**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



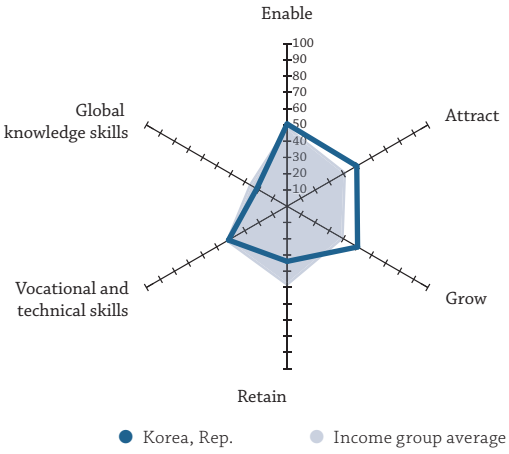
		Score	Rank
1	**ENABLE**	**46.55**	**81**
1.1	Regulatory Landscape	36.45	98
1.1.1	Government effectiveness	34.70	86
1.1.2	Business-government relations	61.15	53
1.1.3	Political stability	32.52	112
1.1.4	Regulatory quality	38.11	87
1.1.5	Corruption	15.79	110
1.2	Market Landscape	49.14	57
1.2.1	Competition intensity	82.86	17
1.2.2	Ease of doing business	51.92	79
1.2.3	Cluster development	56.66	36
1.2.4	R&D expenditure	18.22	42
1.2.5	ICT infrastructure	20.19	100
1.2.6	Technology utilisation	65.02	33
1.3	Business and Labour Landscape	54.05	66
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	59.56	61
1.3.4	Labour-employer cooperation	44.17	83
	Management Practice		
1.3.5	Professional management	42.12	63
1.3.6	Relationship of pay to productivity	41.75	68
2	**ATTRACT**	**43.48**	**57**
2.1	External Openness	44.24	37
	Attract Business		
2.1.1	FDI and technology transfer	56.40	45
2.1.2	Prevalence of foreign ownership	62.72	50
	Attract People		
2.1.3	Migrant stock	5.03	75
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	52.81	33
2.2	Internal Openness	42.72	89
	Social Inclusion		
2.2.1	Tolerance of minorities	11.49	112
2.2.2	Tolerance of immigrants	67.61	43
2.2.3	Social mobility	45.50	55
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	57.83	38
2.2.6	Leadership opportunities for women	31.18	77
3	**GROW**	**36.05**	**76**
3.1	Formal Education	8.22	110
	Enrolment		
3.1.1	Vocational enrolment	0.72	108
3.1.2	Tertiary enrolment	2.87	110
	Quality		
3.1.3	Tertiary education expenditure	15.35	80
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	13.93	71
3.2	Lifelong Learning	51.41	41
3.2.1	Quality of management schools	53.97	41
3.2.2	Prevalence of training in firms	49.08	36
3.2.3	Employee development	51.18	40
3.3	Access to Growth Opportunities	48.53	58
	Empowerment		
3.3.1	Delegation of authority	51.40	38
3.3.2	Personal rights	29.14	96
	Collaboration		
3.3.3	Use of virtual social networks	78.18	38
3.3.4	Use of virtual professional networks	7.52	84
3.3.5	Collaboration within organisations	47.87	40
3.3.6	Collaboration across organisations	77.09	32
4	**RETAIN**	**27.00**	**109**
4.1	Sustainability	27.84	88
4.1.1	Pension system	6.12	91
4.1.2	Social protection	30.47	75
4.1.3	Brain retention	46.92	47
4.2	Lifestyle	26.16	114
4.2.1	Environmental performance	47.39	98
4.2.2	Personal safety	33.80	109
4.2.3	Physician density	2.88	98
4.2.4	Sanitation	20.57	111
5	**VOCATIONAL AND TECHNICAL SKILLS**	**39.43**	**73**
5.1	Mid-Level Skills	11.47	102
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	19.69	84
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	3.25	92
5.2	Employability	67.39	30
5.2.1	Ease of finding skilled employees	70.30	25
5.2.2	Relevance of education system to the economy	58.89	31
5.2.3	Skills matching with secondary education	61.80	65
5.2.4	Skills matching with tertiary education	78.58	33
6	**GLOBAL KNOWLEDGE SKILLS**	**16.71**	**92**
6.1	High-Level Skills	19.15	82
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	2.74	96
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	2.65	73
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	52.06	39
6.2	Talent Impact	14.27	89
6.2.1	Innovation output	27.77	68
6.2.2	High-value exports	7.16	77
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	10.27	48
6.2.5	Scientific journal articles	11.88	72

KOREA, REP.

Key Indicators

Rank (out of 119)	**30**
Income group	**High income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**50.62**
GDP per capita (PPP US$)	**34,549.20**
GDP (US$ billions)	**1,377.87**
GTCI score	**55.57**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



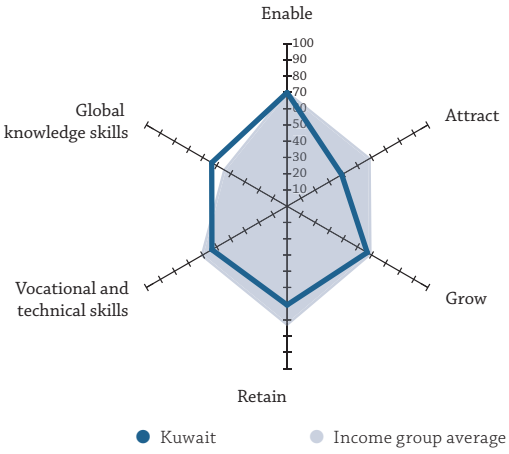
		Score	Rank
1	**ENABLE**	**69.94**	**25**
1.1	Regulatory Landscape	64.31	36
1.1.1	Government effectiveness	68.64	32
1.1.2	Business-government relations	62.03	46
1.1.3	Political stability	66.26	55
1.1.4	Regulatory quality	73.30	25
1.1.5	Corruption	51.32	42
1.2	Market Landscape	87.60	3
1.2.1	Competition intensity	91.14	5
1.2.2	Ease of doing business	94.52	4
1.2.3	Cluster development	67.49	26
1.2.4	R&D expenditure	100.00	1
1.2.5	ICT infrastructure	100.00	1
1.2.6	Technology utilisation	72.44	27
1.3	Business and Labour Landscape	57.91	59
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	64.83	50
1.3.4	Labour-employer cooperation	23.04	116
	Management Practice		
1.3.5	Professional management	60.17	28
1.3.6	Relationship of pay to productivity	73.74	15
2	**ATTRACT**	**38.81**	**81**
2.1	External Openness	34.18	67
	Attract Business		
2.1.1	FDI and technology transfer	54.31	52
2.1.2	Prevalence of foreign ownership	53.83	70
	Attract People		
2.1.3	Migrant stock	5.67	70
2.1.4	International students	8.52	69
2.1.5	Brain gain	48.59	42
2.2	Internal Openness	43.43	86
	Social Inclusion		
2.2.1	Tolerance of minorities	75.86	10
2.2.2	Tolerance of immigrants	56.34	59
2.2.3	Social mobility	31.88	94
	Gender Equality		
2.2.4	Female graduates	59.88	78
2.2.5	Gender earnings gap	33.73	96
2.2.6	Leadership opportunities for women	2.87	117
3	**GROW**	**56.93**	**25**
3.1	Formal Education	57.21	14
	Enrolment		
3.1.1	Vocational enrolment	14.52	69
3.1.2	Tertiary enrolment	83.62	2
	Quality		
3.1.3	Tertiary education expenditure	22.51	56
3.1.4	Reading, maths, and science	84.71	6
3.1.5	University ranking	80.70	9
3.2	Lifelong Learning	49.56	45
3.2.1	Quality of management schools	45.50	55
3.2.2	Prevalence of training in firms	47.63	38
3.2.3	Employee development	55.56	35
3.3	Access to Growth Opportunities	64.01	27
	Empowerment		
3.3.1	Delegation of authority	44.69	59
3.3.2	Personal rights	65.45	51
	Collaboration		
3.3.3	Use of virtual social networks	78.48	36
3.3.4	Use of virtual professional networks	n/a	n/a
3.3.5	Collaboration within organisations	53.25	32
3.3.6	Collaboration across organisations	78.19	27
4	**RETAIN**	**60.76**	**40**
4.1	Sustainability	48.83	42
4.1.1	Pension system	47.96	50
4.1.2	Social protection	36.12	61
4.1.3	Brain retention	62.41	28
4.2	Lifestyle	72.69	43
4.2.1	Environmental performance	62.54	71
4.2.2	Personal safety	92.81	13
4.2.3	Physician density	35.42	54
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**53.41**	**35**
5.1	Mid-Level Skills	44.39	38
5.1.1	Workforce with secondary education	33.93	48
5.1.2	Population with secondary education	53.21	30
5.1.3	Technicians and associate professionals	47.53	44
5.1.4	Labour productivity per employee	42.90	30
5.2	Employability	62.42	39
5.2.1	Ease of finding skilled employees	67.00	27
5.2.2	Relevance of education system to the economy	39.42	66
5.2.3	Skills matching with secondary education	70.22	33
5.2.4	Skills matching with tertiary education	73.03	49
6	**GLOBAL KNOWLEDGE SKILLS**	**53.56**	**15**
6.1	High-Level Skills	52.66	20
6.1.1	Workforce with tertiary education	61.29	10
6.1.2	Population with tertiary education	53.52	11
6.1.3	Professionals	55.49	19
6.1.4	Researchers	85.83	3
6.1.5	Senior officials and managers	7.50	91
6.1.6	Availability of scientists and engineers	52.35	38
6.2	Talent Impact	54.47	13
6.2.1	Innovation output	75.92	9
6.2.2	High-value exports	50.47	7
6.2.3	New product entrepreneurial activity	68.18	11
6.2.4	New business density	13.17	43
6.2.5	Scientific journal articles	64.59	19

KUWAIT

Key Indicators

Rank (out of 119)	**65**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**3.89**
GDP per capita (PPP US$)	**71,312.00**
GDP (US$ billions)	**112.81**
GTCI score	**40.85**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



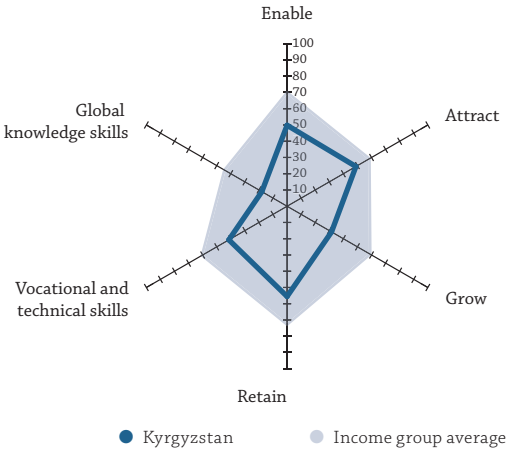
		Score	Rank
1	**ENABLE**	**49.82**	**65**
1.1	Regulatory Landscape	43.12	82
1.1.1	Government effectiveness	41.65	69
1.1.2	Business-government relations	35.98	104
1.1.3	Political stability	61.17	71
1.1.4	Regulatory quality	41.26	75
1.1.5	Corruption	35.53	60
1.2	Market Landscape	47.24	62
1.2.1	Competition intensity	70.86	56
1.2.2	Ease of doing business	48.81	85
1.2.3	Cluster development	49.85	45
1.2.4	R&D expenditure	6.78	73
1.2.5	ICT infrastructure	68.62	46
1.2.6	Technology utilisation	38.52	75
1.3	Business and Labour Landscape	59.11	53
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	57.98	66
1.3.4	Labour-employer cooperation	53.93	52
	Management Practice		
1.3.5	Professional management	15.47	109
1.3.6	Relationship of pay to productivity	27.27	99
2	**ATTRACT**	**48.90**	**41**
2.1	External Openness	44.85	34
	Attract Business		
2.1.1	FDI and technology transfer	29.77	105
2.1.2	Prevalence of foreign ownership	13.09	117
	Attract People		
2.1.3	Migrant stock	100.00	1
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	36.55	76
2.2	Internal Openness	52.95	51
	Social Inclusion		
2.2.1	Tolerance of minorities	60.92	37
2.2.2	Tolerance of immigrants	71.83	37
2.2.3	Social mobility	29.43	100
	Gender Equality		
2.2.4	Female graduates	78.48	47
2.2.5	Gender earnings gap	43.37	78
2.2.6	Leadership opportunities for women	33.69	72
3	**GROW**	**31.58**	**90**
3.1	Formal Education	18.06	86
	Enrolment		
3.1.1	Vocational enrolment	4.03	96
3.1.2	Tertiary enrolment	23.20	82
	Quality		
3.1.3	Tertiary education expenditure	29.16	38
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	15.84	70
3.2	Lifelong Learning	34.67	84
3.2.1	Quality of management schools	34.66	83
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	34.68	69
3.3	Access to Growth Opportunities	42.01	88
	Empowerment		
3.3.1	Delegation of authority	27.65	95
3.3.2	Personal rights	32.70	92
	Collaboration		
3.3.3	Use of virtual social networks	83.33	25
3.3.4	Use of virtual professional networks	22.76	44
3.3.5	Collaboration within organisations	24.06	102
3.3.6	Collaboration across organisations	61.52	87
4	**RETAIN**	**55.51**	**52**
4.1	Sustainability	44.67	50
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	52.44	35
4.1.3	Brain retention	36.90	72
4.2	Lifestyle	66.34	53
4.2.1	Environmental performance	50.97	93
4.2.2	Personal safety	83.47	26
4.2.3	Physician density	30.93	57
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**41.37**	**68**
5.1	Mid-Level Skills	38.23	58
5.1.1	Workforce with secondary education	17.54	83
5.1.2	Population with secondary education	19.12	86
5.1.3	Technicians and associate professionals	32.29	66
5.1.4	Labour productivity per employee	83.97	5
5.2	Employability	44.50	92
5.2.1	Ease of finding skilled employees	35.64	81
5.2.2	Relevance of education system to the economy	33.17	76
5.2.3	Skills matching with secondary education	49.82	104
5.2.4	Skills matching with tertiary education	59.38	104
6	**GLOBAL KNOWLEDGE SKILLS**	**17.94**	**87**
6.1	High-Level Skills	19.06	83
6.1.1	Workforce with tertiary education	27.04	69
6.1.2	Population with tertiary education	21.61	60
6.1.3	Professionals	20.52	72
6.1.4	Researchers	1.41	83
6.1.5	Senior officials and managers	14.38	78
6.1.6	Availability of scientists and engineers	29.41	88
6.2	Talent Impact	16.82	83
6.2.1	Innovation output	40.42	44
6.2.2	High-value exports	5.08	85
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	4.95	95

KYRGYZSTAN

Key Indicators

Rank (out of 119)	**93**
Income group	**Lower middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**5.96**
GDP per capita (PPP US$)	**3,426.65**
GDP (US$ billions)	**6.57**
GTCI score	**33.20**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**37.55**	**104**
1.1	Regulatory Landscape	31.96	105
1.1.1	Government effectiveness	19.02	112
1.1.2	Business-government relations	45.92	86
1.1.3	Political stability	42.72	97
1.1.4	Regulatory quality	33.74	95
1.1.5	Corruption	18.42	106
1.2	Market Landscape	26.82	112
1.2.1	Competition intensity	40.57	115
1.2.2	Ease of doing business	59.28	68
1.2.3	Cluster development	19.50	109
1.2.4	R&D expenditure	2.80	90
1.2.5	ICT infrastructure	33.83	90
1.2.6	Technology utilisation	4.95	115
1.3	Business and Labour Landscape	53.85	67
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	47.71	96
1.3.4	Labour-employer cooperation	42.55	86
	Management Practice		
1.3.5	Professional management	12.32	112
1.3.6	Relationship of pay to productivity	53.87	50
2	**ATTRACT**	**33.44**	**102**
2.1	External Openness	21.59	109
	Attract Business		
2.1.1	FDI and technology transfer	21.93	112
2.1.2	Prevalence of foreign ownership	33.09	105
	Attract People		
2.1.3	Migrant stock	7.44	67
2.1.4	International students	23.41	37
2.1.5	Brain gain	22.09	102
2.2	Internal Openness	45.28	81
	Social Inclusion		
2.2.1	Tolerance of minorities	18.39	103
2.2.2	Tolerance of immigrants	57.75	57
2.2.3	Social mobility	35.15	84
	Gender Equality		
2.2.4	Female graduates	83.39	30
2.2.5	Gender earnings gap	36.14	94
2.2.6	Leadership opportunities for women	40.86	63
3	**GROW**	**28.09**	**98**
3.1	Formal Education	15.16	95
	Enrolment		
3.1.1	Vocational enrolment	16.38	64
3.1.2	Tertiary enrolment	39.90	57
	Quality		
3.1.3	Tertiary education expenditure	4.35	102
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	37.40	72
3.2.1	Quality of management schools	10.05	116
3.2.2	Prevalence of training in firms	78.23	7
3.2.3	Employee development	23.91	99
3.3	Access to Growth Opportunities	31.71	110
	Empowerment		
3.3.1	Delegation of authority	26.54	97
3.3.2	Personal rights	42.42	81
	Collaboration		
3.3.3	Use of virtual social networks	36.36	114
3.3.4	Use of virtual professional networks	1.88	102
3.3.5	Collaboration within organisations	26.54	95
3.3.6	Collaboration across organisations	56.52	103
4	**RETAIN**	**43.56**	**73**
4.1	Sustainability	26.55	94
4.1.1	Pension system	38.78	55
4.1.2	Social protection	21.51	92
4.1.3	Brain retention	19.36	108
4.2	Lifestyle	60.58	64
4.2.1	Environmental performance	67.25	64
4.2.2	Personal safety	53.35	84
4.2.3	Physician density	29.33	61
4.2.4	Sanitation	92.39	55
5	**VOCATIONAL AND TECHNICAL SKILLS**	**42.89**	**63**
5.1	Mid-Level Skills	47.56	32
5.1.1	Workforce with secondary education	64.66	2
5.1.2	Population with secondary education	87.59	3
5.1.3	Technicians and associate professionals	34.08	61
5.1.4	Labour productivity per employee	3.89	90
5.2	Employability	38.23	111
5.2.1	Ease of finding skilled employees	30.03	93
5.2.2	Relevance of education system to the economy	26.44	95
5.2.3	Skills matching with secondary education	47.68	109
5.2.4	Skills matching with tertiary education	48.75	115
6	**GLOBAL KNOWLEDGE SKILLS**	**13.69**	**96**
6.1	High-Level Skills	15.19	95
6.1.1	Workforce with tertiary education	25.73	74
6.1.2	Population with tertiary education	2.74	96
6.1.3	Professionals	25.14	65
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	4.38	99
6.1.6	Availability of scientists and engineers	17.94	103
6.2	Talent Impact	12.19	93
6.2.1	Innovation output	15.82	100
6.2.2	High-value exports	22.41	36
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	6.09	66
6.2.5	Scientific journal articles	4.42	98

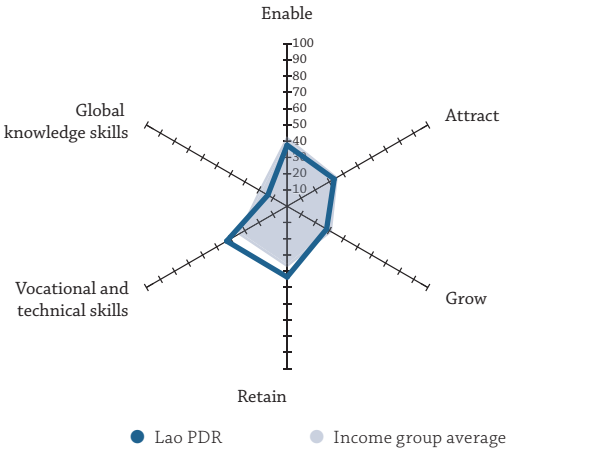
LAO PDR

Key Indicators

Rank (out of 119) **95**
Income group ..... **Lower middle income**
Regional group ..... **East, Southeastern Asia and Oceania**
Population (millions) **6.80**

GDP per capita (PPP US$) **5,675.49**
GDP (US$ billions) **12.33**
GTCI score **32.38**
GTCI score (income group average) **32.92**

GTCI 2018 Country Profile by Pillar



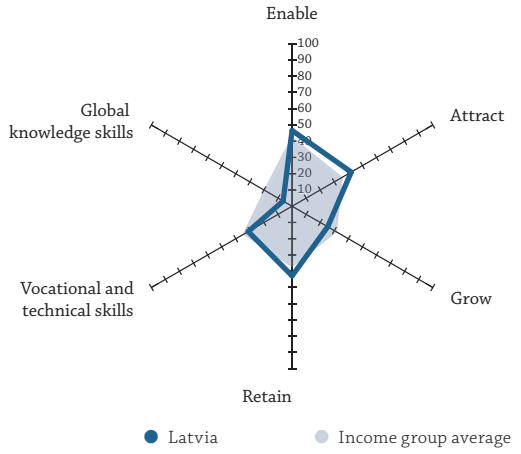
		Score	Rank
1	**ENABLE**	**46.59**	**80**
1.1	Regulatory Landscape	46.56	67
1.1.1	Government effectiveness	29.31	93
1.1.2	Business-government relations	81.24	14
1.1.3	Political stability	75.49	41
1.1.4	Regulatory quality	25.73	107
1.1.5	Corruption	21.05	95
1.2	Market Landscape	33.47	102
1.2.1	Competition intensity	39.43	116
1.2.2	Ease of doing business	37.14	107
1.2.3	Cluster development	48.30	49
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	12.82	108
1.2.6	Technology utilisation	29.68	95
1.3	Business and Labour Landscape	59.74	49
	Labour Market		
1.3.1	Ease of hiring	61.00	67
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	66.20	43
1.3.4	Labour-employer cooperation	56.91	42
	Management Practice		
1.3.5	Professional management	32.38	76
1.3.6	Relationship of pay to productivity	61.95	31
2	**ATTRACT**	**42.01**	**62**
2.1	External Openness	28.19	86
	Attract Business		
2.1.1	FDI and technology transfer	40.99	82
2.1.2	Prevalence of foreign ownership	56.54	62
	Attract People		
2.1.3	Migrant stock	0.57	109
2.1.4	International students	1.10	89
2.1.5	Brain gain	41.77	57
2.2	Internal Openness	55.83	45
	Social Inclusion		
2.2.1	Tolerance of minorities	42.53	62
2.2.2	Tolerance of immigrants	63.38	47
2.2.3	Social mobility	46.32	54
	Gender Equality		
2.2.4	Female graduates	53.12	84
2.2.5	Gender earnings gap	72.29	13
2.2.6	Leadership opportunities for women	57.35	35
3	**GROW**	**25.29**	**107**
3.1	Formal Education	6.51	112
	Enrolment		
3.1.1	Vocational enrolment	2.33	101
3.1.2	Tertiary enrolment	14.25	92
	Quality		
3.1.3	Tertiary education expenditure	9.46	86
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	26.34	108
3.2.1	Quality of management schools	37.57	76
3.2.2	Prevalence of training in firms	4.09	90
3.2.3	Employee development	37.37	64
3.3	Access to Growth Opportunities	43.02	82
	Empowerment		
3.3.1	Delegation of authority	43.02	65
3.3.2	Personal rights	9.03	112
	Collaboration		
3.3.3	Use of virtual social networks	46.97	100
3.3.4	Use of virtual professional networks	n/a	n/a
3.3.5	Collaboration within organisations	41.18	54
3.3.6	Collaboration across organisations	74.89	37
4	**RETAIN**	**42.83**	**75**
4.1	Sustainability	44.45	52
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	38.57	55
4.1.3	Brain retention	50.34	40
4.2	Lifestyle	41.20	97
4.2.1	Environmental performance	24.62	110
4.2.2	Personal safety	70.69	46
4.2.3	Physician density	2.56	100
4.2.4	Sanitation	66.93	89
5	**VOCATIONAL AND TECHNICAL SKILLS**	**31.16**	**99**
5.1	Mid-Level Skills	6.98	110
5.1.1	Workforce with secondary education	9.04	98
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	4.93	106
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	55.34	58
5.2.1	Ease of finding skilled employees	37.95	72
5.2.2	Relevance of education system to the economy	49.52	48
5.2.3	Skills matching with secondary education	57.92	81
5.2.4	Skills matching with tertiary education	75.98	39
6	**GLOBAL KNOWLEDGE SKILLS**	**6.39**	**116**
6.1	High-Level Skills	11.13	105
6.1.1	Workforce with tertiary education	11.89	91
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	11.27	89
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	8.13	90
6.1.6	Availability of scientists and engineers	13.24	111
6.2	Talent Impact	1.66	118
6.2.1	Innovation output	n/a	n/a
6.2.2	High-value exports	n/a	n/a
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	0.41	90
6.2.5	Scientific journal articles	2.91	105

LATVIA

Key Indicators

Rank (out of 119)	**34**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**1.98**
GDP per capita (PPP US$)	**24,286.20**
GDP (US$ billions)	**27.04**
GTCI score	**52.27**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



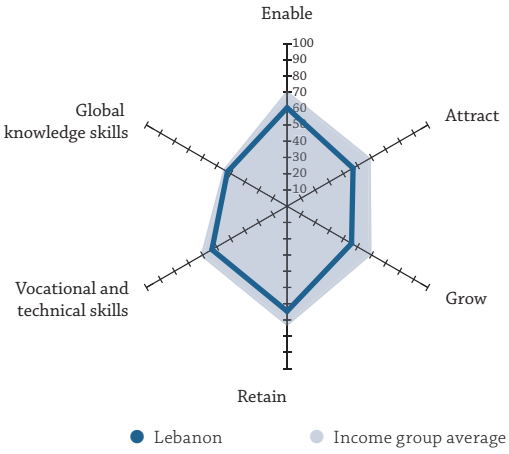
		Score	Rank
1	**ENABLE**	**60.57**	**34**
1.1	Regulatory Landscape	64.17	37
1.1.1	Government effectiveness	70.44	26
1.1.2	Business-government relations	47.46	82
1.1.3	Political stability	74.76	42
1.1.4	Regulatory quality	71.60	28
1.1.5	Corruption	56.58	35
1.2	Market Landscape	55.22	41
1.2.1	Competition intensity	76.86	31
1.2.2	Ease of doing business	88.07	12
1.2.3	Cluster development	35.29	81
1.2.4	R&D expenditure	15.89	48
1.2.5	ICT infrastructure	75.99	33
1.2.6	Technology utilisation	39.22	72
1.3	Business and Labour Landscape	62.33	38
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	66.68	41
1.3.4	Labour-employer cooperation	61.25	32
	Management Practice		
1.3.5	Professional management	43.84	57
1.3.6	Relationship of pay to productivity	55.56	46
2	**ATTRACT**	**46.88**	**46**
2.1	External Openness	40.32	48
	Attract Business		
2.1.1	FDI and technology transfer	50.91	61
2.1.2	Prevalence of foreign ownership	72.59	29
	Attract People		
2.1.3	Migrant stock	29.30	26
2.1.4	International students	25.91	33
2.1.5	Brain gain	22.89	101
2.2	Internal Openness	53.44	48
	Social Inclusion		
2.2.1	Tolerance of minorities	29.89	84
2.2.2	Tolerance of immigrants	2.82	116
2.2.3	Social mobility	52.04	46
	Gender Equality		
2.2.4	Female graduates	96.79	4
2.2.5	Gender earnings gap	63.86	27
2.2.6	Leadership opportunities for women	75.27	13
3	**GROW**	**45.81**	**42**
3.1	Formal Education	41.03	37
	Enrolment		
3.1.1	Vocational enrolment	35.57	30
3.1.2	Tertiary enrolment	58.58	31
	Quality		
3.1.3	Tertiary education expenditure	22.25	59
3.1.4	Reading, maths, and science	69.49	29
3.1.5	University ranking	19.27	64
3.2	Lifelong Learning	43.24	59
3.2.1	Quality of management schools	54.50	40
3.2.2	Prevalence of training in firms	28.76	65
3.2.3	Employee development	46.46	50
3.3	Access to Growth Opportunities	53.17	47
	Empowerment		
3.3.1	Delegation of authority	49.72	42
3.3.2	Personal rights	65.76	50
	Collaboration		
3.3.3	Use of virtual social networks	77.58	43
3.3.4	Use of virtual professional networks	26.18	38
3.3.5	Collaboration within organisations	40.35	56
3.3.6	Collaboration across organisations	59.41	95
4	**RETAIN**	**64.61**	**36**
4.1	Sustainability	52.20	39
4.1.1	Pension system	92.86	8
4.1.2	Social protection	42.12	47
4.1.3	Brain retention	21.64	102
4.2	Lifestyle	77.01	33
4.2.1	Environmental performance	90.72	22
4.2.2	Personal safety	79.88	35
4.2.3	Physician density	51.28	29
4.2.4	Sanitation	86.14	68
5	**VOCATIONAL AND TECHNICAL SKILLS**	**53.39**	**36**
5.1	Mid-Level Skills	54.37	22
5.1.1	Workforce with secondary education	48.90	18
5.1.2	Population with secondary education	72.61	10
5.1.3	Technicians and associate professionals	62.78	23
5.1.4	Labour productivity per employee	33.20	48
5.2	Employability	52.41	69
5.2.1	Ease of finding skilled employees	35.31	83
5.2.2	Relevance of education system to the economy	43.27	54
5.2.3	Skills matching with secondary education	62.24	63
5.2.4	Skills matching with tertiary education	68.84	70
6	**GLOBAL KNOWLEDGE SKILLS**	**42.37**	**28**
6.1	High-Level Skills	39.16	34
6.1.1	Workforce with tertiary education	49.58	25
6.1.2	Population with tertiary education	30.19	43
6.1.3	Professionals	48.84	26
6.1.4	Researchers	22.09	40
6.1.5	Senior officials and managers	57.50	13
6.1.6	Availability of scientists and engineers	26.76	90
6.2	Talent Impact	45.59	22
6.2.1	Innovation output	51.14	32
6.2.2	High-value exports	28.25	23
6.2.3	New product entrepreneurial activity	42.94	51
6.2.4	New business density	61.40	9
6.2.5	Scientific journal articles	44.20	39

LEBANON

Key Indicators

Rank (out of 119)	**60**
Income group	**Upper middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**5.85**
GDP per capita (PPP US$)	**13,938.00**
GDP (US$ billions)	**47.10**
GTCI score	**41.91**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



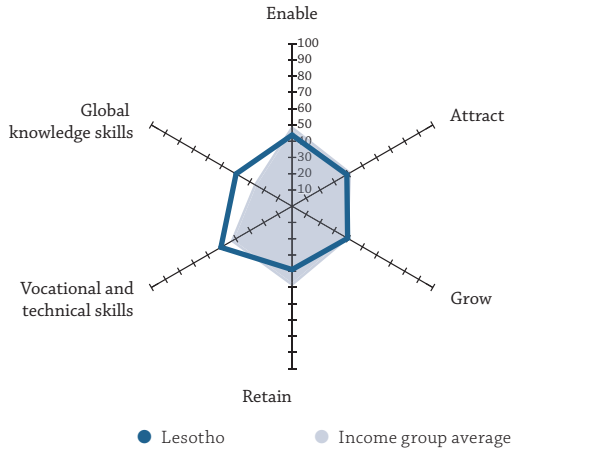
		Score	Rank
1	**ENABLE**	**43.79**	**87**
1.1	Regulatory Landscape	28.10	113
1.1.1	Government effectiveness	30.08	91
1.1.2	Business-government relations	31.57	113
1.1.3	Political stability	22.09	116
1.1.4	Regulatory quality	38.35	86
1.1.5	Corruption	18.42	106
1.2	Market Landscape	53.71	44
1.2.1	Competition intensity	77.43	30
1.2.2	Ease of doing business	42.00	100
1.2.3	Cluster development	46.44	53
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	60.30	58
1.2.6	Technology utilisation	42.40	64
1.3	Business and Labour Landscape	49.54	82
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	45.07	108
1.3.4	Labour-employer cooperation	46.07	76
	Management Practice		
1.3.5	Professional management	30.95	81
1.3.6	Relationship of pay to productivity	49.49	56
2	**ATTRACT**	**38.91**	**79**
2.1	External Openness	44.03	39
	Attract Business		
2.1.1	FDI and technology transfer	26.89	109
2.1.2	Prevalence of foreign ownership	41.23	97
	Attract People		
2.1.3	Migrant stock	75.20	9
2.1.4	International students	51.31	18
2.1.5	Brain gain	25.50	92
2.2	Internal Openness	33.79	110
	Social Inclusion		
2.2.1	Tolerance of minorities	16.09	108
2.2.2	Tolerance of immigrants	45.07	81
2.2.3	Social mobility	33.51	89
	Gender Equality		
2.2.4	Female graduates	72.96	58
2.2.5	Gender earnings gap	9.64	111
2.2.6	Leadership opportunities for women	25.45	89
3	**GROW**	**39.45**	**62**
3.1	Formal Education	24.76	71
	Enrolment		
3.1.1	Vocational enrolment	25.17	48
3.1.2	Tertiary enrolment	33.32	67
	Quality		
3.1.3	Tertiary education expenditure	16.62	75
3.1.4	Reading, maths, and science	17.59	64
3.1.5	University ranking	31.08	43
3.2	Lifelong Learning	49.03	47
3.2.1	Quality of management schools	82.80	9
3.2.2	Prevalence of training in firms	30.61	59
3.2.3	Employee development	33.67	72
3.3	Access to Growth Opportunities	44.56	74
	Empowerment		
3.3.1	Delegation of authority	36.03	77
3.3.2	Personal rights	36.92	87
	Collaboration		
3.3.3	Use of virtual social networks	68.18	70
3.3.4	Use of virtual professional networks	26.39	37
3.3.5	Collaboration within organisations	39.03	60
3.3.6	Collaboration across organisations	60.80	90
4	**RETAIN**	**38.97**	**91**
4.1	Sustainability	23.49	104
4.1.1	Pension system	33.67	59
4.1.2	Social protection	10.84	110
4.1.3	Brain retention	25.97	94
4.2	Lifestyle	54.45	77
4.2.1	Environmental performance	59.80	81
4.2.2	Personal safety	42.11	104
4.2.3	Physician density	37.82	50
4.2.4	Sanitation	78.07	78
5	**VOCATIONAL AND TECHNICAL SKILLS**	**50.55**	**41**
5.1	Mid-Level Skills	27.56	75
5.1.1	Workforce with secondary education	15.25	88
5.1.2	Population with secondary education	24.82	72
5.1.3	Technicians and associate professionals	42.60	50
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	73.55	23
5.2.1	Ease of finding skilled employees	66.01	30
5.2.2	Relevance of education system to the economy	74.52	18
5.2.3	Skills matching with secondary education	69.92	37
5.2.4	Skills matching with tertiary education	83.75	22
6	**GLOBAL KNOWLEDGE SKILLS**	**39.79**	**34**
6.1	High-Level Skills	45.53	27
6.1.1	Workforce with tertiary education	34.22	53
6.1.2	Population with tertiary education	25.21	54
6.1.3	Professionals	27.17	61
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	73.13	7
6.1.6	Availability of scientists and engineers	67.94	18
6.2	Talent Impact	34.04	48
6.2.1	Innovation output	25.31	77
6.2.2	High-value exports	3.95	91
6.2.3	New product entrepreneurial activity	83.70	5
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	23.22	57

LESOTHO

Key Indicators

Rank (out of 119)	**106**
Income group	**Lower middle income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**2.14**
GDP per capita (PPP US$)	**2,647.95**
GDP (US$ billions)	**2.18**
GTCI score	**27.88**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



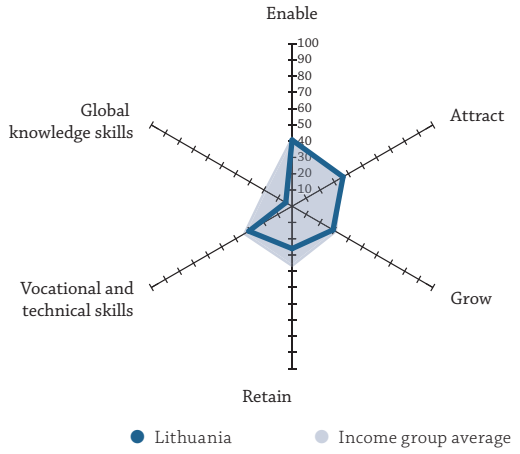
		Score	Rank
1	**ENABLE**	**40.73**	**94**
1.1	Regulatory Landscape	42.20	84
1.1.1	Government effectiveness	24.94	102
1.1.2	Business-government relations	56.07	64
1.1.3	Political stability	61.41	67
1.1.4	Regulatory quality	35.68	90
1.1.5	Corruption	32.89	67
1.2	Market Landscape	28.23	107
1.2.1	Competition intensity	60.29	79
1.2.2	Ease of doing business	50.34	84
1.2.3	Cluster development	34.98	82
1.2.4	R&D expenditure	0.00	102
1.2.5	ICT infrastructure	17.05	103
1.2.6	Technology utilisation	6.71	113
1.3	Business and Labour Landscape	51.75	75
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	55.34	76
1.3.4	Labour-employer cooperation	32.25	103
	Management Practice		
1.3.5	Professional management	22.92	95
1.3.6	Relationship of pay to productivity	33.33	86
2	**ATTRACT**	**36.19**	**91**
2.1	External Openness	22.42	107
	Attract Business		
2.1.1	FDI and technology transfer	21.15	113
2.1.2	Prevalence of foreign ownership	50.37	79
	Attract People		
2.1.3	Migrant stock	0.53	110
2.1.4	International students	1.88	82
2.1.5	Brain gain	38.15	67
2.2	Internal Openness	49.97	62
	Social Inclusion		
2.2.1	Tolerance of minorities	64.37	30
2.2.2	Tolerance of immigrants	36.62	94
2.2.3	Social mobility	40.87	68
	Gender Equality		
2.2.4	Female graduates	90.98	16
2.2.5	Gender earnings gap	53.01	52
2.2.6	Leadership opportunities for women	13.98	103
3	**GROW**	**29.10**	**96**
3.1	Formal Education	28.41	66
	Enrolment		
3.1.1	Vocational enrolment	5.65	94
3.1.2	Tertiary enrolment	8.00	101
	Quality		
3.1.3	Tertiary education expenditure	100.00	1
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	34.73	83
3.2.1	Quality of management schools	42.59	63
3.2.2	Prevalence of training in firms	36.68	52
3.2.3	Employee development	24.92	94
3.3	Access to Growth Opportunities	24.15	114
	Empowerment		
3.3.1	Delegation of authority	19.55	113
3.3.2	Personal rights	66.39	49
	Collaboration		
3.3.3	Use of virtual social networks	0.00	119
3.3.4	Use of virtual professional networks	3.51	96
3.3.5	Collaboration within organisations	0.00	119
3.3.6	Collaboration across organisations	55.44	105
4	**RETAIN**	**26.08**	**112**
4.1	Sustainability	24.03	102
4.1.1	Pension system	2.04	100
4.1.2	Social protection	35.19	65
4.1.3	Brain retention	34.85	80
4.2	Lifestyle	28.13	110
4.2.1	Environmental performance	18.79	114
4.2.2	Personal safety	44.81	100
4.2.3	Physician density	n/a	n/a
4.2.4	Sanitation	20.80	110
5	**VOCATIONAL AND TECHNICAL SKILLS**	**30.67**	**101**
5.1	Mid-Level Skills	17.57	92
5.1.1	Workforce with secondary education	22.79	71
5.1.2	Population with secondary education	11.98	93
5.1.3	Technicians and associate professionals	17.94	86
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	43.78	96
5.2.1	Ease of finding skilled employees	28.38	98
5.2.2	Relevance of education system to the economy	43.75	53
5.2.3	Skills matching with secondary education	27.30	117
5.2.4	Skills matching with tertiary education	75.67	41
6	**GLOBAL KNOWLEDGE SKILLS**	**4.49**	**119**
6.1	High-Level Skills	5.39	118
6.1.1	Workforce with tertiary education	6.31	99
6.1.2	Population with tertiary education	2.23	99
6.1.3	Professionals	0.87	109
6.1.4	Researchers	0.13	100
6.1.5	Senior officials and managers	7.50	91
6.1.6	Availability of scientists and engineers	15.29	107
6.2	Talent Impact	3.60	116
6.2.1	Innovation output	n/a	n/a
6.2.2	High-value exports	0.00	110
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	8.82	53
6.2.5	Scientific journal articles	1.97	110

LITHUANIA

Key Indicators

Rank (out of 119)	**32**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**2.91**
GDP per capita (PPP US$)	**27,729.80**
GDP (US$ billions)	**41.24**
GTCI score	**53.31**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



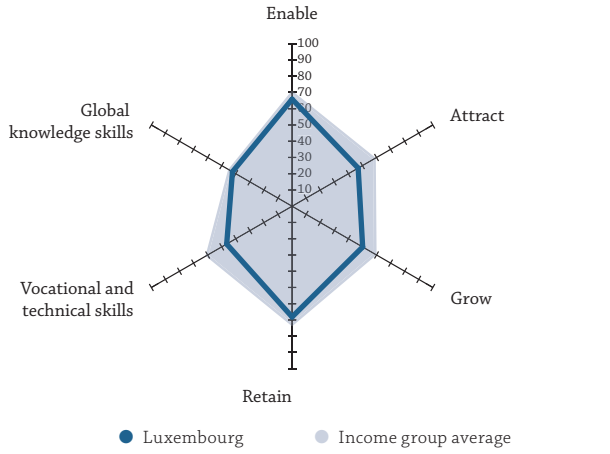
		Score	Rank
1	**ENABLE**	**65.85**	**28**
1.1	Regulatory Landscape	68.05	27
1.1.1	Government effectiveness	73.01	24
1.1.2	Business-government relations	50.99	73
1.1.3	Political stability	80.83	30
1.1.4	Regulatory quality	76.21	19
1.1.5	Corruption	59.21	32
1.2	Market Landscape	61.37	33
1.2.1	Competition intensity	79.43	25
1.2.2	Ease of doing business	84.77	19
1.2.3	Cluster development	31.27	88
1.2.4	R&D expenditure	23.36	34
1.2.5	ICT infrastructure	76.26	32
1.2.6	Technology utilisation	73.14	25
1.3	Business and Labour Landscape	68.14	31
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	65.26	48
1.3.4	Labour-employer cooperation	52.30	54
	Management Practice		
1.3.5	Professional management	53.01	36
1.3.6	Relationship of pay to productivity	58.25	43
2	**ATTRACT**	**46.95**	**45**
2.1	External Openness	33.92	70
	Attract Business		
2.1.1	FDI and technology transfer	67.36	22
2.1.2	Prevalence of foreign ownership	54.81	69
	Attract People		
2.1.3	Migrant stock	10.28	54
2.1.4	International students	12.64	59
2.1.5	Brain gain	24.50	94
2.2	Internal Openness	59.99	31
	Social Inclusion		
2.2.1	Tolerance of minorities	65.52	27
2.2.2	Tolerance of immigrants	28.17	106
2.2.3	Social mobility	53.68	40
	Gender Equality		
2.2.4	Female graduates	91.09	14
2.2.5	Gender earnings gap	66.27	19
2.2.6	Leadership opportunities for women	55.20	36
3	**GROW**	**50.14**	**36**
3.1	Formal Education	38.72	41
	Enrolment		
3.1.1	Vocational enrolment	15.59	66
3.1.2	Tertiary enrolment	59.90	29
	Quality		
3.1.3	Tertiary education expenditure	31.71	31
3.1.4	Reading, maths, and science	64.15	34
3.1.5	University ranking	22.27	59
3.2	Lifelong Learning	51.81	40
3.2.1	Quality of management schools	43.92	59
3.2.2	Prevalence of training in firms	50.92	33
3.2.3	Employee development	60.61	31
3.3	Access to Growth Opportunities	59.87	31
	Empowerment		
3.3.1	Delegation of authority	53.35	34
3.3.2	Personal rights	73.04	41
	Collaboration		
3.3.3	Use of virtual social networks	87.27	18
3.3.4	Use of virtual professional networks	19.61	49
3.3.5	Collaboration within organisations	55.88	28
3.3.6	Collaboration across organisations	70.06	55
4	**RETAIN**	**68.10**	**30**
4.1	Sustainability	53.96	37
4.1.1	Pension system	98.98	2
4.1.2	Social protection	35.35	63
4.1.3	Brain retention	27.56	92
4.2	Lifestyle	82.23	17
4.2.1	Environmental performance	90.31	23
4.2.2	Personal safety	78.19	37
4.2.3	Physician density	69.07	6
4.2.4	Sanitation	91.36	59
5	**VOCATIONAL AND TECHNICAL SKILLS**	**46.47**	**52**
5.1	Mid-Level Skills	42.78	44
5.1.1	Workforce with secondary education	46.71	20
5.1.2	Population with secondary education	45.79	40
5.1.3	Technicians and associate professionals	41.70	51
5.1.4	Labour productivity per employee	36.91	42
5.2	Employability	50.15	75
5.2.1	Ease of finding skilled employees	29.70	95
5.2.2	Relevance of education system to the economy	47.84	50
5.2.3	Skills matching with secondary education	56.38	88
5.2.4	Skills matching with tertiary education	66.69	78
6	**GLOBAL KNOWLEDGE SKILLS**	**42.37**	**28**
6.1	High-Level Skills	48.16	25
6.1.1	Workforce with tertiary education	59.48	14
6.1.2	Population with tertiary education	31.73	37
6.1.3	Professionals	65.03	12
6.1.4	Researchers	34.09	29
6.1.5	Senior officials and managers	56.88	14
6.1.6	Availability of scientists and engineers	41.76	58
6.2	Talent Impact	36.59	41
6.2.1	Innovation output	37.79	48
6.2.2	High-value exports	22.41	36
6.2.3	New product entrepreneurial activity	50.69	32
6.2.4	New business density	24.14	28
6.2.5	Scientific journal articles	47.90	34

LUXEMBOURG

Key Indicators

Rank (out of 119)	**10**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**0.57**
GDP per capita (PPP US$)	**101,926.00**
GDP (US$ billions)	**57.79**
GTCI score	**71.64**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



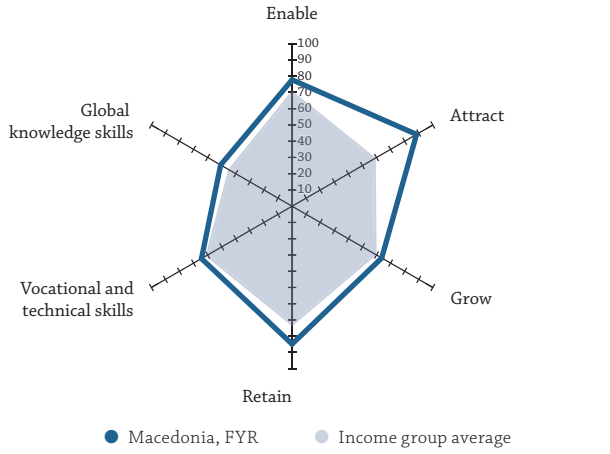
		Score	Rank
1	**ENABLE**	**77.79**	**18**
1.1	Regulatory Landscape	90.46	5
1.1.1	Government effectiveness	86.38	13
1.1.2	Business-government relations	94.04	4
1.1.3	Political stability	98.06	2
1.1.4	Regulatory quality	85.68	12
1.1.5	Corruption	88.16	10
1.2	Market Landscape	72.63	20
1.2.1	Competition intensity	74.00	39
1.2.2	Ease of doing business	66.07	55
1.2.3	Cluster development	88.24	10
1.2.4	R&D expenditure	29.21	28
1.2.5	ICT infrastructure	93.45	10
1.2.6	Technology utilisation	84.81	12
1.3	Business and Labour Landscape	70.27	28
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	92.34	3
1.3.4	Labour-employer cooperation	83.74	11
	Management Practice		
1.3.5	Professional management	82.52	17
1.3.6	Relationship of pay to productivity	70.71	18
2	**ATTRACT**	**88.42**	**2**
2.1	External Openness	92.54	3
	Attract Business		
2.1.1	FDI and technology transfer	83.29	3
2.1.2	Prevalence of foreign ownership	98.02	3
	Attract People		
2.1.3	Migrant stock	96.84	6
2.1.4	International students	100.00	1
2.1.5	Brain gain	84.54	8
2.2	Internal Openness	84.30	6
	Social Inclusion		
2.2.1	Tolerance of minorities	79.31	8
2.2.2	Tolerance of immigrants	95.77	2
2.2.3	Social mobility	88.83	10
	Gender Equality		
2.2.4	Female graduates	69.51	68
2.2.5	Gender earnings gap	100.00	1
2.2.6	Leadership opportunities for women	72.40	16
3	**GROW**	**63.67**	**19**
3.1	Formal Education	33.86	51
	Enrolment		
3.1.1	Vocational enrolment	51.10	18
3.1.2	Tertiary enrolment	16.46	88
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths, and science	67.88	31
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	73.67	19
3.2.1	Quality of management schools	56.08	38
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	91.25	5
3.3	Access to Growth Opportunities	83.47	10
	Empowerment		
3.3.1	Delegation of authority	76.26	14
3.3.2	Personal rights	98.80	2
	Collaboration		
3.3.3	Use of virtual social networks	86.97	19
3.3.4	Use of virtual professional networks	76.61	8
3.3.5	Collaboration within organisations	75.70	17
3.3.6	Collaboration across organisations	86.50	17
4	**RETAIN**	**84.81**	**8**
4.1	Sustainability	90.92	3
4.1.1	Pension system	100.00	1
4.1.2	Social protection	95.30	3
4.1.3	Brain retention	77.45	11
4.2	Lifestyle	78.70	28
4.2.1	Environmental performance	92.35	20
4.2.2	Personal safety	n/a	n/a
4.2.3	Physician density	46.47	34
4.2.4	Sanitation	97.27	35
5	**VOCATIONAL AND TECHNICAL SKILLS**	**64.39**	**17**
5.1	Mid-Level Skills	61.60	10
5.1.1	Workforce with secondary education	27.22	65
5.1.2	Population with secondary education	48.79	35
5.1.3	Technicians and associate professionals	83.86	7
5.1.4	Labour productivity per employee	86.52	3
5.2	Employability	67.18	32
5.2.1	Ease of finding skilled employees	53.80	49
5.2.2	Relevance of education system to the economy	59.86	28
5.2.3	Skills matching with secondary education	74.09	25
5.2.4	Skills matching with tertiary education	80.97	26
6	**GLOBAL KNOWLEDGE SKILLS**	**50.77**	**18**
6.1	High-Level Skills	56.02	14
6.1.1	Workforce with tertiary education	57.64	16
6.1.2	Population with tertiary education	57.80	6
6.1.3	Professionals	100.00	1
6.1.4	Researchers	61.21	10
6.1.5	Senior officials and managers	15.63	70
6.1.6	Availability of scientists and engineers	43.82	52
6.2	Talent Impact	45.53	23
6.2.1	Innovation output	81.72	4
6.2.2	High-value exports	12.81	56
6.2.3	New product entrepreneurial activity	74.57	9
6.2.4	New business density	35.23	18
6.2.5	Scientific journal articles	23.33	55

MACEDONIA, FYR

Key Indicators

Rank (out of 119)	**59**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**2.08**
GDP per capita (PPP US$)	**13,907.90**
GDP (US$ billions)	**10.09**
GTCI score	**43.08**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



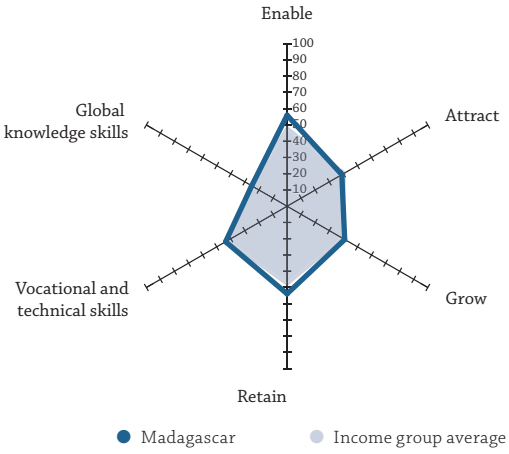
		Score	Rank
1	**ENABLE**	**55.99**	**45**
1.1	Regulatory Landscape	52.16	52
1.1.1	Government effectiveness	45.50	61
1.1.2	Business-government relations	69.98	29
1.1.3	Political stability	58.98	74
1.1.4	Regulatory quality	56.07	49
1.1.5	Corruption	30.26	72
1.2	Market Landscape	54.56	42
1.2.1	Competition intensity	75.71	37
1.2.2	Ease of doing business	90.18	9
1.2.3	Cluster development	46.75	51
1.2.4	R&D expenditure	10.05	62
1.2.5	ICT infrastructure	60.85	57
1.2.6	Technology utilisation	43.82	63
1.3	Business and Labour Landscape	61.26	43
	Labour Market		
1.3.1	Ease of hiring	77.67	45
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	64.11	51
1.3.4	Labour-employer cooperation	46.88	73
	Management Practice		
1.3.5	Professional management	22.64	97
1.3.6	Relationship of pay to productivity	56.23	45
2	**ATTRACT**	**38.90**	**80**
2.1	External Openness	27.42	89
	Attract Business		
2.1.1	FDI and technology transfer	41.78	81
2.1.2	Prevalence of foreign ownership	49.63	82
	Attract People		
2.1.3	Migrant stock	13.72	49
2.1.4	International students	14.68	54
2.1.5	Brain gain	17.27	111
2.2	Internal Openness	50.38	58
	Social Inclusion		
2.2.1	Tolerance of minorities	34.48	75
2.2.2	Tolerance of immigrants	45.07	81
2.2.3	Social mobility	34.88	85
	Gender Equality		
2.2.4	Female graduates	72.62	61
2.2.5	Gender earnings gap	51.81	55
2.2.6	Leadership opportunities for women	63.44	25
3	**GROW**	**40.91**	**58**
3.1	Formal Education	24.28	73
	Enrolment		
3.1.1	Vocational enrolment	48.78	20
3.1.2	Tertiary enrolment	34.31	65
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths, and science	14.06	66
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	41.98	63
3.2.1	Quality of management schools	36.24	79
3.2.2	Prevalence of training in firms	57.39	28
3.2.3	Employee development	32.32	76
3.3	Access to Growth Opportunities	56.45	37
	Empowerment		
3.3.1	Delegation of authority	41.06	68
3.3.2	Personal rights	48.17	75
	Collaboration		
3.3.3	Use of virtual social networks	78.48	36
3.3.4	Use of virtual professional networks	n/a	n/a
3.3.5	Collaboration within organisations	47.72	41
3.3.6	Collaboration across organisations	66.82	71
4	**RETAIN**	**53.89**	**56**
4.1	Sustainability	37.64	64
4.1.1	Pension system	52.04	48
4.1.2	Social protection	38.10	57
4.1.3	Brain retention	22.78	99
4.2	Lifestyle	70.15	47
4.2.1	Environmental performance	76.37	48
4.2.2	Personal safety	70.00	49
4.2.3	Physician density	44.55	38
4.2.4	Sanitation	89.66	62
5	**VOCATIONAL AND TECHNICAL SKILLS**	**43.67**	**60**
5.1	Mid-Level Skills	35.63	61
5.1.1	Workforce with secondary education	47.44	19
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	38.12	56
5.1.4	Labour productivity per employee	21.34	65
5.2	Employability	51.70	72
5.2.1	Ease of finding skilled employees	42.90	66
5.2.2	Relevance of education system to the economy	41.11	61
5.2.3	Skills matching with secondary education	61.94	64
5.2.4	Skills matching with tertiary education	60.86	100
6	**GLOBAL KNOWLEDGE SKILLS**	**25.14**	**67**
6.1	High-Level Skills	29.75	55
6.1.1	Workforce with tertiary education	35.22	50
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	41.62	38
6.1.4	Researchers	10.27	52
6.1.5	Senior officials and managers	28.13	48
6.1.6	Availability of scientists and engineers	33.53	75
6.2	Talent Impact	20.54	76
6.2.1	Innovation output	30.58	62
6.2.2	High-value exports	5.65	82
6.2.3	New product entrepreneurial activity	19.11	79
6.2.4	New business density	21.30	30
6.2.5	Scientific journal articles	26.04	51

MADAGASCAR

Key Indicators

Rank (out of 119)	**118**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**24.24**
GDP per capita (PPP US$)	**1,459.27**
GDP (US$ billions)	**9.98**
GTCI score	**22.76**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



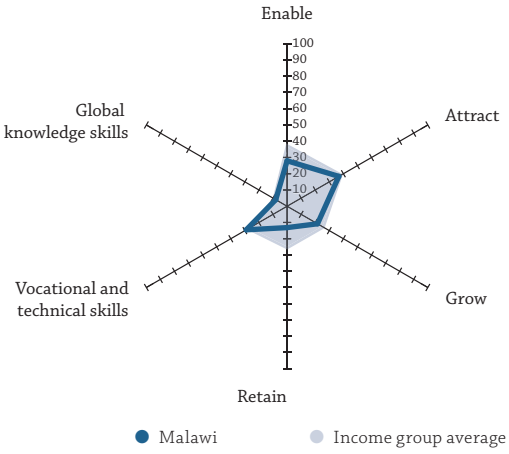
		Score	Rank
1	**ENABLE**	**27.95**	**116**
1.1	Regulatory Landscape	28.05	114
1.1.1	Government effectiveness	9.00	118
1.1.2	Business-government relations	34.66	107
1.1.3	Political stability	54.13	81
1.1.4	Regulatory quality	26.70	105
1.1.5	Corruption	15.79	110
1.2	Market Landscape	23.18	115
1.2.1	Competition intensity	53.43	97
1.2.2	Ease of doing business	21.87	116
1.2.3	Cluster development	25.08	98
1.2.4	R&D expenditure	0.23	101
1.2.5	ICT infrastructure	2.46	116
1.2.6	Technology utilisation	36.04	80
1.3	Business and Labour Landscape	32.61	115
	Labour Market		
1.3.1	Ease of hiring	0.00	116
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	39.00	115
1.3.4	Labour-employer cooperation	44.17	83
	Management Practice		
1.3.5	Professional management	25.21	89
1.3.6	Relationship of pay to productivity	27.27	99
2	**ATTRACT**	**36.75**	**89**
2.1	External Openness	26.48	95
	Attract Business		
2.1.1	FDI and technology transfer	33.42	99
2.1.2	Prevalence of foreign ownership	49.38	83
	Attract People		
2.1.3	Migrant stock	0.13	116
2.1.4	International students	9.09	67
2.1.5	Brain gain	40.36	61
2.2	Internal Openness	47.03	75
	Social Inclusion		
2.2.1	Tolerance of minorities	62.07	33
2.2.2	Tolerance of immigrants	54.93	62
2.2.3	Social mobility	26.43	105
	Gender Equality		
2.2.4	Female graduates	44.65	90
2.2.5	Gender earnings gap	65.06	22
2.2.6	Leadership opportunities for women	29.03	82
3	**GROW**	**21.60**	**113**
3.1	Formal Education	3.70	116
	Enrolment		
3.1.1	Vocational enrolment	2.83	99
3.1.2	Tertiary enrolment	3.52	108
	Quality		
3.1.3	Tertiary education expenditure	8.44	89
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	26.91	106
3.2.1	Quality of management schools	39.15	73
3.2.2	Prevalence of training in firms	12.27	86
3.2.3	Employee development	29.29	83
3.3	Access to Growth Opportunities	34.21	105
	Empowerment		
3.3.1	Delegation of authority	26.26	98
3.3.2	Personal rights	41.16	83
	Collaboration		
3.3.3	Use of virtual social networks	44.55	108
3.3.4	Use of virtual professional networks	0.33	112
3.3.5	Collaboration within organisations	31.84	80
3.3.6	Collaboration across organisations	61.11	89
4	**RETAIN**	**13.15**	**119**
4.1	Sustainability	12.08	114
4.1.1	Pension system	3.37	96
4.1.2	Social protection	4.40	116
4.1.3	Brain retention	28.47	91
4.2	Lifestyle	14.21	119
4.2.1	Environmental performance	0.00	119
4.2.2	Personal safety	54.92	82
4.2.3	Physician density	1.92	102
4.2.4	Sanitation	0.00	118
5	**VOCATIONAL AND TECHNICAL SKILLS**	**29.02**	**107**
5.1	Mid-Level Skills	10.73	104
5.1.1	Workforce with secondary education	28.98	62
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	3.14	107
5.1.4	Labour productivity per employee	0.06	101
5.2	Employability	47.32	82
5.2.1	Ease of finding skilled employees	48.51	57
5.2.2	Relevance of education system to the economy	21.88	102
5.2.3	Skills matching with secondary education	52.22	100
5.2.4	Skills matching with tertiary education	66.67	79
6	**GLOBAL KNOWLEDGE SKILLS**	**8.06**	**112**
6.1	High-Level Skills	9.11	111
6.1.1	Workforce with tertiary education	6.71	98
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	3.47	103
6.1.4	Researchers	0.47	89
6.1.5	Senior officials and managers	3.75	101
6.1.6	Availability of scientists and engineers	31.18	84
6.2	Talent Impact	7.02	111
6.2.1	Innovation output	18.63	91
6.2.2	High-value exports	0.38	107
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	3.89	76
6.2.5	Scientific journal articles	5.17	91

MALAWI

Key Indicators

Rank (out of 119)	**110**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**17.22**
GDP per capita (PPP US$)	**1,182.62**
GDP (US$ billions)	**6.57**
GTCI score	**26.24**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



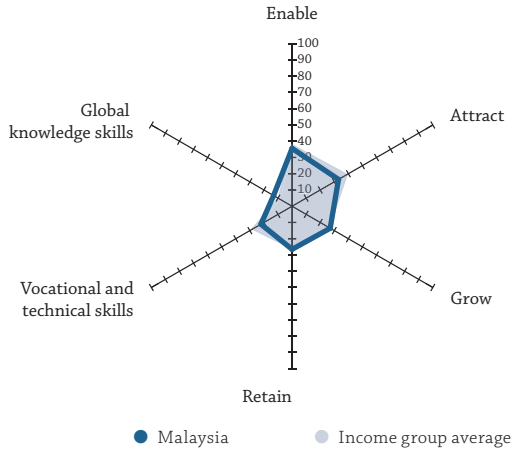
		Score	Rank
1	**ENABLE**	**35.58**	**106**
1.1	Regulatory Landscape	37.80	93
1.1.1	Government effectiveness	24.94	102
1.1.2	Business-government relations	54.30	69
1.1.3	Political stability	62.14	64
1.1.4	Regulatory quality	25.24	109
1.1.5	Corruption	22.37	92
1.2	Market Landscape	23.11	116
1.2.1	Competition intensity	52.86	100
1.2.2	Ease of doing business	39.19	105
1.2.3	Cluster development	16.72	114
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	1.50	118
1.2.6	Technology utilisation	5.30	114
1.3	Business and Labour Landscape	45.84	95
	Labour Market		
1.3.1	Ease of hiring	33.33	101
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	39.90	114
1.3.4	Labour-employer cooperation	42.01	88
	Management Practice		
1.3.5	Professional management	48.14	49
1.3.6	Relationship of pay to productivity	31.65	92
2	**ATTRACT**	**32.98**	**104**
2.1	External Openness	25.37	100
	Attract Business		
2.1.1	FDI and technology transfer	20.37	114
2.1.2	Prevalence of foreign ownership	64.94	44
	Attract People		
2.1.3	Migrant stock	2.60	90
2.1.4	International students	5.80	72
2.1.5	Brain gain	33.13	81
2.2	Internal Openness	40.59	95
	Social Inclusion		
2.2.1	Tolerance of minorities	52.87	46
2.2.2	Tolerance of immigrants	40.85	87
2.2.3	Social mobility	35.42	83
	Gender Equality		
2.2.4	Female graduates	15.36	98
2.2.5	Gender earnings gap	71.08	14
2.2.6	Leadership opportunities for women	27.96	83
3	**GROW**	**27.06**	**101**
3.1	Formal Education	10.83	108
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	0.00	113
	Quality		
3.1.3	Tertiary education expenditure	32.48	27
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	30.14	97
3.2.1	Quality of management schools	11.11	115
3.2.2	Prevalence of training in firms	38.92	47
3.2.3	Employee development	40.40	58
3.3	Access to Growth Opportunities	40.22	94
	Empowerment		
3.3.1	Delegation of authority	43.30	64
3.3.2	Personal rights	79.42	31
	Collaboration		
3.3.3	Use of virtual social networks	32.42	115
3.3.4	Use of virtual professional networks	0.94	109
3.3.5	Collaboration within organisations	27.46	88
3.3.6	Collaboration across organisations	57.77	99
4	**RETAIN**	**26.51**	**111**
4.1	Sustainability	24.82	99
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	14.33	106
4.1.3	Brain retention	35.31	78
4.2	Lifestyle	28.21	109
4.2.1	Environmental performance	23.50	113
4.2.2	Personal safety	56.38	78
4.2.3	Physician density	0.00	112
4.2.4	Sanitation	32.95	106
5	**VOCATIONAL AND TECHNICAL SKILLS**	**22.12**	**115**
5.1	Mid-Level Skills	2.37	118
5.1.1	Workforce with secondary education	7.10	99
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	0.00	109
5.1.4	Labour productivity per employee	0.00	102
5.2	Employability	41.88	103
5.2.1	Ease of finding skilled employees	31.68	90
5.2.2	Relevance of education system to the economy	29.81	88
5.2.3	Skills matching with secondary education	41.70	115
5.2.4	Skills matching with tertiary education	64.35	83
6	**GLOBAL KNOWLEDGE SKILLS**	**13.16**	**98**
6.1	High-Level Skills	7.88	112
6.1.1	Workforce with tertiary education	3.92	101
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	6.07	100
6.1.4	Researchers	0.45	90
6.1.5	Senior officials and managers	2.50	103
6.1.6	Availability of scientists and engineers	26.47	91
6.2	Talent Impact	18.43	79
6.2.1	Innovation output	12.83	106
6.2.2	High-value exports	4.14	89
6.2.3	New product entrepreneurial activity	58.13	22
6.2.4	New business density	0.29	92
6.2.5	Scientific journal articles	16.76	63

MALAYSIA

Key Indicators

Rank (out of 119)	**27**
Income group	**Upper middle income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**30.33**
GDP per capita (PPP US$)	**26,891.40**
GDP (US$ billions)	**296.22**
GTCI score	**58.51**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



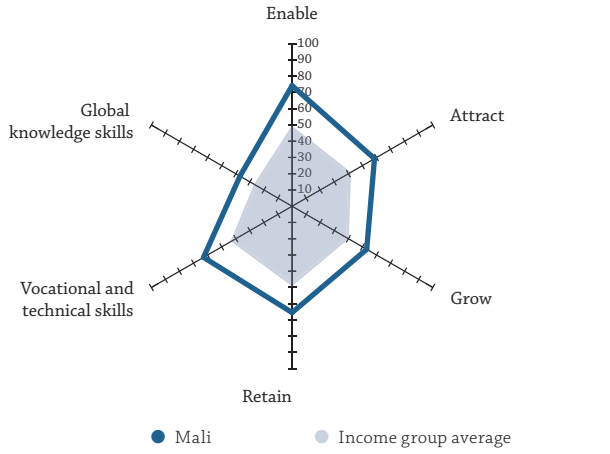
		Score	Rank
1	**ENABLE**	**74.17**	**22**
1.1	Regulatory Landscape	66.21	31
1.1.1	Government effectiveness	66.84	35
1.1.2	Business-government relations	85.87	12
1.1.3	Political stability	68.45	52
1.1.4	Regulatory quality	63.83	38
1.1.5	Corruption	46.05	45
1.2	Market Landscape	69.65	24
1.2.1	Competition intensity	75.71	37
1.2.2	Ease of doing business	83.41	21
1.2.3	Cluster development	87.93	11
1.2.4	R&D expenditure	29.21	28
1.2.5	ICT infrastructure	64.26	54
1.2.6	Technology utilisation	77.39	18
1.3	Business and Labour Landscape	86.65	7
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	86.84	7
1.3.4	Labour-employer cooperation	75.88	15
	Management Practice		
1.3.5	Professional management	77.94	19
1.3.6	Relationship of pay to productivity	89.23	5
2	**ATTRACT**	**58.55**	**23**
2.1	External Openness	56.82	18
	Attract Business		
2.1.1	FDI and technology transfer	75.98	8
2.1.2	Prevalence of foreign ownership	75.31	26
	Attract People		
2.1.3	Migrant stock	18.14	43
2.1.4	International students	38.35	24
2.1.5	Brain gain	76.31	10
2.2	Internal Openness	60.28	30
	Social Inclusion		
2.2.1	Tolerance of minorities	43.68	61
2.2.2	Tolerance of immigrants	32.39	99
2.2.3	Social mobility	70.30	26
	Gender Equality		
2.2.4	Female graduates	77.93	50
2.2.5	Gender earnings gap	57.83	38
2.2.6	Leadership opportunities for women	79.57	12
3	**GROW**	**53.00**	**32**
3.1	Formal Education	33.95	50
	Enrolment		
3.1.1	Vocational enrolment	17.91	61
3.1.2	Tertiary enrolment	22.35	83
	Quality		
3.1.3	Tertiary education expenditure	32.48	27
3.1.4	Reading, maths, and science	47.44	42
3.1.5	University ranking	49.58	27
3.2	Lifelong Learning	60.01	29
3.2.1	Quality of management schools	72.22	24
3.2.2	Prevalence of training in firms	19.92	77
3.2.3	Employee development	87.88	9
3.3	Access to Growth Opportunities	65.05	25
	Empowerment		
3.3.1	Delegation of authority	74.86	16
3.3.2	Personal rights	29.66	95
	Collaboration		
3.3.3	Use of virtual social networks	84.24	23
3.3.4	Use of virtual professional networks	21.03	46
3.3.5	Collaboration within organisations	80.50	11
3.3.6	Collaboration across organisations	100.00	1
4	**RETAIN**	**65.43**	**34**
4.1	Sustainability	67.34	23
4.1.1	Pension system	47.96	50
4.1.2	Social protection	72.28	20
4.1.3	Brain retention	81.78	8
4.2	Lifestyle	63.52	59
4.2.1	Environmental performance	69.30	58
4.2.2	Personal safety	69.12	52
4.2.3	Physician density	20.19	75
4.2.4	Sanitation	95.45	46
5	**VOCATIONAL AND TECHNICAL SKILLS**	**62.90**	**21**
5.1	Mid-Level Skills	41.45	49
5.1.1	Workforce with secondary education	36.51	37
5.1.2	Population with secondary education	49.07	34
5.1.3	Technicians and associate professionals	43.95	48
5.1.4	Labour productivity per employee	36.26	44
5.2	Employability	84.35	10
5.2.1	Ease of finding skilled employees	84.82	10
5.2.2	Relevance of education system to the economy	78.85	12
5.2.3	Skills matching with secondary education	84.86	6
5.2.4	Skills matching with tertiary education	88.89	12
6	**GLOBAL KNOWLEDGE SKILLS**	**37.03**	**39**
6.1	High-Level Skills	37.34	40
6.1.1	Workforce with tertiary education	33.06	55
6.1.2	Population with tertiary education	27.10	49
6.1.3	Professionals	27.46	59
6.1.4	Researchers	27.29	33
6.1.5	Senior officials and managers	30.63	45
6.1.6	Availability of scientists and engineers	78.53	7
6.2	Talent Impact	36.73	40
6.2.1	Innovation output	44.99	38
6.2.2	High-value exports	80.60	3
6.2.3	New product entrepreneurial activity	0.00	89
6.2.4	New business density	13.58	41
6.2.5	Scientific journal articles	44.46	37

MALI

Key Indicators

Rank (out of 119)	**113**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**17.60**
GDP per capita (PPP US$)	**2,428.29**
GDP (US$ billions)	**13.10**
GTCI score	**24.66**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



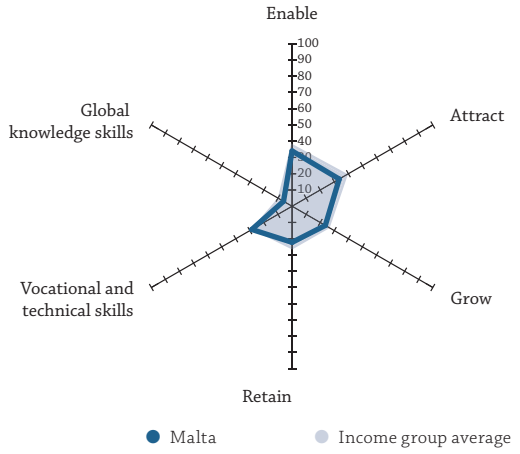
		Score	Rank
1	**ENABLE**	**33.99**	**109**
1.1	Regulatory Landscape	29.70	108
1.1.1	Government effectiveness	18.77	113
1.1.2	Business-government relations	51.21	71
1.1.3	Political stability	23.54	115
1.1.4	Regulatory quality	31.31	101
1.1.5	Corruption	23.68	89
1.2	Market Landscape	30.12	106
1.2.1	Competition intensity	48.57	107
1.2.2	Ease of doing business	36.52	108
1.2.3	Cluster development	34.67	83
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	8.59	111
1.2.6	Technology utilisation	22.26	102
1.3	Business and Labour Landscape	42.14	101
	Labour Market		
1.3.1	Ease of hiring	44.33	94
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	65.54	46
1.3.4	Labour-employer cooperation	46.34	75
	Management Practice		
1.3.5	Professional management	15.76	107
1.3.6	Relationship of pay to productivity	20.88	107
2	**ATTRACT**	**33.46**	**101**
2.1	External Openness	22.78	104
	Attract Business		
2.1.1	FDI and technology transfer	34.99	97
2.1.2	Prevalence of foreign ownership	32.35	106
	Attract People		
2.1.3	Migrant stock	4.39	78
2.1.4	International students	2.61	79
2.1.5	Brain gain	39.56	62
2.2	Internal Openness	44.13	82
	Social Inclusion		
2.2.1	Tolerance of minorities	27.59	88
2.2.2	Tolerance of immigrants	90.14	10
2.2.3	Social mobility	42.78	65
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	36.14	94
2.2.6	Leadership opportunities for women	24.01	91
3	**GROW**	**23.60**	**109**
3.1	Formal Education	11.03	106
	Enrolment		
3.1.1	Vocational enrolment	20.85	55
3.1.2	Tertiary enrolment	5.37	106
	Quality		
3.1.3	Tertiary education expenditure	17.90	71
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	26.01	109
3.2.1	Quality of management schools	34.92	82
3.2.2	Prevalence of training in firms	18.87	80
3.2.3	Employee development	24.24	98
3.3	Access to Growth Opportunities	33.76	106
	Empowerment		
3.3.1	Delegation of authority	25.14	99
3.3.2	Personal rights	48.75	73
	Collaboration		
3.3.3	Use of virtual social networks	27.58	117
3.3.4	Use of virtual professional networks	1.27	106
3.3.5	Collaboration within organisations	32.62	78
3.3.6	Collaboration across organisations	67.18	69
4	**RETAIN**	**22.22**	**114**
4.1	Sustainability	25.10	97
4.1.1	Pension system	5.10	93
4.1.2	Social protection	29.66	76
4.1.3	Brain retention	40.55	66
4.2	Lifestyle	19.34	117
4.2.1	Environmental performance	8.17	118
4.2.2	Personal safety	53.63	83
4.2.3	Physician density	1.12	105
4.2.4	Sanitation	14.43	113
5	**VOCATIONAL AND TECHNICAL SKILLS**	**28.61**	**108**
5.1	Mid-Level Skills	4.41	112
5.1.1	Workforce with secondary education	2.28	105
5.1.2	Population with secondary education	5.56	96
5.1.3	Technicians and associate professionals	7.62	98
5.1.4	Labour productivity per employee	2.19	96
5.2	Employability	52.80	66
5.2.1	Ease of finding skilled employees	52.15	51
5.2.2	Relevance of education system to the economy	29.57	90
5.2.3	Skills matching with secondary education	65.69	49
5.2.4	Skills matching with tertiary education	63.79	86
6	**GLOBAL KNOWLEDGE SKILLS**	**6.09**	**117**
6.1	High-Level Skills	5.63	116
6.1.1	Workforce with tertiary education	2.24	104
6.1.2	Population with tertiary education	2.57	98
6.1.3	Professionals	2.31	105
6.1.4	Researchers	0.20	98
6.1.5	Senior officials and managers	0.00	110
6.1.6	Availability of scientists and engineers	26.47	91
6.2	Talent Impact	6.55	113
6.2.1	Innovation output	13.88	103
6.2.2	High-value exports	2.26	96
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	3.51	100

MALTA

Key Indicators

Rank (out of 119)	**26**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**0.43**
GDP per capita (PPP US$)	**29,525.70**
GDP (US$ billions)	**9.64**
GTCI score	**58.77**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



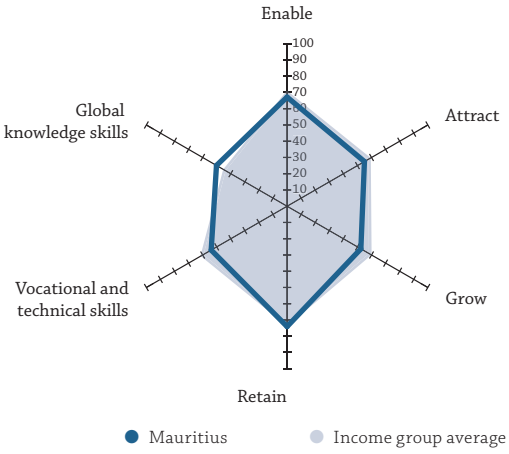
		Score	Rank
1	**ENABLE**	**67.15**	**27**
1.1	Regulatory Landscape	70.02	26
1.1.1	Government effectiveness	64.01	36
1.1.2	Business-government relations	69.54	30
1.1.3	Political stability	89.08	10
1.1.4	Regulatory quality	73.54	24
1.1.5	Corruption	53.95	37
1.2	Market Landscape	64.04	31
1.2.1	Competition intensity	93.14	2
1.2.2	Ease of doing business	58.99	69
1.2.3	Cluster development	58.20	34
1.2.4	R&D expenditure	19.63	38
1.2.5	ICT infrastructure	84.31	21
1.2.6	Technology utilisation	69.96	30
1.3	Business and Labour Landscape	67.38	32
	Labour Market		
1.3.1	Ease of hiring	72.33	48
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	79.17	17
1.3.4	Labour-employer cooperation	64.50	30
	Management Practice		
1.3.5	Professional management	48.71	46
1.3.6	Relationship of pay to productivity	59.60	39
2	**ATTRACT**	**54.95**	**26**
2.1	External Openness	50.80	29
	Attract Business		
2.1.1	FDI and technology transfer	69.19	19
2.1.2	Prevalence of foreign ownership	68.40	42
	Attract People		
2.1.3	Migrant stock	21.69	38
2.1.4	International students	32.29	29
2.1.5	Brain gain	62.45	20
2.2	Internal Openness	59.10	35
	Social Inclusion		
2.2.1	Tolerance of minorities	70.11	17
2.2.2	Tolerance of immigrants	61.97	49
2.2.3	Social mobility	73.30	23
	Gender Equality		
2.2.4	Female graduates	69.22	69
2.2.5	Gender earnings gap	33.73	96
2.2.6	Leadership opportunities for women	46.24	54
3	**GROW**	**52.42**	**33**
3.1	Formal Education	30.01	63
	Enrolment		
3.1.1	Vocational enrolment	12.13	75
3.1.2	Tertiary enrolment	40.83	55
	Quality		
3.1.3	Tertiary education expenditure	38.62	16
3.1.4	Reading, maths, and science	58.48	37
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	59.63	30
3.2.1	Quality of management schools	62.70	30
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	56.57	34
3.3	Access to Growth Opportunities	67.60	21
	Empowerment		
3.3.1	Delegation of authority	50.28	41
3.3.2	Personal rights	83.34	24
	Collaboration		
3.3.3	Use of virtual social networks	84.55	22
3.3.4	Use of virtual professional networks	81.93	5
3.3.5	Collaboration within organisations	41.22	53
3.3.6	Collaboration across organisations	64.29	81
4	**RETAIN**	**74.04**	**22**
4.1	Sustainability	62.00	29
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	62.72	27
4.1.3	Brain retention	61.28	29
4.2	Lifestyle	86.08	10
4.2.1	Environmental performance	95.89	9
4.2.2	Personal safety	n/a	n/a
4.2.3	Physician density	62.34	13
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**53.93**	**33**
5.1	Mid-Level Skills	40.02	52
5.1.1	Workforce with secondary education	27.39	64
5.1.2	Population with secondary education	18.12	90
5.1.3	Technicians and associate professionals	65.02	19
5.1.4	Labour productivity per employee	49.56	27
5.2	Employability	67.83	28
5.2.1	Ease of finding skilled employees	50.17	54
5.2.2	Relevance of education system to the economy	68.51	19
5.2.3	Skills matching with secondary education	72.65	26
5.2.4	Skills matching with tertiary education	80.00	28
6	**GLOBAL KNOWLEDGE SKILLS**	**50.17**	**19**
6.1	High-Level Skills	36.74	42
6.1.1	Workforce with tertiary education	35.23	49
6.1.2	Population with tertiary education	19.73	68
6.1.3	Professionals	45.66	36
6.1.4	Researchers	23.52	39
6.1.5	Senior officials and managers	56.88	14
6.1.6	Availability of scientists and engineers	39.41	63
6.2	Talent Impact	63.61	1
6.2.1	Innovation output	65.73	15
6.2.2	High-value exports	60.08	5
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	100.00	1
6.2.5	Scientific journal articles	28.63	48

MAURITIUS

Key Indicators

Rank (out of 119)	**46**
Income group	**Upper middle income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**1.26**
GDP per capita (PPP US$)	**19,480.50**
GDP (US$ billions)	**11.51**
GTCI score	**46.79**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**61.66**	**33**
1.1	Regulatory Landscape	71.32	24
1.1.1	Government effectiveness	68.89	30
1.1.2	Business-government relations	76.60	19
1.1.3	Political stability	86.89	19
1.1.4	Regulatory quality	71.60	28
1.1.5	Corruption	52.63	40
1.2	Market Landscape	52.23	46
1.2.1	Competition intensity	73.43	45
1.2.2	Ease of doing business	72.52	46
1.2.3	Cluster development	56.04	38
1.2.4	R&D expenditure	3.97	83
1.2.5	ICT infrastructure	55.12	64
1.2.6	Technology utilisation	52.30	47
1.3	Business and Labour Landscape	61.43	41
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	68.63	35
1.3.4	Labour-employer cooperation	60.98	33
	Management Practice		
1.3.5	Professional management	48.42	47
1.3.6	Relationship of pay to productivity	54.88	47
2	**ATTRACT**	**51.25**	**33**
2.1	External Openness	39.26	50
	Attract Business		
2.1.1	FDI and technology transfer	53.26	57
2.1.2	Prevalence of foreign ownership	62.96	49
	Attract People		
2.1.3	Migrant stock	4.81	76
2.1.4	International students	20.85	47
2.1.5	Brain gain	54.42	30
2.2	Internal Openness	63.24	24
	Social Inclusion		
2.2.1	Tolerance of minorities	71.26	15
2.2.2	Tolerance of immigrants	88.73	12
2.2.3	Social mobility	54.50	38
	Gender Equality		
2.2.4	Female graduates	94.93	8
2.2.5	Gender earnings gap	31.33	100
2.2.6	Leadership opportunities for women	38.71	66
3	**GROW**	**38.55**	**64**
3.1	Formal Education	14.10	98
	Enrolment		
3.1.1	Vocational enrolment	18.28	60
3.1.2	Tertiary enrolment	31.72	70
	Quality		
3.1.3	Tertiary education expenditure	6.39	96
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	48.18	48
3.2.1	Quality of management schools	53.97	41
3.2.2	Prevalence of training in firms	29.29	62
3.2.3	Employee development	61.28	29
3.3	Access to Growth Opportunities	53.38	45
	Empowerment		
3.3.1	Delegation of authority	49.72	42
3.3.2	Personal rights	61.20	61
	Collaboration		
3.3.3	Use of virtual social networks	67.88	71
3.3.4	Use of virtual professional networks	29.61	32
3.3.5	Collaboration within organisations	43.05	47
3.3.6	Collaboration across organisations	68.80	61
4	**RETAIN**	**63.29**	**37**
4.1	Sustainability	47.97	43
4.1.1	Pension system	52.04	48
4.1.2	Social protection	43.58	42
4.1.3	Brain retention	48.29	43
4.2	Lifestyle	78.62	30
4.2.1	Environmental performance	62.99	68
4.2.2	Personal safety	80.70	33
4.2.3	Physician density	n/a	n/a
4.2.4	Sanitation	92.16	57
5	**VOCATIONAL AND TECHNICAL SKILLS**	**49.02**	**46**
5.1	Mid-Level Skills	40.91	51
5.1.1	Workforce with secondary education	34.52	45
5.1.2	Population with secondary education	43.37	43
5.1.3	Technicians and associate professionals	44.84	47
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	57.12	52
5.2.1	Ease of finding skilled employees	40.26	70
5.2.2	Relevance of education system to the economy	53.61	43
5.2.3	Skills matching with secondary education	64.24	56
5.2.4	Skills matching with tertiary education	70.38	62
6	**GLOBAL KNOWLEDGE SKILLS**	**16.97**	**91**
6.1	High-Level Skills	18.73	84
6.1.1	Workforce with tertiary education	15.90	87
6.1.2	Population with tertiary education	7.89	86
6.1.3	Professionals	25.14	65
6.1.4	Researchers	2.05	78
6.1.5	Senior officials and managers	28.75	47
6.1.6	Availability of scientists and engineers	32.65	79
6.2	Talent Impact	15.22	88
6.2.1	Innovation output	23.90	81
6.2.2	High-value exports	0.19	109
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	29.66	22
6.2.5	Scientific journal articles	7.13	84

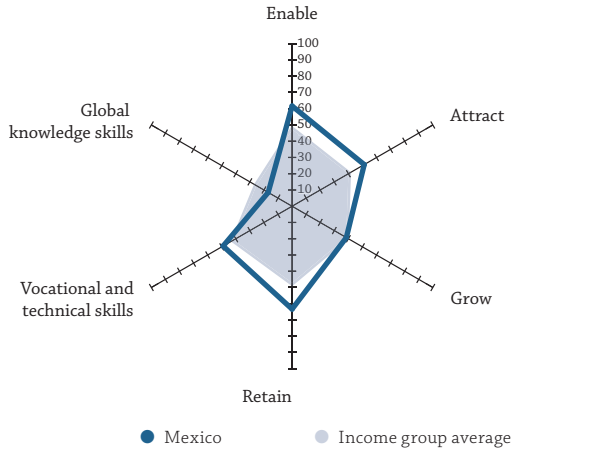
MEXICO

Key Indicators

Rank (out of 119) **71**
Income group ..... **Upper middle income**
Regional group ..... **Latin, Central America and Caribbean**
Population (millions) **127.02**

GDP per capita (PPP US$) **17,276.60**
GDP (US$ billions) **1,144.33**
GTCI score **39.08**
GTCI score (income group average) **40.93**

GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**48.48**	**69**
1.1	Regulatory Landscape	46.48	68
1.1.1	Government effectiveness	47.56	57
1.1.2	Business-government relations	66.23	36
1.1.3	Political stability	42.72	97
1.1.4	Regulatory quality	54.85	52
1.1.5	Corruption	21.05	95
1.2	Market Landscape	51.23	52
1.2.1	Competition intensity	71.14	54
1.2.2	Ease of doing business	72.56	44
1.2.3	Cluster development	58.82	32
1.2.4	R&D expenditure	12.38	55
1.2.5	ICT infrastructure	45.84	76
1.2.6	Technology utilisation	46.64	57
1.3	Business and Labour Landscape	47.72	87
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	30.00	114
1.3.3	Active labour market policies	54.24	78
1.3.4	Labour-employer cooperation	55.01	47
	Management Practice		
1.3.5	Professional management	40.97	66
1.3.6	Relationship of pay to productivity	39.39	72
2	**ATTRACT**	**38.74**	**82**
2.1	External Openness	38.66	56
	Attract Business		
2.1.1	FDI and technology transfer	67.62	21
2.1.2	Prevalence of foreign ownership	78.27	21
	Attract People		
2.1.3	Migrant stock	1.92	93
2.1.4	International students	1.10	89
2.1.5	Brain gain	44.38	53
2.2	Internal Openness	38.81	101
	Social Inclusion		
2.2.1	Tolerance of minorities	41.38	65
2.2.2	Tolerance of immigrants	50.70	73
2.2.3	Social mobility	34.88	85
	Gender Equality		
2.2.4	Female graduates	63.54	74
2.2.5	Gender earnings gap	37.35	89
2.2.6	Leadership opportunities for women	5.02	114

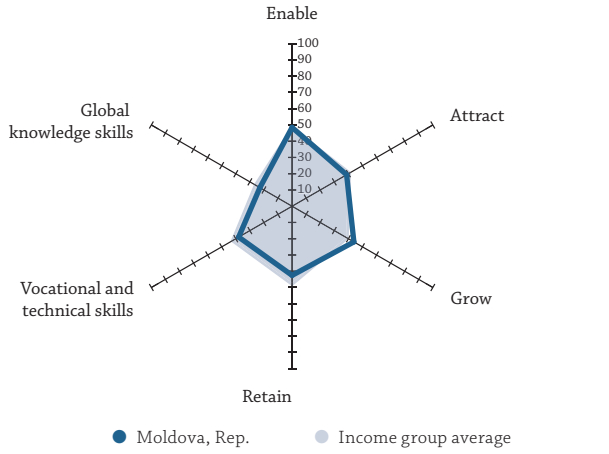
		Score	Rank
3	**GROW**	**43.90**	**49**
3.1	Formal Education	31.58	56
	Enrolment		
3.1.1	Vocational enrolment	26.71	45
3.1.2	Tertiary enrolment	25.77	77
	Quality		
3.1.3	Tertiary education expenditure	24.55	53
3.1.4	Reading, maths, and science	36.05	54
3.1.5	University ranking	44.83	32
3.2	Lifelong Learning	48.12	50
3.2.1	Quality of management schools	44.44	57
3.2.2	Prevalence of training in firms	62.53	24
3.2.3	Employee development	37.37	64
3.3	Access to Growth Opportunities	51.99	48
	Empowerment		
3.3.1	Delegation of authority	45.81	55
3.3.2	Personal rights	71.20	43
	Collaboration		
3.3.3	Use of virtual social networks	65.15	77
3.3.4	Use of virtual professional networks	18.05	54
3.3.5	Collaboration within organisations	36.62	67
3.3.6	Collaboration across organisations	75.14	34
4	**RETAIN**	**42.53**	**77**
4.1	Sustainability	31.14	76
4.1.1	Pension system	25.51	67
4.1.2	Social protection	25.54	84
4.1.3	Brain retention	42.37	58
4.2	Lifestyle	53.93	80
4.2.1	Environmental performance	68.10	62
4.2.2	Personal safety	31.58	110
4.2.3	Physician density	32.85	55
4.2.4	Sanitation	83.18	72
5	**VOCATIONAL AND TECHNICAL SKILLS**	**37.95**	**81**
5.1	Mid-Level Skills	22.89	86
5.1.1	Workforce with secondary education	18.93	79
5.1.2	Population with secondary education	24.11	74
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	25.65	57
5.2	Employability	53.01	65
5.2.1	Ease of finding skilled employees	54.79	46
5.2.2	Relevance of education system to the economy	23.32	100
5.2.3	Skills matching with secondary education	61.68	66
5.2.4	Skills matching with tertiary education	72.25	54
6	**GLOBAL KNOWLEDGE SKILLS**	**22.87**	**72**
6.1	High-Level Skills	23.28	74
6.1.1	Workforce with tertiary education	23.34	75
6.1.2	Population with tertiary education	23.16	58
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	2.78	72
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	43.82	52
6.2	Talent Impact	22.45	70
6.2.1	Innovation output	31.99	59
6.2.2	High-value exports	27.68	25
6.2.3	New product entrepreneurial activity	35.98	61
6.2.4	New business density	5.28	70
6.2.5	Scientific journal articles	11.34	75

MOLDOVA, REP.

Key Indicators

Rank (out of 119)	**86**
Income group	**Lower middle income**
Regional group	**Europe**
Population (millions)	**3.55**
GDP per capita (PPP US$)	**5,038.50**
GDP (US$ billions)	**6.55**
GTCI score	**35.78**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



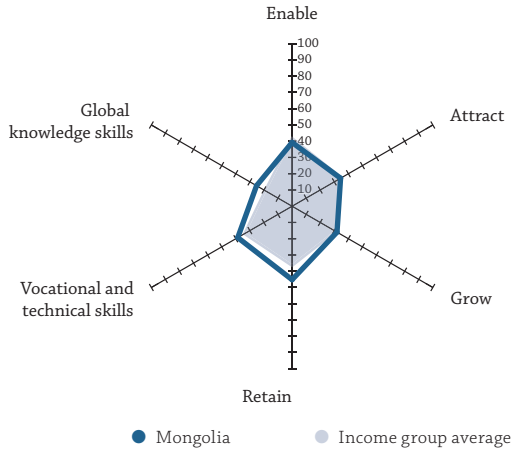
		Score	Rank
1	**ENABLE**	**39.23**	**96**
1.1	Regulatory Landscape	37.05	95
1.1.1	Government effectiveness	25.96	98
1.1.2	Business-government relations	39.96	97
1.1.3	Political stability	54.37	80
1.1.4	Regulatory quality	43.93	72
1.1.5	Corruption	21.05	95
1.2	Market Landscape	36.13	97
1.2.1	Competition intensity	52.00	101
1.2.2	Ease of doing business	73.42	41
1.2.3	Cluster development	0.00	119
1.2.4	R&D expenditure	8.41	68
1.2.5	ICT infrastructure	57.84	60
1.2.6	Technology utilisation	25.09	99
1.3	Business and Labour Landscape	44.50	97
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	48.34	94
1.3.4	Labour-employer cooperation	42.55	86
	Management Practice		
1.3.5	Professional management	20.06	102
1.3.6	Relationship of pay to productivity	40.40	70
2	**ATTRACT**	**34.46**	**95**
2.1	External Openness	20.22	112
	Attract Business		
2.1.1	FDI and technology transfer	37.86	91
2.1.2	Prevalence of foreign ownership	34.32	103
	Attract People		
2.1.3	Migrant stock	7.59	65
2.1.4	International students	12.90	58
2.1.5	Brain gain	8.43	117
2.2	Internal Openness	48.69	66
	Social Inclusion		
2.2.1	Tolerance of minorities	40.23	68
2.2.2	Tolerance of immigrants	40.85	87
2.2.3	Social mobility	17.44	113
	Gender Equality		
2.2.4	Female graduates	81.69	38
2.2.5	Gender earnings gap	71.08	14
2.2.6	Leadership opportunities for women	40.86	63
3	**GROW**	**31.91**	**89**
3.1	Formal Education	25.22	70
	Enrolment		
3.1.1	Vocational enrolment	21.21	54
3.1.2	Tertiary enrolment	35.74	62
	Quality		
3.1.3	Tertiary education expenditure	30.43	36
3.1.4	Reading, maths, and science	38.70	51
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	24.41	111
3.2.1	Quality of management schools	21.16	109
3.2.2	Prevalence of training in firms	38.26	48
3.2.3	Employee development	13.80	111
3.3	Access to Growth Opportunities	46.10	63
	Empowerment		
3.3.1	Delegation of authority	28.21	94
3.3.2	Personal rights	59.69	63
	Collaboration		
3.3.3	Use of virtual social networks	63.03	81
3.3.4	Use of virtual professional networks	n/a	n/a
3.3.5	Collaboration within organisations	29.32	85
3.3.6	Collaboration across organisations	50.23	113
4	**RETAIN**	**45.20**	**69**
4.1	Sustainability	25.39	96
4.1.1	Pension system	58.16	43
4.1.2	Social protection	13.45	109
4.1.3	Brain retention	4.56	117
4.2	Lifestyle	65.00	57
4.2.1	Environmental performance	73.89	52
4.2.2	Personal safety	72.54	43
4.2.3	Physician density	40.38	46
4.2.4	Sanitation	73.18	83
5	**VOCATIONAL AND TECHNICAL SKILLS**	**38.60**	**79**
5.1	Mid-Level Skills	36.27	60
5.1.1	Workforce with secondary education	48.92	17
5.1.2	Population with secondary education	59.34	23
5.1.3	Technicians and associate professionals	29.15	71
5.1.4	Labour productivity per employee	7.67	85
5.2	Employability	40.93	105
5.2.1	Ease of finding skilled employees	19.14	113
5.2.2	Relevance of education system to the economy	28.61	91
5.2.3	Skills matching with secondary education	58.33	78
5.2.4	Skills matching with tertiary education	57.66	109
6	**GLOBAL KNOWLEDGE SKILLS**	**25.26**	**66**
6.1	High-Level Skills	31.12	53
6.1.1	Workforce with tertiary education	35.86	47
6.1.2	Population with tertiary education	54.03	10
6.1.3	Professionals	38.73	45
6.1.4	Researchers	7.88	59
6.1.5	Senior officials and managers	43.75	27
6.1.6	Availability of scientists and engineers	6.47	115
6.2	Talent Impact	19.41	78
6.2.1	Innovation output	41.12	41
6.2.2	High-value exports	7.53	74
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	9.29	51
6.2.5	Scientific journal articles	19.69	58

MONGOLIA

Key Indicators

Rank (out of 119)	**75**
Income group	**Lower middle income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**2.96**
GDP per capita (PPP US$)	**12,188.60**
GDP (US$ billions)	**11.76**
GTCI score	**38.29**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



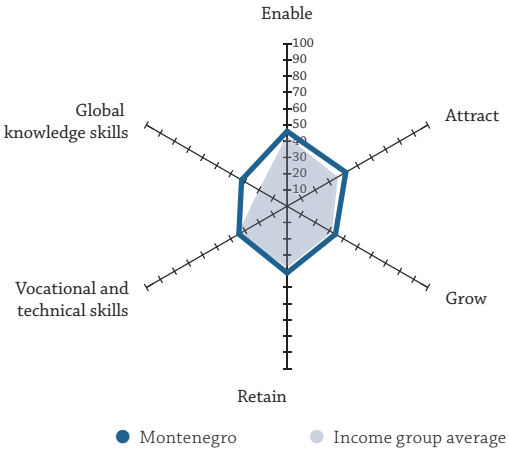
		Score	Rank
1	**ENABLE**	**46.10**	**84**
1.1	Regulatory Landscape	41.47	85
1.1.1	Government effectiveness	31.88	88
1.1.2	Business-government relations	27.15	115
1.1.3	Political stability	79.61	33
1.1.4	Regulatory quality	37.14	88
1.1.5	Corruption	31.58	70
1.2	Market Landscape	37.34	94
1.2.1	Competition intensity	53.43	97
1.2.2	Ease of doing business	64.84	59
1.2.3	Cluster development	12.38	116
1.2.4	R&D expenditure	5.14	79
1.2.5	ICT infrastructure	46.93	74
1.2.6	Technology utilisation	41.34	67
1.3	Business and Labour Landscape	59.50	52
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	52.87	82
1.3.4	Labour-employer cooperation	49.59	62
	Management Practice		
1.3.5	Professional management	21.20	99
1.3.6	Relationship of pay to productivity	33.33	86
2	**ATTRACT**	**41.69**	**65**
2.1	External Openness	22.06	108
	Attract Business		
2.1.1	FDI and technology transfer	39.95	86
2.1.2	Prevalence of foreign ownership	42.22	95
	Attract People		
2.1.3	Migrant stock	1.17	100
2.1.4	International students	3.45	75
2.1.5	Brain gain	23.49	98
2.2	Internal Openness	61.33	28
	Social Inclusion		
2.2.1	Tolerance of minorities	65.52	27
2.2.2	Tolerance of immigrants	26.76	107
2.2.3	Social mobility	58.86	32
	Gender Equality		
2.2.4	Female graduates	88.70	22
2.2.5	Gender earnings gap	65.06	22
2.2.6	Leadership opportunities for women	63.08	27
3	**GROW**	**34.38**	**81**
3.1	Formal Education	19.45	82
	Enrolment		
3.1.1	Vocational enrolment	15.56	67
3.1.2	Tertiary enrolment	59.94	28
	Quality		
3.1.3	Tertiary education expenditure	2.30	103
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	39.61	67
3.2.1	Quality of management schools	14.02	114
3.2.2	Prevalence of training in firms	75.86	8
3.2.3	Employee development	28.96	85
3.3	Access to Growth Opportunities	44.07	77
	Empowerment		
3.3.1	Delegation of authority	11.45	117
3.3.2	Personal rights	73.70	39
	Collaboration		
3.3.3	Use of virtual social networks	69.39	61
3.3.4	Use of virtual professional networks	6.90	86
3.3.5	Collaboration within organisations	54.37	29
3.3.6	Collaboration across organisations	48.62	116
4	**RETAIN**	**41.02**	**84**
4.1	Sustainability	27.20	91
4.1.1	Pension system	31.63	63
4.1.2	Social protection	31.05	74
4.1.3	Brain retention	18.91	110
4.2	Lifestyle	54.84	73
4.2.1	Environmental performance	50.93	94
4.2.2	Personal safety	68.37	56
4.2.3	Physician density	45.83	35
4.2.4	Sanitation	54.20	98
5	**VOCATIONAL AND TECHNICAL SKILLS**	**34.26**	**91**
5.1	Mid-Level Skills	32.87	65
5.1.1	Workforce with secondary education	41.43	26
5.1.2	Population with secondary education	45.51	42
5.1.3	Technicians and associate professionals	11.66	93
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	35.65	113
5.2.1	Ease of finding skilled employees	0.00	118
5.2.2	Relevance of education system to the economy	25.00	98
5.2.3	Skills matching with secondary education	70.14	34
5.2.4	Skills matching with tertiary education	47.45	117
6	**GLOBAL KNOWLEDGE SKILLS**	**32.31**	**50**
6.1	High-Level Skills	41.68	33
6.1.1	Workforce with tertiary education	43.80	35
6.1.2	Population with tertiary education	35.33	29
6.1.3	Professionals	41.62	38
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	40.00	31
6.1.6	Availability of scientists and engineers	47.65	45
6.2	Talent Impact	22.93	69
6.2.1	Innovation output	39.89	45
6.2.2	High-value exports	7.53	74
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	36.45	17
6.2.5	Scientific journal articles	7.86	80

MONTENEGRO

Key Indicators

Rank (out of 119)	**58**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**0.62**
GDP per capita (PPP US$)	**15,485.80**
GDP (US$ billions)	**3.99**
GTCI score	**43.47**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



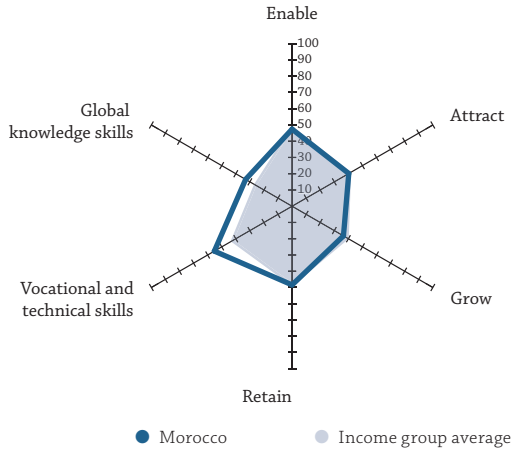
		Score	Rank
1	**ENABLE**	**47.41**	**74**
1.1	Regulatory Landscape	53.27	50
1.1.1	Government effectiveness	46.27	59
1.1.2	Business-government relations	61.59	50
1.1.3	Political stability	66.99	54
1.1.4	Regulatory quality	50.73	61
1.1.5	Corruption	40.79	52
1.2	Market Landscape	40.67	81
1.2.1	Competition intensity	44.29	109
1.2.2	Ease of doing business	72.17	48
1.2.3	Cluster development	23.53	102
1.2.4	R&D expenditure	8.18	69
1.2.5	ICT infrastructure	61.94	55
1.2.6	Technology utilisation	33.92	84
1.3	Business and Labour Landscape	48.28	85
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	59.32	64
1.3.4	Labour-employer cooperation	36.31	96
	Management Practice		
1.3.5	Professional management	22.35	98
1.3.6	Relationship of pay to productivity	36.03	78
2	**ATTRACT**	**40.27**	**70**
2.1	External Openness	37.23	61
	Attract Business		
2.1.1	FDI and technology transfer	47.52	67
2.1.2	Prevalence of foreign ownership	48.15	86
	Attract People		
2.1.3	Migrant stock	28.95	28
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	24.30	95
2.2	Internal Openness	43.30	88
	Social Inclusion		
2.2.1	Tolerance of minorities	31.03	81
2.2.2	Tolerance of immigrants	70.42	40
2.2.3	Social mobility	34.60	87
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	48.19	70
2.2.6	Leadership opportunities for women	32.26	75
3	**GROW**	**36.50**	**72**
3.1	Formal Education	34.54	48
	Enrolment		
3.1.1	Vocational enrolment	52.43	15
3.1.2	Tertiary enrolment	48.24	47
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths, and science	37.48	52
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	30.13	98
3.2.1	Quality of management schools	42.06	64
3.2.2	Prevalence of training in firms	26.78	67
3.2.3	Employee development	21.55	104
3.3	Access to Growth Opportunities	44.83	70
	Empowerment		
3.3.1	Delegation of authority	24.58	101
3.3.2	Personal rights	59.69	63
	Collaboration		
3.3.3	Use of virtual social networks	69.39	61
3.3.4	Use of virtual professional networks	18.97	51
3.3.5	Collaboration within organisations	33.28	75
3.3.6	Collaboration across organisations	63.09	85
4	**RETAIN**	**48.40**	**63**
4.1	Sustainability	27.05	92
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	24.95	85
4.1.3	Brain retention	29.16	88
4.2	Lifestyle	69.75	48
4.2.1	Environmental performance	78.00	45
4.2.2	Personal safety	68.48	55
4.2.3	Physician density	37.18	51
4.2.4	Sanitation	95.34	47
5	**VOCATIONAL AND TECHNICAL SKILLS**	**55.22**	**30**
5.1	Mid-Level Skills	64.53	6
5.1.1	Workforce with secondary education	57.29	8
5.1.2	Population with secondary education	75.32	7
5.1.3	Technicians and associate professionals	60.99	24
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	45.90	87
5.2.1	Ease of finding skilled employees	26.40	104
5.2.2	Relevance of education system to the economy	39.90	65
5.2.3	Skills matching with secondary education	57.49	86
5.2.4	Skills matching with tertiary education	59.80	102
6	**GLOBAL KNOWLEDGE SKILLS**	**33.02**	**48**
6.1	High-Level Skills	32.45	49
6.1.1	Workforce with tertiary education	34.55	51
6.1.2	Population with tertiary education	32.42	34
6.1.3	Professionals	48.84	26
6.1.4	Researchers	10.00	53
6.1.5	Senior officials and managers	36.25	36
6.1.6	Availability of scientists and engineers	32.65	79
6.2	Talent Impact	33.59	50
6.2.1	Innovation output	35.85	50
6.2.2	High-value exports	n/a	n/a
6.2.3	New product entrepreneurial activity	32.02	66
6.2.4	New business density	39.58	16
6.2.5	Scientific journal articles	26.90	49

MOROCCO

Key Indicators

Rank (out of 119)	**98**
Income group	**Lower middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**34.38**
GDP per capita (PPP US$)	**7,821.40**
GDP (US$ billions)	**100.36**
GTCI score	**31.86**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



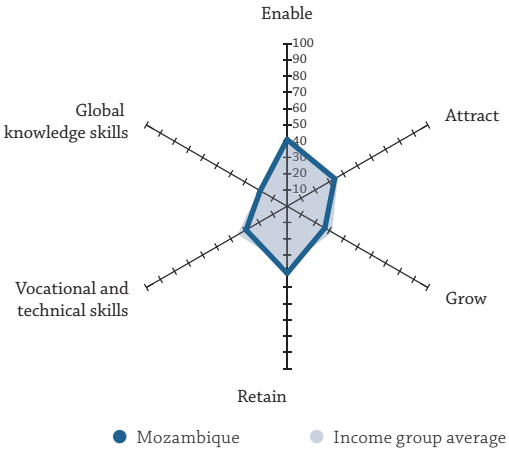
		Score	Rank
1	**ENABLE**	**41.05**	**93**
1.1	Regulatory Landscape	45.86	72
1.1.1	Government effectiveness	40.62	74
1.1.2	Business-government relations	61.81	48
1.1.3	Political stability	55.58	78
1.1.4	Regulatory quality	41.02	76
1.1.5	Corruption	30.26	72
1.2	Market Landscape	45.94	66
1.2.1	Competition intensity	68.29	65
1.2.2	Ease of doing business	63.63	62
1.2.3	Cluster development	39.63	73
1.2.4	R&D expenditure	16.36	46
1.2.5	ICT infrastructure	42.16	79
1.2.6	Technology utilisation	45.58	59
1.3	Business and Labour Landscape	31.37	116
	Labour Market		
1.3.1	Ease of hiring	0.00	116
1.3.2	Ease of redundancy	50.00	98
1.3.3	Active labour market policies	47.61	97
1.3.4	Labour-employer cooperation	31.71	104
	Management Practice		
1.3.5	Professional management	32.95	75
1.3.6	Relationship of pay to productivity	25.93	101
2	**ATTRACT**	**33.82**	**100**
2.1	External Openness	33.94	69
	Attract Business		
2.1.1	FDI and technology transfer	54.05	55
2.1.2	Prevalence of foreign ownership	64.44	45
	Attract People		
2.1.3	Migrant stock	0.42	113
2.1.4	International students	9.25	66
2.1.5	Brain gain	41.57	58
2.2	Internal Openness	33.70	111
	Social Inclusion		
2.2.1	Tolerance of minorities	33.33	79
2.2.2	Tolerance of immigrants	47.89	76
2.2.3	Social mobility	42.23	66
	Gender Equality		
2.2.4	Female graduates	51.76	87
2.2.5	Gender earnings gap	10.84	110
2.2.6	Leadership opportunities for women	16.13	101
3	**GROW**	**26.82**	**103**
3.1	Formal Education	14.68	96
	Enrolment		
3.1.1	Vocational enrolment	9.74	79
3.1.2	Tertiary enrolment	24.18	80
	Quality		
3.1.3	Tertiary education expenditure	24.81	52
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	28.79	102
3.2.1	Quality of management schools	41.01	66
3.2.2	Prevalence of training in firms	30.21	60
3.2.3	Employee development	15.15	110
3.3	Access to Growth Opportunities	36.98	100
	Empowerment		
3.3.1	Delegation of authority	29.05	93
3.3.2	Personal rights	27.51	98
	Collaboration		
3.3.3	Use of virtual social networks	68.48	66
3.3.4	Use of virtual professional networks	10.05	70
3.3.5	Collaboration within organisations	27.32	89
3.3.6	Collaboration across organisations	59.46	94
4	**RETAIN**	**41.28**	**83**
4.1	Sustainability	28.07	87
4.1.1	Pension system	22.45	72
4.1.2	Social protection	27.13	81
4.1.3	Brain retention	34.62	81
4.2	Lifestyle	54.49	76
4.2.1	Environmental performance	69.20	59
4.2.2	Personal safety	65.64	60
4.2.3	Physician density	9.62	90
4.2.4	Sanitation	73.52	81
5	**VOCATIONAL AND TECHNICAL SKILLS**	**29.14**	**106**
5.1	Mid-Level Skills	16.14	95
5.1.1	Workforce with secondary education	17.57	82
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	18.83	85
5.1.4	Labour productivity per employee	12.02	78
5.2	Employability	42.14	102
5.2.1	Ease of finding skilled employees	34.32	86
5.2.2	Relevance of education system to the economy	19.47	104
5.2.3	Skills matching with secondary education	53.84	97
5.2.4	Skills matching with tertiary education	60.93	99
6	**GLOBAL KNOWLEDGE SKILLS**	**19.07**	**81**
6.1	High-Level Skills	14.10	99
6.1.1	Workforce with tertiary education	12.69	90
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	2.60	104
6.1.4	Researchers	12.38	47
6.1.5	Senior officials and managers	3.13	102
6.1.6	Availability of scientists and engineers	39.71	61
6.2	Talent Impact	24.04	63
6.2.1	Innovation output	27.94	67
6.2.2	High-value exports	6.59	80
6.2.3	New product entrepreneurial activity	59.14	20
6.2.4	New business density	8.76	54
6.2.5	Scientific journal articles	17.76	62

MOZAMBIQUE

Key Indicators

Rank (out of 119)	**117**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**27.98**
GDP per capita (PPP US$)	**1,185.82**
GDP (US$ billions)	**14.69**
GTCI score	**22.85**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



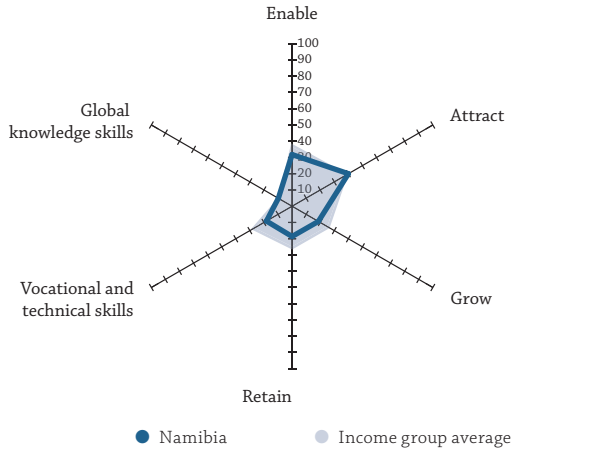
		Score	Rank
1	**ENABLE**	**31.80**	**111**
1.1	Regulatory Landscape	36.66	97
1.1.1	Government effectiveness	23.14	107
1.1.2	Business-government relations	60.04	56
1.1.3	Political stability	49.76	89
1.1.4	Regulatory quality	33.25	97
1.1.5	Corruption	17.11	109
1.2	Market Landscape	24.11	114
1.2.1	Competition intensity	50.00	104
1.2.2	Ease of doing business	38.05	106
1.2.3	Cluster development	22.91	103
1.2.4	R&D expenditure	9.58	64
1.2.5	ICT infrastructure	3.27	115
1.2.6	Technology utilisation	20.85	105
1.3	Business and Labour Landscape	34.63	113
	Labour Market		
1.3.1	Ease of hiring	33.33	101
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	40.33	113
1.3.4	Labour-employer cooperation	31.71	104
	Management Practice		
1.3.5	Professional management	14.33	110
1.3.6	Relationship of pay to productivity	8.08	118
2	**ATTRACT**	**40.01**	**73**
2.1	External Openness	28.82	85
	Attract Business		
2.1.1	FDI and technology transfer	37.60	92
2.1.2	Prevalence of foreign ownership	57.53	58
	Attract People		
2.1.3	Migrant stock	1.61	96
2.1.4	International students	1.78	84
2.1.5	Brain gain	45.58	48
2.2	Internal Openness	51.19	54
	Social Inclusion		
2.2.1	Tolerance of minorities	47.13	56
2.2.2	Tolerance of immigrants	83.10	21
2.2.3	Social mobility	23.71	107
	Gender Equality		
2.2.4	Female graduates	37.97	92
2.2.5	Gender earnings gap	81.93	5
2.2.6	Leadership opportunities for women	33.33	73
3	**GROW**	**18.68**	**117**
3.1	Formal Education	8.21	111
	Enrolment		
3.1.1	Vocational enrolment	7.79	85
3.1.2	Tertiary enrolment	4.57	107
	Quality		
3.1.3	Tertiary education expenditure	20.46	65
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	15.53	117
3.2.1	Quality of management schools	9.79	117
3.2.2	Prevalence of training in firms	24.67	71
3.2.3	Employee development	12.12	116
3.3	Access to Growth Opportunities	32.32	108
	Empowerment		
3.3.1	Delegation of authority	23.46	105
3.3.2	Personal rights	48.49	74
	Collaboration		
3.3.3	Use of virtual social networks	44.85	107
3.3.4	Use of virtual professional networks	1.11	107
3.3.5	Collaboration within organisations	17.13	112
3.3.6	Collaboration across organisations	58.88	97
4	**RETAIN**	**18.61**	**118**
4.1	Sustainability	21.22	108
4.1.1	Pension system	0.00	106
4.1.2	Social protection	24.02	87
4.1.3	Brain retention	39.64	68
4.2	Lifestyle	16.01	118
4.2.1	Environmental performance	8.81	116
4.2.2	Personal safety	44.92	98
4.2.3	Physician density	0.64	107
4.2.4	Sanitation	9.66	114
5	**VOCATIONAL AND TECHNICAL SKILLS**	**18.24**	**118**
5.1	Mid-Level Skills	1.90	119
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	3.28	99
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	0.52	99
5.2	Employability	34.58	115
5.2.1	Ease of finding skilled employees	20.13	111
5.2.2	Relevance of education system to the economy	17.31	108
5.2.3	Skills matching with secondary education	45.67	111
5.2.4	Skills matching with tertiary education	55.20	113
6	**GLOBAL KNOWLEDGE SKILLS**	**9.76**	**107**
6.1	High-Level Skills	5.45	117
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	1.89	101
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	0.35	92
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	14.12	110
6.2	Talent Impact	14.07	90
6.2.1	Innovation output	17.05	96
6.2.2	High-value exports	21.85	38
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	3.31	103

NAMIBIA

Key Indicators

Rank (out of 119)	**80**
Income group	**Upper middle income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**2.46**
GDP per capita (PPP US$)	**10,414.00**
GDP (US$ billions)	**11.55**
GTCI score	**37.00**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



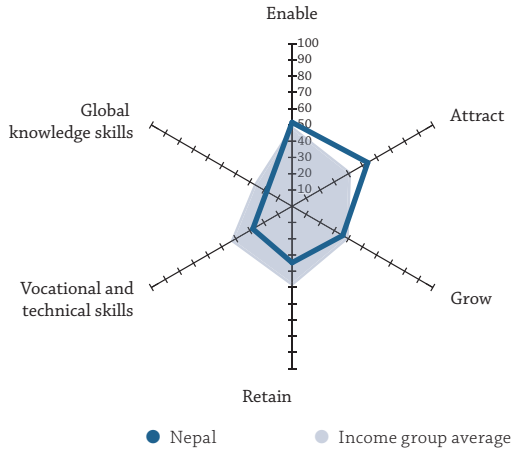
		Score	Rank
1	**ENABLE**	**51.58**	**55**
1.1	Regulatory Landscape	56.83	47
1.1.1	Government effectiveness	48.84	52
1.1.2	Business-government relations	62.47	43
1.1.3	Political stability	79.61	33
1.1.4	Regulatory quality	43.20	74
1.1.5	Corruption	50.00	43
1.2	Market Landscape	36.89	96
1.2.1	Competition intensity	55.43	91
1.2.2	Ease of doing business	47.45	90
1.2.3	Cluster development	41.49	68
1.2.4	R&D expenditure	3.04	88
1.2.5	ICT infrastructure	29.06	96
1.2.6	Technology utilisation	44.88	62
1.3	Business and Labour Landscape	61.01	44
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	48.48	93
1.3.4	Labour-employer cooperation	51.76	57
	Management Practice		
1.3.5	Professional management	50.14	41
1.3.6	Relationship of pay to productivity	35.69	81
2	**ATTRACT**	**53.72**	**31**
2.1	External Openness	46.74	32
	Attract Business		
2.1.1	FDI and technology transfer	49.09	66
2.1.2	Prevalence of foreign ownership	72.35	33
	Attract People		
2.1.3	Migrant stock	8.27	61
2.1.4	International students	52.98	16
2.1.5	Brain gain	51.00	36
2.2	Internal Openness	60.70	29
	Social Inclusion		
2.2.1	Tolerance of minorities	47.13	56
2.2.2	Tolerance of immigrants	57.75	57
2.2.3	Social mobility	48.77	48
	Gender Equality		
2.2.4	Female graduates	97.90	3
2.2.5	Gender earnings gap	71.08	14
2.2.6	Leadership opportunities for women	41.58	61
3	**GROW**	**35.99**	**78**
3.1	Formal Education	18.20	85
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	7.54	102
	Quality		
3.1.3	Tertiary education expenditure	47.06	8
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	35.62	78
3.2.1	Quality of management schools	26.98	100
3.2.2	Prevalence of training in firms	29.02	64
3.2.3	Employee development	50.84	41
3.3	Access to Growth Opportunities	54.16	39
	Empowerment		
3.3.1	Delegation of authority	54.75	31
3.3.2	Personal rights	80.67	29
	Collaboration		
3.3.3	Use of virtual social networks	69.39	61
3.3.4	Use of virtual professional networks	16.39	60
3.3.5	Collaboration within organisations	36.56	68
3.3.6	Collaboration across organisations	67.19	68
4	**RETAIN**	**34.72**	**95**
4.1	Sustainability	32.02	71
4.1.1	Pension system	8.16	86
4.1.2	Social protection	40.29	52
4.1.3	Brain retention	47.61	45
4.2	Lifestyle	37.41	101
4.2.1	Environmental performance	62.97	69
4.2.2	Personal safety	55.62	80
4.2.3	Physician density	5.61	95
4.2.4	Sanitation	25.45	109
5	**VOCATIONAL AND TECHNICAL SKILLS**	**27.90**	**109**
5.1	Mid-Level Skills	11.66	101
5.1.1	Workforce with secondary education	0.00	107
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	23.32	79
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	44.14	94
5.2.1	Ease of finding skilled employees	27.06	102
5.2.2	Relevance of education system to the economy	31.73	82
5.2.3	Skills matching with secondary education	55.14	95
5.2.4	Skills matching with tertiary education	62.63	94
6	**GLOBAL KNOWLEDGE SKILLS**	**18.08**	**86**
6.1	High-Level Skills	14.80	97
6.1.1	Workforce with tertiary education	9.90	93
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	18.21	74
6.1.4	Researchers	1.57	82
6.1.5	Senior officials and managers	18.13	67
6.1.6	Availability of scientists and engineers	26.18	93
6.2	Talent Impact	21.36	72
6.2.1	Innovation output	16.17	98
6.2.2	High-value exports	5.08	85
6.2.3	New product entrepreneurial activity	75.75	6
6.2.4	New business density	4.76	73
6.2.5	Scientific journal articles	5.04	94

NEPAL

Key Indicators

Rank (out of 119)	**116**
Income group	**Low income**
Regional group	**Central and Southern Asia**
Population (millions)	**28.51**
GDP per capita (PPP US$)	**2,458.13**
GDP (US$ billions)	**20.88**
GTCI score	**24.05**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



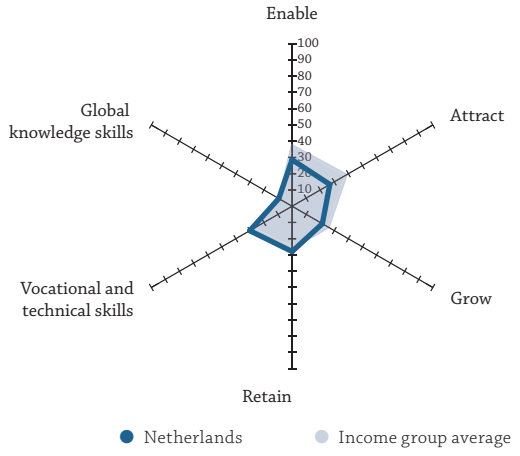
		Score	Rank
1	**ENABLE**	**28.61**	**115**
1.1	Regulatory Landscape	29.40	110
1.1.1	Government effectiveness	15.42	115
1.1.2	Business-government relations	44.59	91
1.1.3	Political stability	41.26	102
1.1.4	Regulatory quality	25.97	106
1.1.5	Corruption	19.74	101
1.2	Market Landscape	27.75	108
1.2.1	Competition intensity	62.29	77
1.2.2	Ease of doing business	47.56	89
1.2.3	Cluster development	25.08	98
1.2.4	R&D expenditure	6.78	73
1.2.5	ICT infrastructure	13.51	106
1.2.6	Technology utilisation	11.31	111
1.3	Business and Labour Landscape	28.68	117
	Labour Market		
1.3.1	Ease of hiring	33.33	101
1.3.2	Ease of redundancy	30.00	114
1.3.3	Active labour market policies	44.57	110
1.3.4	Labour-employer cooperation	26.56	112
	Management Practice		
1.3.5	Professional management	15.76	107
1.3.6	Relationship of pay to productivity	21.89	104
2	**ATTRACT**	**26.80**	**114**
2.1	External Openness	13.37	117
	Attract Business		
2.1.1	FDI and technology transfer	19.58	115
2.1.2	Prevalence of foreign ownership	19.51	115
	Attract People		
2.1.3	Migrant stock	3.86	82
2.1.4	International students	0.00	100
2.1.5	Brain gain	23.90	96
2.2	Internal Openness	40.22	96
	Social Inclusion		
2.2.1	Tolerance of minorities	10.34	114
2.2.2	Tolerance of immigrants	84.51	18
2.2.3	Social mobility	31.34	95
	Gender Equality		
2.2.4	Female graduates	52.03	85
2.2.5	Gender earnings gap	46.99	74
2.2.6	Leadership opportunities for women	16.13	101
3	**GROW**	**21.50**	**115**
3.1	Formal Education	5.35	115
	Enrolment		
3.1.1	Vocational enrolment	0.98	107
3.1.2	Tertiary enrolment	12.51	94
	Quality		
3.1.3	Tertiary education expenditure	7.93	92
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	26.57	107
3.2.1	Quality of management schools	28.31	99
3.2.2	Prevalence of training in firms	37.60	50
3.2.3	Employee development	13.80	111
3.3	Access to Growth Opportunities	32.57	107
	Empowerment		
3.3.1	Delegation of authority	24.86	100
3.3.2	Personal rights	52.16	68
	Collaboration		
3.3.3	Use of virtual social networks	45.45	105
3.3.4	Use of virtual professional networks	1.91	101
3.3.5	Collaboration within organisations	18.16	111
3.3.6	Collaboration across organisations	52.89	111
4	**RETAIN**	**27.87**	**106**
4.1	Sustainability	10.67	118
4.1.1	Pension system	1.02	103
4.1.2	Social protection	7.30	115
4.1.3	Brain retention	23.69	97
4.2	Lifestyle	45.07	93
4.2.1	Environmental performance	24.47	111
4.2.2	Personal safety	72.35	44
4.2.3	Physician density	n/a	n/a
4.2.4	Sanitation	38.41	104
5	**VOCATIONAL AND TECHNICAL SKILLS**	**30.08**	**103**
5.1	Mid-Level Skills	13.18	99
5.1.1	Workforce with secondary education	10.36	95
5.1.2	Population with secondary education	21.54	82
5.1.3	Technicians and associate professionals	7.62	98
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	46.99	83
5.2.1	Ease of finding skilled employees	28.05	99
5.2.2	Relevance of education system to the economy	38.46	67
5.2.3	Skills matching with secondary education	57.92	81
5.2.4	Skills matching with tertiary education	63.51	88
6	**GLOBAL KNOWLEDGE SKILLS**	**9.46**	**109**
6.1	High-Level Skills	11.70	104
6.1.1	Workforce with tertiary education	17.05	86
6.1.2	Population with tertiary education	10.46	83
6.1.3	Professionals	2.31	105
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	2.50	103
6.1.6	Availability of scientists and engineers	26.18	93
6.2	Talent Impact	7.21	110
6.2.1	Innovation output	12.30	107
6.2.2	High-value exports	1.13	104
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	3.83	77
6.2.5	Scientific journal articles	11.59	74

NETHERLANDS

Key Indicators

Rank (out of 119)	**9**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**16.94**
GDP per capita (PPP US$)	**48,458.90**
GDP (US$ billions)	**752.55**
GTCI score	**72.56**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



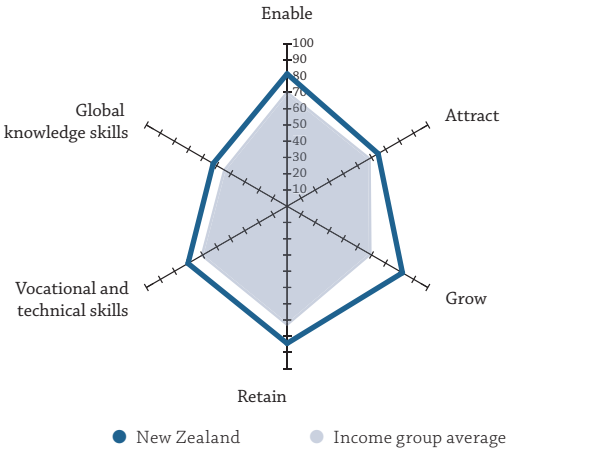
		Score	Rank
1	**ENABLE**	**81.42**	**12**
1.1	Regulatory Landscape	86.76	10
1.1.1	Government effectiveness	89.46	6
1.1.2	Business-government relations	79.03	17
1.1.3	Political stability	86.41	20
1.1.4	Regulatory quality	88.11	8
1.1.5	Corruption	90.79	8
1.2	Market Landscape	82.01	9
1.2.1	Competition intensity	90.57	7
1.2.2	Ease of doing business	80.18	26
1.2.3	Cluster development	91.02	6
1.2.4	R&D expenditure	45.79	18
1.2.5	ICT infrastructure	94.41	7
1.2.6	Technology utilisation	90.11	8
1.3	Business and Labour Landscape	75.48	23
	Labour Market		
1.3.1	Ease of hiring	83.33	44
1.3.2	Ease of redundancy	30.00	114
1.3.3	Active labour market policies	84.74	10
1.3.4	Labour-employer cooperation	89.97	6
	Management Practice		
1.3.5	Professional management	96.85	6
1.3.6	Relationship of pay to productivity	68.01	23
2	**ATTRACT**	**64.69**	**17**
2.1	External Openness	58.14	16
	Attract Business		
2.1.1	FDI and technology transfer	73.37	11
2.1.2	Prevalence of foreign ownership	80.25	19
	Attract People		
2.1.3	Migrant stock	25.66	32
2.1.4	International students	37.72	25
2.1.5	Brain gain	73.69	12
2.2	Internal Openness	71.25	15
	Social Inclusion		
2.2.1	Tolerance of minorities	70.11	17
2.2.2	Tolerance of immigrants	83.10	21
2.2.3	Social mobility	91.55	7
	Gender Equality		
2.2.4	Female graduates	74.05	55
2.2.5	Gender earnings gap	37.35	89
2.2.6	Leadership opportunities for women	71.33	20
3	**GROW**	**81.95**	**1**
3.1	Formal Education	68.27	3
	Enrolment		
3.1.1	Vocational enrolment	77.55	2
3.1.2	Tertiary enrolment	68.72	17
	Quality		
3.1.3	Tertiary education expenditure	39.13	15
3.1.4	Reading, maths, and science	79.45	11
3.1.5	University ranking	76.49	12
3.2	Lifelong Learning	88.00	4
3.2.1	Quality of management schools	86.77	6
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	89.23	6
3.3	Access to Growth Opportunities	89.57	3
	Empowerment		
3.3.1	Delegation of authority	85.75	4
3.3.2	Personal rights	88.17	16
	Collaboration		
3.3.3	Use of virtual social networks	99.39	2
3.3.4	Use of virtual professional networks	87.99	3
3.3.5	Collaboration within organisations	80.77	9
3.3.6	Collaboration across organisations	95.35	6
4	**RETAIN**	**84.38**	**9**
4.1	Sustainability	87.22	5
4.1.1	Pension system	90.82	15
4.1.2	Social protection	89.54	10
4.1.3	Brain retention	81.32	9
4.2	Lifestyle	81.53	20
4.2.1	Environmental performance	83.86	35
4.2.2	Personal safety	91.51	14
4.2.3	Physician density	53.37	23
4.2.4	Sanitation	97.39	34
5	**VOCATIONAL AND TECHNICAL SKILLS**	**70.38**	**9**
5.1	Mid-Level Skills	54.26	23
5.1.1	Workforce with secondary education	36.14	39
5.1.2	Population with secondary education	53.92	29
5.1.3	Technicians and associate professionals	69.96	15
5.1.4	Labour productivity per employee	57.04	15
5.2	Employability	86.50	6
5.2.1	Ease of finding skilled employees	85.81	8
5.2.2	Relevance of education system to the economy	82.45	7
5.2.3	Skills matching with secondary education	87.97	4
5.2.4	Skills matching with tertiary education	89.78	7
6	**GLOBAL KNOWLEDGE SKILLS**	**52.51**	**16**
6.1	High-Level Skills	51.20	21
6.1.1	Workforce with tertiary education	49.31	26
6.1.2	Population with tertiary education	33.28	33
6.1.3	Professionals	71.68	5
6.1.4	Researchers	55.03	14
6.1.5	Senior officials and managers	34.38	40
6.1.6	Availability of scientists and engineers	63.53	21
6.2	Talent Impact	53.83	14
6.2.1	Innovation output	91.39	2
6.2.2	High-value exports	37.48	15
6.2.3	New product entrepreneurial activity	41.62	54
6.2.4	New business density	30.82	21
6.2.5	Scientific journal articles	67.83	16

NEW ZEALAND

Key Indicators

Rank (out of 119)	**12**
Income group	**High income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**4.60**
GDP per capita (PPP US$)	**36,982.30**
GDP (US$ billions)	**173.75**
GTCI score	**71.52**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



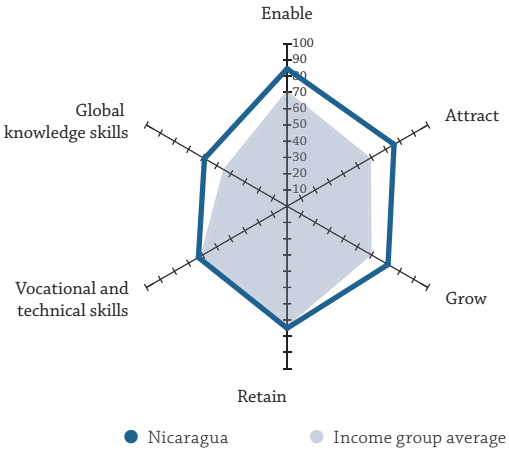
		Score	Rank
1	**ENABLE**	**84.58**	**4**
1.1	Regulatory Landscape	94.26	2
1.1.1	Government effectiveness	90.75	3
1.1.2	Business-government relations	88.08	9
1.1.3	Political stability	100.00	1
1.1.4	Regulatory quality	92.48	2
1.1.5	Corruption	100.00	1
1.2	Market Landscape	71.67	22
1.2.1	Competition intensity	78.57	26
1.2.2	Ease of doing business	100.00	1
1.2.3	Cluster development	49.85	45
1.2.4	R&D expenditure	27.10	33
1.2.5	ICT infrastructure	92.50	12
1.2.6	Technology utilisation	81.98	16
1.3	Business and Labour Landscape	87.82	6
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	82.46	12
1.3.4	Labour-employer cooperation	85.91	9
	Management Practice		
1.3.5	Professional management	97.71	3
1.3.6	Relationship of pay to productivity	81.82	8
2	**ATTRACT**	**76.02**	**6**
2.1	External Openness	72.48	9
	Attract Business		
2.1.1	FDI and technology transfer	63.97	28
2.1.2	Prevalence of foreign ownership	78.27	21
	Attract People		
2.1.3	Migrant stock	50.51	14
2.1.4	International students	97.75	5
2.1.5	Brain gain	71.89	14
2.2	Internal Openness	79.57	7
	Social Inclusion		
2.2.1	Tolerance of minorities	67.82	22
2.2.2	Tolerance of immigrants	100.00	1
2.2.3	Social mobility	97.55	2
	Gender Equality		
2.2.4	Female graduates	78.40	48
2.2.5	Gender earnings gap	53.01	52
2.2.6	Leadership opportunities for women	80.65	11
3	**GROW**	**71.74**	**13**
3.1	Formal Education	55.16	16
	Enrolment		
3.1.1	Vocational enrolment	27.63	44
3.1.2	Tertiary enrolment	70.82	15
	Quality		
3.1.3	Tertiary education expenditure	38.11	18
3.1.4	Reading, maths, and science	78.51	13
3.1.5	University ranking	60.75	18
3.2	Lifelong Learning	74.12	17
3.2.1	Quality of management schools	72.49	23
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	75.76	18
3.3	Access to Growth Opportunities	85.95	8
	Empowerment		
3.3.1	Delegation of authority	85.47	5
3.3.2	Personal rights	100.00	1
	Collaboration		
3.3.3	Use of virtual social networks	85.15	21
3.3.4	Use of virtual professional networks	75.03	11
3.3.5	Collaboration within organisations	81.77	8
3.3.6	Collaboration across organisations	88.25	15
4	**RETAIN**	**75.07**	**21**
4.1	Sustainability	73.35	18
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	85.65	11
4.1.3	Brain retention	61.05	30
4.2	Lifestyle	76.79	34
4.2.1	Environmental performance	95.00	11
4.2.2	Personal safety	90.03	18
4.2.3	Physician density	45.35	36
4.2.4	Sanitation	n/a	n/a
5	**VOCATIONAL AND TECHNICAL SKILLS**	**63.00**	**20**
5.1	Mid-Level Skills	43.92	39
5.1.1	Workforce with secondary education	44.36	24
5.1.2	Population with secondary education	35.66	56
5.1.3	Technicians and associate professionals	54.71	33
5.1.4	Labour productivity per employee	40.96	35
5.2	Employability	82.07	14
5.2.1	Ease of finding skilled employees	74.92	22
5.2.2	Relevance of education system to the economy	80.53	9
5.2.3	Skills matching with secondary education	81.67	13
5.2.4	Skills matching with tertiary education	91.16	5
6	**GLOBAL KNOWLEDGE SKILLS**	**58.70**	**7**
6.1	High-Level Skills	54.71	19
6.1.1	Workforce with tertiary education	45.05	32
6.1.2	Population with tertiary education	43.22	17
6.1.3	Professionals	45.95	34
6.1.4	Researchers	48.48	22
6.1.5	Senior officials and managers	84.38	5
6.1.6	Availability of scientists and engineers	61.18	24
6.2	Talent Impact	62.68	4
6.2.1	Innovation output	57.47	24
6.2.2	High-value exports	18.08	42
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	96.34	2
6.2.5	Scientific journal articles	78.84	11

NICARAGUA

Key Indicators

Rank (out of 119)	**111**
Income group	**Lower middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**6.08**
GDP per capita (PPP US$)	**5,189.73**
GDP (US$ billions)	**12.69**
GTCI score	**26.10**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



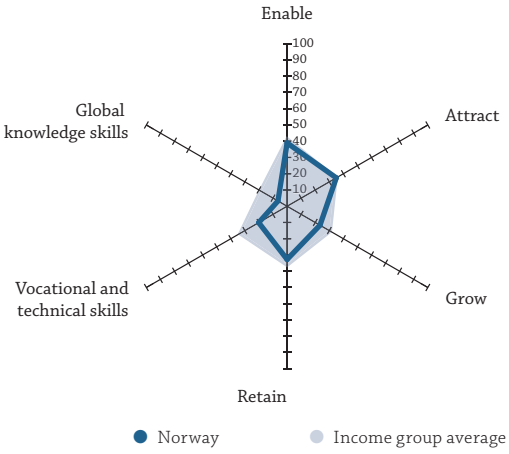
		Score	Rank
1	**ENABLE**	**38.95**	**97**
1.1	Regulatory Landscape	39.36	90
1.1.1	Government effectiveness	21.59	109
1.1.2	Business-government relations	61.59	50
1.1.3	Political stability	63.11	61
1.1.4	Regulatory quality	34.71	94
1.1.5	Corruption	15.79	110
1.2	Market Landscape	35.21	98
1.2.1	Competition intensity	56.29	90
1.2.2	Ease of doing business	41.72	101
1.2.3	Cluster development	24.15	100
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	18.69	101
1.2.6	Technology utilisation	n/a	n/a
1.3	Business and Labour Landscape	42.28	100
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	0.00	118
1.3.4	Labour-employer cooperation	49.32	64
	Management Practice		
1.3.5	Professional management	11.75	115
1.3.6	Relationship of pay to productivity	25.93	101
2	**ATTRACT**	**34.93**	**94**
2.1	External Openness	32.44	74
	Attract Business		
2.1.1	FDI and technology transfer	42.04	79
2.1.2	Prevalence of foreign ownership	56.30	63
	Attract People		
2.1.3	Migrant stock	1.30	98
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	30.12	83
2.2	Internal Openness	37.43	104
	Social Inclusion		
2.2.1	Tolerance of minorities	40.23	68
2.2.2	Tolerance of immigrants	60.56	51
2.2.3	Social mobility	26.43	105
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	37.35	89
2.2.6	Leadership opportunities for women	22.58	93
3	**GROW**	**23.37**	**110**
3.1	Formal Education	9.98	109
	Enrolment		
3.1.1	Vocational enrolment	2.32	102
3.1.2	Tertiary enrolment	n/a	n/a
	Quality		
3.1.3	Tertiary education expenditure	27.62	41
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	38.22	70
3.2.1	Quality of management schools	30.95	95
3.2.2	Prevalence of training in firms	57.78	27
3.2.3	Employee development	25.93	92
3.3	Access to Growth Opportunities	21.92	117
	Empowerment		
3.3.1	Delegation of authority	27.09	96
3.3.2	Personal rights	38.16	84
	Collaboration		
3.3.3	Use of virtual social networks	37.27	113
3.3.4	Use of virtual professional networks	9.35	72
3.3.5	Collaboration within organisations	19.63	108
3.3.6	Collaboration across organisations	0.00	118
4	**RETAIN**	**32.71**	**98**
4.1	Sustainability	19.02	112
4.1.1	Pension system	20.41	76
4.1.2	Social protection	7.95	114
4.1.3	Brain retention	28.70	89
4.2	Lifestyle	46.40	91
4.2.1	Environmental performance	50.56	95
4.2.2	Personal safety	57.25	77
4.2.3	Physician density	14.26	83
4.2.4	Sanitation	63.52	90
5	**VOCATIONAL AND TECHNICAL SKILLS**	**20.17**	**117**
5.1	Mid-Level Skills	34.84	62
5.1.1	Workforce with secondary education	31.12	58
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	38.57	55
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	5.49	119
5.2.1	Ease of finding skilled employees	14.52	116
5.2.2	Relevance of education system to the economy	7.45	114
5.2.3	Skills matching with secondary education	0.00	118
5.2.4	Skills matching with tertiary education	0.00	118
6	**GLOBAL KNOWLEDGE SKILLS**	**6.49**	**115**
6.1	High-Level Skills	11.98	103
6.1.1	Workforce with tertiary education	21.28	81
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	7.51	96
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	15.00	74
6.1.6	Availability of scientists and engineers	4.12	117
6.2	Talent Impact	1.01	119
6.2.1	Innovation output	n/a	n/a
6.2.2	High-value exports	0.94	106
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	1.07	115

NORWAY

Key Indicators

Rank (out of 119)	**4**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**5.20**
GDP per capita (PPP US$)	**61,471.60**
GDP (US$ billions)	**388.31**
GTCI score	**74.56**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**82.58**	**10**
1.1	Regulatory Landscape	90.07	6
1.1.1	Government effectiveness	89.97	4
1.1.2	Business-government relations	90.51	7
1.1.3	Political stability	91.75	8
1.1.4	Regulatory quality	84.71	15
1.1.5	Corruption	93.42	6
1.2	Market Landscape	79.93	12
1.2.1	Competition intensity	68.86	64
1.2.2	Ease of doing business	92.19	5
1.2.3	Cluster development	89.16	8
1.2.4	R&D expenditure	39.72	20
1.2.5	ICT infrastructure	94.27	8
1.2.6	Technology utilisation	95.41	4
1.3	Business and Labour Landscape	77.74	16
	Labour Market		
1.3.1	Ease of hiring	39.00	100
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	84.87	9
1.3.4	Labour-employer cooperation	100.00	1
	Management Practice		
1.3.5	Professional management	97.13	5
1.3.6	Relationship of pay to productivity	75.42	14

2	**ATTRACT**	**69.34**	**12**
2.1	External Openness	53.34	24
	Attract Business		
2.1.1	FDI and technology transfer	72.85	13
2.1.2	Prevalence of foreign ownership	76.54	25
	Attract People		
2.1.3	Migrant stock	31.27	24
2.1.4	International students	18.39	49
2.1.5	Brain gain	67.67	17
2.2	Internal Openness	85.35	4
	Social Inclusion		
2.2.1	Tolerance of minorities	72.41	13
2.2.2	Tolerance of immigrants	88.73	12
2.2.3	Social mobility	97.00	4
	Gender Equality		
2.2.4	Female graduates	79.23	42
2.2.5	Gender earnings gap	74.70	10
2.2.6	Leadership opportunities for women	100.00	1

3	**GROW**	**78.30**	**5**
3.1	Formal Education	58.64	12
	Enrolment		
3.1.1	Vocational enrolment	45.93	21
3.1.2	Tertiary enrolment	67.13	20
	Quality		
3.1.3	Tertiary education expenditure	46.55	10
3.1.4	Reading, maths, and science	77.82	14
3.1.5	University ranking	55.80	22
3.2	Lifelong Learning	87.52	6
3.2.1	Quality of management schools	80.42	10
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	94.61	2
3.3	Access to Growth Opportunities	88.74	4
	Empowerment		
3.3.1	Delegation of authority	93.85	2
3.3.2	Personal rights	88.17	16
	Collaboration		
3.3.3	Use of virtual social networks	97.88	5
3.3.4	Use of virtual professional networks	66.33	13
3.3.5	Collaboration within organisations	95.86	2
3.3.6	Collaboration across organisations	90.34	12

4	**RETAIN**	**91.63**	**2**
4.1	Sustainability	93.67	2
4.1.1	Pension system	92.86	8
4.1.2	Social protection	100.00	1
4.1.3	Brain retention	88.15	4
4.2	Lifestyle	89.58	4
4.2.1	Environmental performance	92.95	17
4.2.2	Personal safety	97.03	5
4.2.3	Physician density	70.51	5
4.2.4	Sanitation	97.84	31

5	**VOCATIONAL AND TECHNICAL SKILLS**	**73.67**	**6**
5.1	Mid-Level Skills	60.41	12
5.1.1	Workforce with secondary education	34.33	47
5.1.2	Population with secondary education	54.21	28
5.1.3	Technicians and associate professionals	75.34	13
5.1.4	Labour productivity per employee	77.75	7
5.2	Employability	86.93	4
5.2.1	Ease of finding skilled employees	100.00	1
5.2.2	Relevance of education system to the economy	82.45	7
5.2.3	Skills matching with secondary education	77.05	20
5.2.4	Skills matching with tertiary education	88.20	14

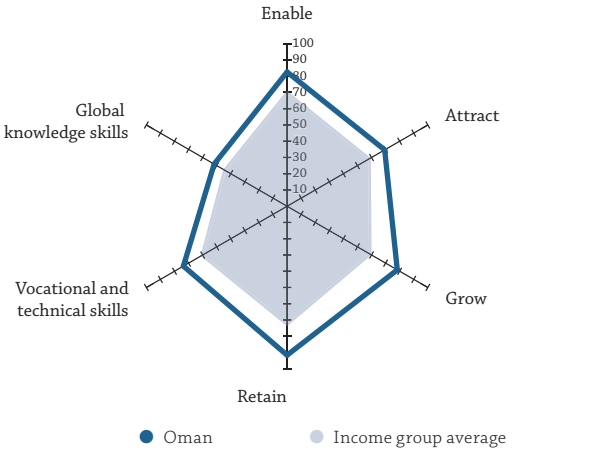
6	**GLOBAL KNOWLEDGE SKILLS**	**51.83**	**17**
6.1	High-Level Skills	62.36	6
6.1.1	Workforce with tertiary education	60.51	11
6.1.2	Population with tertiary education	42.54	18
6.1.3	Professionals	75.72	3
6.1.4	Researchers	71.62	7
6.1.5	Senior officials and managers	48.75	22
6.1.6	Availability of scientists and engineers	75.00	11
6.2	Talent Impact	41.31	29
6.2.1	Innovation output	58.70	22
6.2.2	High-value exports	38.61	14
6.2.3	New product entrepreneurial activity	12.87	84
6.2.4	New business density	44.63	14
6.2.5	Scientific journal articles	51.76	30

OMAN

Key Indicators

Rank (out of 119)	**56**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**4.49**
GDP per capita (PPP US$)	**38,234.10**
GDP (US$ billions)	**70.25**
GTCI score	**43.93**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



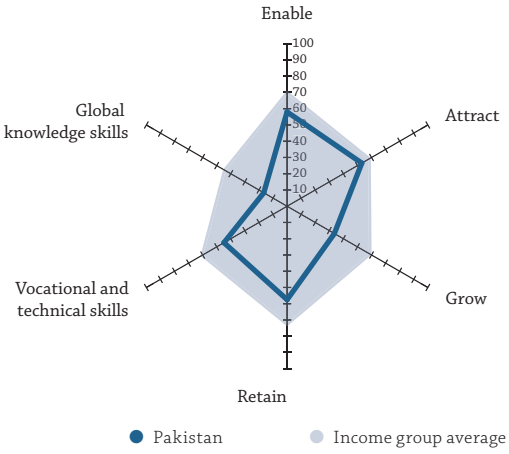
		Score	Rank
1	**ENABLE**	**58.02**	**42**
1.1	Regulatory Landscape	61.44	41
1.1.1	Government effectiveness	44.47	65
1.1.2	Business-government relations	82.12	13
1.1.3	Political stability	80.58	32
1.1.4	Regulatory quality	59.22	44
1.1.5	Corruption	40.79	52
1.2	Market Landscape	46.55	65
1.2.1	Competition intensity	53.43	97
1.2.2	Ease of doing business	64.06	61
1.2.3	Cluster development	43.65	62
1.2.4	R&D expenditure	3.74	84
1.2.5	ICT infrastructure	64.94	52
1.2.6	Technology utilisation	49.47	52
1.3	Business and Labour Landscape	66.08	33
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	67.17	38
1.3.4	Labour-employer cooperation	54.20	51
	Management Practice		
1.3.5	Professional management	46.70	54
1.3.6	Relationship of pay to productivity	39.39	72
2	**ATTRACT**	**53.08**	**32**
2.1	External Openness	51.39	28
	Attract Business		
2.1.1	FDI and technology transfer	43.08	77
2.1.2	Prevalence of foreign ownership	49.38	83
	Attract People		
2.1.3	Migrant stock	90.51	7
2.1.4	International students	14.52	55
2.1.5	Brain gain	59.44	24
2.2	Internal Openness	54.77	46
	Social Inclusion		
2.2.1	Tolerance of minorities	80.46	6
2.2.2	Tolerance of immigrants	n/a	n/a
2.2.3	Social mobility	53.41	41
	Gender Equality		
2.2.4	Female graduates	71.61	63
2.2.5	Gender earnings gap	6.02	115
2.2.6	Leadership opportunities for women	62.37	28
3	**GROW**	**33.60**	**84**
3.1	Formal Education	20.44	78
	Enrolment		
3.1.1	Vocational enrolment	0.00	109
3.1.2	Tertiary enrolment	27.52	75
	Quality		
3.1.3	Tertiary education expenditure	26.60	45
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	27.65	50
3.2	Lifelong Learning	37.07	74
3.2.1	Quality of management schools	25.66	104
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	48.48	45
3.3	Access to Growth Opportunities	43.29	79
	Empowerment		
3.3.1	Delegation of authority	40.78	71
3.3.2	Personal rights	32.59	93
	Collaboration		
3.3.3	Use of virtual social networks	65.76	75
3.3.4	Use of virtual professional networks	16.90	58
3.3.5	Collaboration within organisations	35.18	72
3.3.6	Collaboration across organisations	68.56	62
4	**RETAIN**	**57.49**	**49**
4.1	Sustainability	56.81	33
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	56.89	30
4.1.3	Brain retention	56.72	33
4.2	Lifestyle	58.17	68
4.2.1	Environmental performance	42.98	99
4.2.2	Personal safety	69.10	53
4.2.3	Physician density	24.36	69
4.2.4	Sanitation	96.25	42
5	**VOCATIONAL AND TECHNICAL SKILLS**	**44.84**	**55**
5.1	Mid-Level Skills	41.75	48
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	41.37	48
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	42.14	33
5.2	Employability	47.93	80
5.2.1	Ease of finding skilled employees	26.40	104
5.2.2	Relevance of education system to the economy	37.74	70
5.2.3	Skills matching with secondary education	59.16	74
5.2.4	Skills matching with tertiary education	68.41	73
6	**GLOBAL KNOWLEDGE SKILLS**	**16.57**	**93**
6.1	High-Level Skills	23.08	76
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	32.25	35
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	2.30	75
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	34.71	72
6.2	Talent Impact	10.06	102
6.2.1	Innovation output	19.86	87
6.2.2	High-value exports	7.72	73
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	5.75	67
6.2.5	Scientific journal articles	6.92	85

PAKISTAN

Key Indicators

Rank (out of 119)	**109**
Income group	**Lower middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**188.92**
GDP per capita (PPP US$)	**5,041.72**
GDP (US$ billions)	**269.97**
GTCI score	**26.94**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



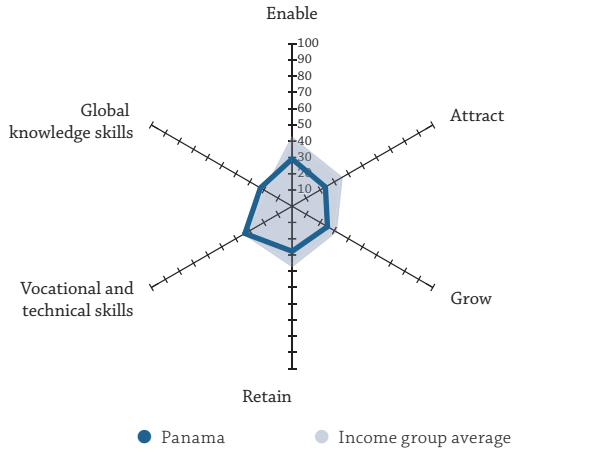
		Score	Rank
1	**ENABLE**	**29.10**	**114**
1.1	Regulatory Landscape	24.13	116
1.1.1	Government effectiveness	25.19	100
1.1.2	Business-government relations	39.51	99
1.1.3	Political stability	2.18	118
1.1.4	Regulatory quality	30.10	103
1.1.5	Corruption	23.68	89
1.2	Market Landscape	27.64	109
1.2.1	Competition intensity	49.71	105
1.2.2	Ease of doing business	34.30	109
1.2.3	Cluster development	40.87	70
1.2.4	R&D expenditure	6.54	75
1.2.5	ICT infrastructure	11.46	109
1.2.6	Technology utilisation	22.97	101
1.3	Business and Labour Landscape	35.51	110
	Labour Market		
1.3.1	Ease of hiring	11.00	114
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	59.43	63
1.3.4	Labour-employer cooperation	23.31	115
	Management Practice		
1.3.5	Professional management	16.33	105
1.3.6	Relationship of pay to productivity	33.00	88
2	**ATTRACT**	**23.66**	**116**
2.1	External Openness	30.05	78
	Attract Business		
2.1.1	FDI and technology transfer	42.82	78
2.1.2	Prevalence of foreign ownership	36.54	102
	Attract People		
2.1.3	Migrant stock	4.08	80
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	36.75	74
2.2	Internal Openness	17.26	118
	Social Inclusion		
2.2.1	Tolerance of minorities	0.00	119
2.2.2	Tolerance of immigrants	43.66	83
2.2.3	Social mobility	28.61	102
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	7.23	113
2.2.6	Leadership opportunities for women	6.81	112
3	**GROW**	**25.13**	**108**
3.1	Formal Education	12.15	102
	Enrolment		
3.1.1	Vocational enrolment	4.33	95
3.1.2	Tertiary enrolment	8.07	100
	Quality		
3.1.3	Tertiary education expenditure	13.30	84
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	22.91	55
3.2	Lifelong Learning	32.37	92
3.2.1	Quality of management schools	37.83	75
3.2.2	Prevalence of training in firms	37.73	49
3.2.3	Employee development	21.55	104
3.3	Access to Growth Opportunities	30.86	111
	Empowerment		
3.3.1	Delegation of authority	22.63	109
3.3.2	Personal rights	32.74	91
	Collaboration		
3.3.3	Use of virtual social networks	29.09	116
3.3.4	Use of virtual professional networks	4.46	91
3.3.5	Collaboration within organisations	25.59	97
3.3.6	Collaboration across organisations	70.65	50
4	**RETAIN**	**27.72**	**107**
4.1	Sustainability	22.05	107
4.1.1	Pension system	2.04	100
4.1.2	Social protection	24.70	86
4.1.3	Brain retention	39.41	69
4.2	Lifestyle	33.39	102
4.2.1	Environmental performance	26.73	107
4.2.2	Personal safety	35.67	107
4.2.3	Physician density	12.66	85
4.2.4	Sanitation	58.52	93
5	**VOCATIONAL AND TECHNICAL SKILLS**	**33.51**	**92**
5.1	Mid-Level Skills	17.15	94
5.1.1	Workforce with secondary education	9.43	97
5.1.2	Population with secondary education	26.96	67
5.1.3	Technicians and associate professionals	22.87	80
5.1.4	Labour productivity per employee	9.34	83
5.2	Employability	49.88	76
5.2.1	Ease of finding skilled employees	32.34	88
5.2.2	Relevance of education system to the economy	41.11	61
5.2.3	Skills matching with secondary education	56.99	87
5.2.4	Skills matching with tertiary education	69.08	69
6	**GLOBAL KNOWLEDGE SKILLS**	**22.51**	**73**
6.1	High-Level Skills	28.34	63
6.1.1	Workforce with tertiary education	36.23	45
6.1.2	Population with tertiary education	10.81	82
6.1.3	Professionals	1.73	107
6.1.4	Researchers	3.42	71
6.1.5	Senior officials and managers	78.13	6
6.1.6	Availability of scientists and engineers	39.71	61
6.2	Talent Impact	16.69	84
6.2.1	Innovation output	16.34	97
6.2.2	High-value exports	3.01	94
6.2.3	New product entrepreneurial activity	47.78	40
6.2.4	New business density	0.06	94
6.2.5	Scientific journal articles	16.27	64

PANAMA

Key Indicators

Rank (out of 119)	**45**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**3.93**
GDP per capita (PPP US$)	**22,192.10**
GDP (US$ billions)	**52.13**
GTCI score	**46.88**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



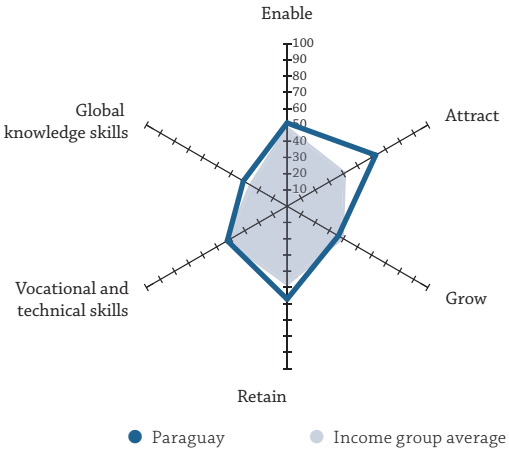
		Score	Rank
1	**ENABLE**	**51.24**	**60**
1.1	Regulatory Landscape	54.41	49
1.1.1	Government effectiveness	49.87	50
1.1.2	Business-government relations	62.69	42
1.1.3	Political stability	73.79	43
1.1.4	Regulatory quality	54.13	54
1.1.5	Corruption	31.58	70
1.2	Market Landscape	52.66	45
1.2.1	Competition intensity	76.86	31
1.2.2	Ease of doing business	61.19	64
1.2.3	Cluster development	57.89	35
1.2.4	R&D expenditure	1.40	98
1.2.5	ICT infrastructure	45.84	76
1.2.6	Technology utilisation	72.79	26
1.3	Business and Labour Landscape	46.63	91
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	70.23	30
1.3.4	Labour-employer cooperation	59.62	38
	Management Practice		
1.3.5	Professional management	41.83	64
1.3.6	Relationship of pay to productivity	45.79	61
2	**ATTRACT**	**62.92**	**20**
2.1	External Openness	64.18	12
	Attract Business		
2.1.1	FDI and technology transfer	80.16	5
2.1.2	Prevalence of foreign ownership	90.86	7
	Attract People		
2.1.3	Migrant stock	10.22	55
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	75.50	11
2.2	Internal Openness	61.66	27
	Social Inclusion		
2.2.1	Tolerance of minorities	50.57	50
2.2.2	Tolerance of immigrants	56.34	59
2.2.3	Social mobility	63.49	29
	Gender Equality		
2.2.4	Female graduates	95.54	7
2.2.5	Gender earnings gap	54.22	48
2.2.6	Leadership opportunities for women	49.82	44
3	**GROW**	**36.45**	**73**
3.1	Formal Education	17.98	87
	Enrolment		
3.1.1	Vocational enrolment	22.50	53
3.1.2	Tertiary enrolment	33.55	66
	Quality		
3.1.3	Tertiary education expenditure	15.86	78
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	32.21	94
3.2.1	Quality of management schools	36.77	77
3.2.2	Prevalence of training in firms	10.03	87
3.2.3	Employee development	49.83	42
3.3	Access to Growth Opportunities	59.15	33
	Empowerment		
3.3.1	Delegation of authority	53.63	33
3.3.2	Personal rights	70.05	45
	Collaboration		
3.3.3	Use of virtual social networks	82.73	27
3.3.4	Use of virtual professional networks	25.62	40
3.3.5	Collaboration within organisations	45.72	42
3.3.6	Collaboration across organisations	77.17	31
4	**RETAIN**	**57.17**	**50**
4.1	Sustainability	55.33	35
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	41.86	49
4.1.3	Brain retention	68.79	20
4.2	Lifestyle	59.02	67
4.2.1	Environmental performance	76.33	49
4.2.2	Personal safety	62.97	66
4.2.3	Physician density	25.16	66
4.2.4	Sanitation	71.59	85
5	**VOCATIONAL AND TECHNICAL SKILLS**	**42.45**	**65**
5.1	Mid-Level Skills	32.87	65
5.1.1	Workforce with secondary education	38.24	33
5.1.2	Population with secondary education	28.53	65
5.1.3	Technicians and associate professionals	31.84	67
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	52.04	70
5.2.1	Ease of finding skilled employees	37.29	75
5.2.2	Relevance of education system to the economy	32.69	79
5.2.3	Skills matching with secondary education	65.92	48
5.2.4	Skills matching with tertiary education	72.25	54
6	**GLOBAL KNOWLEDGE SKILLS**	**31.07**	**53**
6.1	High-Level Skills	29.23	58
6.1.1	Workforce with tertiary education	40.53	39
6.1.2	Population with tertiary education	31.22	39
6.1.3	Professionals	28.90	58
6.1.4	Researchers	0.33	93
6.1.5	Senior officials and managers	35.00	39
6.1.6	Availability of scientists and engineers	39.41	63
6.2	Talent Impact	32.92	52
6.2.1	Innovation output	34.80	54
6.2.2	High-value exports	0.00	110
6.2.3	New product entrepreneurial activity	45.04	44
6.2.4	New business density	81.66	5
6.2.5	Scientific journal articles	3.09	104

PARAGUAY

Key Indicators

Rank (out of 119)	**99**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**6.64**
GDP per capita (PPP US$)	**9,184.49**
GDP (US$ billions)	**27.62**
GTCI score	**31.83**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



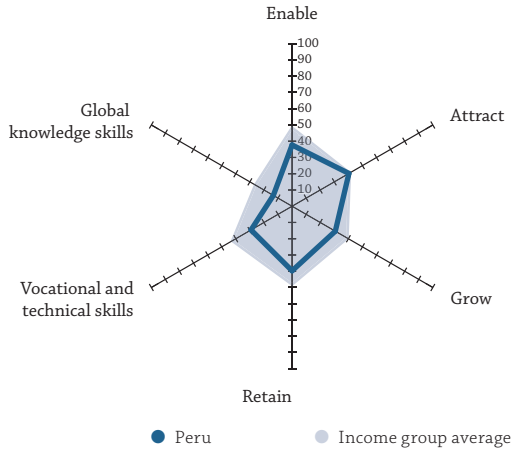
		Score	Rank
1	**ENABLE**	**37.69**	**102**
1.1	Regulatory Landscape	39.14	91
1.1.1	Government effectiveness	17.74	114
1.1.2	Business-government relations	54.97	67
1.1.3	Political stability	63.35	60
1.1.4	Regulatory quality	38.59	84
1.1.5	Corruption	21.05	95
1.2	Market Landscape	37.82	92
1.2.1	Competition intensity	66.00	69
1.2.2	Ease of doing business	47.84	88
1.2.3	Cluster development	17.96	113
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	35.06	88
1.2.6	Technology utilisation	22.26	102
1.3	Business and Labour Landscape	36.12	108
	Labour Market		
1.3.1	Ease of hiring	44.33	94
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	51.32	88
1.3.4	Labour-employer cooperation	47.15	70
	Management Practice		
1.3.5	Professional management	16.05	106
1.3.6	Relationship of pay to productivity	17.85	112
2	**ATTRACT**	**40.36**	**69**
2.1	External Openness	34.03	68
	Attract Business		
2.1.1	FDI and technology transfer	40.99	82
2.1.2	Prevalence of foreign ownership	53.33	72
	Attract People		
2.1.3	Migrant stock	5.05	74
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	36.75	74
2.2	Internal Openness	46.69	77
	Social Inclusion		
2.2.1	Tolerance of minorities	47.13	56
2.2.2	Tolerance of immigrants	80.28	24
2.2.3	Social mobility	43.60	61
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	50.60	62
2.2.6	Leadership opportunities for women	11.83	104
3	**GROW**	**30.71**	**93**
3.1	Formal Education	20.35	79
	Enrolment		
3.1.1	Vocational enrolment	24.99	49
3.1.2	Tertiary enrolment	30.32	73
	Quality		
3.1.3	Tertiary education expenditure	26.09	49
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	35.32	80
3.2.1	Quality of management schools	16.14	113
3.2.2	Prevalence of training in firms	67.94	17
3.2.3	Employee development	21.89	103
3.3	Access to Growth Opportunities	36.45	102
	Empowerment		
3.3.1	Delegation of authority	22.91	108
3.3.2	Personal rights	57.28	65
	Collaboration		
3.3.3	Use of virtual social networks	54.85	93
3.3.4	Use of virtual professional networks	7.95	79
3.3.5	Collaboration within organisations	20.49	106
3.3.6	Collaboration across organisations	55.20	106
4	**RETAIN**	**39.72**	**89**
4.1	Sustainability	23.21	105
4.1.1	Pension system	10.20	84
4.1.2	Social protection	16.84	101
4.1.3	Brain retention	42.60	57
4.2	Lifestyle	56.24	72
4.2.1	Environmental performance	62.08	73
4.2.2	Personal safety	55.47	81
4.2.3	Physician density	20.35	73
4.2.4	Sanitation	87.05	67
5	**VOCATIONAL AND TECHNICAL SKILLS**	**29.16**	**105**
5.1	Mid-Level Skills	29.83	71
5.1.1	Workforce with secondary education	21.45	76
5.1.2	Population with secondary education	33.95	59
5.1.3	Technicians and associate professionals	34.08	61
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	28.50	116
5.2.1	Ease of finding skilled employees	9.90	117
5.2.2	Relevance of education system to the economy	2.64	118
5.2.3	Skills matching with secondary education	48.25	107
5.2.4	Skills matching with tertiary education	53.21	114
6	**GLOBAL KNOWLEDGE SKILLS**	**13.32**	**97**
6.1	High-Level Skills	14.36	98
6.1.1	Workforce with tertiary education	31.78	59
6.1.2	Population with tertiary education	12.01	81
6.1.3	Professionals	19.65	73
6.1.4	Researchers	2.08	77
6.1.5	Senior officials and managers	20.63	63
6.1.6	Availability of scientists and engineers	0.00	119
6.2	Talent Impact	12.29	92
6.2.1	Innovation output	24.78	78
6.2.2	High-value exports	10.73	64
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	1.35	114

PERU

Key Indicators

Rank (out of 119)	**74**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**31.38**
GDP per capita (PPP US$)	**12,402.40**
GDP (US$ billions)	**192.08**
GTCI score	**38.51**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



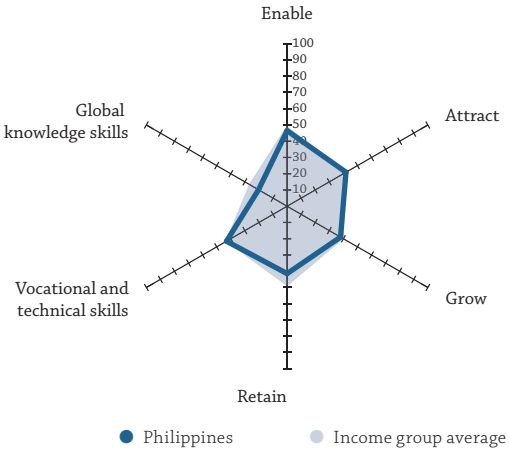
		Score	Rank
1	**ENABLE**	**46.49**	**82**
1.1	Regulatory Landscape	45.12	76
1.1.1	Government effectiveness	34.96	85
1.1.2	Business-government relations	54.53	68
1.1.3	Political stability	51.46	85
1.1.4	Regulatory quality	57.04	46
1.1.5	Corruption	27.63	79
1.2	Market Landscape	47.90	59
1.2.1	Competition intensity	70.00	62
1.2.2	Ease of doing business	68.75	51
1.2.3	Cluster development	28.17	92
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	39.70	82
1.2.6	Technology utilisation	32.86	89
1.3	Business and Labour Landscape	46.44	92
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	47.29	101
1.3.4	Labour-employer cooperation	48.51	67
	Management Practice		
1.3.5	Professional management	48.14	49
1.3.6	Relationship of pay to productivity	39.06	75
2	**ATTRACT**	**41.85**	**63**
2.1	External Openness	44.28	36
	Attract Business		
2.1.1	FDI and technology transfer	57.70	42
2.1.2	Prevalence of foreign ownership	70.12	40
	Attract People		
2.1.3	Migrant stock	0.49	111
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	48.80	41
2.2	Internal Openness	39.43	98
	Social Inclusion		
2.2.1	Tolerance of minorities	28.74	87
2.2.2	Tolerance of immigrants	59.15	53
2.2.3	Social mobility	50.68	47
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	48.19	70
2.2.6	Leadership opportunities for women	10.39	106
3	**GROW**	**37.96**	**68**
3.1	Formal Education	19.61	81
	Enrolment		
3.1.1	Vocational enrolment	2.19	103
3.1.2	Tertiary enrolment	35.12	63
	Quality		
3.1.3	Tertiary education expenditure	13.81	83
3.1.4	Reading, maths, and science	25.67	63
3.1.5	University ranking	21.26	61
3.2	Lifelong Learning	49.56	45
3.2.1	Quality of management schools	40.21	70
3.2.2	Prevalence of training in firms	74.80	9
3.2.3	Employee development	33.67	72
3.3	Access to Growth Opportunities	44.70	72
	Empowerment		
3.3.1	Delegation of authority	47.21	51
3.3.2	Personal rights	63.34	54
	Collaboration		
3.3.3	Use of virtual social networks	52.42	96
3.3.4	Use of virtual professional networks	1.52	105
3.3.5	Collaboration within organisations	36.48	69
3.3.6	Collaboration across organisations	67.23	67
4	**RETAIN**	**41.45**	**81**
4.1	Sustainability	30.30	80
4.1.1	Pension system	20.41	76
4.1.2	Social protection	21.99	91
4.1.3	Brain retention	48.52	41
4.2	Lifestyle	52.59	84
4.2.1	Environmental performance	66.91	65
4.2.2	Personal safety	52.87	86
4.2.3	Physician density	17.63	80
4.2.4	Sanitation	72.95	84
5	**VOCATIONAL AND TECHNICAL SKILLS**	**43.03**	**62**
5.1	Mid-Level Skills	41.99	47
5.1.1	Workforce with secondary education	37.98	34
5.1.2	Population with secondary education	49.93	33
5.1.3	Technicians and associate professionals	30.04	70
5.1.4	Labour productivity per employee	49.99	26
5.2	Employability	44.06	95
5.2.1	Ease of finding skilled employees	40.59	69
5.2.2	Relevance of education system to the economy	13.94	111
5.2.3	Skills matching with secondary education	52.97	98
5.2.4	Skills matching with tertiary education	68.75	71
6	**GLOBAL KNOWLEDGE SKILLS**	**20.29**	**78**
6.1	High-Level Skills	23.25	75
6.1.1	Workforce with tertiary education	43.10	36
6.1.2	Population with tertiary education	31.90	36
6.1.3	Professionals	18.21	74
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	1.88	106
6.1.6	Availability of scientists and engineers	21.18	101
6.2	Talent Impact	17.32	82
6.2.1	Innovation output	22.32	83
6.2.2	High-value exports	8.85	69
6.2.3	New product entrepreneurial activity	38.73	57
6.2.4	New business density	13.99	40
6.2.5	Scientific journal articles	2.71	106

PHILIPPINES

Key Indicators

Rank (out of 119)	**54**
Income group	**Lower middle income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**100.70**
GDP per capita (PPP US$)	**7,358.82**
GDP (US$ billions)	**291.97**
GTCI score	**44.17**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



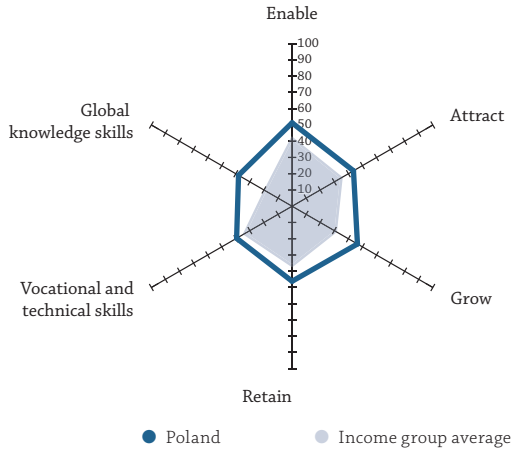
		Score	Rank
1	**ENABLE**	**51.31**	**59**
1.1	Regulatory Landscape	46.71	66
1.1.1	Government effectiveness	44.99	62
1.1.2	Business-government relations	73.29	23
1.1.3	Political stability	43.45	95
1.1.4	Regulatory quality	44.17	70
1.1.5	Corruption	27.63	79
1.2	Market Landscape	42.71	73
1.2.1	Competition intensity	70.86	56
1.2.2	Ease of doing business	50.39	83
1.2.3	Cluster development	43.65	62
1.2.4	R&D expenditure	3.04	88
1.2.5	ICT infrastructure	37.79	86
1.2.6	Technology utilisation	50.53	50
1.3	Business and Labour Landscape	64.52	35
	Labour Market		
1.3.1	Ease of hiring	77.67	45
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	55.73	73
1.3.4	Labour-employer cooperation	68.29	24
	Management Practice		
1.3.5	Professional management	54.15	33
1.3.6	Relationship of pay to productivity	61.28	34
2	**ATTRACT**	**43.62**	**56**
2.1	External Openness	30.05	78
	Attract Business		
2.1.1	FDI and technology transfer	52.74	58
2.1.2	Prevalence of foreign ownership	58.27	56
	Attract People		
2.1.3	Migrant stock	0.31	114
2.1.4	International students	0.37	96
2.1.5	Brain gain	38.55	66
2.2	Internal Openness	57.19	38
	Social Inclusion		
2.2.1	Tolerance of minorities	19.54	100
2.2.2	Tolerance of immigrants	61.97	49
2.2.3	Social mobility	40.05	69
	Gender Equality		
2.2.4	Female graduates	76.47	53
2.2.5	Gender earnings gap	62.65	28
2.2.6	Leadership opportunities for women	82.44	10
3	**GROW**	**46.44**	**41**
3.1	Formal Education	21.54	77
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	30.91	72
	Quality		
3.1.3	Tertiary education expenditure	5.88	97
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	27.82	49
3.2	Lifelong Learning	64.10	26
3.2.1	Quality of management schools	56.61	37
3.2.2	Prevalence of training in firms	74.41	10
3.2.3	Employee development	61.28	29
3.3	Access to Growth Opportunities	53.69	41
	Empowerment		
3.3.1	Delegation of authority	55.31	29
3.3.2	Personal rights	52.16	68
	Collaboration		
3.3.3	Use of virtual social networks	84.24	23
3.3.4	Use of virtual professional networks	8.08	77
3.3.5	Collaboration within organisations	52.96	33
3.3.6	Collaboration across organisations	69.38	59
4	**RETAIN**	**46.16**	**68**
4.1	Sustainability	31.99	72
4.1.1	Pension system	23.47	71
4.1.2	Social protection	25.80	83
4.1.3	Brain retention	46.70	48
4.2	Lifestyle	60.33	65
4.2.1	Environmental performance	68.31	61
4.2.2	Personal safety	42.33	103
4.2.3	Physician density	n/a	n/a
4.2.4	Sanitation	70.34	87
5	**VOCATIONAL AND TECHNICAL SKILLS**	**39.42**	**74**
5.1	Mid-Level Skills	15.37	97
5.1.1	Workforce with secondary education	3.55	102
5.1.2	Population with secondary education	36.38	54
5.1.3	Technicians and associate professionals	11.21	94
5.1.4	Labour productivity per employee	10.33	82
5.2	Employability	63.47	38
5.2.1	Ease of finding skilled employees	59.41	41
5.2.2	Relevance of education system to the economy	54.33	39
5.2.3	Skills matching with secondary education	64.80	54
5.2.4	Skills matching with tertiary education	75.35	42
6	**GLOBAL KNOWLEDGE SKILLS**	**38.05**	**36**
6.1	High-Level Skills	38.25	38
6.1.1	Workforce with tertiary education	36.79	44
6.1.2	Population with tertiary education	43.74	16
6.1.3	Professionals	12.14	88
6.1.4	Researchers	2.15	76
6.1.5	Senior officials and managers	100.00	1
6.1.6	Availability of scientists and engineers	34.71	72
6.2	Talent Impact	37.84	36
6.2.1	Innovation output	29.35	63
6.2.2	High-value exports	100.00	1
6.2.3	New product entrepreneurial activity	56.43	24
6.2.4	New business density	1.39	87
6.2.5	Scientific journal articles	2.04	109

POLAND

Key Indicators

Rank (out of 119)	**39**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**38.00**
GDP per capita (PPP US$)	**26,135.30**
GDP (US$ billions)	**474.78**
GTCI score	**50.06**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



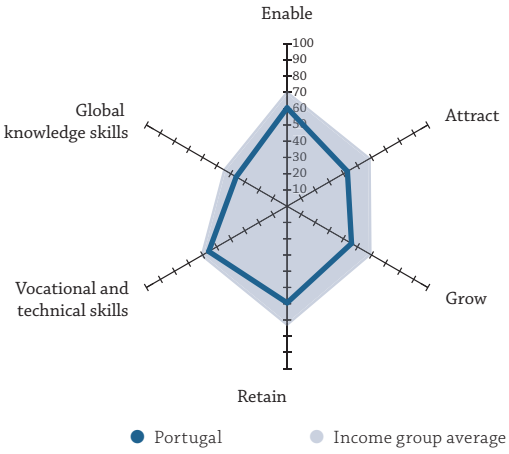
		Score	Rank
1	**ENABLE**	**60.51**	**36**
1.1	Regulatory Landscape	65.23	34
1.1.1	Government effectiveness	62.72	38
1.1.2	Business-government relations	45.92	86
1.1.3	Political stability	84.95	25
1.1.4	Regulatory quality	69.42	32
1.1.5	Corruption	63.16	27
1.2	Market Landscape	56.72	38
1.2.1	Competition intensity	73.71	40
1.2.2	Ease of doing business	82.85	22
1.2.3	Cluster development	42.11	66
1.2.4	R&D expenditure	21.73	36
1.2.5	ICT infrastructure	70.12	43
1.2.6	Technology utilisation	49.82	51
1.3	Business and Labour Landscape	59.56	50
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	53.75	79
1.3.4	Labour-employer cooperation	44.44	82
	Management Practice		
1.3.5	Professional management	42.69	58
1.3.6	Relationship of pay to productivity	47.47	58
2	**ATTRACT**	**42.87**	**61**
2.1	External Openness	32.62	73
	Attract Business		
2.1.1	FDI and technology transfer	56.40	45
2.1.2	Prevalence of foreign ownership	72.35	33
	Attract People		
2.1.3	Migrant stock	3.38	85
2.1.4	International students	7.47	71
2.1.5	Brain gain	23.49	98
2.2	Internal Openness	53.13	50
	Social Inclusion		
2.2.1	Tolerance of minorities	64.37	30
2.2.2	Tolerance of immigrants	25.35	109
2.2.3	Social mobility	40.05	69
	Gender Equality		
2.2.4	Female graduates	99.04	2
2.2.5	Gender earnings gap	56.63	44
2.2.6	Leadership opportunities for women	33.33	73
3	**GROW**	**45.78**	**43**
3.1	Formal Education	49.18	26
	Enrolment		
3.1.1	Vocational enrolment	45.48	22
3.1.2	Tertiary enrolment	62.23	24
	Quality		
3.1.3	Tertiary education expenditure	28.64	39
3.1.4	Reading, maths, and science	77.54	16
3.1.5	University ranking	32.02	41
3.2	Lifelong Learning	42.10	62
3.2.1	Quality of management schools	43.39	62
3.2.2	Prevalence of training in firms	41.16	46
3.2.3	Employee development	41.75	56
3.3	Access to Growth Opportunities	46.05	64
	Empowerment		
3.3.1	Delegation of authority	37.43	75
3.3.2	Personal rights	82.14	28
	Collaboration		
3.3.3	Use of virtual social networks	60.91	85
3.3.4	Use of virtual professional networks	11.44	68
3.3.5	Collaboration within organisations	26.66	93
3.3.6	Collaboration across organisations	57.69	100
4	**RETAIN**	**59.43**	**43**
4.1	Sustainability	43.05	55
4.1.1	Pension system	80.61	29
4.1.2	Social protection	18.93	98
4.1.3	Brain retention	29.61	86
4.2	Lifestyle	75.80	37
4.2.1	Environmental performance	82.42	37
4.2.2	Personal safety	87.91	22
4.2.3	Physician density	36.06	53
4.2.4	Sanitation	96.82	39
5	**VOCATIONAL AND TECHNICAL SKILLS**	**55.65**	**29**
5.1	Mid-Level Skills	57.11	15
5.1.1	Workforce with secondary education	53.68	12
5.1.2	Population with secondary education	80.31	5
5.1.3	Technicians and associate professionals	56.05	32
5.1.4	Labour productivity per employee	38.39	40
5.2	Employability	54.18	61
5.2.1	Ease of finding skilled employees	54.79	46
5.2.2	Relevance of education system to the economy	38.22	69
5.2.3	Skills matching with secondary education	58.97	75
5.2.4	Skills matching with tertiary education	64.76	82
6	**GLOBAL KNOWLEDGE SKILLS**	**36.14**	**44**
6.1	High-Level Skills	36.19	43
6.1.1	Workforce with tertiary education	46.26	31
6.1.2	Population with tertiary education	7.89	86
6.1.3	Professionals	52.02	21
6.1.4	Researchers	25.80	34
6.1.5	Senior officials and managers	38.13	34
6.1.6	Availability of scientists and engineers	47.06	48
6.2	Talent Impact	36.10	45
6.2.1	Innovation output	43.76	40
6.2.2	High-value exports	16.57	46
6.2.3	New product entrepreneurial activity	61.85	14
6.2.4	New business density	2.90	80
6.2.5	Scientific journal articles	55.40	26

PORTUGAL

Key Indicators

Rank (out of 119)	**29**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**10.35**
GDP per capita (PPP US$)	**29,214.30**
GDP (US$ billions)	**198.93**
GTCI score	**55.75**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



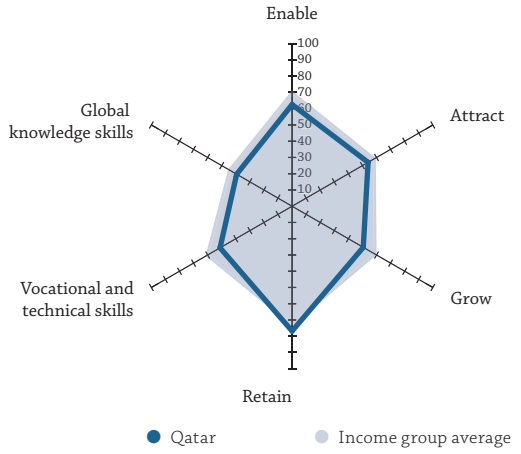
		Score	Rank
1	**ENABLE**	**62.55**	**31**
1.1	Regulatory Landscape	70.60	25
1.1.1	Government effectiveness	73.78	23
1.1.2	Business-government relations	63.13	41
1.1.3	Political stability	84.95	25
1.1.4	Regulatory quality	67.96	33
1.1.5	Corruption	63.16	27
1.2	Market Landscape	64.31	29
1.2.1	Competition intensity	71.43	52
1.2.2	Ease of doing business	82.08	23
1.2.3	Cluster development	56.66	36
1.2.4	R&D expenditure	29.91	26
1.2.5	ICT infrastructure	74.08	37
1.2.6	Technology utilisation	71.73	28
1.3	Business and Labour Landscape	52.75	69
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	63.67	52
1.3.4	Labour-employer cooperation	55.01	47
	Management Practice		
1.3.5	Professional management	36.68	69
1.3.6	Relationship of pay to productivity	45.45	62
2	**ATTRACT**	**53.98**	**30**
2.1	External Openness	41.80	46
	Attract Business		
2.1.1	FDI and technology transfer	69.45	18
2.1.2	Prevalence of foreign ownership	63.21	48
	Attract People		
2.1.3	Migrant stock	17.70	45
2.1.4	International students	21.32	46
2.1.5	Brain gain	37.35	70
2.2	Internal Openness	66.15	19
	Social Inclusion		
2.2.1	Tolerance of minorities	85.06	5
2.2.2	Tolerance of immigrants	85.92	17
2.2.3	Social mobility	43.32	64
	Gender Equality		
2.2.4	Female graduates	81.32	39
2.2.5	Gender earnings gap	65.06	22
2.2.6	Leadership opportunities for women	36.20	70
3	**GROW**	**50.57**	**35**
3.1	Formal Education	47.25	30
	Enrolment		
3.1.1	Vocational enrolment	44.61	24
3.1.2	Tertiary enrolment	57.32	34
	Quality		
3.1.3	Tertiary education expenditure	20.72	63
3.1.4	Reading, maths, and science	74.28	21
3.1.5	University ranking	39.32	34
3.2	Lifelong Learning	46.08	56
3.2.1	Quality of management schools	56.88	36
3.2.2	Prevalence of training in firms	37.60	50
3.2.3	Employee development	43.77	53
3.3	Access to Growth Opportunities	58.39	34
	Empowerment		
3.3.1	Delegation of authority	37.99	74
3.3.2	Personal rights	83.34	24
	Collaboration		
3.3.3	Use of virtual social networks	75.76	45
3.3.4	Use of virtual professional networks	50.71	16
3.3.5	Collaboration within organisations	32.68	77
3.3.6	Collaboration across organisations	69.85	56
4	**RETAIN**	**76.80**	**19**
4.1	Sustainability	64.62	26
4.1.1	Pension system	91.84	12
4.1.2	Social protection	59.65	29
4.1.3	Brain retention	42.37	58
4.2	Lifestyle	88.97	5
4.2.1	Environmental performance	96.17	7
4.2.2	Personal safety	89.39	20
4.2.3	Physician density	70.67	4
4.2.4	Sanitation	99.66	15
5	**VOCATIONAL AND TECHNICAL SKILLS**	**51.19**	**40**
5.1	Mid-Level Skills	33.69	64
5.1.1	Workforce with secondary education	22.23	72
5.1.2	Population with secondary education	23.68	77
5.1.3	Technicians and associate professionals	52.02	36
5.1.4	Labour productivity per employee	36.86	43
5.2	Employability	68.69	26
5.2.1	Ease of finding skilled employees	71.62	24
5.2.2	Relevance of education system to the economy	54.57	38
5.2.3	Skills matching with secondary education	69.95	36
5.2.4	Skills matching with tertiary education	78.64	32
6	**GLOBAL KNOWLEDGE SKILLS**	**39.38**	**35**
6.1	High-Level Skills	39.09	36
6.1.1	Workforce with tertiary education	35.69	48
6.1.2	Population with tertiary education	6.17	89
6.1.3	Professionals	49.42	24
6.1.4	Researchers	46.24	23
6.1.5	Senior officials and managers	39.38	33
6.1.6	Availability of scientists and engineers	57.65	34
6.2	Talent Impact	39.67	33
6.2.1	Innovation output	51.67	30
6.2.2	High-value exports	8.29	71
6.2.3	New product entrepreneurial activity	28.87	68
6.2.4	New business density	26.64	24
6.2.5	Scientific journal articles	82.88	6

QATAR

Key Indicators

Rank (out of 119)	**23**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**2.24**
GDP per capita (PPP US$)	**143,788.00**
GDP (US$ billions)	**166.91**
GTCI score	**61.90**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



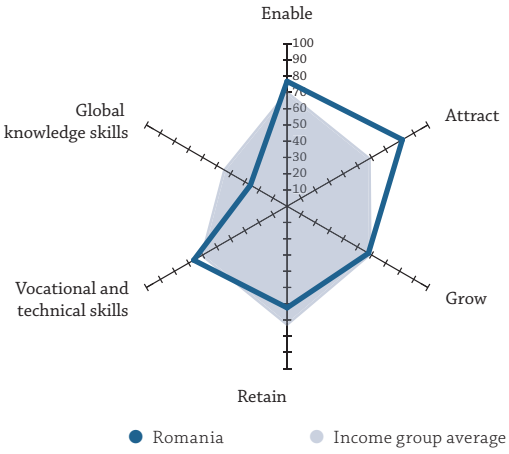
		Score	Rank
1	**ENABLE**	**76.85**	**20**
1.1	Regulatory Landscape	75.14	20
1.1.1	Government effectiveness	67.87	33
1.1.2	Business-government relations	96.47	3
1.1.3	Political stability	87.62	14
1.1.4	Regulatory quality	61.89	41
1.1.5	Corruption	61.84	29
1.2	Market Landscape	66.79	27
1.2.1	Competition intensity	86.00	15
1.2.2	Ease of doing business	56.47	75
1.2.3	Cluster development	88.85	9
1.2.4	R&D expenditure	10.75	60
1.2.5	ICT infrastructure	73.53	38
1.2.6	Technology utilisation	85.16	11
1.3	Business and Labour Landscape	88.62	5
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	87.85	5
1.3.4	Labour-employer cooperation	81.03	13
	Management Practice		
1.3.5	Professional management	71.92	26
1.3.6	Relationship of pay to productivity	90.91	3
2	**ATTRACT**	**81.88**	**4**
2.1	External Openness	84.78	4
	Attract Business		
2.1.1	FDI and technology transfer	77.28	7
2.1.2	Prevalence of foreign ownership	57.04	60
	Attract People		
2.1.3	Migrant stock	100.00	1
2.1.4	International students	100.00	1
2.1.5	Brain gain	89.56	6
2.2	Internal Openness	78.99	9
	Social Inclusion		
2.2.1	Tolerance of minorities	62.07	33
2.2.2	Tolerance of immigrants	87.32	16
2.2.3	Social mobility	83.92	12
	Gender Equality		
2.2.4	Female graduates	78.35	49
2.2.5	Gender earnings gap	89.16	2
2.2.6	Leadership opportunities for women	73.12	15
3	**GROW**	**57.80**	**23**
3.1	Formal Education	19.42	83
	Enrolment		
3.1.1	Vocational enrolment	1.06	105
3.1.2	Tertiary enrolment	14.52	91
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths, and science	32.11	58
3.1.5	University ranking	29.97	44
3.2	Lifelong Learning	89.51	3
3.2.1	Quality of management schools	90.48	5
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	88.55	8
3.3	Access to Growth Opportunities	64.46	26
	Empowerment		
3.3.1	Delegation of authority	71.79	20
3.3.2	Personal rights	14.51	107
	Collaboration		
3.3.3	Use of virtual social networks	90.30	13
3.3.4	Use of virtual professional networks	32.88	28
3.3.5	Collaboration within organisations	79.47	14
3.3.6	Collaboration across organisations	97.80	4
4	**RETAIN**	**62.47**	**38**
4.1	Sustainability	56.74	34
4.1.1	Pension system	2.45	99
4.1.2	Social protection	79.84	17
4.1.3	Brain retention	87.93	5
4.2	Lifestyle	68.21	50
4.2.1	Environmental performance	61.29	76
4.2.2	Personal safety	82.74	29
4.2.3	Physician density	31.09	56
4.2.4	Sanitation	97.73	32
5	**VOCATIONAL AND TECHNICAL SKILLS**	**66.32**	**16**
5.1	Mid-Level Skills	42.71	45
5.1.1	Workforce with secondary education	22.03	74
5.1.2	Population with secondary education	27.53	66
5.1.3	Technicians and associate professionals	22.42	81
5.1.4	Labour productivity per employee	98.87	2
5.2	Employability	89.92	3
5.2.1	Ease of finding skilled employees	82.51	11
5.2.2	Relevance of education system to the economy	86.30	5
5.2.3	Skills matching with secondary education	95.64	2
5.2.4	Skills matching with tertiary education	95.24	2
6	**GLOBAL KNOWLEDGE SKILLS**	**26.06**	**62**
6.1	High-Level Skills	30.93	54
6.1.1	Workforce with tertiary education	25.76	73
6.1.2	Population with tertiary education	33.79	32
6.1.3	Professionals	22.25	69
6.1.4	Researchers	7.09	60
6.1.5	Senior officials and managers	13.13	80
6.1.6	Availability of scientists and engineers	83.53	4
6.2	Talent Impact	21.20	73
6.2.1	Innovation output	34.97	53
6.2.2	High-value exports	6.40	81
6.2.3	New product entrepreneurial activity	50.69	32
6.2.4	New business density	9.69	50
6.2.5	Scientific journal articles	4.24	99

ROMANIA

Key Indicators

Rank (out of 119)	**64**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**19.83**
GDP per capita (PPP US$)	**21,403.10**
GDP (US$ billions)	**177.95**
GTCI score	**41.13**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



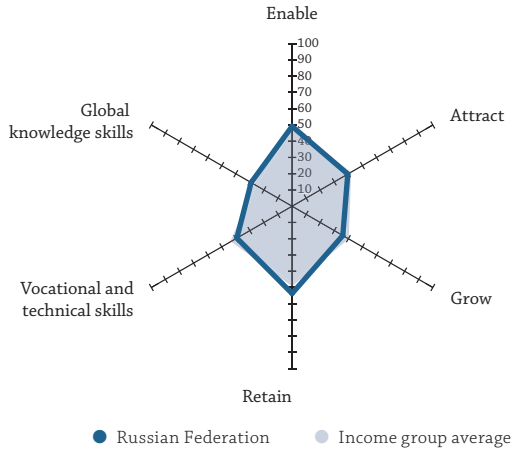
		Score	Rank
1	**ENABLE**	**49.19**	**67**
1.1	Regulatory Landscape	51.19	54
1.1.1	Government effectiveness	41.13	71
1.1.2	Business-government relations	41.94	94
1.1.3	Political stability	68.69	51
1.1.4	Regulatory quality	59.47	43
1.1.5	Corruption	44.74	47
1.2	Market Landscape	45.36	67
1.2.1	Competition intensity	58.86	85
1.2.2	Ease of doing business	76.23	34
1.2.3	Cluster development	27.55	94
1.2.4	R&D expenditure	8.64	65
1.2.5	ICT infrastructure	64.80	53
1.2.6	Technology utilisation	36.04	80
1.3	Business and Labour Landscape	51.01	78
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	61.53	57
1.3.4	Labour-employer cooperation	40.65	91
	Management Practice		
1.3.5	Professional management	31.52	80
1.3.6	Relationship of pay to productivity	35.69	81
2	**ATTRACT**	**39.56**	**75**
2.1	External Openness	29.08	83
	Attract Business		
2.1.1	FDI and technology transfer	50.39	62
2.1.2	Prevalence of foreign ownership	52.84	73
	Attract People		
2.1.3	Migrant stock	2.41	91
2.1.4	International students	22.10	39
2.1.5	Brain gain	17.67	110
2.2	Internal Openness	50.03	61
	Social Inclusion		
2.2.1	Tolerance of minorities	36.78	73
2.2.2	Tolerance of immigrants	53.52	66
2.2.3	Social mobility	21.53	109
	Gender Equality		
2.2.4	Female graduates	79.46	40
2.2.5	Gender earnings gap	62.65	28
2.2.6	Leadership opportunities for women	46.24	54
3	**GROW**	**36.03**	**77**
3.1	Formal Education	34.08	49
	Enrolment		
3.1.1	Vocational enrolment	45.04	23
3.1.2	Tertiary enrolment	46.36	49
	Quality		
3.1.3	Tertiary education expenditure	16.11	77
3.1.4	Reading, maths, and science	46.31	45
3.1.5	University ranking	16.55	69
3.2	Lifelong Learning	33.01	90
3.2.1	Quality of management schools	23.54	106
3.2.2	Prevalence of training in firms	49.21	35
3.2.3	Employee development	26.26	89
3.3	Access to Growth Opportunities	41.02	91
	Empowerment		
3.3.1	Delegation of authority	10.89	118
3.3.2	Personal rights	62.15	59
	Collaboration		
3.3.3	Use of virtual social networks	68.48	66
3.3.4	Use of virtual professional networks	20.79	47
3.3.5	Collaboration within organisations	27.28	90
3.3.6	Collaboration across organisations	56.52	103
4	**RETAIN**	**53.68**	**57**
4.1	Sustainability	37.16	66
4.1.1	Pension system	67.35	36
4.1.2	Social protection	35.24	64
4.1.3	Brain retention	8.88	114
4.2	Lifestyle	70.20	46
4.2.1	Environmental performance	86.11	34
4.2.2	Personal safety	75.96	40
4.2.3	Physician density	42.47	42
4.2.4	Sanitation	76.25	79
5	**VOCATIONAL AND TECHNICAL SKILLS**	**39.24**	**76**
5.1	Mid-Level Skills	43.76	40
5.1.1	Workforce with secondary education	51.62	13
5.1.2	Population with secondary education	66.76	18
5.1.3	Technicians and associate professionals	26.01	74
5.1.4	Labour productivity per employee	30.65	52
5.2	Employability	34.73	114
5.2.1	Ease of finding skilled employees	17.82	114
5.2.2	Relevance of education system to the economy	19.23	105
5.2.3	Skills matching with secondary education	44.08	114
5.2.4	Skills matching with tertiary education	57.78	108
6	**GLOBAL KNOWLEDGE SKILLS**	**29.10**	**58**
6.1	High-Level Skills	23.50	72
6.1.1	Workforce with tertiary education	28.24	66
6.1.2	Population with tertiary education	6.17	89
6.1.3	Professionals	41.33	41
6.1.4	Researchers	10.71	50
6.1.5	Senior officials and managers	12.50	82
6.1.6	Availability of scientists and engineers	42.06	56
6.2	Talent Impact	34.71	47
6.2.1	Innovation output	40.60	43
6.2.2	High-value exports	14.12	50
6.2.3	New product entrepreneurial activity	44.46	47
6.2.4	New business density	23.45	29
6.2.5	Scientific journal articles	50.90	31

RUSSIAN FEDERATION

Key Indicators

Rank (out of 119)	**53**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**144.10**
GDP per capita (PPP US$)	**24,451.40**
GDP (US$ billions)	**1,326.02**
GTCI score	**44.22**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



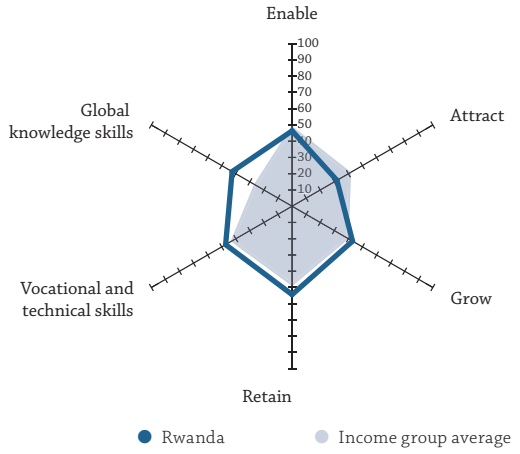
		Score	Rank
1	**ENABLE**	**46.37**	**83**
1.1	Regulatory Landscape	35.03	102
1.1.1	Government effectiveness	37.53	78
1.1.2	Business-government relations	47.02	84
1.1.3	Political stability	38.35	105
1.1.4	Regulatory quality	32.52	100
1.1.5	Corruption	19.74	101
1.2	Market Landscape	51.47	50
1.2.1	Competition intensity	63.43	73
1.2.2	Ease of doing business	74.24	37
1.2.3	Cluster development	31.89	86
1.2.4	R&D expenditure	27.57	32
1.2.5	ICT infrastructure	74.22	36
1.2.6	Technology utilisation	37.46	78
1.3	Business and Labour Landscape	52.60	70
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	66.18	44
1.3.4	Labour-employer cooperation	42.01	88
	Management Practice		
1.3.5	Professional management	31.81	78
1.3.6	Relationship of pay to productivity	59.93	38
2	**ATTRACT**	**31.86**	**106**
2.1	External Openness	26.23	98
	Attract Business		
2.1.1	FDI and technology transfer	31.07	101
2.1.2	Prevalence of foreign ownership	29.38	110
	Attract People		
2.1.3	Migrant stock	17.76	44
2.1.4	International students	15.78	52
2.1.5	Brain gain	37.15	71
2.2	Internal Openness	37.50	102
	Social Inclusion		
2.2.1	Tolerance of minorities	8.05	115
2.2.2	Tolerance of immigrants	40.85	87
2.2.3	Social mobility	37.33	80
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	51.81	55
2.2.6	Leadership opportunities for women	49.46	45
3	**GROW**	**42.93**	**50**
3.1	Formal Education	47.53	29
	Enrolment		
3.1.1	Vocational enrolment	26.30	46
3.1.2	Tertiary enrolment	68.85	16
	Quality		
3.1.3	Tertiary education expenditure	18.67	69
3.1.4	Reading, maths, and science	71.85	25
3.1.5	University ranking	52.00	26
3.2	Lifelong Learning	44.39	57
3.2.1	Quality of management schools	41.01	66
3.2.2	Prevalence of training in firms	56.46	29
3.2.3	Employee development	35.69	67
3.3	Access to Growth Opportunities	36.87	101
	Empowerment		
3.3.1	Delegation of authority	37.43	75
3.3.2	Personal rights	3.66	116
	Collaboration		
3.3.3	Use of virtual social networks	67.27	72
3.3.4	Use of virtual professional networks	8.36	76
3.3.5	Collaboration within organisations	32.76	76
3.3.6	Collaboration across organisations	71.72	47
4	**RETAIN**	**54.36**	**55**
4.1	Sustainability	45.80	48
4.1.1	Pension system	66.33	37
4.1.2	Social protection	33.71	71
4.1.3	Brain retention	37.36	71
4.2	Lifestyle	62.92	60
4.2.1	Environmental performance	86.64	32
4.2.2	Personal safety	43.90	101
4.2.3	Physician density	52.72	26
4.2.4	Sanitation	68.41	88
5	**VOCATIONAL AND TECHNICAL SKILLS**	**47.22**	**51**
5.1	Mid-Level Skills	40.93	50
5.1.1	Workforce with secondary education	33.06	51
5.1.2	Population with secondary education	31.10	64
5.1.3	Technicians and associate professionals	67.71	16
5.1.4	Labour productivity per employee	31.85	50
5.2	Employability	53.50	62
5.2.1	Ease of finding skilled employees	35.64	81
5.2.2	Relevance of education system to the economy	41.35	59
5.2.3	Skills matching with secondary education	67.54	43
5.2.4	Skills matching with tertiary education	69.47	67
6	**GLOBAL KNOWLEDGE SKILLS**	**42.61**	**26**
6.1	High-Level Skills	62.13	7
6.1.1	Workforce with tertiary education	81.94	3
6.1.2	Population with tertiary education	100.00	1
6.1.3	Professionals	56.36	17
6.1.4	Researchers	37.84	28
6.1.5	Senior officials and managers	53.13	18
6.1.6	Availability of scientists and engineers	43.53	55
6.2	Talent Impact	23.09	68
6.2.1	Innovation output	35.85	50
6.2.2	High-value exports	25.99	27
6.2.3	New product entrepreneurial activity	9.97	85
6.2.4	New business density	24.20	27
6.2.5	Scientific journal articles	19.44	59

RWANDA

Key Indicators

Rank (out of 119)	**76**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**11.61**
GDP per capita (PPP US$)	**1,758.73**
GDP (US$ billions)	**8.10**
GTCI score	**38.07**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



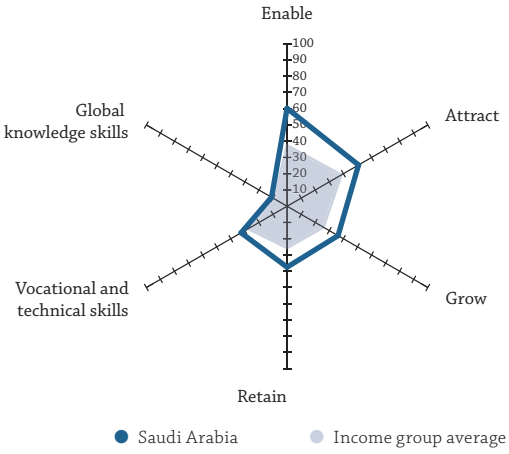
		Score	Rank
1	**ENABLE**	**60.23**	**37**
1.1	Regulatory Landscape	59.65	43
1.1.1	Government effectiveness	41.13	71
1.1.2	Business-government relations	91.39	6
1.1.3	Political stability	61.89	66
1.1.4	Regulatory quality	51.21	59
1.1.5	Corruption	52.63	40
1.2	Market Landscape	49.67	56
1.2.1	Competition intensity	64.29	71
1.2.2	Ease of doing business	67.93	52
1.2.3	Cluster development	55.73	39
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	8.46	112
1.2.6	Technology utilisation	51.94	48
1.3	Business and Labour Landscape	71.38	27
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	65.04	49
1.3.4	Labour-employer cooperation	75.34	16
	Management Practice		
1.3.5	Professional management	59.31	29
1.3.6	Relationship of pay to productivity	58.59	42
2	**ATTRACT**	**50.76**	**37**
2.1	External Openness	41.57	47
	Attract Business		
2.1.1	FDI and technology transfer	60.84	33
2.1.2	Prevalence of foreign ownership	61.23	52
	Attract People		
2.1.3	Migrant stock	8.23	62
2.1.4	International students	4.86	73
2.1.5	Brain gain	72.69	13
2.2	Internal Openness	59.95	32
	Social Inclusion		
2.2.1	Tolerance of minorities	13.79	111
2.2.2	Tolerance of immigrants	53.52	66
2.2.3	Social mobility	77.66	18
	Gender Equality		
2.2.4	Female graduates	37.15	94
2.2.5	Gender earnings gap	78.31	8
2.2.6	Leadership opportunities for women	99.28	2
3	**GROW**	**36.20**	**75**
3.1	Formal Education	11.47	104
	Enrolment		
3.1.1	Vocational enrolment	24.06	51
3.1.2	Tertiary enrolment	5.95	105
	Quality		
3.1.3	Tertiary education expenditure	15.86	78
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	54.32	36
3.2.1	Quality of management schools	47.88	52
3.2.2	Prevalence of training in firms	68.60	15
3.2.3	Employee development	46.46	50
3.3	Access to Growth Opportunities	42.83	83
	Empowerment		
3.3.1	Delegation of authority	55.31	29
3.3.2	Personal rights	25.42	102
	Collaboration		
3.3.3	Use of virtual social networks	55.15	92
3.3.4	Use of virtual professional networks	1.62	104
3.3.5	Collaboration within organisations	48.95	39
3.3.6	Collaboration across organisations	70.53	51
4	**RETAIN**	**37.48**	**92**
4.1	Sustainability	41.71	56
4.1.1	Pension system	3.06	97
4.1.2	Social protection	52.81	34
4.1.3	Brain retention	69.25	19
4.2	Lifestyle	33.26	103
4.2.1	Environmental performance	24.71	109
4.2.2	Personal safety	51.33	89
4.2.3	Physician density	0.64	107
4.2.4	Sanitation	56.36	95
5	**VOCATIONAL AND TECHNICAL SKILLS**	**32.68**	**96**
5.1	Mid-Level Skills	4.63	111
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	6.56	94
5.1.3	Technicians and associate professionals	2.69	108
5.1.4	Labour productivity per employee	n/a	n/a
5.2	Employability	60.73	47
5.2.1	Ease of finding skilled employees	47.19	59
5.2.2	Relevance of education system to the economy	54.09	42
5.2.3	Skills matching with secondary education	69.60	38
5.2.4	Skills matching with tertiary education	72.02	56
6	**GLOBAL KNOWLEDGE SKILLS**	**11.05**	**102**
6.1	High-Level Skills	9.92	110
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	4.63	92
6.1.3	Professionals	4.62	101
6.1.4	Researchers	0.00	102
6.1.5	Senior officials and managers	1.25	109
6.1.6	Availability of scientists and engineers	39.12	65
6.2	Talent Impact	12.18	94
6.2.1	Innovation output	8.44	111
6.2.2	High-value exports	24.48	33
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	8.47	57
6.2.5	Scientific journal articles	7.33	82

SAUDI ARABIA

Key Indicators

Rank (out of 119)	**41**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**31.54**
GDP per capita (PPP US$)	**53,430.10**
GDP (US$ billions)	**646.00**
GTCI score	**49.61**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



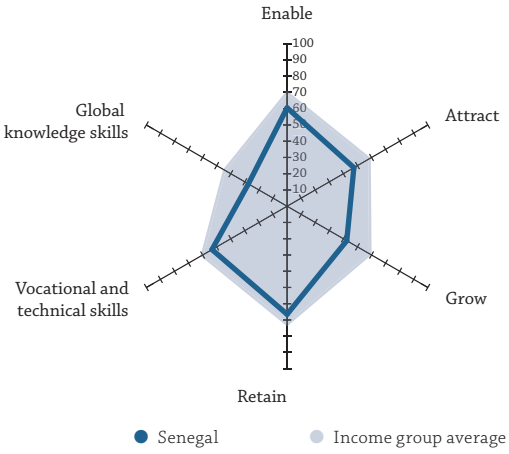
		Score	Rank
1	**ENABLE**	**60.53**	**35**
1.1	Regulatory Landscape	51.56	53
1.1.1	Government effectiveness	47.56	57
1.1.2	Business-government relations	71.52	26
1.1.3	Political stability	50.73	87
1.1.4	Regulatory quality	45.87	67
1.1.5	Corruption	42.11	51
1.2	Market Landscape	55.23	40
1.2.1	Competition intensity	76.29	34
1.2.2	Ease of doing business	51.72	80
1.2.3	Cluster development	71.21	21
1.2.4	R&D expenditure	1.40	98
1.2.5	ICT infrastructure	73.53	38
1.2.6	Technology utilisation	57.24	42
1.3	Business and Labour Landscape	74.80	24
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	69.93	31
1.3.4	Labour-employer cooperation	62.87	31
	Management Practice		
1.3.5	Professional management	54.73	31
1.3.6	Relationship of pay to productivity	61.28	34
2	**ATTRACT**	**47.45**	**44**
2.1	External Openness	52.69	26
	Attract Business		
2.1.1	FDI and technology transfer	60.84	33
2.1.2	Prevalence of foreign ownership	38.02	100
	Attract People		
2.1.3	Migrant stock	71.09	10
2.1.4	International students	24.82	34
2.1.5	Brain gain	68.67	16
2.2	Internal Openness	42.21	90
	Social Inclusion		
2.2.1	Tolerance of minorities	29.89	84
2.2.2	Tolerance of immigrants	78.87	27
2.2.3	Social mobility	64.03	27
	Gender Equality		
2.2.4	Female graduates	55.53	81
2.2.5	Gender earnings gap	8.43	112
2.2.6	Leadership opportunities for women	16.49	100
3	**GROW**	**42.39**	**53**
3.1	Formal Education	37.38	45
	Enrolment		
3.1.1	Vocational enrolment	8.62	82
3.1.2	Tertiary enrolment	55.07	39
	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	48.47	29
3.2	Lifelong Learning	47.09	54
3.2.1	Quality of management schools	49.74	48
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	44.44	52
3.3	Access to Growth Opportunities	42.70	84
	Empowerment		
3.3.1	Delegation of authority	46.09	54
3.3.2	Personal rights	4.82	114
	Collaboration		
3.3.3	Use of virtual social networks	81.52	29
3.3.4	Use of virtual professional networks	17.87	56
3.3.5	Collaboration within organisations	40.77	55
3.3.6	Collaboration across organisations	65.14	79
4	**RETAIN**	**66.46**	**33**
4.1	Sustainability	66.82	24
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	64.16	25
4.1.3	Brain retention	69.48	18
4.2	Lifestyle	66.11	54
4.2.1	Environmental performance	58.85	82
4.2.2	Personal safety	64.71	64
4.2.3	Physician density	40.87	44
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**53.34**	**37**
5.1	Mid-Level Skills	49.74	28
5.1.1	Workforce with secondary education	28.74	63
5.1.2	Population with secondary education	32.67	61
5.1.3	Technicians and associate professionals	51.12	38
5.1.4	Labour productivity per employee	86.42	4
5.2	Employability	56.93	54
5.2.1	Ease of finding skilled employees	44.88	63
5.2.2	Relevance of education system to the economy	52.40	44
5.2.3	Skills matching with secondary education	60.11	71
5.2.4	Skills matching with tertiary education	70.33	63
6	**GLOBAL KNOWLEDGE SKILLS**	**27.50**	**60**
6.1	High-Level Skills	37.36	39
6.1.1	Workforce with tertiary education	38.44	41
6.1.2	Population with tertiary education	33.96	30
6.1.3	Professionals	30.92	54
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	24.38	57
6.1.6	Availability of scientists and engineers	59.12	32
6.2	Talent Impact	17.63	80
6.2.1	Innovation output	28.30	65
6.2.2	High-value exports	1.51	99
6.2.3	New product entrepreneurial activity	32.17	65
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	8.54	79

SENEGAL

Key Indicators

Rank (out of 119)	**97**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**15.13**
GDP per capita (PPP US$)	**2,430.80**
GDP (US$ billions)	**13.78**
GTCI score	**31.98**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



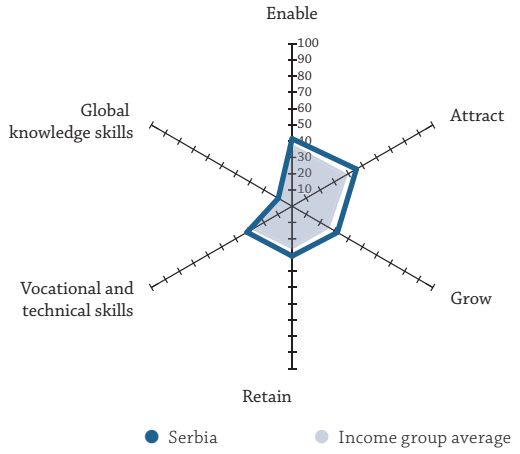
		Score	Rank
1	**ENABLE**	**41.53**	**91**
1.1	Regulatory Landscape	47.80	64
1.1.1	Government effectiveness	30.85	89
1.1.2	Business-government relations	66.89	35
1.1.3	Political stability	59.71	72
1.1.4	Regulatory quality	40.78	77
1.1.5	Corruption	40.79	52
1.2	Market Landscape	38.06	91
1.2.1	Competition intensity	71.71	51
1.2.2	Ease of doing business	32.27	111
1.2.3	Cluster development	41.18	69
1.2.4	R&D expenditure	12.38	55
1.2.5	ICT infrastructure	13.92	105
1.2.6	Technology utilisation	56.89	43
1.3	Business and Labour Landscape	38.74	105
	Labour Market		
1.3.1	Ease of hiring	0.00	116
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	53.41	80
1.3.4	Labour-employer cooperation	47.43	69
	Management Practice		
1.3.5	Professional management	37.25	68
1.3.6	Relationship of pay to productivity	34.34	84
2	**ATTRACT**	**45.69**	**49**
2.1	External Openness	45.42	33
	Attract Business		
2.1.1	FDI and technology transfer	36.81	94
2.1.2	Prevalence of foreign ownership	60.49	54
	Attract People		
2.1.3	Migrant stock	3.68	83
2.1.4	International students	82.34	11
2.1.5	Brain gain	43.78	54
2.2	Internal Openness	45.96	79
	Social Inclusion		
2.2.1	Tolerance of minorities	42.53	62
2.2.2	Tolerance of immigrants	91.55	8
2.2.3	Social mobility	44.96	57
	Gender Equality		
2.2.4	Female graduates	12.52	100
2.2.5	Gender earnings gap	39.76	86
2.2.6	Leadership opportunities for women	44.44	58
3	**GROW**	**32.20**	**88**
3.1	Formal Education	16.75	88
	Enrolment		
3.1.1	Vocational enrolment	7.63	87
3.1.2	Tertiary enrolment	8.48	98
	Quality		
3.1.3	Tertiary education expenditure	50.90	5
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	37.37	73
3.2.1	Quality of management schools	61.64	33
3.2.2	Prevalence of training in firms	18.47	81
3.2.3	Employee development	31.99	78
3.3	Access to Growth Opportunities	42.47	87
	Empowerment		
3.3.1	Delegation of authority	23.18	106
3.3.2	Personal rights	63.34	54
	Collaboration		
3.3.3	Use of virtual social networks	56.67	91
3.3.4	Use of virtual professional networks	4.84	90
3.3.5	Collaboration within organisations	41.53	51
3.3.6	Collaboration across organisations	65.28	78
4	**RETAIN**	**30.67**	**102**
4.1	Sustainability	22.42	106
4.1.1	Pension system	3.06	97
4.1.2	Social protection	28.20	78
4.1.3	Brain retention	35.99	75
4.2	Lifestyle	38.92	100
4.2.1	Environmental performance	49.70	96
4.2.2	Personal safety	64.89	62
4.2.3	Physician density	0.64	107
4.2.4	Sanitation	40.45	103
5	**VOCATIONAL AND TECHNICAL SKILLS**	**31.99**	**98**
5.1	Mid-Level Skills	4.12	113
5.1.1	Workforce with secondary education	3.84	101
5.1.2	Population with secondary education	5.56	96
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	2.95	93
5.2	Employability	59.86	48
5.2.1	Ease of finding skilled employees	67.99	26
5.2.2	Relevance of education system to the economy	37.26	72
5.2.3	Skills matching with secondary education	63.24	58
5.2.4	Skills matching with tertiary education	70.96	61
6	**GLOBAL KNOWLEDGE SKILLS**	**9.81**	**106**
6.1	High-Level Skills	10.81	107
6.1.1	Workforce with tertiary education	3.14	103
6.1.2	Population with tertiary education	2.92	95
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	4.23	67
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Availability of scientists and engineers	32.94	77
6.2	Talent Impact	8.81	105
6.2.1	Innovation output	17.75	94
6.2.2	High-value exports	6.78	79
6.2.3	New product entrepreneurial activity	3.49	87
6.2.4	New business density	1.57	85
6.2.5	Scientific journal articles	14.45	66

SERBIA

Key Indicators

Rank (out of 119)	**69**
Income group	**Upper middle income**
Regional group	**Europe**
Population (millions)	**7.10**
GDP per capita (PPP US$)	**13,481.90**
GDP (US$ billions)	**36.51**
GTCI score	**40.05**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



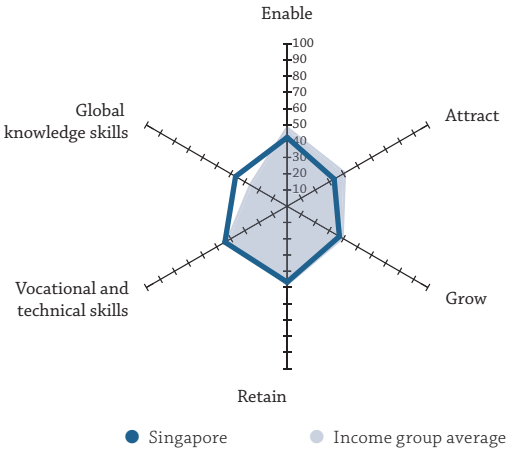
		Score	Rank
1	**ENABLE**	**42.30**	**89**
1.1	Regulatory Landscape	48.08	61
1.1.1	Government effectiveness	44.99	62
1.1.2	Business-government relations	40.62	96
1.1.3	Political stability	69.42	50
1.1.4	Regulatory quality	48.54	65
1.1.5	Corruption	36.84	59
1.2	Market Landscape	41.09	80
1.2.1	Competition intensity	42.86	113
1.2.2	Ease of doing business	72.56	44
1.2.3	Cluster development	23.84	101
1.2.4	R&D expenditure	17.99	44
1.2.5	ICT infrastructure	69.17	44
1.2.6	Technology utilisation	20.14	107
1.3	Business and Labour Landscape	37.72	107
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	52.00	85
1.3.4	Labour-employer cooperation	30.35	108
	Management Practice		
1.3.5	Professional management	12.32	112
1.3.6	Relationship of pay to productivity	29.29	94
2	**ATTRACT**	**33.44**	**102**
2.1	External Openness	26.21	99
	Attract Business		
2.1.1	FDI and technology transfer	32.90	100
2.1.2	Prevalence of foreign ownership	49.14	85
	Attract People		
2.1.3	Migrant stock	19.97	41
2.1.4	International students	21.42	45
2.1.5	Brain gain	7.63	118
2.2	Internal Openness	40.68	94
	Social Inclusion		
2.2.1	Tolerance of minorities	21.84	98
2.2.2	Tolerance of immigrants	50.70	73
2.2.3	Social mobility	14.17	115
	Gender Equality		
2.2.4	Female graduates	79.23	42
2.2.5	Gender earnings gap	56.63	44
2.2.6	Leadership opportunities for women	21.51	96
3	**GROW**	**37.16**	**70**
3.1	Formal Education	37.96	43
	Enrolment		
3.1.1	Vocational enrolment	57.41	12
3.1.2	Tertiary enrolment	50.84	42
	Quality		
3.1.3	Tertiary education expenditure	30.69	35
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	12.92	72
3.2	Lifelong Learning	30.31	96
3.2.1	Quality of management schools	31.75	92
3.2.2	Prevalence of training in firms	45.38	39
3.2.3	Employee development	13.80	111
3.3	Access to Growth Opportunities	43.19	80
	Empowerment		
3.3.1	Delegation of authority	33.52	84
3.3.2	Personal rights	69.74	46
	Collaboration		
3.3.3	Use of virtual social networks	63.64	80
3.3.4	Use of virtual professional networks	13.80	64
3.3.5	Collaboration within organisations	19.36	109
3.3.6	Collaboration across organisations	59.09	96
4	**RETAIN**	**46.67**	**67**
4.1	Sustainability	21.06	109
4.1.1	Pension system	43.88	53
4.1.2	Social protection	19.30	97
4.1.3	Brain retention	0.00	118
4.2	Lifestyle	72.28	44
4.2.1	Environmental performance	77.58	46
4.2.2	Personal safety	76.52	38
4.2.3	Physician density	39.10	49
4.2.4	Sanitation	95.91	43
5	**VOCATIONAL AND TECHNICAL SKILLS**	**44.16**	**58**
5.1	Mid-Level Skills	43.67	41
5.1.1	Workforce with secondary education	30.57	59
5.1.2	Population with secondary education	70.04	14
5.1.3	Technicians and associate professionals	50.22	39
5.1.4	Labour productivity per employee	23.84	61
5.2	Employability	44.64	91
5.2.1	Ease of finding skilled employees	24.75	106
5.2.2	Relevance of education system to the economy	28.37	92
5.2.3	Skills matching with secondary education	61.43	67
5.2.4	Skills matching with tertiary education	64.02	85
6	**GLOBAL KNOWLEDGE SKILLS**	**36.60**	**40**
6.1	High-Level Skills	29.43	56
6.1.1	Workforce with tertiary education	34.55	51
6.1.2	Population with tertiary education	30.02	44
6.1.3	Professionals	35.55	48
6.1.4	Researchers	24.98	35
6.1.5	Senior officials and managers	20.00	64
6.1.6	Availability of scientists and engineers	31.47	82
6.2	Talent Impact	43.77	24
6.2.1	Innovation output	31.63	60
6.2.2	High-value exports	n/a	n/a
6.2.3	New product entrepreneurial activity	42.18	53
6.2.4	New business density	9.23	52
6.2.5	Scientific journal articles	92.05	3

SINGAPORE

Key Indicators

Rank (out of 119)	**2**
Income group	**High income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**5.54**
GDP per capita (PPP US$)	**85,208.80**
GDP (US$ billions)	**292.74**
GTCI score	**78.42**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



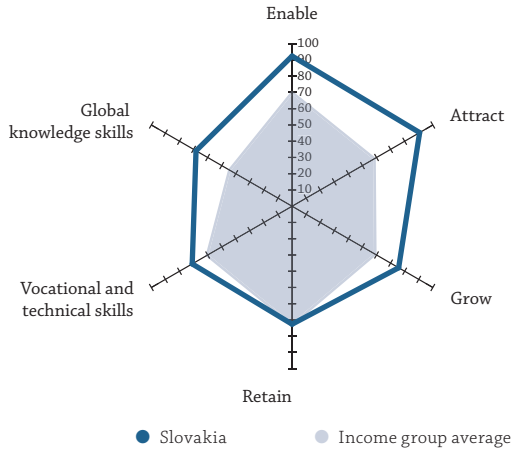
		Score	Rank
1	**ENABLE**	**92.38**	**1**
1.1	Regulatory Landscape	97.21	1
1.1.1	Government effectiveness	100.00	1
1.1.2	Business-government relations	100.00	1
1.1.3	Political stability	93.93	5
1.1.4	Regulatory quality	100.00	1
1.1.5	Corruption	92.11	7
1.2	Market Landscape	81.74	10
1.2.1	Competition intensity	82.57	18
1.2.2	Ease of doing business	96.35	2
1.2.3	Cluster development	87.93	11
1.2.4	R&D expenditure	50.93	15
1.2.5	ICT infrastructure	87.86	18
1.2.6	Technology utilisation	84.81	12
1.3	Business and Labour Landscape	98.20	2
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	97.45	2
1.3.4	Labour-employer cooperation	98.37	2
	Management Practice		
1.3.5	Professional management	97.42	4
1.3.6	Relationship of pay to productivity	95.96	2
2	**ATTRACT**	**90.61**	**1**
2.1	External Openness	96.24	1
	Attract Business		
2.1.1	FDI and technology transfer	89.82	2
2.1.2	Prevalence of foreign ownership	96.79	4
	Attract People		
2.1.3	Migrant stock	100.00	1
2.1.4	International students	100.00	1
2.1.5	Brain gain	94.58	4
2.2	Internal Openness	84.99	5
	Social Inclusion		
2.2.1	Tolerance of minorities	79.31	8
2.2.2	Tolerance of immigrants	71.83	37
2.2.3	Social mobility	95.64	5
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	86.75	3
2.2.6	Leadership opportunities for women	91.40	6
3	**GROW**	**75.71**	**10**
3.1	Formal Education	59.71	9
	Enrolment		
3.1.1	Vocational enrolment	18.57	59
3.1.2	Tertiary enrolment	61.03	25
	Quality		
3.1.3	Tertiary education expenditure	24.04	54
3.1.4	Reading, maths, and science	100.00	1
3.1.5	University ranking	94.90	3
3.2	Lifelong Learning	92.00	2
3.2.1	Quality of management schools	90.74	4
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	93.27	3
3.3	Access to Growth Opportunities	75.43	16
	Empowerment		
3.3.1	Delegation of authority	73.74	17
3.3.2	Personal rights	47.21	76
	Collaboration		
3.3.3	Use of virtual social networks	93.03	9
3.3.4	Use of virtual professional networks	67.96	12
3.3.5	Collaboration within organisations	80.72	10
3.3.6	Collaboration across organisations	89.92	13
4	**RETAIN**	**72.57**	**25**
4.1	Sustainability	66.69	25
4.1.1	Pension system	61.22	41
4.1.2	Social protection	52.29	36
4.1.3	Brain retention	86.56	6
4.2	Lifestyle	78.46	31
4.2.1	Environmental performance	93.21	14
4.2.2	Personal safety	90.33	17
4.2.3	Physician density	30.29	59
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**70.96**	**8**
5.1	Mid-Level Skills	55.06	20
5.1.1	Workforce with secondary education	25.97	67
5.1.2	Population with secondary education	26.82	68
5.1.3	Technicians and associate professionals	88.79	4
5.1.4	Labour productivity per employee	78.66	6
5.2	Employability	86.86	5
5.2.1	Ease of finding skilled employees	77.89	19
5.2.2	Relevance of education system to the economy	93.27	2
5.2.3	Skills matching with secondary education	83.88	9
5.2.4	Skills matching with tertiary education	92.41	3
6	**GLOBAL KNOWLEDGE SKILLS**	**68.26**	**1**
6.1	High-Level Skills	75.41	1
6.1.1	Workforce with tertiary education	73.15	5
6.1.2	Population with tertiary education	72.56	4
6.1.3	Professionals	50.29	23
6.1.4	Researchers	80.63	6
6.1.5	Senior officials and managers	99.38	2
6.1.6	Availability of scientists and engineers	76.47	9
6.2	Talent Impact	61.10	5
6.2.1	Innovation output	63.62	17
6.2.2	High-value exports	92.84	2
6.2.3	New product entrepreneurial activity	50.21	34
6.2.4	New business density	55.02	10
6.2.5	Scientific journal articles	43.82	40

SLOVAKIA

Key Indicators

Rank (out of 119)	**40**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**5.42**
GDP per capita (PPP US$)	**28,877.30**
GDP (US$ billions)	**86.58**
GTCI score	**50.02**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



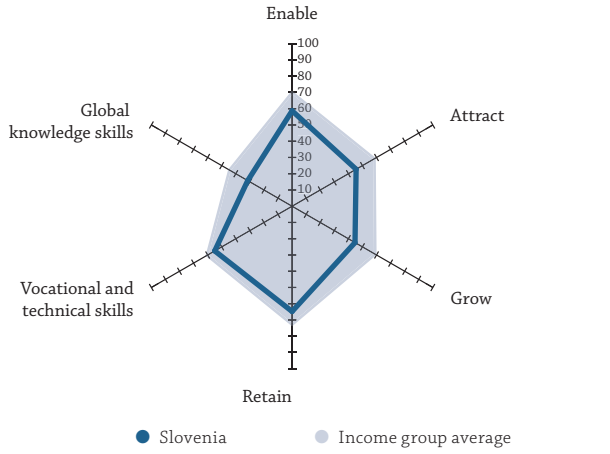
		Score	Rank
1	**ENABLE**	**58.70**	**40**
1.1	Regulatory Landscape	57.77	45
1.1.1	Government effectiveness	63.75	37
1.1.2	Business-government relations	24.94	116
1.1.3	Political stability	87.14	17
1.1.4	Regulatory quality	64.32	36
1.1.5	Corruption	48.68	44
1.2	Market Landscape	60.10	34
1.2.1	Competition intensity	79.71	23
1.2.2	Ease of doing business	78.75	31
1.2.3	Cluster development	48.92	48
1.2.4	R&D expenditure	20.56	37
1.2.5	ICT infrastructure	74.35	35
1.2.6	Technology utilisation	58.30	40
1.3	Business and Labour Landscape	58.23	56
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	58.90	65
1.3.4	Labour-employer cooperation	45.80	77
	Management Practice		
1.3.5	Professional management	48.42	47
1.3.6	Relationship of pay to productivity	59.60	39
2	**ATTRACT**	**45.49**	**51**
2.1	External Openness	43.36	43
	Attract Business		
2.1.1	FDI and technology transfer	72.58	14
2.1.2	Prevalence of foreign ownership	93.33	6
	Attract People		
2.1.3	Migrant stock	7.06	68
2.1.4	International students	29.15	31
2.1.5	Brain gain	14.66	114
2.2	Internal Openness	47.62	72
	Social Inclusion		
2.2.1	Tolerance of minorities	47.13	56
2.2.2	Tolerance of immigrants	21.13	112
2.2.3	Social mobility	44.41	60
	Gender Equality		
2.2.4	Female graduates	91.48	13
2.2.5	Gender earnings gap	51.81	55
2.2.6	Leadership opportunities for women	29.75	80
3	**GROW**	**44.70**	**44**
3.1	Formal Education	40.19	38
	Enrolment		
3.1.1	Vocational enrolment	51.53	16
3.1.2	Tertiary enrolment	46.10	50
	Quality		
3.1.3	Tertiary education expenditure	22.51	56
3.1.4	Reading, maths, and science	58.24	38
3.1.5	University ranking	22.60	57
3.2	Lifelong Learning	41.95	64
3.2.1	Quality of management schools	32.54	91
3.2.2	Prevalence of training in firms	52.90	30
3.2.3	Employee development	40.40	58
3.3	Access to Growth Opportunities	51.95	49
	Empowerment		
3.3.1	Delegation of authority	47.49	50
3.3.2	Personal rights	78.53	33
	Collaboration		
3.3.3	Use of virtual social networks	66.36	74
3.3.4	Use of virtual professional networks	15.32	62
3.3.5	Collaboration within organisations	33.60	74
3.3.6	Collaboration across organisations	70.39	53
4	**RETAIN**	**64.75**	**35**
4.1	Sustainability	46.41	46
4.1.1	Pension system	78.57	30
4.1.2	Social protection	39.46	54
4.1.3	Brain retention	21.18	105
4.2	Lifestyle	83.09	16
4.2.1	Environmental performance	90.18	24
4.2.2	Personal safety	89.55	19
4.2.3	Physician density	54.01	21
4.2.4	Sanitation	98.64	27
5	**VOCATIONAL AND TECHNICAL SKILLS**	**54.96**	**31**
5.1	Mid-Level Skills	66.78	5
5.1.1	Workforce with secondary education	62.66	3
5.1.2	Population with secondary education	94.15	2
5.1.3	Technicians and associate professionals	67.71	16
5.1.4	Labour productivity per employee	42.58	32
5.2	Employability	43.13	98
5.2.1	Ease of finding skilled employees	29.70	95
5.2.2	Relevance of education system to the economy	20.91	103
5.2.3	Skills matching with secondary education	60.98	69
5.2.4	Skills matching with tertiary education	60.94	98
6	**GLOBAL KNOWLEDGE SKILLS**	**31.53**	**51**
6.1	High-Level Skills	25.67	68
6.1.1	Workforce with tertiary education	32.02	57
6.1.2	Population with tertiary education	3.60	94
6.1.3	Professionals	31.21	53
6.1.4	Researchers	32.06	30
6.1.5	Senior officials and managers	26.88	52
6.1.6	Availability of scientists and engineers	28.24	89
6.2	Talent Impact	37.40	38
6.2.1	Innovation output	49.74	33
6.2.2	High-value exports	19.40	41
6.2.3	New product entrepreneurial activity	43.98	50
6.2.4	New business density	17.82	35
6.2.5	Scientific journal articles	56.05	24

SLOVENIA

Key Indicators

Rank (out of 119)	**28**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**2.06**
GDP per capita (PPP US$)	**31,122.40**
GDP (US$ billions)	**42.75**
GTCI score	**55.77**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



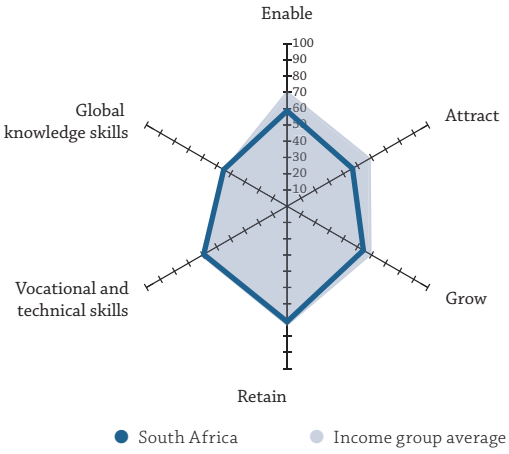
		Score	Rank
1	**ENABLE**	**58.68**	**41**
1.1	Regulatory Landscape	61.46	40
1.1.1	Government effectiveness	67.10	34
1.1.2	Business-government relations	32.01	112
1.1.3	Political stability	86.17	22
1.1.4	Regulatory quality	60.19	42
1.1.5	Corruption	61.84	29
1.2	Market Landscape	62.82	32
1.2.1	Competition intensity	71.43	52
1.2.2	Ease of doing business	79.74	28
1.2.3	Cluster development	35.91	78
1.2.4	R&D expenditure	55.61	12
1.2.5	ICT infrastructure	78.04	28
1.2.6	Technology utilisation	56.18	44
1.3	Business and Labour Landscape	51.76	74
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	65.38	47
1.3.4	Labour-employer cooperation	48.51	67
	Management Practice		
1.3.5	Professional management	41.55	65
1.3.6	Relationship of pay to productivity	42.76	66
2	**ATTRACT**	**46.49**	**47**
2.1	External Openness	27.17	92
	Attract Business		
2.1.1	FDI and technology transfer	38.64	90
2.1.2	Prevalence of foreign ownership	34.07	104
	Attract People		
2.1.3	Migrant stock	25.02	33
2.1.4	International students	14.21	57
2.1.5	Brain gain	23.90	96
2.2	Internal Openness	65.82	20
	Social Inclusion		
2.2.1	Tolerance of minorities	70.11	17
2.2.2	Tolerance of immigrants	59.15	53
2.2.3	Social mobility	47.96	50
	Gender Equality		
2.2.4	Female graduates	82.65	33
2.2.5	Gender earnings gap	75.90	9
2.2.6	Leadership opportunities for women	59.14	34
3	**GROW**	**54.21**	**30**
3.1	Formal Education	54.44	17
	Enrolment		
3.1.1	Vocational enrolment	67.15	5
3.1.2	Tertiary enrolment	72.64	9
	Quality		
3.1.3	Tertiary education expenditure	26.60	45
3.1.4	Reading, maths, and science	80.11	8
3.1.5	University ranking	25.73	51
3.2	Lifelong Learning	50.51	44
3.2.1	Quality of management schools	52.12	46
3.2.2	Prevalence of training in firms	50.26	34
3.2.3	Employee development	49.16	43
3.3	Access to Growth Opportunities	57.66	35
	Empowerment		
3.3.1	Delegation of authority	45.25	57
3.3.2	Personal rights	91.56	12
	Collaboration		
3.3.3	Use of virtual social networks	71.52	56
3.3.4	Use of virtual professional networks	28.18	33
3.3.5	Collaboration within organisations	44.06	45
3.3.6	Collaboration across organisations	65.39	77
4	**RETAIN**	**71.03**	**26**
4.1	Sustainability	58.13	32
4.1.1	Pension system	86.73	23
4.1.2	Social protection	54.62	32
4.1.3	Brain retention	33.03	83
4.2	Lifestyle	83.93	15
4.2.1	Environmental performance	96.83	5
4.2.2	Personal safety	95.83	11
4.2.3	Physician density	44.07	41
4.2.4	Sanitation	98.98	23
5	**VOCATIONAL AND TECHNICAL SKILLS**	**59.21**	**26**
5.1	Mid-Level Skills	56.08	18
5.1.1	Workforce with secondary education	49.22	16
5.1.2	Population with secondary education	78.74	6
5.1.3	Technicians and associate professionals	56.50	31
5.1.4	Labour productivity per employee	39.86	38
5.2	Employability	62.34	40
5.2.1	Ease of finding skilled employees	60.40	39
5.2.2	Relevance of education system to the economy	51.20	45
5.2.3	Skills matching with secondary education	70.84	31
5.2.4	Skills matching with tertiary education	66.93	77
6	**GLOBAL KNOWLEDGE SKILLS**	**45.03**	**25**
6.1	High-Level Skills	43.76	32
6.1.1	Workforce with tertiary education	48.00	28
6.1.2	Population with tertiary education	19.04	69
6.1.3	Professionals	60.98	14
6.1.4	Researchers	46.20	24
6.1.5	Senior officials and managers	46.25	24
6.1.6	Availability of scientists and engineers	42.06	56
6.2	Talent Impact	46.30	20
6.2.1	Innovation output	49.74	33
6.2.2	High-value exports	12.05	59
6.2.3	New product entrepreneurial activity	44.11	49
6.2.4	New business density	25.59	25
6.2.5	Scientific journal articles	100.00	1

SOUTH AFRICA

Key Indicators

Rank (out of 119)	**63**
Income group	**Upper middle income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**54.96**
GDP per capita (PPP US$)	**13,165.20**
GDP (US$ billions)	**312.80**
GTCI score	**41.22**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



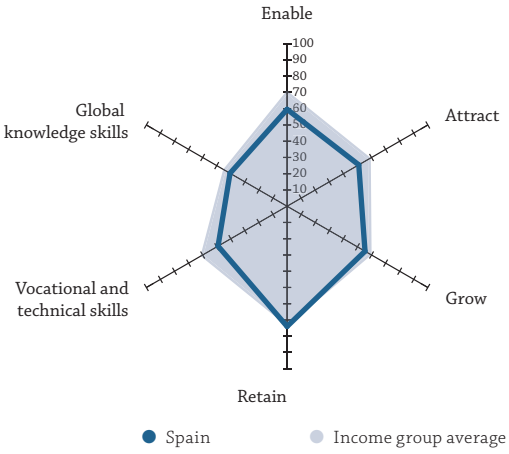
		Score	Rank
1	**ENABLE**	**50.63**	**62**
1.1	Regulatory Landscape	47.82	63
1.1.1	Government effectiveness	49.10	51
1.1.2	Business-government relations	37.31	101
1.1.3	Political stability	59.47	73
1.1.4	Regulatory quality	52.43	57
1.1.5	Corruption	40.79	52
1.2	Market Landscape	57.00	37
1.2.1	Competition intensity	78.00	27
1.2.2	Ease of doing business	59.34	67
1.2.3	Cluster development	63.47	28
1.2.4	R&D expenditure	16.82	45
1.2.5	ICT infrastructure	48.02	72
1.2.6	Technology utilisation	76.33	20
1.3	Business and Labour Landscape	47.07	90
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	46.37	104
1.3.4	Labour-employer cooperation	0.00	119
	Management Practice		
1.3.5	Professional management	77.36	21
1.3.6	Relationship of pay to productivity	33.00	88
2	**ATTRACT**	**49.50**	**40**
2.1	External Openness	42.09	45
	Attract Business		
2.1.1	FDI and technology transfer	55.09	48
2.1.2	Prevalence of foreign ownership	74.32	27
	Attract People		
2.1.3	Migrant stock	12.58	50
2.1.4	International students	21.68	43
2.1.5	Brain gain	46.79	45
2.2	Internal Openness	56.90	39
	Social Inclusion		
2.2.1	Tolerance of minorities	51.72	49
2.2.2	Tolerance of immigrants	60.56	51
2.2.3	Social mobility	48.23	49
	Gender Equality		
2.2.4	Female graduates	84.16	28
2.2.5	Gender earnings gap	53.01	52
2.2.6	Leadership opportunities for women	43.73	60
3	**GROW**	**50.09**	**38**
3.1	Formal Education	22.05	76
	Enrolment		
3.1.1	Vocational enrolment	8.13	83
3.1.2	Tertiary enrolment	16.43	89
	Quality		
3.1.3	Tertiary education expenditure	16.62	75
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	47.02	31
3.2	Lifelong Learning	65.02	24
3.2.1	Quality of management schools	75.93	20
3.2.2	Prevalence of training in firms	44.06	40
3.2.3	Employee development	75.08	19
3.3	Access to Growth Opportunities	63.19	28
	Empowerment		
3.3.1	Delegation of authority	68.72	22
3.3.2	Personal rights	74.86	37
	Collaboration		
3.3.3	Use of virtual social networks	73.94	50
3.3.4	Use of virtual professional networks	26.57	36
3.3.5	Collaboration within organisations	62.28	25
3.3.6	Collaboration across organisations	72.76	43
4	**RETAIN**	**33.93**	**97**
4.1	Sustainability	28.93	86
4.1.1	Pension system	4.08	95
4.1.2	Social protection	40.56	51
4.1.3	Brain retention	42.14	61
4.2	Lifestyle	38.93	99
4.2.1	Environmental performance	62.37	72
4.2.2	Personal safety	19.52	114
4.2.3	Physician density	12.02	87
4.2.4	Sanitation	61.82	91
5	**VOCATIONAL AND TECHNICAL SKILLS**	**41.61**	**67**
5.1	Mid-Level Skills	42.63	46
5.1.1	Workforce with secondary education	30.47	60
5.1.2	Population with secondary education	69.04	16
5.1.3	Technicians and associate professionals	47.09	46
5.1.4	Labour productivity per employee	23.93	60
5.2	Employability	40.59	106
5.2.1	Ease of finding skilled employees	33.99	87
5.2.2	Relevance of education system to the economy	6.97	115
5.2.3	Skills matching with secondary education	49.60	105
5.2.4	Skills matching with tertiary education	71.80	58
6	**GLOBAL KNOWLEDGE SKILLS**	**21.57**	**76**
6.1	High-Level Skills	18.47	85
6.1.1	Workforce with tertiary education	19.58	84
6.1.2	Population with tertiary education	10.12	85
6.1.3	Professionals	9.54	92
6.1.4	Researchers	5.15	64
6.1.5	Senior officials and managers	44.38	26
6.1.6	Availability of scientists and engineers	22.06	99
6.2	Talent Impact	24.68	60
6.2.1	Innovation output	27.77	68
6.2.2	High-value exports	11.11	62
6.2.3	New product entrepreneurial activity	49.05	35
6.2.4	New business density	10.39	47
6.2.5	Scientific journal articles	25.08	52

SPAIN

Key Indicators

Rank (out of 119)	**31**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**46.42**
GDP per capita (PPP US$)	**34,526.50**
GDP (US$ billions)	**1,199.06**
GTCI score	**54.91**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



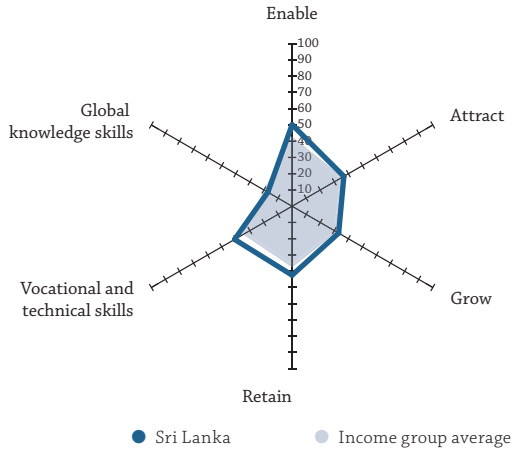
		Score	Rank
1	**ENABLE**	**59.62**	**38**
1.1	Regulatory Landscape	65.57	32
1.1.1	Government effectiveness	72.49	25
1.1.2	Business-government relations	62.25	44
1.1.3	Political stability	70.87	47
1.1.4	Regulatory quality	64.32	36
1.1.5	Corruption	57.89	33
1.2	Market Landscape	64.23	30
1.2.1	Competition intensity	83.14	16
1.2.2	Ease of doing business	78.97	30
1.2.3	Cluster development	59.44	31
1.2.4	R&D expenditure	28.50	31
1.2.5	ICT infrastructure	83.36	23
1.2.6	Technology utilisation	51.94	48
1.3	Business and Labour Landscape	49.07	84
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	59.48	62
1.3.4	Labour-employer cooperation	47.15	70
	Management Practice		
1.3.5	Professional management	54.15	33
1.3.6	Relationship of pay to productivity	31.31	93
2	**ATTRACT**	**50.92**	**34**
2.1	External Openness	43.63	41
	Attract Business		
2.1.1	FDI and technology transfer	65.80	26
2.1.2	Prevalence of foreign ownership	72.59	29
	Attract People		
2.1.3	Migrant stock	27.85	29
2.1.4	International students	14.79	53
2.1.5	Brain gain	37.15	71
2.2	Internal Openness	58.21	36
	Social Inclusion		
2.2.1	Tolerance of minorities	48.28	54
2.2.2	Tolerance of immigrants	92.96	5
2.2.3	Social mobility	54.50	38
	Gender Equality		
2.2.4	Female graduates	72.67	60
2.2.5	Gender earnings gap	55.42	46
2.2.6	Leadership opportunities for women	25.45	89
3	**GROW**	**55.36**	**28**
3.1	Formal Education	51.83	23
	Enrolment		
3.1.1	Vocational enrolment	29.57	41
3.1.2	Tertiary enrolment	78.60	4
	Quality		
3.1.3	Tertiary education expenditure	22.51	56
3.1.4	Reading, maths, and science	71.67	26
3.1.5	University ranking	56.81	20
3.2	Lifelong Learning	57.93	31
3.2.1	Quality of management schools	79.63	12
3.2.2	Prevalence of training in firms	63.19	23
3.2.3	Employee development	30.98	81
3.3	Access to Growth Opportunities	56.31	38
	Empowerment		
3.3.1	Delegation of authority	44.69	59
3.3.2	Personal rights	83.34	24
	Collaboration		
3.3.3	Use of virtual social networks	68.48	66
3.3.4	Use of virtual professional networks	41.54	24
3.3.5	Collaboration within organisations	27.28	90
3.3.6	Collaboration across organisations	72.53	44
4	**RETAIN**	**73.96**	**23**
4.1	Sustainability	62.47	27
4.1.1	Pension system	68.37	35
4.1.2	Social protection	82.15	15
4.1.3	Brain retention	36.90	72
4.2	Lifestyle	85.45	13
4.2.1	Environmental performance	96.70	6
4.2.2	Personal safety	84.33	25
4.2.3	Physician density	60.90	14
4.2.4	Sanitation	99.89	12
5	**VOCATIONAL AND TECHNICAL SKILLS**	**49.06**	**45**
5.1	Mid-Level Skills	36.82	59
5.1.1	Workforce with secondary education	20.24	78
5.1.2	Population with secondary education	26.39	69
5.1.3	Technicians and associate professionals	48.88	43
5.1.4	Labour productivity per employee	51.79	23
5.2	Employability	61.29	43
5.2.1	Ease of finding skilled employees	62.38	35
5.2.2	Relevance of education system to the economy	42.55	56
5.2.3	Skills matching with secondary education	67.20	45
5.2.4	Skills matching with tertiary education	73.02	50
6	**GLOBAL KNOWLEDGE SKILLS**	**40.55**	**32**
6.1	High-Level Skills	44.60	28
6.1.1	Workforce with tertiary education	54.30	20
6.1.2	Population with tertiary education	49.23	14
6.1.3	Professionals	49.13	25
6.1.4	Researchers	32.06	30
6.1.5	Senior officials and managers	24.38	57
6.1.6	Availability of scientists and engineers	58.53	33
6.2	Talent Impact	36.50	42
6.2.1	Innovation output	55.18	25
6.2.2	High-value exports	13.37	55
6.2.3	New product entrepreneurial activity	34.18	62
6.2.4	New business density	17.06	36
6.2.5	Scientific journal articles	62.71	20

SRI LANKA

Key Indicators

Rank (out of 119)	**82**
Income group	**Lower middle income**
Regional group	**Central and Southern Asia**
Population (millions)	**20.97**
GDP per capita (PPP US$)	**11,738.90**
GDP (US$ billions)	**82.32**
GTCI score	**36.75**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



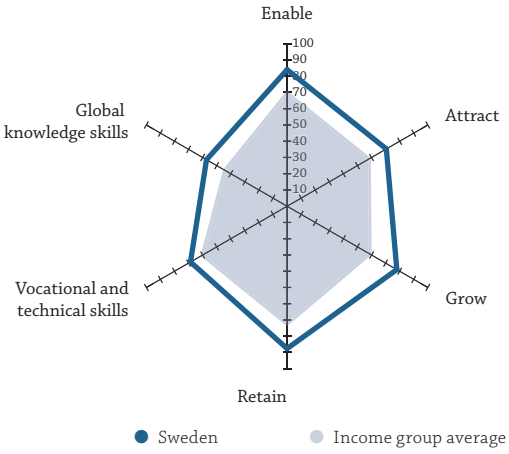
		Score	Rank
1	**ENABLE**	**50.14**	**63**
1.1	Regulatory Landscape	49.72	57
1.1.1	Government effectiveness	42.42	68
1.1.2	Business-government relations	70.20	27
1.1.3	Political stability	63.11	61
1.1.4	Regulatory quality	43.93	72
1.1.5	Corruption	28.95	76
1.2	Market Landscape	40.25	84
1.2.1	Competition intensity	70.00	62
1.2.2	Ease of doing business	47.39	92
1.2.3	Cluster development	44.89	58
1.2.4	R&D expenditure	2.10	92
1.2.5	ICT infrastructure	30.83	93
1.2.6	Technology utilisation	46.29	58
1.3	Business and Labour Landscape	60.44	47
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	60.49	59
1.3.4	Labour-employer cooperation	54.74	49
	Management Practice		
1.3.5	Professional management	50.14	41
1.3.6	Relationship of pay to productivity	57.24	44
2	**ATTRACT**	**36.80**	**88**
2.1	External Openness	27.76	87
	Attract Business		
2.1.1	FDI and technology transfer	46.74	69
2.1.2	Prevalence of foreign ownership	55.56	67
	Attract People		
2.1.3	Migrant stock	0.26	115
2.1.4	International students	1.52	85
2.1.5	Brain gain	34.74	77
2.2	Internal Openness	45.84	80
	Social Inclusion		
2.2.1	Tolerance of minorities	8.05	115
2.2.2	Tolerance of immigrants	52.11	71
2.2.3	Social mobility	53.13	42
	Gender Equality		
2.2.4	Female graduates	89.71	21
2.2.5	Gender earnings gap	16.87	104
2.2.6	Leadership opportunities for women	55.20	36
3	**GROW**	**33.09**	**87**
3.1	Formal Education	12.95	100
	Enrolment		
3.1.1	Vocational enrolment	9.19	80
3.1.2	Tertiary enrolment	16.80	87
	Quality		
3.1.3	Tertiary education expenditure	8.44	89
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	17.36	68
3.2	Lifelong Learning	42.22	60
3.2.1	Quality of management schools	58.73	34
3.2.2	Prevalence of training in firms	19.79	78
3.2.3	Employee development	48.15	46
3.3	Access to Growth Opportunities	44.11	76
	Empowerment		
3.3.1	Delegation of authority	52.79	36
3.3.2	Personal rights	26.04	101
	Collaboration		
3.3.3	Use of virtual social networks	64.55	78
3.3.4	Use of virtual professional networks	8.06	78
3.3.5	Collaboration within organisations	42.80	48
3.3.6	Collaboration across organisations	70.43	52
4	**RETAIN**	**42.40**	**78**
4.1	Sustainability	30.05	83
4.1.1	Pension system	22.45	72
4.1.2	Social protection	20.09	95
4.1.3	Brain retention	47.61	45
4.2	Lifestyle	54.76	74
4.2.1	Environmental performance	53.10	89
4.2.2	Personal safety	60.13	72
4.2.3	Physician density	11.38	88
4.2.4	Sanitation	94.43	49
5	**VOCATIONAL AND TECHNICAL SKILLS**	**40.84**	**69**
5.1	Mid-Level Skills	19.63	90
5.1.1	Workforce with secondary education	13.73	91
5.1.2	Population with secondary education	21.97	81
5.1.3	Technicians and associate professionals	25.56	76
5.1.4	Labour productivity per employee	17.26	69
5.2	Employability	62.06	41
5.2.1	Ease of finding skilled employees	57.10	43
5.2.2	Relevance of education system to the economy	55.77	37
5.2.3	Skills matching with secondary education	68.40	40
5.2.4	Skills matching with tertiary education	66.97	76
6	**GLOBAL KNOWLEDGE SKILLS**	**17.24**	**90**
6.1	High-Level Skills	25.70	67
6.1.1	Workforce with tertiary education	27.67	67
6.1.2	Population with tertiary education	23.16	58
6.1.3	Professionals	15.90	81
6.1.4	Researchers	1.20	85
6.1.5	Senior officials and managers	26.88	52
6.1.6	Availability of scientists and engineers	59.41	31
6.2	Talent Impact	8.77	106
6.2.1	Innovation output	25.48	76
6.2.2	High-value exports	1.51	99
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	2.79	83
6.2.5	Scientific journal articles	5.31	90

SWEDEN

Key Indicators

Rank (out of 119)	**5**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**9.80**
GDP per capita (PPP US$)	**46,420.40**
GDP (US$ billions)	**492.62**
GTCI score	**74.32**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



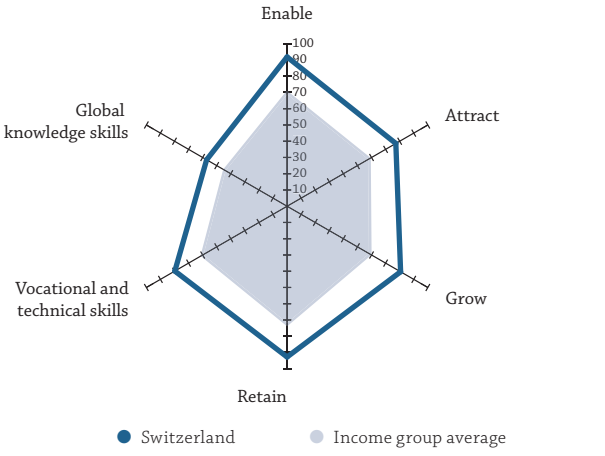
		Score	Rank
1	**ENABLE**	**83.98**	**5**
1.1	Regulatory Landscape	88.18	7
1.1.1	Government effectiveness	88.69	8
1.1.2	Business-government relations	78.37	18
1.1.3	Political stability	87.38	16
1.1.4	Regulatory quality	89.08	5
1.1.5	Corruption	97.37	4
1.2	Market Landscape	86.85	4
1.2.1	Competition intensity	81.71	20
1.2.2	Ease of doing business	90.90	8
1.2.3	Cluster development	82.35	14
1.2.4	R&D expenditure	73.60	5
1.2.5	ICT infrastructure	94.68	6
1.2.6	Technology utilisation	97.88	2
1.3	Business and Labour Landscape	76.92	19
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	60.00	81
1.3.3	Active labour market policies	76.27	23
1.3.4	Labour-employer cooperation	95.66	4
	Management Practice		
1.3.5	Professional management	98.28	2
1.3.6	Relationship of pay to productivity	64.65	28
2	**ATTRACT**	**70.52**	**11**
2.1	External Openness	54.23	22
	Attract Business		
2.1.1	FDI and technology transfer	66.06	25
2.1.2	Prevalence of foreign ownership	81.48	16
	Attract People		
2.1.3	Migrant stock	36.85	19
2.1.4	International students	30.72	30
2.1.5	Brain gain	56.02	28
2.2	Internal Openness	86.81	2
	Social Inclusion		
2.2.1	Tolerance of minorities	100.00	1
2.2.2	Tolerance of immigrants	84.51	18
2.2.3	Social mobility	82.83	14
	Gender Equality		
2.2.4	Female graduates	87.53	23
2.2.5	Gender earnings gap	73.49	11
2.2.6	Leadership opportunities for women	92.47	5
3	**GROW**	**77.95**	**6**
3.1	Formal Education	58.30	13
	Enrolment		
3.1.1	Vocational enrolment	43.29	25
3.1.2	Tertiary enrolment	54.44	40
	Quality		
3.1.3	Tertiary education expenditure	47.83	7
3.1.4	Reading, maths, and science	73.76	22
3.1.5	University ranking	72.22	13
3.2	Lifelong Learning	85.43	7
3.2.1	Quality of management schools	76.46	18
3.2.2	Prevalence of training in firms	88.26	3
3.2.3	Employee development	91.58	4
3.3	Access to Growth Opportunities	90.11	2
	Empowerment		
3.3.1	Delegation of authority	100.00	1
3.3.2	Personal rights	88.17	16
	Collaboration		
3.3.3	Use of virtual social networks	98.79	3
3.3.4	Use of virtual professional networks	60.60	15
3.3.5	Collaboration within organisations	100.00	1
3.3.6	Collaboration across organisations	93.08	8
4	**RETAIN**	**87.59**	**4**
4.1	Sustainability	84.72	8
4.1.1	Pension system	88.78	21
4.1.2	Social protection	89.76	9
4.1.3	Brain retention	75.63	12
4.2	Lifestyle	90.46	3
4.2.1	Environmental performance	99.53	3
4.2.2	Personal safety	97.55	2
4.2.3	Physician density	65.54	8
4.2.4	Sanitation	99.20	19
5	**VOCATIONAL AND TECHNICAL SKILLS**	**68.63**	**11**
5.1	Mid-Level Skills	58.21	13
5.1.1	Workforce with secondary education	39.60	29
5.1.2	Population with secondary education	52.92	31
5.1.3	Technicians and associate professionals	80.72	9
5.1.4	Labour productivity per employee	59.59	11
5.2	Employability	79.04	17
5.2.1	Ease of finding skilled employees	77.56	20
5.2.2	Relevance of education system to the economy	64.66	21
5.2.3	Skills matching with secondary education	84.66	7
5.2.4	Skills matching with tertiary education	89.30	9
6	**GLOBAL KNOWLEDGE SKILLS**	**57.26**	**8**
6.1	High-Level Skills	58.96	11
6.1.1	Workforce with tertiary education	55.83	18
6.1.2	Population with tertiary education	33.96	30
6.1.3	Professionals	77.75	2
6.1.4	Researchers	85.04	4
6.1.5	Senior officials and managers	35.63	38
6.1.6	Availability of scientists and engineers	65.59	20
6.2	Talent Impact	55.55	10
6.2.1	Innovation output	86.12	3
6.2.2	High-value exports	26.93	26
6.2.3	New product entrepreneurial activity	44.83	45
6.2.4	New business density	39.70	15
6.2.5	Scientific journal articles	80.20	9

SWITZERLAND

Key Indicators

Rank (out of 119)	**1**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**8.29**
GDP per capita (PPP US$)	**60,535.20**
GDP (US$ billions)	**664.74**
GTCI score	**79.90**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



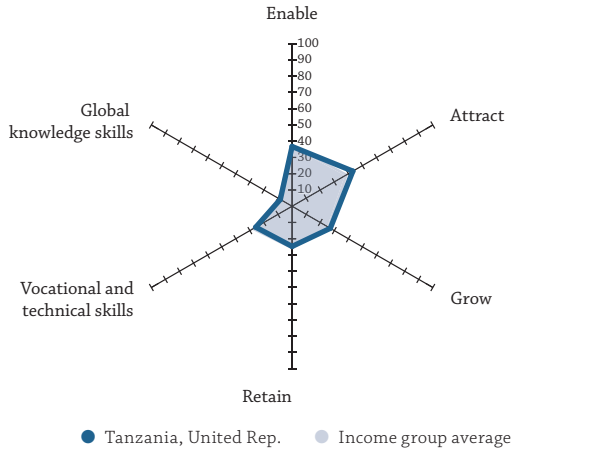
		Score	Rank
1	**ENABLE**	**91.85**	**2**
1.1	Regulatory Landscape	91.72	3
1.1.1	Government effectiveness	93.83	2
1.1.2	Business-government relations	86.53	11
1.1.3	Political stability	95.63	3
1.1.4	Regulatory quality	87.86	9
1.1.5	Corruption	94.74	5
1.2	Market Landscape	84.93	6
1.2.1	Competition intensity	76.00	36
1.2.2	Ease of doing business	79.59	29
1.2.3	Cluster development	87.00	13
1.2.4	R&D expenditure	69.16	8
1.2.5	ICT infrastructure	97.82	4
1.2.6	Technology utilisation	100.00	1
1.3	Business and Labour Landscape	98.92	1
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	100.00	1
1.3.4	Labour-employer cooperation	98.37	2
	Management Practice		
1.3.5	Professional management	95.13	8
1.3.6	Relationship of pay to productivity	100.00	1
2	**ATTRACT**	**77.26**	**5**
2.1	External Openness	82.07	5
	Attract Business		
2.1.1	FDI and technology transfer	74.93	9
2.1.2	Prevalence of foreign ownership	81.48	16
	Attract People		
2.1.3	Migrant stock	64.70	11
2.1.4	International students	89.24	9
2.1.5	Brain gain	100.00	1
2.2	Internal Openness	72.45	13
	Social Inclusion		
2.2.1	Tolerance of minorities	73.56	11
2.2.2	Tolerance of immigrants	77.46	30
2.2.3	Social mobility	97.55	2
	Gender Equality		
2.2.4	Female graduates	51.90	86
2.2.5	Gender earnings gap	65.06	22
2.2.6	Leadership opportunities for women	69.18	21
3	**GROW**	**80.65**	**3**
3.1	Formal Education	61.64	8
	Enrolment		
3.1.1	Vocational enrolment	60.19	10
3.1.2	Tertiary enrolment	49.91	44
	Quality		
3.1.3	Tertiary education expenditure	31.46	33
3.1.4	Reading, maths, and science	78.69	12
3.1.5	University ranking	87.96	4
3.2	Lifelong Learning	100.00	1
3.2.1	Quality of management schools	100.00	1
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	100.00	1
3.3	Access to Growth Opportunities	80.31	13
	Empowerment		
3.3.1	Delegation of authority	82.12	7
3.3.2	Personal rights	88.17	16
	Collaboration		
3.3.3	Use of virtual social networks	79.70	33
3.3.4	Use of virtual professional networks	46.67	20
3.3.5	Collaboration within organisations	91.49	3
3.3.6	Collaboration across organisations	93.69	7
4	**RETAIN**	**92.75**	**1**
4.1	Sustainability	96.55	1
4.1.1	Pension system	94.90	3
4.1.2	Social protection	94.77	5
4.1.3	Brain retention	100.00	1
4.2	Lifestyle	88.95	6
4.2.1	Environmental performance	93.00	16
4.2.2	Personal safety	97.37	3
4.2.3	Physician density	65.54	8
4.2.4	Sanitation	99.89	12
5	**VOCATIONAL AND TECHNICAL SKILLS**	**79.75**	**3**
5.1	Mid-Level Skills	62.87	8
5.1.1	Workforce with secondary education	39.52	31
5.1.2	Population with secondary education	68.47	17
5.1.3	Technicians and associate professionals	86.10	5
5.1.4	Labour productivity per employee	57.40	14
5.2	Employability	96.62	1
5.2.1	Ease of finding skilled employees	86.47	7
5.2.2	Relevance of education system to the economy	100.00	1
5.2.3	Skills matching with secondary education	100.00	1
5.2.4	Skills matching with tertiary education	100.00	1
6	**GLOBAL KNOWLEDGE SKILLS**	**57.17**	**9**
6.1	High-Level Skills	56.72	12
6.1.1	Workforce with tertiary education	57.12	17
6.1.2	Population with tertiary education	29.67	46
6.1.3	Professionals	72.83	4
6.1.4	Researchers	54.21	17
6.1.5	Senior officials and managers	55.00	17
6.1.6	Availability of scientists and engineers	71.47	14
6.2	Talent Impact	57.62	8
6.2.1	Innovation output	100.00	1
6.2.2	High-value exports	50.47	7
6.2.3	New product entrepreneurial activity	44.43	48
6.2.4	New business density	14.51	38
6.2.5	Scientific journal articles	78.67	12

TANZANIA, UNITED REP.

Key Indicators

Rank (out of 119)	**107**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**53.47**
GDP per capita (PPP US$)	**2,667.29**
GDP (US$ billions)	**44.90**
GTCI score	**27.66**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



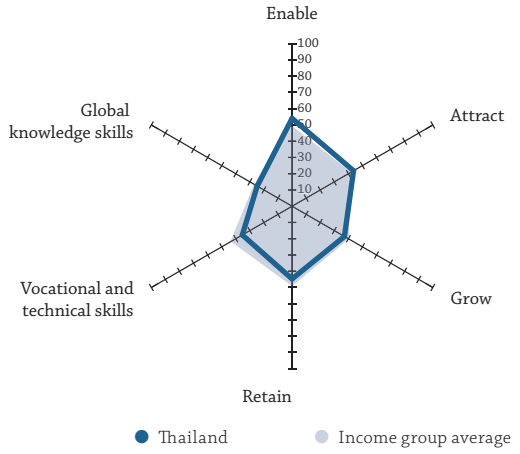
		Score	Rank
1	**ENABLE**	**36.75**	**105**
1.1	Regulatory Landscape	36.87	96
1.1.1	Government effectiveness	26.74	97
1.1.2	Business-government relations	44.59	91
1.1.3	Political stability	52.91	83
1.1.4	Regulatory quality	36.41	89
1.1.5	Corruption	23.68	89
1.2	Market Landscape	30.87	105
1.2.1	Competition intensity	56.86	89
1.2.2	Ease of doing business	39.35	104
1.2.3	Cluster development	42.11	66
1.2.4	R&D expenditure	12.15	57
1.2.5	ICT infrastructure	1.91	117
1.2.6	Technology utilisation	32.86	89
1.3	Business and Labour Landscape	42.52	99
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	50.00	98
1.3.3	Active labour market policies	55.89	72
1.3.4	Labour-employer cooperation	33.88	98
	Management Practice		
1.3.5	Professional management	32.09	77
1.3.6	Relationship of pay to productivity	27.61	98
2	**ATTRACT**	**43.16**	**60**
2.1	External Openness	34.38	66
	Attract Business		
2.1.1	FDI and technology transfer	39.43	88
2.1.2	Prevalence of foreign ownership	51.60	77
	Attract People		
2.1.3	Migrant stock	0.93	103
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	45.58	48
2.2	Internal Openness	51.94	53
	Social Inclusion		
2.2.1	Tolerance of minorities	49.43	52
2.2.2	Tolerance of immigrants	47.89	76
2.2.3	Social mobility	39.24	73
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	81.93	5
2.2.6	Leadership opportunities for women	41.22	62
3	**GROW**	**27.14**	**100**
3.1	Formal Education	11.62	103
	Enrolment		
3.1.1	Vocational enrolment	19.42	57
3.1.2	Tertiary enrolment	2.52	111
	Quality		
3.1.3	Tertiary education expenditure	16.88	74
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	7.67	74
3.2	Lifelong Learning	27.10	105
3.2.1	Quality of management schools	20.37	110
3.2.2	Prevalence of training in firms	36.02	54
3.2.3	Employee development	24.92	94
3.3	Access to Growth Opportunities	42.70	84
	Empowerment		
3.3.1	Delegation of authority	30.17	91
3.3.2	Personal rights	46.96	77
	Collaboration		
3.3.3	Use of virtual social networks	44.24	109
3.3.4	Use of virtual professional networks	n/a	n/a
3.3.5	Collaboration within organisations	21.78	105
3.3.6	Collaboration across organisations	70.36	54
4	**RETAIN**	**24.72**	**113**
4.1	Sustainability	26.12	95
4.1.1	Pension system	2.04	100
4.1.2	Social protection	35.55	62
4.1.3	Brain retention	40.77	64
4.2	Lifestyle	23.33	116
4.2.1	Environmental performance	39.64	103
4.2.2	Personal safety	49.42	93
4.2.3	Physician density	0.16	110
4.2.4	Sanitation	4.09	116
5	**VOCATIONAL AND TECHNICAL SKILLS**	**25.79**	**112**
5.1	Mid-Level Skills	3.64	115
5.1.1	Workforce with secondary education	2.70	104
5.1.2	Population with secondary education	1.00	103
5.1.3	Technicians and associate professionals	8.52	96
5.1.4	Labour productivity per employee	2.34	94
5.2	Employability	47.94	79
5.2.1	Ease of finding skilled employees	45.87	62
5.2.2	Relevance of education system to the economy	30.77	85
5.2.3	Skills matching with secondary education	51.44	101
5.2.4	Skills matching with tertiary education	63.68	87
6	**GLOBAL KNOWLEDGE SKILLS**	**8.36**	**111**
6.1	High-Level Skills	5.89	115
6.1.1	Workforce with tertiary education	1.46	105
6.1.2	Population with tertiary education	2.23	99
6.1.3	Professionals	0.00	110
6.1.4	Researchers	0.08	101
6.1.5	Senior officials and managers	1.88	106
6.1.6	Availability of scientists and engineers	29.71	87
6.2	Talent Impact	10.82	100
6.2.1	Innovation output	25.83	75
6.2.2	High-value exports	1.51	99
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	5.13	92

THAILAND

Key Indicators

Rank (out of 119)	**70**
Income group	**Upper middle income**
Regional group	**East, Southeastern Asia and Oceania**
Population (millions)	**67.96**
GDP per capita (PPP US$)	**16,305.50**
GDP (US$ billions)	**395.28**
GTCI score	**39.96**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



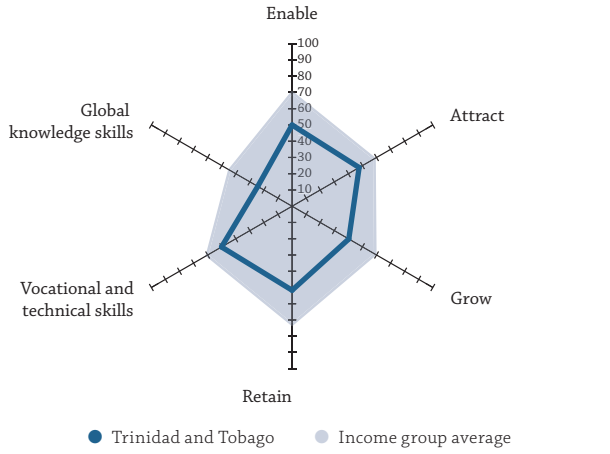
		Score	Rank
1	**ENABLE**	**54.02**	**48**
1.1	Regulatory Landscape	45.79	73
1.1.1	Government effectiveness	51.41	49
1.1.2	Business-government relations	56.95	63
1.1.3	Political stability	40.53	103
1.1.4	Regulatory quality	52.43	57
1.1.5	Corruption	27.63	79
1.2	Market Landscape	51.78	49
1.2.1	Competition intensity	73.71	40
1.2.2	Ease of doing business	73.01	43
1.2.3	Cluster development	44.58	59
1.2.4	R&D expenditure	10.98	58
1.2.5	ICT infrastructure	50.07	69
1.2.6	Technology utilisation	58.30	40
1.3	Business and Labour Landscape	64.50	36
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	66.77	39
1.3.4	Labour-employer cooperation	60.43	34
	Management Practice		
1.3.5	Professional management	49.57	44
1.3.6	Relationship of pay to productivity	54.55	49
2	**ATTRACT**	**43.66**	**55**
2.1	External Openness	39.06	51
	Attract Business		
2.1.1	FDI and technology transfer	58.75	38
2.1.2	Prevalence of foreign ownership	64.20	46
	Attract People		
2.1.3	Migrant stock	12.56	51
2.1.4	International students	10.82	61
2.1.5	Brain gain	49.00	40
2.2	Internal Openness	48.25	69
	Social Inclusion		
2.2.1	Tolerance of minorities	17.24	105
2.2.2	Tolerance of immigrants	25.35	109
2.2.3	Social mobility	37.60	78
	Gender Equality		
2.2.4	Female graduates	73.47	56
2.2.5	Gender earnings gap	73.49	11
2.2.6	Leadership opportunities for women	62.37	28
3	**GROW**	**37.19**	**69**
3.1	Formal Education	29.45	64
	Enrolment		
3.1.1	Vocational enrolment	16.26	65
3.1.2	Tertiary enrolment	42.50	53
	Quality		
3.1.3	Tertiary education expenditure	14.07	82
3.1.4	Reading, maths, and science	35.88	55
3.1.5	University ranking	38.52	35
3.2	Lifelong Learning	35.51	79
3.2.1	Quality of management schools	40.48	69
3.2.2	Prevalence of training in firms	19.26	79
3.2.3	Employee development	46.80	49
3.3	Access to Growth Opportunities	46.62	61
	Empowerment		
3.3.1	Delegation of authority	46.37	53
3.3.2	Personal rights	28.97	97
	Collaboration		
3.3.3	Use of virtual social networks	90.61	12
3.3.4	Use of virtual professional networks	2.97	97
3.3.5	Collaboration within organisations	45.10	44
3.3.6	Collaboration across organisations	65.72	75
4	**RETAIN**	**44.72**	**71**
4.1	Sustainability	38.27	62
4.1.1	Pension system	21.43	74
4.1.2	Social protection	42.58	45
4.1.3	Brain retention	50.80	39
4.2	Lifestyle	51.17	86
4.2.1	Environmental performance	60.54	79
4.2.2	Personal safety	46.17	97
4.2.3	Physician density	5.93	92
4.2.4	Sanitation	92.05	58
5	**VOCATIONAL AND TECHNICAL SKILLS**	**35.36**	**89**
5.1	Mid-Level Skills	18.09	91
5.1.1	Workforce with secondary education	16.48	86
5.1.2	Population with secondary education	19.12	86
5.1.3	Technicians and associate professionals	19.73	83
5.1.4	Labour productivity per employee	17.02	70
5.2	Employability	52.64	67
5.2.1	Ease of finding skilled employees	36.96	77
5.2.2	Relevance of education system to the economy	41.59	58
5.2.3	Skills matching with secondary education	58.16	79
5.2.4	Skills matching with tertiary education	73.83	47
6	**GLOBAL KNOWLEDGE SKILLS**	**24.79**	**68**
6.1	High-Level Skills	22.66	79
6.1.1	Workforce with tertiary education	18.03	85
6.1.2	Population with tertiary education	27.79	48
6.1.3	Professionals	12.72	86
6.1.4	Researchers	10.46	51
6.1.5	Senior officials and managers	23.13	60
6.1.6	Availability of scientists and engineers	43.82	52
6.2	Talent Impact	26.92	54
6.2.1	Innovation output	40.95	42
6.2.2	High-value exports	40.30	12
6.2.3	New product entrepreneurial activity	33.83	63
6.2.4	New business density	5.05	72
6.2.5	Scientific journal articles	14.49	65

TRINIDAD AND TOBAGO

Key Indicators

Rank (out of 119)	**55**
Income group	**High income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**1.36**
GDP per capita (PPP US$)	**32,596.50**
GDP (US$ billions)	**27.81**
GTCI score	**44.02**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



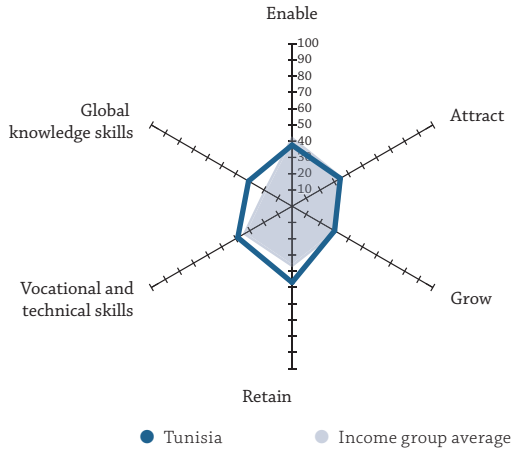
		Score	Rank
1	**ENABLE**	**49.98**	**64**
1.1	Regulatory Landscape	50.99	55
1.1.1	Government effectiveness	48.33	54
1.1.2	Business-government relations	59.82	58
1.1.3	Political stability	70.39	48
1.1.4	Regulatory quality	48.79	64
1.1.5	Corruption	27.63	79
1.2	Market Landscape	41.96	76
1.2.1	Competition intensity	71.14	54
1.2.2	Ease of doing business	51.49	82
1.2.3	Cluster development	35.91	78
1.2.4	R&D expenditure	1.64	95
1.2.5	ICT infrastructure	57.98	59
1.2.6	Technology utilisation	33.57	86
1.3	Business and Labour Landscape	57.00	61
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	80.00	44
1.3.3	Active labour market policies	51.84	86
1.3.4	Labour-employer cooperation	16.80	118
	Management Practice		
1.3.5	Professional management	51.29	40
1.3.6	Relationship of pay to productivity	42.09	67
2	**ATTRACT**	**47.63**	**43**
2.1	External Openness	38.74	55
	Attract Business		
2.1.1	FDI and technology transfer	45.95	71
2.1.2	Prevalence of foreign ownership	56.30	63
	Attract People		
2.1.3	Migrant stock	7.94	64
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	44.78	51
2.2	Internal Openness	56.51	41
	Social Inclusion		
2.2.1	Tolerance of minorities	67.82	22
2.2.2	Tolerance of immigrants	70.42	40
2.2.3	Social mobility	52.32	43
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	45.78	76
2.2.6	Leadership opportunities for women	46.24	54
3	**GROW**	**40.29**	**60**
3.1	Formal Education	19.76	80
	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	39.52	49
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	47.43	52
3.2.1	Quality of management schools	62.70	30
3.2.2	Prevalence of training in firms	32.45	58
3.2.3	Employee development	47.14	48
3.3	Access to Growth Opportunities	53.69	41
	Empowerment		
3.3.1	Delegation of authority	51.12	39
3.3.2	Personal rights	74.86	37
	Collaboration		
3.3.3	Use of virtual social networks	75.45	48
3.3.4	Use of virtual professional networks	47.22	17
3.3.5	Collaboration within organisations	24.37	99
3.3.6	Collaboration across organisations	49.09	115
4	**RETAIN**	**51.69**	**60**
4.1	Sustainability	49.59	40
4.1.1	Pension system	70.41	33
4.1.2	Social protection	34.18	69
4.1.3	Brain retention	44.19	54
4.2	Lifestyle	53.79	81
4.2.1	Environmental performance	69.50	57
4.2.2	Personal safety	36.71	106
4.2.3	Physician density	18.59	77
4.2.4	Sanitation	90.34	61
5	**VOCATIONAL AND TECHNICAL SKILLS**	**50.12**	**43**
5.1	Mid-Level Skills	38.84	56
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	17.97	91
5.1.3	Technicians and associate professionals	58.30	28
5.1.4	Labour productivity per employee	40.26	37
5.2	Employability	61.40	42
5.2.1	Ease of finding skilled employees	50.17	54
5.2.2	Relevance of education system to the economy	57.45	34
5.2.3	Skills matching with secondary education	65.67	50
5.2.4	Skills matching with tertiary education	72.31	53
6	**GLOBAL KNOWLEDGE SKILLS**	**24.41**	**69**
6.1	High-Level Skills	32.64	48
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	15.44	75
6.1.3	Professionals	13.01	84
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	56.25	16
6.1.6	Availability of scientists and engineers	45.88	51
6.2	Talent Impact	16.17	86
6.2.1	Innovation output	21.79	84
6.2.2	High-value exports	n/a	n/a
6.2.3	New product entrepreneurial activity	20.94	78
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	5.79	88

TUNISIA

Key Indicators

Rank (out of 119)	**83**
Income group	**Lower middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**11.11**
GDP per capita (PPP US$)	**11,397.20**
GDP (US$ billions)	**43.02**
GTCI score	**36.40**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



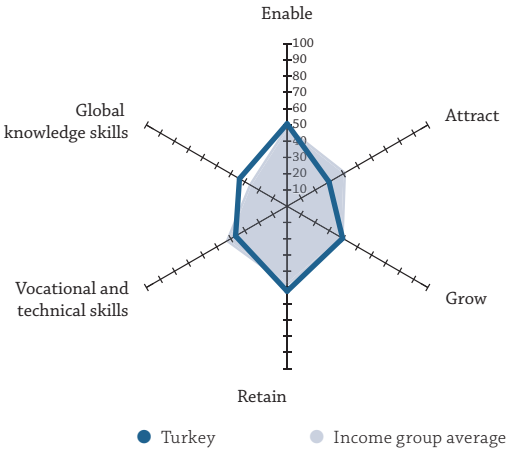
		Score	Rank
1	**ENABLE**	**37.59**	**103**
1.1	Regulatory Landscape	40.02	89
1.1.1	Government effectiveness	39.59	76
1.1.2	Business-government relations	46.58	85
1.1.3	Political stability	42.72	97
1.1.4	Regulatory quality	35.68	90
1.1.5	Corruption	35.53	60
1.2	Market Landscape	39.22	88
1.2.1	Competition intensity	60.57	78
1.2.2	Ease of doing business	58.76	70
1.2.3	Cluster development	26.32	95
1.2.4	R&D expenditure	14.72	51
1.2.5	ICT infrastructure	45.29	78
1.2.6	Technology utilisation	29.68	95
1.3	Business and Labour Landscape	33.52	114
	Labour Market		
1.3.1	Ease of hiring	61.00	67
1.3.2	Ease of redundancy	20.00	117
1.3.3	Active labour market policies	50.12	90
1.3.4	Labour-employer cooperation	29.27	110
	Management Practice		
1.3.5	Professional management	28.94	83
1.3.6	Relationship of pay to productivity	11.78	117
2	**ATTRACT**	**34.24**	**96**
2.1	External Openness	24.91	101
	Attract Business		
2.1.1	FDI and technology transfer	45.69	72
2.1.2	Prevalence of foreign ownership	48.15	86
	Attract People		
2.1.3	Migrant stock	0.95	102
2.1.4	International students	10.29	64
2.1.5	Brain gain	19.48	106
2.2	Internal Openness	43.56	85
	Social Inclusion		
2.2.1	Tolerance of minorities	25.29	91
2.2.2	Tolerance of immigrants	56.34	59
2.2.3	Social mobility	39.78	71
	Gender Equality		
2.2.4	Female graduates	92.41	12
2.2.5	Gender earnings gap	12.05	108
2.2.6	Leadership opportunities for women	35.48	71
3	**GROW**	**30.18**	**94**
3.1	Formal Education	18.62	84
	Enrolment		
3.1.1	Vocational enrolment	9.84	78
3.1.2	Tertiary enrolment	29.90	74
	Quality		
3.1.3	Tertiary education expenditure	38.11	18
3.1.4	Reading, maths, and science	15.24	65
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	32.36	93
3.2.1	Quality of management schools	40.21	70
3.2.2	Prevalence of training in firms	33.64	55
3.2.3	Employee development	23.23	100
3.3	Access to Growth Opportunities	39.57	97
	Empowerment		
3.3.1	Delegation of authority	21.51	111
3.3.2	Personal rights	67.00	47
	Collaboration		
3.3.3	Use of virtual social networks	69.39	61
3.3.4	Use of virtual professional networks	15.47	61
3.3.5	Collaboration within organisations	14.30	114
3.3.6	Collaboration across organisations	49.73	114
4	**RETAIN**	**46.89**	**66**
4.1	Sustainability	31.90	73
4.1.1	Pension system	47.96	50
4.1.2	Social protection	22.46	89
4.1.3	Brain retention	25.28	95
4.2	Lifestyle	61.88	62
4.2.1	Environmental performance	74.99	51
4.2.2	Personal safety	55.96	79
4.2.3	Physician density	26.12	65
4.2.4	Sanitation	90.45	60
5	**VOCATIONAL AND TECHNICAL SKILLS**	**38.57**	**80**
5.1	Mid-Level Skills	31.62	70
5.1.1	Workforce with secondary education	32.78	54
5.1.2	Population with secondary education	39.09	50
5.1.3	Technicians and associate professionals	33.18	64
5.1.4	Labour productivity per employee	21.42	64
5.2	Employability	45.53	90
5.2.1	Ease of finding skilled employees	43.56	65
5.2.2	Relevance of education system to the economy	26.44	95
5.2.3	Skills matching with secondary education	52.80	99
5.2.4	Skills matching with tertiary education	59.32	105
6	**GLOBAL KNOWLEDGE SKILLS**	**30.93**	**54**
6.1	High-Level Skills	28.92	61
6.1.1	Workforce with tertiary education	27.49	68
6.1.2	Population with tertiary education	20.07	67
6.1.3	Professionals	17.05	78
6.1.4	Researchers	21.53	41
6.1.5	Senior officials and managers	40.00	31
6.1.6	Availability of scientists and engineers	47.35	46
6.2	Talent Impact	32.95	51
6.2.1	Innovation output	27.59	70
6.2.2	High-value exports	11.86	60
6.2.3	New product entrepreneurial activity	55.62	25
6.2.4	New business density	8.65	55
6.2.5	Scientific journal articles	61.02	22

TURKEY

Key Indicators

Rank (out of 119)	**68**
Income group	**Upper middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**78.67**
GDP per capita (PPP US$)	**19,618.20**
GDP (US$ billions)	**718.22**
GTCI score	**40.45**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



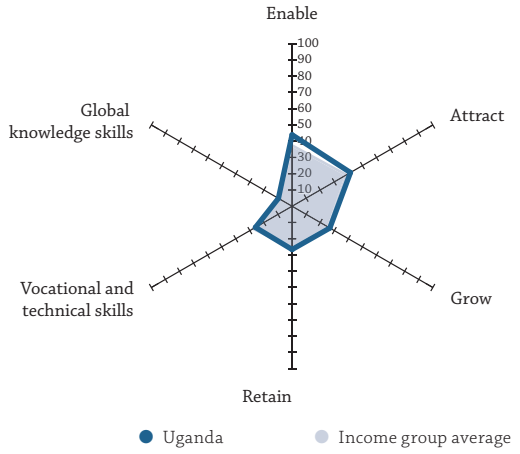
		Score	Rank
1	**ENABLE**	**50.71**	**61**
1.1	Regulatory Landscape	45.96	70
1.1.1	Government effectiveness	48.07	55
1.1.2	Business-government relations	60.26	54
1.1.3	Political stability	32.77	111
1.1.4	Regulatory quality	53.16	56
1.1.5	Corruption	35.53	60
1.2	Market Landscape	55.61	39
1.2.1	Competition intensity	90.00	10
1.2.2	Ease of doing business	63.05	63
1.2.3	Cluster development	46.13	54
1.2.4	R&D expenditure	23.36	34
1.2.5	ICT infrastructure	57.03	61
1.2.6	Technology utilisation	54.06	45
1.3	Business and Labour Landscape	50.56	79
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	90.00	34
1.3.3	Active labour market policies	56.89	70
1.3.4	Labour-employer cooperation	33.06	102
	Management Practice		
1.3.5	Professional management	34.10	72
1.3.6	Relationship of pay to productivity	33.67	85
2	**ATTRACT**	**29.82**	**108**
2.1	External Openness	27.73	88
	Attract Business		
2.1.1	FDI and technology transfer	51.70	59
2.1.2	Prevalence of foreign ownership	47.65	88
	Attract People		
2.1.3	Migrant stock	8.16	63
2.1.4	International students	4.44	74
2.1.5	Brain gain	26.71	91
2.2	Internal Openness	31.91	113
	Social Inclusion		
2.2.1	Tolerance of minorities	11.49	112
2.2.2	Tolerance of immigrants	49.30	75
2.2.3	Social mobility	34.33	88
	Gender Equality		
2.2.4	Female graduates	54.50	82
2.2.5	Gender earnings gap	32.53	99
2.2.6	Leadership opportunities for women	9.32	107
3	**GROW**	**39.44**	**63**
3.1	Formal Education	44.54	35
	Enrolment		
3.1.1	Vocational enrolment	34.54	31
3.1.2	Tertiary enrolment	75.63	7
	Quality		
3.1.3	Tertiary education expenditure	38.36	17
3.1.4	Reading, maths, and science	40.33	48
3.1.5	University ranking	33.83	38
3.2	Lifelong Learning	29.45	100
3.2.1	Quality of management schools	29.10	98
3.2.2	Prevalence of training in firms	32.98	56
3.2.3	Employee development	26.26	89
3.3	Access to Growth Opportunities	44.33	75
	Empowerment		
3.3.1	Delegation of authority	32.68	87
3.3.2	Personal rights	50.58	72
	Collaboration		
3.3.3	Use of virtual social networks	75.76	45
3.3.4	Use of virtual professional networks	18.81	52
3.3.5	Collaboration within organisations	26.78	92
3.3.6	Collaboration across organisations	61.38	88
4	**RETAIN**	**52.28**	**59**
4.1	Sustainability	47.05	45
4.1.1	Pension system	58.16	43
4.1.2	Social protection	47.68	39
4.1.3	Brain retention	35.31	78
4.2	Lifestyle	57.51	69
4.2.1	Environmental performance	57.07	84
4.2.2	Personal safety	51.03	91
4.2.3	Physician density	27.72	63
4.2.4	Sanitation	94.20	50
5	**VOCATIONAL AND TECHNICAL SKILLS**	**36.62**	**85**
5.1	Mid-Level Skills	27.32	76
5.1.1	Workforce with secondary education	17.40	84
5.1.2	Population with secondary education	25.82	71
5.1.3	Technicians and associate professionals	24.22	78
5.1.4	Labour productivity per employee	41.84	34
5.2	Employability	45.93	86
5.2.1	Ease of finding skilled employees	36.96	77
5.2.2	Relevance of education system to the economy	28.37	92
5.2.3	Skills matching with secondary education	56.28	89
5.2.4	Skills matching with tertiary education	62.11	95
6	**GLOBAL KNOWLEDGE SKILLS**	**33.84**	**47**
6.1	High-Level Skills	29.19	59
6.1.1	Workforce with tertiary education	31.91	58
6.1.2	Population with tertiary education	23.84	55
6.1.3	Professionals	26.88	63
6.1.4	Researchers	13.88	46
6.1.5	Senior officials and managers	31.25	41
6.1.6	Availability of scientists and engineers	47.35	46
6.2	Talent Impact	38.49	34
6.2.1	Innovation output	46.75	35
6.2.2	High-value exports	4.14	89
6.2.3	New product entrepreneurial activity	97.68	2
6.2.4	New business density	6.38	63
6.2.5	Scientific journal articles	37.47	44

UGANDA

Key Indicators

Rank (out of 119)	**103**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**39.03**
GDP per capita (PPP US$)	**1,825.31**
GDP (US$ billions)	**26.37**
GTCI score	**29.09**
GTCI score (income group average)	**27.42**

GTCI 2018 Country Profile by Pillar



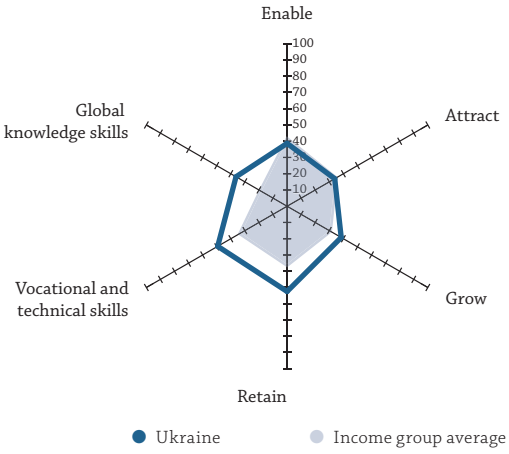
		Score	Rank
1	**ENABLE**	**43.94**	**86**
1.1	Regulatory Landscape	37.19	94
1.1.1	Government effectiveness	29.82	92
1.1.2	Business-government relations	59.38	60
1.1.3	Political stability	42.96	96
1.1.4	Regulatory quality	39.32	82
1.1.5	Corruption	14.47	115
1.2	Market Landscape	33.73	100
1.2.1	Competition intensity	73.71	40
1.2.2	Ease of doing business	45.49	94
1.2.3	Cluster development	35.60	80
1.2.4	R&D expenditure	10.98	58
1.2.5	ICT infrastructure	5.87	114
1.2.6	Technology utilisation	30.74	93
1.3	Business and Labour Landscape	60.91	46
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	47.34	100
1.3.4	Labour-employer cooperation	55.28	45
	Management Practice		
1.3.5	Professional management	33.52	74
1.3.6	Relationship of pay to productivity	29.29	94
2	**ATTRACT**	**41.45**	**66**
2.1	External Openness	43.62	42
	Attract Business		
2.1.1	FDI and technology transfer	47.00	68
2.1.2	Prevalence of foreign ownership	76.79	23
	Attract People		
2.1.3	Migrant stock	4.08	80
2.1.4	International students	55.90	15
2.1.5	Brain gain	34.34	78
2.2	Internal Openness	39.28	99
	Social Inclusion		
2.2.1	Tolerance of minorities	14.94	109
2.2.2	Tolerance of immigrants	54.93	62
2.2.3	Social mobility	43.60	61
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	27.71	102
2.2.6	Leadership opportunities for women	55.20	36
3	**GROW**	**26.81**	**104**
3.1	Formal Education	5.70	114
	Enrolment		
3.1.1	Vocational enrolment	6.60	90
3.1.2	Tertiary enrolment	3.25	109
	Quality		
3.1.3	Tertiary education expenditure	4.86	100
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	8.07	73
3.2	Lifelong Learning	34.55	85
3.2.1	Quality of management schools	33.07	88
3.2.2	Prevalence of training in firms	41.29	45
3.2.3	Employee development	29.29	83
3.3	Access to Growth Opportunities	40.19	95
	Empowerment		
3.3.1	Delegation of authority	41.06	68
3.3.2	Personal rights	35.99	88
	Collaboration		
3.3.3	Use of virtual social networks	51.82	97
3.3.4	Use of virtual professional networks	2.52	98
3.3.5	Collaboration within organisations	43.35	46
3.3.6	Collaboration across organisations	66.42	74
4	**RETAIN**	**26.61**	**110**
4.1	Sustainability	20.70	110
4.1.1	Pension system	8.16	86
4.1.2	Social protection	21.12	93
4.1.3	Brain retention	32.80	84
4.2	Lifestyle	32.52	105
4.2.1	Environmental performance	38.19	104
4.2.2	Personal safety	51.30	90
4.2.3	Physician density	n/a	n/a
4.2.4	Sanitation	8.07	115
5	**VOCATIONAL AND TECHNICAL SKILLS**	**26.02**	**111**
5.1	Mid-Level Skills	2.48	117
5.1.1	Workforce with secondary education	1.08	106
5.1.2	Population with secondary education	2.28	102
5.1.3	Technicians and associate professionals	5.38	105
5.1.4	Labour productivity per employee	1.18	97
5.2	Employability	49.55	77
5.2.1	Ease of finding skilled employees	51.16	53
5.2.2	Relevance of education system to the economy	32.69	79
5.2.3	Skills matching with secondary education	49.15	106
5.2.4	Skills matching with tertiary education	65.21	80
6	**GLOBAL KNOWLEDGE SKILLS**	**9.72**	**108**
6.1	High-Level Skills	10.73	108
6.1.1	Workforce with tertiary education	7.36	96
6.1.2	Population with tertiary education	12.69	79
6.1.3	Professionals	7.23	98
6.1.4	Researchers	0.31	95
6.1.5	Senior officials and managers	0.00	110
6.1.6	Availability of scientists and engineers	36.76	69
6.2	Talent Impact	8.71	107
6.2.1	Innovation output	14.59	102
6.2.2	High-value exports	3.39	92
6.2.3	New product entrepreneurial activity	6.54	86
6.2.4	New business density	6.62	62
6.2.5	Scientific journal articles	12.41	69

UKRAINE

Key Indicators

Rank (out of 119)	**61**
Income group	**Lower middle income**
Regional group	**Europe**
Population (millions)	**45.20**
GDP per capita (PPP US$)	**7,915.87**
GDP (US$ billions)	**90.62**
GTCI score	**41.50**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



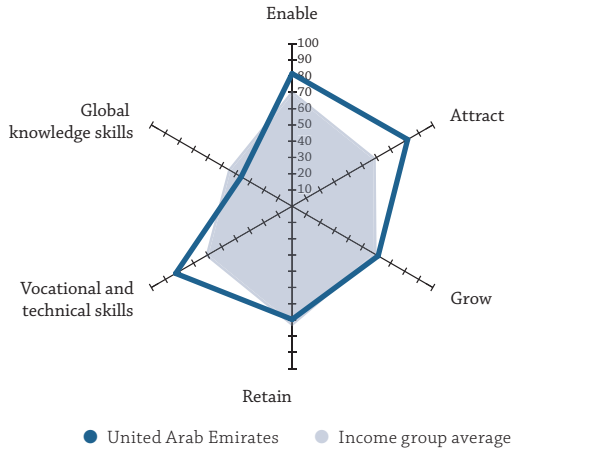
		Score	Rank
1	**ENABLE**	**38.67**	**99**
1.1	Regulatory Landscape	26.57	115
1.1.1	Government effectiveness	29.05	94
1.1.2	Business-government relations	35.98	104
1.1.3	Political stability	16.99	117
1.1.4	Regulatory quality	31.07	102
1.1.5	Corruption	19.74	101
1.2	Market Landscape	39.69	87
1.2.1	Competition intensity	53.71	96
1.2.2	Ease of doing business	56.92	72
1.2.3	Cluster development	19.20	111
1.2.4	R&D expenditure	15.19	50
1.2.5	ICT infrastructure	52.11	65
1.2.6	Technology utilisation	40.99	68
1.3	Business and Labour Landscape	49.77	80
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	50.00	98
1.3.3	Active labour market policies	68.03	36
1.3.4	Labour-employer cooperation	44.72	79
	Management Practice		
1.3.5	Professional management	20.63	101
1.3.6	Relationship of pay to productivity	59.60	39
2	**ATTRACT**	**33.84**	**98**
2.1	External Openness	26.35	96
	Attract Business		
2.1.1	FDI and technology transfer	30.55	104
2.1.2	Prevalence of foreign ownership	26.42	112
	Attract People		
2.1.3	Migrant stock	23.65	36
2.1.4	International students	16.77	51
2.1.5	Brain gain	34.34	78
2.2	Internal Openness	41.33	93
	Social Inclusion		
2.2.1	Tolerance of minorities	34.48	75
2.2.2	Tolerance of immigrants	29.58	103
2.2.3	Social mobility	20.71	110
	Gender Equality		
2.2.4	Female graduates	66.60	72
2.2.5	Gender earnings gap	51.81	55
2.2.6	Leadership opportunities for women	44.80	57
3	**GROW**	**38.45**	**66**
3.1	Formal Education	40.09	39
	Enrolment		
3.1.1	Vocational enrolment	13.06	73
3.1.2	Tertiary enrolment	72.09	11
	Quality		
3.1.3	Tertiary education expenditure	45.78	12
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	29.43	46
3.2	Lifelong Learning	30.12	99
3.2.1	Quality of management schools	34.39	84
3.2.2	Prevalence of training in firms	25.33	68
3.2.3	Employee development	30.64	82
3.3	Access to Growth Opportunities	45.15	67
	Empowerment		
3.3.1	Delegation of authority	29.89	92
3.3.2	Personal rights	56.07	66
	Collaboration		
3.3.3	Use of virtual social networks	63.94	79
3.3.4	Use of virtual professional networks	7.74	82
3.3.5	Collaboration within organisations	41.32	52
3.3.6	Collaboration across organisations	71.93	46
4	**RETAIN**	**52.44**	**58**
4.1	Sustainability	37.17	65
4.1.1	Pension system	64.29	39
4.1.2	Social protection	28.09	79
4.1.3	Brain retention	19.13	109
4.2	Lifestyle	67.71	51
4.2.1	Environmental performance	79.49	43
4.2.2	Personal safety	48.24	94
4.2.3	Physician density	47.76	32
4.2.4	Sanitation	95.34	47
5	**VOCATIONAL AND TECHNICAL SKILLS**	**49.30**	**44**
5.1	Mid-Level Skills	34.65	63
5.1.1	Workforce with secondary education	39.53	30
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	52.91	35
5.1.4	Labour productivity per employee	11.52	79
5.2	Employability	63.95	36
5.2.1	Ease of finding skilled employees	63.04	34
5.2.2	Relevance of education system to the economy	49.04	49
5.2.3	Skills matching with secondary education	67.83	42
5.2.4	Skills matching with tertiary education	75.88	40
6	**GLOBAL KNOWLEDGE SKILLS**	**36.27**	**42**
6.1	High-Level Skills	48.53	24
6.1.1	Workforce with tertiary education	74.23	4
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	48.55	28
6.1.4	Researchers	12.06	49
6.1.5	Senior officials and managers	48.13	23
6.1.6	Availability of scientists and engineers	59.71	28
6.2	Talent Impact	24.01	64
6.2.1	Innovation output	44.46	39
6.2.2	High-value exports	13.75	52
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	5.17	71
6.2.5	Scientific journal articles	32.67	47

UNITED ARAB EMIRATES

Key Indicators

Rank (out of 119)	**17**
Income group	**High income**
Regional group	**North Africa and Western Asia**
Population (millions)	**9.16**
GDP per capita (PPP US$)	**70,238.00**
GDP (US$ billions)	**370.29**
GTCI score	**68.88**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



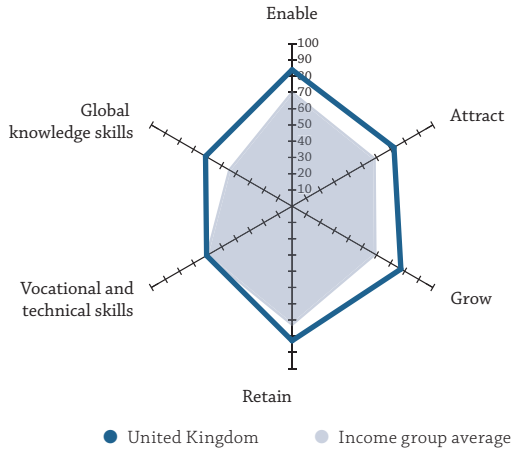
		Score	Rank
1	**ENABLE**	**81.59**	**11**
1.1	Regulatory Landscape	80.52	16
1.1.1	Government effectiveness	81.75	15
1.1.2	Business-government relations	97.57	2
1.1.3	Political stability	82.28	27
1.1.4	Regulatory quality	72.57	27
1.1.5	Corruption	68.42	23
1.2	Market Landscape	75.12	16
1.2.1	Competition intensity	90.57	7
1.2.2	Ease of doing business	81.13	24
1.2.3	Cluster development	95.67	2
1.2.4	R&D expenditure	16.12	47
1.2.5	ICT infrastructure	76.40	30
1.2.6	Technology utilisation	90.81	7
1.3	Business and Labour Landscape	89.14	4
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	81.59	14
1.3.4	Labour-employer cooperation	84.82	10
	Management Practice		
1.3.5	Professional management	78.51	18
1.3.6	Relationship of pay to productivity	89.90	4
2	**ATTRACT**	**82.08**	**3**
2.1	External Openness	93.19	2
	Attract Business		
2.1.1	FDI and technology transfer	83.29	3
2.1.2	Prevalence of foreign ownership	86.67	9
	Attract People		
2.1.3	Migrant stock	100.00	1
2.1.4	International students	100.00	1
2.1.5	Brain gain	95.98	2
2.2	Internal Openness	70.96	16
	Social Inclusion		
2.2.1	Tolerance of minorities	70.11	17
2.2.2	Tolerance of immigrants	92.96	5
2.2.3	Social mobility	89.65	9
	Gender Equality		
2.2.4	Female graduates	69.22	69
2.2.5	Gender earnings gap	15.66	105
2.2.6	Leadership opportunities for women	88.17	7
3	**GROW**	**61.13**	**21**
3.1	Formal Education	38.39	42
	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	44.01	46
3.1.5	University ranking	32.76	39
3.2	Lifelong Learning	79.06	13
3.2.1	Quality of management schools	76.98	15
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	81.14	15
3.3	Access to Growth Opportunities	65.95	23
	Empowerment		
3.3.1	Delegation of authority	68.72	22
3.3.2	Personal rights	22.34	105
	Collaboration		
3.3.3	Use of virtual social networks	98.48	4
3.3.4	Use of virtual professional networks	44.56	21
3.3.5	Collaboration within organisations	69.24	21
3.3.6	Collaboration across organisations	92.34	9
4	**RETAIN**	**69.64**	**28**
4.1	Sustainability	74.84	16
4.1.1	Pension system	n/a	n/a
4.1.2	Social protection	60.38	28
4.1.3	Brain retention	89.29	3
4.2	Lifestyle	64.44	58
4.2.1	Environmental performance	60.19	80
4.2.2	Personal safety	75.62	41
4.2.3	Physician density	24.68	68
4.2.4	Sanitation	97.27	35
5	**VOCATIONAL AND TECHNICAL SKILLS**	**82.67**	**1**
5.1	Mid-Level Skills	82.06	1
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	64.13	21
5.1.4	Labour productivity per employee	100.00	1
5.2	Employability	83.28	12
5.2.1	Ease of finding skilled employees	85.81	8
5.2.2	Relevance of education system to the economy	79.81	10
5.2.3	Skills matching with secondary education	80.28	15
5.2.4	Skills matching with tertiary education	87.22	17
6	**GLOBAL KNOWLEDGE SKILLS**	**36.18**	**43**
6.1	High-Level Skills	47.35	26
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	38.44	46
6.1.4	Researchers	24.15	37
6.1.5	Senior officials and managers	45.63	25
6.1.6	Availability of scientists and engineers	81.18	5
6.2	Talent Impact	25.00	58
6.2.1	Innovation output	34.45	55
6.2.2	High-value exports	16.01	48
6.2.3	New product entrepreneurial activity	62.02	13
6.2.4	New business density	7.84	58
6.2.5	Scientific journal articles	4.70	97

UNITED KINGDOM

Key Indicators

Rank (out of 119)	**8**
Income group	**High income**
Regional group	**Europe**
Population (millions)	**65.14**
GDP per capita (PPP US$)	**41,324.60**
GDP (US$ billions)	**2,848.76**
GTCI score	**73.11**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



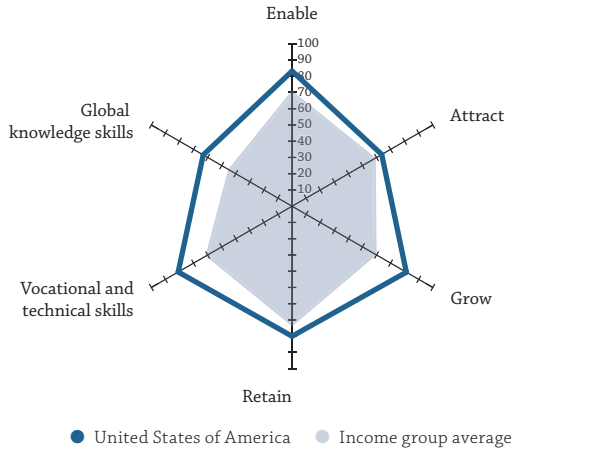
		Score	Rank
1	**ENABLE**	**83.95**	**6**
1.1	Regulatory Landscape	82.95	12
1.1.1	Government effectiveness	86.89	11
1.1.2	Business-government relations	71.96	24
1.1.3	Political stability	77.43	39
1.1.4	Regulatory quality	90.29	3
1.1.5	Corruption	88.16	10
1.2	Market Landscape	83.87	7
1.2.1	Competition intensity	93.14	2
1.2.2	Ease of doing business	92.04	6
1.2.3	Cluster development	93.19	5
1.2.4	R&D expenditure	39.49	21
1.2.5	ICT infrastructure	96.32	5
1.2.6	Technology utilisation	89.05	9
1.3	Business and Labour Landscape	85.05	10
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	77.74	21
1.3.4	Labour-employer cooperation	78.32	14
	Management Practice		
1.3.5	Professional management	92.84	9
1.3.6	Relationship of pay to productivity	72.39	17
2	**ATTRACT**	**72.38**	**8**
2.1	External Openness	78.42	6
	Attract Business		
2.1.1	FDI and technology transfer	73.11	12
2.1.2	Prevalence of foreign ownership	100.00	1
	Attract People		
2.1.3	Migrant stock	28.97	27
2.1.4	International students	95.04	7
2.1.5	Brain gain	94.98	3
2.2	Internal Openness	66.34	18
	Social Inclusion		
2.2.1	Tolerance of minorities	50.57	50
2.2.2	Tolerance of immigrants	91.55	8
2.2.3	Social mobility	73.57	22
	Gender Equality		
2.2.4	Female graduates	75.40	54
2.2.5	Gender earnings gap	44.58	77
2.2.6	Leadership opportunities for women	62.37	28
3	**GROW**	**77.30**	**7**
3.1	Formal Education	61.66	7
	Enrolment		
3.1.1	Vocational enrolment	51.16	17
3.1.2	Tertiary enrolment	49.24	45
	Quality		
3.1.3	Tertiary education expenditure	33.50	24
3.1.4	Reading, maths, and science	75.67	20
3.1.5	University ranking	98.72	2
3.2	Lifelong Learning	83.98	8
3.2.1	Quality of management schools	95.24	2
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	72.73	20
3.3	Access to Growth Opportunities	86.27	7
	Empowerment		
3.3.1	Delegation of authority	79.05	11
3.3.2	Personal rights	98.80	2
	Collaboration		
3.3.3	Use of virtual social networks	96.36	7
3.3.4	Use of virtual professional networks	76.19	10
3.3.5	Collaboration within organisations	75.03	18
3.3.6	Collaboration across organisations	92.17	10
4	**RETAIN**	**82.75**	**11**
4.1	Sustainability	84.94	6
4.1.1	Pension system	92.86	8
4.1.2	Social protection	77.00	19
4.1.3	Brain retention	84.97	7
4.2	Lifestyle	80.57	22
4.2.1	Environmental performance	93.84	12
4.2.2	Personal safety	84.62	24
4.2.3	Physician density	44.71	37
4.2.4	Sanitation	99.09	20
5	**VOCATIONAL AND TECHNICAL SKILLS**	**60.74**	**25**
5.1	Mid-Level Skills	45.80	35
5.1.1	Workforce with secondary education	35.17	41
5.1.2	Population with secondary education	42.23	45
5.1.3	Technicians and associate professionals	54.71	33
5.1.4	Labour productivity per employee	51.09	24
5.2	Employability	75.68	22
5.2.1	Ease of finding skilled employees	74.59	23
5.2.2	Relevance of education system to the economy	68.03	20
5.2.3	Skills matching with secondary education	75.84	23
5.2.4	Skills matching with tertiary education	84.28	21
6	**GLOBAL KNOWLEDGE SKILLS**	**61.50**	**3**
6.1	High-Level Skills	59.93	10
6.1.1	Workforce with tertiary education	59.87	12
6.1.2	Population with tertiary education	42.02	20
6.1.3	Professionals	70.23	8
6.1.4	Researchers	54.09	18
6.1.5	Senior officials and managers	67.50	10
6.1.6	Availability of scientists and engineers	65.88	19
6.2	Talent Impact	63.07	3
6.2.1	Innovation output	78.38	6
6.2.2	High-value exports	39.17	13
6.2.3	New product entrepreneurial activity	53.14	29
6.2.4	New business density	74.70	8
6.2.5	Scientific journal articles	69.97	14

UNITED STATES OF AMERICA

Key Indicators

Rank (out of 119)	**3**
Income group	**High income**
Regional group	**Northern America**
Population (millions)	**321.42**
GDP per capita (PPP US$)	**55,836.80**
GDP (US$ billions)	**17,947.00**
GTCI score	**75.34**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



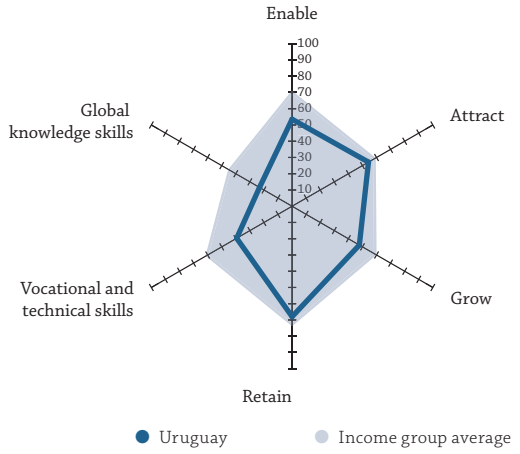
		Score	Rank
1	**ENABLE**	**83.15**	**8**
1.1	Regulatory Landscape	73.92	21
1.1.1	Government effectiveness	79.69	19
1.1.2	Business-government relations	53.42	70
1.1.3	Political stability	80.83	30
1.1.4	Regulatory quality	76.70	18
1.1.5	Corruption	78.95	17
1.2	Market Landscape	89.03	1
1.2.1	Competition intensity	92.86	4
1.2.2	Ease of doing business	91.50	7
1.2.3	Cluster development	100.00	1
1.2.4	R&D expenditure	63.55	10
1.2.5	ICT infrastructure	90.86	14
1.2.6	Technology utilisation	95.41	4
1.3	Business and Labour Landscape	86.49	8
	Labour Market		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	77.28	22
1.3.4	Labour-employer cooperation	67.48	28
	Management Practice		
1.3.5	Professional management	89.68	11
1.3.6	Relationship of pay to productivity	84.51	7
2	**ATTRACT**	**63.68**	**18**
2.1	External Openness	57.25	17
	Attract Business		
2.1.1	FDI and technology transfer	67.10	24
2.1.2	Prevalence of foreign ownership	72.84	28
	Attract People		
2.1.3	Migrant stock	31.82	23
2.1.4	International students	24.14	36
2.1.5	Brain gain	90.36	5
2.2	Internal Openness	70.11	17
	Social Inclusion		
2.2.1	Tolerance of minorities	57.47	41
2.2.2	Tolerance of immigrants	78.87	27
2.2.3	Social mobility	80.93	17
	Gender Equality		
2.2.4	Female graduates	78.88	44
2.2.5	Gender earnings gap	57.83	38
2.2.6	Leadership opportunities for women	66.67	23
3	**GROW**	**81.17**	**2**
3.1	Formal Education	69.32	2
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	75.17	8
	Quality		
3.1.3	Tertiary education expenditure	32.23	30
3.1.4	Reading, maths, and science	69.89	28
3.1.5	University ranking	100.00	1
3.2	Lifelong Learning	82.77	10
3.2.1	Quality of management schools	84.39	7
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	81.14	15
3.3	Access to Growth Opportunities	91.42	1
	Empowerment		
3.3.1	Delegation of authority	81.01	9
3.3.2	Personal rights	82.15	27
	Collaboration		
3.3.3	Use of virtual social networks	97.88	5
3.3.4	Use of virtual professional networks	100.00	1
3.3.5	Collaboration within organisations	89.87	4
3.3.6	Collaboration across organisations	97.62	5
4	**RETAIN**	**80.00**	**14**
4.1	Sustainability	82.26	11
4.1.1	Pension system	91.84	12
4.1.2	Social protection	64.73	24
4.1.3	Brain retention	90.21	2
4.2	Lifestyle	77.73	32
4.2.1	Environmental performance	88.88	26
4.2.2	Personal safety	81.51	30
4.2.3	Physician density	40.54	45
4.2.4	Sanitation	100.00	1
5	**VOCATIONAL AND TECHNICAL SKILLS**	**80.92**	**2**
5.1	Mid-Level Skills	78.91	2
5.1.1	Workforce with secondary education	100.00	1
5.1.2	Population with secondary education	65.62	20
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	71.10	9
5.2	Employability	82.93	13
5.2.1	Ease of finding skilled employees	88.78	5
5.2.2	Relevance of education system to the economy	75.00	17
5.2.3	Skills matching with secondary education	80.71	14
5.2.4	Skills matching with tertiary education	87.24	16
6	**GLOBAL KNOWLEDGE SKILLS**	**63.14**	**2**
6.1	High-Level Skills	74.32	2
6.1.1	Workforce with tertiary education	100.00	1
6.1.2	Population with tertiary education	50.94	12
6.1.3	Professionals	61.56	13
6.1.4	Researchers	51.19	20
6.1.5	Senior officials and managers	97.50	3
6.1.6	Availability of scientists and engineers	84.71	2
6.2	Talent Impact	51.96	15
6.2.1	Innovation output	79.09	5
6.2.2	High-value exports	35.78	18
6.2.3	New product entrepreneurial activity	48.73	36
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	44.22	38

URUGUAY

Key Indicators

Rank (out of 119)	**44**
Income group	**High income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**3.43**
GDP per capita (PPP US$)	**21,200.60**
GDP (US$ billions)	**53.44**
GTCI score	**47.67**
GTCI score (income group average)	**60.92**

GTCI 2018 Country Profile by Pillar



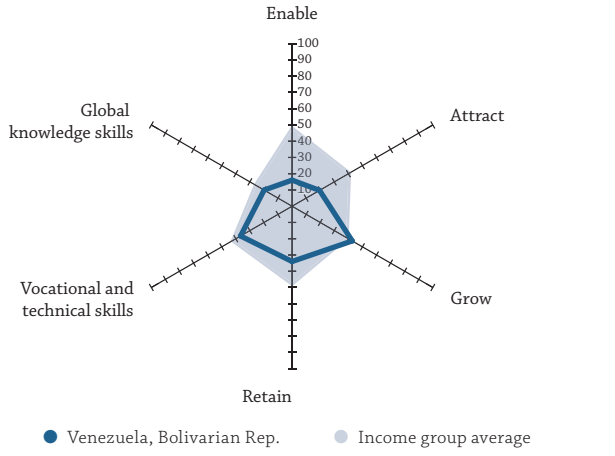
		Score	Rank
1	**ENABLE**	**53.53**	**49**
1.1	Regulatory Landscape	65.06	35
1.1.1	Government effectiveness	56.04	40
1.1.2	Business-government relations	50.33	75
1.1.3	Political stability	87.86	13
1.1.4	Regulatory quality	56.07	49
1.1.5	Corruption	75.00	20
1.2	Market Landscape	44.00	70
1.2.1	Competition intensity	54.57	92
1.2.2	Ease of doing business	53.09	77
1.2.3	Cluster development	29.10	90
1.2.4	R&D expenditure	7.48	71
1.2.5	ICT infrastructure	72.03	40
1.2.6	Technology utilisation	47.70	54
1.3	Business and Labour Landscape	51.53	76
	Labour Market		
1.3.1	Ease of hiring	55.67	69
1.3.2	Ease of redundancy	100.00	1
1.3.3	Active labour market policies	66.44	42
1.3.4	Labour-employer cooperation	22.49	117
	Management Practice		
1.3.5	Professional management	42.69	58
1.3.6	Relationship of pay to productivity	21.89	104
2	**ATTRACT**	**54.27**	**28**
2.1	External Openness	43.19	44
	Attract Business		
2.1.1	FDI and technology transfer	63.97	28
2.1.2	Prevalence of foreign ownership	72.59	29
	Attract People		
2.1.3	Migrant stock	4.46	77
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	31.73	82
2.2	Internal Openness	65.35	22
	Social Inclusion		
2.2.1	Tolerance of minorities	80.46	6
2.2.2	Tolerance of immigrants	88.73	12
2.2.3	Social mobility	56.13	33
	Gender Equality		
2.2.4	Female graduates	93.98	11
2.2.5	Gender earnings gap	46.99	74
2.2.6	Leadership opportunities for women	25.81	87
3	**GROW**	**47.79**	**39**
3.1	Formal Education	37.60	44
	Enrolment		
3.1.1	Vocational enrolment	39.79	27
3.1.2	Tertiary enrolment	55.13	37
	Quality		
3.1.3	Tertiary education expenditure	27.62	41
3.1.4	Reading, maths, and science	42.78	47
3.1.5	University ranking	22.70	56
3.2	Lifelong Learning	48.13	49
3.2.1	Quality of management schools	49.74	48
3.2.2	Prevalence of training in firms	59.63	26
3.2.3	Employee development	35.02	68
3.3	Access to Growth Opportunities	57.63	36
	Empowerment		
3.3.1	Delegation of authority	41.34	67
3.3.2	Personal rights	93.98	10
	Collaboration		
3.3.3	Use of virtual social networks	72.12	55
3.3.4	Use of virtual professional networks	34.20	27
3.3.5	Collaboration within organisations	36.70	66
3.3.6	Collaboration across organisations	67.44	66
4	**RETAIN**	**67.93**	**31**
4.1	Sustainability	62.07	28
4.1.1	Pension system	77.55	32
4.1.2	Social protection	67.43	22
4.1.3	Brain retention	41.23	62
4.2	Lifestyle	73.79	40
4.2.1	Environmental performance	68.83	60
4.2.2	Personal safety	67.61	58
4.2.3	Physician density	62.82	12
4.2.4	Sanitation	95.91	43
5	**VOCATIONAL AND TECHNICAL SKILLS**	**39.37**	**75**
5.1	Mid-Level Skills	26.24	80
5.1.1	Workforce with secondary education	23.24	70
5.1.2	Population with secondary education	23.11	78
5.1.3	Technicians and associate professionals	32.74	65
5.1.4	Labour productivity per employee	25.87	56
5.2	Employability	52.50	68
5.2.1	Ease of finding skilled employees	41.91	67
5.2.2	Relevance of education system to the economy	24.04	99
5.2.3	Skills matching with secondary education	62.86	59
5.2.4	Skills matching with tertiary education	81.18	25
6	**GLOBAL KNOWLEDGE SKILLS**	**23.14**	**70**
6.1	High-Level Skills	20.20	81
6.1.1	Workforce with tertiary education	31.57	61
6.1.2	Population with tertiary education	17.32	70
6.1.3	Professionals	30.06	57
6.1.4	Researchers	6.21	62
6.1.5	Senior officials and managers	12.50	82
6.1.6	Availability of scientists and engineers	23.53	97
6.2	Talent Impact	26.09	56
6.2.1	Innovation output	29.35	63
6.2.2	High-value exports	25.99	27
6.2.3	New product entrepreneurial activity	46.37	41
6.2.4	New business density	14.28	39
6.2.5	Scientific journal articles	14.45	66

VENEZUELA, BOLIVARIAN REP.

Key Indicators

Rank (out of 119)	**105**
Income group	**Upper middle income**
Regional group	**Latin, Central America and Caribbean**
Population (millions)	**31.11**
GDP per capita (PPP US$)	**18,309.20**
GDP (US$ billions)	**371.34**
GTCI score	**28.13**
GTCI score (income group average)	**40.93**

GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**16.06**	**119**
1.1	Regulatory Landscape	10.81	118
1.1.1	Government effectiveness	10.80	117
1.1.2	Business-government relations	0.00	119
1.1.3	Political stability	39.32	104
1.1.4	Regulatory quality	0.00	119
1.1.5	Corruption	3.95	118
1.2	Market Landscape	15.23	119
1.2.1	Competition intensity	0.00	119
1.2.2	Ease of doing business	0.00	119
1.2.3	Cluster development	4.33	118
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	51.30	66
1.2.6	Technology utilisation	20.49	106
1.3	Business and Labour Landscape	22.14	118
	Labour Market		
1.3.1	Ease of hiring	22.33	105
1.3.2	Ease of redundancy	0.00	118
1.3.3	Active labour market policies	40.44	112
1.3.4	Labour-employer cooperation	27.64	111
	Management Practice		
1.3.5	Professional management	42.41	60
1.3.6	Relationship of pay to productivity	0.00	119
2	**ATTRACT**	**19.52**	**117**
2.1	External Openness	7.16	119
	Attract Business		
2.1.1	FDI and technology transfer	0.00	119
2.1.2	Prevalence of foreign ownership	25.68	113
	Attract People		
2.1.3	Migrant stock	9.80	57
2.1.4	International students	0.31	98
2.1.5	Brain gain	0.00	119
2.2	Internal Openness	31.88	114
	Social Inclusion		
2.2.1	Tolerance of minorities	31.03	81
2.2.2	Tolerance of immigrants	42.25	85
2.2.3	Social mobility	0.00	119
	Gender Equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	54.22	48
2.2.6	Leadership opportunities for women	31.90	76
3	**GROW**	**42.72**	**52**
3.1	Formal Education	33.69	53
	Enrolment		
3.1.1	Vocational enrolment	7.73	86
3.1.2	Tertiary enrolment	67.37	19
	Quality		
3.1.3	Tertiary education expenditure	37.34	20
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	22.30	58
3.2	Lifelong Learning	51.12	43
3.2.1	Quality of management schools	52.65	45
3.2.2	Prevalence of training in firms	69.39	14
3.2.3	Employee development	31.31	80
3.3	Access to Growth Opportunities	43.35	78
	Empowerment		
3.3.1	Delegation of authority	45.25	57
3.3.2	Personal rights	24.20	104
	Collaboration		
3.3.3	Use of virtual social networks	67.27	72
3.3.4	Use of virtual professional networks	18.63	53
3.3.5	Collaboration within organisations	29.64	83
3.3.6	Collaboration across organisations	75.08	35
4	**RETAIN**	**34.00**	**96**
4.1	Sustainability	11.61	116
4.1.1	Pension system	32.65	61
4.1.2	Social protection	2.19	117
4.1.3	Brain retention	0.00	118
4.2	Lifestyle	56.39	71
4.2.1	Environmental performance	73.03	53
4.2.2	Personal safety	2.50	116
4.2.3	Physician density	n/a	n/a
4.2.4	Sanitation	93.64	54
5	**VOCATIONAL AND TECHNICAL SKILLS**	**36.61**	**86**
5.1	Mid-Level Skills	26.43	79
5.1.1	Workforce with secondary education	21.80	75
5.1.2	Population with secondary education	35.38	57
5.1.3	Technicians and associate professionals	31.84	67
5.1.4	Labour productivity per employee	16.72	72
5.2	Employability	46.78	84
5.2.1	Ease of finding skilled employees	34.65	85
5.2.2	Relevance of education system to the economy	18.51	107
5.2.3	Skills matching with secondary education	57.92	81
5.2.4	Skills matching with tertiary education	76.02	38
6	**GLOBAL KNOWLEDGE SKILLS**	**19.89**	**80**
6.1	High-Level Skills	29.41	57
6.1.1	Workforce with tertiary education	42.90	37
6.1.2	Population with tertiary education	48.03	15
6.1.3	Professionals	40.75	43
6.1.4	Researchers	4.19	68
6.1.5	Senior officials and managers	25.00	56
6.1.6	Availability of scientists and engineers	15.59	106
6.2	Talent Impact	10.36	101
6.2.1	Innovation output	n/a	n/a
6.2.2	High-value exports	2.07	97
6.2.3	New product entrepreneurial activity	25.65	74
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	3.37	102

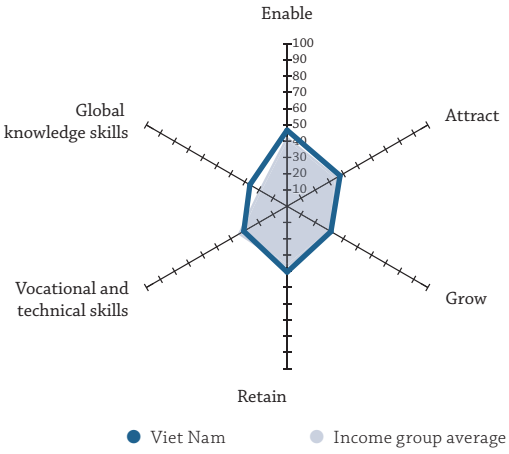
VIET NAM

Key Indicators

Rank (out of 119) **87**
Income group ..... **Lower middle income**
Regional group ..... **East, Southeastern Asia and Oceania**
Population (millions) **91.70**

GDP per capita (PPP US$) **6,022.62**
GDP (US$ billions) **193.60**
GTCI score **35.55**
GTCI score (income group average) **32.92**

GTCI 2018 Country Profile by Pillar



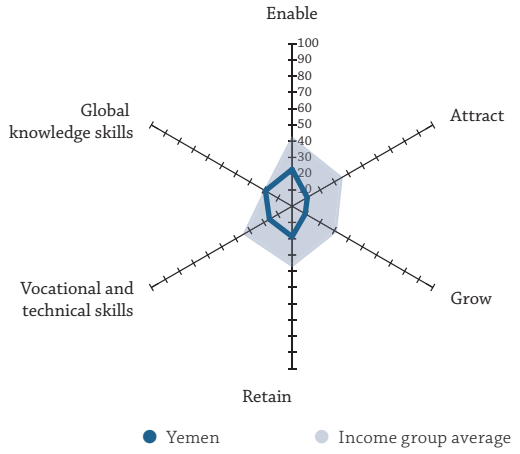
		Score	Rank
1	**ENABLE**	**46.79**	**77**
1.1	Regulatory Landscape	44.83	79
1.1.1	Government effectiveness	44.22	66
1.1.2	Business-government relations	57.84	62
1.1.3	Political stability	64.08	58
1.1.4	Regulatory quality	33.01	99
1.1.5	Corruption	25.00	86
1.2	Market Landscape	41.44	79
1.2.1	Competition intensity	63.43	73
1.2.2	Ease of doing business	56.79	74
1.2.3	Cluster development	47.06	50
1.2.4	R&D expenditure	4.21	82
1.2.5	ICT infrastructure	37.93	85
1.2.6	Technology utilisation	39.22	72
1.3	Business and Labour Landscape	54.09	65
	Labour Market		
1.3.1	Ease of hiring	77.67	45
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	59.76	60
1.3.4	Labour-employer cooperation	47.15	70
	Management Practice		
1.3.5	Professional management	23.50	93
1.3.6	Relationship of pay to productivity	46.46	59
2	**ATTRACT**	**37.62**	**87**
2.1	External Openness	27.36	91
	Attract Business		
2.1.1	FDI and technology transfer	44.91	75
2.1.2	Prevalence of foreign ownership	51.85	76
	Attract People		
2.1.3	Migrant stock	0.02	118
2.1.4	International students	0.47	94
2.1.5	Brain gain	39.56	62
2.2	Internal Openness	47.88	70
	Social Inclusion		
2.2.1	Tolerance of minorities	40.23	68
2.2.2	Tolerance of immigrants	35.21	98
2.2.3	Social mobility	35.69	82
	Gender Equality		
2.2.4	Female graduates	68.69	71
2.2.5	Gender earnings gap	79.52	7
2.2.6	Leadership opportunities for women	27.96	83
3	**GROW**	**31.16**	**91**
3.1	Formal Education	30.22	62
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	24.80	79
	Quality		
3.1.3	Tertiary education expenditure	19.44	68
3.1.4	Reading, maths, and science	76.65	19
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	28.87	101
3.2.1	Quality of management schools	22.75	107
3.2.2	Prevalence of training in firms	24.80	69
3.2.3	Employee development	39.06	62
3.3	Access to Growth Opportunities	34.40	104
	Empowerment		
3.3.1	Delegation of authority	34.92	79
3.3.2	Personal rights	3.91	115
	Collaboration		
3.3.3	Use of virtual social networks	73.33	52
3.3.4	Use of virtual professional networks	1.70	103
3.3.5	Collaboration within organisations	27.65	87
3.3.6	Collaboration across organisations	64.86	80
4	**RETAIN**	**40.50**	**86**
4.1	Sustainability	30.25	81
4.1.1	Pension system	17.35	81
4.1.2	Social protection	37.88	58
4.1.3	Brain retention	35.54	77
4.2	Lifestyle	50.74	87
4.2.1	Environmental performance	39.94	102
4.2.2	Personal safety	69.43	51
4.2.3	Physician density	18.59	77
4.2.4	Sanitation	75.00	80
5	**VOCATIONAL AND TECHNICAL SKILLS**	**30.77**	**100**
5.1	Mid-Level Skills	13.10	100
5.1.1	Workforce with secondary education	14.52	90
5.1.2	Population with secondary education	19.26	85
5.1.3	Technicians and associate professionals	13.45	91
5.1.4	Labour productivity per employee	5.18	87
5.2	Employability	48.44	78
5.2.1	Ease of finding skilled employees	36.96	77
5.2.2	Relevance of education system to the economy	38.46	67
5.2.3	Skills matching with secondary education	55.66	94
5.2.4	Skills matching with tertiary education	62.69	92
6	**GLOBAL KNOWLEDGE SKILLS**	**26.43**	**61**
6.1	High-Level Skills	15.80	91
6.1.1	Workforce with tertiary education	21.54	80
6.1.2	Population with tertiary education	10.46	83
6.1.3	Professionals	16.18	80
6.1.4	Researchers	8.04	58
6.1.5	Senior officials and managers	5.63	95
6.1.6	Availability of scientists and engineers	32.94	77
6.2	Talent Impact	37.07	39
6.2.1	Innovation output	45.69	37
6.2.2	High-value exports	50.66	6
6.2.3	New product entrepreneurial activity	45.43	42
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	6.48	87

YEMEN

Key Indicators

Rank (out of 119)	**119**
Income group	**Lower middle income**
Regional group	**North Africa and Western Asia**
Population (millions)	**26.83**
GDP per capita (PPP US$)	**3,791.60**
GDP (US$ billions)	**35.95**
GTCI score	**16.10**
GTCI score (income group average)	**32.92**

GTCI 2018 Country Profile by Pillar



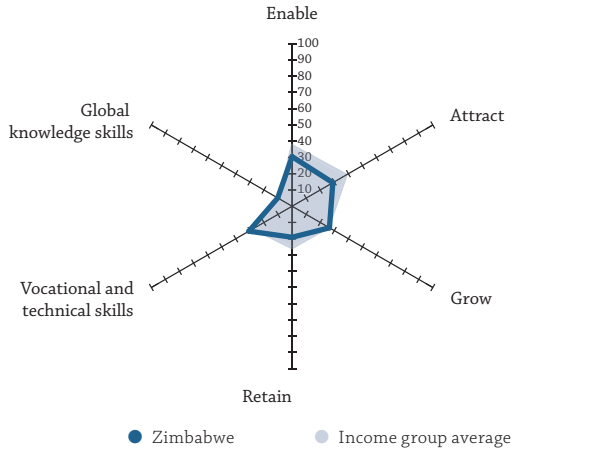
		Score	Rank
1	**ENABLE**	**22.68**	**118**
1.1	Regulatory Landscape	10.18	119
1.1.1	Government effectiveness	0.00	119
1.1.2	Business-government relations	32.45	111
1.1.3	Political stability	0.00	119
1.1.4	Regulatory quality	18.45	114
1.1.5	Corruption	0.00	119
1.2	Market Landscape	16.28	118
1.2.1	Competition intensity	44.00	110
1.2.2	Ease of doing business	11.56	118
1.2.3	Cluster development	18.89	112
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	6.96	113
1.2.6	Technology utilisation	0.00	117
1.3	Business and Labour Landscape	41.57	104
	Labour Market		
1.3.1	Ease of hiring	89.00	25
1.3.2	Ease of redundancy	70.00	63
1.3.3	Active labour market policies	32.78	117
1.3.4	Labour-employer cooperation	35.77	97
	Management Practice		
1.3.5	Professional management	0.00	119
1.3.6	Relationship of pay to productivity	21.89	104
2	**ATTRACT**	**10.80**	**119**
2.1	External Openness	9.60	118
	Attract Business		
2.1.1	FDI and technology transfer	8.36	118
2.1.2	Prevalence of foreign ownership	0.00	119
	Attract People		
2.1.3	Migrant stock	2.67	89
2.1.4	International students	22.10	39
2.1.5	Brain gain	14.86	113
2.2	Internal Openness	12.00	119
	Social Inclusion		
2.2.1	Tolerance of minorities	6.90	117
2.2.2	Tolerance of immigrants	25.35	109
2.2.3	Social mobility	10.35	118
	Gender Equality		
2.2.4	Female graduates	12.34	101
2.2.5	Gender earnings gap	12.05	108
2.2.6	Leadership opportunities for women	5.02	114
3	**GROW**	**9.36**	**119**
3.1	Formal Education	3.04	119
	Enrolment		
3.1.1	Vocational enrolment	1.00	106
3.1.2	Tertiary enrolment	8.11	99
	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	8.72	118
3.2.1	Quality of management schools	3.70	118
3.2.2	Prevalence of training in firms	14.38	85
3.2.3	Employee development	8.08	118
3.3	Access to Growth Opportunities	16.32	119
	Empowerment		
3.3.1	Delegation of authority	0.00	119
3.3.2	Personal rights	2.41	117
	Collaboration		
3.3.3	Use of virtual social networks	46.67	102
3.3.4	Use of virtual professional networks	1.00	108
3.3.5	Collaboration within organisations	1.41	118
3.3.6	Collaboration across organisations	46.46	117
4	**RETAIN**	**18.70**	**117**
4.1	Sustainability	7.73	119
4.1.1	Pension system	8.16	86
4.1.2	Social protection	9.57	113
4.1.3	Brain retention	5.47	116
4.2	Lifestyle	29.66	108
4.2.1	Environmental performance	23.68	112
4.2.2	Personal safety	43.38	102
4.2.3	Physician density	4.65	96
4.2.4	Sanitation	46.93	100
5	**VOCATIONAL AND TECHNICAL SKILLS**	**16.08**	**119**
5.1	Mid-Level Skills	11.23	103
5.1.1	Workforce with secondary education	18.15	80
5.1.2	Population with secondary education	n/a	n/a
5.1.3	Technicians and associate professionals	n/a	n/a
5.1.4	Labour productivity per employee	4.30	88
5.2	Employability	20.94	117
5.2.1	Ease of finding skilled employees	0.00	118
5.2.2	Relevance of education system to the economy	0.00	119
5.2.3	Skills matching with secondary education	36.21	116
5.2.4	Skills matching with tertiary education	47.53	116
6	**GLOBAL KNOWLEDGE SKILLS**	**18.96**	**82**
6.1	High-Level Skills	17.24	89
6.1.1	Workforce with tertiary education	11.66	92
6.1.2	Population with tertiary education	n/a	n/a
6.1.3	Professionals	36.42	47
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	15.00	74
6.1.6	Availability of scientists and engineers	5.88	116
6.2	Talent Impact	20.67	75
6.2.1	Innovation output	0.00	112
6.2.2	High-value exports	8.85	69
6.2.3	New product entrepreneurial activity	72.07	10
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	1.77	112

ZIMBABWE

Key Indicators

Rank (out of 119)	**115**
Income group	**Low income**
Regional group	**Sub-Saharan Africa**
Population (millions)	**15.60**
GDP per capita (PPP US$)	**1,793.59**
GDP (US$ billions)	**13.89**
GTCI score	**24.33**
GTCI score (income group average)	**27.42**

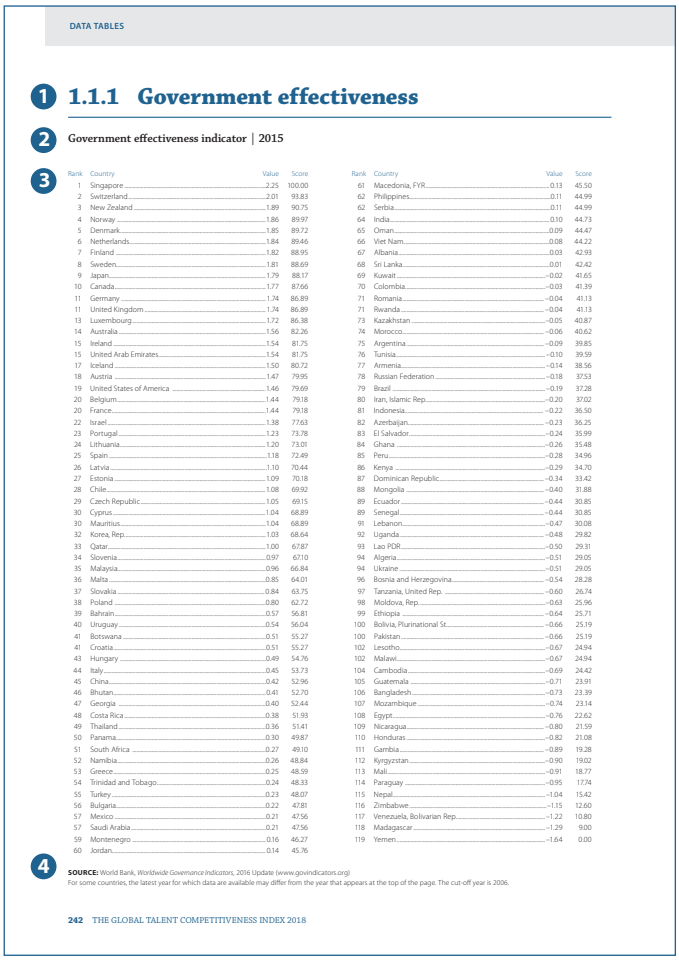
GTCI 2018 Country Profile by Pillar



		Score	Rank
1	**ENABLE**	**30.52**	**113**
1.1	Regulatory Landscape	22.39	117
1.1.1	Government effectiveness	12.60	116
1.1.2	Business-government relations	34.00	109
1.1.3	Political stability	49.76	89
1.1.4	Regulatory quality	5.10	118
1.1.5	Corruption	10.53	116
1.2	Market Landscape	27.33	110
1.2.1	Competition intensity	59.71	82
1.2.2	Ease of doing business	25.60	115
1.2.3	Cluster development	11.76	117
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	17.33	102
1.2.6	Technology utilisation	22.26	102
1.3	Business and Labour Landscape	41.85	102
	Labour Market		
1.3.1	Ease of hiring	66.67	51
1.3.2	Ease of redundancy	40.00	105
1.3.3	Active labour market policies	33.31	116
1.3.4	Labour-employer cooperation	38.75	92
	Management Practice		
1.3.5	Professional management	52.15	38
1.3.6	Relationship of pay to productivity	20.20	109
2	**ATTRACT**	**28.94**	**109**
2.1	External Openness	16.09	114
	Attract Business		
2.1.1	FDI and technology transfer	8.88	117
2.1.2	Prevalence of foreign ownership	44.69	93
	Attract People		
2.1.3	Migrant stock	5.49	72
2.1.4	International students	2.30	80
2.1.5	Brain gain	19.08	107
2.2	Internal Openness	41.79	91
	Social Inclusion		
2.2.1	Tolerance of minorities	25.29	91
2.2.2	Tolerance of immigrants	53.52	66
2.2.3	Social mobility	38.42	74
	Gender Equality		
2.2.4	Female graduates	34.07	96
2.2.5	Gender earnings gap	61.45	30
2.2.6	Leadership opportunities for women	37.99	68
3	**GROW**	**26.55**	**105**
3.1	Formal Education	13.59	99
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	6.75	103
	Quality		
3.1.3	Tertiary education expenditure	34.02	23
3.1.4	Reading, maths, and science	n/a	n/a
3.1.5	University ranking	0.00	76
3.2	Lifelong Learning	33.82	86
3.2.1	Quality of management schools	32.80	89
3.2.2	Prevalence of training in firms	36.68	52
3.2.3	Employee development	31.99	78
3.3	Access to Growth Opportunities	32.25	109
	Empowerment		
3.3.1	Delegation of authority	48.32	45
3.3.2	Personal rights	10.03	110
	Collaboration		
3.3.3	Use of virtual social networks	47.88	99
3.3.4	Use of virtual professional networks	4.46	91
3.3.5	Collaboration within organisations	32.20	79
3.3.6	Collaboration across organisations	50.62	112
4	**RETAIN**	**19.09**	**116**
4.1	Sustainability	11.82	115
4.1.1	Pension system	18.37	78
4.1.2	Social protection	0.00	119
4.1.3	Brain retention	17.08	111
4.2	Lifestyle	26.36	113
4.2.1	Environmental performance	41.34	100
4.2.2	Personal safety	35.10	108
4.2.3	Physician density	0.80	106
4.2.4	Sanitation	28.18	108
5	**VOCATIONAL AND TECHNICAL SKILLS**	**30.66**	**102**
5.1	Mid-Level Skills	3.23	116
5.1.1	Workforce with secondary education	n/a	n/a
5.1.2	Population with secondary education	2.85	100
5.1.3	Technicians and associate professionals	6.28	103
5.1.4	Labour productivity per employee	0.56	98
5.2	Employability	58.09	49
5.2.1	Ease of finding skilled employees	54.79	46
5.2.2	Relevance of education system to the economy	51.20	45
5.2.3	Skills matching with secondary education	61.38	68
5.2.4	Skills matching with tertiary education	64.98	81
6	**GLOBAL KNOWLEDGE SKILLS**	**10.21**	**105**
6.1	High-Level Skills	10.54	109
6.1.1	Workforce with tertiary education	n/a	n/a
6.1.2	Population with tertiary education	21.27	63
6.1.3	Professionals	7.51	96
6.1.4	Researchers	0.94	86
6.1.5	Senior officials and managers	5.63	95
6.1.6	Availability of scientists and engineers	17.35	104
6.2	Talent Impact	9.87	103
6.2.1	Innovation output	11.78	109
6.2.2	High-value exports	5.46	83
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a
6.2.5	Scientific journal articles	12.37	70

Data Tables

How to Read the Data Tables



DATA TABLES

1 1.1.1 Government effectiveness

2 Government effectiveness indicator | 2015

3

Rank	Country	Value	Score	Rank	Country	Value	Score
1	Singapore	2.25	100.00	61	Macedonia, FYR	0.13	45.50
2	Switzerland	2.01	93.83	62	Philippines	0.11	44.99
3	New Zealand	1.89	90.75	62	Serbia	0.11	44.99
4	Norway	1.86	89.97	64	India	0.10	44.73
5	Denmark	1.85	89.72	65	Oman	0.09	44.47
6	Netherlands	1.84	89.46	66	Viet Nam	0.08	44.22
7	Finland	1.82	88.95	67	Albania	0.03	42.93
8	Sweden	1.81	88.69	68	Sri Lanka	0.01	42.42
9	Japan	1.79	88.17	69	Kuwait	−0.02	41.65
10	Canada	1.77	87.66	70	Colombia	−0.03	41.39
11	Germany	1.74	86.89	71	Romania	−0.04	41.13
11	United Kingdom	1.74	86.89	71	Rwanda	−0.04	41.13
13	Luxembourg	1.72	86.38	73	Kazakhstan	−0.05	40.87
14	Australia	1.56	82.26	74	Morocco	−0.06	40.62
15	Ireland	1.54	81.75	75	Argentina	−0.09	39.85
15	United Arab Emirates	1.54	81.75	76	Tunisia	−0.10	39.59
17	Iceland	1.50	80.72	77	Armenia	−0.14	38.56
18	Austria	1.47	79.95	78	Russian Federation	−0.18	37.53
19	United States of America	1.46	79.69	79	Brazil	−0.19	37.28
20	Belgium	1.44	79.18	80	Iran, Islamic Rep.	−0.20	37.02
20	France	1.44	79.18	81	Indonesia	−0.22	36.50
22	Israel	1.38	77.63	82	Azerbaijan	−0.23	36.25
23	Portugal	1.23	73.78	83	El Salvador	−0.24	35.99
24	Lithuania	1.20	73.01	84	Ghana	−0.26	35.48
25	Spain	1.18	72.49	85	Peru	−0.28	34.96
26	Latvia	1.10	70.44	86	Kenya	−0.29	34.70
27	Estonia	1.09	70.18	87	Dominican Republic	−0.34	33.42
28	Chile	1.08	69.92	88	Mongolia	−0.40	31.88
29	Czech Republic	1.05	69.15	89	Ecuador	−0.44	30.85
30	Cyprus	1.04	68.89	89	Senegal	−0.44	30.85
30	Mauritius	1.04	68.89	91	Lebanon	−0.47	30.08
32	Korea, Rep.	1.03	68.64	92	Uganda	−0.48	29.82
33	Qatar	1.00	67.87	93	Lao PDR	−0.50	29.31
34	Slovenia	0.97	67.10	94	Algeria	−0.51	29.05
35	Malaysia	0.96	66.84	94	Ukraine	−0.51	29.05
36	Malta	0.85	64.01	96	Bosnia and Herzegovina	−0.54	28.28
37	Slovakia	0.84	63.75	97	Tanzania, United Rep.	−0.60	26.74
38	Poland	0.80	62.72	98	Moldova, Rep.	−0.63	25.96
39	Bahrain	0.57	56.81	99	Ethiopia	−0.64	25.71
40	Uruguay	0.54	56.04	100	Bolivia, Plurinational St.	−0.66	25.19
41	Botswana	0.51	55.27	100	Pakistan	−0.66	25.19
41	Croatia	0.51	55.27	102	Lesotho	−0.67	24.94
43	Hungary	0.49	54.76	102	Malawi	−0.67	24.94
44	Italy	0.45	53.73	104	Cambodia	−0.69	24.42
45	China	0.42	52.96	105	Guatemala	−0.71	23.91
46	Bhutan	0.41	52.70	106	Bangladesh	−0.73	23.39
47	Georgia	0.40	52.44	107	Mozambique	−0.74	23.14
48	Costa Rica	0.38	51.93	108	Egypt	−0.76	22.62
49	Thailand	0.36	51.41	109	Nicaragua	−0.80	21.59
50	Panama	0.30	49.87	110	Honduras	−0.82	21.08
51	South Africa	0.27	49.10	111	Gambia	−0.89	19.28
52	Namibia	0.26	48.84	112	Kyrgyzstan	−0.90	19.02
53	Greece	0.25	48.59	113	Mali	−0.91	18.77
54	Trinidad and Tobago	0.24	48.33	114	Paraguay	−0.95	17.74
55	Turkey	0.23	48.07	115	Nepal	−1.04	15.42
56	Bulgaria	0.22	47.81	116	Zimbabwe	−1.15	12.60
57	Mexico	0.21	47.56	117	Venezuela, Bolivarian Rep.	−1.22	10.80
57	Saudi Arabia	0.21	47.56	118	Madagascar	−1.29	9.00
59	Montenegro	0.16	46.27	119	Yemen	−1.64	0.00
60	Jordan	0.14	45.76				

4 SOURCE: World Bank, *Worldwide Governance Indicators*, 2016 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 2006.

242 THE GLOBAL TALENT COMPETITIVENESS INDEX 2018

This appendix provides the rankings and scores for each of the 68 variables that make up the GTCI 2018.

Each data table consists of four parts:

1. the variable name,
2. the description or technical name and the latest year for which data are available for the majority of countries,
3. the ranking, and
4. the source.

1 The first section provides the variable number that represents its position in the overall structure of the GTCI. The first digit refers to the pillar, the second digit refers to the sub-pillar within that pillar, and the third digit refers to the position of the variable in that sub-pillar. For instance, the variable *1.2.3 Cluster development* is positioned in the first pillar (*shown by the first digit, 1*); the second sub-pillar (*denoted by the second digit, 2*); and is the third variable within this sub-pillar (*shown by the third digit, 3*).

2 The second section spells out the description or technical name of the variable, along with the latest year for which the data are available for most countries in the sample. For some countries, the year of the data differs from the most frequent year; in these cases, the most recent year available is used. For qualitative variables derived from survey responses, the question asked in the survey is shown as the exact technical name. This applies to all variables taken from the World Economic Forum's Executive Opinion Survey, for instance.

3 The ranking of the countries within the data table follows their normalised scores. There are three parts to the information in the ranking: the rank of the country, the raw value, and the normalised score. Because of the way outliers are treated, in some variables several countries have the same score. For variables in which two or more countries happen to have the same raw value (and thus the same normalised score), there is a tie in ranking; in this case the relevant countries are sorted alphabetically. For more information about normalisation methods and variable names, please refer to the Technical Notes and Sources and Definitions sections in the Appendices.

4 The final section presents all sources and a link to the data source as well as the year of the data for the majority of countries.

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Pillar 1

Enable

1.1.1 Government effectiveness

Government effectiveness indicator | 2015

Rank	Country	Value	Score
1	Singapore	2.25	100.00
2	Switzerland	2.01	93.83
3	New Zealand	1.89	90.75
4	Norway	1.86	89.97
5	Denmark	1.85	89.72
6	Netherlands	1.84	89.46
7	Finland	1.82	88.95
8	Sweden	1.81	88.69
9	Japan	1.79	88.17
10	Canada	1.77	87.66
11	Germany	1.74	86.89
11	United Kingdom	1.74	86.89
13	Luxembourg	1.72	86.38
14	Australia	1.56	82.26
15	Ireland	1.54	81.75
15	United Arab Emirates	1.54	81.75
17	Iceland	1.50	80.72
18	Austria	1.47	79.95
19	United States of America	1.46	79.69
20	Belgium	1.44	79.18
20	France	1.44	79.18
22	Israel	1.38	77.63
23	Portugal	1.23	73.78
24	Lithuania	1.20	73.01
25	Spain	1.18	72.49
26	Latvia	1.10	70.44
27	Estonia	1.09	70.18
28	Chile	1.08	69.92
29	Czech Republic	1.05	69.15
30	Cyprus	1.04	68.89
30	Mauritius	1.04	68.89
32	Korea, Rep.	1.03	68.64
33	Qatar	1.00	67.87
34	Slovenia	0.97	67.10
35	Malaysia	0.96	66.84
36	Malta	0.85	64.01
37	Slovakia	0.84	63.75
38	Poland	0.80	62.72
39	Bahrain	0.57	56.81
40	Uruguay	0.54	56.04
41	Botswana	0.51	55.27
41	Croatia	0.51	55.27
43	Hungary	0.49	54.76
44	Italy	0.45	53.73
45	China	0.42	52.96
46	Bhutan	0.41	52.70
47	Georgia	0.40	52.44
48	Costa Rica	0.38	51.93
49	Thailand	0.36	51.41
50	Panama	0.30	49.87
51	South Africa	0.27	49.10
52	Namibia	0.26	48.84
53	Greece	0.25	48.59
54	Trinidad and Tobago	0.24	48.33
55	Turkey	0.23	48.07
56	Bulgaria	0.22	47.81
57	Mexico	0.21	47.56
57	Saudi Arabia	0.21	47.56
59	Montenegro	0.16	46.27
60	Jordan	0.14	45.76
61	Macedonia, FYR	0.13	45.50
62	Philippines	0.11	44.99
62	Serbia	0.11	44.99
64	India	0.10	44.73
65	Oman	0.09	44.47
66	Viet Nam	0.08	44.22
67	Albania	0.03	42.93
68	Sri Lanka	0.01	42.42
69	Kuwait	−0.02	41.65
70	Colombia	−0.03	41.39
71	Romania	−0.04	41.13
71	Rwanda	−0.04	41.13
73	Kazakhstan	−0.05	40.87
74	Morocco	−0.06	40.62
75	Argentina	−0.09	39.85
76	Tunisia	−0.10	39.59
77	Armenia	−0.14	38.56
78	Russian Federation	−0.18	37.53
79	Brazil	−0.19	37.28
80	Iran, Islamic Rep.	−0.20	37.02
81	Indonesia	−0.22	36.50
82	Azerbaijan	−0.23	36.25
83	El Salvador	−0.24	35.99
84	Ghana	−0.26	35.48
85	Peru	−0.28	34.96
86	Kenya	−0.29	34.70
87	Dominican Republic	−0.34	33.42
88	Mongolia	−0.40	31.88
89	Ecuador	−0.44	30.85
89	Senegal	−0.44	30.85
91	Lebanon	−0.47	30.08
92	Uganda	−0.48	29.82
93	Lao PDR	−0.50	29.31
94	Algeria	−0.51	29.05
94	Ukraine	−0.51	29.05
96	Bosnia and Herzegovina	−0.54	28.28
97	Tanzania, United Rep.	−0.60	26.74
98	Moldova, Rep.	−0.63	25.96
99	Ethiopia	−0.64	25.71
100	Bolivia, Plurinational St.	−0.66	25.19
100	Pakistan	−0.66	25.19
102	Lesotho	−0.67	24.94
102	Malawi	−0.67	24.94
104	Cambodia	−0.69	24.42
105	Guatemala	−0.71	23.91
106	Bangladesh	−0.73	23.39
107	Mozambique	−0.74	23.14
108	Egypt	−0.76	22.62
109	Nicaragua	−0.80	21.59
110	Honduras	−0.82	21.08
111	Gambia	−0.89	19.28
112	Kyrgyzstan	−0.90	19.02
113	Mali	−0.91	18.77
114	Paraguay	−0.95	17.74
115	Nepal	−1.04	15.42
116	Zimbabwe	−1.15	12.60
117	Venezuela, Bolivarian Rep.	−1.22	10.80
118	Madagascar	−1.29	9.00
119	Yemen	−1.64	0.00

SOURCE: World Bank, *Worldwide Governance Indicators*, 2016 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 2006.

1.1.2 Business-government relations

Average answer to the question: In your country, how would you best characterise relations between business and government? [1 = highly confrontational; 7 = highly cooperative] | 2014

Rank	Country	Value	Score
1	Singapore	6.28	100.00
2	United Arab Emirates	6.17	97.57
3	Qatar	6.12	96.47
4	Luxembourg	6.01	94.04
5	Finland	5.90	91.61
6	Rwanda	5.89	91.39
7	Norway	5.85	90.51
8	Ireland	5.80	89.40
9	New Zealand	5.74	88.08
10	Bahrain	5.71	87.42
11	Switzerland	5.67	86.53
12	Malaysia	5.64	85.87
13	Oman	5.47	82.12
14	Lao PDR	5.43	81.24
15	Japan	5.37	79.91
16	Canada	5.34	79.25
17	Netherlands	5.33	79.03
18	Sweden	5.30	78.37
19	Mauritius	5.22	76.60
20	Denmark	5.12	74.39
21	Chile	5.09	73.73
22	Gambia	5.08	73.51
23	Philippines	5.07	73.29
24	United Kingdom	5.01	71.96
25	Germany	5.00	71.74
26	Saudi Arabia	4.99	71.52
27	Botswana	4.93	70.20
27	Sri Lanka	4.93	70.20
29	Macedonia, FYR	4.92	69.98
30	Malta	4.90	69.54
31	Austria	4.89	69.32
32	China	4.88	69.09
33	Indonesia	4.84	68.21
34	Estonia	4.83	67.99
35	Senegal	4.78	66.89
36	Mexico	4.75	66.23
37	Australia	4.68	64.68
38	Costa Rica	4.66	64.24
39	Dominican Republic	4.65	64.02
40	Kazakhstan	4.62	63.36
41	Portugal	4.61	63.13
42	Panama	4.59	62.69
43	Namibia	4.58	62.47
44	Guatemala	4.57	62.25
44	Spain	4.57	62.25
46	Cyprus	4.56	62.03
46	Korea, Rep.	4.56	62.03
48	Bosnia and Herzegovina	4.55	61.81
48	Morocco	4.55	61.81
50	Jordan	4.54	61.59
50	Montenegro	4.54	61.59
50	Nicaragua	4.54	61.59
53	Kenya	4.52	61.15
54	Colombia	4.48	60.26
54	Turkey	4.48	60.26
56	Bhutan	4.47	60.04
56	Mozambique	4.47	60.04
58	Trinidad and Tobago	4.46	59.82
59	Azerbaijan	4.45	59.60
60	Uganda	4.44	59.38
61	Georgia	4.43	59.16
62	Viet Nam	4.37	57.84
63	Thailand	4.33	56.95
64	Lesotho	4.29	56.07
65	Iceland	4.27	55.63
66	Israel	4.25	55.19
67	Paraguay	4.24	54.97
68	Peru	4.22	54.53
69	Malawi	4.21	54.30
70	United States of America	4.17	53.42
71	Honduras	4.07	51.21
71	Mali	4.07	51.21
73	Lithuania	4.06	50.99
74	Armenia	4.05	50.77
75	Uruguay	4.03	50.33
76	Ethiopia	4.01	49.89
77	El Salvador	3.99	49.45
78	Bangladesh	3.98	49.23
78	Cambodia	3.98	49.23
80	Albania	3.96	48.79
81	Belgium	3.92	47.90
82	Latvia	3.90	47.46
83	India	3.89	47.24
84	Russian Federation	3.88	47.02
85	Tunisia	3.86	46.58
86	Kyrgyzstan	3.83	45.92
86	Poland	3.83	45.92
88	Algeria	3.81	45.47
89	Brazil	3.79	45.03
89	Ecuador	3.79	45.03
91	Czech Republic	3.77	44.59
91	Nepal	3.77	44.59
91	Tanzania, United Rep.	3.77	44.59
94	Ghana	3.65	41.94
94	Romania	3.65	41.94
96	Serbia	3.59	40.62
97	Egypt	3.56	39.96
97	Moldova, Rep.	3.56	39.96
99	Pakistan	3.54	39.51
100	Bolivia, Plurinational St.	3.45	37.53
101	South Africa	3.44	37.31
102	Hungary	3.40	36.42
103	France	3.39	36.20
104	Greece	3.38	35.98
104	Kuwait	3.38	35.98
104	Ukraine	3.38	35.98
107	Iran, Islamic Rep.	3.32	34.66
107	Madagascar	3.32	34.66
109	Zimbabwe	3.29	34.00
110	Bulgaria	3.25	33.11
111	Yemen	3.22	32.45
112	Slovenia	3.20	32.01
113	Lebanon	3.18	31.57
114	Croatia	3.12	30.24
115	Mongolia	2.98	27.15
116	Slovakia	2.88	24.94
117	Italy	2.66	20.09
118	Argentina	2.33	12.80
119	Venezuela, Bolivarian Rep.	1.75	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2013–2014 (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 2006.

1.1.3 Political stability

Political stability and absence of violence indicator | 2015

Rank	Country	Value	Score
1	New Zealand	1.49	100.00
2	Luxembourg	1.41	98.06
3	Switzerland	1.31	95.63
4	Iceland	1.27	94.66
5	Canada	1.24	93.93
5	Singapore	1.24	93.93
7	Austria	1.19	92.72
8	Norway	1.15	91.75
9	Bhutan	1.10	90.53
10	Finland	1.04	89.08
10	Malta	1.04	89.08
12	Botswana	1.03	88.83
13	Uruguay	0.99	87.86
14	Japan	0.98	87.62
14	Qatar	0.98	87.62
16	Sweden	0.97	87.38
17	Czech Republic	0.96	87.14
17	Slovakia	0.96	87.14
19	Mauritius	0.95	86.89
20	Ireland	0.93	86.41
20	Netherlands	0.93	86.41
22	Slovenia	0.92	86.17
23	Australia	0.90	85.68
24	Denmark	0.89	85.44
25	Poland	0.87	84.95
25	Portugal	0.87	84.95
27	United Arab Emirates	0.76	82.28
28	Hungary	0.73	81.55
29	Germany	0.72	81.31
30	Lithuania	0.70	80.83
30	United States of America	0.70	80.83
32	Oman	0.69	80.58
33	Mongolia	0.65	79.61
33	Namibia	0.65	79.61
35	Estonia	0.62	78.88
36	Belgium	0.60	78.40
37	Costa Rica	0.58	77.91
37	Croatia	0.58	77.91
39	United Kingdom	0.56	77.43
40	Cyprus	0.54	76.94
41	Lao PDR	0.48	75.49
42	Latvia	0.45	74.76
43	Panama	0.41	73.79
44	Chile	0.40	73.54
45	Albania	0.36	72.57
46	Italy	0.34	72.09
47	Spain	0.29	70.87
48	France	0.27	70.39
48	Trinidad and Tobago	0.27	70.39
50	Serbia	0.23	69.42
51	Romania	0.20	68.69
52	Malaysia	0.19	68.45
53	Dominican Republic	0.17	67.96
54	Montenegro	0.13	66.99
55	Korea, Rep.	0.10	66.26
56	Ghana	0.03	64.56
57	Bulgaria	0.02	64.32
58	Gambia	0.01	64.08
58	Viet Nam	0.01	64.08
60	Paraguay	−0.02	63.35
61	Nicaragua	−0.03	63.11
61	Sri Lanka	−0.03	63.11
63	El Salvador	−0.05	62.62
64	Argentina	−0.07	62.14
64	Malawi	−0.07	62.14
66	Rwanda	−0.08	61.89
67	Cambodia	−0.10	61.41
67	Ecuador	−0.10	61.41
67	Kazakhstan	−0.10	61.41
67	Lesotho	−0.10	61.41
71	Kuwait	−0.11	61.17
72	Senegal	−0.17	59.71
73	South Africa	−0.18	59.47
74	Macedonia, FYR	−0.20	58.98
75	Greece	−0.23	58.25
76	Bolivia, Plurinational St.	−0.28	57.04
77	Armenia	−0.29	56.80
78	Morocco	−0.34	55.58
79	Brazil	−0.38	54.61
80	Moldova, Rep.	−0.39	54.37
81	Georgia	−0.40	54.13
81	Madagascar	−0.40	54.13
83	Bosnia and Herzegovina	−0.45	52.91
83	Tanzania, United Rep.	−0.45	52.91
85	Honduras	−0.51	51.46
85	Peru	−0.51	51.46
87	Saudi Arabia	−0.54	50.73
88	China	−0.56	50.24
89	Jordan	−0.58	49.76
89	Mozambique	−0.58	49.76
89	Zimbabwe	−0.58	49.76
92	Indonesia	−0.60	49.27
93	Guatemala	−0.65	48.06
94	Azerbaijan	−0.69	47.09
95	Philippines	−0.84	43.45
96	Uganda	−0.86	42.96
97	Kyrgyzstan	−0.87	42.72
97	Mexico	−0.87	42.72
97	Tunisia	−0.87	42.72
100	Iran, Islamic Rep.	−0.91	41.75
101	India	−0.92	41.50
102	Nepal	−0.93	41.26
103	Thailand	−0.96	40.53
104	Venezuela, Bolivarian Rep.	−1.01	39.32
105	Algeria	−1.05	38.35
105	Russian Federation	−1.05	38.35
107	Colombia	−1.06	38.11
108	Bahrain	−1.08	37.62
109	Israel	−1.12	36.65
110	Bangladesh	−1.15	35.92
111	Turkey	−1.28	32.77
112	Kenya	−1.29	32.52
113	Egypt	−1.34	31.31
114	Ethiopia	−1.48	27.91
115	Mali	−1.66	23.54
116	Lebanon	−1.72	22.09
117	Ukraine	−1.93	16.99
118	Pakistan	−2.54	2.18
119	Yemen	−2.63	0.00

SOURCE: World Bank, *Worldwide Governance Indicators*, 2016 Update (www.govindicators.org)
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1.1.4 Regulatory quality

Regulatory quality indicator | 2015

Rank	Country	Value	Score
1	Singapore	2.26	100.00
2	New Zealand	1.95	92.48
3	United Kingdom	1.86	90.29
4	Finland	1.83	89.56
5	Ireland	1.81	89.08
5	Sweden	1.81	89.08
7	Australia	1.80	88.83
8	Netherlands	1.77	88.11
9	Switzerland	1.76	87.86
10	Denmark	1.73	87.14
11	Canada	1.71	86.65
12	Germany	1.67	85.68
12	Luxembourg	1.67	85.68
14	Estonia	1.66	85.44
15	Norway	1.63	84.71
16	Austria	1.43	79.85
17	Chile	1.35	77.91
18	United States of America	1.30	76.70
19	Belgium	1.28	76.21
19	Lithuania	1.28	76.21
21	Iceland	1.27	75.97
21	Israel	1.27	75.97
23	Japan	1.18	73.79
24	Malta	1.17	73.54
25	Korea, Rep.	1.16	73.30
26	France	1.15	73.06
27	United Arab Emirates	1.13	72.57
28	Latvia	1.09	71.60
28	Mauritius	1.09	71.60
30	Czech Republic	1.08	71.36
31	Cyprus	1.06	70.87
32	Poland	1.00	69.42
33	Portugal	0.94	67.96
34	Georgia	0.92	67.48
35	Bahrain	0.83	65.29
36	Slovakia	0.79	64.32
36	Spain	0.79	64.32
38	Hungary	0.77	63.83
38	Malaysia	0.77	63.83
40	Italy	0.73	62.86
41	Qatar	0.69	61.89
42	Slovenia	0.62	60.19
43	Romania	0.59	59.47
44	Oman	0.58	59.22
45	Bulgaria	0.55	58.50
46	Botswana	0.49	57.04
46	Costa Rica	0.49	57.04
46	Peru	0.49	57.04
49	Colombia	0.45	56.07
49	Macedonia, FYR	0.45	56.07
49	Uruguay	0.45	56.07
52	Greece	0.40	54.85
52	Mexico	0.40	54.85
54	Panama	0.37	54.13
55	Croatia	0.36	53.88
56	Turkey	0.33	53.16
57	South Africa	0.30	52.43
57	Thailand	0.30	52.43
59	Armenia	0.25	51.21
59	Rwanda	0.25	51.21
61	Montenegro	0.23	50.73
62	Albania	0.20	50.00
62	El Salvador	0.20	50.00
64	Trinidad and Tobago	0.15	48.79
65	Serbia	0.14	48.54
66	Jordan	0.05	46.36
67	Saudi Arabia	0.03	45.87
68	Ghana	−0.03	44.42
68	Kazakhstan	−0.03	44.42
70	Dominican Republic	−0.04	44.17
70	Philippines	−0.04	44.17
72	Moldova, Rep.	−0.05	43.93
72	Sri Lanka	−0.05	43.93
74	Namibia	−0.08	43.20
75	Kuwait	−0.16	41.26
76	Morocco	−0.17	41.02
77	Bosnia and Herzegovina	−0.18	40.78
77	Senegal	−0.18	40.78
79	Guatemala	−0.20	40.29
80	Brazil	−0.21	40.05
80	Indonesia	−0.21	40.05
82	Uganda	−0.24	39.32
83	Azerbaijan	−0.25	39.08
84	China	−0.27	38.59
84	Paraguay	−0.27	38.59
86	Lebanon	−0.28	38.35
87	Kenya	−0.29	38.11
88	Mongolia	−0.33	37.14
89	Tanzania, United Rep.	−0.36	36.41
90	India	−0.39	35.68
90	Lesotho	−0.39	35.68
90	Tunisia	−0.39	35.68
93	Honduras	−0.40	35.44
94	Nicaragua	−0.43	34.71
95	Kyrgyzstan	−0.47	33.74
96	Cambodia	−0.48	33.50
97	Gambia	−0.49	33.25
97	Mozambique	−0.49	33.25
99	Viet Nam	−0.50	33.01
100	Russian Federation	−0.52	32.52
101	Mali	−0.57	31.31
102	Ukraine	−0.58	31.07
103	Pakistan	−0.62	30.10
104	Bhutan	−0.71	27.91
105	Madagascar	−0.76	26.70
106	Nepal	−0.79	25.97
107	Egypt	−0.80	25.73
107	Lao PDR	−0.80	25.73
109	Malawi	−0.82	25.24
110	Bolivia, Plurinational St.	−0.91	23.06
111	Bangladesh	−0.93	22.57
112	Argentina	−0.96	21.84
113	Ethiopia	−1.00	20.87
114	Yemen	−1.10	18.45
115	Ecuador	−1.14	17.48
116	Algeria	−1.17	16.75
117	Iran, Islamic Rep.	−1.28	14.08
118	Zimbabwe	−1.65	5.10
119	Venezuela, Bolivarian Rep.	−1.86	0.00

SOURCE: World Bank, *Worldwide Governance Indicators*, 2016 Update (www.govindicators.org)
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1.1.5 Corruption

Corruption Perceptions Index | 2016

Rank	Country	Value	Score
1	Denmark	90.00	100.00
1	New Zealand	90.00	100.00
3	Finland	89.00	98.68
4	Sweden	88.00	97.37
5	Switzerland	86.00	94.74
6	Norway	85.00	93.42
7	Singapore	84.00	92.11
8	Netherlands	83.00	90.79
9	Canada	82.00	89.47
10	Germany	81.00	88.16
10	Luxembourg	81.00	88.16
10	United Kingdom	81.00	88.16
13	Australia	79.00	85.53
14	Iceland	78.00	84.21
15	Belgium	77.00	82.89
16	Austria	75.00	80.26
17	United States of America	74.00	78.95
18	Ireland	73.00	77.63
19	Japan	72.00	76.32
20	Uruguay	71.00	75.00
21	Estonia	70.00	73.68
22	France	69.00	72.37
23	Chile	66.00	68.42
23	United Arab Emirates	66.00	68.42
25	Bhutan	65.00	67.11
26	Israel	64.00	65.79
27	Poland	62.00	63.16
27	Portugal	62.00	63.16
29	Qatar	61.00	61.84
29	Slovenia	61.00	61.84
31	Botswana	60.00	60.53
32	Lithuania	59.00	59.21
33	Costa Rica	58.00	57.89
33	Spain	58.00	57.89
35	Georgia	57.00	56.58
35	Latvia	57.00	56.58
37	Cyprus	55.00	53.95
37	Czech Republic	55.00	53.95
37	Malta	55.00	53.95
40	Mauritius	54.00	52.63
40	Rwanda	54.00	52.63
42	Korea, Rep.	53.00	51.32
43	Namibia	52.00	50.00
44	Slovakia	51.00	48.68
45	Croatia	49	46.05
45	Malaysia	49.00	46.05
47	Hungary	48.00	44.74
47	Jordan	48.00	44.74
47	Romania	48.00	44.74
50	Italy	47.00	43.42
51	Saudi Arabia	46.00	42.11
52	Montenegro	45.00	40.79
52	Oman	45.00	40.79
52	Senegal	45.00	40.79
52	South Africa	45.00	40.79
56	Greece	44.00	39.47
57	Bahrain	43.00	38.16
57	Ghana	43.00	38.16
59	Serbia	42.00	36.84
60	Bulgaria	41.00	35.53
60	Kuwait	41.00	35.53
60	Tunisia	41.00	35.53
60	Turkey	41.00	35.53
64	Brazil	40.00	34.21
64	China	40.00	34.21
64	India	40.00	34.21
67	Albania	39.00	32.89
67	Bosnia and Herzegovina	39.00	32.89
67	Lesotho	39.00	32.89
70	Mongolia	38.00	31.58
70	Panama	38.00	31.58
72	Colombia	37.00	30.26
72	Indonesia	37.00	30.26
72	Macedonia, FYR	37.00	30.26
72	Morocco	37.00	30.26
76	Argentina	36.00	28.95
76	El Salvador	36.00	28.95
76	Sri Lanka	36.00	28.95
79	Peru	35.00	27.63
79	Philippines	35.00	27.63
79	Thailand	35.00	27.63
79	Trinidad and Tobago	35.00	27.63
83	Algeria	34.00	26.32
83	Egypt	34.00	26.32
83	Ethiopia	34.00	26.32
86	Armenia	33.00	25.00
86	Bolivia, Plurinational St.	33.00	25.00
86	Viet Nam	33.00	25.00
89	Mali	32.00	23.68
89	Pakistan	32.00	23.68
89	Tanzania, United Rep.	32.00	23.68
92	Dominican Republic	31.00	22.37
92	Ecuador	31.00	22.37
92	Malawi	31.00	22.37
95	Azerbaijan	30.00	21.05
95	Honduras	30.00	21.05
95	Lao PDR	30.00	21.05
95	Mexico	30.00	21.05
95	Moldova, Rep.	30.00	21.05
95	Paraguay	30.00	21.05
101	Iran, Islamic Rep.	29.00	19.74
101	Kazakhstan	29.00	19.74
101	Nepal	29.00	19.74
101	Russian Federation	29.00	19.74
101	Ukraine	29.00	19.74
106	Guatemala	28.00	18.42
106	Kyrgyzstan	28.00	18.42
106	Lebanon	28.00	18.42
109	Mozambique	27.00	17.11
110	Bangladesh	26.00	15.79
110	Gambia	26.00	15.79
110	Kenya	26.00	15.79
110	Madagascar	26.00	15.79
110	Nicaragua	26.00	15.79
115	Uganda	25.00	14.47
116	Zimbabwe	22.00	10.53
117	Cambodia	21.00	9.21
118	Venezuela, Bolivarian Rep.	17.00	3.95
119	Yemen	14.00	0.00

SOURCE: Transparency International, *The Corruption Perceptions Index 2016* (http://www.transparency.org/research/cpi)
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1.2.1 Competition intensity

Average answer to the question: In your country, how intense is competition in the local markets? [1 = not intense at all; 7 = extremely intense] | 2016

Rank	Country	Value	Score
1	Japan	6.23	100.00
2	Malta	5.99	93.14
2	United Kingdom	5.99	93.14
4	United States of America	5.98	92.86
5	Australia	5.92	91.14
5	Korea, Rep.	5.92	91.14
7	Germany	5.90	90.57
7	Netherlands	5.90	90.57
7	United Arab Emirates	5.90	90.57
10	Turkey	5.88	90.00
11	Belgium	5.85	89.14
12	Czech Republic	5.76	86.57
12	France	5.76	86.57
14	Estonia	5.75	86.29
15	Qatar	5.74	86.00
16	Spain	5.64	83.14
17	Kenya	5.63	82.86
18	Singapore	5.62	82.57
19	Dominican Republic	5.60	82.00
20	Austria	5.59	81.71
20	Sweden	5.59	81.71
22	Colombia	5.58	81.43
23	Guatemala	5.52	79.71
23	Slovakia	5.52	79.71
25	Lithuania	5.51	79.43
26	New Zealand	5.48	78.57
27	South Africa	5.46	78.00
28	Canada	5.45	77.71
28	Denmark	5.45	77.71
30	Lebanon	5.44	77.43
31	Latvia	5.42	76.86
31	Panama	5.42	76.86
33	China	5.41	76.57
34	Jordan	5.40	76.29
34	Saudi Arabia	5.40	76.29
36	Switzerland	5.39	76.00
37	Macedonia, FYR	5.38	75.71
37	Malaysia	5.38	75.71
39	Luxembourg	5.32	74.00
40	Cyprus	5.31	73.71
40	Italy	5.31	73.71
40	Poland	5.31	73.71
40	Thailand	5.31	73.71
40	Uganda	5.31	73.71
45	Costa Rica	5.30	73.43
45	Mauritius	5.30	73.43
47	Botswana	5.27	72.57
47	Indonesia	5.27	72.57
49	Brazil	5.26	72.29
49	El Salvador	5.26	72.29
51	Senegal	5.24	71.71
52	Portugal	5.23	71.43
52	Slovenia	5.23	71.43
54	Mexico	5.22	71.14
54	Trinidad and Tobago	5.22	71.14
56	Bahrain	5.21	70.86
56	Kuwait	5.21	70.86
56	Philippines	5.21	70.86
59	Chile	5.20	70.57
60	Ireland	5.19	70.29
60	Israel	5.19	70.29
62	Peru	5.18	70.00
62	Sri Lanka	5.18	70.00
64	Norway	5.14	68.86
65	Morocco	5.12	68.29
66	Bangladesh	5.11	68.00
67	Ghana	5.09	67.43
68	Greece	5.06	66.57
69	Paraguay	5.04	66.00
70	Ecuador	5.02	65.43
71	Rwanda	4.98	64.29
72	Georgia	4.97	64.00
73	Honduras	4.95	63.43
73	Russian Federation	4.95	63.43
73	Viet Nam	4.95	63.43
76	Bolivia, Plurinational St.	4.94	63.14
77	Nepal	4.91	62.29
78	Tunisia	4.85	60.57
79	Gambia	4.84	60.29
79	Iceland	4.84	60.29
79	Lesotho	4.84	60.29
82	Zimbabwe	4.82	59.71
83	Armenia	4.81	59.43
84	Croatia	4.80	59.14
85	Romania	4.79	58.86
86	Finland	4.78	58.57
87	India	4.75	57.71
88	Cambodia	4.73	57.14
89	Tanzania, United Rep.	4.72	56.86
90	Nicaragua	4.70	56.29
91	Namibia	4.67	55.43
92	Bhutan	4.64	54.57
92	Uruguay	4.64	54.57
94	Kazakhstan	4.63	54.29
95	Bulgaria	4.62	54.00
96	Ukraine	4.61	53.71
97	Madagascar	4.60	53.43
97	Mongolia	4.60	53.43
97	Oman	4.60	53.43
100	Malawi	4.58	52.86
101	Moldova, Rep.	4.55	52.00
102	Azerbaijan	4.52	51.14
103	Albania	4.50	50.57
104	Mozambique	4.48	50.00
105	Pakistan	4.47	49.71
106	Bosnia and Herzegovina	4.46	49.43
107	Mali	4.43	48.57
108	Argentina	4.42	48.29
109	Montenegro	4.28	44.29
110	Yemen	4.27	44.00
111	Egypt	4.24	43.14
111	Iran, Islamic Rep.	4.24	43.14
113	Serbia	4.23	42.86
114	Hungary	4.16	40.86
115	Kyrgyzstan	4.15	40.57
116	Lao PDR	4.11	39.43
117	Ethiopia	3.88	32.86
118	Algeria	3.78	30.00
119	Venezuela, Bolivarian Rep.	2.73	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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1.2.2 Ease of doing business

Ease of doing business index | 2017

Rank	Country	Value	Score
1	New Zealand	87.01	100.00
2	Singapore	85.05	96.35
3	Denmark	84.87	96.01
4	Korea, Rep.	84.07	94.52
5	Norway	82.82	92.19
6	United Kingdom	82.74	92.04
7	United States of America	82.45	91.50
8	Sweden	82.13	90.90
9	Macedonia, FYR	81.74	90.18
10	Estonia	81.05	88.89
11	Finland	80.84	88.50
12	Latvia	80.61	88.07
13	Australia	80.26	87.42
14	Georgia	80.20	87.30
15	Germany	79.87	86.69
16	Ireland	79.53	86.06
17	Austria	78.92	84.92
18	Iceland	78.91	84.90
19	Lithuania	78.84	84.77
20	Canada	78.57	84.27
21	Malaysia	78.11	83.41
22	Poland	77.81	82.85
23	Portugal	77.40	82.08
24	United Arab Emirates	76.89	81.13
25	Czech Republic	76.71	80.80
26	Netherlands	76.38	80.18
27	France	76.27	79.98
28	Slovenia	76.14	79.74
29	Switzerland	76.06	79.59
30	Spain	75.73	78.97
31	Slovakia	75.61	78.75
32	Japan	75.53	78.60
33	Kazakhstan	75.09	77.78
34	Romania	74.26	76.23
35	Armenia	73.63	75.06
36	Bulgaria	73.51	74.83
37	Russian Federation	73.19	74.24
38	Hungary	73.07	74.01
39	Belgium	73.00	73.88
40	Croatia	72.99	73.86
41	Moldova, Rep.	72.75	73.42
42	Cyprus	72.65	73.23
43	Thailand	72.53	73.01
44	Mexico	72.29	72.56
44	Serbia	72.29	72.56
46	Mauritius	72.27	72.52
47	Italy	72.25	72.48
48	Montenegro	72.08	72.17
49	Israel	71.65	71.36
50	Colombia	70.92	70.00
51	Peru	70.25	68.75
52	Rwanda	69.81	67.93
53	Chile	69.56	67.47
54	Albania	68.90	66.24
55	Luxembourg	68.81	66.07
56	Greece	68.67	65.81
57	Costa Rica	68.50	65.49
58	Bahrain	68.44	65.38
59	Mongolia	68.15	64.84
60	Azerbaijan	67.99	64.54
61	Oman	67.73	64.06
62	Morocco	67.50	63.63
63	Turkey	67.19	63.05
64	Panama	66.19	61.19
65	Botswana	65.55	59.99
66	Bhutan	65.37	59.66
67	South Africa	65.20	59.34
68	Kyrgyzstan	65.17	59.28
69	Malta	65.01	58.99
70	Tunisia	64.89	58.76
71	China	64.28	57.62
72	Ukraine	63.90	56.92
73	Bosnia and Herzegovina	63.87	56.86
74	Viet Nam	63.83	56.79
75	Qatar	63.66	56.47
76	Guatemala	62.93	55.11
77	Uruguay	61.85	53.09
78	Indonesia	61.52	52.48
79	Kenya	61.22	51.92
80	Saudi Arabia	61.11	51.72
81	El Salvador	61.02	51.55
82	Trinidad and Tobago	60.99	51.49
83	Philippines	60.40	50.39
84	Lesotho	60.37	50.34
85	Kuwait	59.55	48.81
86	Dominican Republic	59.35	48.43
87	Honduras	59.09	47.95
88	Paraguay	59.03	47.84
89	Nepal	58.88	47.56
90	Ghana	58.82	47.45
90	Namibia	58.82	47.45
92	Sri Lanka	58.79	47.39
93	Ecuador	57.97	45.86
94	Uganda	57.77	45.49
95	Argentina	57.45	44.89
96	Jordan	57.30	44.61
97	Iran, Islamic Rep.	57.26	44.54
98	Egypt	56.64	43.38
99	Brazil	56.53	43.18
100	Lebanon	55.90	42.00
101	Nicaragua	55.75	41.72
102	India	55.27	40.83
103	Cambodia	54.79	39.93
104	Tanzania, United Rep.	54.48	39.35
105	Malawi	54.39	39.19
106	Mozambique	53.78	38.05
107	Lao PDR	53.29	37.14
108	Mali	52.96	36.52
109	Pakistan	51.77	34.30
110	Gambia	51.70	34.17
111	Senegal	50.68	32.27
112	Bolivia, Plurinational St.	49.85	30.72
113	Algeria	47.76	26.83
114	Ethiopia	47.25	25.88
115	Zimbabwe	47.10	25.60
116	Madagascar	45.10	21.87
117	Bangladesh	40.84	13.93
118	Yemen	39.57	11.56
119	Venezuela, Bolivarian Rep.	33.37	0.00

SOURCE: World Bank, *Doing Business 2017: Equal Opportunity for All* (http://www.doingbusiness.org/reports/global-reports/doing-business–2017)
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 2006.

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] | 2016

Rank	Country	Value	Score
1	United States of America	5.56	100.00
2	United Arab Emirates	5.42	95.67
3	Germany	5.36	93.81
4	Italy	5.35	93.50
5	United Kingdom	5.34	93.19
6	Netherlands	5.27	91.02
7	Japan	5.22	89.47
8	Norway	5.21	89.16
9	Qatar	5.20	88.85
10	Luxembourg	5.18	88.24
11	Malaysia	5.17	87.93
11	Singapore	5.17	87.93
13	Switzerland	5.14	87.00
14	Sweden	4.99	82.35
15	Ireland	4.95	81.11
16	Finland	4.89	79.26
17	Austria	4.83	77.40
18	Canada	4.72	73.99
19	China	4.66	72.14
20	Denmark	4.64	71.52
21	Saudi Arabia	4.63	71.21
22	Bahrain	4.62	70.90
23	Belgium	4.61	70.59
24	France	4.56	69.04
25	India	4.52	67.80
26	Korea, Rep.	4.51	67.49
27	Indonesia	4.46	65.94
28	South Africa	4.38	63.47
29	Jordan	4.28	60.37
30	Egypt	4.27	60.06
31	Spain	4.25	59.44
32	Israel	4.23	58.82
32	Mexico	4.23	58.82
34	Malta	4.21	58.20
35	Panama	4.20	57.89
36	Kenya	4.16	56.66
36	Portugal	4.16	56.66
38	Mauritius	4.14	56.04
39	Rwanda	4.13	55.73
40	Iceland	4.09	54.49
41	Australia	3.97	50.77
42	Brazil	3.96	50.46
43	Cambodia	3.95	50.15
43	Ghana	3.95	50.15
45	Kuwait	3.94	49.85
45	New Zealand	3.94	49.85
47	Costa Rica	3.92	49.23
48	Slovakia	3.91	48.92
49	Lao PDR	3.89	48.30
50	Viet Nam	3.85	47.06
51	Guatemala	3.84	46.75
51	Macedonia, FYR	3.84	46.75
53	Lebanon	3.83	46.44
54	Turkey	3.82	46.13
55	Cyprus	3.80	45.51
55	Czech Republic	3.80	45.51
57	Gambia	3.79	45.20
58	Sri Lanka	3.78	44.89
59	Thailand	3.77	44.58
60	Estonia	3.76	44.27
61	Dominican Republic	3.75	43.96
62	Oman	3.74	43.65
62	Philippines	3.74	43.65
64	Honduras	3.73	43.34
65	Azerbaijan	3.71	42.72
66	Poland	3.69	42.11
66	Tanzania, United Rep.	3.69	42.11
68	Namibia	3.67	41.49
69	Senegal	3.66	41.18
70	Pakistan	3.65	40.87
71	Bangladesh	3.64	40.56
72	Bulgaria	3.63	40.25
73	Colombia	3.61	39.63
73	Morocco	3.61	39.63
75	Iran, Islamic Rep.	3.60	39.32
76	Bhutan	3.57	38.39
77	Ethiopia	3.54	37.46
78	Slovenia	3.49	35.91
78	Trinidad and Tobago	3.49	35.91
80	Uganda	3.48	35.60
81	Latvia	3.47	35.29
82	Lesotho	3.46	34.98
83	Mali	3.45	34.67
84	Botswana	3.44	34.37
85	Chile	3.39	32.82
86	Hungary	3.36	31.89
86	Russian Federation	3.36	31.89
88	Lithuania	3.34	31.27
89	Armenia	3.33	30.96
90	Uruguay	3.27	29.10
91	Ecuador	3.26	28.79
92	Peru	3.24	28.17
93	Argentina	3.23	27.86
94	Romania	3.22	27.55
95	Tunisia	3.18	26.32
96	El Salvador	3.17	26.01
97	Bosnia and Herzegovina	3.15	25.39
98	Madagascar	3.14	25.08
98	Nepal	3.14	25.08
100	Nicaragua	3.11	24.15
101	Serbia	3.10	23.84
102	Montenegro	3.09	23.53
103	Mozambique	3.07	22.91
104	Algeria	3.05	22.29
105	Greece	3.01	21.05
106	Kazakhstan	3.00	20.74
107	Albania	2.98	20.12
108	Georgia	2.97	19.81
109	Croatia	2.96	19.50
109	Kyrgyzstan	2.96	19.50
111	Ukraine	2.95	19.20
112	Yemen	2.94	18.89
113	Paraguay	2.91	17.96
114	Malawi	2.87	16.72
115	Bolivia, Plurinational St.	2.85	16.10
116	Mongolia	2.73	12.38
117	Zimbabwe	2.71	11.76
118	Venezuela, Bolivarian Rep.	2.47	4.33
119	Moldova, Rep.	2.33	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

1.2.4 R&D expenditure

Gross expenditure on R&D (%) | 2014

Rank	Country	Value	Score
1	Korea, Rep.	4.29	100.00
2	Israel	4.11	95.79
3	Japan	3.58	83.41
4	Finland	3.17	73.83
5	Sweden	3.16	73.60
6	Denmark	3.08	71.73
7	Austria	2.99	69.63
8	Switzerland	2.97	69.16
9	Germany	2.87	66.82
10	United States of America	2.73	63.55
11	Belgium	2.46	57.24
12	Slovenia	2.39	55.61
13	France	2.26	52.57
14	Australia	2.20	51.17
15	Singapore	2.19	50.93
16	China	2.05	47.66
17	Czech Republic	2.00	46.50
18	Netherlands	1.97	45.79
19	Iceland	1.89	43.93
20	Norway	1.71	39.72
21	United Kingdom	1.70	39.49
22	Canada	1.61	37.38
23	Ireland	1.52	35.28
24	Estonia	1.44	33.41
25	Hungary	1.37	31.78
26	Italy	1.29	29.91
26	Portugal	1.29	29.91
28	Luxembourg	1.26	29.21
28	Malaysia	1.26	29.21
30	Brazil	1.24	28.74
31	Spain	1.23	28.50
32	Russian Federation	1.19	27.57
33	New Zealand	1.17	27.10
34	Lithuania	1.01	23.36
34	Turkey	1.01	23.36
36	Poland	0.94	21.73
37	Slovakia	0.89	20.56
38	Malta	0.85	19.63
39	Greece	0.84	19.39
40	India	0.82	18.93
41	Bulgaria	0.80	18.46
42	Croatia	0.79	18.22
42	Kenya	0.79	18.22
44	Serbia	0.78	17.99
45	South Africa	0.73	16.82
46	Morocco	0.71	16.36
47	United Arab Emirates	0.70	16.12
48	Latvia	0.69	15.89
49	Egypt	0.68	15.65
50	Ukraine	0.66	15.19
51	Tunisia	0.64	14.72
52	Argentina	0.61	14.02
53	Ethiopia	0.60	13.79
54	Costa Rica	0.56	12.85
55	Mexico	0.54	12.38
55	Senegal	0.54	12.38
57	Tanzania, United Rep.	0.53	12.15
58	Thailand	0.48	10.98
58	Uganda	0.48	10.98
60	Cyprus	0.47	10.75
60	Qatar	0.47	10.75
62	Macedonia, FYR	0.44	10.05
63	Jordan	0.43	9.81
64	Mozambique	0.42	9.58
65	Chile	0.38	8.64
65	Ghana	0.38	8.64
65	Romania	0.38	8.64
68	Moldova, Rep.	0.37	8.41
69	Montenegro	0.36	8.18
70	Ecuador	0.34	7.71
71	Iran, Islamic Rep.	0.33	7.48
71	Uruguay	0.33	7.48
73	Kuwait	0.30	6.78
73	Nepal	0.30	6.78
75	Pakistan	0.29	6.54
76	Bosnia and Herzegovina	0.26	5.84
77	Botswana	0.25	5.61
78	Armenia	0.24	5.37
79	Mongolia	0.23	5.14
80	Azerbaijan	0.21	4.67
81	Colombia	0.20	4.44
82	Viet Nam	0.19	4.21
83	Mauritius	0.18	3.97
84	Kazakhstan	0.17	3.74
84	Oman	0.17	3.74
86	Bolivia, Plurinational St.	0.16	3.50
87	Albania	0.15	3.27
88	Namibia	0.14	3.04
88	Philippines	0.14	3.04
90	Gambia	0.13	2.80
90	Kyrgyzstan	0.13	2.80
92	Bahrain	0.10	2.10
92	Georgia	0.10	2.10
92	Sri Lanka	0.10	2.10
95	El Salvador	0.08	1.64
95	Indonesia	0.08	1.64
95	Trinidad and Tobago	0.08	1.64
98	Panama	0.07	1.40
98	Saudi Arabia	0.07	1.40
100	Guatemala	0.04	0.70
101	Madagascar	0.02	0.23
102	Lesotho	0.01	0.00
	Algeria	n/a	n/a
	Bangladesh	n/a	n/a
	Bhutan	n/a	n/a
	Cambodia	n/a	n/a
	Dominican Republic	n/a	n/a
	Honduras	n/a	n/a
	Lao PDR	n/a	n/a
	Lebanon	n/a	n/a
	Malawi	n/a	n/a
	Mali	n/a	n/a
	Nicaragua	n/a	n/a
	Paraguay	n/a	n/a
	Peru	n/a	n/a
	Rwanda	n/a	n/a
	Venezuela, Bolivarian Rep.	n/a	n/a
	Yemen	n/a	n/a
	Zimbabwe	n/a	n/a

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 2006.

1.2.5 ICT infrastructure

ICT access index | 2016

Rank	Country	Value	Score
1	Korea, Rep.	8.84	100.00
2	Iceland	8.83	99.86
3	Denmark	8.74	98.64
4	Switzerland	8.68	97.82
5	United Kingdom	8.57	96.32
6	Sweden	8.45	94.68
7	Netherlands	8.43	94.41
8	Norway	8.42	94.27
9	Japan	8.37	93.59
10	Luxembourg	8.36	93.45
11	Germany	8.31	92.77
12	New Zealand	8.29	92.50
13	Australia	8.19	91.13
14	United States of America	8.17	90.86
15	France	8.11	90.04
16	Finland	8.08	89.63
17	Estonia	8.07	89.50
18	Singapore	7.95	87.86
19	Ireland	7.92	87.45
20	Belgium	7.83	86.22
21	Austria	7.69	84.31
21	Malta	7.69	84.31
23	Canada	7.62	83.36
23	Spain	7.62	83.36
25	Bahrain	7.46	81.17
26	Israel	7.40	80.35
27	Czech Republic	7.25	78.31
28	Slovenia	7.23	78.04
29	Greece	7.13	76.67
30	Italy	7.11	76.40
30	United Arab Emirates	7.11	76.40
32	Lithuania	7.10	76.26
33	Latvia	7.08	75.99
34	Croatia	7.04	75.44
35	Slovakia	6.96	74.35
36	Russian Federation	6.95	74.22
37	Portugal	6.94	74.08
38	Qatar	6.90	73.53
38	Saudi Arabia	6.90	73.53
40	Uruguay	6.79	72.03
41	Hungary	6.72	71.08
42	Bulgaria	6.69	70.67
43	Poland	6.65	70.12
44	Serbia	6.58	69.17
45	Kazakhstan	6.57	69.03
46	Kuwait	6.54	68.62
47	Cyprus	6.53	68.49
48	Argentina	6.52	68.35
49	Chile	6.35	66.03
50	Costa Rica	6.30	65.35
51	Azerbaijan	6.28	65.08
52	Oman	6.27	64.94
53	Romania	6.26	64.80
54	Malaysia	6.22	64.26
55	Montenegro	6.05	61.94
56	Brazil	5.99	61.12
57	Macedonia, FYR	5.97	60.85
58	Lebanon	5.93	60.30
59	Trinidad and Tobago	5.76	57.98
60	Moldova, Rep.	5.75	57.84
61	Turkey	5.69	57.03
62	Armenia	5.60	55.80
63	Georgia	5.59	55.66
64	Mauritius	5.55	55.12
65	Ukraine	5.33	52.11
66	Venezuela, Bolivarian Rep.	5.27	51.30
67	Bosnia and Herzegovina	5.25	51.02
68	China	5.19	50.20
69	Thailand	5.18	50.07
70	Colombia	5.16	49.80
71	Jordan	5.06	48.43
72	South Africa	5.03	48.02
73	Iran, Islamic Rep.	4.99	47.48
74	Mongolia	4.95	46.93
75	Albania	4.92	46.52
76	Mexico	4.87	45.84
76	Panama	4.87	45.84
78	Tunisia	4.83	45.29
79	Morocco	4.60	42.16
80	Ecuador	4.56	41.61
81	Egypt	4.44	39.97
82	Peru	4.42	39.70
83	Algeria	4.40	39.43
84	Dominican Republic	4.30	38.06
85	Viet Nam	4.29	37.93
86	Philippines	4.28	37.79
87	Botswana	4.17	36.29
88	Paraguay	4.08	35.06
89	Bolivia, Plurinational St.	4.02	34.24
90	Ghana	3.99	33.83
90	Kyrgyzstan	3.99	33.83
92	Indonesia	3.86	32.06
93	Sri Lanka	3.77	30.83
94	Bhutan	3.74	30.42
95	El Salvador	3.73	30.29
96	Namibia	3.64	29.06
97	Guatemala	3.20	23.06
98	Cambodia	3.12	21.96
99	Honduras	3.09	21.56
100	Kenya	2.99	20.19
101	Nicaragua	2.88	18.69
102	Zimbabwe	2.78	17.33
103	Lesotho	2.76	17.05
104	India	2.69	16.10
105	Senegal	2.53	13.92
106	Nepal	2.50	13.51
107	Gambia	2.46	12.96
108	Lao PDR	2.45	12.82
109	Bangladesh	2.35	11.46
109	Pakistan	2.35	11.46
111	Mali	2.14	8.59
112	Rwanda	2.13	8.46
113	Yemen	2.02	6.96
114	Uganda	1.94	5.87
115	Mozambique	1.75	3.27
116	Madagascar	1.69	2.46
117	Tanzania, United Rep.	1.65	1.91
118	Malawi	1.62	1.50
119	Ethiopia	1.51	0.00

SOURCE: International Telecommunication Union, *Measuring the Information Society Report 2016,* ICT Development Index 2016 (http://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2016.aspx)
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 2006.

1.2.6 Technology utilisation

Average answer to the question: In your country, to what extent do businesses adopt the latest technologies? [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Switzerland	6.10	100.00
2	Sweden	6.04	97.88
3	Iceland	6.01	96.82
4	Norway	5.97	95.41
4	United States of America	5.97	95.41
6	Finland	5.86	91.52
7	United Arab Emirates	5.84	90.81
8	Netherlands	5.82	90.11
9	United Kingdom	5.79	89.05
10	Denmark	5.73	86.93
11	Qatar	5.68	85.16
12	Germany	5.67	84.81
12	Luxembourg	5.67	84.81
12	Singapore	5.67	84.81
15	Israel	5.66	84.45
16	New Zealand	5.59	81.98
17	Japan	5.55	80.57
18	Malaysia	5.46	77.39
19	Austria	5.44	76.68
20	Belgium	5.43	76.33
20	South Africa	5.43	76.33
22	Australia	5.39	74.91
22	Estonia	5.39	74.91
22	Ireland	5.39	74.91
25	Lithuania	5.34	73.14
26	Panama	5.33	72.79
27	Korea, Rep.	5.32	72.44
28	Portugal	5.30	71.73
29	Canada	5.27	70.67
30	Malta	5.25	69.96
31	France	5.15	66.43
32	Chile	5.13	65.72
33	Kenya	5.11	65.02
34	Bahrain	5.08	63.96
35	Czech Republic	5.07	63.60
36	Jordan	5.05	62.90
37	Indonesia	5.00	61.13
38	Guatemala	4.95	59.36
39	Costa Rica	4.94	59.01
40	Slovakia	4.92	58.30
40	Thailand	4.92	58.30
42	Saudi Arabia	4.89	57.24
43	Senegal	4.88	56.89
44	Slovenia	4.86	56.18
45	Turkey	4.80	54.06
46	Azerbaijan	4.77	53.00
47	Mauritius	4.75	52.30
48	Rwanda	4.74	51.94
48	Spain	4.74	51.94
50	Philippines	4.70	50.53
51	Poland	4.68	49.82
52	Bulgaria	4.67	49.47
52	Oman	4.67	49.47
54	Uruguay	4.62	47.70
55	Dominican Republic	4.61	47.35
56	China	4.60	47.00
57	Mexico	4.59	46.64
58	Sri Lanka	4.58	46.29
59	Italy	4.56	45.58
59	Morocco	4.56	45.58
61	Brazil	4.55	45.23
62	Namibia	4.54	44.88
63	Macedonia, FYR	4.51	43.82
64	Lebanon	4.47	42.40
65	Honduras	4.46	42.05
66	Kazakhstan	4.45	41.70
67	Mongolia	4.44	41.34
68	Greece	4.43	40.99
68	Ukraine	4.43	40.99
70	Bosnia and Herzegovina	4.42	40.64
71	Botswana	4.40	39.93
72	Albania	4.38	39.22
72	Latvia	4.38	39.22
72	Viet Nam	4.38	39.22
75	India	4.36	38.52
75	Kuwait	4.36	38.52
77	Colombia	4.34	37.81
78	Croatia	4.33	37.46
78	Russian Federation	4.33	37.46
80	Madagascar	4.29	36.04
80	Romania	4.29	36.04
82	Armenia	4.26	34.98
83	Gambia	4.24	34.28
84	Bangladesh	4.23	33.92
84	Montenegro	4.23	33.92
86	Trinidad and Tobago	4.22	33.57
87	Ecuador	4.21	33.22
87	Ghana	4.21	33.22
89	Cambodia	4.20	32.86
89	Peru	4.20	32.86
89	Tanzania, United Rep.	4.20	32.86
92	Cyprus	4.17	31.80
93	Uganda	4.14	30.74
94	Argentina	4.13	30.39
95	Lao PDR	4.11	29.68
95	Tunisia	4.11	29.68
97	El Salvador	4.04	27.21
98	Georgia	4.02	26.50
99	Bhutan	3.98	25.09
99	Moldova, Rep.	3.98	25.09
101	Pakistan	3.92	22.97
102	Mali	3.90	22.26
102	Paraguay	3.90	22.26
102	Zimbabwe	3.90	22.26
105	Mozambique	3.86	20.85
106	Venezuela, Bolivarian Rep.	3.85	20.49
107	Serbia	3.84	20.14
108	Iran, Islamic Rep.	3.72	15.90
109	Bolivia, Plurinational St.	3.67	14.13
110	Algeria	3.63	12.72
111	Nepal	3.59	11.31
112	Ethiopia	3.50	8.13
113	Lesotho	3.46	6.71
114	Malawi	3.42	5.30
115	Kyrgyzstan	3.41	4.95
116	Hungary	3.38	3.89
117	Yemen	3.27	0.00
	Egypt	n/a	n/a
	Nicaragua	n/a	n/a

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

1.3.1 Ease of hiring

Hiring indicators | 2016

Rank	Country	Value	Score
1	Azerbaijan	0.00	100.00
1	Bahrain	0.00	100.00
1	Bangladesh	0.00	100.00
1	Bhutan	0.00	100.00
1	Botswana	0.00	100.00
1	Denmark	0.00	100.00
1	Egypt	0.00	100.00
1	Gambia	0.00	100.00
1	Kazakhstan	0.00	100.00
1	Kuwait	0.00	100.00
1	Lithuania	0.00	100.00
1	Malaysia	0.00	100.00
1	Mongolia	0.00	100.00
1	Namibia	0.00	100.00
1	Qatar	0.00	100.00
1	Rwanda	0.00	100.00
1	Saudi Arabia	0.00	100.00
1	Singapore	0.00	100.00
1	Sri Lanka	0.00	100.00
1	Switzerland	0.00	100.00
1	Trinidad and Tobago	0.00	100.00
1	Uganda	0.00	100.00
1	United Arab Emirates	0.00	100.00
1	United States of America	0.00	100.00
25	Australia	11.00	89.00
25	Austria	11.00	89.00
25	Belgium	11.00	89.00
25	Canada	11.00	89.00
25	China	11.00	89.00
25	Colombia	11.00	89.00
25	Czech Republic	11.00	89.00
25	Ghana	11.00	89.00
25	Hungary	11.00	89.00
25	Iran, Islamic Rep.	11.00	89.00
25	Ireland	11.00	89.00
25	Israel	11.00	89.00
25	Japan	11.00	89.00
25	Jordan	11.00	89.00
25	New Zealand	11.00	89.00
25	Oman	11.00	89.00
25	Poland	11.00	89.00
25	United Kingdom	11.00	89.00
25	Yemen	11.00	89.00
44	Netherlands	16.67	83.33
45	Macedonia, FYR	22.33	77.67
45	Philippines	22.33	77.67
45	Viet Nam	22.33	77.67
48	Bulgaria	27.67	72.33
48	Italy	27.67	72.33
48	Malta	27.67	72.33
51	Cambodia	33.33	66.67
51	Chile	33.33	66.67
51	Estonia	33.33	66.67
51	Ethiopia	33.33	66.67
51	Georgia	33.33	66.67
51	India	33.33	66.67
51	Kenya	33.33	66.67
51	Kyrgyzstan	33.33	66.67
51	Latvia	33.33	66.67
51	Lesotho	33.33	66.67
51	Mexico	33.33	66.67
51	Nicaragua	33.33	66.67
51	Romania	33.33	66.67
51	Slovakia	33.33	66.67
51	Sweden	33.33	66.67
51	Zimbabwe	33.33	66.67
67	Lao PDR	39.00	61.00
67	Tunisia	39.00	61.00
69	Albania	44.33	55.67
69	Algeria	44.33	55.67
69	Armenia	44.33	55.67
69	Croatia	44.33	55.67
69	Cyprus	44.33	55.67
69	Dominican Republic	44.33	55.67
69	El Salvador	44.33	55.67
69	Finland	44.33	55.67
69	Germany	44.33	55.67
69	Greece	44.33	55.67
69	Iceland	44.33	55.67
69	Korea, Rep.	44.33	55.67
69	Lebanon	44.33	55.67
69	Mauritius	44.33	55.67
69	Moldova, Rep.	44.33	55.67
69	Montenegro	44.33	55.67
69	Peru	44.33	55.67
69	Portugal	44.33	55.67
69	Russian Federation	44.33	55.67
69	South Africa	44.33	55.67
69	Tanzania, United Rep.	44.33	55.67
69	Thailand	44.33	55.67
69	Turkey	44.33	55.67
69	Ukraine	44.33	55.67
69	Uruguay	44.33	55.67
94	Argentina	55.67	44.33
94	Bosnia and Herzegovina	55.67	44.33
94	Ecuador	55.67	44.33
94	Guatemala	55.67	44.33
94	Mali	55.67	44.33
94	Paraguay	55.67	44.33
100	Norway	61.00	39.00
101	Malawi	66.67	33.33
101	Mozambique	66.67	33.33
101	Nepal	66.67	33.33
104	Indonesia	72.33	27.67
105	Brazil	77.67	22.33
105	Costa Rica	77.67	22.33
105	France	77.67	22.33
105	Luxembourg	77.67	22.33
105	Panama	77.67	22.33
105	Serbia	77.67	22.33
105	Slovenia	77.67	22.33
105	Spain	77.67	22.33
105	Venezuela, Bolivarian Rep.	77.67	22.33
114	Bolivia, Plurinational St.	89.00	11.00
114	Pakistan	89.00	11.00
116	Honduras	100.00	0.00
116	Madagascar	100.00	0.00
116	Morocco	100.00	0.00
116	Senegal	100.00	0.00

SOURCE: World Bank, *Doing Business 2016: Measuring Regulatory Quality and Efficiency* (http://www.doingbusiness.org/reports/global-reports/doing-business–2016)
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1.3.2 Ease of redundancy

Redundancy indicators | 2016

Rank	Country	Value	Score
1	Argentina	0.00	100.00
1	Belgium	0.00	100.00
1	Brazil	0.00	100.00
1	Bulgaria	0.00	100.00
1	Canada	0.00	100.00
1	Colombia	0.00	100.00
1	Costa Rica	0.00	100.00
1	Czech Republic	0.00	100.00
1	Denmark	0.00	100.00
1	Dominican Republic	0.00	100.00
1	El Salvador	0.00	100.00
1	Georgia	0.00	100.00
1	Guatemala	0.00	100.00
1	Hungary	0.00	100.00
1	Iceland	0.00	100.00
1	Israel	0.00	100.00
1	Kuwait	0.00	100.00
1	Kyrgyzstan	0.00	100.00
1	Lesotho	0.00	100.00
1	Macedonia, FYR	0.00	100.00
1	Mongolia	0.00	100.00
1	Nicaragua	0.00	100.00
1	Oman	0.00	100.00
1	Qatar	0.00	100.00
1	Saudi Arabia	0.00	100.00
1	Singapore	0.00	100.00
1	Switzerland	0.00	100.00
1	Thailand	0.00	100.00
1	Uganda	0.00	100.00
1	United Arab Emirates	0.00	100.00
1	United Kingdom	0.00	100.00
1	United States of America	0.00	100.00
1	Uruguay	0.00	100.00
34	Albania	10.00	90.00
34	Armenia	10.00	90.00
34	Australia	10.00	90.00
34	Azerbaijan	10.00	90.00
34	Ireland	10.00	90.00
34	Japan	10.00	90.00
34	Malaysia	10.00	90.00
34	New Zealand	10.00	90.00
34	Slovenia	10.00	90.00
34	Turkey	10.00	90.00
44	Bahrain	20.00	80.00
44	Bhutan	20	80.00
44	Chile	20.00	80.00
44	Ecuador	20.00	80.00
44	Estonia	20.00	80.00
44	Finland	20.00	80.00
44	Lao PDR	20.00	80.00
44	Latvia	20.00	80.00
44	Lithuania	20.00	80.00
44	Malawi	20.00	80.00
44	Malta	20.00	80.00
44	Mauritius	20.00	80.00
44	Montenegro	20.00	80.00
44	Mozambique	20.00	80.00
44	Namibia	20.00	80.00
44	Poland	20.00	80.00
44	Serbia	20.00	80.00
44	Spain	20.00	80.00
44	Trinidad and Tobago	20.00	80.00
63	Bosnia and Herzegovina	30.00	70.00
63	Cambodia	30.00	70.00
63	Ethiopia	30.00	70.00
63	Greece	30.00	70.00
63	Kazakhstan	30.00	70.00
63	Kenya	30.00	70.00
63	Korea, Rep.	30.00	70.00
63	Lebanon	30.00	70.00
63	Luxembourg	30.00	70.00
63	Norway	30.00	70.00
63	Pakistan	30.00	70.00
63	Philippines	30.00	70.00
63	Romania	30.00	70.00
63	Rwanda	30.00	70.00
63	Slovakia	30.00	70.00
63	South Africa	30.00	70.00
63	Viet Nam	30.00	70.00
63	Yemen	30.00	70.00
81	Algeria	40.00	60.00
81	Austria	40.00	60.00
81	Bangladesh	40.00	60.00
81	Botswana	40.00	60.00
81	Croatia	40.00	60.00
81	Cyprus	40.00	60.00
81	France	40.00	60.00
81	Gambia	40.00	60.00
81	Germany	40.00	60.00
81	India	40.00	60.00
81	Madagascar	40.00	60.00
81	Mali	40.00	60.00
81	Moldova, Rep.	40.00	60.00
81	Portugal	40.00	60.00
81	Russian Federation	40.00	60.00
81	Senegal	40.00	60.00
81	Sweden	40.00	60.00
98	China	50.00	50.00
98	Ghana	50.00	50.00
98	Iran, Islamic Rep.	50.00	50.00
98	Italy	50.00	50.00
98	Morocco	50.00	50.00
98	Tanzania, United Rep.	50.00	50.00
98	Ukraine	50.00	50.00
105	Egypt	60.00	40.00
105	Honduras	60.00	40.00
105	Indonesia	60.00	40.00
105	Jordan	60.00	40.00
105	Panama	60.00	40.00
105	Paraguay	60.00	40.00
105	Peru	60.00	40.00
105	Sri Lanka	60.00	40.00
105	Zimbabwe	60.00	40.00
114	Mexico	70.00	30.00
114	Nepal	70.00	30.00
114	Netherlands	70.00	30.00
117	Tunisia	80.00	20.00
118	Bolivia, Plurinational St.	100.00	0.00
118	Venezuela, Bolivarian Rep.	100.00	0.00

SOURCE: World Bank, *Doing Business 2016: Measuring Regulatory Quality and Efficiency* (http://www.doingbusiness.org/reports/global-reports/doing-business–2016)
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1.3.3 Active labour market policies

Average answer to the question: In your country, to what extent do labour market policies help unemployed people to reskill and find new employment (including skills matching, retraining, etc.)? [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Switzerland	5.77	100.00
2	Singapore	5.62	97.45
3	Luxembourg	5.33	92.34
4	Iceland	5.18	89.74
5	Qatar	5.07	87.85
6	Austria	5.05	87.48
7	Malaysia	5.01	86.84
8	Germany	4.91	85.13
9	Norway	4.90	84.87
10	Netherlands	4.89	84.74
11	Denmark	4.78	82.91
12	New Zealand	4.76	82.46
13	Canada	4.73	81.95
14	United Arab Emirates	4.71	81.59
15	Belgium	4.67	81.01
16	Estonia	4.63	80.33
17	Malta	4.57	79.17
18	Finland	4.57	79.13
19	China	4.54	78.64
20	Ireland	4.49	77.75
21	United Kingdom	4.48	77.74
22	United States of America	4.46	77.28
23	Sweden	4.40	76.27
24	Bahrain	4.38	75.86
25	Australia	4.35	75.44
26	India	4.28	74.22
27	Japan	4.18	72.39
28	Kazakhstan	4.13	71.63
29	Indonesia	4.08	70.78
30	Panama	4.05	70.23
31	Saudi Arabia	4.03	69.93
32	Czech Republic	4.03	69.85
33	Bhutan	4.02	69.64
34	Israel	3.98	69.06
35	Mauritius	3.96	68.63
36	Ukraine	3.92	68.03
37	Azerbaijan	3.91	67.74
38	Oman	3.88	67.17
39	Thailand	3.85	66.77
40	Jordan	3.85	66.76
41	Latvia	3.85	66.68
42	Uruguay	3.83	66.44
43	Lao PDR	3.82	66.20
44	Russian Federation	3.82	66.18
45	Ethiopia	3.78	65.60
46	Mali	3.78	65.54
47	Slovenia	3.77	65.38
48	Lithuania	3.77	65.26
49	Rwanda	3.75	65.04
50	Korea, Rep.	3.74	64.83
51	Macedonia, FYR	3.70	64.11
52	Portugal	3.67	63.67
53	Costa Rica	3.66	63.40
54	Bulgaria	3.60	62.40
55	France	3.57	61.82
56	Cyprus	3.55	61.60
57	Romania	3.55	61.53
58	Gambia	3.50	60.67
59	Sri Lanka	3.49	60.49
60	Viet Nam	3.45	59.76
61	Kenya	3.44	59.56
62	Spain	3.43	59.48
63	Pakistan	3.43	59.43
64	Montenegro	3.42	59.32
65	Slovakia	3.40	58.90
66	Kuwait	3.34	57.98
67	Chile	3.34	57.96
68	Cambodia	3.33	57.68
69	Iran, Islamic Rep.	3.29	57.08
70	Turkey	3.28	56.89
71	Botswana	3.25	56.33
72	Tanzania, United Rep.	3.22	55.89
73	Philippines	3.22	55.73
74	Ghana	3.21	55.57
75	Colombia	3.19	55.35
76	Lesotho	3.19	55.34
77	Argentina	3.16	54.70
78	Mexico	3.13	54.24
79	Poland	3.10	53.75
80	Senegal	3.08	53.41
81	Guatemala	3.08	53.33
82	Mongolia	3.05	52.87
83	Croatia	3.04	52.62
84	Algeria	3.04	52.61
85	Serbia	3.00	52.00
86	Trinidad and Tobago	2.99	51.84
87	Dominican Republic	2.97	51.52
88	Paraguay	2.96	51.32
89	Armenia	2.96	51.28
90	Tunisia	2.89	50.12
91	Italy	2.85	49.36
92	Hungary	2.82	48.88
93	Namibia	2.80	48.48
94	Moldova, Rep.	2.79	48.34
95	Georgia	2.76	47.76
96	Kyrgyzstan	2.75	47.71
97	Morocco	2.75	47.61
98	El Salvador	2.74	47.48
99	Brazil	2.74	47.43
100	Uganda	2.73	47.34
101	Peru	2.73	47.29
102	Greece	2.73	47.27
103	Bangladesh	2.71	46.96
104	South Africa	2.67	46.37
105	Ecuador	2.66	46.10
106	Honduras	2.66	46.03
107	Bosnia and Herzegovina	2.65	46.01
108	Lebanon	2.60	45.07
109	Albania	2.58	44.70
110	Nepal	2.57	44.57
111	Bolivia, Plurinational St.	2.56	44.39
112	Venezuela, Bolivarian Rep.	2.33	40.44
113	Mozambique	2.33	40.33
114	Malawi	2.30	39.90
115	Madagascar	2.25	39.00
116	Zimbabwe	1.92	33.31
117	Yemen	1.89	32.78
118	Egypt	0.00	0.00
118	Nicaragua	0.00	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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1.3.4 Labour-employer cooperation

Average answer to the question: In your country, how would you characterise labour-employer relations? [1 = generally confrontational; 7 = generally cooperative] | 2016

Rank	Country	Value	Score
1	Norway	6.23	100.00
2	Singapore	6.17	98.37
2	Switzerland	6.17	98.37
4	Denmark	6.07	95.66
4	Sweden	6.07	95.66
6	Netherlands	5.86	89.97
7	Japan	5.76	87.26
8	Austria	5.73	86.45
9	New Zealand	5.71	85.91
10	United Arab Emirates	5.67	84.82
11	Luxembourg	5.63	83.74
12	Iceland	5.57	82.11
13	Qatar	5.53	81.03
14	United Kingdom	5.43	78.32
15	Malaysia	5.34	75.88
16	Rwanda	5.32	75.34
17	Ireland	5.31	75.07
18	Canada	5.24	73.17
19	Bahrain	5.20	72.09
20	Finland	5.18	71.54
21	Costa Rica	5.16	71.00
21	Estonia	5.16	71.00
23	Germany	5.11	69.65
24	Bhutan	5.06	68.29
24	Guatemala	5.06	68.29
24	Philippines	5.06	68.29
27	Albania	5.05	68.02
28	United States of America	5.03	67.48
29	Israel	5.02	67.21
30	Malta	4.92	64.50
31	Saudi Arabia	4.86	62.87
32	Latvia	4.80	61.25
33	Mauritius	4.79	60.98
34	Belgium	4.77	60.43
34	Thailand	4.77	60.43
36	Honduras	4.76	60.16
37	Armenia	4.75	59.89
38	Panama	4.74	59.62
39	Jordan	4.72	59.08
40	Czech Republic	4.68	57.99
40	Indonesia	4.68	57.99
42	Lao PDR	4.64	56.91
43	China	4.62	56.37
44	Colombia	4.60	55.83
45	Azerbaijan	4.58	55.28
45	Uganda	4.58	55.28
47	Mexico	4.57	55.01
47	Portugal	4.57	55.01
49	Sri Lanka	4.56	54.74
50	Australia	4.55	54.47
51	Oman	4.54	54.20
52	Kuwait	4.53	53.93
53	Chile	4.50	53.12
54	Ghana	4.47	52.30
54	Kazakhstan	4.47	52.30
54	Lithuania	4.47	52.30
57	Namibia	4.45	51.76
58	Ecuador	4.41	50.68
59	Cyprus	4.40	50.41
60	Gambia	4.39	50.14
60	India	4.39	50.14
62	Botswana	4.37	49.59
62	Mongolia	4.37	49.59
64	Cambodia	4.36	49.32
64	Dominican Republic	4.36	49.32
64	Nicaragua	4.36	49.32
67	Peru	4.33	48.51
67	Slovenia	4.33	48.51
69	Senegal	4.29	47.43
70	Paraguay	4.28	47.15
70	Spain	4.28	47.15
70	Viet Nam	4.28	47.15
73	Macedonia, FYR	4.27	46.88
74	Hungary	4.26	46.61
75	Mali	4.25	46.34
76	Lebanon	4.24	46.07
77	Slovakia	4.23	45.80
78	Georgia	4.21	45.26
79	Bangladesh	4.19	44.72
79	Bulgaria	4.19	44.72
79	Ukraine	4.19	44.72
82	Poland	4.18	44.44
83	Kenya	4.17	44.17
83	Madagascar	4.17	44.17
85	Egypt	4.13	43.09
86	Kyrgyzstan	4.11	42.55
86	Moldova, Rep.	4.11	42.55
88	Malawi	4.09	42.01
88	Russian Federation	4.09	42.01
90	Greece	4.05	40.92
91	Romania	4.04	40.65
92	Zimbabwe	3.97	38.75
93	El Salvador	3.95	38.21
94	France	3.94	37.94
95	Italy	3.89	36.59
96	Montenegro	3.88	36.31
97	Yemen	3.86	35.77
98	Algeria	3.79	33.88
98	Tanzania, United Rep.	3.79	33.88
100	Brazil	3.77	33.33
100	Ethiopia	3.77	33.33
102	Turkey	3.76	33.06
103	Lesotho	3.73	32.25
104	Argentina	3.71	31.71
104	Morocco	3.71	31.71
104	Mozambique	3.71	31.71
107	Iran, Islamic Rep.	3.70	31.44
108	Bosnia and Herzegovina	3.66	30.35
108	Serbia	3.66	30.35
110	Tunisia	3.62	29.27
111	Venezuela, Bolivarian Rep.	3.56	27.64
112	Nepal	3.52	26.56
113	Bolivia, Plurinational St.	3.50	26.02
113	Croatia	3.50	26.02
115	Pakistan	3.40	23.31
116	Korea, Rep.	3.39	23.04
117	Uruguay	3.37	22.49
118	Trinidad and Tobago	3.16	16.80
119	South Africa	2.54	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

1.3.5 Professional management

Average answer to the question: In your country, who holds senior management positions? [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications] | 2016

Rank	Country	Value	Score
1	Finland	6.32	100.00
2	Sweden	6.26	98.28
3	New Zealand	6.24	97.71
4	Singapore	6.23	97.42
5	Norway	6.22	97.13
6	Ireland	6.21	96.85
6	Netherlands	6.21	96.85
8	Switzerland	6.15	95.13
9	United Kingdom	6.07	92.84
10	Belgium	6.01	91.12
11	Australia	5.96	89.68
11	United States of America	5.96	89.68
13	Denmark	5.94	89.11
14	Canada	5.79	84.81
15	Germany	5.73	83.09
16	Japan	5.72	82.81
17	Luxembourg	5.71	82.52
18	United Arab Emirates	5.57	78.51
19	Malaysia	5.55	77.94
20	Iceland	5.54	77.65
21	South Africa	5.53	77.36
22	France	5.51	76.79
23	Austria	5.50	76.50
24	Israel	5.41	73.93
25	Estonia	5.35	72.21
26	Qatar	5.34	71.92
27	Czech Republic	5.28	70.20
28	Korea, Rep.	4.93	60.17
29	Rwanda	4.90	59.31
30	Bahrain	4.79	56.16
31	Ghana	4.74	54.73
31	Saudi Arabia	4.74	54.73
33	Philippines	4.72	54.15
33	Spain	4.72	54.15
35	Chile	4.69	53.30
36	Lithuania	4.68	53.01
37	Indonesia	4.66	52.44
38	Zimbabwe	4.65	52.15
39	Botswana	4.64	51.86
40	Trinidad and Tobago	4.62	51.29
41	Costa Rica	4.58	50.14
41	Namibia	4.58	50.14
41	Sri Lanka	4.58	50.14
44	Gambia	4.56	49.57
44	Thailand	4.56	49.57
46	Malta	4.53	48.71
47	Mauritius	4.52	48.42
47	Slovakia	4.52	48.42
49	Malawi	4.51	48.14
49	Peru	4.51	48.14
51	Bhutan	4.48	47.28
51	China	4.48	47.28
51	Georgia	4.48	47.28
54	Argentina	4.46	46.70
54	Brazil	4.46	46.70
54	Oman	4.46	46.70
57	Latvia	4.36	43.84
58	Poland	4.32	42.69
58	Uruguay	4.32	42.69
60	Guatemala	4.31	42.41
60	India	4.31	42.41
60	Venezuela, Bolivarian Rep.	4.31	42.41
63	Kenya	4.30	42.12
64	Panama	4.29	41.83
65	Slovenia	4.28	41.55
66	Mexico	4.26	40.97
67	Jordan	4.20	39.26
68	Senegal	4.13	37.25
69	Portugal	4.11	36.68
70	Azerbaijan	4.08	35.82
70	Colombia	4.08	35.82
72	Turkey	4.02	34.10
73	Albania	4.01	33.81
74	Uganda	4.00	33.52
75	Morocco	3.98	32.95
76	Lao PDR	3.96	32.38
77	Tanzania, United Rep.	3.95	32.09
78	Armenia	3.94	31.81
78	Russian Federation	3.94	31.81
80	Romania	3.93	31.52
81	Lebanon	3.91	30.95
82	Croatia	3.86	29.51
83	Tunisia	3.84	28.94
84	Greece	3.80	27.79
85	Kazakhstan	3.79	27.51
86	Cambodia	3.78	27.22
87	Honduras	3.76	26.65
88	Ecuador	3.75	26.36
89	Bulgaria	3.71	25.21
89	Italy	3.71	25.21
89	Madagascar	3.71	25.21
92	Bangladesh	3.70	24.93
93	Viet Nam	3.65	23.50
94	Ethiopia	3.64	23.21
95	Hungary	3.63	22.92
95	Lesotho	3.63	22.92
97	Macedonia, FYR	3.62	22.64
98	Montenegro	3.61	22.35
99	Mongolia	3.57	21.20
100	El Salvador	3.56	20.92
101	Ukraine	3.55	20.63
102	Moldova, Rep.	3.53	20.06
103	Cyprus	3.51	19.48
103	Dominican Republic	3.51	19.48
105	Pakistan	3.40	16.33
106	Paraguay	3.39	16.05
107	Mali	3.38	15.76
107	Nepal	3.38	15.76
109	Kuwait	3.37	15.47
110	Mozambique	3.33	14.33
111	Bolivia, Plurinational St.	3.32	14.04
112	Iran, Islamic Rep.	3.26	12.32
112	Kyrgyzstan	3.26	12.32
112	Serbia	3.26	12.32
115	Nicaragua	3.24	11.75
116	Egypt	3.13	8.60
117	Bosnia and Herzegovina	3.09	7.45
118	Algeria	2.97	4.01
119	Yemen	2.83	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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1.3.6 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] | 2016

Rank	Country	Value	Score
1	Switzerland	5.62	100.00
2	Singapore	5.50	95.96
3	Qatar	5.35	90.91
4	United Arab Emirates	5.32	89.90
5	Malaysia	5.30	89.23
6	Ireland	5.26	87.88
7	United States of America	5.16	84.51
8	New Zealand	5.08	81.82
9	Germany	5.04	80.47
10	Denmark	4.98	78.45
11	Estonia	4.97	78.11
12	Canada	4.95	77.44
13	Iceland	4.92	76.43
14	Norway	4.89	75.42
15	Korea, Rep.	4.84	73.74
16	Finland	4.83	73.40
17	United Kingdom	4.80	72.39
18	Luxembourg	4.75	70.71
19	Czech Republic	4.74	70.37
20	Bahrain	4.71	69.36
21	Belgium	4.69	68.69
22	Japan	4.68	68.35
23	Australia	4.67	68.01
23	Netherlands	4.67	68.01
25	China	4.61	65.99
26	Indonesia	4.60	65.66
26	Israel	4.60	65.66
28	Austria	4.57	64.65
28	Sweden	4.57	64.65
30	India	4.54	63.64
31	Azerbaijan	4.49	61.95
31	Lao PDR	4.49	61.95
33	Costa Rica	4.48	61.62
34	Kazakhstan	4.47	61.28
34	Philippines	4.47	61.28
34	Saudi Arabia	4.47	61.28
37	Albania	4.44	60.27
38	Russian Federation	4.43	59.93
39	Malta	4.42	59.60
39	Slovakia	4.42	59.60
39	Ukraine	4.42	59.60
42	Rwanda	4.39	58.59
43	Lithuania	4.38	58.25
44	Sri Lanka	4.35	57.24
45	Macedonia, FYR	4.32	56.23
46	Latvia	4.30	55.56
47	Chile	4.28	54.88
47	Mauritius	4.28	54.88
49	Thailand	4.27	54.55
50	France	4.25	53.87
50	Kyrgyzstan	4.25	53.87
52	Gambia	4.21	52.53
52	Jordan	4.21	52.53
54	Guatemala	4.18	51.52
55	Bhutan	4.15	50.51
56	Lebanon	4.12	49.49
57	Armenia	4.11	49.16
58	Poland	4.06	47.47
59	Cambodia	4.03	46.46
59	Viet Nam	4.03	46.46
61	Panama	4.01	45.79
62	Portugal	4.00	45.45
63	Croatia	3.98	44.78
64	Bulgaria	3.96	44.11
65	Honduras	3.94	43.43
66	Slovenia	3.92	42.76
67	Trinidad and Tobago	3.90	42.09
68	Kenya	3.89	41.75
69	Georgia	3.88	41.41
70	Moldova, Rep.	3.85	40.40
71	Ecuador	3.83	39.73
72	Ethiopia	3.82	39.39
72	Mexico	3.82	39.39
72	Oman	3.82	39.39
75	Peru	3.81	39.06
76	Bangladesh	3.73	36.36
76	Cyprus	3.73	36.36
78	Colombia	3.72	36.03
78	Greece	3.72	36.03
78	Montenegro	3.72	36.03
81	Brazil	3.71	35.69
81	Namibia	3.71	35.69
81	Romania	3.71	35.69
84	Senegal	3.67	34.34
85	Turkey	3.65	33.67
86	Lesotho	3.64	33.33
86	Mongolia	3.64	33.33
88	Pakistan	3.63	33.00
88	South Africa	3.63	33.00
90	Ghana	3.62	32.66
91	Botswana	3.61	32.32
92	Malawi	3.59	31.65
93	Spain	3.58	31.31
94	Argentina	3.52	29.29
94	Serbia	3.52	29.29
94	Uganda	3.52	29.29
97	Hungary	3.49	28.28
98	Tanzania, United Rep.	3.47	27.61
99	Kuwait	3.46	27.27
99	Madagascar	3.46	27.27
101	Iran, Islamic Rep.	3.42	25.93
101	Morocco	3.42	25.93
101	Nicaragua	3.42	25.93
104	Nepal	3.30	21.89
104	Uruguay	3.30	21.89
104	Yemen	3.30	21.89
107	Mali	3.27	20.88
108	Algeria	3.26	20.54
109	Zimbabwe	3.25	20.20
110	Dominican Republic	3.23	19.53
111	Egypt	3.20	18.52
112	Paraguay	3.18	17.85
113	Italy	3.13	16.16
114	El Salvador	3.09	14.81
115	Bolivia, Plurinational St.	3.08	14.48
116	Bosnia and Herzegovina	3.06	13.80
117	Tunisia	3.00	11.78
118	Mozambique	2.89	8.08
119	Venezuela, Bolivarian Rep.	2.65	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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Pillar 2

Attract

2.1.1 FDI and technology transfer

Average answer to the question: To what extent does foreign direct investment (FDI) bring new technology into your country? [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Ireland	6.31	100.00
2	Singapore	5.92	89.82
3	Luxembourg	5.67	83.29
3	United Arab Emirates	5.67	83.29
5	Panama	5.55	80.16
6	Israel	5.45	77.55
7	Qatar	5.44	77.28
8	Malaysia	5.39	75.98
9	Switzerland	5.35	74.93
10	Belgium	5.32	74.15
11	Netherlands	5.29	73.37
12	United Kingdom	5.28	73.11
13	Norway	5.27	72.85
14	Slovakia	5.26	72.58
15	Costa Rica	5.18	70.50
16	Chile	5.15	69.71
16	Germany	5.15	69.71
18	Portugal	5.14	69.45
19	Canada	5.13	69.19
19	Malta	5.13	69.19
21	Mexico	5.07	67.62
22	Czech Republic	5.06	67.36
22	Lithuania	5.06	67.36
24	United States of America	5.05	67.10
25	Sweden	5.01	66.06
26	Spain	5.00	65.80
27	France	4.96	64.75
28	New Zealand	4.93	63.97
28	Uruguay	4.93	63.97
30	Denmark	4.91	63.45
31	Bahrain	4.87	62.40
31	Japan	4.87	62.40
33	Rwanda	4.81	60.84
33	Saudi Arabia	4.81	60.84
35	Azerbaijan	4.78	60.05
36	Australia	4.76	59.53
37	Estonia	4.75	59.27
38	Albania	4.73	58.75
38	Dominican Republic	4.73	58.75
38	Thailand	4.73	58.75
41	Bulgaria	4.70	57.96
42	Peru	4.69	57.70
43	Austria	4.65	56.66
43	Jordan	4.65	56.66
45	Kenya	4.64	56.40
45	Poland	4.64	56.40
47	Indonesia	4.62	55.87
48	Honduras	4.59	55.09
48	South Africa	4.59	55.09
50	Cambodia	4.58	54.83
51	India	4.57	54.57
52	Finland	4.56	54.31
52	Guatemala	4.56	54.31
52	Korea, Rep.	4.56	54.31
55	China	4.55	54.05
55	Morocco	4.55	54.05
57	Mauritius	4.52	53.26
58	Philippines	4.50	52.74
59	Brazil	4.46	51.70
59	Turkey	4.46	51.70
61	Latvia	4.43	50.91
62	Hungary	4.41	50.39
62	Romania	4.41	50.39
64	Colombia	4.38	49.61
65	Egypt	4.37	49.35
66	Namibia	4.36	49.09
67	Montenegro	4.30	47.52
68	Uganda	4.28	47.00
69	Armenia	4.27	46.74
69	Sri Lanka	4.27	46.74
71	Trinidad and Tobago	4.24	45.95
72	Ghana	4.23	45.69
72	Tunisia	4.23	45.69
74	Iceland	4.22	45.43
75	Viet Nam	4.20	44.91
76	Iran, Islamic Rep.	4.16	43.86
77	Oman	4.13	43.08
78	Pakistan	4.12	42.82
79	Cyprus	4.09	42.04
79	Nicaragua	4.09	42.04
81	Macedonia, FYR	4.08	41.78
82	Lao PDR	4.05	40.99
82	Paraguay	4.05	40.99
84	Gambia	4.04	40.73
85	Botswana	4.03	40.47
86	Mongolia	4.01	39.95
87	Kazakhstan	4.00	39.69
88	Tanzania, United Rep.	3.99	39.43
89	Georgia	3.98	39.16
90	Slovenia	3.96	38.64
91	Moldova, Rep.	3.93	37.86
92	Mozambique	3.92	37.60
93	Ethiopia	3.90	37.08
94	Senegal	3.89	36.81
95	Greece	3.88	36.55
96	Italy	3.85	35.77
97	Mali	3.82	34.99
98	El Salvador	3.79	34.20
99	Madagascar	3.76	33.42
100	Serbia	3.74	32.90
101	Bangladesh	3.67	31.07
101	Russian Federation	3.67	31.07
103	Croatia	3.66	30.81
104	Ukraine	3.65	30.55
105	Kuwait	3.62	29.77
106	Ecuador	3.60	29.24
107	Bhutan	3.59	28.98
108	Algeria	3.55	27.94
109	Bosnia and Herzegovina	3.51	26.89
109	Lebanon	3.51	26.89
111	Bolivia, Plurinational St.	3.45	25.33
112	Kyrgyzstan	3.32	21.93
113	Lesotho	3.29	21.15
114	Malawi	3.26	20.37
115	Nepal	3.23	19.58
116	Argentina	3.08	15.67
117	Zimbabwe	2.82	8.88
118	Yemen	2.80	8.36
119	Venezuela, Bolivarian Rep.	2.48	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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2.1.2 Prevalence of foreign ownership

Average answer to the question: In your country, how prevalent is foreign ownership of companies? [1 = extremely rare; 7 = extremely prevalent] | 2016

Rank	Country	Value	Score
1	United Kingdom	6.20	100.00
2	Ireland	6.17	99.26
3	Luxembourg	6.12	98.02
4	Singapore	6.07	96.79
5	Czech Republic	5.99	94.81
6	Slovakia	5.93	93.33
7	Panama	5.83	90.86
8	Estonia	5.77	89.38
9	United Arab Emirates	5.66	86.67
10	Australia	5.58	84.69
10	Belgium	5.58	84.69
12	France	5.54	83.70
13	Canada	5.51	82.96
14	Chile	5.48	82.22
15	Bahrain	5.46	81.73
16	Sweden	5.45	81.48
16	Switzerland	5.45	81.48
18	Denmark	5.41	80.49
19	Netherlands	5.40	80.25
20	Japan	5.33	78.52
21	Mexico	5.32	78.27
21	New Zealand	5.32	78.27
23	Botswana	5.26	76.79
23	Uganda	5.26	76.79
25	Norway	5.25	76.54
26	Malaysia	5.20	75.31
27	South Africa	5.16	74.32
28	United States of America	5.10	72.84
29	Costa Rica	5.09	72.59
29	Latvia	5.09	72.59
29	Spain	5.09	72.59
29	Uruguay	5.09	72.59
33	Namibia	5.08	72.35
33	Poland	5.08	72.35
35	Ghana	5.07	72.10
36	Dominican Republic	5.06	71.85
37	Finland	5.05	71.60
38	Austria	5.02	70.86
38	Israel	5.02	70.86
40	Peru	4.99	70.12
41	Germany	4.93	68.64
42	Malta	4.92	68.40
43	Gambia	4.90	67.90
44	Malawi	4.78	64.94
45	Morocco	4.76	64.44
46	Cambodia	4.75	64.20
46	Thailand	4.75	64.20
48	Portugal	4.71	63.21
49	Mauritius	4.70	62.96
50	Kenya	4.69	62.72
51	Indonesia	4.68	62.47
52	Rwanda	4.63	61.23
53	Guatemala	4.62	60.99
54	Senegal	4.60	60.49
55	Colombia	4.53	58.77
56	Philippines	4.51	58.27
57	China	4.49	57.78
58	Hungary	4.48	57.53
58	Mozambique	4.48	57.53
60	Qatar	4.46	57.04
61	India	4.45	56.79
62	Lao PDR	4.44	56.54
63	Jordan	4.43	56.30
63	Nicaragua	4.43	56.30
63	Trinidad and Tobago	4.43	56.30
66	Honduras	4.42	56.05
67	Sri Lanka	4.40	55.56
68	Azerbaijan	4.39	55.31
69	Lithuania	4.37	54.81
70	El Salvador	4.33	53.83
70	Korea, Rep.	4.33	53.83
72	Paraguay	4.31	53.33
73	Romania	4.29	52.84
74	Argentina	4.27	52.35
75	Bulgaria	4.26	52.10
76	Viet Nam	4.25	51.85
77	Tanzania, United Rep.	4.24	51.60
78	Brazil	4.20	50.62
79	Georgia	4.19	50.37
79	Greece	4.19	50.37
79	Lesotho	4.19	50.37
82	Macedonia, FYR	4.16	49.63
83	Madagascar	4.15	49.38
83	Oman	4.15	49.38
85	Serbia	4.14	49.14
86	Montenegro	4.10	48.15
86	Tunisia	4.10	48.15
88	Croatia	4.08	47.65
88	Turkey	4.08	47.65
90	Armenia	4.06	47.16
91	Cyprus	4.04	46.67
92	Kazakhstan	4.03	46.42
93	Zimbabwe	3.96	44.69
94	Albania	3.90	43.21
95	Mongolia	3.86	42.22
96	Ethiopia	3.84	41.73
97	Lebanon	3.82	41.23
98	Italy	3.77	40.00
99	Bangladesh	3.76	39.75
100	Saudi Arabia	3.69	38.02
101	Bosnia and Herzegovina	3.65	37.04
102	Pakistan	3.63	36.54
103	Moldova, Rep.	3.54	34.32
104	Slovenia	3.53	34.07
105	Kyrgyzstan	3.49	33.09
106	Mali	3.46	32.35
107	Ecuador	3.44	31.85
108	Iceland	3.39	30.62
109	Egypt	3.36	29.88
110	Russian Federation	3.34	29.38
111	Bolivia, Plurinational St.	3.28	27.90
112	Ukraine	3.22	26.42
113	Venezuela, Bolivarian Rep.	3.19	25.68
114	Algeria	3.08	22.96
115	Nepal	2.94	19.51
116	Bhutan	2.81	16.30
117	Kuwait	2.68	13.09
118	Iran, Islamic Rep.	2.39	5.93
119	Yemen	2.15	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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2.1.3 Migrant stock

Adult migrant stock (%) | 2015

Rank	Country	Value	Score
1	Bahrain	51.13	100.00
1	Kuwait	73.64	100.00
1	Qatar	75.50	100.00
1	Singapore	45.39	100.00
1	United Arab Emirates	88.40	100.00
6	Luxembourg	43.96	96.84
7	Oman	41.09	90.51
8	Jordan	40.98	90.27
9	Lebanon	34.15	75.20
10	Saudi Arabia	32.29	71.09
11	Switzerland	29.39	64.70
12	Australia	28.22	62.11
13	Israel	24.95	54.90
14	New Zealand	22.96	50.51
15	Canada	21.80	47.95
16	Kazakhstan	20.12	44.24
17	Austria	17.47	38.39
18	Cyprus	16.83	36.98
19	Sweden	16.77	36.85
20	Ireland	15.92	34.97
21	Estonia	15.42	33.87
22	Germany	14.88	32.68
23	United States of America	14.49	31.82
24	Norway	14.24	31.27
25	Croatia	13.60	29.85
26	Latvia	13.35	29.30
27	United Kingdom	13.20	28.97
28	Montenegro	13.19	28.95
29	Spain	12.69	27.85
30	Belgium	12.28	26.94
31	France	12.09	26.52
32	Netherlands	11.70	25.66
33	Slovenia	11.41	25.02
34	Iceland	11.39	24.98
35	Greece	11.34	24.87
36	Ukraine	10.79	23.65
37	Denmark	10.10	22.13
38	Malta	9.90	21.69
39	Italy	9.68	21.20
40	Gambia	9.67	21.18
41	Serbia	9.12	19.97
42	Costa Rica	8.77	19.20
43	Malaysia	8.29	18.14
44	Russian Federation	8.12	17.76
45	Portugal	8.09	17.70
46	Botswana	7.10	15.51
47	Bhutan	6.60	14.41
48	Armenia	6.34	13.83
49	Macedonia, FYR	6.29	13.72
50	South Africa	5.77	12.58
51	Thailand	5.76	12.56
52	Finland	5.74	12.51
53	Argentina	4.81	10.46
54	Lithuania	4.73	10.28
55	Panama	4.70	10.22
56	Hungary	4.56	9.91
57	Venezuela, Bolivarian Rep.	4.51	9.80
58	Georgia	4.22	9.16
59	Dominican Republic	3.95	8.56
60	Czech Republic	3.84	8.32
61	Namibia	3.82	8.27
62	Rwanda	3.80	8.23
63	Turkey	3.77	8.16
64	Trinidad and Tobago	3.67	7.94
65	Moldova, Rep.	3.51	7.59
66	Iran, Islamic Rep.	3.45	7.46
67	Kyrgyzstan	3.44	7.44
68	Slovakia	3.27	7.06
69	Azerbaijan	2.71	5.83
70	Korea, Rep.	2.64	5.67
71	Chile	2.62	5.63
72	Zimbabwe	2.56	5.49
73	Ecuador	2.40	5.14
74	Paraguay	2.36	5.05
75	Kenya	2.35	5.03
76	Mauritius	2.25	4.81
77	Uruguay	2.09	4.46
78	Mali	2.06	4.39
79	Albania	1.99	4.24
80	Pakistan	1.92	4.08
80	Uganda	1.92	4.08
82	Nepal	1.82	3.86
83	Senegal	1.74	3.68
84	Japan	1.61	3.40
85	Poland	1.60	3.38
86	Ghana	1.46	3.07
87	Bulgaria	1.43	3.00
88	Bolivia, Plurinational St.	1.33	2.78
89	Yemen	1.28	2.67
90	Malawi	1.25	2.60
91	Romania	1.16	2.41
92	Ethiopia	1.08	2.23
93	Mexico	0.94	1.92
94	Bosnia and Herzegovina	0.91	1.85
95	Bangladesh	0.88	1.79
96	Mozambique	0.80	1.61
97	El Salvador	0.69	1.37
98	Nicaragua	0.66	1.30
99	Algeria	0.61	1.19
100	Mongolia	0.60	1.17
101	Egypt	0.54	1.04
102	Tunisia	0.50	0.95
103	Tanzania, United Rep.	0.49	0.93
104	Cambodia	0.47	0.88
104	Guatemala	0.47	0.88
106	India	0.40	0.73
107	Honduras	0.35	0.62
108	Brazil	0.34	0.60
109	Lao PDR	0.33	0.57
110	Lesotho	0.31	0.53
111	Peru	0.29	0.49
112	Colombia	0.28	0.46
113	Morocco	0.26	0.42
114	Philippines	0.21	0.31
115	Sri Lanka	0.19	0.26
116	Indonesia	0.13	0.13
116	Madagascar	0.13	0.13
118	Viet Nam	0.08	0.02
119	China	0.07	0.00

SOURCE: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex (www.un.org/en/development/desa/population/migration/data/estimates2/estimates15.shtml)
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 2006.

2.1.4 International students

Tertiary inbound mobility ratio (%) | 2016

Rank	Country	Value	Score
1	Luxembourg	40.56	100.00
1	Qatar	37.71	100.00
1	Singapore	19.17	100.00
1	United Arab Emirates	46.90	100.00
5	New Zealand	18.74	97.75
6	Australia	18.30	95.45
7	United Kingdom	18.22	95.04
8	Cyprus	17.56	91.59
9	Switzerland	17.11	89.24
10	Austria	15.89	82.86
11	Senegal	15.79	82.34
12	Bahrain	13.87	72.31
13	Jordan	12.91	67.29
14	Belgium	11.19	58.31
15	Uganda	10.73	55.90
16	Namibia	10.17	52.98
17	Denmark	9.93	51.72
18	Lebanon	9.85	51.31
19	France	9.84	51.25
20	Czech Republic	9.83	51.20
21	Germany	7.68	39.97
22	Finland	7.65	39.81
23	Bosnia and Herzegovina	7.47	38.87
24	Malaysia	7.37	38.35
25	Netherlands	7.25	37.72
26	Hungary	7.05	36.68
27	Ireland	7.00	36.42
28	Iceland	6.54	34.01
29	Malta	6.21	32.29
30	Sweden	5.91	30.72
31	Slovakia	5.61	29.15
32	Estonia	5.18	26.91
33	Latvia	4.99	25.91
34	Saudi Arabia	4.78	24.82
35	Italy	4.72	24.50
36	United States of America	4.65	24.14
37	Kyrgyzstan	4.51	23.41
38	Ghana	4.27	22.15
39	Romania	4.26	22.10
39	Yemen	4.26	22.10
41	Bulgaria	4.25	22.05
42	Greece	4.19	21.73
43	South Africa	4.18	21.68
44	Armenia	4.14	21.47
45	Serbia	4.13	21.42
46	Portugal	4.11	21.32
47	Mauritius	4.02	20.85
48	Georgia	3.75	19.44
49	Norway	3.55	18.39
50	Japan	3.44	17.82
51	Ukraine	3.24	16.77
52	Russian Federation	3.05	15.78
53	Spain	2.86	14.79
54	Macedonia, FYR	2.84	14.68
55	Oman	2.81	14.52
56	Israel	2.78	14.37
57	Slovenia	2.75	14.21
58	Moldova, Rep.	2.50	12.90
59	Lithuania	2.45	12.64
60	Dominican Republic	2.34	12.07
61	Thailand	2.10	10.82
62	Azerbaijan	2.05	10.55
63	Kazakhstan	2.01	10.34
64	Tunisia	2.00	10.29
65	Egypt	1.88	9.67
66	Morocco	1.80	9.25
67	Madagascar	1.77	9.09
68	Albania	1.69	8.67
69	Korea, Rep.	1.66	8.52
70	Botswana	1.63	8.36
71	Poland	1.46	7.47
72	Malawi	1.14	5.80
73	Rwanda	0.96	4.86
74	Turkey	0.88	4.44
75	Honduras	0.69	3.45
75	Mongolia	0.69	3.45
77	Algeria	0.62	3.08
78	Ecuador	0.59	2.93
79	Mali	0.53	2.61
80	Zimbabwe	0.47	2.30
81	El Salvador	0.40	1.93
82	Lesotho	0.39	1.88
83	Croatia	0.38	1.83
84	Mozambique	0.37	1.78
85	Sri Lanka	0.32	1.52
86	Chile	0.31	1.46
87	Iran, Islamic Rep.	0.29	1.36
88	China	0.28	1.31
89	Brazil	0.24	1.10
89	Lao PDR	0.24	1.10
89	Mexico	0.24	1.10
92	Colombia	0.18	0.78
93	India	0.13	0.52
94	Indonesia	0.12	0.47
94	Viet Nam	0.12	0.47
96	Bangladesh	0.10	0.37
96	Philippines	0.10	0.37
98	Venezuela, Bolivarian Rep.	0.09	0.31
99	Cambodia	0.07	0.21
100	Nepal	0.03	0.00
	Argentina	n/a	n/a
	Bhutan	n/a	n/a
	Bolivia, Plurinational St.	n/a	n/a
	Canada	n/a	n/a
	Costa Rica	n/a	n/a
	Ethiopia	n/a	n/a
	Gambia	n/a	n/a
	Guatemala	n/a	n/a
	Kenya	n/a	n/a
	Kuwait	n/a	n/a
	Montenegro	n/a	n/a
	Nicaragua	n/a	n/a
	Pakistan	n/a	n/a
	Panama	n/a	n/a
	Paraguay	n/a	n/a
	Peru	n/a	n/a
	Tanzania, United Rep.	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	Uruguay	n/a	n/a

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 2006.

2.1.5 Brain gain

Average answer to the question: 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] | 2016

Rank	Country	Value	Score
1	Switzerland	6.28	100.00
2	United Arab Emirates	6.08	95.98
3	United Kingdom	6.03	94.98
4	Singapore	6.01	94.58
5	United States of America	5.80	90.36
6	Qatar	5.76	89.56
7	Ireland	5.54	85.14
8	Luxembourg	5.51	84.54
9	Canada	5.12	76.71
10	Malaysia	5.10	76.31
11	Panama	5.06	75.50
12	Netherlands	4.97	73.69
13	Rwanda	4.92	72.69
14	New Zealand	4.88	71.89
15	Germany	4.74	69.08
16	Saudi Arabia	4.72	68.67
17	Norway	4.67	67.67
18	Australia	4.66	67.47
19	Bahrain	4.57	65.66
20	Malta	4.41	62.45
21	India	4.40	62.25
22	China	4.37	61.65
23	Chile	4.32	60.64
24	Azerbaijan	4.26	59.44
24	Oman	4.26	59.44
26	Indonesia	4.22	58.63
27	Belgium	4.19	58.03
28	Sweden	4.09	56.02
29	Denmark	4.06	55.42
30	Mauritius	4.01	54.42
31	Iceland	4.00	54.22
32	Austria	3.98	53.82
33	Kenya	3.93	52.81
34	Botswana	3.92	52.61
35	Israel	3.86	51.41
36	Namibia	3.84	51.00
37	Ethiopia	3.77	49.60
38	Costa Rica	3.76	49.40
38	Ghana	3.76	49.40
40	Thailand	3.74	49.00
41	Peru	3.73	48.80
42	Korea, Rep.	3.72	48.59
43	France	3.64	46.99
43	Kazakhstan	3.64	46.99
45	South Africa	3.63	46.79
46	Bhutan	3.62	46.59
47	Gambia	3.61	46.39
48	Cambodia	3.57	45.58
48	Mozambique	3.57	45.58
48	Tanzania, United Rep.	3.57	45.58
51	Trinidad and Tobago	3.53	44.78
52	Jordan	3.52	44.58
53	Mexico	3.51	44.38
54	Finland	3.48	43.78
54	Senegal	3.48	43.78
56	Dominican Republic	3.45	43.17
57	Lao PDR	3.38	41.77
58	Morocco	3.37	41.57
59	Czech Republic	3.32	40.56
59	Estonia	3.32	40.56
61	Madagascar	3.31	40.36
62	Honduras	3.27	39.56
62	Mali	3.27	39.56
62	Viet Nam	3.27	39.56
65	Guatemala	3.25	39.16
66	Philippines	3.22	38.55
67	Japan	3.20	38.15
67	Lesotho	3.20	38.15
69	Ecuador	3.18	37.75
70	Portugal	3.16	37.35
71	Russian Federation	3.15	37.15
71	Spain	3.15	37.15
73	Colombia	3.14	36.95
74	Pakistan	3.13	36.75
74	Paraguay	3.13	36.75
76	Kuwait	3.12	36.55
77	Sri Lanka	3.03	34.74
78	Uganda	3.01	34.34
78	Ukraine	3.01	34.34
80	Cyprus	2.98	33.73
81	Malawi	2.95	33.13
82	Uruguay	2.88	31.73
83	Nicaragua	2.80	30.12
84	Bangladesh	2.76	29.32
85	Brazil	2.74	28.92
86	Armenia	2.71	28.31
87	Egypt	2.70	28.11
88	Argentina	2.64	26.91
88	Georgia	2.64	26.91
88	Italy	2.64	26.91
91	Turkey	2.63	26.71
92	Lebanon	2.57	25.50
93	Bulgaria	2.53	24.70
94	Lithuania	2.52	24.50
95	Montenegro	2.51	24.30
96	Nepal	2.49	23.90
96	Slovenia	2.49	23.90
98	Bolivia, Plurinational St.	2.47	23.49
98	Mongolia	2.47	23.49
98	Poland	2.47	23.49
101	Latvia	2.44	22.89
102	Albania	2.40	22.09
102	Kyrgyzstan	2.40	22.09
104	El Salvador	2.36	21.29
105	Hungary	2.35	21.08
106	Tunisia	2.27	19.48
107	Zimbabwe	2.25	19.08
108	Algeria	2.24	18.88
108	Iran, Islamic Rep.	2.24	18.88
110	Romania	2.18	17.67
111	Macedonia, FYR	2.16	17.27
112	Greece	2.08	15.66
113	Yemen	2.04	14.86
114	Slovakia	2.03	14.66
115	Croatia	1.90	12.05
116	Bosnia and Herzegovina	1.73	8.63
117	Moldova, Rep.	1.72	8.43
118	Serbia	1.68	7.63
119	Venezuela, Bolivarian Rep.	1.30	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

2.2.1 Tolerance of minorities

Discrimination and violence against minorities | 2016

Rank	Country	Value	Score
1	Iceland	1.30	100.00
1	Sweden	1.30	100.00
3	Finland	1.60	96.55
4	Ireland	1.90	93.10
5	Portugal	2.60	85.06
6	Oman	3.00	80.46
6	Uruguay	3.00	80.46
8	Luxembourg	3.10	79.31
8	Singapore	3.10	79.31
10	Korea, Rep.	3.40	75.86
11	Denmark	3.60	73.56
11	Switzerland	3.60	73.56
13	Gambia	3.70	72.41
13	Norway	3.70	72.41
15	Czech Republic	3.80	71.26
15	Mauritius	3.80	71.26
17	Canada	3.90	70.11
17	Malta	3.90	70.11
17	Netherlands	3.90	70.11
17	Slovenia	3.90	70.11
17	United Arab Emirates	3.90	70.11
22	Belgium	4.10	67.82
22	Chile	4.10	67.82
22	New Zealand	4.10	67.82
22	Trinidad and Tobago	4.10	67.82
26	Japan	4.20	66.67
27	Austria	4.30	65.52
27	Lithuania	4.30	65.52
27	Mongolia	4.30	65.52
30	Australia	4.40	64.37
30	Lesotho	4.40	64.37
30	Poland	4.40	64.37
33	Germany	4.60	62.07
33	Ghana	4.60	62.07
33	Madagascar	4.60	62.07
33	Qatar	4.60	62.07
37	Costa Rica	4.70	60.92
37	Hungary	4.70	60.92
37	Kuwait	4.70	60.92
40	Italy	4.90	58.62
41	Albania	5.00	57.47
41	Argentina	5.00	57.47
41	Greece	5.00	57.47
41	United States of America	5.00	57.47
45	Bulgaria	5.20	55.17
46	Armenia	5.40	52.87
46	Botswana	5.40	52.87
46	Malawi	5.40	52.87
49	South Africa	5.50	51.72
50	Panama	5.60	50.57
50	United Kingdom	5.60	50.57
52	Croatia	5.70	49.43
52	Tanzania, United Rep.	5.70	49.43
54	Dominican Republic	5.80	48.28
54	Spain	5.80	48.28
56	Brazil	5.90	47.13
56	Mozambique	5.90	47.13
56	Namibia	5.90	47.13
56	Paraguay	5.90	47.13
56	Slovakia	5.90	47.13
61	Malaysia	6.20	43.68
62	El Salvador	6.30	42.53
62	Lao PDR	6.30	42.53
62	Senegal	6.30	42.53
65	Azerbaijan	6.40	41.38
65	Honduras	6.40	41.38
65	Mexico	6.40	41.38
68	Bolivia, Plurinational St.	6.50	40.23
68	Estonia	6.50	40.23
68	Moldova, Rep.	6.50	40.23
68	Nicaragua	6.50	40.23
68	Viet Nam	6.50	40.23
73	France	6.80	36.78
73	Romania	6.80	36.78
75	Cyprus	7.00	34.48
75	Kazakhstan	7.00	34.48
75	Macedonia, FYR	7.00	34.48
75	Ukraine	7.00	34.48
79	Bosnia and Herzegovina	7.10	33.33
79	Morocco	7.10	33.33
81	Indonesia	7.30	31.03
81	Montenegro	7.30	31.03
81	Venezuela, Bolivarian Rep.	7.30	31.03
84	Cambodia	7.40	29.89
84	Latvia	7.40	29.89
84	Saudi Arabia	7.40	29.89
87	Peru	7.50	28.74
88	Mali	7.60	27.59
89	Bahrain	7.70	26.44
89	Jordan	7.70	26.44
91	Ecuador	7.80	25.29
91	Georgia	7.80	25.29
91	Tunisia	7.80	25.29
91	Zimbabwe	7.80	25.29
95	Bhutan	7.90	24.14
95	Guatemala	7.90	24.14
97	Colombia	8.00	22.99
98	Serbia	8.10	21.84
99	Algeria	8.20	20.69
100	China	8.30	19.54
100	India	8.30	19.54
100	Philippines	8.30	19.54
103	Bangladesh	8.40	18.39
103	Kyrgyzstan	8.40	18.39
105	Ethiopia	8.50	17.24
105	Iran, Islamic Rep.	8.50	17.24
105	Thailand	8.50	17.24
108	Lebanon	8.60	16.09
109	Egypt	8.70	14.94
109	Uganda	8.70	14.94
111	Rwanda	8.80	13.79
112	Kenya	9.00	11.49
112	Turkey	9.00	11.49
114	Nepal	9.10	10.34
115	Russian Federation	9.30	8.05
115	Sri Lanka	9.30	8.05
117	Yemen	9.40	6.90
118	Israel	9.70	3.45
119	Pakistan	10.00	0.00

SOURCE: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/) based on the Fund for Peace Fragile States Index

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 2006.

2.2.2 Tolerance of immigrants

The percentage of respondents answering yes 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? | 2016

Rank	Country	Value	Score
1	New Zealand	0.89	100.00
2	Canada	0.86	95.77
2	Luxembourg	0.86	95.77
4	Ireland	0.85	94.37
5	Australia	0.84	92.96
5	Spain	0.84	92.96
5	United Arab Emirates	0.84	92.96
8	Senegal	0.83	91.55
8	United Kingdom	0.83	91.55
10	Denmark	0.82	90.14
10	Mali	0.82	90.14
12	Germany	0.81	88.73
12	Mauritius	0.81	88.73
12	Norway	0.81	88.73
12	Uruguay	0.81	88.73
16	Qatar	0.80	87.32
17	Portugal	0.79	85.92
18	Iceland	0.78	84.51
18	Nepal	0.78	84.51
18	Sweden	0.78	84.51
21	Argentina	0.77	83.10
21	Mozambique	0.77	83.10
21	Netherlands	0.77	83.10
24	Austria	0.75	80.28
24	Colombia	0.75	80.28
24	Paraguay	0.75	80.28
27	France	0.74	78.87
27	Saudi Arabia	0.74	78.87
27	United States of America	0.74	78.87
30	Belgium	0.73	77.46
30	Chile	0.73	77.46
30	Switzerland	0.73	77.46
33	Finland	0.72	76.06
34	Botswana	0.71	74.65
34	Costa Rica	0.71	74.65
34	Ecuador	0.71	74.65
37	Brazil	0.69	71.83
37	Kuwait	0.69	71.83
37	Singapore	0.69	71.83
40	Bahrain	0.68	70.42
40	Montenegro	0.68	70.42
40	Trinidad and Tobago	0.68	70.42
43	Italy	0.66	67.61
43	Kenya	0.66	67.61
45	Bolivia, Plurinational St.	0.65	66.20
46	Bangladesh	0.64	64.79
47	Ghana	0.63	63.38
47	Lao PDR	0.63	63.38
49	Malta	0.62	61.97
49	Philippines	0.62	61.97
51	Nicaragua	0.61	60.56
51	South Africa	0.61	60.56
53	Bhutan	0.60	59.15
53	Ethiopia	0.60	59.15
53	Peru	0.60	59.15
53	Slovenia	0.60	59.15
57	Kyrgyzstan	0.59	57.75
57	Namibia	0.59	57.75
59	Korea, Rep.	0.58	56.34
59	Panama	0.58	56.34
59	Tunisia	0.58	56.34
62	Dominican Republic	0.57	54.93
62	Greece	0.57	54.93
62	Madagascar	0.57	54.93
62	Uganda	0.57	54.93
66	Azerbaijan	0.56	53.52
66	Cyprus	0.56	53.52
66	Romania	0.56	53.52
66	Rwanda	0.56	53.52
66	Zimbabwe	0.56	53.52
71	El Salvador	0.55	52.11
71	Sri Lanka	0.55	52.11
73	Mexico	0.54	50.70
73	Serbia	0.54	50.70
75	Turkey	0.53	49.30
76	Albania	0.52	47.89
76	Armenia	0.52	47.89
76	Jordan	0.52	47.89
76	Morocco	0.52	47.89
76	Tanzania, United Rep.	0.52	47.89
81	Lebanon	0.50	45.07
81	Macedonia, FYR	0.50	45.07
83	Algeria	0.49	43.66
83	Pakistan	0.49	43.66
85	Guatemala	0.48	42.25
85	Venezuela, Bolivarian Rep.	0.48	42.25
87	Georgia	0.47	40.85
87	Malawi	0.47	40.85
87	Moldova, Rep.	0.47	40.85
87	Russian Federation	0.47	40.85
91	Croatia	0.46	39.44
91	Iran, Islamic Rep.	0.46	39.44
93	Japan	0.45	38.03
94	Bosnia and Herzegovina	0.44	36.62
94	Hungary	0.44	36.62
94	Kazakhstan	0.44	36.62
94	Lesotho	0.44	36.62
98	Viet Nam	0.43	35.21
99	Egypt	0.41	32.39
99	Malaysia	0.41	32.39
101	China	0.40	30.99
101	Israel	0.40	30.99
103	Bulgaria	0.39	29.58
103	Honduras	0.39	29.58
103	Ukraine	0.39	29.58
106	Lithuania	0.38	28.17
107	India	0.37	26.76
107	Mongolia	0.37	26.76
109	Poland	0.36	25.35
109	Thailand	0.36	25.35
109	Yemen	0.36	25.35
112	Slovakia	0.33	21.13
113	Czech Republic	0.31	18.31
114	Indonesia	0.30	16.90
115	Estonia	0.23	7.04
116	Latvia	0.20	2.82
117	Cambodia	0.18	0.00
	Gambia	n/a	n/a
	Oman	n/a	n/a

SOURCE: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/) based on the Gallup World Poll

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 2006.

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] | 2016

Rank	Country	Value	Score
1	Finland	6.32	100.00
2	New Zealand	6.23	97.55
2	Switzerland	6.23	97.55
4	Norway	6.21	97.00
5	Singapore	6.16	95.64
6	Australia	6.02	91.83
7	Netherlands	6.01	91.55
8	Iceland	5.99	91.01
9	United Arab Emirates	5.94	89.65
10	Luxembourg	5.91	88.83
11	Denmark	5.82	86.38
12	Qatar	5.73	83.92
13	Canada	5.70	83.11
14	Sweden	5.69	82.83
15	Austria	5.66	82.02
16	Estonia	5.64	81.47
17	United States of America	5.62	80.93
18	Rwanda	5.50	77.66
19	Belgium	5.46	76.57
20	Ireland	5.42	75.48
21	Germany	5.38	74.39
22	United Kingdom	5.35	73.57
23	Malta	5.34	73.30
24	Japan	5.29	71.93
25	Bahrain	5.26	71.12
26	Malaysia	5.23	70.30
27	Czech Republic	5.00	64.03
27	Saudi Arabia	5.00	64.03
29	Panama	4.98	63.49
30	Bhutan	4.88	60.76
30	Costa Rica	4.88	60.76
32	Mongolia	4.81	58.86
33	Uruguay	4.71	56.13
34	India	4.70	55.86
35	France	4.68	55.31
36	Israel	4.67	55.04
37	Chile	4.66	54.77
38	Mauritius	4.65	54.50
38	Spain	4.65	54.50
40	Lithuania	4.62	53.68
41	Oman	4.61	53.41
42	Sri Lanka	4.60	53.13
43	Botswana	4.57	52.32
43	Guatemala	4.57	52.32
43	Trinidad and Tobago	4.57	52.32
46	Latvia	4.56	52.04
47	Peru	4.51	50.68
48	Namibia	4.44	48.77
49	South Africa	4.42	48.23
50	Slovenia	4.41	47.96
51	Indonesia	4.39	47.41
52	China	4.37	46.87
53	Jordan	4.36	46.59
54	Lao PDR	4.35	46.32
55	Ghana	4.32	45.50
55	Kenya	4.32	45.50
57	Georgia	4.30	44.96
57	Honduras	4.30	44.96
57	Senegal	4.30	44.96
60	Slovakia	4.28	44.41
61	Kazakhstan	4.25	43.60
61	Paraguay	4.25	43.60
61	Uganda	4.25	43.60
64	Portugal	4.24	43.32
65	Mali	4.22	42.78
66	Morocco	4.20	42.23
67	Gambia	4.16	41.14
68	Lesotho	4.15	40.87
69	Philippines	4.12	40.05
69	Poland	4.12	40.05
71	Tunisia	4.11	39.78
72	Colombia	4.10	39.51
73	Tanzania, United Rep.	4.09	39.24
74	Bangladesh	4.06	38.42
74	Zimbabwe	4.06	38.42
76	Ecuador	4.05	38.15
77	Cyprus	4.04	37.87
78	Ethiopia	4.03	37.60
78	Thailand	4.03	37.60
80	Russian Federation	4.02	37.33
81	Azerbaijan	4.00	36.78
82	Viet Nam	3.96	35.69
83	Malawi	3.95	35.42
84	Kyrgyzstan	3.94	35.15
85	Macedonia, FYR	3.93	34.88
85	Mexico	3.93	34.88
87	Montenegro	3.92	34.60
88	Turkey	3.91	34.33
89	Lebanon	3.88	33.51
90	Brazil	3.87	33.24
90	Italy	3.87	33.24
92	Greece	3.84	32.43
93	Armenia	3.83	32.15
94	Korea, Rep.	3.82	31.88
95	Argentina	3.80	31.34
95	Nepal	3.80	31.34
97	Algeria	3.78	30.79
98	Cambodia	3.77	30.52
99	Bolivia, Plurinational St.	3.76	30.25
100	Dominican Republic	3.73	29.43
100	Kuwait	3.73	29.43
102	Pakistan	3.70	28.61
103	Albania	3.66	27.52
104	Iran, Islamic Rep.	3.65	27.25
105	Madagascar	3.62	26.43
105	Nicaragua	3.62	26.43
107	Mozambique	3.52	23.71
108	Croatia	3.50	23.16
109	Romania	3.44	21.53
110	Ukraine	3.41	20.71
111	Bulgaria	3.40	20.44
112	El Salvador	3.39	20.16
113	Moldova, Rep.	3.29	17.44
114	Hungary	3.24	16.08
115	Serbia	3.17	14.17
116	Bosnia and Herzegovina	3.09	11.99
117	Egypt	3.06	11.17
118	Yemen	3.03	10.35
119	Venezuela, Bolivarian Rep.	2.65	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

2.2.4 Female graduates

Female tertiary graduates (%) | 2016

Rank	Country	Value	Score
1	Estonia	66.39	100.00
2	Poland	66.03	99.04
3	Namibia	65.60	97.90
4	Latvia	65.18	96.79
5	Argentina	64.86	95.94
6	Honduras	64.84	95.89
7	Panama	64.71	95.54
8	Mauritius	64.48	94.93
9	Iceland	64.45	94.85
10	Albania	64.33	94.53
11	Uruguay	64.12	93.98
12	Tunisia	63.53	92.41
13	Slovakia	63.18	91.48
14	Lithuania	63.03	91.09
15	Dominican Republic	63.02	91.06
16	Lesotho	62.99	90.98
17	Cyprus	62.94	90.85
18	Costa Rica	62.92	90.79
19	Algeria	62.71	90.24
20	Hungary	62.58	89.89
21	Sri Lanka	62.51	89.71
22	Mongolia	62.13	88.70
23	Sweden	61.69	87.53
24	Georgia	61.50	87.03
25	Armenia	61.12	86.02
26	Bahrain	60.80	85.17
27	Brazil	60.63	84.72
28	South Africa	60.42	84.16
29	Finland	60.41	84.13
30	Czech Republic	60.13	83.39
30	Kyrgyzstan	60.13	83.39
32	Bulgaria	59.98	82.99
33	Slovenia	59.85	82.65
34	Belgium	59.81	82.54
35	Croatia	59.76	82.41
36	Italy	59.68	82.20
37	Bosnia and Herzegovina	59.61	82.01
38	Moldova, Rep.	59.49	81.69
39	Portugal	59.35	81.32
40	Romania	58.65	79.46
41	Ecuador	58.61	79.36
42	Norway	58.56	79.23
42	Serbia	58.56	79.23
44	United States of America	58.43	78.88
45	Guatemala	58.32	78.59
46	Denmark	58.31	78.56
47	Kuwait	58.28	78.48
48	New Zealand	58.25	78.40
49	Qatar	58.23	78.35
50	Malaysia	58.07	77.93
51	Australia	57.96	77.63
52	Greece	57.78	77.16
53	Philippines	57.52	76.47
54	United Kingdom	57.12	75.40
55	Netherlands	56.61	74.05
56	Thailand	56.39	73.47
57	El Salvador	56.38	73.44
58	Lebanon	56.20	72.96
59	Kazakhstan	56.17	72.88
60	Spain	56.09	72.67
61	Macedonia, FYR	56.07	72.62
62	France	55.88	72.11
63	Oman	55.69	71.61
64	Chile	55.67	71.56
65	Austria	55.45	70.97
66	Colombia	54.96	69.67
67	Azerbaijan	54.93	69.59
68	Luxembourg	54.90	69.51
69	Malta	54.79	69.22
69	United Arab Emirates	54.79	69.22
71	Viet Nam	54.59	68.69
72	Ukraine	53.80	66.60
73	Egypt	52.81	63.97
74	Mexico	52.65	63.54
75	Ireland	52.29	62.59
76	Indonesia	52.14	62.19
77	China	51.55	60.63
78	Korea, Rep.	51.27	59.88
79	Germany	50.52	57.89
80	India	50.22	57.10
81	Saudi Arabia	49.63	55.53
82	Turkey	49.24	54.50
83	Japan	48.95	53.73
84	Lao PDR	48.72	53.12
85	Nepal	48.31	52.03
86	Switzerland	48.26	51.90
87	Morocco	48.21	51.76
88	Gambia	47.42	49.67
89	Jordan	46.80	48.02
90	Madagascar	45.53	44.65
91	Iran, Islamic Rep.	44.02	40.65
92	Mozambique	43.01	37.97
93	Cambodia	42.77	37.33
94	Rwanda	42.70	37.15
95	Bangladesh	41.89	35.00
96	Zimbabwe	41.54	34.07
97	Ghana	40.41	31.07
98	Malawi	34.49	15.36
99	Bhutan	34.19	14.57
100	Senegal	33.42	12.52
101	Yemen	33.35	12.34
102	Ethiopia	28.70	0.00
	Bolivia, Plurinational St.	n/a	n/a
	Botswana	n/a	n/a
	Canada	n/a	n/a
	Israel	n/a	n/a
	Kenya	n/a	n/a
	Mali	n/a	n/a
	Montenegro	n/a	n/a
	Nicaragua	n/a	n/a
	Pakistan	n/a	n/a
	Paraguay	n/a	n/a
	Peru	n/a	n/a
	Russian Federation	n/a	n/a
	Singapore	n/a	n/a
	Tanzania, United Rep.	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	Uganda	n/a	n/a
	Venezuela, Bolivarian Rep.	n/a	n/a

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 2006.

2.2.5 Gender earnings gap

Estimated earned income ratio | 2016

Rank	Country	Value	Score
1	Luxembourg	1.00	100.00
2	Qatar	0.91	89.16
3	Botswana	0.89	86.75
3	Singapore	0.89	86.75
5	Mozambique	0.85	81.93
5	Tanzania, United Rep.	0.85	81.93
7	Viet Nam	0.83	79.52
8	Rwanda	0.82	78.31
9	Slovenia	0.80	75.90
10	Norway	0.79	74.70
11	Sweden	0.78	73.49
11	Thailand	0.78	73.49
13	Lao PDR	0.77	72.29
14	Malawi	0.76	71.08
14	Moldova, Rep.	0.76	71.08
14	Namibia	0.76	71.08
17	Ghana	0.74	68.67
18	Croatia	0.73	67.47
19	France	0.72	66.27
19	Iceland	0.72	66.27
19	Lithuania	0.72	66.27
22	Finland	0.71	65.06
22	Madagascar	0.71	65.06
22	Mongolia	0.71	65.06
22	Portugal	0.71	65.06
22	Switzerland	0.71	65.06
27	Latvia	0.70	63.86
28	Philippines	0.69	62.65
28	Romania	0.69	62.65
30	Cambodia	0.68	61.45
30	Colombia	0.68	61.45
30	Cyprus	0.68	61.45
30	Gambia	0.68	61.45
30	Zimbabwe	0.68	61.45
35	Denmark	0.67	60.24
35	Germany	0.67	60.24
37	Canada	0.66	59.04
38	Belgium	0.65	57.83
38	Bulgaria	0.65	57.83
38	Dominican Republic	0.65	57.83
38	Kenya	0.65	57.83
38	Malaysia	0.65	57.83
38	United States of America	0.65	57.83
44	Poland	0.64	56.63
44	Serbia	0.64	56.63
46	Australia	0.63	55.42
46	Spain	0.63	55.42
48	China	0.62	54.22
48	Estonia	0.62	54.22
48	Panama	0.62	54.22
48	Venezuela, Bolivarian Rep.	0.62	54.22
52	Lesotho	0.61	53.01
52	New Zealand	0.61	53.01
52	South Africa	0.61	53.01
55	Czech Republic	0.60	51.81
55	Ethiopia	0.60	51.81
55	Hungary	0.60	51.81
55	Macedonia, FYR	0.60	51.81
55	Russian Federation	0.60	51.81
55	Slovakia	0.60	51.81
55	Ukraine	0.60	51.81
62	Bolivia, Plurinational St.	0.59	50.60
62	Ecuador	0.59	50.60
62	Ireland	0.59	50.60
62	Israel	0.59	50.60
62	Paraguay	0.59	50.60
67	Bhutan	0.58	49.40
67	Brazil	0.58	49.40
67	Costa Rica	0.58	49.40
70	Greece	0.57	48.19
70	Kazakhstan	0.57	48.19
70	Montenegro	0.57	48.19
70	Peru	0.57	48.19
74	Nepal	0.56	46.99
74	Uruguay	0.56	46.99
76	Trinidad and Tobago	0.55	45.78
77	United Kingdom	0.54	44.58
78	Armenia	0.53	43.37
78	Austria	0.53	43.37
78	Kuwait	0.53	43.37
81	Chile	0.52	42.17
81	Italy	0.52	42.17
83	Albania	0.51	40.96
83	Azerbaijan	0.51	40.96
83	Japan	0.51	40.96
86	El Salvador	0.50	39.76
86	Senegal	0.50	39.76
88	Guatemala	0.49	38.55
89	Georgia	0.48	37.35
89	Indonesia	0.48	37.35
89	Mexico	0.48	37.35
89	Netherlands	0.48	37.35
89	Nicaragua	0.48	37.35
94	Kyrgyzstan	0.47	36.14
94	Mali	0.47	36.14
96	Bosnia and Herzegovina	0.45	33.73
96	Korea, Rep.	0.45	33.73
96	Malta	0.45	33.73
99	Turkey	0.44	32.53
100	Honduras	0.43	31.33
100	Mauritius	0.43	31.33
102	Bangladesh	0.40	27.71
102	Uganda	0.40	27.71
104	Sri Lanka	0.31	16.87
105	Bahrain	0.30	15.66
105	United Arab Emirates	0.30	15.66
107	Egypt	0.28	13.25
108	Tunisia	0.27	12.05
108	Yemen	0.27	12.05
110	Morocco	0.26	10.84
111	Lebanon	0.25	9.64
112	Saudi Arabia	0.24	8.43
113	India	0.23	7.23
113	Pakistan	0.23	7.23
115	Oman	0.22	6.02
116	Algeria	0.18	1.20
117	Iran, Islamic Rep.	0.17	0.00
117	Jordan	0.17	0.00
	Argentina	n/a	n/a

SOURCE: World Economic Forum, *The Global Gender Gap Report 2016* (http://reports.weforum.org/global-gender-gap-report–2016)
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 2006.

2.2.6 Leadership opportunities for women

Average answer to the question: In your country, to what extent do companies provide women the same opportunities as men to rise to positions of leadership? [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Norway	6.05	100.00
2	Rwanda	6.03	99.28
3	Iceland	5.99	97.85
4	Finland	5.93	95.70
5	Sweden	5.84	92.47
6	Singapore	5.81	91.40
7	United Arab Emirates	5.72	88.17
8	Denmark	5.71	87.81
9	Albania	5.70	87.46
10	Philippines	5.56	82.44
11	New Zealand	5.51	80.65
12	Malaysia	5.48	79.57
13	Latvia	5.36	75.27
14	Estonia	5.31	73.48
15	Qatar	5.30	73.12
16	Bahrain	5.28	72.40
16	Luxembourg	5.28	72.40
18	Belgium	5.27	72.04
18	Bhutan	5.27	72.04
20	Netherlands	5.25	71.33
21	Switzerland	5.19	69.18
22	Australia	5.15	67.74
23	United States of America	5.12	66.67
24	Canada	5.09	65.59
25	Gambia	5.03	63.44
25	Macedonia, FYR	5.03	63.44
27	Mongolia	5.02	63.08
28	Oman	5.00	62.37
28	Thailand	5.00	62.37
28	United Kingdom	5.00	62.37
31	Ireland	4.98	61.65
32	Azerbaijan	4.95	60.57
33	Kazakhstan	4.93	59.86
34	Slovenia	4.91	59.14
35	Lao PDR	4.86	57.35
36	Indonesia	4.80	55.20
36	Lithuania	4.80	55.20
36	Sri Lanka	4.80	55.20
36	Uganda	4.80	55.20
40	Armenia	4.68	50.90
40	Cambodia	4.68	50.90
42	Algeria	4.66	50.18
42	Germany	4.66	50.18
44	Panama	4.65	49.82
45	China	4.64	49.46
45	Russian Federation	4.64	49.46
47	Ghana	4.63	49.10
47	Jordan	4.63	49.10
49	Georgia	4.62	48.75
50	Austria	4.61	48.39
51	Botswana	4.59	47.67
52	Czech Republic	4.56	46.59
52	Israel	4.56	46.59
54	Malta	4.55	46.24
54	Romania	4.55	46.24
54	Trinidad and Tobago	4.55	46.24
57	Ukraine	4.51	44.80
58	Bulgaria	4.50	44.44
58	Senegal	4.50	44.44
60	South Africa	4.48	43.73
61	Namibia	4.42	41.58
62	Tanzania, United Rep.	4.41	41.22
63	Kyrgyzstan	4.40	40.86
63	Moldova, Rep.	4.40	40.86
65	Egypt	4.35	39.07
66	Honduras	4.34	38.71
66	Mauritius	4.34	38.71
68	Zimbabwe	4.32	37.99
69	Costa Rica	4.29	36.92
70	Portugal	4.27	36.20
71	Tunisia	4.25	35.48
72	Kuwait	4.20	33.69
73	Mozambique	4.19	33.33
73	Poland	4.19	33.33
75	Montenegro	4.16	32.26
76	Venezuela, Bolivarian Rep.	4.15	31.90
77	Kenya	4.13	31.18
78	Colombia	4.12	30.82
78	Greece	4.12	30.82
80	India	4.09	29.75
80	Slovakia	4.09	29.75
82	Madagascar	4.07	29.03
83	Malawi	4.04	27.96
83	Viet Nam	4.04	27.96
85	Ecuador	4.02	27.24
86	Guatemala	4.01	26.88
87	France	3.98	25.81
87	Uruguay	3.98	25.81
89	Lebanon	3.97	25.45
89	Spain	3.97	25.45
91	Mali	3.93	24.01
92	Bangladesh	3.91	23.30
93	Cyprus	3.89	22.58
93	Nicaragua	3.89	22.58
95	Dominican Republic	3.87	21.86
96	Croatia	3.86	21.51
96	Ethiopia	3.86	21.51
96	Serbia	3.86	21.51
99	Japan	3.79	19.00
100	Saudi Arabia	3.72	16.49
101	Morocco	3.71	16.13
101	Nepal	3.71	16.13
103	Lesotho	3.65	13.98
104	Argentina	3.59	11.83
104	Paraguay	3.59	11.83
106	Peru	3.55	10.39
107	Turkey	3.52	9.32
108	Chile	3.51	8.96
109	Bosnia and Herzegovina	3.49	8.24
110	Iran, Islamic Rep.	3.47	7.53
111	El Salvador	3.46	7.17
112	Pakistan	3.45	6.81
113	Brazil	3.44	6.45
114	Hungary	3.40	5.02
114	Mexico	3.40	5.02
114	Yemen	3.40	5.02
117	Italy	3.34	2.87
117	Korea, Rep.	3.34	2.87
119	Bolivia, Plurinational St.	3.26	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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Pillar 3

Grow

3.1.1 Vocational enrolment

Vocational enrolment (%) | 2015

Rank	Country	Value	Score
1	Bolivia, Plurinational St	62.14	100.00
2	Netherlands	48.20	77.55
3	Finland	47.73	76.80
4	Belgium	45.73	73.57
5	Slovenia	41.74	67.15
6	Honduras	40.97	65.91
7	Croatia	40.22	64.70
8	Czech Republic	39.18	63.03
9	Bosnia and Herzegovina	38.39	61.76
10	Switzerland	37.42	60.19
11	Austria	35.98	57.87
12	Serbia	35.69	57.41
13	Italy	34.22	55.04
14	Australia	33.46	53.82
15	Montenegro	32.60	52.43
16	Slovakia	32.04	51.53
17	United Kingdom	31.81	51.16
18	Luxembourg	31.77	51.10
19	Bulgaria	30.94	49.76
20	Macedonia, FYR	30.33	48.78
21	Norway	28.56	45.93
22	Poland	28.28	45.48
23	Romania	28.01	45.04
24	Portugal	27.74	44.61
25	Sweden	26.92	43.29
26	Guatemala	26.80	43.09
27	Uruguay	24.75	39.79
28	Costa Rica	24.06	38.68
29	Denmark	23.71	38.12
30	Latvia	22.13	35.57
31	Turkey	21.49	34.54
32	Egypt	21.04	33.82
33	Iceland	20.97	33.70
34	China	20.38	32.75
35	Chile	20.15	32.38
36	Israel	19.83	31.87
37	Estonia	19.24	30.92
38	France	18.64	29.95
39	Indonesia	18.59	29.87
40	Germany	18.57	29.84
41	Spain	18.40	29.57
42	El Salvador	17.96	28.86
43	Greece	17.25	27.71
44	New Zealand	17.20	27.63
45	Mexico	16.63	26.71
46	Russian Federation	16.37	26.30
47	Ireland	16.18	25.99
48	Lebanon	15.67	25.17
49	Paraguay	15.56	24.99
50	Ecuador	15.26	24.51
51	Rwanda	14.98	24.06
52	Iran, Islamic Rep.	14.57	23.40
53	Panama	14.01	22.50
54	Moldova, Rep.	13.21	21.21
55	Mali	12.99	20.85
56	Hungary	12.80	20.55
57	Tanzania, United Rep.	12.10	19.42
58	Japan	11.58	18.58
59	Singapore	11.57	18.57
60	Mauritius	11.39	18.28
61	Malaysia	11.16	17.91
62	Kazakhstan	10.93	17.54
63	Armenia	10.52	16.88
64	Kyrgyzstan	10.21	16.38
65	Thailand	10.14	16.26
66	Lithuania	9.72	15.59
67	Mongolia	9.70	15.56
68	Gambia	9.62	15.43
69	Korea, Rep.	9.06	14.52
70	Albania	8.65	13.86
71	Algeria	8.33	13.35
72	Cyprus	8.20	13.14
73	Ukraine	8.15	13.06
74	Ethiopia	7.99	12.80
75	Malta	7.57	12.13
76	Colombia	7.40	11.85
77	Bahrain	7.21	11.55
78	Tunisia	6.15	9.84
79	Morocco	6.09	9.74
80	Sri Lanka	5.75	9.19
81	Botswana	5.66	9.05
82	Saudi Arabia	5.39	8.62
83	South Africa	5.09	8.13
84	Dominican Republic	4.97	7.94
85	Mozambique	4.88	7.79
86	Venezuela, Bolivarian Rep.	4.84	7.73
87	Senegal	4.78	7.63
88	Georgia	4.47	7.13
89	Canada	4.43	7.07
90	Uganda	4.14	6.60
91	Bangladesh	4.13	6.59
92	Jordan	3.77	6.01
93	Brazil	3.71	5.91
94	Lesotho	3.55	5.65
95	Pakistan	2.73	4.33
96	Kuwait	2.54	4.03
97	Cambodia	2.28	3.61
98	Bhutan	1.89	2.98
99	Madagascar	1.80	2.83
100	Ghana	1.77	2.79
101	Lao PDR	1.49	2.33
102	Nicaragua	1.48	2.32
103	Peru	1.40	2.19
104	India	1.23	1.92
105	Qatar	0.70	1.06
106	Yemen	0.66	1.00
107	Nepal	0.65	0.98
108	Kenya	0.49	0.72
109	Oman	0.04	0.00
	Argentina	n/a	n/a
	Azerbaijan	n/a	n/a
	Malawi	n/a	n/a
	Namibia	n/a	n/a
	Philippines	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	United Arab Emirates	n/a	n/a
	United States of America	n/a	n/a
	Viet Nam	n/a	n/a
	Zimbabwe	n/a	n/a

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 2006.

3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2016

Rank	Country	Value	Score
1	Greece	113.87	100.00
2	Korea, Rep.	95.35	83.62
3	Australia	90.31	79.16
4	Spain	89.67	78.60
5	Chile	88.58	77.63
6	Finland	87.29	76.49
7	Turkey	86.31	75.63
8	United States of America	85.80	75.17
9	Slovenia	82.93	72.64
10	Argentina	82.92	72.63
11	Ukraine	82.31	72.09
12	Austria	81.54	71.41
13	Denmark	81.52	71.39
14	Iceland	81.26	71.16
15	New Zealand	80.88	70.82
16	Russian Federation	78.65	68.85
17	Netherlands	78.50	68.72
18	Ireland	77.63	67.95
19	Venezuela, Bolivarian Rep.	76.98	67.37
20	Norway	76.70	67.13
21	Bulgaria	73.93	64.68
22	Belgium	73.32	64.14
23	Iran, Islamic Rep.	71.88	62.86
24	Poland	71.16	62.23
25	Singapore	69.81	61.03
26	Estonia	69.55	60.80
27	Croatia	69.54	60.79
28	Mongolia	68.57	59.94
29	Lithuania	68.53	59.90
30	Germany	68.27	59.67
31	Latvia	67.04	58.58
32	Israel	66.18	57.82
33	Czech Republic	66.02	57.68
34	Portugal	65.61	57.32
35	France	64.39	56.24
36	Japan	63.36	55.33
37	Uruguay	63.13	55.13
38	Italy	63.10	55.10
39	Saudi Arabia	63.07	55.07
40	Sweden	62.35	54.44
41	Cyprus	60.10	52.45
42	Serbia	58.29	50.84
43	Albania	58.11	50.69
44	Switzerland	57.23	49.91
45	United Kingdom	56.48	49.24
46	Colombia	55.59	48.46
47	Montenegro	55.34	48.24
48	Costa Rica	53.63	46.72
49	Romania	53.22	46.36
50	Slovakia	52.92	46.10
51	Hungary	50.86	44.27
52	Brazil	49.28	42.88
53	Thailand	48.86	42.50
54	Dominican Republic	47.52	41.32
55	Malta	46.97	40.83
56	Kazakhstan	46.26	40.21
57	Kyrgyzstan	45.92	39.90
58	Jordan	44.87	38.98
59	Armenia	44.31	38.48
60	Georgia	43.42	37.69
61	China	43.39	37.67
62	Moldova, Rep.	41.21	35.74
63	Peru	40.51	35.12
64	Ecuador	40.48	35.09
65	Macedonia, FYR	39.59	34.31
66	Panama	38.74	33.55
67	Lebanon	38.48	33.32
68	Bahrain	37.38	32.35
69	Algeria	36.92	31.94
70	Mauritius	36.67	31.72
71	Egypt	36.23	31.33
72	Philippines	35.75	30.91
73	Paraguay	35.08	30.32
74	Tunisia	34.61	29.90
75	Oman	31.92	27.52
76	Indonesia	31.10	26.80
77	Mexico	29.94	25.77
78	El Salvador	28.85	24.81
79	Viet Nam	28.84	24.80
80	Morocco	28.14	24.18
81	Botswana	27.51	23.62
82	Kuwait	27.03	23.20
83	Malaysia	26.07	22.35
84	India	25.54	21.88
85	Azerbaijan	25.48	21.83
86	Honduras	21.18	18.02
87	Sri Lanka	19.80	16.80
88	Luxembourg	19.41	16.46
89	South Africa	19.38	16.43
90	Guatemala	18.33	15.50
91	Qatar	17.22	14.52
92	Lao PDR	16.91	14.25
93	Ghana	15.94	13.39
94	Nepal	14.94	12.51
95	Bangladesh	13.44	11.18
96	Cambodia	13.09	10.87
97	Bhutan	10.93	8.96
98	Senegal	10.39	8.48
99	Yemen	9.97	8.11
100	Pakistan	9.93	8.07
101	Lesotho	9.84	8.00
102	Namibia	9.33	7.54
103	Zimbabwe	8.43	6.75
104	Ethiopia	8.13	6.48
105	Rwanda	7.53	5.95
106	Mali	6.87	5.37
107	Mozambique	5.97	4.57
108	Madagascar	4.78	3.52
109	Uganda	4.48	3.25
110	Kenya	4.05	2.87
111	Tanzania, United Rep.	3.65	2.52
112	Gambia	3.10	2.03
113	Malawi	0.80	0.00
	Bolivia, Plurinational St.	n/a	n/a
	Bosnia and Herzegovina	n/a	n/a
	Canada	n/a	n/a
	Nicaragua	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	United Arab Emirates	n/a	n/a

SOURCE: UNESCO Institute for Statistics, *UIS.Stat* (http://data.uis.unesco.org/)
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3.1.3 Tertiary education expenditure

Government expenditure on tertiary education (%) | 2016

Rank	Country	Value	Score
1	Botswana	4.00	100.00
1	Lesotho	4.72	100.00
3	Denmark	2.32	57.03
4	Ecuador	2.14	52.43
5	Senegal	2.08	50.90
6	Finland	2.01	49.10
7	Sweden	1.96	47.83
8	Namibia	1.93	47.06
9	Ethiopia	1.92	46.80
10	Bolivia, Plurinational St	1.91	46.55
10	Norway	1.91	46.55
12	Ukraine	1.88	45.78
13	Austria	1.80	43.73
14	Costa Rica	1.69	40.92
15	Netherlands	1.62	39.13
16	Malta	1.60	38.62
17	Turkey	1.59	38.36
18	New Zealand	1.58	38.11
18	Tunisia	1.58	38.11
20	Venezuela, Bolivarian Rep.	1.55	37.34
21	Iceland	1.51	36.32
22	Cyprus	1.44	34.53
23	Zimbabwe	1.42	34.02
24	Belgium	1.40	33.50
24	United Kingdom	1.40	33.50
26	Australia	1.37	32.74
27	Estonia	1.36	32.48
27	Malawi	1.36	32.48
27	Malaysia	1.36	32.48
30	United States of America	1.35	32.23
31	Canada	1.33	31.71
31	Lithuania	1.33	31.71
33	Switzerland	1.32	31.46
34	Germany	1.31	31.20
35	Serbia	1.29	30.69
36	Moldova, Rep.	1.28	30.43
37	France	1.24	29.41
38	Kuwait	1.23	29.16
39	Poland	1.21	28.64
40	Chile	1.18	27.88
41	Algeria	1.17	27.62
41	Nicaragua	1.17	27.62
41	Uruguay	1.17	27.62
44	Ireland	1.15	27.11
45	Argentina	1.13	26.60
45	Ghana	1.13	26.60
45	Oman	1.13	26.60
45	Slovenia	1.13	26.60
49	Paraguay	1.11	26.09
50	India	1.10	25.83
51	Brazil	1.09	25.58
52	Morocco	1.06	24.81
53	Mexico	1.05	24.55
54	Singapore	1.03	24.04
55	Croatia	1.00	23.27
56	Korea, Rep.	0.97	22.51
56	Slovakia	0.97	22.51
56	Spain	0.97	22.51
59	Colombia	0.96	22.25
59	Latvia	0.96	22.25
61	Israel	0.93	21.48
62	Honduras	0.91	20.97
63	Hungary	0.90	20.72
63	Portugal	0.90	20.72
65	Mozambique	0.89	20.46
66	Czech Republic	0.88	20.20
67	Iran, Islamic Rep.	0.86	19.69
68	Viet Nam	0.85	19.44
69	Russian Federation	0.82	18.67
70	Italy	0.81	18.41
71	Mali	0.79	17.90
72	Albania	0.78	17.65
72	Japan	0.78	17.65
74	Tanzania, United Rep.	0.75	16.88
75	Lebanon	0.74	16.62
75	South Africa	0.74	16.62
77	Romania	0.72	16.11
78	Panama	0.71	15.86
78	Rwanda	0.71	15.86
80	Kenya	0.69	15.35
81	Bulgaria	0.65	14.32
82	Thailand	0.64	14.07
83	Peru	0.63	13.81
84	Pakistan	0.61	13.30
85	Indonesia	0.50	10.49
86	Lao PDR	0.46	9.46
87	Bangladesh	0.44	8.95
88	Kazakhstan	0.43	8.70
89	Madagascar	0.42	8.44
89	Sri Lanka	0.42	8.44
91	Guatemala	0.41	8.18
92	Nepal	0.40	7.93
93	Georgia	0.38	7.42
94	Armenia	0.36	6.91
94	Azerbaijan	0.36	6.91
96	Mauritius	0.34	6.39
97	Philippines	0.32	5.88
98	Dominican Republic	0.30	5.37
98	Gambia	0.30	5.37
100	El Salvador	0.28	4.86
100	Uganda	0.28	4.86
102	Kyrgyzstan	0.26	4.35
103	Mongolia	0.18	2.30
104	Bhutan	0.11	0.51
105	Cambodia	0.09	0.00
	Bahrain	n/a	n/a
	Bosnia and Herzegovina	n/a	n/a
	China	n/a	n/a
	Egypt	n/a	n/a
	Greece	n/a	n/a
	Jordan	n/a	n/a
	Luxembourg	n/a	n/a
	Macedonia, FYR	n/a	n/a
	Montenegro	n/a	n/a
	Qatar	n/a	n/a
	Saudi Arabia	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	United Arab Emirates	n/a	n/a
	Yemen	n/a	n/a

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 2006.

3.1.4 Reading, maths, and science

PISA average scores in reading, mathematics, and science | 2015

Rank	Country	Value	Score
1	Singapore	551.62	100.00
2	Japan	528.93	89.33
3	Estonia	524.29	87.14
4	Canada	523.34	86.70
5	Finland	522.72	86.41
6	Korea, Rep.	519.12	84.71
7	China	514.34	82.46
8	Slovenia	509.33	80.11
9	Ireland	509.04	79.97
10	Germany	508.07	79.51
11	Netherlands	507.93	79.45
12	Switzerland	506.32	78.69
13	New Zealand	505.93	78.51
14	Norway	504.47	77.82
15	Denmark	504.28	77.73
16	Poland	503.87	77.54
17	Belgium	502.50	76.89
18	Australia	502.26	76.78
19	Viet Nam	501.98	76.65
20	United Kingdom	499.89	75.67
21	Portugal	496.95	74.28
22	Sweden	495.83	73.76
23	France	495.73	73.71
24	Austria	492.22	72.06
25	Russian Federation	491.77	71.85
26	Spain	491.40	71.67
27	Czech Republic	490.80	71.39
28	United States of America	487.60	69.89
29	Latvia	486.76	69.49
30	Italy	485.01	68.67
31	Luxembourg	483.34	67.88
32	Iceland	480.93	66.75
33	Croatia	475.43	64.16
34	Lithuania	475.40	64.15
35	Hungary	474.37	63.66
36	Israel	471.73	62.42
37	Malta	463.36	58.48
38	Slovakia	462.84	58.24
39	Greece	458.50	56.20
40	Kazakhstan	447.81	51.17
41	Chile	442.73	48.78
42	Malaysia	439.88	47.44
43	Bulgaria	439.56	47.29
44	Cyprus	437.51	46.32
45	Romania	437.49	46.31
46	United Arab Emirates	432.59	44.01
47	Uruguay	429.98	42.78
48	Turkey	424.76	40.33
49	Trinidad and Tobago	423.04	39.52
50	Argentina	422.19	39.12
51	Moldova, Rep.	421.30	38.70
52	Montenegro	418.71	37.48
53	Costa Rica	415.78	36.10
54	Mexico	415.67	36.05
55	Thailand	415.31	35.88
56	Albania	415.21	35.83
57	Colombia	410.09	33.43
58	Qatar	407.30	32.11
59	Georgia	405.42	31.23
60	Jordan	399.01	28.21
61	Indonesia	395.49	26.56
62	Brazil	395.03	26.34
63	Peru	393.60	25.67
64	Lebanon	376.43	17.59
65	Tunisia	371.43	15.24
66	Macedonia, FYR	368.91	14.06
67	Algeria	361.74	10.68
68	Dominican Republic	339.03	0.00
	Armenia	n/a	n/a
	Azerbaijan	n/a	n/a
	Bahrain	n/a	n/a
	Bangladesh	n/a	n/a
	Bhutan	n/a	n/a
	Bolivia, Plurinational St.	n/a	n/a
	Bosnia and Herzegovina	n/a	n/a
	Botswana	n/a	n/a
	Cambodia	n/a	n/a
	Ecuador	n/a	n/a
	Egypt	n/a	n/a
	El Salvador	n/a	n/a
	Ethiopia	n/a	n/a
	Gambia	n/a	n/a
	Ghana	n/a	n/a
	Guatemala	n/a	n/a
	Honduras	n/a	n/a
	India	n/a	n/a
	Iran, Islamic Rep.	n/a	n/a
	Kenya	n/a	n/a
	Kuwait	n/a	n/a
	Kyrgyzstan	n/a	n/a
	Lao PDR	n/a	n/a
	Lesotho	n/a	n/a
	Madagascar	n/a	n/a
	Malawi	n/a	n/a
	Mali	n/a	n/a
	Mauritius	n/a	n/a
	Mongolia	n/a	n/a
	Morocco	n/a	n/a
	Mozambique	n/a	n/a
	Namibia	n/a	n/a
	Nepal	n/a	n/a
	Nicaragua	n/a	n/a
	Oman	n/a	n/a
	Pakistan	n/a	n/a
	Panama	n/a	n/a
	Paraguay	n/a	n/a
	Philippines	n/a	n/a
	Rwanda	n/a	n/a
	Saudi Arabia	n/a	n/a
	Senegal	n/a	n/a
	Serbia	n/a	n/a
	South Africa	n/a	n/a
	Sri Lanka	n/a	n/a
	Tanzania, United Rep.	n/a	n/a
	Uganda	n/a	n/a
	Ukraine	n/a	n/a
	Venezuela, Bolivarian Rep.	n/a	n/a
	Yemen	n/a	n/a
	Zimbabwe	n/a	n/a

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 2006.

3.1.5 University ranking

QS World University Ranking | 2015

Rank	Country	Value	Score
1	United States of America	99.10	100.00
2	United Kingdom	97.83	98.72
3	Singapore	94.05	94.90
4	Switzerland	87.17	87.96
5	Canada	85.63	86.41
6	Australia	85.33	86.10
7	China	84.43	85.20
8	Japan	83.03	83.78
9	Korea, Rep.	79.97	80.70
10	France	78.73	79.45
11	Germany	76.03	76.72
12	Netherlands	75.80	76.49
13	Sweden	71.57	72.22
14	Denmark	69.97	70.61
15	Belgium	66.17	66.77
16	Ireland	61.30	61.86
17	Finland	60.77	61.32
18	New Zealand	60.20	60.75
19	India	57.07	57.59
20	Spain	56.30	56.81
21	Israel	56.10	56.61
22	Norway	55.30	55.80
23	Italy	52.90	53.38
24	Austria	52.43	52.91
25	Brazil	52.27	52.74
26	Russian Federation	51.53	52.00
27	Malaysia	49.13	49.58
28	Argentina	48.13	48.57
29	Saudi Arabia	48.03	48.47
30	Chile	47.20	47.63
31	South Africa	46.60	47.02
32	Mexico	44.43	44.83
33	Colombia	40.60	40.97
34	Portugal	38.97	39.32
35	Thailand	38.17	38.52
36	Kazakhstan	36.07	36.40
37	Czech Republic	33.97	34.28
38	Turkey	33.53	33.83
39	United Arab Emirates	32.47	32.76
40	Indonesia	32.33	32.62
41	Poland	31.73	32.02
42	Greece	31.47	31.76
43	Lebanon	30.80	31.08
44	Qatar	29.70	29.97
45	Estonia	29.55	29.82
46	Ukraine	29.17	29.43
47	Iran, Islamic Rep.	28.65	28.91
48	Egypt	28.50	28.76
49	Philippines	27.57	27.82
50	Oman	27.40	27.65
51	Slovenia	25.50	25.73
52	Hungary	24.77	24.99
53	Jordan	23.80	24.02
54	Bahrain	23.10	23.31
55	Pakistan	22.70	22.91
56	Uruguay	22.50	22.70
57	Slovakia	22.40	22.60
58	Venezuela, Bolivarian Rep.	22.10	22.30
59	Lithuania	22.07	22.27
60	Costa Rica	21.70	21.90
61	Peru	21.07	21.26
62	Croatia	20.40	20.59
63	Bulgaria	20.00	20.18
64	Latvia	19.10	19.27
65	Azerbaijan	18.63	18.80
66	Ecuador	18.60	18.77
67	Bangladesh	18.00	18.16
68	Sri Lanka	17.20	17.36
69	Romania	16.40	16.55
70	Kuwait	15.70	15.84
71	Kenya	13.80	13.93
72	Serbia	12.80	12.92
73	Uganda	8.00	8.07
74	Tanzania, United Rep.	7.60	7.67
75	Ghana	7.00	7.06
76	Albania	0.00	0.00
76	Algeria	0.00	0.00
76	Armenia	0.00	0.00
76	Bhutan	0.00	0.00
76	Bolivia, Plurinational St.	0.00	0.00
76	Bosnia and Herzegovina	0.00	0.00
76	Botswana	0.00	0.00
76	Cambodia	0.00	0.00
76	Cyprus	0.00	0.00
76	Dominican Republic	0.00	0.00
76	El Salvador	0.00	0.00
76	Ethiopia	0.00	0.00
76	Gambia	0.00	0.00
76	Georgia	0.00	0.00
76	Guatemala	0.00	0.00
76	Honduras	0.00	0.00
76	Iceland	0.00	0.00
76	Kyrgyzstan	0.00	0.00
76	Lao PDR	0.00	0.00
76	Lesotho	0.00	0.00
76	Luxembourg	0.00	0.00
76	Macedonia, FYR	0.00	0.00
76	Madagascar	0.00	0.00
76	Malawi	0.00	0.00
76	Mali	0.00	0.00
76	Malta	0.00	0.00
76	Mauritius	0.00	0.00
76	Moldova, Rep.	0.00	0.00
76	Mongolia	0.00	0.00
76	Montenegro	0.00	0.00
76	Morocco	0.00	0.00
76	Mozambique	0.00	0.00
76	Namibia	0.00	0.00
76	Nepal	0.00	0.00
76	Nicaragua	0.00	0.00
76	Panama	0.00	0.00
76	Paraguay	0.00	0.00
76	Rwanda	0.00	0.00
76	Senegal	0.00	0.00
76	Trinidad and Tobago	0.00	0.00
76	Tunisia	0.00	0.00
76	Viet Nam	0.00	0.00
76	Yemen	0.00	0.00
76	Zimbabwe	0.00	0.00

SOURCE: Quacquarelli Symonds Ltd (QS), QS World University Ranking 2014/2015, Top Universities (www.topuniversities.com/university-rankings/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 2006.

3.2.1 Quality of management schools

Average answer to the question: In your country, how do you assess the following: Quality of business schools [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2016

Rank	Country	Value	Score
1	Switzerland	6.31	100.00
2	United Kingdom	6.13	95.24
3	Belgium	6.07	93.65
4	Singapore	5.96	90.74
5	Qatar	5.95	90.48
6	Netherlands	5.81	86.77
7	United States of America	5.72	84.39
8	Canada	5.68	83.33
9	Lebanon	5.66	82.80
10	Norway	5.57	80.42
11	Denmark	5.55	79.89
12	Ireland	5.54	79.63
12	Spain	5.54	79.63
14	France	5.50	78.57
15	Australia	5.44	76.98
15	United Arab Emirates	5.44	76.98
17	Finland	5.43	76.72
18	Sweden	5.42	76.46
19	Iceland	5.41	76.19
20	South Africa	5.40	75.93
21	Israel	5.37	75.13
22	Germany	5.35	74.60
23	New Zealand	5.27	72.49
24	Malaysia	5.26	72.22
25	Chile	5.22	71.16
26	Italy	5.19	70.37
27	Costa Rica	5.17	69.84
28	Austria	5.06	66.93
29	Estonia	4.92	63.23
30	Malta	4.90	62.70
30	Trinidad and Tobago	4.90	62.70
32	Bahrain	4.89	62.43
33	Senegal	4.86	61.64
34	Sri Lanka	4.75	58.73
35	Argentina	4.69	57.14
36	Portugal	4.68	56.88
37	Philippines	4.67	56.61
38	Luxembourg	4.65	56.08
39	India	4.62	55.29
40	Latvia	4.59	54.50
41	Kenya	4.57	53.97
41	Mauritius	4.57	53.97
43	Guatemala	4.54	53.17
43	Indonesia	4.54	53.17
45	Venezuela, Bolivarian Rep.	4.52	52.65
46	Slovenia	4.50	52.12
47	Ghana	4.49	51.85
48	Saudi Arabia	4.41	49.74
48	Uruguay	4.41	49.74
50	Jordan	4.40	49.47
51	Japan	4.35	48.15
52	Rwanda	4.34	47.88
53	Albania	4.31	47.09
54	China	4.29	46.56
55	Czech Republic	4.25	45.50
55	Korea, Rep.	4.25	45.50
57	Mexico	4.21	44.44
58	Colombia	4.20	44.18
59	Gambia	4.19	43.92
59	Lithuania	4.19	43.92
61	Ecuador	4.18	43.65
62	Poland	4.17	43.39
63	Lesotho	4.14	42.59
64	Montenegro	4.12	42.06
65	Hungary	4.11	41.80
66	Bhutan	4.08	41.01
66	Morocco	4.08	41.01
66	Russian Federation	4.08	41.01
69	Thailand	4.06	40.48
70	Peru	4.05	40.21
70	Tunisia	4.05	40.21
72	Greece	4.04	39.95
73	Madagascar	4.01	39.15
74	Croatia	3.98	38.36
75	Pakistan	3.96	37.83
76	Lao PDR	3.95	37.57
77	Dominican Republic	3.92	36.77
77	Panama	3.92	36.77
79	Macedonia, FYR	3.90	36.24
80	Azerbaijan	3.88	35.71
81	Iran, Islamic Rep.	3.87	35.45
82	Mali	3.85	34.92
83	Kuwait	3.84	34.66
84	Ukraine	3.83	34.39
85	Honduras	3.81	33.86
86	Georgia	3.80	33.60
87	Brazil	3.79	33.33
88	Uganda	3.78	33.07
89	Cyprus	3.77	32.80
89	Zimbabwe	3.77	32.80
91	Slovakia	3.76	32.54
92	Kazakhstan	3.73	31.75
92	Serbia	3.73	31.75
94	Botswana	3.71	31.22
95	Nicaragua	3.70	30.95
96	Bangladesh	3.66	29.89
97	Bulgaria	3.64	29.37
98	Turkey	3.63	29.10
99	Nepal	3.60	28.31
100	Armenia	3.55	26.98
100	Namibia	3.55	26.98
102	Bolivia, Plurinational St.	3.54	26.72
103	El Salvador	3.53	26.46
104	Oman	3.50	25.66
105	Ethiopia	3.45	24.34
106	Romania	3.42	23.54
107	Viet Nam	3.39	22.75
108	Bosnia and Herzegovina	3.37	22.22
109	Moldova, Rep.	3.33	21.16
110	Algeria	3.30	20.37
110	Tanzania, United Rep.	3.30	20.37
112	Cambodia	3.25	19.05
113	Paraguay	3.14	16.14
114	Mongolia	3.06	14.02
115	Malawi	2.95	11.11
116	Kyrgyzstan	2.91	10.05
117	Mozambique	2.90	9.79
118	Yemen	2.67	3.70
119	Egypt	2.53	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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3.2.2 Prevalence of training in firms

Proportion of firms offering formal training (%) | 2016

Rank	Country	Value	Score
1	China	79.20	100.00
2	Ireland	73.20	92.08
3	Sweden	70.30	88.26
4	Ecuador	65.90	82.45
5	Colombia	65.10	81.40
6	Argentina	63.60	79.42
7	Kyrgyzstan	62.70	78.23
8	Mongolia	60.90	75.86
9	Peru	60.10	74.80
10	Philippines	59.80	74.41
11	Chile	57.50	71.37
12	Bolivia, Plurinational St	57.10	70.84
13	Dominican Republic	57.00	70.71
14	Venezuela, Bolivarian Rep	56.00	69.39
15	Rwanda	55.40	68.60
16	Czech Republic	55.10	68.21
17	Paraguay	54.90	67.94
18	Costa Rica	54.70	67.68
19	El Salvador	53.80	66.49
20	Bosnia and Herzegovina	52.40	64.64
21	Botswana	51.90	63.98
21	Guatemala	51.90	63.98
23	Spain	51.30	63.19
24	Mexico	50.80	62.53
25	Croatia	49.30	60.55
26	Uruguay	48.60	59.63
27	Nicaragua	47.20	57.78
28	Macedonia, FYR	46.90	57.39
29	Russian Federation	46.20	56.46
30	Slovakia	43.50	52.90
31	Bulgaria	42.70	51.85
32	Brazil	42.20	51.19
33	Lithuania	42.00	50.92
34	Slovenia	41.50	50.26
35	Romania	40.70	49.21
36	Kenya	40.60	49.08
37	Ghana	40.10	48.42
38	Korea, Rep.	39.50	47.63
39	Serbia	37.80	45.38
40	South Africa	36.80	44.06
41	India	35.90	42.88
42	Honduras	35.80	42.74
43	Germany	35.40	42.22
44	Estonia	35.20	41.95
45	Uganda	34.7	41.29
46	Poland	34.60	41.16
47	Malawi	32.90	38.92
48	Moldova, Rep.	32.40	38.26
49	Pakistan	32.00	37.73
50	Nepal	31.90	37.60
50	Portugal	31.90	37.60
52	Lesotho	31.20	36.68
52	Zimbabwe	31.20	36.68
54	Tanzania, United Rep.	30.70	36.02
55	Tunisia	28.90	33.64
56	Turkey	28.40	32.98
57	Kazakhstan	28.30	32.85
58	Trinidad and Tobago	28.00	32.45
59	Lebanon	26.60	30.61
60	Morocco	26.30	30.21
61	Bhutan	26.00	29.82
62	Gambia	25.60	29.29
62	Mauritius	25.60	29.29
64	Namibia	25.40	29.02
65	Latvia	25.20	28.76
66	Albania	23.80	26.91
67	Montenegro	23.70	26.78
68	Ukraine	22.60	25.33
69	Cambodia	22.20	24.80
69	Viet Nam	22.20	24.80
71	Mozambique	22.10	24.67
72	Bangladesh	21.90	24.41
73	Ethiopia	20.80	22.96
74	Azerbaijan	20.20	22.16
75	Greece	20.00	21.90
76	Israel	18.60	20.05
77	Malaysia	18.50	19.92
78	Sri Lanka	18.40	19.79
79	Thailand	18.00	19.26
80	Mali	17.70	18.87
81	Senegal	17.40	18.47
82	Algeria	17.30	18.34
83	Armenia	16.20	16.89
84	Hungary	15.80	16.36
85	Yemen	14.30	14.38
86	Madagascar	12.70	12.27
87	Panama	11.00	10.03
88	Georgia	10.50	9.37
89	Indonesia	7.70	5.67
90	Lao PDR	6.50	4.09
91	Egypt	5.20	2.37
92	Jordan	3.40	0.00
	Australia	n/a	n/a
	Austria	n/a	n/a
	Bahrain	n/a	n/a
	Belgium	n/a	n/a
	Canada	n/a	n/a
	Cyprus	n/a	n/a
	Denmark	n/a	n/a
	Finland	n/a	n/a
	France	n/a	n/a
	Iceland	n/a	n/a
	Iran, Islamic Rep.	n/a	n/a
	Italy	n/a	n/a
	Japan	n/a	n/a
	Kuwait	n/a	n/a
	Luxembourg	n/a	n/a
	Malta	n/a	n/a
	Netherlands	n/a	n/a
	New Zealand	n/a	n/a
	Norway	n/a	n/a
	Oman	n/a	n/a
	Qatar	n/a	n/a
	Saudi Arabia	n/a	n/a
	Singapore	n/a	n/a
	Switzerland	n/a	n/a
	United Arab Emirates	n/a	n/a
	United Kingdom	n/a	n/a
	United States of America	n/a	n/a

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 2006.

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] | 2016

Rank	Country	Value	Score
1	Switzerland	5.71	100.00
2	Norway	5.55	94.61
3	Singapore	5.51	93.27
4	Sweden	5.46	91.58
5	Luxembourg	5.45	91.25
6	Finland	5.39	89.23
6	Netherlands	5.39	89.23
8	Qatar	5.37	88.55
9	Malaysia	5.35	87.88
10	Japan	5.31	86.53
11	Austria	5.24	84.18
12	Germany	5.20	82.83
13	Denmark	5.18	82.15
14	Belgium	5.16	81.48
15	United Arab Emirates	5.15	81.14
15	United States of America	5.15	81.14
17	Iceland	5.08	78.79
18	New Zealand	4.99	75.76
19	South Africa	4.97	75.08
20	United Kingdom	4.90	72.73
21	Australia	4.88	72.05
22	France	4.80	69.36
22	Ireland	4.80	69.36
24	Bahrain	4.71	66.33
25	Estonia	4.65	64.31
26	Canada	4.64	63.97
26	Israel	4.64	63.97
28	India	4.59	62.29
29	Mauritius	4.56	61.28
29	Philippines	4.56	61.28
31	Lithuania	4.54	60.61
32	Indonesia	4.52	59.93
33	Czech Republic	4.49	58.92
34	Malta	4.42	56.57
35	Korea, Rep.	4.39	55.56
36	Costa Rica	4.36	54.55
37	China	4.35	54.21
37	Guatemala	4.35	54.21
39	Jordan	4.27	51.52
40	Kenya	4.26	51.18
41	Namibia	4.25	50.84
42	Panama	4.22	49.83
43	Slovenia	4.20	49.16
44	Botswana	4.19	48.82
45	Oman	4.18	48.48
46	Honduras	4.17	48.15
46	Sri Lanka	4.17	48.15
48	Trinidad and Tobago	4.14	47.14
49	Thailand	4.13	46.80
50	Latvia	4.12	46.46
50	Rwanda	4.12	46.46
52	Saudi Arabia	4.06	44.44
53	Chile	4.04	43.77
53	Portugal	4.04	43.77
55	Brazil	3.99	42.09
56	Ghana	3.98	41.75
56	Poland	3.98	41.75
58	Malawi	3.94	40.40
58	Slovakia	3.94	40.40
60	Bhutan	3.93	40.07
61	Kazakhstan	3.92	39.73
62	Viet Nam	3.90	39.06
63	Albania	3.88	38.38
64	Greece	3.85	37.37
64	Lao PDR	3.85	37.37
64	Mexico	3.85	37.37
67	Russian Federation	3.80	35.69
68	Uruguay	3.78	35.02
69	Kuwait	3.77	34.68
70	Argentina	3.76	34.34
70	Azerbaijan	3.76	34.34
72	Cyprus	3.74	33.67
72	Ecuador	3.74	33.67
72	Lebanon	3.74	33.67
72	Peru	3.74	33.67
76	Gambia	3.70	32.32
76	Macedonia, FYR	3.70	32.32
78	Senegal	3.69	31.99
78	Zimbabwe	3.69	31.99
80	Venezuela, Bolivarian Rep.	3.67	31.31
81	Spain	3.66	30.98
82	Ukraine	3.65	30.64
83	Madagascar	3.61	29.29
83	Uganda	3.61	29.29
85	Mongolia	3.60	28.96
86	Colombia	3.57	27.95
86	Ethiopia	3.57	27.95
88	Cambodia	3.55	27.27
89	Bulgaria	3.52	26.26
89	Romania	3.52	26.26
89	Turkey	3.52	26.26
92	Nicaragua	3.51	25.93
93	Dominican Republic	3.50	25.59
94	Lesotho	3.48	24.92
94	Tanzania, United Rep.	3.48	24.92
96	Armenia	3.47	24.58
96	El Salvador	3.47	24.58
98	Mali	3.46	24.24
99	Kyrgyzstan	3.45	23.91
100	Hungary	3.43	23.23
100	Tunisia	3.43	23.23
102	Italy	3.40	22.22
103	Paraguay	3.39	21.89
104	Montenegro	3.38	21.55
104	Pakistan	3.38	21.55
106	Croatia	3.37	21.21
106	Iran, Islamic Rep.	3.37	21.21
108	Bangladesh	3.30	18.86
109	Georgia	3.29	18.52
110	Morocco	3.19	15.15
111	Moldova, Rep.	3.15	13.80
111	Nepal	3.15	13.80
111	Serbia	3.15	13.80
114	Bolivia, Plurinational St.	3.14	13.47
115	Algeria	3.11	12.46
116	Mozambique	3.10	12.12
117	Bosnia and Herzegovina	3.08	11.45
118	Yemen	2.98	8.08
119	Egypt	2.74	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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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] | 2016

Rank	Country	Value	Score
1	Sweden	6.36	100.00
2	Denmark	6.14	93.85
2	Norway	6.14	93.85
4	Netherlands	5.85	85.75
5	Finland	5.84	85.47
5	New Zealand	5.84	85.47
7	Switzerland	5.72	82.12
8	Ireland	5.70	81.56
9	United States of America	5.68	81.01
10	Australia	5.63	79.61
11	United Kingdom	5.61	79.05
12	Iceland	5.58	78.21
13	Belgium	5.56	77.65
14	Luxembourg	5.51	76.26
15	Canada	5.48	75.42
16	Malaysia	5.46	74.86
17	Singapore	5.42	73.74
18	Austria	5.41	73.46
18	Germany	5.41	73.46
20	Qatar	5.35	71.79
21	Israel	5.25	68.99
22	South Africa	5.24	68.72
22	United Arab Emirates	5.24	68.72
24	France	4.97	61.17
25	Estonia	4.90	59.22
26	Czech Republic	4.89	58.94
27	Japan	4.85	57.82
28	Gambia	4.81	56.70
29	Philippines	4.76	55.31
29	Rwanda	4.76	55.31
31	Namibia	4.74	54.75
32	Costa Rica	4.72	54.19
33	Panama	4.70	53.63
34	Indonesia	4.69	53.35
34	Lithuania	4.69	53.35
36	Bahrain	4.67	52.79
36	Sri Lanka	4.67	52.79
38	Kenya	4.62	51.40
39	Trinidad and Tobago	4.61	51.12
40	Chile	4.59	50.56
41	Malta	4.58	50.28
42	Latvia	4.56	49.72
42	Mauritius	4.56	49.72
44	Guatemala	4.55	49.44
45	Colombia	4.51	48.32
45	Zimbabwe	4.51	48.32
47	Bhutan	4.50	48.04
48	Botswana	4.49	47.77
48	India	4.49	47.77
50	Slovakia	4.48	47.49
51	Honduras	4.47	47.21
51	Peru	4.47	47.21
53	Thailand	4.44	46.37
54	Saudi Arabia	4.43	46.09
55	Mexico	4.42	45.81
56	Ghana	4.41	45.53
57	Slovenia	4.40	45.25
57	Venezuela, Bolivarian Rep.	4.40	45.25
59	Korea, Rep.	4.38	44.69
59	Spain	4.38	44.69
61	Azerbaijan	4.36	44.13
62	Argentina	4.35	43.85
63	Brazil	4.34	43.58
64	Malawi	4.33	43.30
65	Lao PDR	4.32	43.02
66	China	4.27	41.62
67	Uruguay	4.26	41.34
68	Ecuador	4.25	41.06
68	Macedonia, FYR	4.25	41.06
68	Uganda	4.25	41.06
71	Oman	4.24	40.78
72	Dominican Republic	4.15	38.27
72	Kazakhstan	4.15	38.27
74	Portugal	4.14	37.99
75	Poland	4.12	37.43
75	Russian Federation	4.12	37.43
77	Lebanon	4.07	36.03
78	Hungary	4.04	35.20
79	Viet Nam	4.03	34.92
80	El Salvador	4.00	34.08
80	Georgia	4.00	34.08
80	Jordan	4.00	34.08
83	Cyprus	3.99	33.80
84	Serbia	3.98	33.52
85	Croatia	3.96	32.96
85	Greece	3.96	32.96
87	Turkey	3.95	32.68
88	Albania	3.94	32.40
89	Bulgaria	3.93	32.12
90	Cambodia	3.88	30.73
91	Tanzania, United Rep.	3.86	30.17
92	Ukraine	3.85	29.89
93	Morocco	3.82	29.05
94	Moldova, Rep.	3.79	28.21
95	Kuwait	3.77	27.65
96	Nicaragua	3.75	27.09
97	Kyrgyzstan	3.73	26.54
98	Madagascar	3.72	26.26
99	Mali	3.68	25.14
100	Nepal	3.67	24.86
101	Bolivia, Plurinational St.	3.66	24.58
101	Montenegro	3.66	24.58
103	Bosnia and Herzegovina	3.64	24.02
104	Italy	3.63	23.74
105	Mozambique	3.62	23.46
106	Bangladesh	3.61	23.18
106	Senegal	3.61	23.18
108	Paraguay	3.60	22.91
109	Armenia	3.59	22.63
109	Pakistan	3.59	22.63
111	Tunisia	3.55	21.51
112	Ethiopia	3.49	19.83
113	Lesotho	3.48	19.55
114	Egypt	3.38	16.76
115	Iran, Islamic Rep.	3.36	16.20
116	Algeria	3.30	14.53
117	Mongolia	3.19	11.45
118	Romania	3.17	10.89
119	Yemen	2.78	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

3.3.2 Personal rights

Personal rights indicator | 2016

Rank	Country	Value	Score
1	New Zealand	98.86	100.00
2	Australia	97.73	98.80
2	Canada	97.73	98.80
2	Estonia	97.73	98.80
2	Finland	97.73	98.80
2	Luxembourg	97.73	98.80
2	United Kingdom	97.73	98.80
8	Chile	96.59	97.59
9	Japan	95.45	96.38
10	Cyprus	93.18	93.98
10	Uruguay	93.18	93.98
12	Slovenia	90.90	91.56
13	Denmark	88.84	89.38
14	Costa Rica	88.63	89.15
14	Italy	88.63	89.15
16	Austria	87.70	88.17
16	Iceland	87.70	88.17
16	Ireland	87.70	88.17
16	Netherlands	87.70	88.17
16	Norway	87.70	88.17
16	Sweden	87.70	88.17
16	Switzerland	87.70	88.17
23	Belgium	85.43	85.76
24	Malta	83.15	83.34
24	Portugal	83.15	83.34
24	Spain	83.15	83.34
27	United States of America	82.03	82.15
28	Poland	82.02	82.14
29	Namibia	80.63	80.67
30	France	80.60	80.64
31	Malawi	79.45	79.42
32	Germany	79.11	79.06
33	Slovakia	78.61	78.53
34	Botswana	76.25	76.03
35	Czech Republic	75.70	75.44
36	Croatia	75.20	74.91
37	South Africa	75.15	74.86
37	Trinidad and Tobago	75.15	74.86
39	Mongolia	74.06	73.70
40	Ghana	73.77	73.40
41	Lithuania	73.43	73.04
42	El Salvador	71.74	71.24
43	Mexico	71.70	71.20
44	Georgia	70.87	70.32
45	Panama	70.61	70.05
46	Serbia	70.32	69.74
47	Tunisia	67.74	67.00
48	Argentina	67.20	66.43
49	Lesotho	67.16	66.39
50	Latvia	66.57	65.76
51	Korea, Rep.	66.28	65.45
52	Brazil	65.43	64.55
52	Hungary	65.43	64.55
54	Greece	64.29	63.34
54	Peru	64.29	63.34
54	Senegal	64.29	63.34
57	Honduras	63.70	62.72
58	Albania	63.46	62.46
59	Romania	63.16	62.15
60	Colombia	63.12	62.10
61	Mauritius	62.27	61.20
62	Bulgaria	62.02	60.94
63	Moldova, Rep.	60.84	59.69
63	Montenegro	60.84	59.69
65	Paraguay	58.57	57.28
66	Ukraine	57.43	56.07
67	Ecuador	55.16	53.66
68	Nepal	53.74	52.16
68	Philippines	53.74	52.16
70	Bosnia and Herzegovina	52.84	51.20
70	Guatemala	52.84	51.20
72	Turkey	52.25	50.58
73	Mali	50.53	48.75
74	Mozambique	50.28	48.49
75	Macedonia, FYR	49.98	48.17
76	Singapore	49.07	47.21
77	Tanzania, United Rep.	48.84	46.96
78	Indonesia	48.60	46.71
79	Dominican Republic	47.77	45.83
80	Bhutan	47.14	45.16
81	Kyrgyzstan	44.56	42.42
82	Bolivia, Plurinational St.	44.36	42.21
83	Madagascar	43.37	41.16
84	Nicaragua	40.54	38.16
85	Armenia	39.73	37.30
86	India	39.43	36.98
87	Lebanon	39.37	36.92
88	Cambodia	38.49	35.99
88	Uganda	38.49	35.99
90	Israel	37.76	35.21
91	Pakistan	35.43	32.74
92	Kuwait	35.39	32.70
93	Oman	35.29	32.59
94	Bangladesh	33.15	30.33
95	Malaysia	32.52	29.66
96	Kenya	32.03	29.14
97	Thailand	31.87	28.97
98	Morocco	30.49	27.51
99	Gambia	30.21	27.21
100	Kazakhstan	29.96	26.94
101	Sri Lanka	29.11	26.04
102	Rwanda	28.52	25.42
103	Bahrain	28.14	25.01
104	Venezuela, Bolivarian Rep.	27.37	24.20
105	United Arab Emirates	25.62	22.34
106	Jordan	21.93	18.43
107	Qatar	18.23	14.51
108	Ethiopia	16.49	12.66
109	Azerbaijan	14.21	10.24
110	Zimbabwe	14.01	10.03
111	Algeria	13.97	9.99
112	Lao PDR	13.07	9.03
113	Egypt	12.83	8.78
114	Saudi Arabia	9.10	4.82
115	Viet Nam	8.24	3.91
116	Russian Federation	8.00	3.66
117	Yemen	6.82	2.41
118	Iran, Islamic Rep.	5.73	1.25
119	China	4.55	0.00

SOURCE: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/)
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 2006.

3.3.3 Use of virtual social networks

Average answer to the question: In your country, how widely are virtual social networks used (e.g., Facebook, Twitter, LinkedIn)? [1 = not at all used; 7 = used extensively] | 2016

Rank	Country	Value	Score
1	Iceland	6.60	100.00
2	Netherlands	6.58	99.39
3	Sweden	6.56	98.79
4	United Arab Emirates	6.55	98.48
5	Norway	6.53	97.88
5	United States of America	6.53	97.88
7	United Kingdom	6.48	96.36
8	Israel	6.44	95.15
9	Singapore	6.37	93.03
10	Ireland	6.34	92.12
11	Finland	6.31	91.21
12	Thailand	6.29	90.61
13	Qatar	6.28	90.30
14	Azerbaijan	6.25	89.39
15	Denmark	6.24	89.09
16	Canada	6.22	88.48
17	Bahrain	6.21	88.18
18	Lithuania	6.18	87.27
19	Estonia	6.17	86.97
19	Luxembourg	6.17	86.97
21	New Zealand	6.11	85.15
22	Malta	6.09	84.55
23	Malaysia	6.08	84.24
23	Philippines	6.08	84.24
25	Belgium	6.05	83.33
25	Kuwait	6.05	83.33
27	Panama	6.03	82.73
28	Australia	6.00	81.82
29	Saudi Arabia	5.99	81.52
30	Jordan	5.98	81.21
31	Brazil	5.96	80.61
31	Czech Republic	5.96	80.61
33	Switzerland	5.93	79.70
34	Japan	5.92	79.39
35	Costa Rica	5.91	79.09
36	Korea, Rep.	5.89	78.48
36	Macedonia, FYR	5.89	78.48
38	Chile	5.88	78.18
38	Georgia	5.88	78.18
38	Indonesia	5.88	78.18
38	Kenya	5.88	78.18
42	France	5.87	77.88
43	Latvia	5.86	77.58
44	Italy	5.85	77.27
45	Albania	5.80	75.76
45	Portugal	5.80	75.76
45	Turkey	5.80	75.76
48	Trinidad and Tobago	5.79	75.45
49	Egypt	5.77	74.85
50	Bulgaria	5.74	73.94
50	South Africa	5.74	73.94
52	Guatemala	5.72	73.33
52	Viet Nam	5.72	73.33
54	Germany	5.71	73.03
55	Uruguay	5.68	72.12
56	Slovenia	5.66	71.52
57	Austria	5.65	71.21
57	Dominican Republic	5.65	71.21
59	Armenia	5.63	70.61
60	Argentina	5.62	70.30
61	Cambodia	5.59	69.39
61	Mongolia	5.59	69.39
61	Montenegro	5.59	69.39
61	Namibia	5.59	69.39
61	Tunisia	5.59	69.39
66	Honduras	5.56	68.48
66	Morocco	5.56	68.48
66	Romania	5.56	68.48
66	Spain	5.56	68.48
70	Lebanon	5.55	68.18
71	Mauritius	5.54	67.88
72	Russian Federation	5.52	67.27
72	Venezuela, Bolivarian Rep.	5.52	67.27
74	Slovakia	5.49	66.36
75	Oman	5.47	65.76
76	Colombia	5.46	65.45
77	Mexico	5.45	65.15
78	Sri Lanka	5.43	64.55
79	Ukraine	5.41	63.94
80	Serbia	5.40	63.64
81	Moldova, Rep.	5.38	63.03
82	El Salvador	5.35	62.12
83	Bosnia and Herzegovina	5.33	61.52
83	Ghana	5.33	61.52
85	Poland	5.31	60.91
86	Cyprus	5.30	60.61
87	Croatia	5.25	59.09
88	Kazakhstan	5.23	58.48
89	Greece	5.19	57.27
90	Botswana	5.18	56.97
91	Senegal	5.17	56.67
92	Rwanda	5.12	55.15
93	Paraguay	5.11	54.85
94	Gambia	5.09	54.24
95	Ecuador	5.06	53.33
96	Peru	5.03	52.42
97	Uganda	5.01	51.82
98	Bhutan	5.00	51.52
99	Zimbabwe	4.88	47.88
100	Bangladesh	4.85	46.97
100	Lao PDR	4.85	46.97
102	Yemen	4.84	46.67
103	Algeria	4.83	46.36
104	Bolivia, Plurinational St.	4.81	45.76
105	Nepal	4.80	45.45
106	China	4.79	45.15
107	Mozambique	4.78	44.85
108	Madagascar	4.77	44.55
109	Tanzania, United Rep.	4.76	44.24
110	India	4.74	43.64
111	Hungary	4.71	42.73
112	Iran, Islamic Rep.	4.55	37.88
113	Nicaragua	4.53	37.27
114	Kyrgyzstan	4.50	36.36
115	Malawi	4.37	32.42
116	Pakistan	4.26	29.09
117	Mali	4.21	27.58
118	Ethiopia	4.09	23.94
119	Lesotho	3.30	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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3.3.4 Use of virtual professional networks

LinkedIn users (per 1,000 labour force) | 2015

Rank	Country	Value	Score
1	United States of America	693.18	100.00
2	Iceland	642.66	92.67
3	Netherlands	610.45	87.99
4	Denmark	594.96	85.74
5	Malta	568.69	81.93
6	Ireland	560.75	80.78
7	Canada	553.15	79.67
8	Luxembourg	532.06	76.61
9	Australia	530.70	76.41
10	United Kingdom	529.16	76.19
11	New Zealand	521.20	75.03
12	Singapore	472.48	67.96
13	Norway	461.27	66.33
14	Belgium	459.02	66.01
15	Sweden	421.78	60.60
16	Portugal	353.67	50.71
17	Trinidad and Tobago	329.61	47.22
18	Chile	329.40	47.19
19	Israel	328.19	47.02
20	Switzerland	325.83	46.67
21	United Arab Emirates	311.24	44.56
22	France	307.29	43.98
23	Italy	301.16	43.09
24	Spain	290.48	41.54
25	Cyprus	259.67	37.07
26	Finland	256.77	36.65
27	Uruguay	239.88	34.20
28	Qatar	230.78	32.88
29	Argentina	216.56	30.81
30	Bahrain	215.28	30.63
31	Costa Rica	215.02	30.59
32	Mauritius	208.28	29.61
33	Slovenia	198.42	28.18
34	Brazil	189.47	26.88
35	Croatia	188.98	26.81
36	South Africa	187.34	26.57
37	Lebanon	186.09	26.39
38	Latvia	184.67	26.18
39	Estonia	184.08	26.10
40	Panama	180.82	25.62
41	Greece	180.18	25.53
42	Colombia	171.63	24.29
43	Jordan	167.37	23.67
44	Kuwait	161.09	22.76
45	Czech Republic	155.29	21.92
46	Malaysia	149.17	21.03
47	Romania	147.51	20.79
48	Ecuador	144.61	20.37
49	Lithuania	139.38	19.61
50	Austria	137.01	19.26
51	Montenegro	134.99	18.97
52	Turkey	133.88	18.81
53	Venezuela, Bolivarian Rep.	132.67	18.63
54	Mexico	128.64	18.05
55	Bulgaria	127.62	17.90
56	Saudi Arabia	127.40	17.87
57	Botswana	122.14	17.10
58	Oman	120.71	16.90
59	Hungary	119.99	16.79
60	Namibia	117.25	16.39
61	Tunisia	110.90	15.47
62	Slovakia	109.86	15.32
63	Albania	107.81	15.02
64	Serbia	99.39	13.80
65	Germany	95.47	13.23
66	Dominican Republic	91.98	12.73
67	El Salvador	89.06	12.30
68	Poland	83.13	11.44
69	Bosnia and Herzegovina	75.22	10.29
70	Morocco	73.55	10.05
71	Bhutan	68.95	9.38
72	Nicaragua	68.73	9.35
73	Guatemala	68.63	9.34
74	Georgia	64.20	8.69
75	Bolivia, Plurinational St.	62.48	8.44
76	Russian Federation	61.90	8.36
77	Philippines	59.95	8.08
78	Sri Lanka	59.83	8.06
79	Paraguay	59.09	7.95
80	Honduras	59.04	7.94
81	Armenia	58.29	7.84
82	Ukraine	57.65	7.74
83	India	57.22	7.68
84	Kenya	56.10	7.52
85	Algeria	52.63	7.01
86	Mongolia	51.85	6.90
87	Ghana	50.07	6.64
88	Egypt	49.35	6.54
89	Kazakhstan	45.81	6.02
90	Senegal	37.68	4.84
91	Pakistan	35.04	4.46
92	Zimbabwe	35.02	4.46
93	Gambia	34.25	4.35
94	Indonesia	32.02	4.02
95	Azerbaijan	28.56	3.52
96	Lesotho	28.46	3.51
97	Thailand	24.80	2.97
98	Uganda	21.64	2.52
99	Japan	20.91	2.41
100	Cambodia	17.96	1.98
101	Nepal	17.50	1.91
102	Kyrgyzstan	17.23	1.88
103	Viet Nam	16.03	1.70
104	Rwanda	15.48	1.62
105	Peru	14.78	1.52
106	Mali	13.05	1.27
107	Mozambique	11.95	1.11
108	Yemen	11.20	1.00
109	Malawi	10.81	0.94
110	Bangladesh	10.40	0.88
111	China	9.05	0.69
112	Madagascar	6.56	0.33
113	Ethiopia	4.31	0.00
	Iran, Islamic Rep.	n/a	n/a
	Korea, Rep.	n/a	n/a
	Lao PDR	n/a	n/a
	Macedonia, FYR	n/a	n/a
	Moldova, Rep.	n/a	n/a
	Tanzania, United Rep.	n/a	n/a

SOURCE: LinkedIn, LinkedIn Campaign Manager and International Labour Organization, *Key Indicators of the Labour Market,* 8th edition (http://key-indicators-of-the-labour-market–8th.software.informer.com/download)

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 2006.

3.3.5 Collaboration within organisations

Average answer to the question: In your country, to what extent do people collaborate and share ideas within a company? [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Sweden	5.92	100.00
2	Norway	5.81	95.86
3	Switzerland	5.68	91.49
4	United States of America	5.64	89.87
5	Denmark	5.54	86.47
6	Finland	5.54	86.23
7	Germany	5.45	83.18
8	New Zealand	5.41	81.77
9	Netherlands	5.38	80.77
10	Singapore	5.38	80.72
11	Malaysia	5.37	80.50
12	Israel	5.37	80.42
13	Austria	5.37	80.18
14	Qatar	5.35	79.47
15	Iceland	5.34	79.45
16	Japan	5.29	77.43
17	Luxembourg	5.24	75.70
18	United Kingdom	5.22	75.03
19	Ireland	5.17	73.13
20	Australia	5.10	70.85
21	United Arab Emirates	5.06	69.24
22	Belgium	5.02	68.03
23	Canada	5.00	67.33
24	Estonia	4.95	65.38
25	South Africa	4.86	62.28
26	France	4.72	57.29
27	Indonesia	4.69	56.16
28	Lithuania	4.68	55.88
29	Mongolia	4.64	54.37
30	Albania	4.63	54.21
31	Czech Republic	4.62	53.87
32	Korea, Rep.	4.61	53.25
33	Philippines	4.60	52.96
34	China	4.60	52.93
35	Bahrain	4.55	51.38
36	Guatemala	4.54	51.09
37	Kazakhstan	4.54	50.85
38	India	4.51	49.78
39	Rwanda	4.48	48.95
40	Kenya	4.45	47.87
41	Macedonia, FYR	4.45	47.72
42	Panama	4.39	45.72
43	Azerbaijan	4.39	45.49
44	Thailand	4.38	45.10
45	Slovenia	4.35	44.06
46	Uganda	4.33	43.35
47	Mauritius	4.32	43.05
48	Sri Lanka	4.31	42.80
49	Honduras	4.30	42.41
50	Armenia	4.29	42.15
51	Senegal	4.27	41.53
52	Ukraine	4.27	41.32
53	Malta	4.27	41.22
54	Lao PDR	4.27	41.18
55	Saudi Arabia	4.25	40.77
56	Latvia	4.24	40.35
57	Georgia	4.22	39.62
58	Costa Rica	4.22	39.46
59	Botswana	4.21	39.26
60	Lebanon	4.20	39.03
61	Ghana	4.19	38.49
62	Bhutan	4.17	37.83
63	Gambia	4.16	37.51
64	Cambodia	4.15	37.18
65	Bulgaria	4.15	36.98
66	Uruguay	4.14	36.70
67	Mexico	4.14	36.62
68	Namibia	4.13	36.56
69	Peru	4.13	36.48
70	Jordan	4.13	36.34
71	Colombia	4.12	35.93
72	Oman	4.10	35.18
73	Argentina	4.09	35.05
74	Slovakia	4.05	33.60
75	Montenegro	4.04	33.28
76	Russian Federation	4.03	32.76
77	Portugal	4.03	32.68
78	Mali	4.02	32.62
79	Zimbabwe	4.01	32.20
80	Madagascar	4.00	31.84
81	Dominican Republic	3.98	31.01
82	Ecuador	3.96	30.34
83	Venezuela, Bolivarian Rep.	3.94	29.64
84	Chile	3.94	29.63
85	Moldova, Rep.	3.93	29.32
86	Brazil	3.92	28.90
87	Viet Nam	3.88	27.65
88	Malawi	3.88	27.46
89	Morocco	3.87	27.32
90	Spain	3.87	27.28
91	Romania	3.87	27.28
92	Turkey	3.86	26.78
93	Poland	3.86	26.66
94	Greece	3.85	26.65
95	Kyrgyzstan	3.85	26.54
96	Croatia	3.84	25.95
97	Pakistan	3.83	25.59
98	Italy	3.81	25.19
99	Trinidad and Tobago	3.79	24.37
100	El Salvador	3.79	24.27
101	Bosnia and Herzegovina	3.78	24.11
102	Kuwait	3.78	24.06
103	Egypt	3.77	23.66
104	Cyprus	3.76	23.15
105	Tanzania, United Rep.	3.72	21.78
106	Paraguay	3.68	20.49
107	Iran, Islamic Rep.	3.66	19.85
108	Nicaragua	3.66	19.63
109	Serbia	3.65	19.36
110	Bangladesh	3.62	18.22
111	Nepal	3.62	18.16
112	Mozambique	3.59	17.13
113	Bolivia, Plurinational St.	3.55	15.89
114	Tunisia	3.51	14.30
115	Hungary	3.47	12.99
116	Algeria	3.44	11.83
117	Ethiopia	3.41	10.72
118	Yemen	3.14	1.41
119	Lesotho	3.10	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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3.3.6 Collaboration across organisations

Average answer to the question: In your country, to what extent do companies collaborate in sharing ideas and innovating? [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Malaysia	5.13	100.00
2	Germany	5.10	99.42
3	Finland	5.05	98.42
4	Qatar	5.02	97.80
5	United States of America	5.01	97.62
6	Netherlands	4.89	95.35
7	Switzerland	4.80	93.69
8	Sweden	4.77	93.08
9	United Arab Emirates	4.74	92.34
10	United Kingdom	4.73	92.17
11	Israel	4.67	91.08
12	Norway	4.63	90.34
13	Singapore	4.61	89.92
14	Iceland	4.55	88.72
15	New Zealand	4.53	88.25
16	China	4.48	87.35
17	Luxembourg	4.44	86.50
18	Ireland	4.42	86.12
19	Belgium	4.39	85.55
20	Austria	4.31	84.13
21	Indonesia	4.25	82.81
22	India	4.22	82.24
23	Azerbaijan	4.17	81.33
24	Denmark	4.16	81.02
25	Canada	4.13	80.56
26	Hungary	4.06	79.16
27	Korea, Rep.	4.01	78.19
28	Japan	3.99	77.83
29	Estonia	3.99	77.77
30	Costa Rica	3.96	77.24
31	Panama	3.96	77.17
32	Kenya	3.95	77.09
33	Bolivia, Plurinational St.	3.95	77.02
34	Mexico	3.85	75.14
35	Venezuela, Bolivarian Rep.	3.85	75.08
36	France	3.85	74.99
37	Lao PDR	3.84	74.89
38	Jordan	3.83	74.71
39	Argentina	3.78	73.68
40	Chile	3.78	73.64
41	El Salvador	3.76	73.31
42	Bahrain	3.74	72.95
43	South Africa	3.73	72.76
44	Spain	3.72	72.53
45	Ethiopia	3.71	72.29
46	Ukraine	3.69	71.93
47	Russian Federation	3.68	71.72
48	Dominican Republic	3.68	71.66
49	Colombia	3.65	71.10
50	Pakistan	3.62	70.65
51	Rwanda	3.62	70.53
52	Sri Lanka	3.61	70.43
53	Slovakia	3.61	70.39
54	Tanzania, United Rep.	3.61	70.36
55	Lithuania	3.59	70.06
56	Portugal	3.58	69.85
57	Australia	3.58	69.85
58	Guatemala	3.57	69.67
59	Philippines	3.56	69.38
60	Ghana	3.53	68.87
61	Mauritius	3.53	68.80
62	Oman	3.52	68.56
63	Kazakhstan	3.51	68.35
64	Bulgaria	3.50	68.33
65	Czech Republic	3.49	68.06
66	Uruguay	3.46	67.44
67	Peru	3.45	67.23
68	Namibia	3.45	67.19
69	Mali	3.45	67.18
70	Botswana	3.44	67.00
71	Macedonia, FYR	3.43	66.82
72	Bhutan	3.42	66.75
73	Cambodia	3.41	66.49
74	Uganda	3.41	66.42
75	Thailand	3.37	65.72
76	Italy	3.36	65.60
77	Slovenia	3.35	65.39
78	Senegal	3.35	65.28
79	Saudi Arabia	3.34	65.14
80	Viet Nam	3.33	64.86
81	Malta	3.30	64.29
82	Greece	3.26	63.55
83	Armenia	3.24	63.17
84	Brazil	3.24	63.17
85	Montenegro	3.24	63.09
86	Georgia	3.23	62.93
87	Kuwait	3.16	61.52
88	Turkey	3.15	61.38
89	Madagascar	3.13	61.11
90	Lebanon	3.12	60.80
91	Albania	3.08	60.14
92	Gambia	3.08	60.12
93	Cyprus	3.08	59.99
94	Morocco	3.05	59.46
95	Latvia	3.05	59.41
96	Serbia	3.03	59.09
97	Mozambique	3.02	58.88
98	Honduras	2.99	58.27
99	Malawi	2.96	57.77
100	Poland	2.96	57.69
101	Bosnia and Herzegovina	2.94	57.23
102	Ecuador	2.90	56.59
103	Kyrgyzstan	2.90	56.52
103	Romania	2.90	56.52
105	Lesotho	2.84	55.44
106	Paraguay	2.83	55.20
107	Croatia	2.83	55.17
108	Iran, Islamic Rep.	2.82	54.99
109	Bangladesh	2.79	54.44
110	Algeria	2.75	53.71
111	Nepal	2.71	52.89
112	Zimbabwe	2.60	50.62
113	Moldova, Rep.	2.58	50.23
114	Tunisia	2.55	49.73
115	Trinidad and Tobago	2.52	49.09
116	Mongolia	2.49	48.62
117	Yemen	2.38	46.46
118	Egypt	0.00	0.00
118	Nicaragua	0.00	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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Pillar 4

Retain

4.1.1 Pension system

Workforce contributing to pension system (%) | 2012

Rank	Country	Value	Score
1	Luxembourg	100.00	100.00
2	Lithuania	99.00	98.98
3	Czech Republic	95.00	94.90
3	Japan	95.00	94.90
3	Switzerland	95.00	94.90
6	Austria	94.00	93.88
6	Estonia	94.00	93.88
8	Denmark	93.00	92.86
8	Latvia	93.00	92.86
8	Norway	93.00	92.86
8	United Kingdom	93.00	92.86
12	Hungary	92.00	91.84
12	Portugal	92.00	91.84
12	United States of America	92.00	91.84
15	Australia	91.00	90.82
15	Belgium	91.00	90.82
15	Netherlands	91.00	90.82
18	Finland	90.00	89.80
18	Italy	90.00	89.80
20	Israel	89.10	88.88
21	Ireland	89.00	88.78
21	Sweden	89.00	88.78
23	France	87.00	86.73
23	Germany	87.00	86.73
23	Iceland	87.00	86.73
23	Slovenia	87.00	86.73
27	Greece	86.00	85.71
28	Croatia	83.00	82.65
29	Poland	81.00	80.61
30	Bulgaria	79.00	78.57
30	Slovakia	79.00	78.57
32	Uruguay	78.00	77.55
33	Bosnia and Herzegovina	71.00	70.41
33	Trinidad and Tobago	71.00	70.41
35	Spain	69.00	68.37
36	Romania	68.00	67.35
37	Canada	67.00	66.33
37	Russian Federation	67.00	66.33
39	Ukraine	65.00	64.29
40	Kazakhstan	63.00	62.24
41	Singapore	62.00	61.22
42	Chile	60.00	59.18
43	Moldova, Rep.	59.00	58.16
43	Turkey	59.00	58.16
45	Costa Rica	56	55.10
46	Brazil	55.00	54.08
46	Egypt	55.00	54.08
48	Macedonia, FYR	53.00	52.04
48	Mauritius	53.00	52.04
50	Korea, Rep.	49.00	47.96
50	Malaysia	49.00	47.96
50	Tunisia	49.00	47.96
53	Serbia	45.00	43.88
54	Argentina	42.00	40.82
55	Kyrgyzstan	40.00	38.78
56	Albania	38.00	36.73
56	Jordan	38.00	36.73
58	Algeria	37.00	35.71
59	Azerbaijan	35.00	33.67
59	Lebanon	35.00	33.67
61	Iran, Islamic Rep.	34.00	32.65
61	Venezuela, Bolivarian Rep.	34.00	32.65
63	Mongolia	33.00	31.63
64	Armenia	32.00	30.61
65	Colombia	31.00	29.59
66	Georgia	29.00	27.55
67	China	27.00	25.51
67	Mexico	27.00	25.51
69	Dominican Republic	26.00	24.49
69	Ecuador	26.00	24.49
71	Philippines	25.00	23.47
72	Morocco	24.00	22.45
72	Sri Lanka	24.00	22.45
74	El Salvador	23.00	21.43
74	Thailand	23.00	21.43
76	Nicaragua	22.00	20.41
76	Peru	22.00	20.41
78	Bahrain	20.00	18.37
78	Guatemala	20.00	18.37
78	Zimbabwe	20.00	18.37
81	Viet Nam	19.00	17.35
82	Honduras	17.00	15.31
83	Bhutan	14.00	12.24
84	Bolivia, Plurinational St.	12.00	10.20
84	Paraguay	12.00	10.20
86	India	10.00	8.16
86	Namibia	10.00	8.16
86	Uganda	10.00	8.16
86	Yemen	10.00	8.16
90	Botswana	9.00	7.14
91	Ghana	8.00	6.12
91	Kenya	8.00	6.12
93	Indonesia	7.00	5.10
93	Mali	7.00	5.10
95	South Africa	6.00	4.08
96	Madagascar	5.30	3.37
97	Rwanda	5.00	3.06
97	Senegal	5.00	3.06
99	Qatar	4.40	2.45
100	Lesotho	4.00	2.04
100	Pakistan	4.00	2.04
100	Tanzania, United Rep.	4.00	2.04
103	Bangladesh	3.00	1.02
103	Gambia	3.00	1.02
103	Nepal	3.00	1.02
106	Mozambique	2.00	0.00
	Cambodia	n/a	n/a
	Cyprus	n/a	n/a
	Ethiopia	n/a	n/a
	Kuwait	n/a	n/a
	Lao PDR	n/a	n/a
	Malawi	n/a	n/a
	Malta	n/a	n/a
	Montenegro	n/a	n/a
	New Zealand	n/a	n/a
	Oman	n/a	n/a
	Panama	n/a	n/a
	Saudi Arabia	n/a	n/a
	United Arab Emirates	n/a	n/a

SOURCE: Pallares-Miralles, M., Romero, C., & Whitehouse, E. 2012. International patterns of pension provision II: A worldwide overview of facts and figures. Social protection and labor discussion paper no. SP 1211. Washington, DC: World Bank (https://openknowledge.worldbank.org/handle/10986/13560)
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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] | 2016

Rank	Country	Value	Score
1	Norway	6.32	100.00
2	France	6.21	97.46
3	Luxembourg	6.12	95.30
4	Finland	6.10	94.83
5	Switzerland	6.09	94.77
6	Belgium	6.05	93.76
7	Austria	6.01	92.77
8	Denmark	6.01	92.76
9	Sweden	5.88	89.76
10	Netherlands	5.87	89.54
11	New Zealand	5.70	85.65
12	Germany	5.59	82.93
13	Ireland	5.58	82.71
14	Australia	5.57	82.48
15	Spain	5.55	82.15
16	Iceland	5.54	81.90
17	Qatar	5.45	79.84
18	Canada	5.45	79.73
19	United Kingdom	5.33	77.00
20	Malaysia	5.13	72.28
21	Japan	5.05	70.50
22	Uruguay	4.92	67.43
23	Bahrain	4.87	66.18
24	United States of America	4.80	64.73
25	Saudi Arabia	4.78	64.16
26	Czech Republic	4.74	63.31
27	Malta	4.72	62.72
28	United Arab Emirates	4.62	60.38
29	Portugal	4.59	59.65
30	Oman	4.47	56.89
31	Israel	4.47	56.84
32	Slovenia	4.37	54.62
33	China	4.36	54.41
34	Rwanda	4.29	52.81
35	Kuwait	4.28	52.44
36	Singapore	4.27	52.29
37	Jordan	4.13	48.96
38	Indonesia	4.08	47.76
39	Turkey	4.07	47.68
40	Estonia	4.02	46.42
41	Italy	4.01	46.17
42	Mauritius	3.90	43.58
43	Bhutan	3.87	42.86
44	Cyprus	3.86	42.61
45	Thailand	3.85	42.58
46	Chile	3.85	42.58
47	Latvia	3.83	42.12
48	Azerbaijan	3.82	41.88
49	Panama	3.82	41.86
50	Costa Rica	3.82	41.70
51	South Africa	3.77	40.56
52	Namibia	3.76	40.29
53	Gambia	3.73	39.67
54	Slovakia	3.72	39.46
55	Lao PDR	3.68	38.57
56	Kazakhstan	3.67	38.29
57	Macedonia, FYR	3.66	38.10
58	Viet Nam	3.65	37.88
59	Ethiopia	3.64	37.50
60	Iran, Islamic Rep.	3.59	36.39
61	Korea, Rep.	3.58	36.12
62	Tanzania, United Rep.	3.55	35.55
63	Lithuania	3.54	35.35
64	Romania	3.54	35.24
65	Lesotho	3.54	35.19
66	Ecuador	3.53	35.13
67	Botswana	3.53	35.05
68	India	3.50	34.42
69	Trinidad and Tobago	3.49	34.18
70	Argentina	3.48	33.80
71	Russian Federation	3.47	33.71
72	Algeria	3.46	33.39
73	Brazil	3.44	33.06
74	Mongolia	3.36	31.05
75	Kenya	3.33	30.47
76	Mali	3.30	29.66
77	Ghana	3.27	28.97
78	Senegal	3.24	28.20
79	Ukraine	3.23	28.09
80	Greece	3.19	27.21
81	Morocco	3.19	27.13
82	Bulgaria	3.14	26.04
83	Philippines	3.13	25.80
84	Mexico	3.12	25.54
85	Montenegro	3.10	24.95
86	Pakistan	3.09	24.70
87	Mozambique	3.06	24.02
88	Colombia	3.05	23.96
89	Tunisia	2.99	22.46
90	Guatemala	2.97	22.02
91	Peru	2.97	21.99
92	Kyrgyzstan	2.95	21.51
93	Uganda	2.93	21.12
94	Croatia	2.93	21.02
95	Sri Lanka	2.89	20.09
96	Cambodia	2.86	19.40
97	Serbia	2.85	19.30
98	Poland	2.84	18.93
99	Armenia	2.78	17.48
100	Dominican Republic	2.77	17.29
101	Paraguay	2.75	16.84
102	Honduras	2.73	16.34
103	Hungary	2.72	16.08
104	Albania	2.71	16.05
105	El Salvador	2.70	15.72
106	Malawi	2.64	14.33
107	Georgia	2.64	14.28
108	Bolivia, Plurinational St.	2.61	13.68
109	Moldova, Rep.	2.60	13.45
110	Lebanon	2.49	10.84
111	Bosnia and Herzegovina	2.49	10.84
112	Egypt	2.45	9.96
113	Yemen	2.44	9.57
114	Nicaragua	2.37	7.95
115	Nepal	2.34	7.30
116	Madagascar	2.21	4.40
117	Venezuela, Bolivarian Rep.	2.12	2.19
118	Bangladesh	2.10	1.71
119	Zimbabwe	2.03	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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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] | 2016

Rank	Country	Value	Score
1	Switzerland	6.07	100.00
2	United States of America	5.64	90.21
3	United Arab Emirates	5.60	89.29
4	Norway	5.55	88.15
5	Qatar	5.54	87.93
6	Singapore	5.48	86.56
7	United Kingdom	5.41	84.97
8	Malaysia	5.27	81.78
9	Netherlands	5.25	81.32
10	Finland	5.17	79.50
11	Luxembourg	5.08	77.45
12	Sweden	5.00	75.63
13	Iceland	4.92	73.80
14	Chile	4.91	73.58
15	Canada	4.85	72.21
16	Germany	4.84	71.98
17	Ireland	4.74	69.70
18	Saudi Arabia	4.73	69.48
19	Rwanda	4.72	69.25
20	Panama	4.70	68.79
21	Denmark	4.69	68.56
22	Belgium	4.61	66.74
23	Austria	4.57	65.83
24	Israel	4.52	64.69
25	Australia	4.51	64.46
26	Costa Rica	4.48	63.78
27	Bahrain	4.43	62.64
28	Korea, Rep.	4.42	62.41
29	Malta	4.37	61.28
30	New Zealand	4.36	61.05
31	India	4.32	60.14
32	China	4.21	57.63
33	Indonesia	4.17	56.72
33	Oman	4.17	56.72
35	Azerbaijan	4.12	55.58
36	Japan	4.07	54.44
37	Guatemala	3.99	52.62
38	Bhutan	3.96	51.94
39	Thailand	3.91	50.80
40	Lao PDR	3.89	50.34
41	Brazil	3.81	48.52
41	Peru	3.81	48.52
43	Ghana	3.80	48.29
43	Mauritius	3.80	48.29
45	Namibia	3.77	47.61
45	Sri Lanka	3.77	47.61
47	Kenya	3.74	46.92
48	Philippines	3.73	46.70
49	Jordan	3.69	45.79
50	Cambodia	3.68	45.56
51	Argentina	3.67	45.33
52	Botswana	3.65	44.87
52	Czech Republic	3.65	44.87
54	Trinidad and Tobago	3.62	44.19
55	Kazakhstan	3.57	43.05
56	Ethiopia	3.56	42.82
57	Paraguay	3.55	42.60
58	Gambia	3.54	42.37
58	Mexico	3.54	42.37
58	Portugal	3.54	42.37
61	South Africa	3.53	42.14
62	Honduras	3.49	41.23
62	Uruguay	3.49	41.23
64	Colombia	3.47	40.77
64	Tanzania, United Rep.	3.47	40.77
66	Mali	3.46	40.55
67	Cyprus	3.45	40.32
68	Mozambique	3.42	39.64
69	Pakistan	3.41	39.41
70	Dominican Republic	3.40	39.18
71	Russian Federation	3.32	37.36
72	Kuwait	3.30	36.90
72	Spain	3.30	36.90
74	Estonia	3.29	36.67
75	France	3.26	35.99
75	Senegal	3.26	35.99
77	Viet Nam	3.24	35.54
78	Malawi	3.23	35.31
78	Turkey	3.23	35.31
80	Lesotho	3.21	34.85
81	Morocco	3.20	34.62
82	Ecuador	3.18	34.17
83	Slovenia	3.13	33.03
84	Uganda	3.12	32.80
85	Bangladesh	3.01	30.30
86	Georgia	2.98	29.61
86	Poland	2.98	29.61
88	Montenegro	2.96	29.16
89	Egypt	2.94	28.70
89	Nicaragua	2.94	28.70
91	Madagascar	2.93	28.47
92	Lithuania	2.89	27.56
93	Italy	2.85	26.65
94	Lebanon	2.82	25.97
95	Armenia	2.79	25.28
95	Tunisia	2.79	25.28
97	Nepal	2.72	23.69
98	Bolivia, Plurinational St.	2.71	23.46
99	Macedonia, FYR	2.68	22.78
100	Algeria	2.67	22.55
101	Albania	2.66	22.32
102	Latvia	2.63	21.64
103	El Salvador	2.62	21.41
103	Iran, Islamic Rep.	2.62	21.41
105	Slovakia	2.61	21.18
106	Greece	2.59	20.73
107	Bulgaria	2.55	19.82
108	Kyrgyzstan	2.53	19.36
109	Ukraine	2.52	19.13
110	Mongolia	2.51	18.91
111	Zimbabwe	2.43	17.08
112	Hungary	2.39	16.17
113	Croatia	2.15	10.71
114	Romania	2.07	8.88
115	Bosnia and Herzegovina	1.94	5.92
116	Yemen	1.92	5.47
117	Moldova, Rep.	1.88	4.56
118	Serbia	1.68	0.00
118	Venezuela, Bolivarian Rep.	1.68	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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4.2.1 Environmental performance

Environmental Performance Index | 2015

Rank	Country	Value	Score
1	Finland	90.68	100.00
2	Iceland	90.51	99.68
3	Sweden	90.43	99.53
4	Denmark	89.21	97.26
5	Slovenia	88.98	96.83
6	Spain	88.91	96.70
7	Portugal	88.63	96.17
8	Estonia	88.59	96.10
9	Malta	88.48	95.89
10	France	88.20	95.37
11	New Zealand	88.00	95.00
12	United Kingdom	87.38	93.84
13	Australia	87.22	93.54
14	Singapore	87.04	93.21
15	Croatia	86.98	93.09
16	Switzerland	86.93	93.00
17	Norway	86.90	92.95
18	Austria	86.64	92.46
19	Ireland	86.60	92.39
20	Luxembourg	86.58	92.35
21	Greece	85.81	90.91
22	Latvia	85.71	90.72
23	Lithuania	85.49	90.31
24	Slovakia	85.42	90.18
25	Canada	85.06	89.51
26	United States of America	84.72	88.88
27	Czech Republic	84.67	88.78
28	Hungary	84.60	88.65
29	Italy	84.48	88.43
30	Germany	84.26	88.02
31	Azerbaijan	83.78	87.12
32	Russian Federation	83.52	86.64
33	Bulgaria	83.40	86.41
34	Romania	83.24	86.11
35	Netherlands	82.03	83.86
36	Armenia	81.60	83.05
37	Poland	81.26	82.42
38	Japan	80.59	81.17
39	Cyprus	80.24	80.52
40	Belgium	80.15	80.35
41	Costa Rica	80.03	80.12
42	Argentina	79.84	79.77
43	Ukraine	79.69	79.49
44	Brazil	78.90	78.01
45	Montenegro	78.89	78.00
46	Serbia	78.67	77.58
47	Israel	78.14	76.60
48	Macedonia, FYR	78.02	76.37
49	Panama	78.00	76.33
50	Chile	77.67	75.72
51	Tunisia	77.28	74.99
52	Moldova, Rep.	76.69	73.89
53	Venezuela, Bolivarian Rep.	76.23	73.03
54	Colombia	75.93	72.47
55	Dominican Republic	75.32	71.33
56	Albania	74.38	69.58
57	Trinidad and Tobago	74.34	69.50
58	Malaysia	74.23	69.30
59	Morocco	74.18	69.20
60	Uruguay	73.98	68.83
61	Philippines	73.70	68.31
62	Mexico	73.59	68.10
63	Kazakhstan	73.29	67.54
64	Kyrgyzstan	73.13	67.25
65	Peru	72.95	66.91
66	Jordan	72.24	65.58
67	Bolivia, Plurinational St.	71.09	63.44
68	Mauritius	70.85	62.99
69	Namibia	70.84	62.97
70	Botswana	70.72	62.75
71	Korea, Rep.	70.61	62.54
72	South Africa	70.52	62.37
73	Paraguay	70.36	62.08
74	Algeria	70.28	61.93
75	Bahrain	70.07	61.53
76	Qatar	69.94	61.29
77	Guatemala	69.64	60.73
77	Honduras	69.64	60.73
79	Thailand	69.54	60.54
80	United Arab Emirates	69.35	60.19
81	Lebanon	69.14	59.80
82	Saudi Arabia	68.63	58.85
83	El Salvador	68.07	57.80
84	Turkey	67.68	57.07
85	Ecuador	66.58	55.02
86	Egypt	66.45	54.78
87	Iran, Islamic Rep.	66.32	54.54
88	Indonesia	65.85	53.66
89	Sri Lanka	65.55	53.10
90	China	65.10	52.26
91	Bhutan	64.99	52.05
92	Georgia	64.96	52.00
93	Kuwait	64.41	50.97
94	Mongolia	64.39	50.93
95	Nicaragua	64.19	50.56
96	Senegal	63.73	49.70
97	Bosnia and Herzegovina	63.28	48.86
98	Kenya	62.49	47.39
99	Oman	60.13	42.98
100	Zimbabwe	59.25	41.34
101	Ghana	58.89	40.67
102	Viet Nam	58.50	39.94
103	Tanzania, United Rep.	58.34	39.64
104	Uganda	57.56	38.19
105	India	53.58	30.76
106	Gambia	52.09	27.98
107	Pakistan	51.42	26.73
108	Cambodia	51.24	26.39
109	Rwanda	50.34	24.71
110	Lao PDR	50.29	24.62
111	Nepal	50.21	24.47
112	Yemen	49.79	23.68
113	Malawi	49.69	23.50
114	Lesotho	47.17	18.79
115	Ethiopia	45.83	16.29
116	Mozambique	41.82	8.81
117	Bangladesh	41.77	8.72
118	Mali	41.48	8.17
119	Madagascar	37.10	0.00

SOURCE: The 2016 Environmental Performance Index, Yale Center for Environmental Law and Policy (http://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 2006.

4.2.2 Personal safety

Personal safety indicator | 2016

Rank	Country	Value	Score
1	Czech Republic	95.68	100.00
2	Sweden	94.04	97.55
3	Switzerland	93.92	97.37
4	Denmark	93.85	97.26
5	Norway	93.69	97.03
6	Iceland	93.59	96.88
7	Japan	93.56	96.83
8	Austria	93.20	96.29
9	Finland	93.13	96.19
10	Australia	93.10	96.14
11	Slovenia	92.89	95.83
12	Canada	92.79	95.68
13	Korea, Rep.	90.87	92.81
14	Netherlands	90.00	91.51
15	Germany	89.70	91.06
16	Ireland	89.65	90.99
17	Singapore	89.21	90.33
18	New Zealand	89.01	90.03
19	Slovakia	88.69	89.55
20	Portugal	88.58	89.39
21	Belgium	88.57	89.37
22	Poland	87.59	87.91
23	Bhutan	85.73	85.13
24	United Kingdom	85.39	84.62
25	Spain	85.20	84.33
26	Kuwait	84.62	83.47
27	Cyprus	84.56	83.38
28	France	84.55	83.36
29	Qatar	84.13	82.74
30	United States of America	83.31	81.51
31	Croatia	83.16	81.29
32	Estonia	83.09	81.18
33	Mauritius	82.77	80.70
34	Georgia	82.49	80.28
35	Latvia	82.22	79.88
36	Greece	81.17	78.31
37	Lithuania	81.09	78.19
38	Serbia	79.97	76.52
39	Hungary	79.63	76.01
40	Romania	79.60	75.96
41	United Arab Emirates	79.37	75.62
42	Chile	77.87	73.38
43	Moldova, Rep.	77.31	72.54
44	Nepal	77.18	72.35
45	Bosnia and Herzegovina	76.56	71.42
46	Lao PDR	76.07	70.69
47	Costa Rica	75.88	70.40
48	Bulgaria	75.87	70.39
49	Macedonia, FYR	75.61	70.00
50	Azerbaijan	75.31	69.55
51	Viet Nam	75.23	69.43
52	Malaysia	75.02	69.12
53	Oman	75.01	69.10
54	Botswana	75.00	69.09
55	Montenegro	74.59	68.48
56	Mongolia	74.52	68.37
57	Israel	74.10	67.74
58	Uruguay	74.01	67.61
59	Albania	72.80	65.80
60	Morocco	72.69	65.64
61	Armenia	72.52	65.38
62	Senegal	72.19	64.89
63	Italy	72.10	64.75
64	Saudi Arabia	72.07	64.71
65	Bahrain	71.79	64.29
66	Panama	70.91	62.97
67	Bangladesh	70.34	62.12
68	Indonesia	70.09	61.75
69	Algeria	69.71	61.18
70	Jordan	69.62	61.05
71	Ghana	69.58	60.99
72	Sri Lanka	69.01	60.13
73	Kazakhstan	68.85	59.90
74	Ethiopia	68.41	59.24
75	Argentina	67.75	58.25
76	Bolivia, Plurinational St.	67.73	58.22
77	Nicaragua	67.08	57.25
78	Malawi	66.50	56.38
79	Tunisia	66.22	55.96
80	Namibia	65.99	55.62
81	Paraguay	65.89	55.47
82	Madagascar	65.52	54.92
83	Mali	64.66	53.63
84	Kyrgyzstan	64.47	53.35
85	China	64.35	53.17
86	Peru	64.15	52.87
87	Ecuador	63.99	52.63
88	Iran, Islamic Rep.	63.35	51.67
89	Rwanda	63.12	51.33
90	Uganda	63.10	51.30
91	Turkey	62.92	51.03
92	Egypt	62.67	50.66
93	Tanzania, United Rep.	61.84	49.42
94	Ukraine	61.05	48.24
95	India	60.53	47.46
96	Cambodia	60.39	47.25
97	Thailand	59.67	46.17
98	Mozambique	58.83	44.92
99	Gambia	58.78	44.84
100	Lesotho	58.76	44.81
101	Russian Federation	58.15	43.90
102	Yemen	57.80	43.38
103	Philippines	57.10	42.33
104	Lebanon	56.95	42.11
105	Dominican Republic	54.50	38.45
106	Trinidad and Tobago	53.34	36.71
107	Pakistan	52.64	35.67
108	Zimbabwe	52.26	35.10
109	Kenya	51.39	33.80
110	Mexico	49.91	31.58
111	Colombia	48.62	29.66
112	Brazil	47.81	28.45
113	Guatemala	45.70	25.29
114	South Africa	41.84	19.52
115	El Salvador	39.90	16.62
116	Venezuela, Bolivarian Rep.	30.45	2.50
117	Honduras	28.78	0.00
	Luxembourg	n/a	n/a
	Malta	n/a	n/a

SOURCE: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/)
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4.2.3 Physician density

Physicians (per 1,000 people) | 2015

Rank	Country	Value	Score
1	Greece	6.26	100.00
2	Austria	5.15	82.21
3	Georgia	4.78	76.28
4	Portugal	4.43	70.67
5	Norway	4.42	70.51
6	Lithuania	4.33	69.07
7	Germany	4.13	65.87
8	Sweden	4.11	65.54
8	Switzerland	4.11	65.54
10	Bulgaria	4.00	63.78
11	Italy	3.95	62.98
12	Uruguay	3.94	62.82
13	Malta	3.91	62.34
14	Spain	3.82	60.90
15	Iceland	3.79	60.42
16	Argentina	3.76	59.94
17	Czech Republic	3.68	58.65
18	Denmark	3.65	58.17
19	Israel	3.62	57.69
20	Azerbaijan	3.40	54.17
21	Slovakia	3.39	54.01
22	Australia	3.37	53.69
23	Netherlands	3.35	53.37
24	Estonia	3.32	52.88
24	Hungary	3.32	52.88
26	Russian Federation	3.31	52.72
27	Kazakhstan	3.27	52.08
28	France	3.23	51.44
29	Latvia	3.22	51.28
30	Croatia	3.13	49.84
31	Finland	3.01	47.92
32	Ukraine	3.00	47.76
33	Belgium	2.97	47.28
34	Luxembourg	2.92	46.47
35	Mongolia	2.88	45.83
36	New Zealand	2.85	45.35
37	United Kingdom	2.81	44.71
38	Armenia	2.80	44.55
38	Macedonia, FYR	2.80	44.55
40	Ireland	2.79	44.39
41	Slovenia	2.77	44.07
42	Romania	2.67	42.47
43	Jordan	2.65	42.15
44	Saudi Arabia	2.57	40.87
45	United States of America	2.55	40.54
46	Moldova, Rep.	2.54	40.38
47	Cyprus	2.50	39.74
48	Canada	2.48	39.42
49	Serbia	2.46	39.10
50	Lebanon	2.38	37.82
51	Montenegro	2.34	37.18
52	Japan	2.30	36.54
53	Poland	2.27	36.06
54	Korea, Rep.	2.23	35.42
55	Mexico	2.07	32.85
56	Qatar	1.96	31.09
57	Kuwait	1.95	30.93
58	El Salvador	1.92	30.45
59	Singapore	1.91	30.29
60	Bosnia and Herzegovina	1.89	29.97
61	Brazil	1.85	29.33
61	Kyrgyzstan	1.85	29.33
63	Turkey	1.75	27.72
64	Ecuador	1.67	26.44
65	Tunisia	1.65	26.12
66	Panama	1.59	25.16
67	Colombia	1.57	24.84
68	United Arab Emirates	1.56	24.68
69	Oman	1.54	24.36
70	China	1.49	23.56
70	Dominican Republic	1.49	23.56
70	Iran, Islamic Rep.	1.49	23.56
73	Albania	1.29	20.35
73	Paraguay	1.29	20.35
75	Malaysia	1.28	20.19
76	Algeria	1.19	18.75
77	Trinidad and Tobago	1.18	18.59
77	Viet Nam	1.18	18.59
79	Costa Rica	1.15	18.11
80	Peru	1.12	17.63
81	Chile	1.03	16.19
82	Bahrain	0.94	14.74
83	Nicaragua	0.91	14.26
84	Guatemala	0.90	14.10
85	Egypt	0.81	12.66
85	Pakistan	0.81	12.66
87	South Africa	0.77	12.02
88	India	0.73	11.38
88	Sri Lanka	0.73	11.38
90	Morocco	0.62	9.62
91	Bolivia, Plurinational St.	0.47	7.21
92	Bangladesh	0.39	5.93
92	Thailand	0.39	5.93
94	Botswana	0.38	5.77
95	Namibia	0.37	5.61
96	Yemen	0.31	4.65
97	Bhutan	0.26	3.85
98	Indonesia	0.20	2.88
98	Kenya	0.20	2.88
100	Lao PDR	0.18	2.56
101	Cambodia	0.17	2.40
102	Madagascar	0.14	1.92
103	Gambia	0.11	1.44
104	Ghana	0.10	1.28
105	Mali	0.09	1.12
106	Zimbabwe	0.07	0.80
107	Mozambique	0.06	0.64
107	Rwanda	0.06	0.64
107	Senegal	0.06	0.64
110	Ethiopia	0.03	0.16
110	Tanzania, United Rep.	0.03	0.16
112	Malawi	0.02	0.00
	Honduras	n/a	n/a
	Lesotho	n/a	n/a
	Mauritius	n/a	n/a
	Nepal	n/a	n/a
	Philippines	n/a	n/a
	Uganda	n/a	n/a
	Venezuela, Bolivarian Rep.	n/a	n/a

SOURCE: World Bank, World Development Indicators based on World Health Organization, Global Atlas of the Health Workforce (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 2006.

4.2.4 Sanitation

Population with access to improved sanitation facilities (%) | 2015

Rank	Country	Value	Score
1	Australia	100.00	100.00
1	Austria	100.00	100.00
1	Cyprus	100.00	100.00
1	Israel	100.00	100.00
1	Japan	100.00	100.00
1	Korea, Rep.	100.00	100.00
1	Kuwait	100.00	100.00
1	Malta	100.00	100.00
1	Saudi Arabia	100.00	100.00
1	Singapore	100.00	100.00
1	United States of America	100.00	100.00
12	Spain	99.90	99.89
12	Switzerland	99.90	99.89
14	Canada	99.80	99.77
15	Portugal	99.70	99.66
16	Denmark	99.60	99.55
17	Belgium	99.50	99.43
17	Italy	99.50	99.43
19	Sweden	99.30	99.20
20	Bahrain	99.20	99.09
20	Germany	99.20	99.09
20	United Kingdom	99.20	99.09
23	Chile	99.10	98.98
23	Czech Republic	99.10	98.98
23	Slovenia	99.10	98.98
26	Greece	99.00	98.86
27	Iceland	98.80	98.64
27	Slovakia	98.80	98.64
29	France	98.70	98.52
30	Jordan	98.60	98.41
31	Norway	98.10	97.84
32	Hungary	98.00	97.73
32	Qatar	98.00	97.73
34	Netherlands	97.70	97.39
35	Finland	97.60	97.27
35	Luxembourg	97.60	97.27
35	United Arab Emirates	97.60	97.27
38	Kazakhstan	97.50	97.16
39	Estonia	97.20	96.82
39	Poland	97.20	96.82
41	Croatia	97.00	96.59
42	Oman	96.70	96.25
43	Argentina	96.40	95.91
43	Serbia	96.40	95.91
43	Uruguay	96.4	95.91
46	Malaysia	96.00	95.45
47	Montenegro	95.90	95.34
47	Ukraine	95.90	95.34
49	Sri Lanka	95.10	94.43
50	Turkey	94.90	94.20
51	Bosnia and Herzegovina	94.80	94.09
52	Egypt	94.70	93.98
53	Costa Rica	94.50	93.75
54	Venezuela, Bolivarian Rep.	94.40	93.64
55	Kyrgyzstan	93.30	92.39
56	Albania	93.20	92.27
57	Mauritius	93.10	92.16
58	Thailand	93.00	92.05
59	Lithuania	92.40	91.36
60	Tunisia	91.60	90.45
61	Trinidad and Tobago	91.50	90.34
62	Macedonia, FYR	90.90	89.66
63	Ireland	90.50	89.20
64	Iran, Islamic Rep.	90.00	88.64
65	Armenia	89.50	88.07
66	Azerbaijan	89.30	87.84
67	Paraguay	88.60	87.05
68	Latvia	87.80	86.14
69	Algeria	87.60	85.91
70	Georgia	86.30	84.43
71	Bulgaria	86.00	84.09
72	Mexico	85.20	83.18
73	Ecuador	84.70	82.61
74	Dominican Republic	84.00	81.82
75	Brazil	82.80	80.45
76	Honduras	82.60	80.23
77	Colombia	81.10	78.52
78	Lebanon	80.70	78.07
79	Romania	79.10	76.25
80	Viet Nam	78.00	75.00
81	Morocco	76.70	73.52
82	China	76.50	73.30
83	Moldova, Rep.	76.40	73.18
84	Peru	76.20	72.95
85	El Salvador	75.00	71.59
85	Panama	75.00	71.59
87	Philippines	73.90	70.34
88	Russian Federation	72.20	68.41
89	Lao PDR	70.90	66.93
90	Nicaragua	67.90	63.52
91	South Africa	66.40	61.82
92	Guatemala	63.90	58.98
93	Pakistan	63.50	58.52
94	Botswana	63.40	58.41
95	Rwanda	61.60	56.36
96	Indonesia	60.80	55.45
97	Bangladesh	60.60	55.23
98	Mongolia	59.70	54.20
99	Gambia	58.90	53.30
100	Yemen	53.30	46.93
101	Bhutan	50.40	43.64
102	Bolivia, Plurinational St.	50.30	43.52
103	Senegal	47.60	40.45
104	Nepal	45.80	38.41
105	Cambodia	42.40	34.55
106	Malawi	41.00	32.95
107	India	39.60	31.36
108	Zimbabwe	36.80	28.18
109	Namibia	34.40	25.45
110	Lesotho	30.30	20.80
111	Kenya	30.10	20.57
112	Ethiopia	28.00	18.18
113	Mali	24.70	14.43
114	Mozambique	20.50	9.66
115	Uganda	19.10	8.07
116	Tanzania, United Rep.	15.60	4.09
117	Ghana	14.90	3.30
118	Madagascar	12.00	0.00
	New Zealand	n/a	n/a

SOURCE: World Bank, World Development Indicators based on WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation (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 2006.

Pillar 5

Vocational and Technical Skills

5.1.1 Workforce with secondary education

Labour force with secondary education (%) | 2016

Rank	Country	Value	Score
1	United States of America	87.86	100.00
2	Kyrgyzstan	73.92	64.66
3	Slovakia	71.66	62.66
4	Czech Republic	71.48	62.50
5	Bosnia and Herzegovina	66.58	58.16
6	Azerbaijan	66.23	57.85
7	Armenia	65.93	57.59
8	Montenegro	65.60	57.29
9	Croatia	62.90	54.90
10	Georgia	62.71	54.73
11	Hungary	61.58	53.73
12	Poland	61.52	53.68
13	Romania	59.19	51.62
14	Germany	58.26	50.79
15	Bulgaria	56.65	49.37
16	Slovenia	56.48	49.22
17	Moldova, Rep.	56.15	48.92
18	Latvia	56.12	48.90
19	Macedonia, FYR	54.48	47.44
20	Lithuania	53.65	46.71
21	Austria	52.67	45.84
22	Japan	52.49	45.68
23	Chile	51.42	44.73
24	New Zealand	51.00	44.36
25	Estonia	50.65	44.05
26	Mongolia	47.69	41.43
27	Italy	46.82	40.66
28	Finland	46.52	40.39
29	Sweden	45.63	39.60
30	Ukraine	45.54	39.53
31	Switzerland	45.53	39.52
32	France	44.88	38.94
33	Panama	44.09	38.24
34	Peru	43.80	37.98
35	Greece	42.99	37.27
36	Israel	42.66	36.97
37	Malaysia	42.14	36.51
38	Denmark	41.89	36.29
39	Netherlands	41.72	36.14
40	Brazil	41.32	35.79
41	United Kingdom	40.62	35.17
42	Australia	40.07	34.68
43	Kazakhstan	39.97	34.59
44	Argentina	39.92	34.55
45	Mauritius	39.89	34.52
46	Belgium	39.85	34.48
47	Norway	39.67	34.33
48	Korea, Rep.	39.22	33.93
49	Egypt	39.16	33.87
50	Iceland	38.27	33.09
51	Russian Federation	38.24	33.06
52	Cyprus	38.15	32.98
53	Bolivia, Plurinational St.	38.07	32.91
54	Tunisia	37.92	32.78
55	Ireland	37.44	32.35
56	Albania	37.18	32.12
57	Algeria	36.51	31.53
58	Nicaragua	36.05	31.12
59	Serbia	35.43	30.57
60	South Africa	35.32	30.47
61	Dominican Republic	35.29	30.45
62	Madagascar	33.64	28.98
63	Saudi Arabia	33.37	28.74
64	Malta	31.84	27.39
65	Luxembourg	31.65	27.22
66	Colombia	30.55	26.25
67	Singapore	30.24	25.97
68	Ecuador	29.76	25.55
69	Indonesia	28.90	24.79
70	Uruguay	27.16	23.24
71	Lesotho	26.65	22.79
72	Portugal	26.01	22.23
73	Canada	25.81	22.05
74	Qatar	25.79	22.03
75	Venezuela, Bolivarian Rep.	25.53	21.80
76	Paraguay	25.13	21.45
77	Honduras	23.87	20.33
78	Spain	23.77	20.24
79	Mexico	22.29	18.93
80	Yemen	21.41	18.15
81	Bangladesh	21.17	17.94
82	Morocco	20.75	17.57
83	Kuwait	20.72	17.54
84	Turkey	20.56	17.40
85	Costa Rica	20.43	17.28
86	Thailand	19.52	16.48
87	India	18.37	15.46
88	Lebanon	18.14	15.25
89	Botswana	17.45	14.64
90	Viet Nam	17.31	14.52
91	Sri Lanka	16.42	13.73
92	Bhutan	15.94	13.30
93	Guatemala	14.87	12.36
94	El Salvador	13.68	11.30
95	Nepal	12.62	10.36
96	Gambia	12.31	10.09
97	Pakistan	11.56	9.43
98	Lao PDR	11.12	9.04
99	Malawi	8.93	7.10
100	Cambodia	6.86	5.26
101	Senegal	5.25	3.84
102	Philippines	4.93	3.55
103	Ethiopia	4.54	3.21
104	Tanzania, United Rep.	3.97	2.70
105	Mali	3.49	2.28
106	Uganda	2.14	1.08
107	Namibia	0.92	0.00
	Bahrain	n/a	n/a
	China	n/a	n/a
	Ghana	n/a	n/a
	Iran, Islamic Rep.	n/a	n/a
	Jordan	n/a	n/a
	Kenya	n/a	n/a
	Mozambique	n/a	n/a
	Oman	n/a	n/a
	Rwanda	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	United Arab Emirates	n/a	n/a
	Zimbabwe	n/a	n/a

SOURCE: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.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 2006.

5.1.2 Population with secondary education

Population with secondary education (%) | 2016

Rank	Country	Value	Score
1	Czech Republic	70.20	100.00
2	Slovakia	66.10	94.15
3	Kyrgyzstan	61.50	87.59
4	Azerbaijan	58.60	83.45
5	Poland	56.40	80.31
6	Slovenia	55.30	78.74
7	Montenegro	52.90	75.32
8	Croatia	52.30	74.47
9	Estonia	52.10	74.18
10	Latvia	51.00	72.61
11	Bulgaria	50.40	71.75
12	Austria	49.90	71.04
13	Bosnia and Herzegovina	49.40	70.33
14	Serbia	49.20	70.04
15	Germany	48.60	69.19
16	South Africa	48.50	69.04
17	Switzerland	48.10	68.47
18	Romania	46.90	66.76
19	Hungary	46.40	66.05
20	United States of America	46.10	65.62
21	Georgia	45.10	64.19
22	Denmark	42.20	60.06
23	Moldova, Rep.	41.70	59.34
24	Armenia	41.30	58.77
25	Japan	39.90	56.78
26	France	38.80	55.21
27	Finland	38.70	55.06
28	Norway	38.10	54.21
29	Netherlands	37.90	53.92
30	Korea, Rep.	37.40	53.21
31	Sweden	37.20	52.92
32	Chile	35.50	50.50
33	Peru	35.10	49.93
34	Malaysia	34.50	49.07
35	Israel	34.30	48.79
35	Luxembourg	34.30	48.79
37	Italy	34.20	48.64
38	Belgium	32.90	46.79
39	Albania	32.40	46.08
40	Cyprus	32.20	45.79
40	Lithuania	32.20	45.79
42	Mongolia	32.00	45.51
43	Mauritius	30.50	43.37
44	Kazakhstan	30.40	43.22
45	United Kingdom	29.7	42.23
46	Brazil	29.40	41.80
47	Australia	29.30	41.65
48	Oman	29.10	41.37
49	Ecuador	28.70	40.80
50	Tunisia	27.50	39.09
51	Greece	27.40	38.94
52	Ireland	27.20	38.66
53	Colombia	25.80	36.66
54	Philippines	25.60	36.38
55	Iran, Islamic Rep.	25.20	35.81
56	New Zealand	25.10	35.66
57	Venezuela, Bolivarian Rep.	24.90	35.38
58	Egypt	24.00	34.09
59	Paraguay	23.90	33.95
60	Canada	23.10	32.81
61	Indonesia	23.00	32.67
61	Saudi Arabia	23.00	32.67
63	Dominican Republic	22.50	31.95
64	Russian Federation	21.90	31.10
65	Panama	20.10	28.53
66	Qatar	19.40	27.53
67	Pakistan	19.00	26.96
68	Singapore	18.90	26.82
69	Spain	18.60	26.39
70	Bolivia, Plurinational St.	18.50	26.25
71	Turkey	18.20	25.82
72	Lebanon	17.50	24.82
73	Algeria	17.30	24.54
74	Mexico	17.00	24.11
75	El Salvador	16.80	23.82
75	India	16.80	23.82
77	Portugal	16.70	23.68
78	Guatemala	16.30	23.11
78	Uruguay	16.30	23.11
80	Costa Rica	16.00	22.68
81	Sri Lanka	15.50	21.97
82	Nepal	15.20	21.54
83	Jordan	14.20	20.11
84	Kenya	13.90	19.69
85	Viet Nam	13.60	19.26
86	China	13.50	19.12
86	Kuwait	13.50	19.12
86	Thailand	13.50	19.12
89	Honduras	13.20	18.69
90	Malta	12.80	18.12
91	Trinidad and Tobago	12.70	17.97
92	Ghana	9.20	12.98
93	Lesotho	8.50	11.98
94	Rwanda	4.70	6.56
95	Cambodia	4.20	5.85
96	Mali	4.00	5.56
96	Senegal	4.00	5.56
98	Ethiopia	2.90	3.99
99	Mozambique	2.40	3.28
100	Zimbabwe	2.10	2.85
101	Bahrain	2.00	2.71
102	Uganda	1.70	2.28
103	Tanzania, United Rep.	0.80	1.00
104	Bhutan	0.10	0.00
	Argentina	n/a	n/a
	Bangladesh	n/a	n/a
	Botswana	n/a	n/a
	Gambia	n/a	n/a
	Iceland	n/a	n/a
	Lao PDR	n/a	n/a
	Macedonia, FYR	n/a	n/a
	Madagascar	n/a	n/a
	Malawi	n/a	n/a
	Morocco	n/a	n/a
	Namibia	n/a	n/a
	Nicaragua	n/a	n/a
	Ukraine	n/a	n/a
	United Arab Emirates	n/a	n/a
	Yemen	n/a	n/a

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 2006.

5.1.3 Technicians and associate professionals

Technicians and associate professionals (%) | 2016

Rank	Country	Value	Score
1	Japan	22.50	100.00
2	Germany	22.30	99.10
3	France	20.30	90.13
4	Singapore	20.00	88.79
5	Switzerland	19.40	86.10
6	Austria	19.10	84.75
7	Finland	18.90	83.86
7	Luxembourg	18.90	83.86
9	Sweden	18.20	80.72
10	Italy	17.50	77.58
11	Czech Republic	17.20	76.23
12	Denmark	17.10	75.78
13	Norway	17.00	75.34
14	Canada	16.80	74.44
15	Netherlands	15.80	69.96
16	Russian Federation	15.30	67.71
16	Slovakia	15.30	67.71
18	Iceland	14.80	65.47
19	Malta	14.70	65.02
20	Hungary	14.60	64.57
21	Croatia	14.50	64.13
21	United Arab Emirates	14.50	64.13
23	Latvia	14.20	62.78
24	Montenegro	13.80	60.99
25	Belgium	13.60	60.09
26	Argentina	13.40	59.19
26	Cyprus	13.40	59.19
28	Trinidad and Tobago	13.20	58.30
29	Israel	13.10	57.85
30	Australia	12.90	56.95
31	Slovenia	12.80	56.50
32	Poland	12.70	56.05
33	New Zealand	12.40	54.71
33	United Kingdom	12.40	54.71
35	Ukraine	12.00	52.91
36	Estonia	11.80	52.02
36	Portugal	11.80	52.02
38	Saudi Arabia	11.60	51.12
39	Serbia	11.40	50.22
40	Ireland	11.30	49.78
40	Kazakhstan	11.30	49.78
42	Costa Rica	11.20	49.33
43	Spain	11.10	48.88
44	Chile	10.80	47.53
44	Korea, Rep.	10.8	47.53
46	South Africa	10.70	47.09
47	Mauritius	10.20	44.84
48	Malaysia	10.00	43.95
49	Armenia	9.90	43.50
50	Lebanon	9.70	42.60
51	Lithuania	9.50	41.70
52	Azerbaijan	9.40	41.26
52	Bulgaria	9.40	41.26
54	Bosnia and Herzegovina	9.30	40.81
55	Nicaragua	8.80	38.57
56	Macedonia, FYR	8.70	38.12
57	Colombia	8.40	36.77
58	Brazil	8.30	36.32
59	Greece	8.20	35.87
60	Egypt	7.90	34.53
61	Botswana	7.80	34.08
61	Kyrgyzstan	7.80	34.08
61	Paraguay	7.80	34.08
64	Tunisia	7.60	33.18
65	Uruguay	7.50	32.74
66	Kuwait	7.40	32.29
67	Panama	7.30	31.84
67	Venezuela, Bolivarian Rep.	7.30	31.84
69	Bolivia, Plurinational St.	7.20	31.39
70	Peru	6.90	30.04
71	Dominican Republic	6.70	29.15
71	Moldova, Rep.	6.70	29.15
73	El Salvador	6.20	26.91
74	Honduras	6.00	26.01
74	Romania	6.00	26.01
76	Georgia	5.90	25.56
76	Sri Lanka	5.90	25.56
78	Turkey	5.60	24.22
79	Namibia	5.40	23.32
80	Pakistan	5.30	22.87
81	Qatar	5.20	22.42
82	Iran, Islamic Rep.	5.10	21.97
83	Ecuador	4.60	19.73
83	Thailand	4.60	19.73
85	Morocco	4.40	18.83
86	Lesotho	4.20	17.94
87	Algeria	4.00	17.04
88	Cambodia	3.70	15.70
89	Bhutan	3.60	15.25
90	India	3.30	13.90
91	Viet Nam	3.20	13.45
92	Guatemala	2.90	12.11
93	Mongolia	2.80	11.66
94	Indonesia	2.70	11.21
94	Philippines	2.70	11.21
96	Albania	2.10	8.52
96	Tanzania, United Rep.	2.10	8.52
98	Ethiopia	1.90	7.62
98	Mali	1.90	7.62
98	Nepal	1.90	7.62
101	Bangladesh	1.80	7.17
101	Ghana	1.80	7.17
103	Zimbabwe	1.60	6.28
104	Gambia	1.50	5.83
105	Uganda	1.40	5.38
106	Lao PDR	1.30	4.93
107	Madagascar	0.90	3.14
108	Rwanda	0.80	2.69
109	Malawi	0.20	0.00
	Bahrain	n/a	n/a
	China	n/a	n/a
	Jordan	n/a	n/a
	Kenya	n/a	n/a
	Mexico	n/a	n/a
	Mozambique	n/a	n/a
	Oman	n/a	n/a
	Senegal	n/a	n/a
	United States of America	n/a	n/a
	Yemen	n/a	n/a

SOURCE: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)
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5.1.4 Labour productivity per employee

Labour productivity per person employed (constant 2015 US$) | 2017

Rank	Country	Value	Score
1	United Arab Emirates	170575.00	100.00
2	Qatar	168675.00	98.87
3	Luxembourg	147990.00	86.52
4	Saudi Arabia	147816.00	86.42
5	Kuwait	143707.00	83.97
6	Singapore	134809.00	78.66
7	Norway	133287.00	77.75
8	Ireland	133233.00	77.72
9	United States of America	122147.00	71.10
10	Belgium	109801.00	63.74
11	Sweden	102857.00	59.59
12	Australia	101243.00	58.63
13	France	99543.30	57.62
14	Switzerland	99184.50	57.40
15	Netherlands	98575.90	57.04
16	Austria	96723.30	55.93
17	Denmark	95748.20	55.35
18	Finland	92636.40	53.50
19	Germany	92003.30	53.12
20	Canada	90520.80	52.23
21	Italy	90479.60	52.21
22	Bahrain	89969.90	51.91
23	Spain	89773.70	51.79
24	United Kingdom	88600.10	51.09
25	Iceland	87637.10	50.51
26	Peru	86767.30	49.99
27	Malta	86035.50	49.56
28	Japan	79268.00	45.52
29	Cyprus	78326.40	44.96
30	Korea, Rep.	74883.90	42.90
31	Israel	74551.20	42.71
32	Slovakia	74340.50	42.58
33	Oman	73597.70	42.14
34	Turkey	73098.50	41.84
35	New Zealand	71622.00	40.96
36	Greece	71525.30	40.90
37	Trinidad and Tobago	70449.40	40.26
38	Slovenia	69777.30	39.86
39	Czech Republic	68164.80	38.89
40	Poland	67319.60	38.39
41	Iran, Islamic Rep.	65181.30	37.11
42	Lithuania	64845.40	36.91
43	Portugal	64748.60	36.86
44	Malaysia	63746.60	36.26
45	Hungary	63207.9	35.94
46	Estonia	62859.20	35.73
47	Croatia	58930.50	33.38
48	Latvia	58617.30	33.20
49	Algeria	57702.70	32.65
50	Russian Federation	56356.20	31.85
51	Chile	54518.60	30.75
52	Romania	54351.50	30.65
53	Kazakhstan	53185.60	29.96
54	Bosnia and Herzegovina	52827.20	29.74
55	Jordan	49412.20	27.71
56	Uruguay	46330.40	25.87
57	Mexico	45960.10	25.65
58	Egypt	43420.00	24.13
59	Argentina	43374.80	24.10
60	South Africa	43079.00	23.93
61	Serbia	42930.50	23.84
62	Bulgaria	42770.80	23.74
63	Costa Rica	42492.80	23.58
64	Tunisia	38875.30	21.42
65	Macedonia, FYR	38737.60	21.34
66	Dominican Republic	38027.80	20.91
67	Azerbaijan	35346.00	19.31
68	Albania	33474.00	18.20
69	Sri Lanka	31903.90	17.26
70	Thailand	31509.10	17.02
71	Colombia	31057.90	16.75
72	Venezuela, Bolivarian Rep.	31001.50	16.72
73	Brazil	30427.70	16.38
74	China	29381.20	15.75
75	Indonesia	26562.50	14.07
76	Armenia	24285.40	12.71
77	Ecuador	23798.20	12.42
78	Morocco	23125.50	12.02
79	Ukraine	22280.10	11.52
80	Georgia	21675.40	11.16
81	Guatemala	20365.80	10.37
82	Philippines	20294.70	10.33
83	Pakistan	18625.60	9.34
84	India	17242.90	8.51
85	Moldova, Rep.	15833.60	7.67
86	Bolivia, Plurinational St.	14997.30	7.17
87	Viet Nam	11662.30	5.18
88	Yemen	10185.80	4.30
89	Ghana	9864.51	4.11
90	Kyrgyzstan	9497.43	3.89
91	Bangladesh	8870.01	3.52
92	Kenya	8431.83	3.25
93	Senegal	7922.48	2.95
94	Tanzania, United Rep.	6905.73	2.34
95	Cambodia	6797.84	2.28
96	Mali	6653.92	2.19
97	Uganda	4959.80	1.18
98	Zimbabwe	3922.74	0.56
99	Mozambique	3851.04	0.52
100	Ethiopia	3370.34	0.23
101	Madagascar	3082.46	0.06
102	Malawi	2979.00	0.00
	Bhutan	n/a	n/a
	Botswana	n/a	n/a
	El Salvador	n/a	n/a
	Gambia	n/a	n/a
	Honduras	n/a	n/a
	Lao PDR	n/a	n/a
	Lebanon	n/a	n/a
	Lesotho	n/a	n/a
	Mauritius	n/a	n/a
	Mongolia	n/a	n/a
	Montenegro	n/a	n/a
	Namibia	n/a	n/a
	Nepal	n/a	n/a
	Nicaragua	n/a	n/a
	Panama	n/a	n/a
	Paraguay	n/a	n/a
	Rwanda	n/a	n/a

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 2006.

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] | 2016

Rank	Country	Value	Score
1	Norway	5.77	100.00
2	Finland	5.72	98.35
3	Iceland	5.53	92.08
4	Ireland	5.51	91.42
5	United States of America	5.43	88.78
6	Israel	5.37	86.80
7	Switzerland	5.36	86.47
8	Netherlands	5.34	85.81
8	United Arab Emirates	5.34	85.81
10	Malaysia	5.31	84.82
11	Qatar	5.24	82.51
12	Germany	5.20	81.19
13	Belgium	5.18	80.53
13	France	5.18	80.53
15	Denmark	5.17	80.20
16	Canada	5.16	79.87
17	Australia	5.13	78.88
17	Austria	5.13	78.88
19	Singapore	5.10	77.89
20	Sweden	5.09	77.56
21	Costa Rica	5.08	77.23
22	New Zealand	5.01	74.92
23	United Kingdom	5.00	74.59
24	Portugal	4.91	71.62
25	Kenya	4.87	70.30
26	Senegal	4.80	67.99
27	Korea, Rep.	4.77	67.00
28	Cyprus	4.76	66.67
28	Japan	4.76	66.67
30	Chile	4.74	66.01
30	Lebanon	4.74	66.01
32	Jordan	4.73	65.68
33	Bahrain	4.69	64.36
34	Ukraine	4.65	63.04
35	Greece	4.63	62.38
35	Spain	4.63	62.38
37	Italy	4.62	62.05
38	China	4.60	61.39
39	Indonesia	4.57	60.40
39	Slovenia	4.57	60.40
41	Philippines	4.54	59.41
42	India	4.52	58.75
43	Sri Lanka	4.47	57.10
44	Argentina	4.43	55.78
45	Ghana	4.42	55.45
46	Mexico	4.40	54.79
46	Poland	4.40	54.79
46	Zimbabwe	4.40	54.79
49	Luxembourg	4.37	53.80
50	Colombia	4.33	52.48
51	Mali	4.32	52.15
52	Guatemala	4.30	51.49
53	Uganda	4.29	51.16
54	Malta	4.26	50.17
54	Trinidad and Tobago	4.26	50.17
56	Kazakhstan	4.25	49.83
57	Madagascar	4.21	48.51
58	Algeria	4.18	47.52
59	Honduras	4.17	47.19
59	Rwanda	4.17	47.19
61	Gambia	4.15	46.53
62	Tanzania, United Rep.	4.13	45.87
63	Saudi Arabia	4.10	44.88
64	Azerbaijan	4.07	43.89
65	Tunisia	4.06	43.56
66	Macedonia, FYR	4.04	42.90
67	Uruguay	4.01	41.91
68	Estonia	4.00	41.58
69	Peru	3.97	40.59
70	Ecuador	3.96	40.26
70	Mauritius	3.96	40.26
72	Czech Republic	3.89	37.95
72	Dominican Republic	3.89	37.95
72	Lao PDR	3.89	37.95
75	Egypt	3.87	37.29
75	Panama	3.87	37.29
77	Thailand	3.86	36.96
77	Turkey	3.86	36.96
77	Viet Nam	3.86	36.96
80	Iran, Islamic Rep.	3.85	36.63
81	Kuwait	3.82	35.64
81	Russian Federation	3.82	35.64
83	Botswana	3.81	35.31
83	Latvia	3.81	35.31
85	Venezuela, Bolivarian Rep.	3.79	34.65
86	Morocco	3.78	34.32
87	South Africa	3.77	33.99
88	Albania	3.72	32.34
88	Pakistan	3.72	32.34
90	Malawi	3.70	31.68
91	El Salvador	3.69	31.35
92	Croatia	3.66	30.36
93	Brazil	3.65	30.03
93	Kyrgyzstan	3.65	30.03
95	Lithuania	3.64	29.70
95	Slovakia	3.64	29.70
97	Bolivia, Plurinational St.	3.61	28.71
98	Lesotho	3.60	28.38
99	Bhutan	3.59	28.05
99	Nepal	3.59	28.05
101	Bangladesh	3.58	27.72
102	Namibia	3.56	27.06
103	Ethiopia	3.55	26.73
104	Montenegro	3.54	26.40
104	Oman	3.54	26.40
106	Serbia	3.49	24.75
107	Georgia	3.48	24.42
108	Armenia	3.47	24.09
109	Bulgaria	3.39	21.45
110	Cambodia	3.38	21.12
111	Bosnia and Herzegovina	3.35	20.13
111	Mozambique	3.35	20.13
113	Moldova, Rep.	3.32	19.14
114	Romania	3.28	17.82
115	Hungary	3.24	16.50
116	Nicaragua	3.18	14.52
117	Paraguay	3.04	9.90
118	Mongolia	2.74	0.00
118	Yemen	2.74	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

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] | 2016

Rank	Country	Value	Score
1	Switzerland	6.16	100.00
2	Singapore	5.88	93.27
3	Finland	5.75	90.14
4	Belgium	5.60	86.54
5	Qatar	5.59	86.30
6	Ireland	5.47	83.41
7	Netherlands	5.43	82.45
7	Norway	5.43	82.45
9	New Zealand	5.35	80.53
10	Iceland	5.32	79.81
10	United Arab Emirates	5.32	79.81
12	Malaysia	5.28	78.85
13	Germany	5.26	78.37
14	Australia	5.22	77.40
15	Canada	5.16	75.96
16	Denmark	5.14	75.48
17	United States of America	5.12	75.00
18	Lebanon	5.10	74.52
19	Malta	4.85	68.51
20	United Kingdom	4.83	68.03
21	Israel	4.69	64.66
21	Sweden	4.69	64.66
23	Bahrain	4.64	63.46
24	Estonia	4.62	62.98
25	Costa Rica	4.59	62.26
26	Jordan	4.58	62.02
27	India	4.55	61.30
28	Luxembourg	4.49	59.86
29	Austria	4.48	59.62
30	France	4.47	59.38
31	Albania	4.45	58.89
31	Kenya	4.45	58.89
33	Japan	4.42	58.17
34	Trinidad and Tobago	4.39	57.45
35	Indonesia	4.36	56.73
36	Gambia	4.33	56.01
37	Sri Lanka	4.32	55.77
38	Portugal	4.27	54.57
39	Bhutan	4.26	54.33
39	China	4.26	54.33
39	Philippines	4.26	54.33
42	Rwanda	4.25	54.09
43	Mauritius	4.23	53.61
44	Saudi Arabia	4.18	52.40
45	Slovenia	4.13	51.20
45	Zimbabwe	4.13	51.20
47	Cyprus	4.12	50.96
48	Lao PDR	4.06	49.52
49	Ukraine	4.04	49.04
50	Lithuania	3.99	47.84
51	Czech Republic	3.94	46.63
52	Ghana	3.86	44.71
53	Lesotho	3.82	43.75
54	Italy	3.80	43.27
54	Latvia	3.80	43.27
56	Spain	3.77	42.55
57	Botswana	3.74	41.83
58	Thailand	3.73	41.59
59	Armenia	3.72	41.35
59	Russian Federation	3.72	41.35
61	Macedonia, FYR	3.71	41.11
61	Pakistan	3.71	41.11
63	Azerbaijan	3.69	40.63
64	Kazakhstan	3.68	40.38
65	Montenegro	3.66	39.90
66	Korea, Rep.	3.64	39.42
67	Nepal	3.60	38.46
67	Viet Nam	3.60	38.46
69	Poland	3.59	38.22
70	Oman	3.57	37.74
71	Ecuador	3.56	37.50
72	Ethiopia	3.55	37.26
72	Senegal	3.55	37.26
74	Bangladesh	3.49	35.82
75	Algeria	3.39	33.41
76	Kuwait	3.38	33.17
77	Cambodia	3.37	32.93
77	Chile	3.37	32.93
79	Panama	3.36	32.69
79	Uganda	3.36	32.69
81	Bulgaria	3.35	32.45
82	Namibia	3.32	31.73
83	Argentina	3.31	31.49
84	Georgia	3.29	31.01
85	Tanzania, United Rep.	3.28	30.77
86	Iran, Islamic Rep.	3.27	30.53
87	Colombia	3.26	30.29
88	Honduras	3.24	29.81
88	Malawi	3.24	29.81
90	Mali	3.23	29.57
91	Moldova, Rep.	3.19	28.61
92	Serbia	3.18	28.37
92	Turkey	3.18	28.37
94	Croatia	3.13	27.16
95	Kyrgyzstan	3.10	26.44
95	Tunisia	3.10	26.44
97	Greece	3.05	25.24
98	Mongolia	3.04	25.00
99	Uruguay	3.00	24.04
100	Mexico	2.97	23.32
101	Hungary	2.95	22.84
102	Madagascar	2.91	21.88
103	Slovakia	2.87	20.91
104	Morocco	2.81	19.47
105	Bolivia, Plurinational St.	2.80	19.23
105	Romania	2.80	19.23
107	Venezuela, Bolivarian Rep.	2.77	18.51
108	Dominican Republic	2.72	17.31
108	Mozambique	2.72	17.31
110	Guatemala	2.61	14.66
111	Peru	2.58	13.94
112	Brazil	2.56	13.46
113	Bosnia and Herzegovina	2.49	11.78
114	Nicaragua	2.31	7.45
115	El Salvador	2.29	6.97
115	South Africa	2.29	6.97
117	Egypt	2.14	3.37
118	Paraguay	2.11	2.64
119	Yemen	2.00	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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5.2.3 Skills matching with secondary education

Average answer to the question: In your country, to what extent do graduating students possess the skills needed by businesses at the following levels: a. Secondary education [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Switzerland	5.95	100.00
2	Qatar	5.69	95.64
3	Finland	5.55	93.20
4	Netherlands	5.24	87.97
5	Germany	5.09	85.45
6	Malaysia	5.05	84.86
7	Sweden	5.04	84.66
8	Belgium	5.00	84.00
9	Singapore	4.99	83.88
10	Austria	4.94	83.04
11	Iceland	4.93	82.77
12	Denmark	4.91	82.42
13	New Zealand	4.86	81.67
14	United States of America	4.80	80.71
15	United Arab Emirates	4.78	80.28
16	Costa Rica	4.69	78.85
17	Israel	4.69	78.75
18	Canada	4.68	78.61
19	Estonia	4.60	77.36
20	Norway	4.59	77.05
21	Ireland	4.58	77.00
22	China	4.56	76.56
23	United Kingdom	4.51	75.84
24	Indonesia	4.45	74.71
25	Luxembourg	4.41	74.09
26	Malta	4.32	72.65
27	Azerbaijan	4.32	72.58
28	Australia	4.28	71.87
29	India	4.27	71.68
30	Bahrain	4.24	71.24
31	Slovenia	4.22	70.84
32	Czech Republic	4.20	70.56
33	Korea, Rep.	4.18	70.22
34	Mongolia	4.18	70.14
35	France	4.17	70.00
36	Portugal	4.16	69.95
37	Lebanon	4.16	69.92
38	Rwanda	4.14	69.60
39	Colombia	4.09	68.73
40	Sri Lanka	4.07	68.40
41	Jordan	4.06	68.21
42	Ukraine	4.04	67.83
43	Russian Federation	4.02	67.54
44	Japan	4.02	67.49
45	Spain	4.00	67.20
46	Gambia	3.98	66.80
47	Greece	3.94	66.15
48	Panama	3.92	65.92
49	Mali	3.91	65.69
50	Italy	3.91	65.67
50	Trinidad and Tobago	3.91	65.67
52	Ecuador	3.90	65.56
53	Bhutan	3.88	65.21
54	Philippines	3.86	64.80
55	Cyprus	3.84	64.57
56	Mauritius	3.82	64.24
57	Guatemala	3.82	64.13
58	Senegal	3.76	63.24
59	Uruguay	3.74	62.86
60	Chile	3.74	62.76
61	Kazakhstan	3.72	62.52
62	Albania	3.71	62.37
63	Latvia	3.70	62.24
64	Macedonia, FYR	3.69	61.94
65	Kenya	3.68	61.80
66	Mexico	3.67	61.68
67	Serbia	3.66	61.43
68	Zimbabwe	3.65	61.38
69	Slovakia	3.63	60.98
70	Honduras	3.60	60.48
71	Saudi Arabia	3.58	60.11
72	Dominican Republic	3.57	59.91
73	Argentina	3.56	59.73
74	Oman	3.52	59.16
75	Poland	3.51	58.97
76	Armenia	3.49	58.69
77	Bosnia and Herzegovina	3.48	58.49
78	Moldova, Rep.	3.47	58.33
79	Thailand	3.46	58.16
80	Bolivia, Plurinational St.	3.45	58.00
81	Nepal	3.45	57.92
82	Venezuela, Bolivarian Rep.	3.45	57.92
83	Lao PDR	3.45	57.92
84	Croatia	3.42	57.52
85	Bulgaria	3.42	57.50
86	Montenegro	3.42	57.49
87	Pakistan	3.39	56.99
88	Lithuania	3.36	56.38
89	Turkey	3.35	56.28
90	Iran, Islamic Rep.	3.34	56.17
91	Ghana	3.34	56.06
92	El Salvador	3.33	56.00
92	Hungary	3.33	56.00
94	Viet Nam	3.31	55.66
95	Namibia	3.28	55.14
96	Botswana	3.25	54.60
97	Morocco	3.20	53.84
98	Peru	3.15	52.97
99	Tunisia	3.14	52.80
100	Madagascar	3.11	52.22
101	Tanzania, United Rep.	3.06	51.44
102	Brazil	3.05	51.29
103	Bangladesh	3.05	51.20
104	Kuwait	2.97	49.82
105	South Africa	2.95	49.60
106	Uganda	2.93	49.15
107	Paraguay	2.87	48.25
108	Georgia	2.84	47.79
109	Kyrgyzstan	2.84	47.68
110	Algeria	2.74	45.98
111	Mozambique	2.72	45.67
112	Cambodia	2.67	44.80
113	Ethiopia	2.64	44.29
114	Romania	2.62	44.08
115	Malawi	2.48	41.70
116	Yemen	2.16	36.21
117	Lesotho	1.63	27.30
118	Egypt	0.00	0.00
118	Nicaragua	0.00	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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5.2.4 Skills matching with tertiary education

Average answer to the question: In your country, to what extent do graduating students possess the skills needed by businesses at the following levels: b. University level [1 = not at all; 7 = to a great extent] | 2016

Rank	Country	Value	Score
1	Switzerland	6.22	100.00
2	Qatar	5.92	95.24
3	Singapore	5.74	92.41
4	Finland	5.68	91.42
5	New Zealand	5.67	91.16
6	Iceland	5.59	90.01
7	Netherlands	5.58	89.78
8	Ireland	5.57	89.63
9	Sweden	5.55	89.30
10	Denmark	5.54	89.15
11	Germany	5.54	89.07
12	Malaysia	5.53	88.89
13	Austria	5.52	88.87
14	Norway	5.48	88.20
15	Belgium	5.45	87.75
16	United States of America	5.42	87.24
17	United Arab Emirates	5.42	87.22
18	Costa Rica	5.32	85.50
19	Canada	5.31	85.41
20	Israel	5.25	84.46
21	United Kingdom	5.24	84.28
22	Lebanon	5.21	83.75
23	Bahrain	5.19	83.49
24	Chile	5.15	82.92
25	Uruguay	5.05	81.18
26	Luxembourg	5.03	80.97
27	France	4.98	80.05
28	Malta	4.97	80.00
29	Estonia	4.93	79.24
30	Australia	4.92	79.17
31	Indonesia	4.89	78.73
32	Portugal	4.89	78.64
33	Kenya	4.88	78.58
34	Jordan	4.77	76.73
35	Guatemala	4.77	76.66
36	China	4.76	76.65
37	Argentina	4.76	76.61
38	Venezuela, Bolivarian Rep.	4.73	76.02
39	Lao PDR	4.72	75.98
40	Ukraine	4.72	75.88
41	Lesotho	4.70	75.67
42	Philippines	4.68	75.35
43	Colombia	4.65	74.76
44	Gambia	4.62	74.38
45	Ghana	4.62	74.30
46	Japan	4.60	73.97
47	Thailand	4.59	73.83
48	Czech Republic	4.59	73.80
49	Korea, Rep.	4.54	73.03
50	Spain	4.54	73.02
51	Greece	4.53	72.80
52	Italy	4.50	72.46
53	Trinidad and Tobago	4.50	72.31
54	Panama	4.49	72.25
55	Mexico	4.49	72.25
56	Rwanda	4.48	72.02
57	Cyprus	4.47	71.89
58	South Africa	4.46	71.80
59	Azerbaijan	4.43	71.21
60	Bhutan	4.42	71.08
61	Senegal	4.41	70.96
62	Mauritius	4.38	70.38
63	Saudi Arabia	4.37	70.33
64	Cambodia	4.35	70.06
65	Ecuador	4.35	70.00
66	India	4.34	69.85
67	Russian Federation	4.32	69.47
68	Botswana	4.32	69.43
69	Pakistan	4.29	69.08
70	Latvia	4.28	68.84
71	Peru	4.27	68.75
72	Honduras	4.27	68.69
73	Oman	4.25	68.41
74	Albania	4.21	67.73
75	Dominican Republic	4.20	67.61
76	Sri Lanka	4.16	66.97
77	Slovenia	4.16	66.93
78	Lithuania	4.15	66.69
79	Madagascar	4.14	66.67
80	Uganda	4.05	65.21
81	Zimbabwe	4.04	64.98
82	Poland	4.03	64.76
83	Malawi	4.00	64.35
84	Algeria	3.99	64.21
85	Serbia	3.98	64.02
86	Mali	3.97	63.79
87	Tanzania, United Rep.	3.96	63.68
88	Nepal	3.95	63.51
89	Hungary	3.94	63.40
90	Bangladesh	3.93	63.17
91	Bolivia, Plurinational St.	3.92	63.08
92	Viet Nam	3.90	62.69
93	El Salvador	3.89	62.64
94	Namibia	3.89	62.63
95	Turkey	3.86	62.11
96	Brazil	3.84	61.84
97	Kazakhstan	3.79	61.03
98	Slovakia	3.79	60.94
99	Morocco	3.79	60.93
100	Macedonia, FYR	3.78	60.86
101	Croatia	3.72	59.84
102	Montenegro	3.72	59.80
103	Armenia	3.71	59.69
104	Kuwait	3.69	59.38
105	Tunisia	3.69	59.32
106	Iran, Islamic Rep.	3.69	59.31
107	Bulgaria	3.60	57.91
108	Romania	3.59	57.78
109	Moldova, Rep.	3.58	57.66
110	Georgia	3.55	57.04
111	Ethiopia	3.54	56.92
112	Bosnia and Herzegovina	3.46	55.63
113	Mozambique	3.43	55.20
114	Paraguay	3.31	53.21
115	Kyrgyzstan	3.03	48.75
116	Yemen	2.95	47.53
117	Mongolia	2.95	47.45
118	Egypt	0.00	0.00
118	Nicaragua	0.00	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)
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Pillar 6

Global Knowledge Skills

6.1.1 Workforce with tertiary education

Labour force with tertiary education (%) | 2016

Rank	Country	Value	Score
1	United States of America	70.47	100.00
2	Canada	64.61	91.67
3	Russian Federation	57.76	81.94
4	Ukraine	52.33	74.23
5	Singapore	51.57	73.15
6	Japan	47.40	67.23
7	Israel	45.89	65.08
8	Cyprus	44.55	63.18
9	Ireland	43.78	62.08
10	Korea, Rep.	43.22	61.29
11	Norway	42.67	60.51
12	United Kingdom	42.22	59.87
13	Belgium	42.18	59.81
14	Lithuania	41.95	59.48
15	Finland	41.68	59.10
16	Luxembourg	40.65	57.64
17	Switzerland	40.29	57.12
18	Sweden	39.38	55.83
19	Estonia	38.93	55.19
20	Spain	38.30	54.30
21	Australia	38.16	54.10
22	France	37.74	53.50
23	Iceland	35.20	49.89
24	Kazakhstan	35.09	49.74
25	Latvia	34.98	49.58
26	Netherlands	34.79	49.31
27	Denmark	33.93	48.09
28	Slovenia	33.87	48.00
29	Austria	33.12	46.94
30	Greece	32.66	46.28
31	Poland	32.64	46.26
32	New Zealand	31.79	45.05
33	Georgia	31.45	44.57
34	Bulgaria	31.04	43.98
35	Mongolia	30.91	43.80
36	Peru	30.42	43.10
37	Venezuela, Bolivarian Rep.	30.28	42.90
38	Armenia	28.96	41.03
39	Panama	28.61	40.53
40	Germany	28.34	40.15
41	Saudi Arabia	27.14	38.44
42	Azerbaijan	26.75	37.89
43	Croatia	26.23	37.15
44	Philippines	25.98	36.79
45	Pakistan	25.58	36.23
46	Hungary	25.34	35.89
47	Moldova, Rep.	25.32	35.86
48	Portugal	25.20	35.69
49	Malta	24.88	35.23
50	Macedonia, FYR	24.87	35.22
51	Montenegro	24.40	34.55
51	Serbia	24.40	34.55
53	Lebanon	24.17	34.22
54	Czech Republic	23.59	33.40
55	Malaysia	23.35	33.06
56	Algeria	22.73	32.18
57	Slovakia	22.62	32.02
58	Turkey	22.54	31.91
59	Paraguay	22.45	31.78
60	Dominican Republic	22.39	31.69
61	Uruguay	22.30	31.57
62	Colombia	21.91	31.01
63	Argentina	20.91	29.59
64	Costa Rica	20.43	28.91
65	Italy	20.18	28.56
66	Romania	19.96	28.24
67	Sri Lanka	19.56	27.67
68	Tunisia	19.43	27.49
69	Kuwait	19.11	27.04
70	Egypt	19.09	27.01
71	Albania	18.70	26.45
72	Brazil	18.39	26.01
73	Qatar	18.21	25.76
74	Kyrgyzstan	18.19	25.73
75	Mexico	16.51	23.34
76	Ethiopia	16.42	23.21
77	Ecuador	16.23	22.94
78	Chile	16.19	22.89
79	Botswana	15.89	22.46
80	Viet Nam	15.24	21.54
81	Nicaragua	15.06	21.28
82	Bolivia, Plurinational St.	14.49	20.47
83	Bosnia and Herzegovina	14.38	20.32
84	South Africa	13.86	19.58
85	Thailand	12.77	18.03
86	Nepal	12.08	17.05
87	Mauritius	11.27	15.90
88	Indonesia	10.37	14.62
89	India	9.85	13.88
90	Morocco	9.01	12.69
91	Lao PDR	8.45	11.89
92	Yemen	8.29	11.66
93	Namibia	7.05	9.90
94	Bangladesh	6.25	8.77
95	Honduras	6.11	8.57
96	Uganda	5.26	7.36
97	Bhutan	5.22	7.30
98	Madagascar	4.80	6.71
99	Lesotho	4.52	6.31
100	Guatemala	4.13	5.75
101	Malawi	2.84	3.92
102	Cambodia	2.77	3.82
103	Senegal	2.29	3.14
104	Mali	1.66	2.24
105	Tanzania, United Rep.	1.11	1.46
106	Gambia	0.67	0.84
107	El Salvador	0.08	0.00
	Bahrain	n/a	n/a
	China	n/a	n/a
	Ghana	n/a	n/a
	Iran, Islamic Rep.	n/a	n/a
	Jordan	n/a	n/a
	Kenya	n/a	n/a
	Mozambique	n/a	n/a
	Oman	n/a	n/a
	Rwanda	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	United Arab Emirates	n/a	n/a
	Zimbabwe	n/a	n/a

SOURCE: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)
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6.1.2 Population with tertiary education

Population with tertiary education (%) | 2015

Rank	Country	Value	Score
1	Russian Federation	58.90	100.00
2	Canada	47.70	80.79
3	Armenia	47.00	79.59
4	Singapore	42.90	72.56
5	Estonia	37.60	63.46
6	Israel	34.30	57.80
6	Luxembourg	34.30	57.80
8	Denmark	33.00	55.57
9	Australia	32.50	54.72
10	Moldova, Rep.	32.10	54.03
11	Korea, Rep.	31.80	53.52
12	United States of America	30.30	50.94
13	Japan	29.90	50.26
14	Spain	29.30	49.23
15	Venezuela, Bolivarian Rep.	28.60	48.03
16	Philippines	26.10	43.74
17	New Zealand	25.80	43.22
18	Azerbaijan	25.40	42.54
18	Norway	25.40	42.54
20	United Kingdom	25.10	42.02
21	Bulgaria	24.50	40.99
21	Cyprus	24.50	40.99
23	Finland	23.00	38.42
24	Kazakhstan	22.70	37.91
25	France	21.60	36.02
25	Greece	21.60	36.02
27	Bolivia, Plurinational St.	21.50	35.85
27	Ireland	21.50	35.85
29	Mongolia	21.20	35.33
30	Saudi Arabia	20.40	33.96
30	Sweden	20.40	33.96
32	Qatar	20.30	33.79
33	Netherlands	20.00	33.28
34	Montenegro	19.50	32.42
35	Oman	19.40	32.25
36	Peru	19.20	31.90
37	Costa Rica	19.10	31.73
37	Lithuania	19.10	31.73
39	Panama	18.80	31.22
40	Belgium	18.60	30.87
41	Bahrain	18.30	30.36
41	Croatia	18.30	30.36
43	Latvia	18.20	30.19
44	Iran, Islamic Rep.	18.10	30.02
44	Serbia	18.1	30.02
46	Switzerland	17.90	29.67
47	Chile	17.20	28.47
48	Thailand	16.80	27.79
49	Malaysia	16.40	27.10
50	Colombia	16.30	26.93
51	Jordan	16.20	26.76
52	Austria	16.10	26.59
53	Georgia	15.90	26.24
54	Lebanon	15.30	25.21
55	Turkey	14.50	23.84
56	Germany	14.40	23.67
56	Italy	14.40	23.67
58	Mexico	14.10	23.16
58	Sri Lanka	14.10	23.16
60	Egypt	13.20	21.61
60	Kuwait	13.20	21.61
62	Brazil	13.10	21.44
63	Zimbabwe	13.00	21.27
64	Hungary	12.80	20.93
65	Dominican Republic	12.40	20.24
65	Ecuador	12.40	20.24
67	Tunisia	12.30	20.07
68	Malta	12.10	19.73
69	Slovenia	11.70	19.04
70	Uruguay	10.70	17.32
71	El Salvador	9.90	15.95
71	India	9.90	15.95
73	Honduras	9.80	15.78
74	Bosnia and Herzegovina	9.70	15.61
75	Trinidad and Tobago	9.60	15.44
76	Indonesia	8.80	14.07
77	China	8.40	13.38
78	Guatemala	8.10	12.86
79	Algeria	8.00	12.69
79	Uganda	8.00	12.69
81	Paraguay	7.60	12.01
82	Pakistan	6.90	10.81
83	Nepal	6.70	10.46
83	Viet Nam	6.70	10.46
85	South Africa	6.50	10.12
86	Mauritius	5.20	7.89
86	Poland	5.20	7.89
88	Czech Republic	4.50	6.69
89	Portugal	4.20	6.17
89	Romania	4.20	6.17
91	Bhutan	3.80	5.49
92	Rwanda	3.30	4.63
93	Ghana	3.10	4.29
94	Slovakia	2.70	3.60
95	Senegal	2.30	2.92
96	Kenya	2.20	2.74
96	Kyrgyzstan	2.20	2.74
98	Mali	2.10	2.57
99	Lesotho	1.90	2.23
99	Tanzania, United Rep.	1.90	2.23
101	Mozambique	1.70	1.89
102	Cambodia	1.50	1.54
103	Ethiopia	1.10	0.86
104	Albania	0.60	0.00
	Argentina	n/a	n/a
	Bangladesh	n/a	n/a
	Botswana	n/a	n/a
	Gambia	n/a	n/a
	Iceland	n/a	n/a
	Lao PDR	n/a	n/a
	Macedonia, FYR	n/a	n/a
	Madagascar	n/a	n/a
	Malawi	n/a	n/a
	Morocco	n/a	n/a
	Namibia	n/a	n/a
	Nicaragua	n/a	n/a
	Ukraine	n/a	n/a
	United Arab Emirates	n/a	n/a
	Yemen	n/a	n/a

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 2006.

6.1.3 Professionals

Professionals (%) | 2016

Rank	Country	Value	Score
1	Luxembourg	35.50	100.00
2	Sweden	27.80	77.75
3	Norway	27.10	75.72
4	Switzerland	26.10	72.83
5	Netherlands	25.70	71.68
6	Iceland	25.40	70.81
7	Denmark	25.30	70.52
8	United Kingdom	25.20	70.23
9	Israel	25.00	69.65
10	Belgium	23.90	66.47
10	Finland	23.90	66.47
12	Lithuania	23.40	65.03
13	United States of America	22.20	61.56
14	Slovenia	22.00	60.98
15	Australia	21.50	59.54
16	Ireland	21.30	58.96
17	Russian Federation	20.40	56.36
18	Estonia	20.30	56.07
19	Korea, Rep.	20.10	55.49
20	Greece	19.30	53.18
21	Poland	18.90	52.02
22	Canada	18.70	51.45
23	Singapore	18.30	50.29
24	Portugal	18.00	49.42
25	Spain	17.90	49.13
26	Latvia	17.80	48.84
26	Montenegro	17.80	48.84
28	France	17.70	48.55
28	Ukraine	17.70	48.55
30	Cyprus	17.60	48.27
30	Germany	17.60	48.27
32	Austria	17.00	46.53
32	Bulgaria	17.00	46.53
34	Kazakhstan	16.80	45.95
34	New Zealand	16.80	45.95
36	Croatia	16.70	45.66
36	Malta	16.70	45.66
38	Czech Republic	15.30	41.62
38	Macedonia, FYR	15.30	41.62
38	Mongolia	15.30	41.62
41	Romania	15.20	41.33
42	Hungary	15.10	41.04
43	Venezuela, Bolivarian Rep.	15.00	40.75
44	Italy	14.60	39.60
45	Moldova, Rep.	14.3	38.73
46	United Arab Emirates	14.20	38.44
47	Yemen	13.50	36.42
48	Serbia	13.20	35.55
49	Armenia	13.00	34.97
50	Azerbaijan	12.80	34.39
50	Georgia	12.80	34.39
52	Egypt	12.10	32.37
53	Slovakia	11.70	31.21
54	Bosnia and Herzegovina	11.60	30.92
54	Saudi Arabia	11.60	30.92
56	Chile	11.50	30.64
57	Uruguay	11.30	30.06
58	Panama	10.90	28.90
59	Brazil	10.40	27.46
59	Malaysia	10.40	27.46
61	Algeria	10.30	27.17
61	Lebanon	10.30	27.17
63	Turkey	10.20	26.88
64	Albania	9.70	25.43
65	Kyrgyzstan	9.60	25.14
65	Mauritius	9.60	25.14
67	Iran, Islamic Rep.	9.10	23.70
68	Bhutan	8.70	22.54
69	Qatar	8.60	22.25
70	Costa Rica	8.30	21.39
71	Ecuador	8.10	20.81
72	Kuwait	8.00	20.52
73	Paraguay	7.70	19.65
74	Bolivia, Plurinational St.	7.20	18.21
74	Dominican Republic	7.20	18.21
74	Namibia	7.20	18.21
74	Peru	7.20	18.21
78	Botswana	6.80	17.05
78	Tunisia	6.80	17.05
80	Viet Nam	6.50	16.18
81	Sri Lanka	6.40	15.90
82	Guatemala	5.60	13.58
83	Argentina	5.50	13.29
84	Indonesia	5.40	13.01
84	Trinidad and Tobago	5.40	13.01
86	Ghana	5.30	12.72
86	Thailand	5.30	12.72
88	Philippines	5.10	12.14
89	Lao PDR	4.80	11.27
90	Bangladesh	4.70	10.98
91	Cambodia	4.40	10.12
92	South Africa	4.20	9.54
93	El Salvador	4.00	8.96
94	Gambia	3.80	8.38
95	India	3.70	8.09
96	Nicaragua	3.50	7.51
96	Zimbabwe	3.50	7.51
98	Honduras	3.40	7.23
98	Uganda	3.40	7.23
100	Malawi	3.00	6.07
101	Rwanda	2.50	4.62
102	Colombia	2.40	4.34
103	Madagascar	2.10	3.47
104	Morocco	1.80	2.60
105	Mali	1.70	2.31
105	Nepal	1.70	2.31
107	Pakistan	1.50	1.73
108	Ethiopia	1.30	1.16
109	Lesotho	1.20	0.87
110	Tanzania, United Rep.	0.90	0.00
	Bahrain	n/a	n/a
	China	n/a	n/a
	Japan	n/a	n/a
	Jordan	n/a	n/a
	Kenya	n/a	n/a
	Mexico	n/a	n/a
	Mozambique	n/a	n/a
	Oman	n/a	n/a
	Senegal	n/a	n/a

SOURCE: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)
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6.1.4 Researchers

Full-time equivalent researchers (per million population) | 2015

Rank	Country	Value	Score
1	Israel	8255.40	100.00
2	Denmark	7483.58	90.64
3	Korea, Rep.	7087.35	85.83
4	Sweden	7021.88	85.04
5	Finland	6816.77	82.55
6	Singapore	6658.50	80.63
7	Norway	5915.60	71.62
8	Iceland	5902.53	71.46
9	Japan	5230.72	63.31
10	Luxembourg	5058.28	61.21
11	Austria	4955.03	59.96
12	Belgium	4875.34	59.00
13	Ireland	4575.20	55.35
14	Netherlands	4548.14	55.03
15	Australia	4530.73	54.81
16	Canada	4518.51	54.67
17	Switzerland	4481.07	54.21
18	United Kingdom	4470.78	54.09
19	Germany	4431.08	53.61
20	United States of America	4231.99	51.19
21	France	4168.78	50.42
22	New Zealand	4008.71	48.48
23	Portugal	3824.19	46.24
24	Slovenia	3820.99	46.20
25	Czech Republic	3611.91	43.67
26	Greece	3201.27	38.69
27	Estonia	3189.19	38.54
28	Russian Federation	3131.11	37.84
29	Lithuania	2822.40	34.09
30	Slovakia	2654.78	32.06
31	Spain	2654.65	32.06
32	Hungary	2568.84	31.01
33	Malaysia	2261.44	27.29
34	Poland	2139.10	25.80
35	Serbia	2071.22	24.98
36	Italy	2018.09	24.33
37	United Arab Emirates	2003.39	24.15
38	Bulgaria	1989.43	23.99
39	Malta	1951.42	23.52
40	Latvia	1833.54	22.09
41	Tunisia	1787.26	21.53
42	Croatia	1501.54	18.07
43	Georgia	1288.27	15.48
44	Argentina	1202.07	14.43
45	China	1176.58	14.12
46	Turkey	1156.51	13.88
47	Morocco	1032.54	12.38
48	Cyprus	1013.77	12.15
49	Ukraine	1006.00	12.06
50	Romania	894.81	10.71
51	Thailand	874.29	10.46
52	Macedonia, FYR	858.81	10.27
53	Montenegro	836.19	10.00
54	Kazakhstan	734.05	8.76
55	Brazil	698.10	8.32
56	Iran, Islamic Rep.	691.41	8.24
57	Egypt	679.81	8.10
58	Viet Nam	674.81	8.04
59	Moldova, Rep.	662.10	7.88
60	Qatar	597.06	7.09
61	Costa Rica	572.98	6.80
62	Uruguay	524.25	6.21
63	Chile	455.50	5.38
64	South Africa	437.06	5.15
65	Ecuador	400.72	4.71
66	Bahrain	361.99	4.24
67	Senegal	361.12	4.23
68	Venezuela, Bolivarian Rep.	357.84	4.19
69	Bosnia and Herzegovina	328.70	3.84
70	Jordan	307.98	3.59
71	Pakistan	294.36	3.42
72	Mexico	241.80	2.78
73	Kenya	230.73	2.65
74	India	215.85	2.47
75	Oman	201.97	2.30
76	Philippines	189.41	2.15
77	Paraguay	184.06	2.08
78	Mauritius	181.11	2.05
79	Botswana	175.51	1.98
80	Bolivia, Plurinational St.	165.95	1.86
81	Albania	157.34	1.76
82	Namibia	141.41	1.57
83	Kuwait	128.38	1.41
84	Colombia	114.89	1.24
85	Sri Lanka	110.91	1.20
86	Zimbabwe	89.61	0.94
87	Indonesia	89.53	0.94
88	El Salvador	65.29	0.64
89	Madagascar	51.02	0.47
90	Malawi	49.57	0.45
91	Ethiopia	45.12	0.40
92	Mozambique	41.53	0.35
93	Panama	39.41	0.33
94	Ghana	38.68	0.32
95	Uganda	38.09	0.31
96	Gambia	33.50	0.26
97	Cambodia	30.26	0.22
98	Mali	29.17	0.20
99	Guatemala	26.74	0.18
100	Lesotho	23.26	0.13
101	Tanzania, United Rep.	18.49	0.08
102	Rwanda	12.29	0.00
	Algeria	n/a	n/a
	Armenia	n/a	n/a
	Azerbaijan	n/a	n/a
	Bangladesh	n/a	n/a
	Bhutan	n/a	n/a
	Dominican Republic	n/a	n/a
	Honduras	n/a	n/a
	Kyrgyzstan	n/a	n/a
	Lao PDR	n/a	n/a
	Lebanon	n/a	n/a
	Mongolia	n/a	n/a
	Nepal	n/a	n/a
	Nicaragua	n/a	n/a
	Peru	n/a	n/a
	Saudi Arabia	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	Yemen	n/a	n/a

SOURCE: UNESCO Institute for Statistics, *UIS.Stat* (http://data.uis.unesco.org/)
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6.1.5 Senior officials and managers

Legislators, senior officials, and managers (%) | 2016

Rank	Country	Value	Score
1	Philippines	16.20	100.00
2	Singapore	16.10	99.38
3	United States of America	15.80	97.50
4	Egypt	14.00	86.25
5	New Zealand	13.70	84.38
6	Pakistan	12.70	78.13
7	Estonia	11.90	73.13
7	Lebanon	11.90	73.13
9	Australia	11.40	70.00
10	United Kingdom	11.00	67.50
11	Iceland	10.30	63.13
11	Israel	10.30	63.13
13	Latvia	9.40	57.50
14	Lithuania	9.30	56.88
14	Malta	9.30	56.88
16	Trinidad and Tobago	9.20	56.25
17	Switzerland	9.00	55.00
18	Russian Federation	8.70	53.13
19	Belgium	8.40	51.25
20	Ireland	8.30	50.63
21	Canada	8.20	50.00
22	Norway	8.00	48.75
23	Ukraine	7.90	48.13
24	Slovenia	7.60	46.25
25	United Arab Emirates	7.50	45.63
26	South Africa	7.30	44.38
27	France	7.20	43.75
27	India	7.20	43.75
27	Moldova, Rep.	7.20	43.75
30	Armenia	6.80	41.25
31	Mongolia	6.60	40.00
31	Tunisia	6.60	40.00
33	Portugal	6.50	39.38
34	Poland	6.30	38.13
35	Bulgaria	6.10	36.88
36	Colombia	6.00	36.25
36	Montenegro	6.00	36.25
38	Sweden	5.90	35.63
39	Panama	5.80	35.00
40	Netherlands	5.70	34.38
41	Brazil	5.20	31.25
41	Czech Republic	5.20	31.25
41	Kazakhstan	5.20	31.25
41	Turkey	5.20	31.25
45	Malaysia	5.10	30.63
46	Argentina	5.00	30.00
47	Mauritius	4.80	28.75
48	Macedonia, FYR	4.70	28.13
49	Croatia	4.60	27.50
49	Germany	4.60	27.50
49	Hungary	4.60	27.50
52	Austria	4.50	26.88
52	Slovakia	4.50	26.88
52	Sri Lanka	4.50	26.88
55	Albania	4.30	25.63
56	Venezuela, Bolivarian Rep.	4.20	25.00
57	Saudi Arabia	4.10	24.38
57	Spain	4.10	24.38
59	Cyprus	4.00	23.75
60	Thailand	3.90	23.13
61	Italy	3.80	22.50
62	Georgia	3.60	21.25
63	Paraguay	3.50	20.63
64	Botswana	3.40	20.00
64	Serbia	3.40	20.00
66	Finland	3.30	19.38
67	Bosnia and Herzegovina	3.10	18.13
67	Namibia	3.10	18.13
69	Iran, Islamic Rep.	2.90	16.88
70	Algeria	2.70	15.63
70	Denmark	2.70	15.63
70	Greece	2.70	15.63
70	Luxembourg	2.70	15.63
74	Dominican Republic	2.60	15.00
74	Honduras	2.60	15.00
74	Nicaragua	2.60	15.00
74	Yemen	2.60	15.00
78	Kuwait	2.50	14.38
79	Ghana	2.40	13.75
80	Japan	2.30	13.13
80	Qatar	2.30	13.13
82	Chile	2.20	12.50
82	Romania	2.20	12.50
82	Uruguay	2.20	12.50
85	Cambodia	2.10	11.88
85	Costa Rica	2.10	11.88
87	Bhutan	2.00	11.25
87	El Salvador	2.00	11.25
89	Indonesia	1.80	10.00
90	Lao PDR	1.50	8.13
91	Korea, Rep.	1.40	7.50
91	Lesotho	1.40	7.50
93	Azerbaijan	1.30	6.88
93	Ecuador	1.30	6.88
95	Viet Nam	1.10	5.63
95	Zimbabwe	1.10	5.63
97	Bangladesh	1.00	5.00
97	Guatemala	1.00	5.00
99	Bolivia, Plurinational St.	0.90	4.38
99	Kyrgyzstan	0.90	4.38
101	Madagascar	0.80	3.75
102	Morocco	0.70	3.13
103	Ethiopia	0.60	2.50
103	Malawi	0.60	2.50
103	Nepal	0.60	2.50
106	Gambia	0.50	1.88
106	Peru	0.50	1.88
106	Tanzania, United Rep.	0.50	1.88
109	Rwanda	0.40	1.25
110	Mali	0.20	0.00
110	Uganda	0.20	0.00
	Bahrain	n/a	n/a
	China	n/a	n/a
	Jordan	n/a	n/a
	Kenya	n/a	n/a
	Mexico	n/a	n/a
	Mozambique	n/a	n/a
	Oman	n/a	n/a
	Senegal	n/a	n/a

SOURCE: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)
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6.1.6 Availability of scientists and engineers

Average answer to the question: In your country, to what extent are scientists and engineers available? [1 = not at all; 7 = widely available] | 2016

Rank	Country	Value	Score
1	Finland	6.05	100.00
2	United States of America	5.53	84.71
3	Japan	5.51	84.12
4	Qatar	5.49	83.53
5	United Arab Emirates	5.41	81.18
6	Canada	5.37	80.00
7	Malaysia	5.32	78.53
8	Israel	5.30	77.94
9	Singapore	5.25	76.47
10	Greece	5.24	76.18
11	Norway	5.20	75.00
12	Ireland	5.17	74.12
13	Jordan	5.15	73.53
14	Switzerland	5.08	71.47
15	Iceland	5.04	70.29
16	Germany	5.03	70.00
17	Australia	5.02	69.71
18	Lebanon	4.96	67.94
19	United Kingdom	4.89	65.88
20	Sweden	4.88	65.59
21	Netherlands	4.81	63.53
22	Belgium	4.77	62.35
23	Chile	4.75	61.76
24	Costa Rica	4.73	61.18
24	New Zealand	4.73	61.18
26	France	4.72	60.88
27	Austria	4.70	60.29
28	China	4.68	59.71
28	Italy	4.68	59.71
28	Ukraine	4.68	59.71
31	Sri Lanka	4.67	59.41
32	Saudi Arabia	4.66	59.12
33	Spain	4.64	58.53
34	Portugal	4.61	57.65
35	India	4.57	56.47
36	Denmark	4.53	55.29
37	Indonesia	4.52	55.00
38	Korea, Rep.	4.43	52.35
39	Kenya	4.42	52.06
40	Azerbaijan	4.40	51.47
41	Bahrain	4.38	50.88
42	Iran, Islamic Rep.	4.32	49.12
43	Estonia	4.31	48.82
44	Egypt	4.30	48.53
45	Mongolia	4.27	47.65
46	Tunisia	4.26	47.35
46	Turkey	4.26	47.35
48	Poland	4.25	47.06
49	Armenia	4.24	46.76
50	Cyprus	4.23	46.47
51	Trinidad and Tobago	4.21	45.88
52	Luxembourg	4.14	43.82
52	Mexico	4.14	43.82
52	Thailand	4.14	43.82
55	Russian Federation	4.13	43.53
56	Romania	4.08	42.06
56	Slovenia	4.08	42.06
58	Lithuania	4.07	41.76
59	Kazakhstan	4.05	41.18
60	Guatemala	4.01	40.00
61	Morocco	4.00	39.71
61	Pakistan	4.00	39.71
63	Malta	3.99	39.41
63	Panama	3.99	39.41
65	Rwanda	3.98	39.12
66	Bangladesh	3.92	37.35
66	Bulgaria	3.92	37.35
68	Ethiopia	3.91	37.06
69	Uganda	3.90	36.76
70	Colombia	3.89	36.47
71	Ghana	3.86	35.59
72	Oman	3.83	34.71
72	Philippines	3.83	34.71
74	Algeria	3.80	33.82
75	Hungary	3.79	33.53
75	Macedonia, FYR	3.79	33.53
77	Senegal	3.77	32.94
77	Viet Nam	3.77	32.94
79	Mauritius	3.76	32.65
79	Montenegro	3.76	32.65
81	Czech Republic	3.75	32.35
82	Croatia	3.72	31.47
82	Serbia	3.72	31.47
84	Madagascar	3.71	31.18
85	Honduras	3.69	30.59
86	Argentina	3.68	30.29
87	Tanzania, United Rep.	3.66	29.71
88	Kuwait	3.65	29.41
89	Slovakia	3.61	28.24
90	Latvia	3.56	26.76
91	Malawi	3.55	26.47
91	Mali	3.55	26.47
93	Namibia	3.54	26.18
93	Nepal	3.54	26.18
95	Botswana	3.50	25.00
96	Dominican Republic	3.47	24.12
97	Uruguay	3.45	23.53
98	Brazil	3.44	23.24
99	South Africa	3.40	22.06
100	Ecuador	3.38	21.47
101	Peru	3.37	21.18
102	Georgia	3.33	20.00
103	Kyrgyzstan	3.26	17.94
104	Zimbabwe	3.24	17.35
105	Bosnia and Herzegovina	3.22	16.76
106	Venezuela, Bolivarian Rep.	3.18	15.59
107	Lesotho	3.17	15.29
108	Bhutan	3.16	15.00
109	Cambodia	3.15	14.71
110	Mozambique	3.13	14.12
111	Albania	3.10	13.24
111	Lao PDR	3.10	13.24
113	Gambia	2.97	9.41
114	Bolivia, Plurinational St.	2.95	8.82
115	Moldova, Rep.	2.87	6.47
116	Yemen	2.85	5.88
117	Nicaragua	2.79	4.12
118	El Salvador	2.74	2.65
119	Paraguay	2.65	0.00

SOURCE: World Economic Forum, Executive Opinion Survey 2015–2016 (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 2006.

6.2.1 Innovation output

Innovation output sub-index | 2017

Rank	Country	Value	Score
1	Switzerland	65.80	100.00
2	Netherlands	60.90	91.39
3	Sweden	57.90	86.12
4	Luxembourg	55.40	81.72
5	United States of America	53.90	79.09
6	Germany	53.50	78.38
6	United Kingdom	53.50	78.38
8	Ireland	53.40	78.21
9	Korea, Rep.	52.10	75.92
10	Iceland	51.40	74.69
11	China	50.90	73.81
12	Denmark	48.70	69.95
13	Finland	48.10	68.89
14	Israel	46.80	66.61
15	Malta	46.30	65.73
16	Czech Republic	46.20	65.55
17	Singapore	45.10	63.62
18	Estonia	44.90	63.27
18	France	44.90	63.27
20	Japan	44.00	61.69
21	Austria	43.30	60.46
22	Norway	42.30	58.70
23	Canada	41.70	57.64
24	New Zealand	41.60	57.47
25	Spain	40.30	55.18
26	Belgium	40.20	55.01
27	Cyprus	39.70	54.13
28	Italy	39.50	53.78
29	Australia	39.10	53.08
30	Portugal	38.30	51.67
31	Bulgaria	38.10	51.32
32	Latvia	38.00	51.14
33	Slovakia	37.20	49.74
33	Slovenia	37.20	49.74
35	Turkey	35.50	46.75
36	Hungary	35.10	46.05
37	Viet Nam	34.90	45.69
38	Malaysia	34.50	44.99
39	Ukraine	34.20	44.46
40	Poland	33.80	43.76
41	Moldova, Rep.	32.30	41.12
42	Thailand	32.20	40.95
43	Romania	32.00	40.60
44	Kuwait	31.90	40.42
45	Armenia	31.6	39.89
45	Croatia	31.60	39.89
45	Mongolia	31.60	39.89
48	Lithuania	30.40	37.79
49	Costa Rica	30.20	37.43
50	Montenegro	29.30	35.85
50	Russian Federation	29.30	35.85
52	Chile	29.10	35.50
53	Qatar	28.80	34.97
54	Panama	28.70	34.80
55	Iran, Islamic Rep.	28.50	34.45
55	United Arab Emirates	28.50	34.45
57	India	28.10	33.74
58	Greece	28.00	33.57
59	Mexico	27.10	31.99
60	Serbia	26.90	31.63
61	Georgia	26.60	31.11
62	Macedonia, FYR	26.30	30.58
63	Philippines	25.60	29.35
63	Uruguay	25.60	29.35
65	Saudi Arabia	25.00	28.30
66	Bahrain	24.90	28.12
67	Morocco	24.80	27.94
68	Kenya	24.70	27.77
68	South Africa	24.70	27.77
70	Tunisia	24.60	27.59
71	Dominican Republic	24.50	27.42
71	Indonesia	24.50	27.42
73	Jordan	24.00	26.54
74	Colombia	23.80	26.19
75	Tanzania, United Rep.	23.60	25.83
76	Sri Lanka	23.40	25.48
77	Lebanon	23.30	25.31
78	Paraguay	23.00	24.78
79	Brazil	22.70	24.25
80	Argentina	22.60	24.08
81	Mauritius	22.50	23.90
82	Ecuador	22.20	23.37
83	Peru	21.60	22.32
84	Trinidad and Tobago	21.30	21.79
85	Cambodia	20.90	21.09
86	Azerbaijan	20.50	20.39
87	Ethiopia	20.20	19.86
87	Oman	20.20	19.86
89	Guatemala	19.90	19.33
90	Kazakhstan	19.80	19.16
91	Madagascar	19.50	18.63
92	Bosnia and Herzegovina	19.30	18.28
92	Egypt	19.30	18.28
94	Senegal	19.00	17.75
95	Bolivia, Plurinational St.	18.70	17.22
96	Mozambique	18.60	17.05
97	Pakistan	18.20	16.34
98	Namibia	18.10	16.17
99	Honduras	18.00	15.99
100	Kyrgyzstan	17.90	15.82
101	El Salvador	17.30	14.76
102	Uganda	17.20	14.59
103	Bangladesh	16.80	13.88
103	Mali	16.80	13.88
105	Botswana	16.40	13.18
106	Malawi	16.20	12.83
107	Nepal	15.90	12.30
108	Albania	15.70	11.95
109	Algeria	15.60	11.78
109	Zimbabwe	15.60	11.78
111	Rwanda	13.70	8.44
112	Yemen	8.90	0.00
	Bhutan	n/a	n/a
	Gambia	n/a	n/a
	Ghana	n/a	n/a
	Lao PDR	n/a	n/a
	Lesotho	n/a	n/a
	Nicaragua	n/a	n/a
	Venezuela, Bolivarian Rep.	n/a	n/a

SOURCE: INSEAD, Cornell University, and World Intellectual Property Organization, *The Global Innovation Index 2017* (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 2006.

6.2.2 High-value exports

High technology manufactures (%) | 2015

Rank	Country	Value	Score
1	Philippines	53.10	100.00
2	Singapore	49.30	92.84
3	Malaysia	42.80	80.60
4	Kazakhstan	41.20	77.59
5	Malta	31.90	60.08
6	Viet Nam	26.90	50.66
7	France	26.80	50.47
7	Ireland	26.80	50.47
7	Korea, Rep.	26.80	50.47
7	Switzerland	26.80	50.47
11	China	25.80	48.59
12	Thailand	21.40	40.30
13	United Kingdom	20.80	39.17
14	Norway	20.50	38.61
15	Iceland	19.90	37.48
15	Netherlands	19.90	37.48
17	Israel	19.70	37.10
18	United States of America	19.00	35.78
19	Costa Rica	16.80	31.64
19	Japan	16.80	31.64
21	Germany	16.70	31.45
22	Denmark	16.00	30.13
23	Latvia	15.00	28.25
24	Czech Republic	14.90	28.06
25	Mexico	14.70	27.68
26	Sweden	14.30	26.93
27	Canada	13.80	25.99
27	Russian Federation	13.80	25.99
27	Uruguay	13.80	25.99
30	Hungary	13.70	25.80
31	Australia	13.50	25.42
32	Austria	13.40	25.24
33	Belgium	13.00	24.48
33	Rwanda	13.00	24.48
35	Brazil	12.30	23.16
36	Kyrgyzstan	11.90	22.41
36	Lithuania	11.90	22.41
38	Mozambique	11.60	21.85
39	Estonia	11.40	21.47
40	Greece	11.00	20.72
41	Slovakia	10.30	19.40
42	New Zealand	9.60	18.08
43	Colombia	9.50	17.89
44	Argentina	9.00	16.95
44	Croatia	9.00	16.95
46	Poland	8.80	16.57
47	Finland	8.70	16.38
48	United Arab Emirates	8.50	16.01
49	Bulgaria	7.60	14.31
50	India	7.50	14.12
50	Romania	7.50	14.12
52	Ukraine	7.30	13.75
53	Ecuador	7.20	13.56
53	Italy	7.20	13.56
55	Spain	7.10	13.37
56	Luxembourg	6.80	12.81
57	Indonesia	6.60	12.43
58	Bolivia, Plurinational St.	6.50	12.24
59	Slovenia	6.40	12.05
60	Tunisia	6.30	11.86
61	Cyprus	6.20	11.68
62	Chile	5.90	11.11
62	South Africa	5.90	11.11
64	Paraguay	5.70	10.73
65	Georgia	5.60	10.55
66	Armenia	5.30	9.98
67	Guatemala	5.00	9.42
68	Ghana	4.90	9.23
69	Peru	4.70	8.85
69	Yemen	4.70	8.85
71	El Salvador	4.40	8.29
71	Portugal	4.40	8.29
73	Oman	4.10	7.72
74	Ethiopia	4.00	7.53
74	Moldova, Rep.	4.00	7.53
74	Mongolia	4.00	7.53
77	Dominican Republic	3.80	7.16
77	Kenya	3.80	7.16
79	Senegal	3.60	6.78
80	Morocco	3.50	6.59
81	Qatar	3.40	6.40
82	Macedonia, FYR	3.00	5.65
83	Zimbabwe	2.90	5.46
84	Bosnia and Herzegovina	2.80	5.27
85	Kuwait	2.70	5.08
85	Namibia	2.70	5.08
87	Azerbaijan	2.50	4.71
88	Honduras	2.40	4.52
89	Malawi	2.20	4.14
89	Turkey	2.20	4.14
91	Lebanon	2.10	3.95
92	Jordan	1.80	3.39
92	Uganda	1.80	3.39
94	Pakistan	1.60	3.01
95	Albania	1.50	2.82
96	Mali	1.20	2.26
97	Venezuela, Bolivarian Rep.	1.10	2.07
98	Bahrain	1.00	1.88
99	Cambodia	0.80	1.51
99	Egypt	0.80	1.51
99	Saudi Arabia	0.80	1.51
99	Sri Lanka	0.80	1.51
99	Tanzania, United Rep.	0.80	1.51
104	Botswana	0.60	1.13
104	Nepal	0.60	1.13
106	Nicaragua	0.50	0.94
107	Algeria	0.20	0.38
107	Madagascar	0.20	0.38
109	Mauritius	0.10	0.19
110	Bhutan	0.00	0.00
110	Gambia	0.00	0.00
110	Lesotho	0.00	0.00
110	Panama	0.00	0.00
	Bangladesh	n/a	n/a
	Iran, Islamic Rep.	n/a	n/a
	Lao PDR	n/a	n/a
	Montenegro	n/a	n/a
	Serbia	n/a	n/a
	Trinidad and Tobago	n/a	n/a

SOURCE: World Bank, World Integrated Trade Solution (http://wits.worldbank.org/). The classification of exports is based on Lall, S. (2000), The Technological Structure and Performance of Developing Country Manufactured Exports, *Oxford Development Studies,* 28(3), 1985–1989

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6.2.3 New product entrepreneurial activity

New product entrepreneurial activity (%) | 2016

Rank	Country	Value	Score
1	Chile	87.42	100.00
2	Turkey	85.62	97.68
3	China	76.91	86.46
4	Guatemala	75.95	85.23
5	Lebanon	74.76	83.70
6	Namibia	68.59	75.75
7	Italy	68.17	75.21
8	Bolivia, Plurinational St	67.90	74.86
9	Luxembourg	67.67	74.57
10	Yemen	65.73	72.07
11	Korea, Rep.	62.71	68.18
12	India	62.58	68.01
13	United Arab Emirates	57.93	62.02
14	Poland	57.80	61.85
15	Jordan	57.26	61.16
16	Denmark	57.24	61.13
17	Cyprus	56.77	60.53
18	Canada	56.12	59.69
19	Belgium	56.04	59.59
20	Morocco	55.69	59.14
21	Austria	54.94	58.17
22	Malawi	54.91	58.13
23	Ireland	54.03	57.00
24	Philippines	53.59	56.43
25	Tunisia	52.96	55.62
26	Israel	52.37	54.86
27	Czech Republic	52.10	54.51
28	Finland	51.60	53.87
29	United Kingdom	51.03	53.14
30	France	50.75	52.78
31	Iceland	49.85	51.62
32	Lithuania	49.13	50.69
32	Qatar	49.13	50.69
34	Singapore	48.76	50.21
35	South Africa	47.86	49.05
36	United States of America	47.61	48.73
37	Colombia	47.48	48.56
38	Japan	47.40	48.46
39	Estonia	47.05	48.01
40	Pakistan	46.87	47.78
41	Uruguay	45.78	46.37
42	Viet Nam	45.05	45.43
43	Argentina	44.87	45.20
44	Panama	44.74	45.04
45	Sweden	44.58	44.83
46	Indonesia	44.51	44.74
47	Romania	44.29	44.46
48	Switzerland	44.27	44.43
49	Slovenia	44.02	44.11
50	Slovakia	43.92	43.98
51	Latvia	43.11	42.94
52	Australia	42.78	42.51
53	Serbia	42.52	42.18
54	Netherlands	42.09	41.62
55	Egypt	41.23	40.52
56	Costa Rica	41.20	40.48
57	Peru	39.84	38.73
58	Dominican Republic	38.69	37.24
59	Germany	38.39	36.86
60	Greece	38.26	36.69
61	Mexico	37.71	35.98
62	Spain	36.31	34.18
63	Thailand	36.04	33.83
64	El Salvador	35.56	33.21
65	Saudi Arabia	34.75	32.17
66	Montenegro	34.63	32.02
67	Hungary	32.31	29.03
68	Portugal	32.19	28.87
69	Algeria	31.97	28.59
70	Botswana	30.94	27.26
71	Iran, Islamic Rep.	30.57	26.79
72	Ecuador	30.03	26.09
73	Bulgaria	29.92	25.95
74	Venezuela, Bolivarian Rep.	29.69	25.65
75	Croatia	28.06	23.55
76	Georgia	27.48	22.81
77	Kazakhstan	27.45	22.77
78	Trinidad and Tobago	26.03	20.94
79	Macedonia, FYR	24.61	19.11
80	Bosnia and Herzegovina	24.45	18.91
81	Ethiopia	23.37	17.51
82	Ghana	21.81	15.51
83	Brazil	20.35	13.63
84	Norway	19.76	12.87
85	Russian Federation	17.51	9.97
86	Uganda	14.85	6.54
87	Senegal	12.48	3.49
88	Bangladesh	10.54	0.99
89	Malaysia	9.77	0.00
	Albania	n/a	n/a
	Armenia	n/a	n/a
	Azerbaijan	n/a	n/a
	Bahrain	n/a	n/a
	Bhutan	n/a	n/a
	Cambodia	n/a	n/a
	Gambia	n/a	n/a
	Honduras	n/a	n/a
	Kenya	n/a	n/a
	Kuwait	n/a	n/a
	Kyrgyzstan	n/a	n/a
	Lao PDR	n/a	n/a
	Lesotho	n/a	n/a
	Madagascar	n/a	n/a
	Mali	n/a	n/a
	Malta	n/a	n/a
	Mauritius	n/a	n/a
	Moldova, Rep.	n/a	n/a
	Mongolia	n/a	n/a
	Mozambique	n/a	n/a
	Nepal	n/a	n/a
	New Zealand	n/a	n/a
	Nicaragua	n/a	n/a
	Oman	n/a	n/a
	Paraguay	n/a	n/a
	Rwanda	n/a	n/a
	Sri Lanka	n/a	n/a
	Tanzania, United Rep.	n/a	n/a
	Ukraine	n/a	n/a
	Zimbabwe	n/a	n/a

SOURCE: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor database (www.gemconsortium.org/data)
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6.2.4 New business density

New corporate registrations (per 1,000 working-age population) | 2014

Rank	Country	Value	Score
1	Malta	17.26	100.00
2	New Zealand	16.63	96.34
3	Estonia	16.05	92.98
4	Australia	14.91	86.36
5	Panama	14.10	81.66
6	Cyprus	13.70	79.34
7	Botswana	13.11	75.91
8	United Kingdom	12.90	74.70
9	Latvia	10.61	61.40
10	Singapore	9.51	55.02
11	Iceland	9.48	54.85
12	Bulgaria	8.86	51.25
13	Chile	8.03	46.43
14	Norway	7.72	44.63
15	Sweden	6.87	39.70
16	Montenegro	6.85	39.58
17	Mongolia	6.31	36.45
18	Luxembourg	6.10	35.23
19	Ireland	5.78	33.37
20	Georgia	5.65	32.62
21	Netherlands	5.34	30.82
22	Mauritius	5.14	29.66
23	Croatia	4.63	26.70
24	Portugal	4.62	26.64
25	Slovenia	4.44	25.59
26	Denmark	4.36	25.13
27	Russian Federation	4.20	24.20
28	Lithuania	4.19	24.14
29	Romania	4.07	23.45
30	Macedonia, FYR	3.70	21.30
31	Hungary	3.66	21.07
32	Finland	3.43	19.73
33	Czech Republic	3.42	19.67
34	Israel	3.11	17.88
35	Slovakia	3.10	17.82
36	Spain	2.97	17.06
37	Brazil	2.88	16.54
38	Switzerland	2.53	14.51
39	Uruguay	2.49	14.28
40	Peru	2.44	13.99
41	Malaysia	2.37	13.58
42	Italy	2.32	13.29
43	Korea, Rep.	2.30	13.17
44	France	2.26	12.94
45	Belgium	2.05	11.72
46	Colombia	2.00	11.43
47	South Africa	1.82	10.39
48	Kenya	1.80	10.27
49	Kazakhstan	1.71	9.75
50	Qatar	1.70	9.69
51	Moldova, Rep.	1.63	9.29
52	Serbia	1.62	9.23
53	Lesotho	1.55	8.82
54	Morocco	1.54	8.76
55	Armenia	1.52	8.65
55	Tunisia	1.52	8.65
57	Rwanda	1.49	8.47
58	United Arab Emirates	1.38	7.84
59	Germany	1.29	7.31
60	Canada	1.28	7.25
61	Dominican Republic	1.20	6.79
62	Uganda	1.17	6.62
63	Turkey	1.13	6.38
64	Albania	1.11	6.27
65	Costa Rica	1.10	6.21
66	Kyrgyzstan	1.08	6.09
67	Oman	1.02	5.75
68	Azerbaijan	0.99	5.57
68	Jordan	0.99	5.57
70	Mexico	0.94	5.28
71	Ukraine	0.92	5.17
72	Thailand	0.90	5.05
73	Namibia	0.85	4.76
74	Bosnia and Herzegovina	0.83	4.64
75	Austria	0.73	4.06
76	Madagascar	0.70	3.89
77	Nepal	0.69	3.83
78	Algeria	0.58	3.19
79	Bolivia, Plurinational St.	0.57	3.13
80	Poland	0.53	2.90
81	El Salvador	0.52	2.84
81	Guatemala	0.52	2.84
83	Sri Lanka	0.51	2.79
84	Argentina	0.43	2.32
85	Senegal	0.30	1.57
86	Indonesia	0.29	1.51
87	Philippines	0.27	1.39
88	Japan	0.15	0.70
89	India	0.12	0.52
90	Lao PDR	0.10	0.41
91	Bangladesh	0.09	0.35
92	Malawi	0.08	0.29
93	Bhutan	0.06	0.17
94	Pakistan	0.04	0.06
95	Ethiopia	0.03	0.00
	Bahrain	n/a	n/a
	Cambodia	n/a	n/a
	China	n/a	n/a
	Ecuador	n/a	n/a
	Egypt	n/a	n/a
	Gambia	n/a	n/a
	Ghana	n/a	n/a
	Greece	n/a	n/a
	Honduras	n/a	n/a
	Iran, Islamic Rep.	n/a	n/a
	Kuwait	n/a	n/a
	Lebanon	n/a	n/a
	Mali	n/a	n/a
	Mozambique	n/a	n/a
	Nicaragua	n/a	n/a
	Paraguay	n/a	n/a
	Saudi Arabia	n/a	n/a
	Tanzania, United Rep.	n/a	n/a
	Trinidad and Tobago	n/a	n/a
	United States of America	n/a	n/a
	Venezuela, Bolivarian Rep.	n/a	n/a
	Viet Nam	n/a	n/a
	Yemen	n/a	n/a
	Zimbabwe	n/a	n/a

SOURCE: World Bank, *Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises* (http://www.doingbusiness.org/reports/global-reports/doing-business-2014)

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6.2.5 Scientific journal articles

Number of scientific and technical journal articles (per million PPP$ GDP) | 2013

Rank	Country	Value	Score
1	Slovenia	55.25	100.00
1	Argentina	55.00	100.00
3	Serbia	50.88	92.05
4	Denmark	48.41	87.55
5	Croatia	45.92	83.02
6	Portugal	45.84	82.88
7	Australia	45.31	81.91
8	Finland	44.99	81.33
9	Sweden	44.37	80.20
10	Czech Republic	43.88	79.31
11	New Zealand	43.62	78.84
12	Switzerland	43.53	78.67
13	Israel	41.44	74.87
14	United Kingdom	38.75	69.97
15	Greece	38.28	69.12
16	Netherlands	37.57	67.83
17	Canada	37.01	66.81
18	Estonia	36.11	65.17
19	Korea, Rep.	35.79	64.59
20	Spain	34.76	62.71
21	Belgium	34.03	61.38
22	Tunisia	33.83	61.02
23	Iceland	32.91	59.34
24	Slovakia	31.10	56.05
25	Ireland	30.89	55.67
26	Poland	30.74	55.40
27	Italy	30.73	55.38
28	Austria	29.65	53.41
29	Cyprus	29.58	53.28
30	Norway	28.74	51.76
31	Romania	28.27	50.90
32	France	28.03	50.46
33	Germany	27.82	50.08
34	Lithuania	26.62	47.90
35	Hungary	25.88	46.55
36	Iran, Islamic Rep.	25.74	46.30
37	Malaysia	24.73	44.46
38	United States of America	24.60	44.22
39	Latvia	24.59	44.20
40	Singapore	24.38	43.82
41	China	24.24	43.57
42	Japan	22.10	39.67
43	Bulgaria	21.58	38.73
44	Turkey	20.89	37.47
45	Armenia	20.86	37.42
46	Jordan	18.85	33.76
47	Ukraine	18.25	32.67
48	Malta	16.03	28.63
49	Montenegro	15.08	26.90
50	Brazil	15.06	26.86
51	Macedonia, FYR	14.61	26.04
52	South Africa	14.08	25.08
53	India	13.75	24.48
54	Chile	13.57	24.15
55	Luxembourg	13.12	23.33
56	Georgia	13.08	23.26
57	Lebanon	13.06	23.22
58	Moldova, Rep.	11.12	19.69
59	Russian Federation	10.98	19.44
60	Bosnia and Herzegovina	10.33	18.25
61	Egypt	10.07	17.78
62	Morocco	10.06	17.76
63	Malawi	9.51	16.76
64	Pakistan	9.24	16.27
65	Thailand	8.26	14.49
66	Senegal	8.24	14.45
66	Uruguay	8.24	14.45
68	Colombia	7.36	12.85
69	Uganda	7.12	12.41
70	Zimbabwe	7.10	12.37
71	Algeria	6.91	12.03
72	Kenya	6.83	11.88
73	Gambia	6.69	11.63
74	Nepal	6.67	11.59
75	Mexico	6.53	11.34
76	Ethiopia	6.00	10.37
77	Ghana	5.44	9.35
78	Albania	5.43	9.34
79	Saudi Arabia	4.99	8.54
80	Mongolia	4.62	7.86
81	Botswana	4.42	7.50
82	Rwanda	4.33	7.33
83	Bangladesh	4.24	7.17
84	Mauritius	4.22	7.13
85	Oman	4.10	6.92
86	Costa Rica	3.88	6.52
87	Viet Nam	3.86	6.48
88	Trinidad and Tobago	3.48	5.79
89	Bahrain	3.38	5.61
90	Sri Lanka	3.22	5.31
91	Madagascar	3.14	5.17
92	Tanzania, United Rep.	3.12	5.13
93	Bhutan	3.09	5.08
94	Namibia	3.07	5.04
95	Kuwait	3.02	4.95
96	Azerbaijan	2.92	4.77
97	United Arab Emirates	2.88	4.70
98	Kyrgyzstan	2.73	4.42
99	Qatar	2.63	4.24
100	Mali	2.23	3.51
101	Kazakhstan	2.20	3.46
102	Venezuela, Bolivarian Rep.	2.15	3.37
103	Mozambique	2.12	3.31
104	Panama	2.00	3.09
105	Lao PDR	1.90	2.91
106	Peru	1.79	2.71
107	Cambodia	1.69	2.53
108	Ecuador	1.46	2.11
109	Philippines	1.42	2.04
110	Lesotho	1.38	1.97
111	Bolivia, Plurinational St.	1.29	1.80
112	Yemen	1.27	1.77
113	Indonesia	1.16	1.57
114	Paraguay	1.04	1.35
115	Nicaragua	0.89	1.07
116	Guatemala	0.69	0.71
117	El Salvador	0.67	0.67
118	Honduras	0.49	0.35
119	Dominican Republic	0.30	0.00

SOURCE: World Bank, World Development Indicators based on National Science Foundation, Science and Engineering Indicators, 2013; GDP data come from the International Monetary Fund, World Economic Outlook database, 2013

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 2006.

Appendices

Appendix I

Technical Notes

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 fifth 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 index model.

In July 2017, an earlier version of the index model for the GTCI 2018 was submitted to the JRC team. The results from the preliminary audit were taken into account and are reflected in the final version of the index model, as appropriate. The final audit was then completed in September 2017 based on the latest model, the results of which can be found in Chapter 7.

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 several variables (normally, between three and seven variables). Each sub-pillar score is derived from the simple arithmetic average of its individual variables. The successive arithmetic aggregation continues at 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.

In addition to the overall index scores, economy rankings are provided for each variable, sub-pillar, pillar, and sub-index in the Country Profiles.

Individual Variables

The GTCI 2018 model includes 68 variables, which fall within the following categories:[2]

1. Hard/quantitative data (25 variables)
2. Index/composite indicator data (15 variables)
3. Survey/qualitative data (28 variables)

Hard Data

The 25 variables based on hard data were drawn from a variety of public sources, such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the United Nations Conference on Trade and Development (UNCTAD), 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 15 variables measured as indices come from sources such as the World Bank (the World Governance Indicators and the database of the *Doing Business* report), the International Telecommunication Union (ITU), 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 Organisation), and the Environmental Performance Index (Yale University and Columbia University). There were 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 28 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/Economy Coverage and Missing Data

The 119 economies covered in the GTCI 2018 were selected based on an aggregate data availability threshold of at least 80% (54 out of 68 variables) and a sub-pillar level data availability threshold of at least 40%. The most recent data points for each economy were considered in the calculation, with 2006 as the cut-off year. Meanwhile, each variable had to pass a country-based availability threshold of 50% (60 out of 119 economies). 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.

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 six variables with outliers. As a general rule, for variables with one to five 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:[4]

$$\ln\left[(\max \times \text{factor} - 1) \times \frac{(\text{value} - \min)}{(\max - \min)} + 1\right]$$

Normalisation

To adjust for differences in units of measurement and ranges of variation, all 68 variables were normalised into the [0, 100] range, with higher scores representing better outcomes. A min-max normalisation method was adopted, given the minimum and maximum values of each variable respectively.

For variables where higher values indicate higher 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:[5]

$$-100 \times \frac{(\text{value} - \min)}{(\max - \min)}$$

ENDNOTES

1 The JRC has audited various index projects. The most recent ones include the Global Innovation Index (Cornell, INSEAD and WIPO), the Environment Performance Index (Yale and Columbia), and the Corruption Perceptions Index (Transparency International).

2 The last edition of the GTCI had 65 variables in total, 25 of which were hard/quantitative data, 15 were index/composite indicators, and 25 were survey/qualitative data.

3 Adopted from Groeneveld &Meeden (1984).

4 The formula ensures that natural logarithms are positive and start at zero.

5 The reverse normalisation affects three indicators: 1.3.1 Ease of hiring, 1.3.2 Ease of redundancy, and 2.2.1 Tolerance of minorities.

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Appendix II

Sources and Definitions

Sources and Definitions

1 ENABLE

1.1 Regulatory Landscape

1.1.1 Government effectiveness

Government effectiveness indicator | 2015

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.

Source: World Bank, *Worldwide Governance Indicators,* 2016 Update (www.govindicators.org)

1.1.2 Business-government relations

Average answer to the question: In your country, how would you best characterise relations between business and government? [1 = highly confrontational; 7 = highly cooperative] | 2014

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 2013–2014 (http://reports.weforum.org)

1.1.3 Political stability

Political stability and absence of violence indicator | 2015

The political stability and absence of violence indicator captures perceptions of the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism. Scores are standardised.

Source: World Bank, *Worldwide Governance Indicators,* 2016 Update (www.govindicators.org)

1.1.4 Regulatory quality

Regulatory quality indicator | 2015

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.

Source: World Bank, *Worldwide Governance Indicators,* 2016 Update (www.govindicators.org)

1.1.5 Corruption

Corruption Perceptions Index | 2016

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 2016* (http://www.transparency.org/research/cpi)

1.2 Market Landscape

1.2.1 Competition intensity

Average answer to the question: In your country, how intense is competition in the local markets? [1 = not intense at all; 7 = extremely intense] | 2016

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 2015–2016 (http://reports.weforum.org)

1.2.2 Ease of doing business

Ease of doing business index | 2017

The ease of doing business index aggregates a country's percentile rankings on 10 topics covered in the World Bank's *Doing Business 2017* report, which include starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency. A high ranking indicates that the regulatory environment is more conducive to setting up business.

Source: World Bank, *Doing Business 2017: Equal Opportunity for All* (http://www.doingbusiness.org/reports/global-reports/doing-business-2017)

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] | 2016

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 2015–2016 (http://reports.weforum.org)

1.2.4 R&D expenditure

Gross expenditure on R&D (%) | 2014

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

ICT access index | 2016

The ICT access index is a composite indicator that aggregates five ICT indicators (at 20% each): (1) Fixed telephone lines per 100 inhabitants; (2) Mobile cellular telephone subscriptions per 100 inhabitants; (3) International internet bandwidth (bit/s) per internet user; (4) Proportion of households with a computer; and (5) Proportion of households with internet access at home. It is the first sub-index in ITU's ICT Development Index (IDI).

Source: International Telecommunication Union, *Measuring the Information Society Report 2016,* ICT Development Index 2016 (http://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2016.aspx)

1.2.6 Technology utilisation

Average answer to the question: In your country, to what extent do businesses adopt the latest technologies? [1 = not at all; 7 = to a great extent] | 2016

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 2015–2016 (http://reports.weforum.org)

1.3 Business and Labour Landscape

Labour Market

1.3.1 Ease of hiring

Hiring indicators | 2016

Doing Business measures the regulation of employment as it relates to the hiring and redundancy of workers and the scheduling of working hours. The hiring indicators measure (1) whether fixed-term contracts are prohibited for permanent tasks; (2) the maximum cumulative duration of fixed-term contracts; and (3) the ratio of the minimum wage for a trainee or first-time employee to the average value added per worker. The score is calculated based on the proposed methodology from the Employing Workers annex in the World Bank's 2012 *Doing Business* report. The values are between 0 and 100, with higher values indicating more rigid regulation.

Source: World Bank, *Doing Business 2016: Measuring Regulatory Quality and Efficiency* (http://www.doingbusiness.org/reports/global-reports/doing-business-2016)

1.3.2 Ease of redundancy

Redundancy indicators | 2016

Doing Business measures the regulation of employment as it relates to the hiring and redundancy of workers and the scheduling of working hours. The redundancy indicators measure: (1) whether redundancy is disallowed as a basis for terminating workers; (2) whether the employer needs to notify a third party (such as a government agency) to terminate one redundant worker; (3) whether the employer needs to notify a third party to terminate a group of nine redundant workers; (4) whether the employer needs approval from a third party to terminate one redundant worker; (5) whether the employer needs approval from a third party to terminate a group of nine redundant workers; (6) whether the law requires the employer to reassign or retrain a worker before making the worker redundant; (7) whether priority rules apply for redundancies; and (8) whether priority rules apply for reemployment. The score is calculated based on the proposed methodology from the Employing Workers annex in the World Bank's 2012 *Doing Business* report. The values are between 0 and 100, with higher values indicating more rigid regulation.

Source: World Bank, *Doing Business 2016: Measuring Regulatory Quality and Efficiency* (http://www.doingbusiness.org/reports/global-reports/doing-business-2016)

1.3.3 Active labour market policies

Average answer to the question: In your country, to what extent do labour market policies help unemployed people to reskill and find new employment (including skills matching, retraining, etc.)? [1 = not at all; 7 = to a great extent] | 2016

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 2015–2016 (http://reports.weforum.org)

1.3.4 Labour-employer cooperation

Average answer to the question: In your country, how would you characterise labour-employer relations? [1 = generally confrontational; 7 = generally cooperative] | 2016

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 2015–2016 (http://reports.weforum.org)

Management Practice

1.3.5 Professional management

Average answer to the question: In your country, who holds senior management positions? [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications] | 2016

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 2015–2016 (http://reports.weforum.org)

1.3.6 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] | 2016

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 2015–2016 (http://reports.weforum.org)

2 ATTRACT

2.1 External Openness

Attract Business

2.1.1 FDI and technology transfer

Average answer to the question: To what extent does foreign direct investment (FDI) bring new technology into your country? [1 = not at all; 7 = to a great extent] | 2016

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 2015–2016 (http://reports.weforum.org)

2.1.2 Prevalence of foreign ownership

Average answer to the question: In your country, how prevalent is foreign ownership of companies? [1 = extremely rare; 7 = extremely prevalent] | 2016

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 2015–2016 (http://reports.weforum.org)

Attract People

2.1.3 Migrant stock

Adult migrant stock (%) | 2015

Adult migrant stock refers to the percentage of the migrant stock population above 25 years old in the total population of the same age group, and is based on 2015 estimates.

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex (www.un.org/en/development/desa/population/migration/data/estimates2/estimates15.shtml)

2.1.4 International students

Tertiary inbound mobility ratio (%) | 2016

International student inflow 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: 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] | 2016

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 2015–2016 (http://reports.weforum.org)

2.2 Internal Openness

Social Inclusion

2.2.1 Tolerance of minorities

Discrimination and violence against minorities | 2016

This indicator is a component of the tolerance and inclusion variables used to measure the Opportunity dimension of the Social Progress Index. It is based on the Group Grievance indicator designed by the Fund for Peace Fragile States Index. It takes into account six components—discrimination, powerlessness, ethnic violence, communal violence, sectarian violence, and religious violence—measured on a scale of 0 (low pressure) to 10 (very high pressure).

Source: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/) based on the Fund for Peace Fragile States Index

2.2.2 Tolerance of immigrants

The percentage of respondents answering yes 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? | 2016

This indicator is used as a component of the tolerance and inclusion variables to measure the Opportunity dimension of the Social Progress Index.

Source: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/) based on the Gallup World Poll

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] | 2016

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 2015–2016 (http://reports.weforum.org)

Gender Equality

2.2.4 Female graduates

Female tertiary graduates (%) | 2016

Female tertiary graduates refers to the percentage of female graduates whose highest educational attainment is the tertiary level. The tertiary level includes both short-cycle tertiary and bachelor's or equivalent level based on International Standard Classification of Education (ISCED) 5 or 6.

Source: UNESCO Institute for Statistics, *UIS.Stat* (http://data.uis.unesco.org/)

2.2.5 Gender earnings gap

Estimated earned income ratio | 2016

The *estimated earned income ratio* refers to the estimated income earned by females over the corresponding value for males.

Source: World Economic Forum, *The Global Gender Gap Report 2016* (http://reports.weforum.org/global-gender-gap-report-2016)

2.2.6 Leadership opportunities for women

Average answer to the question: In your country, to what extent do companies provide women the same opportunities as men to rise to positions of leadership? [1 = not at all; 7 = to a great extent] | 2016

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 2015–2016 (http://reports.weforum.org)

3 GROW

3.1 Formal Education

Enrolment

3.1.1 Vocational enrolment

Vocational enrolment (%) | 2015

Vocational enrolment refers to the total number of students enrolled in vocational programmes at a given level of education, expressed as a percentage of the total number of students enrolled in all programmes (vocational and general) at that level. The level of educational attainment is based on International Standard Classification of Education (ISCED) 2 and 3.

Source: UNESCO Institute for Statistics, *UIS.Stat* (http://data.uis.unesco.org/)

3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2016

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 to an advanced research qualification, normally requires as a minimum condition of admission the successful completion of education at the secondary level. The level of educational attainment is based on International Standard Classification of Education (ISCED) 5 and 6.

Source: UNESCO Institute for Statistics, *UIS.Stat* (http://data.uis.unesco.org/)

Quality

3.1.3 Tertiary education expenditure

Government expenditure on tertiary education (%) | 2016

Government expenditure on tertiary education as a percentage of GDP.

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 | 2015

The OECD Programme for International Student Assessment (PISA) develops three-yearly 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 | 2015

The QS World University Ranking is based on six indicators (with their weights in parentheses): (1) Academic reputation from global survey (40%); (2) Employer reputation from global survey (10%); (3) Citations per faculty from SciVerse Scopus (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. If the country has fewer than three universities listed in the QS ranking, the sum of the scores of the listed universities is still divided by three, implying a score of 0 for non-listed universities.

Source: Quacquarelli Symonds Ltd (QS), QS World University Ranking 2014/2015, Top Universities (www.topuniversities.com/university-rankings/world-university-rankings)

3.2 Lifelong Learning

3.2.1 Quality of management schools

Average answer to the question: In your country, how do you assess the following: Quality of business schools [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2016

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 2015–2016 (http://reports.weforum.org)

3.2.2 Prevalence of training in firms

Proportion of firms offering formal training (%) | 2016

The Enterprise Survey is a firm-level survey of a representative sample of an economy's private sector. The surveys cover a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. Since 2002, the World Bank has collected these data from face-to-face interviews with top managers and business owners in over 130,000 companies in 135 economies. More detailed information about the Enterprise Surveys can be found on their Methodology page.

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] | 2016

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 2015–2016 (http://reports.weforum.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] | 2016

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 2015–2016 (http://reports.weforum.org)

3.3.2 Personal rights

Personal rights indicator | 2016

Personal Rights are a component in the Opportunity Dimension of the Social Progress Index. This component is based on five variables: Political rights, Freedom of speech, Freedom of assembly/association, Freedom of movement, and Private property rights.

Source: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/)

Collaboration

3.3.3 Use of virtual social networks

Average answer to the question: In your country, how widely are virtual social networks used (e.g., Facebook, Twitter, LinkedIn)? [1 = not at all used; 7 = used extensively] | 2016

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 2015–2016 (http://reports.weforum.org)

3.3.4 Use of virtual professional networks

LinkedIn users (per 1,000 labour force) | 2015

LinkedIn users refers to the number of registered LinkedIn accounts per 1,000 labour force (15–64 years old).

Source: LinkedIn, LinkedIn Campaign Manager and International Labour Organization, *Key Indicators of the Labour Market*, 8th edition (http://key-indicators-of-the-labour-market-8th.software.informer.com/download)

3.3.5 Collaboration within organisations

Average answer to the question: In your country, to what extent do people collaborate and share ideas within a company? [1 = not at all; 7 = to a great extent] | 2016

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Source: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)

3.3.6 Collaboration across organisations

Average answer to the question: In your country, to what extent do companies collaborate in sharing ideas and innovating? [1 = not at all; 7 = to a great extent] | 2016

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Source: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)

4 RETAIN

4.1 Sustainability

4.1.1 Pension system

Workforce contributing to pension system (%) | 2012

Pension system coverage, in this context, includes only mandatory schemes because voluntary arrangements are not formally integrated into most mandatory social security systems. It is reported as the percentage of the active workforce contributing to the pension system.

Source: Pallares-Miralles, M., Romero, C., & Whitehouse, E. 2012. International patterns of pension provision II: A worldwide overview of facts and figures. Social protection and labor discussion paper no. SP 1211. Washington, DC: World Bank (https://openknowledge.worldbank.org/handle/10986/13560)

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] | 2016

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Source: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)

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] | 2016

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Source: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)

4.2 Lifestyle

4.2.1 Environmental performance

Environmental Performance Index | 2015

The Environmental Performance Index (EPI) ranks how well countries perform in two broad policy areas: protection of human health from environmental harm and protection of ecosystems. 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: The 2016 Environmental Performance Index, Yale Center for Environmental Law and Policy (http://epi.yale.edu)

4.2.2 Personal safety

Personal safety indicator | 2016

Personal safety is a component in the Basic Human Needs Dimension of the Social Progress Index. This component is based on five variables: Homicide rate, Level of violent crime, Perceived criminality, Political terror, and Traffic deaths.

Source: Social Progress Imperative, The Social Progress Index 2016 (http://www.socialprogressimperative.org/publication/2016-social-progress-index/)

4.2.3 Physician density

Physicians (per 1,000 people) | 2015

Physician density refers to number of medical doctors (physicians), including generalist and specialist medical practitioners, per 1,000 people.

Source: World Bank, World Development Indicators based on World Health Organization, Global Atlas of the Health Workforce (http://data.worldbank.org/data-catalog/world-development-indicators)

4.2.4 Sanitation

Population with access to improved sanitation facilities (%) | 2015

This indicator refers to the percentage of the population using improved sanitation facilities. Improved sanitation facilities include flush/pour flush toilets (connected to a piped sewer system, septic tank, or pit latrine), ventilated improved pit latrines, pit latrines with a slab, and composting toilets.

Source: World Bank, World Development Indicators based on WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation (http://data.worldbank.org/data-catalog/world-development-indicators)

5 VOCATIONAL AND TECHNICAL SKILLS

5.1 Mid-Level Skills

5.1.1 Workforce with secondary education

Labour force with secondary education (%) | 2016

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 (ISCED) 3 or 4. The data for the United States of America are from workers aged above 25 years old.

Source: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)

5.1.2 Population with secondary education

Population with secondary education (%) | 2016

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 (ISCED) 3 or 4.

Source: UNESCO Institute for Statistics, *UIS.Stat* (http://data.uis.unesco.org/)

5.1.3 Technicians and associate professionals

Technicians and associate professionals (%) | 2016

Technicians and associate professionals refers to the percentage of technicians and associate professionals out of total employment. The employment by occupation is based on the International Standard Classification of Occupation (ISCO) Revision 2008. 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).

Source: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)

5.1.4 Labour productivity per employee

Labour productivity per person employed (constant 2015 US$) | 2017

Labour productivity estimates are obtained by dividing the total output (GDP) by the total labour input used (labour force) to produce that output. GDP is measured in constant 2015 US$.

Source: The Conference Board, Total Economy Database™ (www.conference-board.org/data/economydatabase)

5.2 Employability

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] | 2016

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Source: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)

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] | 2016

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Source: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)

5.2.3 Skills matching with secondary education

Average answer to the question: In your country, to what extent do graduating students possess the skills needed by businesses at the following levels: a. Secondary education [1 = not at all; 7 = to a great extent] | 2016

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Source: World Economic Forum, Executive Opinion Survey 2015–2016 (http://reports.weforum.org)

5.2.4 Skills matching with tertiary education

Average answer to the question: In your country, to what extent do graduating students possess the skills needed by businesses at the following levels: b. University level [1 = not at all; 7 = to a great extent] | 2016

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 2015–2016 (http://reports.weforum.org)

6 GLOBAL KNOWLEDGE SKILLS

6.1 High-Level Skills

6.1.1 Workforce with tertiary education

Labour force with tertiary education (%) | 2016

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 includes both short-cycle tertiary and bachelor's or equivalent level based on International Standard Classification of Education (ISCED) 5 or 6. The data for the United States of America are from workers aged above 25 years old.

Source: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)

6.1.2 Population with tertiary education

Population with tertiary education (%) | 2015

Population with tertiary education refers to the percentage of the population (above 25 years old) whose highest educational attainment is at the tertiary level. This is based on International Standard Classification of Education (ISCED) 5 or 6.

Source: UNESCO Institute for Statistics, *UIS.Stat* (http://data.uis.unesco.org/)

6.1.3 Professionals

Professionals (%) | 2016

Professionals refers to the percentage of professionals out of total employment. The employment by occupation is based on the International Standard Classification of Occupation (ISCO) Revision 2008. 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).

Source: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)

6.1.4 Researchers

Full-time equivalent researchers (per million population) | 2015

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 equivalence (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 full-time equivalent 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 (%) | 2016

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 1988.

Source: International Labour Organization, *ILOSTAT* (http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm)

6.1.6 Availability of scientists and engineers

Average answer to the question: In your country, to what extent are scientists and engineers available? [1 = not at all; 7 = widely available] | 2016

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 2015–2016 (http://reports.weforum.org)

6.2 Talent Impact

6.2.1 Innovation output

Innovation output sub-index | 2017

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 GII, which is derived by aggregating two output pillars: Knowledge and Technology Output and Creative Output. 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 2017* (https://www.globalinnovationindex.org)

6.2.2 High-value exports

High technology manufactures (%) | 2015

High-value exports here refers to high technology manufactures (electronic and electrical and other), as calculated according to the Lall classification, over exports of all manufactured goods.

Source: World Bank, World Integrated Trade Solution (http://wits.worldbank.org/). The classification of exports is based on Lall, S. (2000), The Technological Structure and Performance of Developing Country Manufactured Exports, *Oxford Development Studies,* 28(3), 1985–1989

6.2.3 New product entrepreneurial activity

New product entrepreneurial activity (%) | 2016

New product entrepreneurial activity refers to the percentage of total early-stage entrepreneurs who indicate that their product or service is new to at least some customers. The Global Entrepreneurship Monitor project is an annual assessment of the entrepreneurial activity, aspirations, and attitudes of individuals across a wide range of countries.

Source: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor database (www.gemconsortium.org/data)

6.2.4 New business density

New corporate registrations (per 1,000 working-age population) | 2014

New business density is defined as the number of newly registered corporations per 1,000 working-age population (between 15 and 64 years old).

Source: World Bank, *Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises* (http://www.doingbusiness.org/reports/global-reports/doing-business-2014)

6.2.5 Scientific journal articles

Number of scientific and technical journal articles (per million PPP$ GDP) | 2013

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 million PPP$ GDP.

Source: World Bank, World Development Indicators based on National Science Foundation, Science and Engineering Indicators, 2013; GDP data come from the International Monetary Fund, World Economic Outlook database, 2013

Appendix III

About the Contributors and Partners

About the Contributors

William Becker

William Becker is a Researcher at the European Commission's Competence Centre on Composite Indicators and Scoreboards. His work involves providing statistical and analytical support to policymaking in the European Commission, as well as performing theoretical research on composite indicators, particularly in the areas of uncertainty and sensitivity analysis. He has authored several book chapters and a number of journal articles, and lectures at international training courses in composite indicators and sensitivity analysis. Dr Becker holds a PhD and an MEng in Mechanical Engineering from the University of Sheffield, UK.

Tracey Burns

Tracey Burns is a Senior Analyst in the OECD's Centre for Educational Research and Innovation (CERI). She heads a portfolio of projects: Innovative Teaching for Effective Learning, Innovative Pedagogies for Powerful Learning, 21st Century Children, and Trends Shaping Education. Dr Burns holds a Bachelor of Arts from McGill University, Canada, and a Master of Arts and Doctor of Philosophy in Psychology from Northeastern University, USA. She is the recipient of numerous awards and honours, including the University of British Columbia Post-Doctoral Fellowship and the American Psychological Association Dissertation Research Award. Prior to joining the OECD she worked on social determinants of health and well-being. As a Post-Doctoral Fellow at the University of British Columbia, Dr Burns led a research team investigating newborn infants' responses to language, and was an award-winning lecturer on infant and child development.

Alain Dehaze

Alain Dehaze is CEO of the Adecco Group, the world's leading workforce solutions partner. Through its international brands Adecco, Modis, Badenoch & Clark, Spring Professional, Lee Hecht Harrison, Pontoon, Adia, and YOSS, the Adecco Group is making the future work for everyone. As a Fortune Global 500 Company, the Adecco Group connects 700,000 jobseekers with rewarding employment every day, helps 350,000 people yearly to transition to work, and supports more than 100,000 organisations with the talent, advice, and cutting-edge technology they need to succeed in an ever-changing and highly competitive global economy. With 33,000 full-time team members in 60 countries, the Adecco Group ranked 2nd on the 2017 World's Best Workplaces list, the only workforce solutions company in the top 25.

The 54-year-old Belgian national graduated as a Commercial Engineer from the ICHEC Brussels Management School before rising through the ranks at Henkel and ISS. He joined the workforce solutions sector in 2000, when he was appointed Managing Director of Creyf's Interim in Belgium. His path took him to the CEO position at Solvus, COO of USG People—when the latter took over Solvus—and CEO of the Dutch staffing services company Humares between 2007 and 2009. Mr Dehaze joined the Adecco Group in 2009 as a member of the Executive Committee, responsible first for Northern Europe, then for the Group's largest market, France, before taking on the CEO position in September 2015.

Mr Dehaze plays an active role in shaping the labour markets of tomorrow as Chair of the Global Apprenticeship Network (GAN), as a member of the ILO Global Commission on the Future of Work, and as Steward of the World Economic Forum's System Initiative 'Shaping the Future of Education, Work and Gender'. Before leading the Adecco Group, he held board positions at the sector level with the World Employment Confederation, including the Vice-Presidency of the World Employment Confederation Europe (formerly EUROCIETT).

Marcos Domínguez-Torreiro

Marcos Domínguez-Torreiro is a Research Fellow at the Competence Centre on Composite Indicators and Scoreboards (COIN) of the Joint Research Centre of the European Commission (Italy), where he conducts research and policy support tasks in the field of econometrics and applied statistics. After his undergraduate studies in Economics and Business Administration, he completed his doctoral thesis in Applied Economics at the University of Vigo, Spain. His past work experience includes the private sector, universities, and public administration. He has co-authored books and research articles dealing with finance, consumer behaviour, environmental and natural resource economics, rural development, and institutional economics.

Sylvia Ann Hewlett

Sylvia Ann Hewlett is an Economist and the Founder and CEO of the Center for Talent Innovation, where she chairs a private sector task force of more than 90 global companies focused on fully realising the new streams of talent in the global marketplace. She is the author of 14 *Harvard Business Review* articles, 13 critically acclaimed nonfiction books including *Winning the War for Talent in Emerging Markets; Forget a Mentor, Find a Sponsor* (named one of the best business books); and *Executive Presence* (an Amazon 'Best Book of the Month'). She has been recognised as the Most Influential International Thinker by *HR Magazine* and honoured by the European Diversity Awards with its Global Diversity Award. Dr Hewlett, who has taught at Columbia and Princeton Universities, earned her BA from Cambridge University and her PhD in Economics from London University.

Paul Evans

Paul Evans is the Academic Director of the Global Talent Competitiveness Index, Emeritus Professor of Organisational Behaviour at INSEAD, and the Shell Chair Professor of Human Resources and Organisational Development, Emeritus. His research and teaching focuses on three domains: (1) leadership and talent development, building on his pioneering research into executive lifestyles (*Must Success Cost So Much?*, translated into eight languages); (2) international human resource management, where his most recent book is *The Global Challenge: International Human Resource Management;* and (3) multinational organisational development. He has launched and directed many executive programmes at INSEAD and has taught courses as a visiting professor at universities in North America, Europe, Russia, Brazil, and China, winning awards for his teaching and research.

Dr Evans was titular professor at the European Institute for Advanced Studies in Management in Brussels in recognition for his work in building scholarly networks in human resources in Europe. He has a PhD in Management and Organisational Psychology from MIT, an MBA from INSEAD, and is a graduate in Law from Cambridge University. He has been chairman of INSEAD's Organisational Behaviour Area for successive periods, also heading Executive Education at INSEAD for two years. Dr Evans has been an advisor to 200 multinational organisations across the world, including in the public sector, has created numerous forums for top executive exchange, and is a frequent speaker at international conferences and conventions.

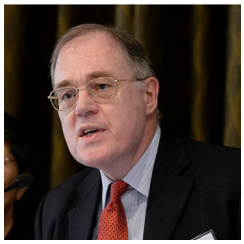
Vinod Kumar

Vinod Kumar is the Chief Executive Officer and Managing Director of Tata Communications, part of the $100.39 billion Tata Group. He joined Tata Communications in April 2004, just as the company was embarking on its journey of international growth, and has been at the forefront of Tata Communications' transformation from a traditional connectivity services provider, largely based in India, to a truly global services provider, offering a broad range of managed communication and collaboration services as well as IT infrastructure services.

With 25 years of experience in the global telecom industry, Mr Kumar has an impressive track record in developing business strategies and creating fast-growth organisations across the globe. Prior to joining Tata Communications, he was a Senior Vice President with Asia Netcom from 2002 to 2004, where he was responsible for strategy formulation, product marketing, and sales. From 1999 to 2002, he worked with WorldCom Japan as its Chief Executive Officer. Prior to this, he held various senior positions with Global One and Sprint International in the United States and Asia.

Mr Kumar has served as a Director of the Human Capital Leadership Institute Pte Ltd, York Transport Equipment (Asia) Pte Ltd, Qubit Investments Pte Ltd, and Strategy Advisor & Consultant of UST Global (Singapore) Pte Ltd, among several others. He is also a member of the Business Sector Advisory Council for UN Women.

Mr Kumar graduated with honours in Electrical and Electronic Engineering from the Birla Institute of Technology and Science in India and currently lives in Singapore.



Bruno Lanvin

Bruno Lanvin is the Executive Director of INSEAD's Global Indices (the Networked Readiness Index of the Global Information Technology Report, the Global Innovation Index, and the Global Talent Competitiveness Index). Before joining INSEAD, he worked for the World Bank, where he was inter alia 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.

Since 2002 he has been co-authoring the *Global Information Technology Report* (INSEAD-World Economic Forum); he is currently (and has been since 2007) the co-editor of the *Global Innovation Index Report* (INSEAD-WIPO-Cornell University).

From June 2001 to December 2003, he was the Manager of the Information for Development Program (infoDev) at the World Bank. In 2000, Dr Lanvin was appointed Executive Secretary of the G8-DOT Force. Until then, he occupied several high-level positions at the United Nations in Geneva and New York, including that of Chief of Cabinet of the Director General.

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). 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).

Ripa Rashid

Ripa Rashid is Managing Partner at Hewlett Consulting Partners and Co-President at the Center for Talent Innovation, specialising in global talent strategies. She spent over a decade as a management consultant with leading global firms, including Booz & Company (now Strategy&), PwC, and Mitchell Madison Group, and held senior positions at MetLife and Time Warner. Co-author of *Winning the War for Talent in Emerging Markets: Why Women Are the Solution* (Harvard Business Review Press, 2011); *Asians in America: Unleashing the Potential of the 'Model Minority';* the book *Growing Global Executives: The New Competencies* (Center for Talent Innovation, 2015); and *Disrupt Bias, Drive Value* (Center for Talent Innovation, 2017) as well as numerous reports and whitepapers, she has been featured by Fox News, Bloomberg, *Newsweek, The Times of India, Hindustan Times,* the *South China Morning Post,* and China Radio International, among other international media. Ms Rashid has lived and worked in North America, Europe, Asia, and South America, and speaks four languages. She earned an AB cum laude in Astronomy and Astrophysics from Harvard University, an MA in Anthropology from New York University, and an MBA from INSEAD.

Eduardo Rodriguez-Montemayor

Eduardo Rodriguez-Montemayor is part of the Economics Department at INSEAD and Lead Researcher of the Global Talent Competitiveness Index. He leads, in partnership with global companies and policymakers, the intellectual approach and execution of projects related to economic policy, labour and organisational economics, and innovation/technology. He consults for the OECD, the United Nations Environment Programme, and the Inter-American Development Bank (working at the headquarters in Washington, DC) and has been actively involved in the European Commission's Digital Agenda Assembly.

Dr Rodriguez-Montemayor previously worked in the Mexican financial sector for the Pensions Commission, CONSAR (a regulatory body), and for the Inter-American Conference of Social Security.

He holds a PhD in Economics from the University of York in the United Kingdom and also obtained an MSc in Economics and Management from the University Pompeu Fabra in Spain and a degree in Economics from the Universidad Autonoma de Nuevo Leon in Mexico.

Michaela Saisana

Michaela Saisana leads the European Commission's Competence Centre on Composite Indicators and Scoreboards (COIN) at the Joint Research Centre in Italy. She conducts and coordinates research on the monitoring of multidimensional phenomena that feed into EU policy formulation and legislation. She collaborates, by auditing performance indices, with over 100 international organisations and world-class universities, including the United Nations, UNICEF, Transparency International, the World Economic Forum, INSEAD, the World Intellectual Property Organization, Yale University, Columbia University, and Harvard University. Her publications deal with composite indicators, multi-criteria analysis, multi-objective optimisation, data envelopment analysis, and sensitivity analysis (20 peer-reviewed articles, 2 books, and 60 working papers). She provides regular trainings/seminars on composite indicators (over 30 trainings and 60 invited lectures). In 2004 she was awarded the European Commission's JRC Young Scientist Prize in Statistics and Econometrics in recognition of her research on composite indicators. She has a PhD and an MSc in Chemical Engineering.

Laura Sherbin

Laura Sherbin is Co-President at the Center for Talent Innovation and Managing Partner at Hewlett Consulting Partners. She is an economist specialising in the creation of competitive advantage through inclusion and diversity. She taught 'Women and Globalization' at the School of International and Public Affairs at Columbia University, and is a co-author of *Harvard Business Review* articles 'How Diversity Can Drive Innovation'; 'How Gen Y and Boomers Will Reshape Your Agenda'; 'Off-Ramps and On-Ramps Revisited', and *Harvard Business Manager* article 'Letzte Ausfahrt Babypause' as well as *Harvard Business Review* Research Reports *The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology* and *The Sponsor Effect: Breaking Through the Last Glass Ceiling,* and CTI reports including *Executive Presence; Latinos at Work: Unleashing the Power of Culture;* and, most recently, *Disrupt Bias, Drive Value.* She is a graduate of the University of Delaware and earned her PhD in Economics from American University.

Dirk Van Damme

Dirk Van Damme is Head of Division in the Directorate for Education and Skills at the OECD in Paris. He holds a PhD in Educational Sciences from Ghent University and is also Professor of Educational Sciences in the same university (since 1995). In his academic career he was also part-time Professor in Comparative Education at the Free University of Brussels (1997–2000) and Visiting Professor of Comparative Education at Seton Hall University, New Jersey, USA (2001–08). His main academic work has focused on the history of education, comparative education, lifelong learning, and international higher education. He has also served in various positions in the field of education policy in the Flemish part of Belgium, among others as General Director of the Flemish Rectors' Conference, and as Deputy and Chief of Staff of various Flemish education ministers. He was responsible for developing and implementing policies focusing on equality of opportunity in education and the implementation of the Bologna Declaration in Belgium. His current interests are evidence-based innovation in education, comparative analyses of educational systems, open education, and quality issues in higher education. At the OECD he is responsible for the Skills Beyond School (SBS) division, covering work on skills, adult learning, vocational education, and higher education. He is also the Directorate's focal point for the OECD's Inclusive Growth Initiative.

About the Partners

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As one of the world's leading and largest graduate business schools, INSEAD brings together people, cultures, and ideas to change lives and to transform organisations. A global perspective and cultural diversity are reflected in all aspects of its research and teaching.

With campuses in Europe (France), Asia (Singapore), and the Middle East (Abu Dhabi), INSEAD's business education and research spans three continents. The school's 145 renowned faculty members from 40 countries inspire more than 1,400 degree participants annually in its MBA, Executive MBA, Executive Master in Finance, Executive Master in Consulting and Coaching for Change, and PhD programmes. In addition, more than 11,000 executives participate in INSEAD's executive education programmes each year.

In addition to INSEAD's programmes on its three campuses, INSEAD participates in academic partnerships with the Wharton School of the University of Pennsylvania (Philadelphia & San Francisco); the Kellogg School of Management at Northwestern University near Chicago; the Johns Hopkins University/SAIS in Washington, DC; the Teachers College at Columbia University in New York; and the MIT Sloan School of Management in Cambridge, Massachusetts. In Asia, INSEAD partners with the School of Economics and Management at Tsinghua University in Beijing and the China Europe International Business School (CEIBS) in Shanghai. INSEAD is a founding member in the multidisciplinary Sorbonne University created in 2012, and also partners with Fundação Dom Cabral in Brazil.

INSEAD became a pioneer of international business education with the graduation of the first MBA class on the Fontainebleau campus in Europe in 1960. In 2000, INSEAD opened its Asia campus in Singapore. And in 2007 the school began an association in the Middle East, officially opening the Abu Dhabi campus in 2010.

Around the world and over the decades, INSEAD continues to conduct cutting-edge research and to innovate across all its programmes to provide business leaders with the knowledge and sensitivity to operate anywhere. These core values have enabled INSEAD to become truly 'The Business School for the World'.

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