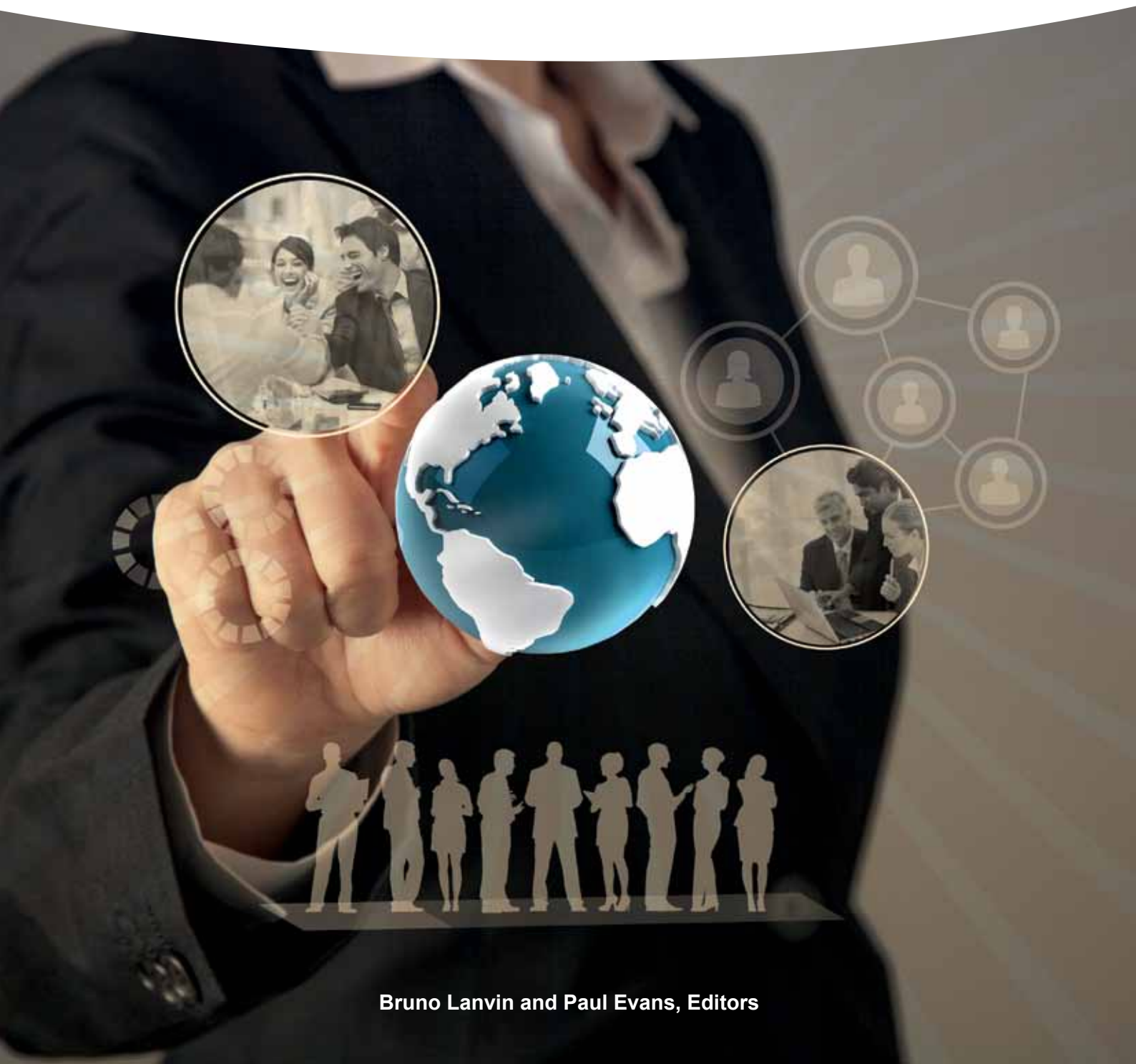


# The Global Talent Competitiveness Index

*Talent Attraction and International Mobility*

# 2015-16





# The Global Talent Competitiveness Index 2015-16

**Bruno Lanvin and Paul Evans, Editors**

INSEAD (2015): The Global Talent Competitiveness Index 2015-2016, Fontainebleau, France.

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

First edition, printed December 2015.

© INSEAD, ADECCO and HCLI 2015. The information contained herein is proprietary in nature and no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of INSEAD, ADECCO and HCLI.

978-2-9522210-9-2

Designed by Novus Media Solutions Pte Ltd, Singapore and printed by INSEAD, Fontainebleau, France.



# CONTENTS

---

<b>Preface</b>	7
Bruno Lanvin, Executive Director for Global Indices, INSEAD	
Paul Evans, Academic Director of the Global Talent Competitiveness Index, and The Shell Chair Professor of Human Resources and Organisational Development, Emeritus, INSEAD	
<b>Foreword</b>	11
Alain Dehaze, Chief Executive Officer, The Adecco Group	
<b>Foreword</b>	13
Wong Su-Yen, Chief Executive Officer, Human Capital Leadership Institute	
<b>Advisory Board and INSEAD GTCI Team</b>	15

## CHAPTERS

---

<b>Chapter 1:</b> Attracting and mobilising talent globally and locally	19
Bruno Lanvin, Paul Evans and Eduardo Rodriguez-Montemayor, INSEAD	
<b>Chapter 2:</b> Mobilising talent to boost prosperity	61
Alain Dehaze, The Adecco Group	
<b>Chapter 3:</b> The ASEAN integration: boon and bane for talent mobility	69
Don JQ Chen and Wong Su-Yen, Human Capital Leadership Institute	
<b>Chapter 4:</b> Talent mobility for regional competitiveness: the case of the Basque Country	81
Leire Lagunilla and Ivan Jimenez, bizkaia:talent	
<b>Chapter 5:</b> International mobility and talent attraction: a research commentary	93
Paul Evans and Eduardo Rodriguez-Montemayor, INSEAD	
<b>Chapter 6:</b> JRC statistical audit on the Global Talent Competitiveness Index 2015–16	111
Michaela Saisana and Marcos Domínguez-Torreiro, The European Commission Joint Research Centre (JRC)	

## COUNTRY PROFILES

---

<b>How to Read the Country Profiles</b>	131
<b>Country Profiles</b>	132

## APPENDICES

---

<b>Technical Notes</b>	245
<b>Sources and Definitions</b>	249
<b>Data Tables</b>	261
<b>About the Contributors and Partners</b>	337



## PREFACE

---

Since the release of the last edition of the Global Talent Competitiveness Index in January 2015 in Davos, Switzerland, much has changed with regards to talent migration, labour markets, and talent development and flow. Over the last 12 months, the many presentations that were made of the report's findings around the world have generated significant comments and reactions from governments, business and academia. Such high-level and multi-sector interaction confirmed that (1) GTCI is an important and useful tool for those who are in charge of talent policies and strategies – internationally and nationally, in the private sector context as well as the sphere of government; (2) the notion of 'talent competitiveness' that GTCI introduced has started to enter the vocabulary of government and business leaders around the world, who see it as a core ingredient of prosperity; and (3) the linkages between the 'micro' and 'macro' components of talent competitiveness, one of the hallmarks of GTCI, need to be further explored to enhance collaboration between government and business in the area of job creation and people-centred growth.

Last year's report highlighted some key messages that stimulated action-oriented debates in all parts of the world. For example, the focus on the importance of vocational skills in building a balanced and sustainable national talent policy has been picked up by key players and influencers, now emerging as a lynchpin in many policy approaches to employment, innovation and sustainable growth. Similarly, when GTCI 2014 stressed that "technological change would affect new segments of the labour market, implying changes in the required profiles and employable skills", it found a strong echo in the reactions raised by new employment practices promoted by Uber, for instance.

This new edition of the GTCI report includes several innovations. The model itself, which has proved to be robust, has not been significantly modified; its data and country coverage have continued to improve, allowing the report to cover 109 countries (as opposed to 93 last year), and some variables have been redistributed across pillars and sub-pillars of the model in order to increase their impact on the overall GTCI. While the chapters, as from the outset, reflect views from both government and business, two new elements in the report have been introduced, namely (1) a research chapter, and (2) a regional chapter. The research chapter ('International mobility and talent attraction: a research commentary') provides an overview of current scholarly research by academic experts in the field of our focus this year, some of whom were contacted and

interviewed by the GTCI team. The topic of high-skilled migration has attracted a lot of research attention during the last decade, and this chapter provides a synopsis of some of its main conclusions – nations have to do a much better job of disaggregating high-skilled and non-skilled immigration policies, embracing a globalised world of brain circulation. The regional chapter ('Talent mobility for regional competitiveness: the case of the Basque Country') offers a new angle on talent competitiveness, given that cities and regions are increasingly articulate in forming their own talent policies.

The theme of this year's GTCI report, 'Talent Attraction and International Mobility', focuses the attention of readers on key dimensions of talent competitiveness that are critical for the ability of countries to chart a sustainable course between economic, social and political imperatives. For example, the recent flood of international migrants in parts of the world characterised by both political instability and major economic disparities between contiguous regions (between large portions of the Middle East, Africa and Europe, but also between Central America and North America) has become a critical factor in local politics. The chapter by our partner, Singapore's Human Capital Leadership Institute (HCLI), outlines the dilemmas that migration creates in the ASEAN union that is taking shape. A short-term view of the 'cost of immigration' must be counterbalanced by both a disaggregated view of the broad migration concept and longer-term analysis of the benefits of international mobility – the contribution of immigrants to the growth and innovativeness of the US economy cannot be overrated, for example, and the same can be said of many other countries around the world.

As globalisation deepens, talent mobility becomes an important element of dynamism, innovativeness and competitiveness. This is a matter that national governments, and also regional and municipal leadership, need to address in practical ways, focusing on both the immediate concerns of their constituencies (creating and attracting jobs, alleviating poverty and income disparities, improving quality of lives) as well as what should be the longer-term interests of their citizens – building the basis for sustainable growth, peaceful cross-border relations, and opportunities for younger generations.

As in previous years, GTCI has continued to benefit from the precious support of its partners and sponsors in government, business and academia. The Adecco Group and HCLI have remained strong and active supporters of GTCI. Our gratitude goes not only to them, but also to

## PREFACE

---

all the individuals, institutions and organisations who have contributed chapters to the present edition, and to those who participated in the many streams of discussions and consultations since the launch of GTCI 2014. As in previous years, we wish to direct special thanks to the European Commission Joint Research Centre (JRC), who continued their 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. It is composed of remarkable individuals who, in spite of heavy schedules, have always remained ready to help improve the quality and dissemination of GTCI.

Our sincere hope is that this new edition of the GTCI report will continue to generate the high-quality feedback and dialogue that we have enjoyed with our readership, bringing its own stone to the edifice of turning talent into a tool of global prosperity.

### **Bruno Lanvin**

Executive Director for Global Indices, INSEAD

### **Paul Evans**

Academic Director of the Global Talent Competitiveness Index, and The Shell Chair Professor of Human Resources and Organisational Development, Emeritus, INSEAD





## THE ADECCO GROUP | FOREWORD

The world of work is changing faster than ever. Economics, technology, demographics, sociological trends and government policies are reshaping global labour markets and determining how we will work for years to come. Considering most people spend the bulk of their time – and therefore a very significant proportion of their lives – at work, such changes are seminal to us all.

Those five drivers underpin five key trends for the workforce of tomorrow. Mobility is becoming ever more important to employer and employee alike, while ‘hyper-connectivity’ is making the location of work less relevant. Ageing population challenges make inclusion another salient development, with ever more emphasis on diversity in the workplace.

The workers of tomorrow will also be much more autonomous in terms of attitude – not just because of all those communications gadgets in their pockets. The result will be a new ‘work-life blend’, in which a job extends beyond traditional working hours and spaces with employees taking total control over their schedules and environments. Finally, with greater volatility and flexibility the norm, tomorrow’s workers will have a distinctly different approach from their predecessors, most evident through an increased emphasis on purpose in job selection.

Against this background, what are the key recommendations for countries and businesses in need to attract the best talents to boost their competitiveness?

This year, the third Global Talent Competitiveness Index (GTCI), produced jointly by INSEAD, Adecco and Singapore’s Human Capital Leadership Institute, shows the key role of openness for talent attraction. So appropriately at a time of dramatic images of human masses in transit, the latest GTCI focuses above all on talent mobility. And mobility, it stresses, today does not just mean human flows, but a wealth of new opportunities, often enabled by the latest technology, alongside developing management practices.

‘Brain circulation’ becomes a more appropriate term than ‘brain gain’ or ‘brain drain’ in defining the potential benefits for the countries of destination, transit and origin alike. Mobility also means seizing opportunities to boost knowledge and expertise in ways unimaginable even recently – just think of the vast numbers of students now following online courses and lectures offered by leading seats of learning. Meanwhile, for employers, mobility no longer means just traditional expatriate placements, but also moving jobs to where talented people are located. And, in order to be competitive in attracting talent, countries need to rely on their companies’ ability to embrace professional management practices and

fast and relevant career development opportunities, as demanded by the most promising young people of today.

For Millennials in particular, mobility has become a key factor in selecting a potential career path and in choosing an appropriate employer. Mobility, it is clear, helps to develop talent, and thereby deserves specific attention and investment from countries and businesses. Companies – or countries – that fail to notice these signals will pay the price.

This redefinition of mobility is essential to understanding the prominence of those countries that are establishing themselves as the world’s talent champions. As in previous years, the 2015 top rankings show high-income nations, like Switzerland, Singapore and Luxembourg, dominating the top scores. North America and northern Europe again feature prominently, as do New Zealand and Australia – all economies with a long-standing tradition of immigration.

With its array of insights and global scope, GTCI is an action tool for continuous improvement in linking talent to economic development, and an instrument to stimulate dialogue between governments, business, academia, professionals and citizens. This report helps us understand the broader issues behind talent competitiveness and the shifting forces at work in the market, enhancing our ability to serve the thousands of companies that are our clients around the world, and the hundreds of thousands of jobseekers who come to us for help and advice at every stage in their careers.

So what are the messages for regulators and for employers around the world, based on the latest findings? For regulators and governments, structural reforms to remove barriers and bureaucracy and simplification of labour markets remain paramount, along with reducing taxes on labour, boosting education and training where necessary, and supporting start-ups.

Employers meanwhile need to boost diversity and training, fostering intercultural environments and a culture of exchange, so all can benefit. They should invest in technology in general, and hyper-connectivity in particular, boosting mobility and flexibility. Companies should also take steps to facilitate autonomy and networking among members of staff. And beyond pure physical mobility, they should work to nurture a broader mobility mindset – a set of goals essential in today’s increasingly fluid and challenging competitive landscape. For if there is one message above all from this year’s GTCI, it is the importance of mobilising talent to boost prosperity.

**Alain Dehaze**

*Chief Executive Officer, The Adecco Group*





## HUMAN CAPITAL LEADERSHIP INSTITUTE | FOREWORD

---

The Human Capital Leadership Institute (HCLI) is delighted to partner with INSEAD and the Adecco Group once again in the third edition of the Global Talent Competitiveness Index (GTCI). This year's theme of 'International Mobility and Talent Attraction' is of significant relevance to Asia and ASEAN.

China and India, two of the largest economies in Asia, are net exporters of talent. In an estimate by the Chinese Academy of Social Sciences, there are no less than 35 million mainland Chinese working abroad outside of China, making Chinese the largest group of migrant workers in the world. Although a sizable proportion of the Chinese diaspora comprises transient workers employed in vocational occupations, a fairly large number of these transnational workers are highly educated knowledge workers with post-graduate degrees in engineering, sciences and ICT, who are working permanently in developed countries such as the United States, Canada and Australia. India shares the same story. In 2014, according to India's Ministry of Overseas Indian Affairs, there are no less than 28 million Indian nationals working outside India, with a majority of them employed in the Middle East, Southeast Asia and Oceania. In ASEAN, the Filipinos form the largest migrant worker group. In 2014, the Philippine diaspora is estimated to be at 2.3 million people and contributing approximately US\$3.7 billion in remittances to the Philippines' economy.

Although Asian countries are traditionally known to be exporters of talent, there has been a shift in talent flow in the recent years. Increasingly, talent who have left their country of origin are returning home to Asia, bringing with them valuable global experience, knowledge, skills, expertise, and networks. This 'look East' phenomenon is not limited to Asian returnees. Highly mobile global talent are also looking towards Asia for their next career break. As Ignasius Jonan, Indonesia's incumbent Minister of Transport, has shared in HCLI's flagship programme, the Singapore Business Leaders' Programme, the axiom today is to "look West for world-class education and look East for a global career". This statement adeptly describes the attractiveness of Asia and ASEAN for both Asian and global talent alike.

The reverse diaspora and the movement of talent from West to East can be summed up by two global trends. First, the sluggish economic outlook in Europe and North America that shows no sign of abating has pushed fleet-footed and highly mobile talent to look for career opportunities in Asia. Second, sustained economic growth of the last decade and increased purchasing power of Asian countries have driven up the consumption and demand for goods, products and services, making Asia an important and untapped market for multinationals.

The expansion of Western multinationals into Asia through joint ventures/greenfield investments and the rise of Asia-based multinationals have pulled talent who are looking for career challenges to relocate to this part of the world. While career and economic opportunities are traditionally the key determinants of talent flow and location attractiveness, they are, as demonstrated by GTCI, merely part of a complex set of factors that affect talent movement patterns.

In HCLI's chapter on the ASEAN Economic Community (AEC) and talent mobility, we explore how the formation of AEC will impact talent movement within ASEAN and the dominant social, economic, and political factors that affect the attractiveness of ASEAN countries to talent in the region. We believe that the determinants of talent movement and location attractiveness are hugely complex and are mired in a tightly intertwined network of push and pull factors. There are no simplistic explanations for why talent relocate and what makes them move to a particular geographical location. Our chapter attempts to offer an initial glimpse into what might affect those movements.

Together with the GTCI team from INSEAD and the Adecco Group, HCLI sincerely hopes that this third edition of GTCI will stimulate conversations around talent movement and continue to provide policymakers and company executives with deep insights on the global talent landscape.

**Wong Su-Yen**

*Chief Executive Officer, Human Capital Leadership Institute*



## GTCI 2015–16 ADVISORY BOARD

---

### **Talal Abu-Ghazaleh**

Founder and Chairman, Talal Abu-Gazaleh Organization

### **Thierry Breton**

Chairman and CEO, Atos; former Minister of the Economy, Finance and Industry for France

### **Peter Cappelli**

George W. Taylor Professor of Management and Director, Center for Human Resources at Wharton, University of Pennsylvania

### **Yoko Ishikura**

Professor Emeritus, Hitotsubashi University; former Senior Manager at McKinsey Tokyo

### **Mats Karlsson**

Director, The Swedish Institute of International Affairs

### **Arnoud De Meyer**

President, Singapore Management University

### **Vineet Nayar**

Founder, Sampark Foundation; former CEO of HCL Technologies

## INSEAD GTCI TEAM

---

### **Bruno Lanvin** (Executive Director)

Executive Director for Global Indices

### **Paul Evans** (Academic Director)

Emeritus Professor of Organisational Behaviour and Shell Chair Professor of Human Resources and Organisational Development, Emeritus

### **Eduardo Rodriguez-Montemayor** (Lead Researcher)

Senior Research Fellow, INSEAD Economics Department

### **Karessa Malaya Ramos Aguinot** (Project Manager, Mar 2014–Sep 2015)

Research Associate, Global Talent Competitiveness Index

### **Béatrice Melin** (Project Manager, Sep 2015–Jan 2016)

Research Associate, ISEP and Global Talent Competitiveness Index



# CHAPTERS



## CHAPTER 1

# ATTRACTING AND MOBILISING TALENT GLOBALLY AND LOCALLY

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

“No other force – not trade, not capital flows – has the potential to transform lives in sustainable, positive ways and on the scale that migration does.”

*Peter Sutherland, United Nations Special Representative of the Secretary-General for International Migration*

Last year's Global Talent Competitiveness Index (GTCI 2014) identified as one of its key messages that “openness is a key ingredient to talent competitiveness”. It also underlined that “technological changes will affect new segments of the labour market”. Recent events, particularly in Europe, have shown that demographic, political and economic disparities

can generate massive migration flows, which challenge local equilibria. The complex interplay between those forces (economic, political, technological) contributes to the emergence of an unprecedented international landscape, in which competition for talent takes new shapes.

## REDEFINING MOBILITY AND JOBS

Mobility is being redefined on a global scale due to a combination of economic and technological factors. This redefinition applies to all dimensions of the talent equation: skills, people and jobs. Skills have become more mobile across space and time, as learning opportunities have spread between geographies (e.g., through online education and training) and between generations (through lifelong learning and mentoring for example). People have become more mobile across borders because of improvements in transport (airline passengers grew from 2 billion in 2006 to a projected 3.6 billion in 2016<sup>1</sup>), but also in telecommunications (allowing in particular a global sharing of knowledge about opportunities and living conditions abroad). Finally, jobs have become more mobile thanks to the advent of global virtual teams and teleworking – captured by the idea that “jobs will go to where people are, rather than people going to where jobs are”. Such a massive redefinition of mobility (and of the relationship between different types of mobility, notably between goods, services, capital and labour) is making talent attraction a key objective for all kinds of economies, whatever their levels of development. International mobility of talent is a core dimension of any national (or regional) strategy, as it will largely determine the ability of countries, regions and cities to connect to globalised value chains and develop successful strategies for sustainable growth.

In such a context, attracting the right talents will be key to how successful national economies can be at implementing their economic strategies. For a majority of emerging and developing economies, where information networks are still a work in progress, the issue will largely rely on physical flows of talented people, whether these are outgoing or incoming flows.

In the vision of a ‘global competition for talents’, competition is far from perfect. Talent markets are highly segmented (markets for corporate financial skills are clearly distinct from those relevant to IT technicians or aircraft pilots), and subject to many distortions and barriers to entry (for example, regulations affecting labour markets have a direct impact on the final cost of such skills; the presence or absence of education structures, or that of career and networking opportunities). In other words, when assessing who will be better positioned to win or lose in the global competition for talent, one could not expect that all relevant factors will be quantifiable. This is an important reason why the GTCI model was defined from the start as a ‘holistic’ approach to talent competitiveness, mixing qualitative and quantitative aspects of labour, skills and talent.

In today’s world, few dimensions of talent flows are characterised by so many political, social and psychological dimensions as that of international migration. This is why it is the subject of special attention in the present report.

## Reconsidering the Merits of Migrations

In its resolution 69/229, adopted on 19 December 2014, the United Nations General Assembly underlined “the important role that migrants play as contributors in the development of origin, transit and destination countries”. Traditional thinking about migrations had often focused on benefits to countries of destination. The consideration of ‘mutual benefits’ to both country of origin and country of destination – and even to countries of transit – is a novel and promising approach.

The same resolution also considered it important to take into account the benefits (and needs) for both categories of talents covered by GTCI, namely ‘high-level skills’ (Global Knowledge, in GTCI terminology) and ‘low-level skills’ (Labour and Vocational, in GTCI), respectively in its paragraphs 11 and 12:

11. *Recognises that it is necessary to consider how the migration of highly-skilled persons, especially in the health, social and engineering sectors, affects the development efforts of developing countries, and emphasises the need to consider circular migration in this regard;*
12. *Also recognises the importance of enhancing the capacities of low-skilled migrants in order to increase their access to employment opportunities in countries of destination*

These points will be explored further in this report, where notions such as ‘brain drain’, ‘brain gain’ and ‘brain circulation’ are discussed.

## THE RACE FOR BRAINS Disaggregating Migration

Immigration has hit the headlines of the world press this year, but this should not blind us to the enormous role that migration has played in the development of many economies in the world, including leaders in talent competitiveness.

Focusing on the recent past, large-scale international migration surged since the 1970s, reshaping the global economy.<sup>2</sup> Despite a slow down during the post-2008 economic crisis, migration flows are back to, or even higher than the pre-crisis levels.<sup>3</sup> Figure 1 on migration flows in the five years spanning 2005 to 2010 shows the pattern of global migration flows between world regions. While much migration takes place within regions, the European region was the biggest receiver of migrants over these five years (8.9 million) while South Asia was the biggest sender, with 8.7 million emigrants. Although Europe currently faces the biggest global refugee crisis since the exodus of 800,000



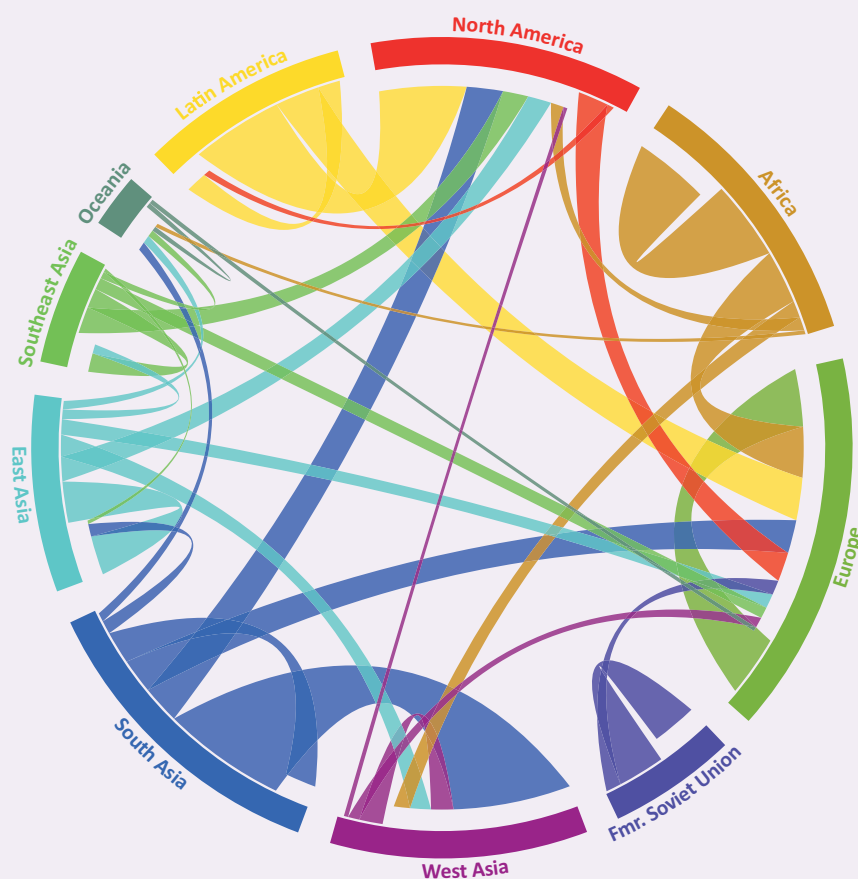
Vietnamese boat people between 1978 and the early 1990s,<sup>4</sup> most migration to Europe and OECD countries is still driven by economic motives – people seeking to improve their standard of living by gaining a better paid job, rather than refugees fleeing persecution and seeking asylum (Box A

provides a typology of migrants). Although migration flows between emerging countries are far from negligible, the flows of workers towards developed countries represent a higher proportion of total ‘economic’ migration (60%).<sup>5</sup> Such economic migrants reshape labour markets and businesses.

Figure 1: Migration flows within and between 10 world regions, in 100,000's (2005–2010)

This circular plot shows all global bilateral migration flows for the five-year period mid-2005 to mid-2010, classified into a manageable set of 10 world regions.

Key features of the global migration system include the high concentration of African migration within the continent (with the exception of Northern Africa), the ‘closed’ migration system of the former Soviet Union, and the high spatial focus of Asian emigration to North America and Gulf states.



Sources: “Quantifying global international migration flows,” by G. Abel and N. Sander, in *Science*, Vol. 343, March 28, 2014; “The Global Flow of People” by N. Sander, G. Abel and R. Bauer, [www.global-migration.info](http://www.global-migration.info).<sup>6</sup>

## BOX A

## THE TYPES OF MIGRATION

International migration is a broad and complex phenomenon. People moving across borders differ on four main dimensions (that can combined in different ways):

**Motive:** economic migrants (i.e., those seeking employment opportunities), family reunification, refugees

**Duration:** short-term or long-term (longer-term migration can be temporary or permanent)

**Skills:** low-skills or high-skills (with a wide spectrum of skills possible)

**Legal status:** legal migration with a visa or permit or illegal migration<sup>7</sup>

Economic migration is the most prevalent worldwide, though family reunification in certain countries such as Australia, the US, France and Sweden accounts for 35% of total migration. Economic migrants have diverse sets of skills. Some are people with fewer qualifications working in low-skilled service jobs or construction; others are high-skilled professionals that fill shortages in key sectors such as medical care or who seek a propitious environment of opportunity such as scientists, inventors and entrepreneurs.

Since precarious economic conditions in a given country particularly affect unskilled people, unskilled migrants would be more likely to seek to settle permanently in a host country (leaving aside temporary seasonal workers such as labourers in agriculture). The situation of high-skilled migrants is varied. Some professionals move abroad to engage in temporary projects (e.g., scientists visiting research institutions to advance their projects) whereas others seek to settle in the receiving country for a longer term (e.g., entrepreneurs who want to succeed in a 'Silicon Valley' technology cluster). Professionals on expatriate assignments that are part of an organisation's multinational staff-development or control strategy usually move for a shorter duration (i.e., these movements are more likely to be temporary).

Overall, international mobility of high skills is less and less regarded as permanent. Additionally, international students are not considered migrants but they are nonetheless part of the mobility of skills.

Migration has played a major role in the development of over half of the top 20 countries in GTCI – not only Switzerland (with 27% of its population being foreign-born) and Singapore (43% of its adults were born abroad), but also the US, Canada, New Zealand, Australia and Ireland. Figure 2 shows the percentage of the adult population currently living in OECD countries who were born abroad.

The top 20 countries on the External Openness sub-pillar of GTCI, scoring high on indicators of business attraction and people attraction, have different orientations to migration.<sup>8</sup>

- Three of the top countries attract migrants to *build the economy* – UAE, Qatar and Saudi Arabia – though few of these migrants consider the country as a long-term home. The migration is economic, long-term, but not permanent.
- This contrasts with *settlement countries* – Australia, Canada and New Zealand – where migration is multi-motive (economic, family reunification and refugee), but permanent. However, these countries

are today more selective, tending to focus on high-skilled immigration.

- Some countries have been long-standing *desirable destinations* with a selective priority given to the high-skilled – Singapore, Switzerland, Ireland and the United States. More and more migration to these countries is temporary – for study, a particular project, or mission.
- To this we can add countries that do not score high on all Openness indicators except for *international students* – Cyprus and Austria, also Barbados.
- Finally, we have some new *settlement countries* attracting talent from neighbouring regions as well as elsewhere – Costa Rica and Panama, as well as Jordan being an oasis in the turbulent Middle East.

The question of whether and how migration contributes to economic prosperity is a focus of considerable research –

and hot debate. In terms of GTCI data, there is a significant correlation of 0.75 between the External Openness score and GDP per capita. Aside from insular Japan, there are few high-income countries that score low on External Openness – Poland, Russia and Italy.

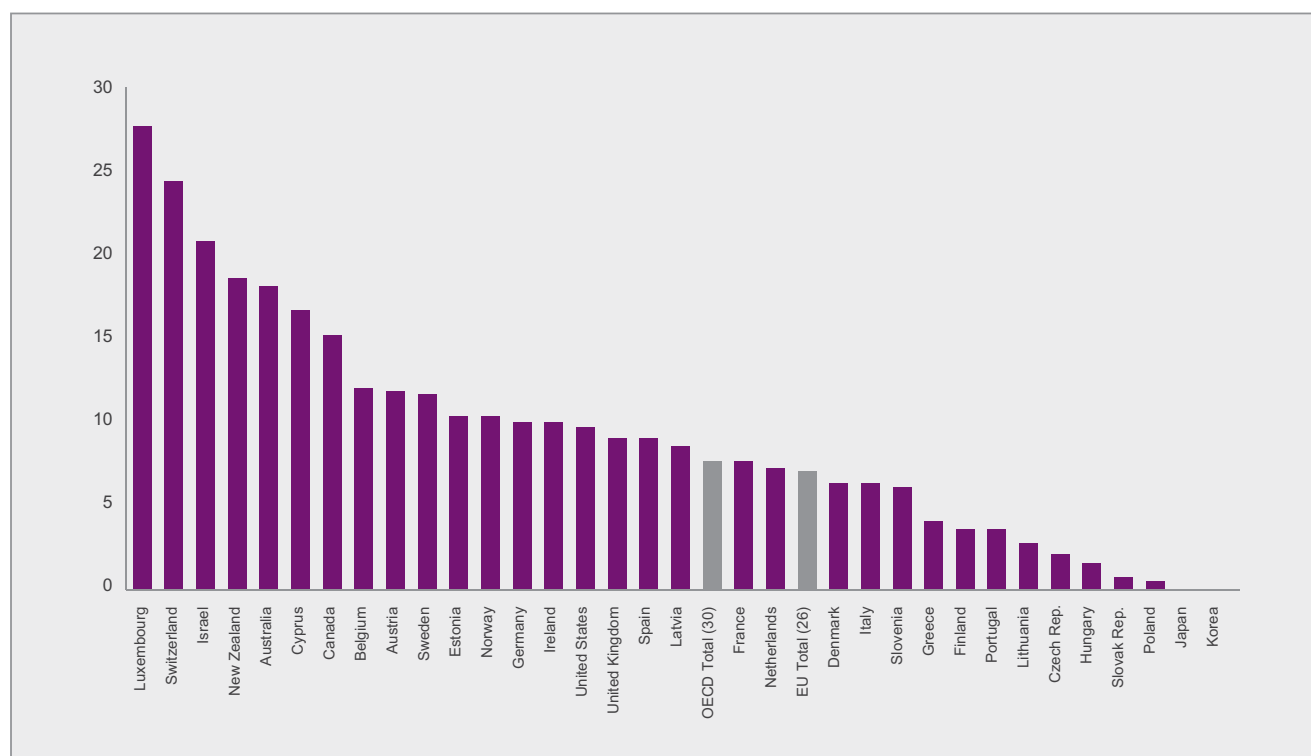
But to answer clearly the question of how migration contributes to prosperity, one has to disaggregate migration by its dimensions, as outlined in Box A. Focusing on economic migration, most relevant to the talent perspective, one can make two observations. First, the economics of high-skilled migration are clear (see Chapter 5). All the 20 countries above want to attract high-skilled migrants, as do others such as Chile with its ‘Chilecon Valley’ initiative. Most are becoming more selective in favour of that. Even the Nordic countries who in the past tended to consider migration from a humanitarian viewpoint are today seeking to attract high-skilled talent. Second, more and more migration is temporary (though in some cases of long duration as in the case of Gulf countries) rather than permanent, and we often think of this as mobility rather than migration. As we will see, **temporary economic mobility of high-skilled people** is the key to understanding the 21<sup>st</sup> century world of brain circulation.

At the vocational level of technical or professional skills, temporary or permanent immigration allows countries to fill skill gaps, and today this is controlled by point-based or job-based immigration policies. For example, there is a shortage of medical professionals in many developed countries, served

by doctors and nurses trained in the Caribbean, Sub-Saharan African countries or the Philippines. As countries develop, there is evidence that careers in science and engineering become less attractive,<sup>9</sup> and there has been a growing reliance in developed nations, notably the US, on recruiting foreign students and scientists from Asian countries where these disciplines are seen as the way ahead. By contrast, creative knowledge work revolving around innovation is qualitatively different. This is not a skill or trade that can be learnt at school. One has to keep in mind that innovation is about networks, linkages, bridges, ties that bring different strands of know-how, experience and opportunity together.<sup>10</sup> Mobility is more *intrinsic* to the development of global knowledge skills. As outlined in Chapter 5, a high percentage of entrepreneurs and innovators have origins abroad (see Box B) and there is even emerging evidence that mobile people have more creative problem-solving ability.

In a speech a few years ago, the CEO of GE, Jeff Immelt, gave INSEAD MBAs advice on how to become a leader of a multinational company that must stay at the forefront of global innovation. “First, learn and master a trade or a profession or a function so that you have an impact,” he told them. “And then if you want to be an innovative leader, get out of it – because otherwise your expertise will always trap you. And because we live in an unpredictable world that cannot be planned – that is the source of opportunity – learn, learn, learn!”

Figure 2: Countries with larger foreign-born populations: Foreign-born that arrived as adults, percentage of total population (2013 or latest year)



Source: OECD (2015)

### What Makes a Country Attractive?

Migration is the result of 'push' factors that lead people to emigrate and 'pull' factors that determine to where they wish to move. Chapter 3 on ASEAN integration examines these push and pull factors in the context of economic and social integration within 10 Asian countries.

On the push side, talented economic migrants come from many countries, right across the globe, and with

diverse economic motives. But they are pulled by a few desirable destinations – some of the European countries, the United States, Singapore, Australia and Canada.<sup>12</sup> The more one focuses on the high-skilled end of talent, the more this is true. Figure 3 shows the migration pattern for inventors, high on the list of attractive talent. The prime destination has been the United States.

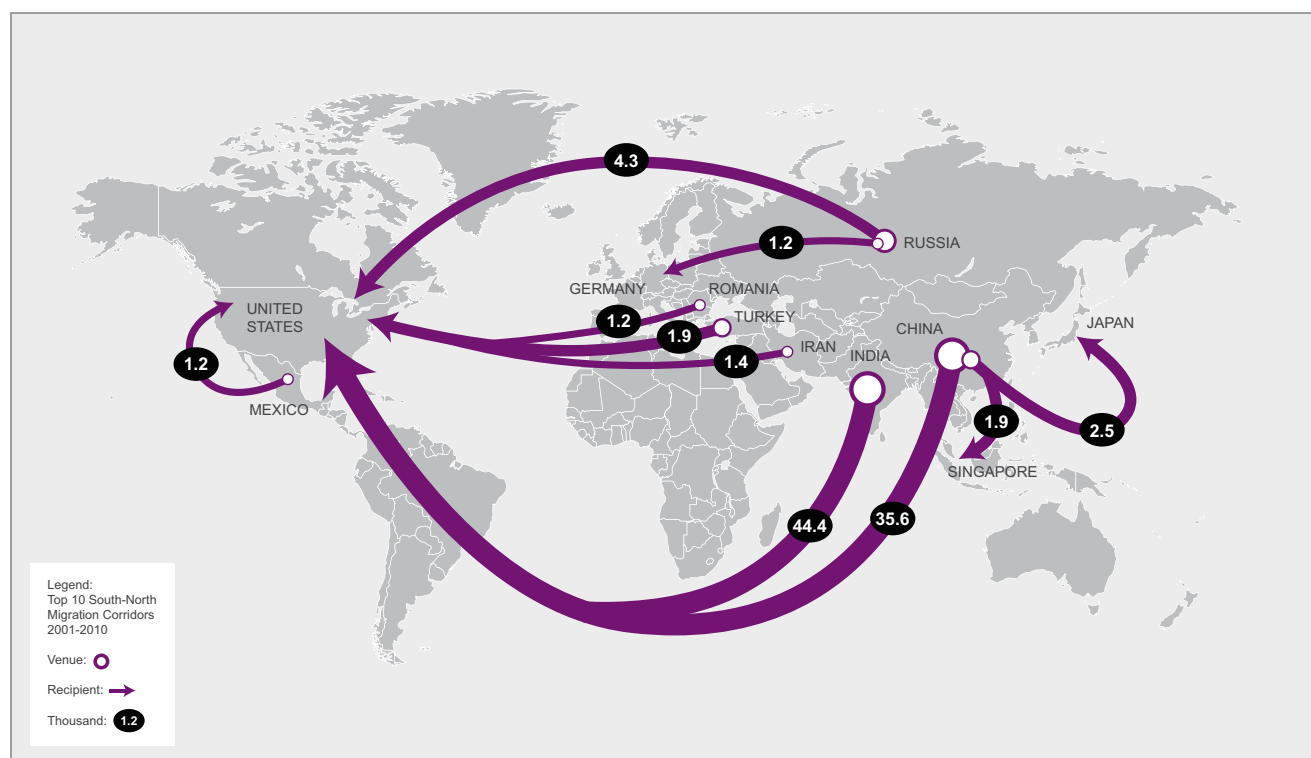
### BOX B

#### MANY SUCCESSFUL ENTREPRENEURS WERE BORN ABROAD

Shai Agassi, Co-founder and former CEO, Better Place	Israel → US
Ralph Alvarez, former President and COO, McDonald's	Cuba → US
Sergey Brin, Co-founder, Google	Russia → US
John Chen, Executive Chairman and CEO, BlackBerry	Hong Kong → US
Pehong Chen, CEO, President and Chairman, Broadvision	Taiwan → US
Steve Chen, Co-founder, YouTube	Taiwan → US
James Chu, Chairman and CEO, ViewSonic	Taiwan → US
Francisco D'Souza, CEO, Cognizant	Kenya → US
Mohamed al-Fayed, former Executive Chairman, Harrods	Egypt → UK
George Feldenkreis, Chairman, Perry Ellis International	Cuba → US
Carlos Ghosn, Chairman, President and CEO, Nissan	Brazil → France
Andy Grove, Co-founder and former Chairman, Intel	Hungary → US
Jen-Hsun Huang, CEO, Nvidia	Taiwan → US
Arianna Huffington, Co-founder and Editor-in-chief, Huffington Post	Greece → US
Sanjay Jha, CEO, GlobalFoundries	India → US
Jawed Karim, Co-founder, YouTube	Germany → US
Gail Kelly, former CEO, Westpac Banking Corp.	South Africa → Australia
Frank Lowy, Chairman, Westfield	Slovakia → Australia
Nadir Mohamed, former CEO, Rogers Communications	Tanzania → Canada
Indra Nooyi, CEO, PepsiCo	India → US
Pierre Omidyar, Founder and former Chairman, eBay	France → US
Paul Orefice, Chairman, Fairfield Homes	Italy → US
Vikram Pandit, former CEO, Citigroup	India → US
Haim Saban, Chairman and CEO, Saban Capital Group	Egypt → US
George Soros, Chairman, Soros Fund Management	Hungary → US
Lip-Bu Tan, Founder and Chairman, Walden International	Malaysia → US
James Wolfensohn, former President, World Bank	Australia → US
Jerry Yang, Co-founder and former CEO, Yahoo	Taiwan → US

(adapted from [http://www.bloomberg.com/ss/09/08/0821\\_most\\_successful\\_immigrants/](http://www.bloomberg.com/ss/09/08/0821_most_successful_immigrants/))

Figure 3: Migration corridors of inventors: Top 10 South-North flows



Source: WIPO 2013, Database of Migrant Inventors

Why are certain destinations, notably the US, so attractive to people? **Language and culture** has to head up the list of reasons. The desirable destinations are all countries where English is the native language or that of common usage; graduate programmes to attract high-level students are increasingly in English, whether they be in Seoul, Beijing, Stockholm or Dubai. **Opportunity** also features highly, captured in GTCI by many elements. The ease of starting a new business is one of them (*Ease of doing business* indicator), and the presence of clusters is another. **Pay and lifestyle** are clearly important, but counting more for talent retention – in terms of attraction they may be less important than factors linked more closely to talent development.

What is perhaps less widely recognised is that **management practices** matter significantly for the attraction and retention of talent. What looks like opportunity may prove to be illusory if management practices are not professional, and the frustrations of experienced returnees to their home countries testifies to this. Young talent looks for environments where they will develop rapidly. Research by INSEAD and Universum<sup>13</sup> shows that the millennial generation who will become the creative leaders of the future want to focus on growing and learning new things. Their single biggest fear is being stuck in a job with no development opportunities,

and nearly half of them would prefer no job rather than being in one they hate. One of the hallmarks of attractive cultures that is clear in GTCI data is that they place a strong emphasis on employee development (see Chapter 5). Additionally, cultures that value professionalism – where the merit of the person counts more than friendship or family connections – are similarly attractive to talent.

Indeed recent research of some economists suggests that management practices that are rooted in meritocracy and professionalism – paying close attention to recruitment of the right people, the setting of goals, the development of people to achieve those goals, and the measurement and reward of performance – have the potential to achieve substantially higher levels of productivity for a given level of human capital<sup>14</sup> (see Box C).

There is a wide heterogeneity across cultures on such GTCI measures of professional management (many nations are still held back by nepotism and patronage, indeed by corrupt and non-transparent practices) and on investment in employee development. American companies have cut back on investing in employee training and development since individuals can capitalise on this by selling their new skills to other companies.<sup>15</sup> Nations that score low here are less attractive

to talent, despite opportunity and rewards.<sup>16</sup> One example is the unattractive state-owned enterprise sector of China that has experienced difficulties in attracting Chinese returnees who have been educated abroad.<sup>17</sup> By contrast, the Nordic countries score particularly high on meritocracy, professional management and attention to employee development. One is tempted to reformulate the Horatio Alger aphorism: If you want to live the American dream, go Nordic!

Multinational companies tend to be professionally managed in all countries, markedly more so than government-owned or family companies with a family member as CEO, and they tend to transplant their management styles abroad. They have an important role to play in acting as a benchmark for management practices. But there has been an unfortunate tendency in recent decades for corporations to push the responsibility for talent development to the educational system and to individuals themselves, who often struggle in the development arena. In terms of thinking about talent management and sensible investment in employee development, one might look to the practices of Indian companies such as Infosys, Wipro, HCL and Tata whose talent needs have greatly surpassed available skills on the labour market. Companies in Singapore have also realised

that one cannot rely on the local educational system and hiring to take care of talent development.

A final element to note on what makes a country attractive is the **quality of educational opportunities**, notably higher education. Since education is the entry point into the talent pool, countries such as the US, Canada, Australia, the UK and France have been using higher education as way of attracting young people with high potential from countries around the world since few nations can afford a world-class educational system. Singapore has rapidly built a world-class educational infrastructure, China is attracting students from India and South Korea, and the Gulf nations are investing heavily here. South Korea, Cyprus and many other nations aspire to becoming educational hubs.

Worldwide, the number of 'migrants with mortarboards', as *The Economist* dubbed them, doubled to 4.3 million in the decade since 2000.<sup>22</sup> Today, the Chinese are the largest foreign contingent studying in the US; a slight decline in the number of Indian and South Korean students (in part because China has become more attractive as a place for study and in part because of US restrictions on work visas after graduation) is more than made up by the increase in Brazilian and Saudi students. The higher the level of study, the more

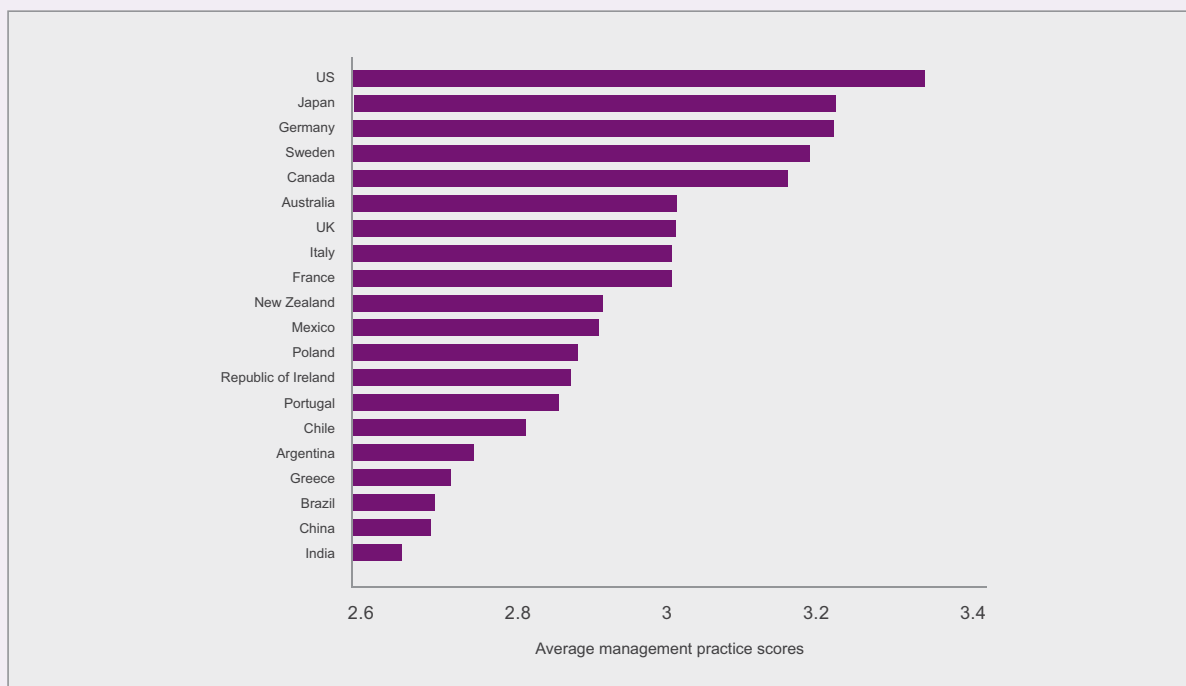
## BOX C

### MANAGEMENT PRACTICES MATTER FOR TALENT ATTRACTION

National productivity is driven by several factors, including access to skills, capital and technologies. One factor, typically neglected by traditional economists though obvious to most management experts, is that how things are managed is at the heart of productivity. Even companies with access to talent and technology can succumb to mismanagement.

The corporate benefits of some management practices are becoming increasingly clear: for the past decade a group of economists, including Nicholas Bloom of Stanford University and John Van Reenen of the London School of Economics, have been trying to bring some rigour to this issue by establishing an empirical link between management practices and economic outcomes. They have focused on commonly accepted professional management techniques – setting targets, rewarding performance, and measuring results. The economists conclude that good management is indeed tightly linked to improved corporate performance, measured in terms of productivity, profitability, growth and survival. Higher levels of productivity can be achieved for a given level of human capital. Good professional management is more like a methodology than merely an adjustment to circumstances.

One of the most interesting aspects of this research initiative is that management practices can be aggregated and compared at the country level. There is a substantial variation in management practices across organisations in every country and every sector, mirroring the wide spread of productivity and profitability within industries. So far the United States is the big winner in this respect (see the figure below). Management practices account for roughly a quarter of the 30% productivity gap between the United States and Europe.<sup>20</sup>



Different management practices can then be compared to diverse economic variables. For instance, stronger product market competition and higher worker skills are associated with better management practices. Less regulated labour markets are associated with improvements in incentive management practices such as performance-based promotion.<sup>21</sup>

Management practices embedded in performance and talent management have a strong influence on the bottom line – almost all multinational corporations subscribe to this view. Furthermore, foreign talent will be attracted to countries with a business management culture that rewards meritocracy and offers the prospects of upward career mobility (see GTCI evidence and more details in Chapter 5).

likely students are to remain in the country – two-thirds of foreigners who earn a doctorate in the US remain there after study.<sup>23</sup> It is a win-win situation. Foreign students, particularly at undergraduate levels, take useful skills and lessons on global citizenship back to their home countries, paying full fees for their education (contributing an estimated US\$24 billion to the American economy). Meanwhile the top students studying at higher levels stay on to fuel the talent pools of universities, R&D centres and innovation hubs searching for

inventors and entrepreneurs. They tend to study in fields like engineering, mathematics and science where the US (and indeed most developed nations) has skill shortages.

The historic success of the US in attracting talented students from India and China who then go on to become the motors of Silicon Valley fuels a third issue that we discuss in our next section of this overview – is this brain gain to certain countries at the expense of the sending countries?



## Beyond Brain Drain and Brain Gain

The term ‘brain drain’ was coined in the UK to describe the emigration of scientists and technologists from Europe to North America in the post-war era, extended to include the influx to the UK of Indian engineers and scientists. As indicated in Chapter 3, the implicit loss of human capital is a concern today when it comes to regional economic collaboration such as ASEAN. Nowadays it is mainly developing countries that send migrants abroad, and opinions about the benefits and costs of such flows are varied.<sup>24</sup> It is generally agreed that the metaphors of brain drain and corresponding brain gain give a very limited view of the economic implications of migration.

The more recent view, and the one adopted in this publication, is the concept of **brain circulation**,<sup>25</sup> reflected in the imagery of ‘circular migration’ in the 2014 UN Resolution cited earlier. Migrants may initially take with them skills and capital; yet, ideas and capital may flow back (and in larger amounts) as long as migrants maintain diaspora-type social and cultural ties to the home country. Remittances represent one of the most studied phenomena, allowing households in developing countries to invest in education as well as consumption.<sup>26</sup> As outlined in Chapter 5, this leads to diaspora investments in the country of origin, and network effects where these countries can access the know-how of those abroad. In turn, sending countries may profit from the experience of returnees who were successful abroad, and who now have the opportunity to transpose that success to their lower-cost country of origin. The way in which Taiwan built its world-leading electronics industry through returnees from Silicon Valley, who had left in a massive ‘brain drain’ exodus decades before (outlined in Chapter 5), is a model that China, India and many other nations would like to emulate.

What circular migration means in the context of a globalised world is that migration and mobility are becoming an intrinsic element of both the individual talent development process and the economic development process. Talent is increasingly mobile, and mobility is becoming part of talent development. The past literature on migration has perhaps been excessively focused on how to integrate migrants into a national culture. The new ‘win-win’ dynamics of talent circulation focus on how to attract talent while maintaining their valuable ties abroad.

- **INDIVIDUAL LEVEL:** Individuals want to move, to study and work in different countries – if they can afford it and if it is supported – as it is by Erasmus-type university exchange programmes. While foreign students may be attracted by studies in the US, it should be pointed out that 9% of American students study abroad as undergraduates (albeit mostly in agreeable destinations in Europe). The internationalisation of education and early career socialisation is an important aspect of the changes that we have witnessed during the last 20 years. As described in Chapter 5, there is even emerging evidence that deep and broad international experience increases creativity and problem-solving ability.
- **ORGANISATIONAL LEVEL:** Multinational corporations need to maintain high professionalism, as mentioned earlier, and to facilitate international mobility as well as virtual teamwork across cultures. This is in their own interests, to ensuring the functioning of today’s globally (or regionally) integrated organisations – capable of doing things better, cheaper and faster than former hierarchic and parent-company focused pyramids – where managers and senior technicians have to work globally as well as locally. If one aspect needs highlighting, it is that individual merit and potential should count more than the passport.
- **CITY AND NATIONAL LEVEL:** Countries – as well as the cities and regions that are becoming increasingly important players in the global talent scene – have to become more proficient at managing the emerging new dynamics of brain circulation. For example, attracting returnees back may not be useful unless these have in-depth experience and success, and this demands creativity in maintaining ties with diasporas. Paying attention to building a local infrastructure, including solid vocational skills, that will be attractive to returnees as well as locally-grown entrepreneurs is a priority. And returnees should not necessarily be encouraged to re-assimilate – their links and ties with communities abroad will be valuable sources of know-how in a fast-moving world of innovation.



## BUILDING TALENT COMPETITIVENESS AT THE LOCAL LEVEL (CITIES AND REGIONS)

With the exception of city-states such as Singapore, talent attraction has become more and more of a 'local issue'. Often for different reasons, all countries, large and relatively small, have seen, encouraged or suffered from new dynamics of talent attraction involving regions, provinces, or cities.

Contrary to predictions made a few decades ago, and in spite of exponential developments in the area of international telecommunications, the 'death of distance' is an overstatement. The growth of global logistic chains, for example, has reaffirmed rather than eroded the role of geography: ports, communication hubs, cities and regions have recaptured roles that they once had, including as attractors of talents.

In some parts of the world, it is difficult to comprehend talent mobility at the national level. This is obviously the case for large countries such as Russia, Canada, China, the United States, India, Brazil and Australia. On one hand, companies hoping to move their managers to such countries will naturally be faced with questions such as "where do you want me to relocate in China: To Shanghai? Beijing? Shenzhen? The Western provinces?", or "where should I plan to live in the US or Canada for the next few years? West Coast? East Coast? Midwest?" On the other hand, such large countries are naturally looking for ways to develop new areas or to mitigate unbalanced demographical trends – encouraging a move in investments and job creation as well as talent from overcrowded urban areas to provinces where they are most needed from a national development point of view. The notion of 'frontier' is still a reality in some of the large countries mentioned earlier.

For different reasons, some mid-sized nations have also witnessed new kinds of 'local dynamics' in terms of talent attraction. In federal countries such as Germany and Switzerland, but also Spain, the fiscal and economic autonomy left to local entities (länder, cantons, provinces) has allowed them to develop competitive strategies to attract and retain talents. Some of the sub-national entities involved have proved remarkably active – and imaginative – on this front, as the example of Bizkaia in Spain demonstrates (see Chapter 4, titled *Talent Mobility for Regional Competitiveness: the Case of Basque Country*).

## Cities are Back

In his seminal opus *Civilization and Capitalism 15<sup>th</sup>–18<sup>th</sup> Century*, Fernand Braudel traced the development of what he called the 'the European world-economy' to the expansion of a few 'world cities', which successively ruled it: Venice, Antwerp, Genoa, Amsterdam and finally London. Recent history seems to indicate that cities (and regions) are progressively taking back some of the structuring roles that they had at the time of the emergence of capitalism, as described by Braudel.

This is particularly visible in the area of talent. Over the past few decades, in all parts of the world, cities and municipalities have taken a high profile, and adopted proactive strategies to attract talent. This has been accompanied by strong branding strategies associated with major global or regional events (e.g., Olympic Games, World Expos, European 'Capitals of Culture', etc.).

While much of talent development may lie in the hands of countries, highly skilled people are attracted more by cities and regions than countries. They do not think of the United States versus England or Australia versus Sweden, they think of Silicon Valley versus Cambridge and Sydney versus Stockholm. Dubai is the city with the biggest immigrant population (mostly from Pakistan and India), and New York, London, Paris, Singapore and Hong Kong are the top cities when adding up multiple criteria such as business and regulation, quality of human capital, and quality of life. Some cities exploit a particular niche: Dublin, for example, has been successful in building a reputation as a technology hub, and developing an attractive lifestyle for tech professionals has been an important part of the equation. Ireland is today the world's largest software exporter behind the US. Other European cities (like Helsinki-Espoo) vie for that same spot. In the US, the position of San Francisco's Silicon Valley, once seen as an 'unassailable capital of high-tech' is now challenged by New York City and its 'Silicon Alley'.

Company branding has long been used by corporations in order to market their opportunities to talented recruits. Now cities and nations do it as well. World fairs and expositions, such as Shanghai (2010) and Milan (2015) have been part of establishing host cities as strongly branded hubs, and potential magnets for talents.

## BOX D

**TALENTED INDIVIDUALS, GO NORTH!**

Nordic cities have been particularly active in participating in this race for ‘talent notoriety’. What motivated the Copenhagen development office, responsible for attracting foreign investment to the city, to take talent attraction seriously was a consultancy report showing that talent was the most important factor leading a foreign company to set up shop in the Nordic region. With the aid of a Swedish consulting company, Copenhagen joined forces with 17 cities and regions in all Nordic countries to launch a talent attraction programme that is currently waiting for support from the Nordic council of ministers.<sup>29</sup> Indeed research-oriented foreign direct investment (FDI) into the US has been found to be driven by the desire of companies to access local scientific and technical human capital.<sup>30</sup>

**What makes Cities and Regions Different from Countries, when it comes to Talent Attraction?**

In a number of areas, cities and regions can highlight advantages that would not be credible (or manageable) at the level of a country. For example, many elements of ‘quality of life’ are locally anchored. Talking of climatic conditions in the United States (as opposed to Southern California) does not have much meaning. Similarly, the attraction for talent of a rich cultural or social life will be more convincing at the level of a city (capitals such as London, New York, Rome, or even regional metropolises such as Lyon, Barcelona, or Shanghai) than at the national level. Last but not least, cities and regions in many countries enjoy a degree of administrative and fiscal autonomy that allows them to shape ‘customised’ strategies to attract talents of specific kinds, and sometimes of specific origins. Leveraging this autonomy, many cities and regions display a degree of agility (in changing rules, incentives and regulations) that makes them more able to target talent than national economies.

Agility and branding hence seem to be more critical differentiators than size when it comes to identifying why and how cities and regions compete for talents, and how they do it differently from countries. As a matter of fact, some of

the cities and regions competing for talents globally happen to be larger than many national economies: for example a municipality like Chongqing has about 30 million inhabitants, almost four times the total population of Switzerland.

**THE GTCI CONCEPTUAL FRAMEWORK**

As underlined in the previous two editions of the GTCI, countries are competing globally to grow better talents, attract the talents they need, and retain those that contribute to competitiveness, innovation and growth. They 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 help design and implement better policies in areas such as education, human resource management and immigration, to name a few. This is the purpose of the GTCI.

**Who is Expected to use the GTCI and Why?**

Decisions regarding talents are remarkably complex and multilayered. These include ones on how to develop talents, attract and recruit them, and motivate and encourage them to deliver the best output they are capable of, individually

and collectively. Such decisions involve not only economics, education and many fields within the social sciences and human resource management, but also entrepreneurship, innovation, strategy and above all leadership in all sectors of society. 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 or fiscal incentives, to name a few.

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 socio-economic 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 (109 this year). While 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 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.

### Structure of the GTCI model

After successfully launching GTCI in 2013 and 2014, the Adecco Group, HCL and INSEAD have again joined forces to produce this year's edition of the report. Feedback received on previous editions, additional research and the availability of new data have allowed significant refinements to the model, though its basic structure is robust and unchanged.

In the context of GTCI, talent competitiveness refers to the set of policies and practices that enable a country to attract, develop and retain the human capital that contributes to the productivity of a country (where productivity refers to output per unit of input). GTCI is an Input-Output model (see Figure 4), 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).

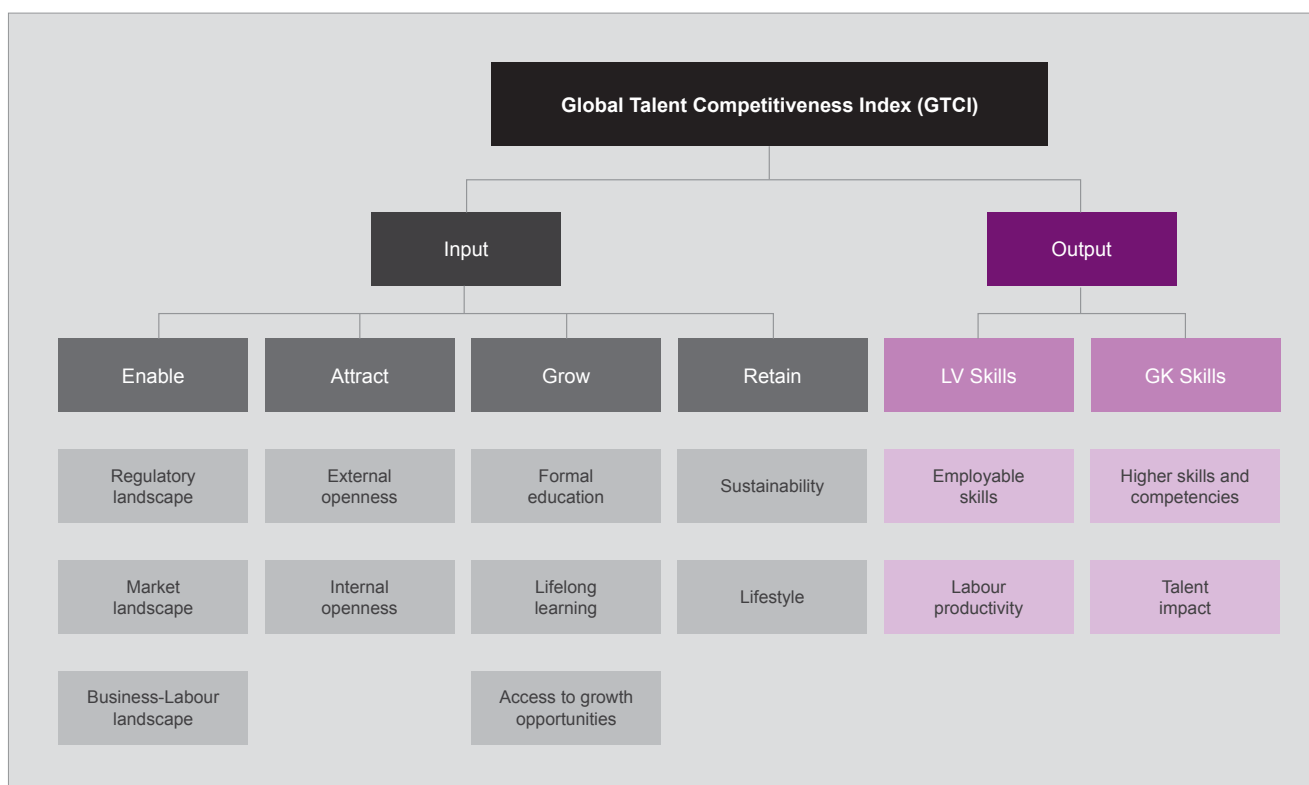
Regarding Output, the GTCI differentiates between two levels of talent, which can be broadly thought of as mid-level

and high-level skills. Mid-level skills, labelled Labour and Vocational skills (or LV skills), describe skills that have a technical or professional base acquired through vocational or professional training and experience. The economic impact of LV skills is measured by labour productivity, the relationship between pay and productivity, and by mid-value exports that rely on such skills. High-level skills, labelled Global Knowledge skills (or GK skills), are associated with knowledge workers in professional, managerial or leadership roles that require creativity and problem solving. Their economic impact is evaluated by indicators of innovation and entrepreneurship, as well as high-value exports that rely on such qualities. With its focus on talent, we do not measure a third type of human capital, unskilled labour, though discussions will sometimes embrace lower-level skills. Together, LV skills and GK skills constitute the two Output pillars of the GTCI model.

The Input parameters of the GTCI are based on 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.

Attracting talent, in the context of national competitiveness, should be viewed in terms of the growth of the talent pool – external openness involving business attraction (FDI and the like) and people attraction (appropriate immigration), while internal openness is focused on removing barriers to entering the talent pool for groups such as those from underprivileged backgrounds, women or older people. Growing talent has traditionally meant education, but it should be broadened to include apprenticeships, training and continuous education, as well as experience and access to growth opportunities (while 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 its main components is quality of life. In addition, the regulatory, market and business 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.

Figure 4: GTCI 2015–16 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 4. The GTCI generates three main indices that are the most visible focus for analysis, namely:

1. **The talent competitiveness Input sub-index:** It 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, market and business environments 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:** It 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 Labour and Vocational (Pillar 5) and Global Knowledge (Pillar 6) skills. The Output sub-index is the simple arithmetic average of the scores obtained on these two pillars.

3. **The Global Talent Competitiveness Index (GTCI)** is computed as the simple arithmetic average of the scores registered on each of the six pillars described above.

Significant improvements have been brought to the GTCI model this year. Many new variables and data sets have been tested for coverage, consistency and explanatory power. Only a small number were deemed sufficiently reliable and acceptable for inclusion in the 2015–16 version of the GTCI model. Overall, the number of variables in this year's model has decreased from 65 to 61.

This increased rigour in fine-tuning the choice of variables this year results in a significant increase in the overall country coverage which goes from 93 to 109 countries, representing 87.4% of the world's population and 97% of the world's GDP. The audit carried out by the Joint Research Council (JRC) of the European Commission (see Chapter 6) has confirmed

that the changes introduced in the model have improved its accuracy, while maintaining its solidity and robustness.<sup>34</sup> 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, business and government leaders, as well as feedback from users of the GTCI.

## BOX E

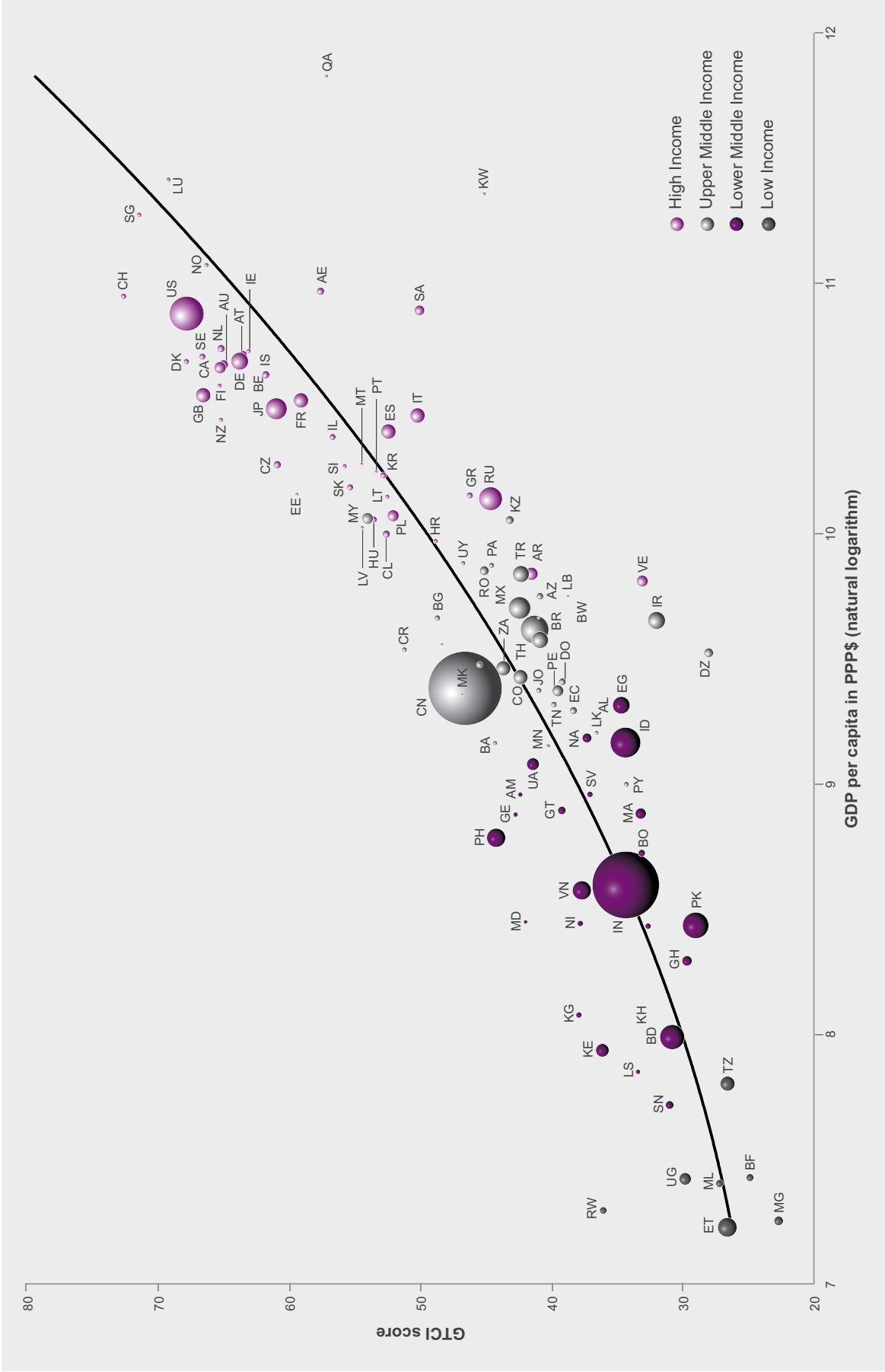
### TRACKING THE LOCAL DIMENSION OF TALENT COMPETITIVENESS

Considering the dynamics of talent attraction at the city and regional levels points at one of the limitations of an index like GTCI. By focusing on the international dimensions of talent competitiveness (and notably issues such as talent attraction and mobility), one may well miss an important part of why and how talent flows from some parts of the world to others. At the same time, the differences (outlined earlier) that separate cities and regions from national economies suggest that one should be cautious not to build an index that would encourage any type of comparison between the performance of sub-national entities (cities, regions), on one hand, and that of nation states on the other.

So what should be done to track both sides of the equation – local and national? Although the time frame to do this may still need further consideration, a possibility would be to add an annual ranking of cities (and/or regions) to the annual GTCI ranking of countries. Both rankings could be considered side by side, but not mixed. This would allow a deeper and more complete assessment of how global competition for talent takes place. To be feasible and useful, such an approach should respect two main constraints:

1. **Be coherent but differentiated** – If a ‘Local Talent Competitiveness Index’ (LTCI) is to be attached to the GTCI, it should respect its philosophy and structure. It should therefore be based on a holistic definition of talent, as well as a comprehensive approach to the ‘pull’ and ‘push’ factors of talent attraction, growth, and retention. In practical terms, this means that the structure of a LTCI model would be similar to that of the GTCI model. Yet, within that model, individual variables should be subject to scrutiny. Some of the data collected at national levels will make sense when applied to the cities and regions inside that country. Others will not. Moreover, some data can be collected at city/region levels that might not be readily available at the national levels. This is probably where LTCI would show its greatest originality and value. It is also through the introduction of such variables that the two indices (GTCI and LTCI) would become sufficiently different to discourage any comparison between the talent performance of cities/regions on one hand and that of countries on the other.
2. **Be ambitious but realistic** – When building a global index, trying to include ‘as many countries’ as possible is a legitimate objective. This year, GTCI covers 109 national economies, representing 97% of the world’s GDP and about 87.4% of its population. A LTCI could not aim at covering ‘all cities and all regions’ of the world. In itself, such an objective would hardly make sense in the absence of an agreed definition on what constitutes a city or a region. The adjunction of such an index to GTCI can hence only be implemented in a gradual fashion. For example, the upcoming edition of this report could include a first sub-set of cities and regions for which relevant data could be generated, trying to make such an initial sub-set as ‘representative’ as possible (in terms of continents for instance). Such an effort cannot hope to be a successful one without the strong engagement of local communities across the world. Feedback received after the launch of this year’s GTCI report will be a precious input in this regard.

Figure 5a: 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 World Development Indicators, World Bank. The trend line is a polynomial of degree two ( $R^2 = 0.78$ ).

Figure 5b: GTCI scores versus GDP per capita (ISO-2 Country Code)

CODE	COUNTRY	CODE	COUNTRY	CODE	COUNTRY	CODE	COUNTRY	CODE	COUNTRY	CODE	COUNTRY
AE	United Arab Emirates	IL	Israel	US	United States	MX	Mexico	KE	Kenya		
AR	Argentina	IS	Iceland	UY	Uruguay	MY	Malaysia	KG	Kyrgyzstan		
AT	Austria	IT	Italy	VE	Venezuela	NA	Namibia	LK	Sri Lanka		
AU	Australia	JP	Japan	AL	Albania	PA	Panama	LS	Lesotho		
BB	Barbados	KR	South Korea	AZ	Azerbaijan	PE	Peru	MA	Morocco		
BE	Belgium	KW	Kuwait	BA	Bosnia and Herzegovina	PY	Paraguay	MD	Moldova		
CA	Canada	LT	Lithuania	BG	Bulgaria	RO	Romania	NI	Nicaragua		
CH	Switzerland	LU	Luxembourg	BR	Brazil	RS	Serbia	PH	Philippines		
CL	Chile	LV	Latvia	BW	Botswana	TH	Thailand	PK	Pakistan		
CY	Cyprus	MT	Malta	CN	China	TN	Tunisia	SN	Senegal		
CZ	Czech Republic	NL	Netherlands	CO	Colombia	TR	Turkey	SV	El Salvador		
DE	Germany	NO	Norway	CR	Costa Rica	ZA	South Africa	UA	Ukraine		
DK	Denmark	NZ	New Zealand	DO	Dominican Republic	AM	Armenia	VN	Vietnam		
EE	Estonia	PL	Poland	DZ	Algeria	BD	Bangladesh	BF	Burkina Faso		
ES	Spain	PT	Portugal	EC	Ecuador	BO	Bolivia	ET	Ethiopia		
FI	Finland	QA	Qatar	IR	Iran	EG	Egypt	KH	Cambodia		
FR	France	RU	Russia	JO	Jordan	GE	Georgia	MG	Madagascar		
GB	United Kingdom	SA	Saudi Arabia	KZ	Kazakhstan	GH	Ghana	ML	Mali		
GR	Greece	SE	Sweden	LB	Lebanon	GT	Guatemala	RW	Rwanda		
HR	Croatia	SG	Singapore	ME	Montenegro	HN	Honduras	TZ	Tanzania		
HU	Hungary	SI	Slovenia	MK	Macedonia	ID	Indonesia	UG	Uganda		
IE	Ireland	SK	Slovakia	MN	Mongolia	IN	India				



## GLOBAL TALENT COMPETITIVENESS INDEX 2015–16: MAIN FINDINGS

As witnessed in the first edition of the GTCI, talent competitiveness is quite closely correlated with wealth: countries with a high GDP per capita are generally more talent-competitive than countries with lower levels of income (see Figure 5a). Not surprisingly, rich countries tend to have better systems of higher education, and a greater ability to attract and retain foreign talents through better quality of life and higher remuneration.

Indeed, the top-scoring countries in the GTCI 2015–16 are all high-income countries. However, GTCI data allow us to look beyond this ‘top-level correlation’ and consider the ways in which countries of different types and development levels are affected (negatively or positively) by the global competition for talent, and how they fare in terms of their abilities to grow, attract and retain the talents that their characteristics and development strategies require. Through analyses and comparisons of the scores registered by individual countries on each of the six pillars, and each of the 61 variables of the GTCI model for 2015–16, a number of patterns, differences and similarities emerge, which converge towards eight key messages. Although it is too early to start comparing country data across time, these key messages emerge from insights gathered throughout the two previous GTCI editions (2013 and 2014) and from the current 2015–16 edition. Many of these messages concern the External Openness sub-pillar of the GTCI model, focused on international mobility and talent attraction, which is our theme this year.

### Message 1: Mobility has become a key ingredient of talent development

The migration debate has moved from the focus on brain drain versus brain gain of the 20<sup>th</sup> century to **brain circulation**. When individuals with high skills or high potential moved to another country to study or to seize the employment and entrepreneurship opportunities that clusters offer, it was traditionally seen as brain drain for one nation and brain gain for the other. The new context of talent mobility leads to a different paradigm, by which all parties (country of origin, country of destination and the individuals themselves) stand to gain in a process best described as ‘brain circulation’. To the extent that these internationally mobile people maintain ties to their country of origin, both countries benefit because of remittances (currently bigger than global aid flows), diaspora investments, the acquisition of know-how and experience via networks, and the innovativeness and entrepreneurship qualities acquired through mobility by successful returnees. In today’s world of innovation, mobility develops talent: the global mindset, the networks, the innovative capabilities that characterise creative talent cannot be fully developed if such international mobility and brain circulation is not encouraged.

### Message 2: The migration debate needs to move from emotions to solutions

Migrations are emerging as a source of tension: a talent perspective can help change the way in which governments, business and public opinions consider them. Emotional reactions to sudden events are always dangerous, whether they are positive or negative. A main reason for this is that emotions can be reversed as quickly as they have risen. Sustainable solutions to international migration flows will need the identification and pursuit of positive sum games, by which countries of origin, countries of destination, and countries of transit will find it advantageous to address such flows with a positive attitude. History can help here, as it shows how much benefit has been generated from the circulation of talents across borders. With growing inequalities, one tension that needs attention is between mobility for the privileged and lack of opportunity for those lower in the social pyramid. Those who are not part of the talent pool or creative class may not be willing to support immigration of high-skilled professionals and students, despite the clear rationale, unless their own children have the opportunity to get ahead, regardless of socio-economic background.

### Message 3: Management practices make a difference in attracting talent

More and more countries want to position themselves as desirable destinations for talent – as historically has been the case for the US, UK, Switzerland and more recently Singapore. What makes a destination attractive? High pay, tax incentives and good quality of life are well-known factors. But GTCI data also shows that one of the important differentiators in talent attraction is the quality of management practices. Analysis shows that two critical elements need to be considered under that heading, the first being whether or not management is professional, attributing positions on merit rather than kinship or friendship; and the second is the attention paid to employee development. Research shows that, among the needs and expectations of the millennial generation (across the world but notably in Asian emerging markets), the thirst for professional and personal development is prominent. Government and local business leaders who have benefitted from an education abroad may play an important role here, to improve national productivity through more professional management as well as the attractiveness of the country. So do multinational corporations who can often set the tone in terms of governance, professionalism and attention to employee development. The resulting benefits may be more difficult to obtain in closed economies than in open ones.

### Message 4: While people continue to move to jobs and opportunities, jobs are now moving to where the talent is

The Global Knowledge (GK) capabilities (one of the two output pillars of the GTCI model) of some emerging countries have reached impressive levels: China (ranked



48<sup>th</sup> overall) is 26<sup>th</sup> for innovative creative GK skills; other Asian countries show the same pattern (ranking higher on creative GK skills relative to their overall GTCI ranking), including South Korea (18<sup>th</sup> on GK vs 37<sup>th</sup> overall), Philippines (33<sup>rd</sup> vs 56<sup>th</sup> overall) and Vietnam (52<sup>nd</sup> vs 82<sup>nd</sup> overall). Corporations are beginning to move strategically important product development and R&D activities to these countries, attracted by quality talent at low cost (see Chapter 5) and facilitated by efficient international communications and technology diffusion. This is also the case, to a significant extent, in other regions, where some countries have started to attract the attention of international investors and individual talents, as shown by relatively high GTCI scores for creative talent: Malta, Slovenia, Cyprus and Moldova in the European region; Turkey, Jordan and Tunisia in the MENA region; and Panama. Africa remains largely out of this movement for the time being.

#### **Message 5: New ‘talent magnets’ are emerging**

While the US, Switzerland, Singapore and other countries in the developed world have long been attractive destinations for talent, there are other countries that show strong potential as ‘talent magnets’. Indonesia has a low stock of migrants (compared to the total population), although the country is perceived by business leaders as being attractive to high-skilled people (scoring high on potential ‘brain gain’). Other such countries include Chile and South Korea (in spite of the relatively small number of international students that both of them attract). China will soon be part of this group, particularly if it manages to lure back former emigrants with science and engineering skills. Rwanda stands out in Africa, and Azerbaijan is worth mentioning in Central Asia. Competition will become fierce among such emerging talent hubs and those who aspire to join the group of attractive talent destinations. One example is Jordan: it currently has a large migrant population – with skilled workers among the many refugees, and it does well in attracting international students. Yet, the perception of business leaders is that the country is not benefiting from an immigration brain gain. In Europe, countries that perform highly in External Openness but have lower attractiveness to talent include the Czech Republic, Estonia, Cyprus and Montenegro. In other parts of the world, similar issues are faced by New Zealand, Uruguay and Uganda.

#### **Message 6: Low-skilled workers continue to be replaced by robots, while knowledge workers are displaced by algorithms**

Mobility continues to be redefined in new ways, notably through technology. As technological innovation continues to increase the number and array of activities and professions that can be automated, it is now affecting knowledge workers as much as technicians and manual workers. This tectonic shift, by which technology opens the doors to new business models, means that some people

may work virtually for different employers from their homes, while others have to retrain and move far to obtain jobs. Entire sectors of activity may be displaced as a result: the so-called ‘uberisation’ of the economy is an example of such shifts, whereby technology offers new ways to consolidate individual demands (typically for services such as transportation or temporary lodgings, for instance) as well as matching scattered offers for specific skills with demand (driving, hosting, training or tutoring for example).

#### **Message 7: In a world of talent circulation, cities and regions are becoming critical players in the competition for global talent**

An increasing number of large cities are becoming ‘global talent hubs’, which attract skilled and creative workers from all parts of the world. Talent continues to be attracted by the usual enablers: (1) high-quality infrastructure, (2) competitive market conditions and business environment (including clusters), (3) an existing critical mass of talents, with excellent networking and cooperation possibilities, and (4) superior living conditions (including factors as diverse as climatic conditions, cultural environment, safety and easy access to key services such as health or education). Cities today are increasingly adopting proactive strategies, including imaginative policies, to attract global talent. The role of cities is increasing for two main reasons. First, large countries are heterogeneous, with diverse internal socio-economic contexts across regions. Therefore, cities and regions are often better positioned than countries to develop and brand features (e.g., ‘quality of life’) that are attractive to both internal and international migrants. Second, cities can differentiate themselves through local capabilities, including agile responses to market opportunities for innovation. Agility and branding hence seem to be more critical differentiators than size, when it comes to identifying why and how cities and regions compete for talents.

#### **Message 8: Scarce vocational skills continue to handicap emerging countries.**

Many emerging countries that have invested in higher education have neglected vocational education, as discussed in last year’s GTCI. In both China and India the skill shortage in vocational talent shows up clearly in the GTCI scores, as it also does in South Africa. This last year has seen a cooling off in the growth of emerging markets, and indeed we note the relative decline in the talent competitiveness of all BRICS countries except Russia. This is particularly the case in Brazil, where talent capabilities show signs of weakening on all fronts. Despite relatively low scores in vocational skills, China continues to strengthen in growing talent. In India, there are no signs of an improved regulatory and market landscape to enable the ‘Make in India’ campaign. This gap in terms of vocational skills, however, is not limited to BRICs and emerging economies: GTCI data shows that it extends to a number of high-income countries, such as Ireland, Belgium or Spain.

Table 1: Global Talent Competitiveness Index 2015–16 rankings

Country	Score	Overall Rank	Income Group	Regional Group	Regional Group Rank
Switzerland	72.648	1	High Income	Europe	1
Singapore	71.456	2	High Income	Eastern, Southeastern Asia and Oceania	1
Luxembourg	68.978	3	High Income	Europe	2
United States	67.902	4	High Income	Northern America	1
Denmark	67.865	5	High Income	Europe	3
Sweden	66.621	6	High Income	Europe	4
United Kingdom	66.597	7	High Income	Europe	5
Norway	66.339	8	High Income	Europe	6
Canada	65.346	9	High Income	Northern America	2
Finland	65.333	10	High Income	Europe	7
New Zealand	65.264	11	High Income	Eastern, Southeastern Asia and Oceania	2
Netherlands	65.219	12	High Income	Europe	8
Australia	65.080	13	High Income	Eastern, Southeastern Asia and Oceania	3
Germany	63.850	14	High Income	Europe	9
Austria	63.552	15	High Income	Europe	10
Ireland	63.137	16	High Income	Europe	11
Iceland	62.001	17	High Income	Europe	12
Belgium	61.849	18	High Income	Europe	13
Japan	60.978	19	High Income	Eastern, Southeastern Asia and Oceania	4
Czech Republic	60.949	20	High Income	Europe	14
Estonia	59.471	21	High Income	Europe	15
France	59.165	22	High Income	Europe	16
United Arab Emirates	57.682	23	High Income	Northern Africa and Western Asia	1
Qatar	57.243	24	High Income	Northern Africa and Western Asia	2
Israel	56.685	25	High Income	Northern Africa and Western Asia	3
Slovenia	55.863	26	High Income	Europe	17
Slovakia	55.429	27	High Income	Europe	18
Malta	54.530	28	High Income	Europe	19
Latvia	54.456	29	High Income	Europe	20
Malaysia	54.039	30	Upper Middle Income	Eastern, Southeastern Asia and Oceania	5
Hungary	53.630	31	High Income	Europe	21
Cyprus	53.338	32	High Income	Northern Africa and Western Asia	4
Portugal	52.868	33	High Income	Europe	22
Chile	52.587	34	High Income	Latin, Central America and Caribbean	1
Lithuania	52.585	35	High Income	Europe	23

Country	Score	Overall Rank	Income Group	Regional Group	Regional Group Rank
Spain	52.511	36	High Income	Europe	24
South Korea	52.448	37	High Income	Eastern, Southeastern Asia and Oceania	6
Poland	52.085	38	High Income	Europe	25
Barbados	51.877	39	High Income	Latin, Central America and Caribbean	2
Costa Rica	51.225	40	Upper Middle Income	Latin, Central America and Caribbean	3
Italy	50.209	41	High Income	Europe	26
Saudi Arabia	50.115	42	High Income	Northern Africa and Western Asia	5
Croatia	48.929	43	High Income	Europe	27
Bulgaria	48.731	44	Upper Middle Income	Europe	28
Montenegro	48.480	45	Upper Middle Income	Europe	29
Macedonia	46.847	46	Upper Middle Income	Europe	30
Uruguay	46.765	47	High Income	Latin, Central America and Caribbean	4
China	46.600	48	Upper Middle Income	Eastern, Southeastern Asia and Oceania	7
Greece	46.234	49	High Income	Europe	31
Serbia	45.501	50	Upper Middle Income	Europe	32
Kuwait	45.210	51	High Income	Northern Africa and Western Asia	6
Romania	45.180	52	Upper Middle Income	Europe	33
Russia	44.675	53	High Income	Europe	34
Panama	44.614	54	Upper Middle Income	Latin, Central America and Caribbean	5
Bosnia and Herzegovina	44.339	55	Upper Middle Income	Europe	35
Philippines	44.229	56	Lower Middle Income	Eastern, Southeastern Asia and Oceania	8
South Africa	43.726	57	Upper Middle Income	Sub-Saharan Africa	1
Kazakhstan	43.200	58	Upper Middle Income	Central and Southern Asia	1
Georgia	42.824	59	Lower Middle Income	Northern Africa and Western Asia	7
Mexico	42.444	60	Upper Middle Income	Latin, Central America and Caribbean	6
Armenia	42.442	61	Lower Middle Income	Northern Africa and Western Asia	8
Colombia	42.420	62	Upper Middle Income	Latin, Central America and Caribbean	7
Turkey	42.339	63	Upper Middle Income	Northern Africa and Western Asia	9
Moldova	42.022	64	Lower Middle Income	Europe	36
Argentina	41.489	65	High Income	Latin, Central America and Caribbean	8
Ukraine	41.430	66	Lower Middle Income	Europe	37
Brazil	41.368	67	Upper Middle Income	Latin, Central America and Caribbean	9
Botswana	41.041	68	Upper Middle Income	Sub-Saharan Africa	2
Thailand	40.985	69	Upper Middle Income	Eastern, Southeastern Asia and Oceania	9
Jordan	40.967	70	Upper Middle Income	Northern Africa and Western Asia	10

Country	Score	Overall Rank	Income Group	Regional Group	Regional Group Rank
Azerbaijan	40.917	71	Upper Middle Income	Northern Africa and Western Asia	11
Mongolia	40.254	72	Upper Middle Income	Eastern, Southeastern Asia and Oceania	10
Tunisia	39.850	73	Upper Middle Income	Northern Africa and Western Asia	12
Peru	39.540	74	Upper Middle Income	Latin, Central America and Caribbean	10
Guatemala	39.215	75	Lower Middle Income	Latin, Central America and Caribbean	11
Dominican Republic	39.215	76	Upper Middle Income	Latin, Central America and Caribbean	12
Lebanon	38.741	77	Upper Middle Income	Northern Africa and Western Asia	13
Ecuador	38.345	78	Upper Middle Income	Latin, Central America and Caribbean	13
Namibia	38.092	79	Upper Middle Income	Sub-Saharan Africa	3
Kyrgyzstan	37.977	80	Lower Middle Income	Central and Southern Asia	2
Nicaragua	37.806	81	Lower Middle Income	Latin, Central America and Caribbean	14
Vietnam	37.728	82	Lower Middle Income	Eastern, Southeastern Asia and Oceania	11
Sri Lanka	37.313	83	Lower Middle Income	Central and Southern Asia	3
El Salvador	37.043	84	Lower Middle Income	Latin, Central America and Caribbean	15
Albania	36.611	85	Upper Middle Income	Europe	38
Kenya	36.190	86	Lower Middle Income	Sub-Saharan Africa	4
Rwanda	36.098	87	Low Income	Sub-Saharan Africa	5
Egypt	34.748	88	Lower Middle Income	Northern Africa and Western Asia	14
India	34.374	89	Lower Middle Income	Central and Southern Asia	4
Indonesia	34.365	90	Lower Middle Income	Eastern, Southeastern Asia and Oceania	12
Paraguay	34.354	91	Upper Middle Income	Latin, Central America and Caribbean	16
Lesotho	33.509	92	Lower Middle Income	Sub-Saharan Africa	6
Morocco	33.227	93	Lower Middle Income	Northern Africa and Western Asia	15
Bolivia	33.167	94	Lower Middle Income	Latin, Central America and Caribbean	17
Venezuela	33.130	95	High Income	Latin, Central America and Caribbean	18
Cambodia	33.082	96	Low Income	Eastern, Southeastern Asia and Oceania	13
Honduras	32.673	97	Lower Middle Income	Latin, Central America and Caribbean	19
Iran	32.011	98	Upper Middle Income	Central and Southern Asia	5
Senegal	31.097	99	Lower Middle Income	Sub-Saharan Africa	7
Bangladesh	30.895	100	Lower Middle Income	Central and Southern Asia	6
Uganda	29.848	101	Low Income	Sub-Saharan Africa	8
Ghana	29.698	102	Lower Middle Income	Sub-Saharan Africa	9
Pakistan	29.045	103	Lower Middle Income	Central and Southern Asia	7
Algeria	27.964	104	Upper Middle Income	Northern Africa and Western Asia	16
Mali	27.212	105	Low Income	Sub-Saharan Africa	10

Country	Score	Overall Rank	Income Group	Regional Group	Regional Group Rank
Tanzania	26.623	106	Low Income	Sub-Saharan Africa	11
Ethiopia	26.608	107	Low Income	Sub-Saharan Africa	12
Burkina Faso	24.965	108	Low Income	Sub-Saharan Africa	13
Madagascar	22.726	109	Low Income	Sub-Saharan Africa	14

## STATISTICAL ANNEX TO CHAPTER 1

### Overview

The statistics in this section analyse country performance in GTCI 2015–16 in terms of the overall score and also in terms of its pillars and sub-pillars. The analysis is broken down in different ways: by top performers (Top 15 GTCI score leaders), as well as by region and income-group country categories (High, Upper Middle, Lower Middle and Low Income).<sup>35</sup>

Figure 1 presents the big picture of GTCI by income group and region. Regarding the former, although dispersion of scores is large among high-income countries, even the ‘bad’ 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, performance of countries in East Asia is very heterogeneous. Europe also shows a large heterogeneity, with large performance differences between the top (e.g., Switzerland) and the bottom (Ukraine).

European countries continue to dominate the GTCI rankings, with 16 of them in the top 25. Switzerland maintains its position at the top, and this year sees three non-European

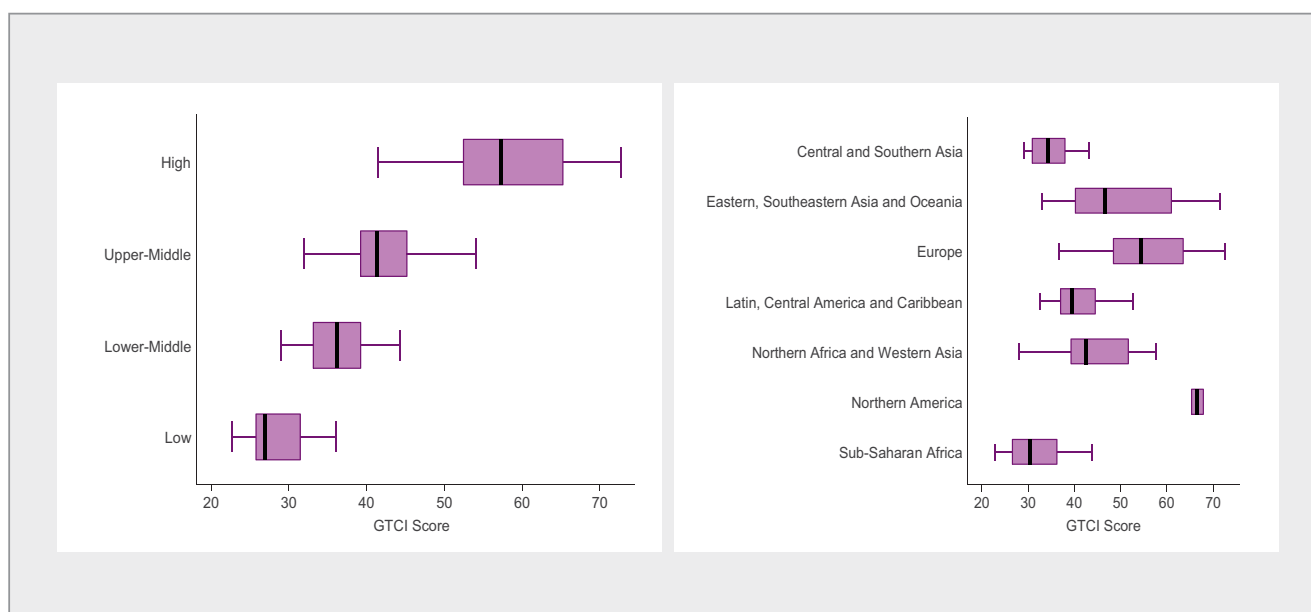
countries make up the top 10, led by Singapore (2<sup>nd</sup>), the US (4<sup>th</sup>) and Canada (9<sup>th</sup>). If we consider the top 25, six additional non-European countries make the grade: New Zealand (11<sup>th</sup>), Australia (13<sup>th</sup>), Japan (19<sup>th</sup>), the UAE (23<sup>rd</sup>), Qatar (24<sup>th</sup>) and Israel (25<sup>th</sup>).

Talent within Northern and Western Europe appears to be more competitive in comparison to other parts of the region. Luxembourg (3<sup>rd</sup>), Denmark (5<sup>th</sup>), Sweden (6<sup>th</sup>), the UK (7<sup>th</sup>), Norway (8<sup>th</sup>), Finland (10<sup>th</sup>), Netherlands (12<sup>th</sup>), Germany (14<sup>th</sup>), Austria (15<sup>th</sup>), Ireland (16<sup>th</sup>), Iceland (17<sup>th</sup>) and Belgium (18<sup>th</sup>), are all ranked higher than France (22<sup>nd</sup>), which rounds out the top 25.

Unsurprisingly, the non-European leaders of the GTCI rankings can be broadly classified into two groups: economies which have long had favourable immigration policies (the US, Canada, Australia, New Zealand and Israel), and economies that have a clear focus on becoming ‘talent hubs’ (Singapore, the UAE and Qatar), attracting external know-how to a greater or lesser extent.

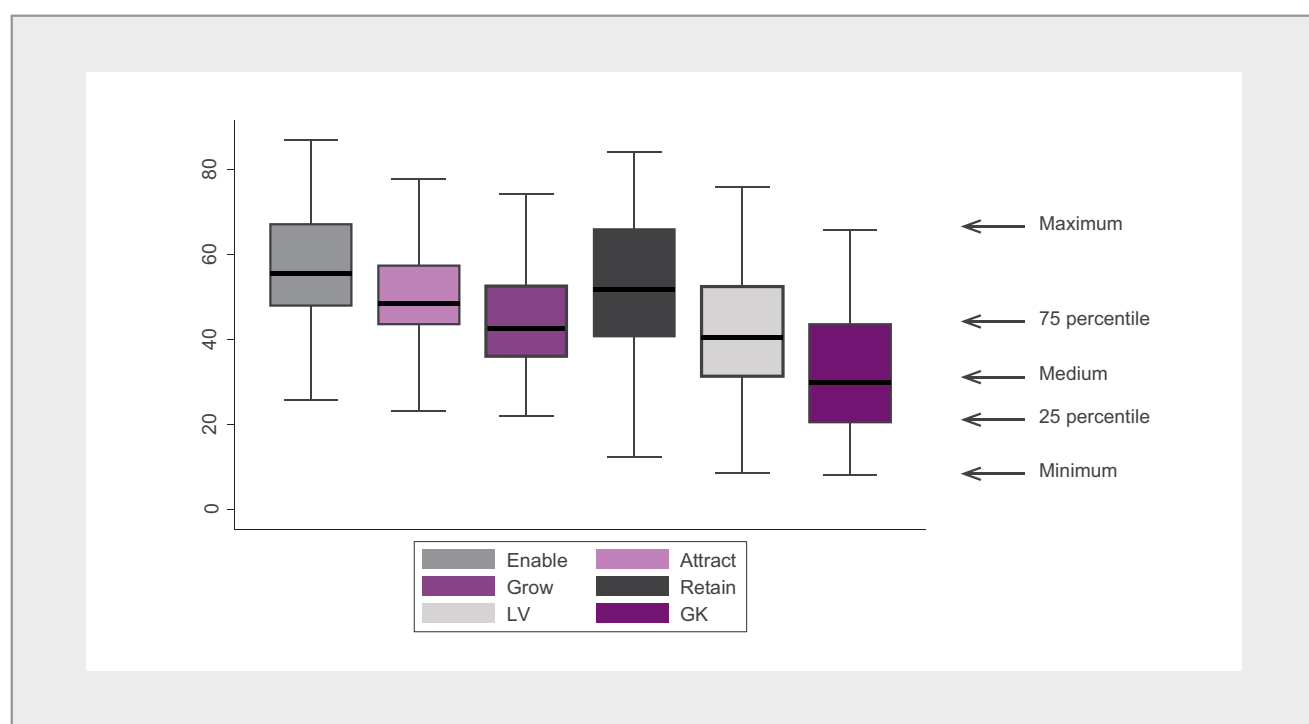
The large differences across countries in GTCI scores are driven by differences in performance in particular pillars. Countries differ substantially in Retain whereas they are more similar in Grow (see Figure 2). In other words, the

Figure 1: Country dispersion of GTCI scores by income group (left panel) and by region (right panel)



Note: The five vertical bars on each income and region group line represent: Minimum score (at the left), 25th percentile (start of the shaded area), Median, 75th percentile (end of the shaded area), Maximum score (at the right).

Figure 2: Dispersion of country scores for each pillar



Note: Similarly to Figure 1, the five horizontal bars on the vertical line for each pillar represent (going from bottom to top): Minimum GTCI score, 25th percentile, Median, 75th percentile, Maximum GTCI score.

performance of countries in retaining talents differs much more than their capacity in growing them. Not surprisingly, emerging economies are lagging on Global Knowledge Skills.

Table 1 presents the ranking in GTCI score and for each pillar – coloured by the quartile to which each of the 109 countries belongs to in terms of its GTCI score. Countries in the fourth quartile in terms of the overall index (which are

the best 25% performers on GTCI score and coloured in dark grey) clearly dominate many of the pillars, particularly Enable (with the exception of France, which ranks 38th in this pillar) and Retain (with the exception of Belgium, which ranks 31<sup>st</sup> in this pillar). This table also shows that one pillar where the top GTCI performers do not dominate is Labour and Vocational Skills.

Table 1: Global Talent Competitiveness Index rankings

Country	GTCI ranking	Enable	Attract	Grow	Retain	LV Skills	GK Skills
Switzerland	1	1	7	5	1	6	6
Singapore	2	2	1	14	5	11	2
Luxembourg	3	23	3	19	2	5	1
United States	4	9	14	3	17	22	3
Denmark	5	3	10	2	21	17	8
Sweden	6	12	11	10	7	15	9
United Kingdom	7	8	9	11	8	31	7
Norway	8	13	8	6	4	25	19
Canada	9	10	4	4	25	34	17
Finland	10	7	20	7	15	16	13
New Zealand	11	6	5	13	22	50	4
Netherlands	12	20	17	1	11	26	14
Australia	13	15	2	12	13	48	10
Germany	14	18	19	18	9	4	27
Austria	15	16	22	16	6	3	32
Ireland	16	14	13	9	19	39	16
Iceland	17	17	21	15	18	37	11
Belgium	18	19	16	8	31	28	25
Japan	19	4	45	26	16	13	21
Czech Republic	20	24	44	25	12	1	28
Estonia	21	25	40	30	10	19	12
France	22	38	23	17	23	10	22
United Arab Emirates	23	11	24	32	3	42	55
Qatar	24	5	6	33	26	47	60
Israel	25	27	79	40	20	29	5
Slovenia	26	46	54	28	27	9	20
Slovakia	27	34	49	57	39	2	31
Malta	28	28	30	34	35	60	15
Latvia	29	35	33	49	36	21	24
Malaysia	30	21	37	24	49	24	39
Hungary	31	32	41	61	34	12	29
Cyprus	32	41	25	41	41	49	23
Portugal	33	33	28	21	24	70	35
Chile	34	30	34	20	45	36	41
Lithuania	35	29	64	50	32	27	30
Spain	36	43	31	22	29	59	34
South Korea	37	26	61	29	65	32	18
Poland	38	31	77	48	33	7	42
Barbados	39	22	12	36	44	65	59
Costa Rica	40	36	15	23	53	57	43
Italy	41	64	74	35	40	18	38
Saudi Arabia	42	40	46	46	28	53	40
Croatia	43	61	78	45	42	14	48
Bulgaria	44	44	80	68	37	35	37
Montenegro	45	49	43	59	52	20	46
Macedonia	46	39	76	43	55	23	71
Uruguay	47	50	26	44	43	78	64
China	48	52	71	27	71	73	26
Greece	49	62	88	54	30	62	44
Serbia	50	80	86	67	59	8	53
Kuwait	51	57	29	71	14	83	81
Romania	52	60	67	58	63	30	57
Russia	53	74	99	51	50	51	36
Panama	54	82	18	69	60	74	47
Bosnia and Herzegovina	55	89	84	42	38	33	90



Country	GTCI ranking	Enable	Attract	Grow	Retain	LV Skills	GK Skills
Philippines	56	66	55	47	64	80	33
South Africa	57	56	53	37	85	58	49
Kazakhstan	58	59	52	85	46	55	73
Georgia	59	42	68	104	47	45	69
Mexico	60	76	59	56	77	52	58
Armenia	61	55	75	102	54	38	63
Colombia	62	48	48	38	83	77	68
Turkey	63	51	105	62	48	69	45
Moldova	64	84	95	78	58	43	51
Argentina	65	85	50	39	78	63	72
Ukraine	66	91	97	72	56	40	61
Brazil	67	65	39	60	68	75	74
Botswana	68	45	36	55	93	86	66
Thailand	69	54	87	31	75	98	62
Jordan	70	72	70	93	51	79	50
Azerbaijan	71	53	66	95	62	41	87
Mongolia	72	68	72	65	82	64	67
Tunisia	73	92	100	80	61	54	54
Peru	74	75	35	79	91	61	83
Guatemala	75	69	42	53	87	82	85
Dominican Republic	76	58	51	84	90	67	76
Lebanon	77	93	94	66	81	66	56
Ecuador	78	86	56	63	69	91	80
Namibia	79	47	38	77	103	71	79
Kyrgyzstan	80	81	83	89	70	44	104
Nicaragua	81	71	65	94	80	46	101
Vietnam	82	63	82	87	89	95	52
Sri Lanka	83	73	60	92	66	89	88
El Salvador	84	70	85	70	84	68	98
Albania	85	67	98	82	67	76	99
Kenya	86	77	27	64	104	94	84
Rwanda	87	37	47	83	92	100	108
Egypt	88	97	109	98	57	72	65
India	89	83	103	76	98	90	70
Indonesia	90	90	90	86	88	97	82
Paraguay	91	102	62	88	79	92	89
Lesotho	92	78	63	81	108	56	105
Morocco	93	94	89	99	73	99	93
Bolivia	94	107	73	75	94	93	75
Venezuela	95	109	106	52	72	87	77
Cambodia	96	88	101	96	86	84	97
Honduras	97	96	92	74	96	85	102
Iran	98	101	108	73	76	96	86
Senegal	99	99	32	97	99	103	92
Bangladesh	100	95	91	108	97	81	91
Uganda	101	79	57	100	102	107	100
Ghana	102	87	93	91	101	104	96
Pakistan	103	104	104	106	100	88	78
Algeria	104	106	107	103	74	101	94
Mali	105	103	58	101	107	106	95
Tanzania	106	100	81	90	106	108	106
Ethiopia	107	105	102	107	95	102	103
Burkina Faso	108	98	69	109	105	109	107
Madagascar	109	108	96	105	109	105	109

Note: The darkest colour means that countries belong to the 4th quartile (i.e. to the top 25% of best performers in the given pillar); the other three colours represent (from darker to lighter) the 3rd, 2nd and 1st quartile.

### Top 15 countries in GTCI 2015–16

The following analysis provides a deeper appreciation of the factors that underpin the performance of the top 15 economies. While there are obvious similarities on the surface – such as effective governments, positive regulatory and business landscapes, strong focus on formal education and positive social mobility – idiosyncratic patterns emerge that can help countries identify and consolidate their strengths, as well as develop targeted strategies that will better equip them for the global competition for talent. In general, countries within the top 15 in the overall GTCI index also dominate each of the six pillars, with the exception of vocational skills (Table 2 shows that Czech Republic and Slovakia are within the top three in terms of LV skills).

The top three countries on talent competitiveness remain the same in 2015–16 as they were in 2014: Switzerland, Singapore and Luxembourg. And there is little change in the top 20 ranking, although the Czech Republic enters this group and New Zealand's talent competitiveness strengthens – contrasted with modest declines in the talent capabilities of Ireland and Canada. Since there were few methodological changes in the Index, the changes in ranking from last to this year can be reliably interpreted (though one should take into account 16 new countries, mostly in middle or lower income groups).

**Switzerland** (1<sup>st</sup>) is at the top by virtue of its strong performance across all six pillars of the GTCI model. Switzerland performs consistently well across the Enable (1<sup>st</sup>), Retain (1<sup>st</sup>) and Grow (5<sup>th</sup>) pillars and their constituent sub-pillars. Performance in the Attract pillar (7<sup>th</sup>) is good in terms of the External openness (5<sup>th</sup>) sub-pillar, with the country showing an excellent capacity to attract and retain

global talent (despite a negative referendum on immigration 18 months ago), while this pillar shows a relatively poorer performance in the Internal openness sub-pillar (22<sup>nd</sup>) – there is good social mobility (2<sup>nd</sup>), but gender equality indicators such as Female graduates (76<sup>th</sup>) and Gender earnings gap (36<sup>th</sup>) lag behind.

**Singapore** (2<sup>nd</sup>) demonstrates exemplary performance across the Enable (2<sup>nd</sup>) and Attract (1<sup>st</sup>) pillars, with uniformly high scores across their underlying sub-pillars – only the indicator of Tolerance to migrants shows a relatively poorer performance. Two dimensions for which the country has ample room for improvement are the Access to growth opportunities (28<sup>th</sup>) and also the pool of people with Labour and Vocational skills (22<sup>nd</sup>).

**Luxembourg** (3<sup>rd</sup>) has the best pool of Global Knowledge skills (1<sup>st</sup>). As a small country that has built an international reputation as a centre of finance and industry, it is part of the top three on the Retain (2<sup>nd</sup>) and Attract (3<sup>rd</sup>) pillars respectively, driven by high scores on the Sustainability (2<sup>nd</sup>) and External openness (3<sup>rd</sup>) sub-pillars. Despite the strong attraction of knowledge workers, the business environment shows ample room for improvement in terms of the business-labour landscape (65<sup>th</sup>) – as labour markets are not the most flexible. As is often the case for a small country, Formal education (50<sup>th</sup>) does not figure at the top, particularly in terms of top global universities. Given its small size, Luxembourg prefers higher education abroad for its citizens, and to attract talent from outside.

**United States** (4<sup>th</sup>) continues to stand out as a top performer in terms of Grow (3<sup>rd</sup>), as a consequence of ranking highly in Formal education (4<sup>th</sup>), given its leading network of universities, and also in terms of access to

Table 2: Countries with highest scores by pillar

	Top-ranking countries
Enable	Switzerland, Singapore, Denmark
Attract	Singapore, Australia, Luxembourg
Grow	Netherlands, Denmark, United States
Retain	Switzerland, Luxembourg, United Arab Emirates
Labour and Vocational (LV) skills	Czech Republic, Slovakia, Austria
Global Knowledge (GK) skills	Luxembourg, Singapore, United States

growth opportunities (2<sup>nd</sup>). This allows the United States to have an outstanding pool of Global Knowledge skills (3<sup>rd</sup>). While the United States is not among the countries with a large stocks of migrants – at least, as percentage of the total population – the migrants that come in make a difference since the country is one of the best performers in terms of Brain gain (3<sup>rd</sup>). One dimension that requires attention is the development of Labour and Vocational skills (22<sup>nd</sup>) – although labour productivity is high, the number of people with the skills of technicians is small, given the size of the country.

**Denmark** (5<sup>th</sup>) shows an exemplary performance in terms of Grow (2<sup>nd</sup>). Formal education (6<sup>th</sup>) is among the best in the world and it is Access to growth opportunities (1<sup>st</sup>), in particular, that makes a difference – particularly in terms of Freedom of voice and empowerment (delegation of authority). This is complemented by a strong Market landscape (8<sup>th</sup>) and a Business–labour landscape (3<sup>rd</sup>). One dimension in which Denmark has room for improvement is in Retain (21<sup>st</sup>) – i.e., both attracting and retaining the best global talent is a challenge. In the pillar Attract (10<sup>th</sup>), the sub-pillar of Internal openness (3<sup>rd</sup>) is among the best in the world – with good social mobility and gender equality. Yet, External openness lags behind (27<sup>th</sup>).

**Sweden** (6<sup>th</sup>) performs consistently well across the six pillars, belonging to the top 15 in each of them. In particular, Sweden counts with a strong pool of Global Knowledge skills (9<sup>th</sup>) – without neglecting the development of Labour and Vocational skills (15<sup>th</sup>). Even though Sweden is not one of the top attractors of talent in terms of External openness (23<sup>rd</sup>), despite its Lifestyle attractions (7<sup>th</sup>), Internal openness (7<sup>th</sup>) shows a very strong performance with good social diversity and gender equality. One of the dimensions in which there is room for improvement is in the sub-pillar of Business-labour landscape (38<sup>th</sup>) – particularly in terms of labour market flexibility.

**United Kingdom** (7<sup>th</sup>) ranks consistently around the top 10 in all pillars except in Labour and Vocational skills (31<sup>st</sup>), which contrast markedly with the pool of Global Knowledge skills (7<sup>th</sup>). The UK is an attractor of talent with good External openness (7<sup>th</sup>), which is complemented by flexible labour markets and strong Sustainability to retain talent – although in general the UK is better at attracting talent from abroad than at retaining domestic talent. Internal openness (19<sup>th</sup>), by contrast, has room for improvements – particularly gender equality is still lagging behind. The challenge of vocational skills has more to do with the size of the pool of Employable skills than with the productivity of those workers, which is good overall.

**Norway** (8<sup>th</sup>) shows a pattern similar to other Nordic countries: strong Formal education (12<sup>th</sup>) and an enviable Lifestyle (4<sup>th</sup>) – which helps retain some of the best domestic talent. Yet, it is not among the top countries for

attracting foreign talent as shown by its performance in External openness (17<sup>th</sup>). Nonetheless, Norway offers wide opportunities to its own citizens by performing in an exemplary way in terms of Internal openness (2<sup>nd</sup>) – social diversity and gender equality issues are among the best in the world. Even though Norway has an excellent Regulatory landscape (3<sup>rd</sup>), it has room for improvement in terms of the Business-labour landscape – which includes issues such as Labour market flexibility (40<sup>th</sup>). In general, Norway has a solid pool of both Labour and Vocational and Global Knowledge skills, but it can still improve in how such skills are able to generate innovations.

**Canada** (9<sup>th</sup>) is a top country in terms of Grow (4<sup>th</sup>), led by strong Formal education (2<sup>nd</sup>) and Attract (4<sup>th</sup>). This means that some of the best global talent ends up in the country, which is reflected in the strong pool of Higher skills and competencies (4<sup>th</sup>). Also, Canada is one of those countries that is not only good in terms of External openness (8<sup>th</sup>) but also in terms of Internal openness (5<sup>th</sup>) – i.e., social diversity and gender equality issues are strong in the country. Canada shows two main challenges. First, Labour and Vocational skills (34<sup>th</sup>) could still be developed further to respond to the needs of the economy. Second, even though the pool of global knowledge skills is strong, the country can still take measures to translate the presence of those skills into more innovations.

**Finland** (10<sup>th</sup>) is a top country in developing and empowering talent, by showing an excellent performance in Grow (7<sup>th</sup>) and in Enable (7<sup>th</sup>). The former is led by top Formal education (3<sup>rd</sup>) and also by top Lifelong learning (5<sup>th</sup>). The Enable pillar is led particularly by the best Regulatory landscape (1<sup>st</sup>) and also by a strong Market landscape (9<sup>th</sup>). In addition, Finland has a strong Internal openness (8<sup>th</sup>). Despite these good numbers, the country does not go higher in the rankings due to two main reasons. First, External openness (29<sup>th</sup>) is not among the best – i.e., the country is not attracting foreign talent. Second, although the pool of both vocational and global knowledge skills is good, even without the attraction of global talent, the domestic talent is not generating innovations that compete with the best countries in the world.

**New Zealand** (11<sup>th</sup>) is one of the top countries in terms of its pool of Global Knowledge skills (4<sup>th</sup>). This is the fruit of a strong Grow pillar (13<sup>th</sup>), as all of its sub-pillars (Formal education, Lifelong learning and Access to growth opportunities) are part of the top 20. More importantly, it is also the product of being one of the top countries in terms of Attract (5<sup>th</sup>). New Zealand is part of the top 10 in both Attract sub-pillars: External openness (9<sup>th</sup>) and Internal openness (6<sup>th</sup>). The country is also good at enabling the performance of talent: the Regulatory landscape (4<sup>th</sup>) and the Business–labour landscape (6<sup>th</sup>) are among the best in the world. One of the main challenges that is holding New Zealand back is the pool of Labour and Vocational Skills (50<sup>th</sup>).

**Netherlands** (12<sup>th</sup>) is the top country in the Grow pillar (1<sup>st</sup>). This is due to a strong combination of Formal education (1<sup>st</sup>), Lifelong learning (7<sup>th</sup>) and Access to growth opportunities (3<sup>rd</sup>). The Netherlands falls just short of the top 10 because, even though the country displays a fairly balanced and consistent performance on the Enable (20<sup>th</sup>), Attract (17<sup>th</sup>) and Retain (11<sup>th</sup>) pillars, the rankings in such three pillars are slightly behind the top countries. Similarly, the pool of Labour and Vocational and Global Knowledge skills is strong but slightly behind the top countries (26<sup>th</sup> and 14<sup>th</sup>, respectively). Another dimension for which the Netherlands has room for improvement is in terms of the Business-labour landscape (51<sup>st</sup>) – particularly in terms of labour market flexibility.

**Australia** (13<sup>th</sup>) is one of the top countries in the Attract pillar (2<sup>nd</sup>). Not only does the country have a strong External openness (6<sup>th</sup>), it also ranks at the top of Internal openness (1<sup>st</sup>) – social diversity, tolerance to migrants and gender issues are exemplary. Formal education (5<sup>th</sup>) is among the best in the world – although Lifelong learning has room for improvement. Australia is part of the top 15 in all pillars except Labour and Vocational skills (48<sup>th</sup>), which remains one of its main challenges.

**Germany** (14<sup>th</sup>) is one of the top countries in the pillar of Labour and Vocational skills (4<sup>th</sup>), while also maintaining a strong pool of Global Knowledge skills (27<sup>th</sup>). Germany is one of the top 10 countries in retaining talent (Retain pillar ranks; 9<sup>th</sup>), given its good sustainability and lifestyle. It also has a top Market landscape sub-pillar (3<sup>rd</sup>) – fruit of the proliferation of clusters, investments in R&D and ICTs. One challenge for Germany is to improve its attraction of global talent. External openness (22<sup>nd</sup>), in particular, is not on par with the performance of other developed nations.

**Austria** (15<sup>th</sup>) is one of the top countries in the pillar of Labour and Vocational skills (3<sup>rd</sup>). Austria also shows a very strong performance in terms of the Retain pillar (6<sup>th</sup>), particularly by leading the ranking in terms of Lifestyle (1<sup>st</sup>). The country also has a very strong Formal education (10<sup>th</sup>), one dimension in which Austria has room for improvement is in the pillar Attract (22<sup>nd</sup>) – by enhancing both External Openness (18<sup>th</sup>) and, particularly, Internal openness (34<sup>th</sup>). Attracting global talent, domestically and from abroad, is important also to improve the pool of Global Knowledge skills (32<sup>nd</sup>), for which Austria is not a top performer.

Table 3: Countries with highest GTCI scores by income and regional groups

Comparison group	Top three scores of the group
(BY REGION)	
Central and Southern Asia	Kazakhstan, Kyrgyzstan, Sri Lanka
Eastern, Southeastern Asia and Oceania	Singapore, New Zealand, Australia
Europe	Switzerland, Luxembourg, Denmark
Latin, Central America and Caribbean	Chile, Barbados, Costa Rica
Northern America	United States, Canada
Northern Africa and Western Asia	United Arab Emirates, Qatar, Israel
Sub-Saharan Africa	South Africa, Botswana, Namibia
(BY INCOME GROUP)	
High-income countries	Switzerland, Singapore, Luxembourg
Upper-middle-income countries	Malaysia, Costa Rica, Bulgaria
Lower-middle-income countries	Philippines, Georgia, Armenia
Low-income countries	Rwanda, Cambodia, Uganda

### Analysis by income and regional groups

As shown in Table 3, the talent leaders of Europe, Switzerland and Luxembourg, take the top places in the high-income countries, along with Singapore as the East Asian leader (above the two talent-rich countries from Oceania: New Zealand and Australia). The regions that do not have countries within the highest quartile in the overall GTCI index (i.e., top 27 countries) are Central and Southern Asia, Sub-Saharan Africa and Latin America. The case of Chile deserves attention: it is the country with the highest ranking within its region and last year it topped the group of upper-middle income countries. Starting this year Chile is already classified as a high-income country (following the UN classification).

### 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 bring additional insights. A cursory glance at the pillar-specific performance by income groups (see Figure 3) highlights that differences are more significant on the Output side (more so for the GK 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, 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 this year, with a virtual stranglehold on the top 25<sup>th</sup> percentile of the list (i.e., the fourth quartile comprising 27 countries in the heat map in Table 1), ranging from Switzerland (1<sup>st</sup>) all the way down to Slovakia (27<sup>th</sup>). Switzerland is the most consistent high-performer amongst all its peers, never once dropping out of the top 10, regardless of the pillar in question.

The only high-income countries that are not part of the top 50 are **Venezuela** (95<sup>th</sup>), **Argentina** (65<sup>th</sup>) and **Russia** (53<sup>rd</sup>). These three countries are particularly affected by a relatively poor performance in the Enable pillar – showing weaker regulatory and market landscapes, especially in Venezuela.

Table 4 tabulates the better performing countries (top 10) in each pillar by income group. Most economies display a good balance between the Input and Output pillars. One pillar where not all developed countries are consistently good is in terms of Labour and Vocational skills (see heat map in Table 1). Two Central European countries show a high performance in this pillar: **Czech Republic** (1<sup>st</sup>) and **Slovakia** (2<sup>nd</sup>) – also Germany and Austria perform well in this pillar as discussed above. By contrast, United Kingdom, Australia and New Zealand do much better on the GK Skills pillar than the LV Skills pillar, highlighting their economies' structural shift towards knowledge jobs and services, but perhaps leaving gaps in the technical/vocational area.

Figure 3: Pillar scores by income groups (average of all countries in each group)

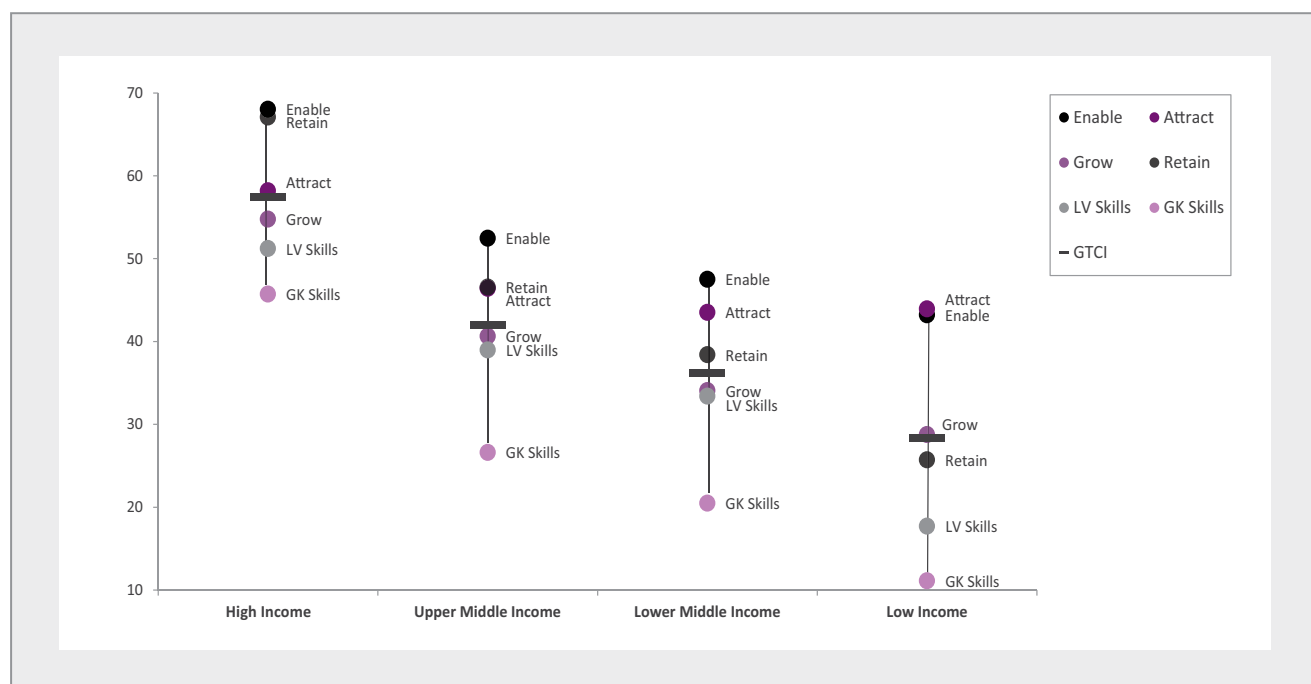


Table 4a: Best performers by income group (rank) – High-income countries

GTCI	Enable	Attract	Grow	Retain	LV Skills	GK Skills
High Income (47 countries)						
Switzerland (1)	Switzerland (1)	Singapore (2)	Netherlands (12)	Switzerland (1)	Czech Republic (20)	Luxembourg (3)
Singapore (2)	Singapore (2)	Australia (13)	Denmark (5)	Luxembourg (3)	Slovakia (27)	Singapore (2)
Luxembourg (3)	Denmark (5)	Luxembourg (3)	United States (4)	United Arab Emirates (23)	Austria (15)	United States (4)
United States (4)	Japan (19)	Canada (9)	Canada (9)	Norway (8)	Germany (14)	New Zealand (11)
Denmark (5)	Qatar (24)	New Zealand (11)	Switzerland (1)	Singapore (2)	Luxembourg (3)	Israel (25)
Sweden (6)	New Zealand (11)	Qatar (24)	Norway (8)	Austria (15)	Switzerland (1)	Switzerland (1)
United Kingdom (7)	Finland (10)	Switzerland (1)	Finland (10)	Sweden (6)	Poland (38)	United Kingdom (7)
Norway (8)	United Kingdom (7)	Norway (8)	Belgium (18)	United Kingdom (7)	Slovenia (26)	Denmark (5)
Canada (9)	United States (4)	United Kingdom (7)	Ireland (16)	Germany (14)	France (22)	Sweden (6)
Finland (10)	Canada (9)	Denmark (5)	Sweden (6)	Estonia (21)	Singapore (2)	Australia (13)

Let us have a look at the two best performers of the upper-middle income group and the lower-middle income group, both of which are seeking to progress into the corresponding next income group.

**Malaysia** (30<sup>th</sup>) is the top-ranked country in the group of upper-middle income countries. It falls just short of the fourth quartile of top performing countries but it is ranked above many high-income countries such as **Portugal** (33<sup>rd</sup>), **Spain** (36<sup>th</sup>), **South Korea** (37<sup>th</sup>), **Italy** (41<sup>st</sup>) and **Greece** (49<sup>th</sup>). Malaysia performs particularly well in the Enable pillar (21<sup>st</sup>) and in the Grow pillar (24<sup>th</sup>), both of which are part of the top quartile. As a consequence, the pillar of Global Knowledge Skills (39<sup>th</sup>) and particularly the pillar of Labour and Vocational Skills (24<sup>th</sup>) show good performance – although still below the performance of many developed countries. The Attract pillar (37<sup>th</sup>) is held back by relatively poor performance in terms of Internal openness (82<sup>nd</sup>) – there is ample room for improvement in terms of tolerance towards migrants and also in terms of gender issues. By contrast, Malaysia does well on External openness (21<sup>st</sup>), positioned in the top quartile of countries. The stock of migrants is not yet large relative to the total population,

though the country has been able to attract some foreign talent and receive an attractive brain gain rating. Part of the attraction of talent is due to the excellent performance of the country in terms of variables related to management practices: Employee development (4<sup>th</sup>), Relationship of pay to productivity (1<sup>st</sup>) and Delegation of authority (10<sup>th</sup>).

**Philippines** (56<sup>th</sup>) represents the top-ranked lower-middle income country and it ranks above several upper-middle income countries such as **South Africa** (57<sup>th</sup>), **Kazakhstan** (58<sup>th</sup>), **Mexico** (60<sup>th</sup>), **Colombia** (62<sup>nd</sup>) and **Turkey** (63<sup>rd</sup>). The country performs relatively well in the pillars Grow (47<sup>th</sup>) and Global Knowledge Skills (33<sup>rd</sup>) – in part explained by good access to growth opportunities. Despite having a good degree of social mobility and also tolerance towards minorities and migrants, the Philippines does not attract many migrants – the External openness sub-pillar (68<sup>th</sup>) still has ample room for improvement. The country receives a relatively large amount of FDI and technology transfers but it needs to catch up on other fronts, notably the Formal education sub-pillar (75<sup>th</sup>) – particularly in terms of quality and enrolment.



Table 4b: Best performers by income group (rank) – Upper-middle-income countries

GTCI	Enable	Attract	Grow	Retain	LV Skills	GK Skills
Upper Middle Income (31 countries)						
Malaysia (30)	Malaysia (30)	Costa Rica (40)	Costa Rica (40)	Bulgaria (44)	Serbia (50)	China (48)
Costa Rica (40)	Costa Rica (40)	Panama (54)	Malaysia (30)	Bosnia and Herzegovina (55)	Montenegro (45)	Bulgaria (44)
Bulgaria (44)	Macedonia (46)	Peru (74)	China (48)	Kazakhstan (58)	Macedonia (46)	Malaysia (30)
Montenegro (45)	Bulgaria (44)	Botswana (68)	Thailand (69)	Turkey (63)	Malaysia (30)	Costa Rica (40)
Macedonia (46)	Botswana (68)	Malaysia (30)	South Africa (57)	Malaysia (30)	Romania (52)	Turkey (63)
China (48)	Namibia (79)	Namibia (79)	Colombia (62)	Jordan (70)	Bosnia and Herzegovina (55)	Montenegro (45)
Serbia (50)	Colombia (62)	Brazil (67)	Bosnia and Herzegovina (55)	Montenegro (45)	Bulgaria (44)	Panama (54)
Romania (52)	Montenegro (45)	Montenegro (45)	Macedonia (46)	Costa Rica (40)	Azerbaijan (71)	South Africa (57)
Panama (54)	Turkey (63)	Colombia (62)	Botswana (68)	Macedonia (46)	Mexico (60)	Jordan (70)
Bosnia and Herzegovina (55)	China (48)	Dominican Republic (76)	Mexico (60)	Serbia (50)	Tunisia (73)	Serbia (50)

**BRICS countries** are not getting stronger. Although there is overall stability in the rankings with respect to GTCI 2014, particularly for the top countries, the BRICS are not climbing the rankings. In recent years, we have witnessed a cooling off in the growth of emerging markets, and indeed we note the relative decline in the talent competitiveness of the BRICS, particularly in **Brazil** (67<sup>th</sup>) where scores declined all round, particularly in terms of growing talent – the pool of Global Knowledge Skills (74<sup>th</sup>) is still limited compared to developed countries, even though universities in Brazil rank highly in terms of quality. **China** (48<sup>th</sup>) and **India** (89<sup>th</sup>) slip somewhat. Although China is an impressive 26<sup>th</sup> on its innovative creative GK skills, the shortage of vocational skills shows up clearly, as it also does in India and **South Africa** (57<sup>th</sup>) – but China continues to strengthen overall in growing talent (it is 1<sup>st</sup> in reading, maths and science scores). Despite the ‘Make in India’ campaign, there are no signs of an improved regulatory and market landscape to enable this in the subcontinent. Russia’s ranking (53<sup>rd</sup>) remains almost the same, though both Internal and External openness declined significantly. Overall, it is clear that weakness in developing vocational talent is handicapping the BRICS as well as many other countries – as outlined in last year’s GTCI 2014. This is

also the case for Saudi Arabia (42<sup>nd</sup>), a country experiencing a big recent decline in its ranking. A deteriorating Regulatory and Enable landscape are even bigger contributors to that fall in talent competitiveness. Another challenge for countries such as China and India is to attract talent from abroad, particularly in the context of large emigration rates of high-skilled people in the past. China has a low performance in terms of Attract (71<sup>st</sup>), and India shows one of the worst scores (103<sup>rd</sup>) – particularly affected by the lack of international students and, unlike China, by not being able to attract and retain global talent (so being more at risk of a Brain drain despite the connection with the diasporas working the IT sector). South Africa also needs to face the challenge of retaining talent, particularly affected by its unattractive Lifestyle (ranking 104<sup>th</sup> in terms of Safety at night).

The low-income countries in the GTCI sample occupy the last positions, ranging from the position 87<sup>th</sup> held by Rwanda (the best performer of this income group) to the position 109<sup>th</sup> (Madagascar). There are eight countries of the GTCI sample that are classified as low-income countries (many low-income countries do not have enough data availability to be considered for the GTCI computations).

Table 4c: Best performers by income group (rank) – Lower-middle-income countries

GTCI	Enable	Attract	Grow	Retain	LV Skills	GK Skills
Lower Middle Income (23 countries)						
Philippines (56)	Georgia (59)	Kenya (86)	Philippines (56)	Georgia (59)	Armenia (61)	Philippines (56)
Georgia (59)	Armenia (61)	Senegal (99)	Guatemala (75)	Armenia (61)	Ukraine (66)	Moldova (64)
Armenia (61)	Vietnam (82)	Guatemala (75)	Kenya (86)	Ukraine (66)	Moldova (64)	Vietnam (82)
Moldova (64)	Philippines (56)	Philippines (56)	El Salvador (84)	Egypt (88)	Kyrgyzstan (80)	Ukraine (66)
Ukraine (66)	Guatemala (75)	Sri Lanka (83)	Ukraine (66)	Moldova (64)	Georgia (59)	Armenia (61)
Guatemala (75)	El Salvador (84)	Lesotho (92)	Honduras (97)	Philippines (56)	Nicaragua (81)	Egypt (88)
Kyrgyzstan (80)	Nicaragua (81)	Nicaragua (81)	Bolivia (94)	Sri Lanka (83)	Lesotho (92)	Georgia (59)
Nicaragua (81)	Sri Lanka (83)	Georgia (59)	India (89)	Kyrgyzstan (80)	El Salvador (84)	India (89)
Vietnam (82)	Kenya (86)	Bolivia (94)	Moldova (64)	Morocco (93)	Egypt (88)	Bolivia (94)
Sri Lanka (83)	Lesotho (92)	Armenia (61)	Lesotho (92)	Nicaragua (81)	Philippines (56)	Pakistan (103)

## Regional Groups

Given intrinsic heterogeneities within and across regional groups, one has to be careful when trying to draw inferences from this data. For example, Sub-Saharan Africa includes low-income (Madagascar, Uganda), lower-middle-income (Ghana) and high-middle-income (Botswana and South Africa) countries. Northern America, on the other hand, includes only high-income countries (United States and Canada), which show smaller differences in terms of development and GDP per capita. Figure 4 shows how regions perform across the various pillars of the GTCI model. Table 5 then lists the top 10 performers by regional group. Below are some highlights for the best countries in each region:

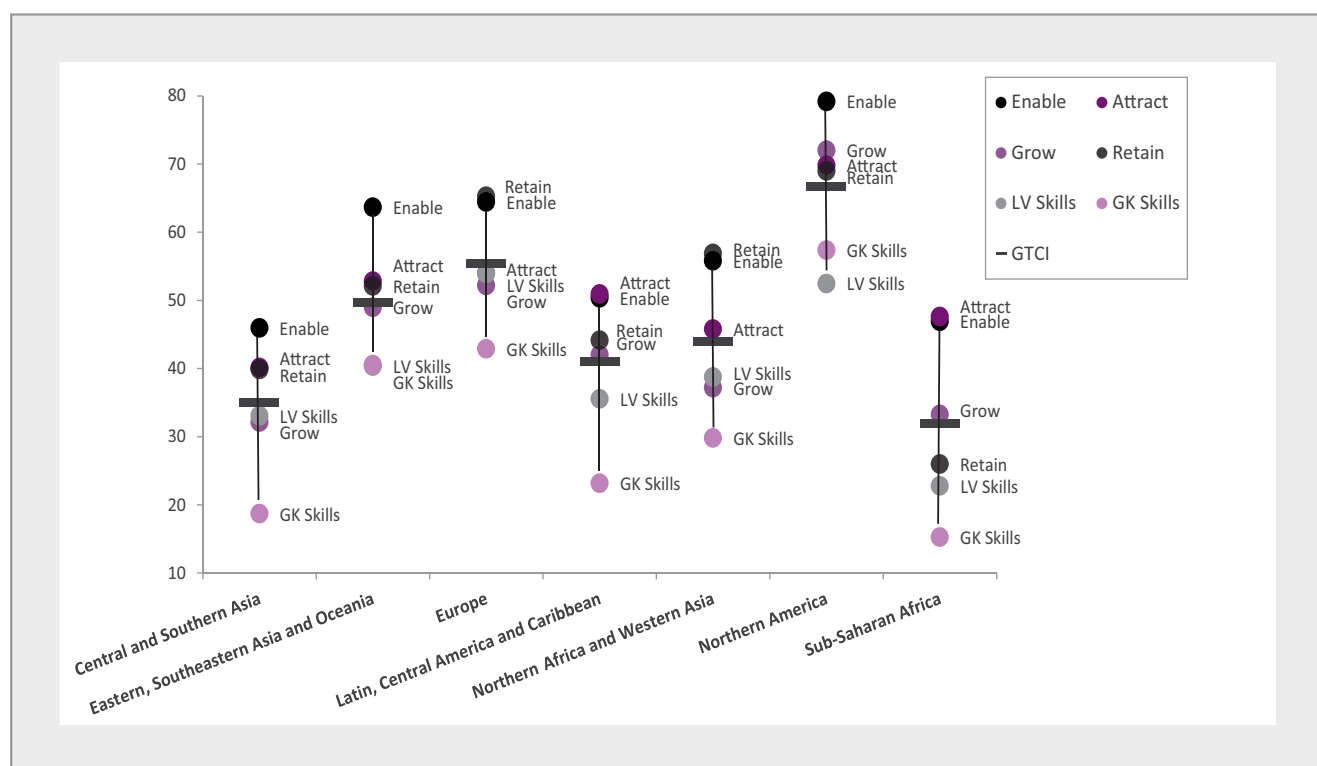
**North America (2 countries):** both Northern American economies, the US (4<sup>th</sup>) and Canada (9<sup>th</sup>), feature in the ‘top 10’ high performers of this year’s GTCI. The countries are fairly evenly matched in the pillars Enable (Canada: 10<sup>th</sup>; US: 9<sup>th</sup>), Grow (Canada: 4<sup>th</sup>; US: 3<sup>rd</sup>) and Retain (Canada: 25<sup>th</sup>; US: 17<sup>th</sup>). Within the pillar Enable, Canada performs better in terms of Regulatory landscape (Canada: 9<sup>th</sup>; US: 22<sup>nd</sup>) whereas US outperforms Canada in terms of the Market landscape (Canada: 21<sup>st</sup>; US: 6<sup>th</sup>). Canada outperforms the

US in the pillar Attract (Canada: 4<sup>th</sup>; US: 14<sup>th</sup>) – driven by better performance in both External openness and, particularly, in Internal openness. Nevertheless, the US still counts with a stronger pool of Global Knowledge Skills (Canada: 17<sup>th</sup>; US: 3<sup>rd</sup>). Furthermore, Canada does not score as high as the US in Cluster development (Canada: 17<sup>th</sup>; US: 4<sup>th</sup>).

**Europe (38 countries):** there are seven European countries within the ‘top 10’ of high performers of this year’s GTCI. Netherlands, Germany and Austria join in the top 15 (all these countries have already been described above). Yet, there is a large heterogeneity in terms of performance in this region. In general, smaller European countries tend to perform better than larger countries: e.g., the Benelux countries all rank higher than larger European economies such as Germany and France. **France** (22<sup>nd</sup>) presents a strong Grow pillar (17<sup>th</sup>), particularly given the quality of its higher education institutions. The country lags particularly behind in the pillar Enable (38<sup>th</sup>) – the Business-labour landscape has room for improvement, especially in terms of labour market flexibility. Among other big economies, **Italy** (41<sup>st</sup>) has the lowest overall performance, ranking lower than many Eastern European countries. Although it has excellent clusters (a world-class performer here), Italy’s performance is



Figure 4: Pillar scores by regional groups (average of all countries within each region)



particularly affected by the Regulatory landscape (59<sup>th</sup>) and, above all, the Business-labour landscape (91<sup>st</sup>) – Labour-employer cooperation is among the lowest in the world. Italy has ample room for improvement in terms of its External openness in attracting talent from abroad.

**Eastern and Southeastern Asia and Oceania (13 countries):** Singapore (2<sup>nd</sup>) is the flag bearer of performance in the region. Next come New Zealand (11<sup>th</sup>) and Australia (13<sup>th</sup>) – the performance of these three countries has been described above. This region shows large heterogeneity in terms of performance. **Japan** (19<sup>th</sup>) has a solid overall performance. One of its main challenges is the pillar Attract (45<sup>th</sup>); there is a large gap with respect to the top three countries of this region and even middle-income countries like Malaysia attract more foreign talent. **Indonesia** (90<sup>th</sup>) has a long way to go to catch up on all the pillars; yet, the country is increasingly perceived by business leaders as being attractive to high-skilled people, scoring high on potential Brain gain (even though the stock of migrants in the country is still small). **Thailand** (69<sup>th</sup>) also needs to catch up across the different pillars but it does have a relatively good performance in the pillar Grow (31<sup>st</sup>). **South Korea** (37<sup>th</sup>) ranks in the middle of this region. Despite

being the top country in dimensions such as Tertiary education enrolment (2<sup>nd</sup>) and the Market Landscape (1<sup>st</sup>) – with world-beating R&D investments, the country still has room for improvement in the pillar Attract (61<sup>st</sup>). Although the country is increasingly perceived by business leaders as good performer in gaining global talent, the stock of migrants is still rather small.

**Northern Africa and Western Asia (16 countries):** **United Arab Emirates** (23<sup>rd</sup>), **Qatar** (24<sup>th</sup>) and **Israel** (25<sup>th</sup>) are all part of the high-performing 25<sup>th</sup> percentile of countries (comprising 27 countries). The two Arab nations perform relatively better in the Input-side pillars. They are good at attracting foreign workers and businesses and creating the proper context by having a strong Enable pillar (Qatar; 5<sup>th</sup>; UAE: 11<sup>th</sup>). Israel performs better in the Output-side pillars and, in particular, it is a top country in terms of Global Knowledge Skills (5<sup>th</sup>) – a dimension where the GCC countries lag behind. The North African countries of the GTCI sample have the lowest performance in the region in the overall GTCI score (**Tunisia**: 73<sup>rd</sup>; **Egypt**: 88<sup>th</sup>; **Morocco**: 93<sup>rd</sup>; **Algeria** (104<sup>th</sup>). There are two countries that have particular potential to host creative talent. **Turkey** (63<sup>rd</sup>) is good in terms of Global Knowledge Skills (45<sup>th</sup>) and also has

a relatively strong Enable pillar (51<sup>st</sup>) – at least compared to other middle-income countries. Its main weakness is that it does not attract foreign talent (Attract pillar: 105<sup>th</sup>). **Jordan** (70<sup>th</sup>) can be highlighted as a place to which corporations may gravitate, with a relatively high score for Global Knowledge Skills (50<sup>th</sup>). Unlike Turkey, Jordan does increasingly attract foreign talent (it has become a technology and start-up hub for its region). Yet, Jordan still faces challenges regarding its reputation. Although it currently has a large migrant population, with skilled workers among the many refugees, and it does well in attracting International students (16<sup>th</sup>), the perception of business leaders is that the country is mixed when it comes to its Brain gain attractiveness. **Saudi Arabia** (42<sup>nd</sup>) performs even better than some European countries (notably Italy) but it still lags behind the regional leaders.

**Latin, Central America, and the Caribbean (19 countries):** **Chile** (34<sup>th</sup>) is the top performer of the region, particularly given its strong Grow pillar (20<sup>th</sup>). Although its stock of migrant population is still rather low, Chile is increasingly considered a country that is attractive to foreign talent (Brain gain: 14<sup>th</sup>). This is especially the case given recent policies to attract foreign entrepreneurs (Santiago, the capital, is increasingly called Chilecon Valley). Such success is likely to continue given the good business environment prevalent in the country (Enable pillar: 30<sup>th</sup>), although Chile still has room for improvement in terms of Internal openness (42<sup>nd</sup>). **Costa Rica** (40<sup>th</sup>) and **Panama** (54<sup>th</sup>) stand out given their strong Attract pillar (15<sup>th</sup> and 18<sup>th</sup>, respectively). This is because these countries have become hubs in the sub-region of Central America. **Uruguay** (47<sup>th</sup>) is another country with a strong Attract pillar (26<sup>th</sup>), in addition to its relatively good Grow pillar (44<sup>th</sup>). All the other countries in the region do not show impressive performance, or at least a performance that corresponds to their levels of development. Brazil and Mexico, the two biggest economies of the region, are below the median in terms of the GTCI score. Brazil was already discussed above (under the BRICS section). **Mexico** (60<sup>th</sup>) has a relatively good Grow pillar (56<sup>th</sup>) and a proper pool of Labour and Vocational Skills (52<sup>nd</sup>). Yet, the Enable pillar

(76<sup>th</sup>) is lagging behind and Mexico has especially some work to do in terms of the Retain pillar (77<sup>th</sup>) by improving security and lifestyles.

**Central and Southern Asia (7 countries):** Despite this group only having seven countries, it has the largest potential pool of human capital of more than 1.7 billion people, with India leading the way (with a population of over 1.25 billion people). Unfortunately, performance in talent performance is not good. **Kazakhstan** (58<sup>th</sup>), the best performer in the region, is below the median performance in the GTCI sample and even then it is an outlier: the second place is taken by **Kyrgyzstan** (80<sup>th</sup>), which is well below in terms of ranking. Kazakhstan is a clear outlier: fuelled by its oil industry and an eagerness to diversify the economy, it is able to attract foreign businesses and some talent (Attract pillar: 52<sup>nd</sup>). Yet, the country is lagging behind across the Grow (85<sup>th</sup>) and GK Skills (73<sup>rd</sup>) pillars. With no doubts, the improvement of India would have the greatest impact in terms of the pool of talent not only in the region but also globally. As discussed in the BRICS section, India (89<sup>th</sup>) has been able to create a stable pool of GK Skills but it has suffered in the Retain pillar (98<sup>th</sup>). Although diasporas have been engaged successfully in some industries, large amounts of talent continue leaving the country, and thus India still experiences a brain drain.

**Sub-Saharan Africa (14 countries):** **South Africa** (57<sup>th</sup>), as one of the few upper-middle-income countries in the region, is the clear best performer – ranking virtually at the median of the whole GTCI sample. It has to be mentioned that many countries in this region have not been included in the GTCI sample due to data limitations – including big economies such as Nigeria. In general, talent performance is not good in this region but **Botswana** (68<sup>th</sup>), another upper-middle income country, and **Kenya** (86<sup>th</sup>) are the ones coming closer to South Africa. Botswana, in fact, shows a relatively strong performance in the pillars Enable (45<sup>th</sup>), Attract (36<sup>th</sup>) and Grow (55<sup>th</sup>). It is a country with strong political stability, flexible labour markets, and one of the highest expenditure in tertiary education.

Table 5: Ten best performers by regional group (rank)

GTCI	Enable	Attract	Grow	Retain	LV Skills	GK Skills
Northern America (2 countries)						
United States (4)	United States (4)	Canada (9)	United States (4)	United States (4)	United States (4)	United States (4)
Canada (9)	Canada (9)	United States (4)	Canada (9)	Canada (9)	Canada (9)	Canada (9)
Latin, Central America and the Caribbean (19 countries)						
Chile (34)	Barbados (39)	Barbados (39)	Chile (34)	Uruguay (47)	Chile (34)	Chile (34)
Barbados (39)	Chile (34)	Costa Rica (40)	Costa Rica (40)	Barbados (39)	Nicaragua (81)	Costa Rica (40)
Costa Rica (40)	Costa Rica (40)	Panama (54)	Barbados (39)	Chile (34)	Mexico (60)	Panama (54)
Uruguay (47)	Colombia (62)	Uruguay (47)	Colombia (62)	Costa Rica (40)	Costa Rica (40)	Mexico (60)
Panama (54)	Uruguay (47)	Chile (34)	Argentina (65)	Panama (54)	Peru (74)	Barbados (39)
Mexico (60)	Dominican Republic (76)	Peru (74)	Uruguay (47)	Brazil (67)	Argentina (65)	Uruguay (47)
Colombia (62)	Brazil (67)	Brazil (67)	Venezuela (95)	Ecuador (78)	Barbados (39)	Colombia (62)
Argentina (65)	Guatemala (75)	Guatemala (75)	Guatemala (75)	Venezuela (95)	Dominican Republic (76)	Argentina (65)
Brazil (67)	El Salvador (84)	Colombia (62)	Mexico (60)	Mexico (60)	El Salvador (84)	Brazil (67)
Peru (74)	Nicaragua (81)	Argentina (65)	Brazil (67)	Argentina (65)	Panama (54)	Bolivia (94)
Europe (38 countries)						
Switzerland (1)	Switzerland (1)	Luxembourg (3)	Netherlands (12)	Switzerland (1)	Czech Republic (20)	Luxembourg (3)
Luxembourg (3)	Denmark (5)	Switzerland (1)	Denmark (5)	Luxembourg (3)	Slovakia (27)	Switzerland (1)
Denmark (5)	Finland (10)	Norway (8)	Switzerland (1)	Norway (8)	Austria (15)	United Kingdom (7)
Sweden (6)	United Kingdom (7)	United Kingdom (7)	Norway (8)	Austria (15)	Germany (14)	Denmark (5)
United Kingdom (7)	Sweden (6)	Denmark (5)	Finland (10)	Sweden (6)	Luxembourg (3)	Sweden (6)
Norway (8)	Norway (8)	Sweden (6)	Belgium (18)	United Kingdom (7)	Switzerland (1)	Iceland (17)
Finland (10)	Ireland (16)	Ireland (16)	Ireland (16)	Germany (14)	Poland (38)	Estonia (21)
Netherlands (12)	Austria (15)	Belgium (18)	Sweden (6)	Estonia (21)	Serbia (50)	Finland (10)
Germany (14)	Iceland (17)	Netherlands (12)	United Kingdom (7)	Netherlands (12)	Slovenia (26)	Netherlands (12)
Austria (15)	Germany (14)	Germany (14)	Iceland (17)	Czech Republic (20)	France (22)	Malta (28)

GTCI	Enable	Attract	Grow	Retain	LV Skills	GK Skills
Northern Africa and Western Asia (16 countries)						
United Arab Emirates (23)	Qatar (24)	Qatar (24)	United Arab Emirates (23)	United Arab Emirates (23)	Israel (25)	Israel (25)
Qatar (24)	United Arab Emirates (23)	United Arab Emirates (23)	Qatar (24)	Kuwait (51)	Armenia (61)	Cyprus (32)
Israel (25)	Israel (25)	Cyprus (32)	Israel (25)	Israel (25)	Azerbaijan (71)	Saudi Arabia (42)
Cyprus (32)	Saudi Arabia (42)	Kuwait (51)	Cyprus (32)	Qatar (24)	United Arab Emirates (23)	Turkey (63)
Saudi Arabia (42)	Cyprus (32)	Saudi Arabia (42)	Saudi Arabia (42)	Saudi Arabia (42)	Georgia (59)	Jordan (70)
Kuwait (51)	Georgia (59)	Azerbaijan (71)	Turkey (63)	Cyprus (32)	Qatar (24)	Tunisia (73)
Georgia (59)	Turkey (63)	Georgia (59)	Lebanon (77)	Georgia (59)	Cyprus (32)	United Arab Emirates (23)
Armenia (61)	Azerbaijan (71)	Jordan (70)	Kuwait (51)	Turkey (63)	Saudi Arabia (42)	Lebanon (77)
Turkey (63)	Armenia (61)	Armenia (61)	Tunisia (73)	Jordan (70)	Tunisia (73)	Qatar (24)
Jordan (70)	Kuwait (51)	Israel (25)	Jordan (70)	Armenia (61)	Lebanon (77)	Armenia (61)
Sub-Saharan Africa (14 countries)						
South Africa (57)	Rwanda (87)	Kenya (86)	South Africa (57)	South Africa (57)	Lesotho (92)	South Africa (57)
Botswana (68)	Botswana (68)	Senegal (99)	Botswana (68)	Rwanda (87)	South Africa (57)	Botswana (68)
Namibia (79)	Namibia (79)	Botswana (68)	Kenya (86)	Botswana (68)	Namibia (79)	Namibia (79)
Kenya (86)	South Africa (57)	Namibia (79)	Namibia (79)	Ethiopia (107)	Botswana (68)	Kenya (86)
Rwanda (87)	Kenya (86)	Rwanda (87)	Lesotho (92)	Senegal (99)	Kenya (86)	Senegal (99)
Lesotho (92)	Lesotho (92)	South Africa (57)	Rwanda (87)	Ghana (102)	Rwanda (87)	Mali (105)
Senegal (99)	Uganda (101)	Uganda (101)	Tanzania (106)	Uganda (101)	Ethiopia (107)	Ghana (102)
Uganda (101)	Ghana (102)	Mali (105)	Ghana (102)	Namibia (79)	Senegal (99)	Uganda (101)
Ghana (102)	Burkina Faso (108)	Lesotho (92)	Senegal (99)	Kenya (86)	Ghana (102)	Ethiopia (107)
Mali (105)	Senegal (99)	Burkina Faso (108)	Uganda (101)	Burkina Faso (108)	Madagascar (109)	Lesotho (92)

GTCI	Enable	Attract	Grow	Retain	LV Skills	GK Skills
Eastern, Southeastern Asia and Oceania (13 countries)						
Singapore (2)	Singapore (2)	Singapore (2)	Australia (13)	Singapore (2)	Singapore (2)	Singapore (2)
New Zealand (11)	Japan (19)	Australia (13)	New Zealand (11)	Australia (13)	Japan (19)	New Zealand (11)
Australia (13)	New Zealand (11)	New Zealand (11)	Singapore (2)	Japan (19)	Malaysia (30)	Australia (13)
Japan (19)	Australia (13)	Malaysia (30)	Malaysia (30)	New Zealand (11)	South Korea (37)	South Korea (37)
Malaysia (30)	Malaysia (30)	Japan (19)	Japan (19)	Malaysia (30)	Australia (13)	Japan (19)
South Korea (37)	South Korea (37)	Philippines (56)	China (48)	Philippines (56)	New Zealand (11)	China (48)
China (48)	China (48)	South Korea (37)	South Korea (37)	South Korea (37)	Mongolia (72)	Philippines (56)
Philippines (56)	Thailand (69)	China (48)	Thailand (69)	China (48)	China (48)	Malaysia (30)
Thailand (69)	Vietnam (82)	Mongolia (72)	Philippines (56)	Thailand (69)	Philippines (56)	Vietnam (82)
Mongolia (72)	Philippines (56)	Vietnam (82)	Mongolia (72)	Mongolia (72)	Cambodia (96)	Thailand (69)
Central and Southern Asia (7 countries)						
Kazakhstan (58)	Kazakhstan (58)	Kazakhstan (58)	Iran (98)	Kazakhstan (58)	Kyrgyzstan (80)	India (89)
Kyrgyzstan (80)	Sri Lanka (83)	Sri Lanka (83)	India (89)	Sri Lanka (83)	Kazakhstan (58)	Kazakhstan (58)
Sri Lanka (83)	Kyrgyzstan (80)	Kyrgyzstan (80)	Kazakhstan (58)	Kyrgyzstan (80)	Bangladesh (100)	Pakistan (103)
India (89)	India (89)	Bangladesh (100)	Kyrgyzstan (80)	Iran (98)	Pakistan (103)	Iran (98)
Iran (98)	Bangladesh (100)	India (89)	Sri Lanka (83)	Bangladesh (100)	Sri Lanka (83)	Sri Lanka (83)
Bangladesh (100)	Iran (98)	Pakistan (103)	Pakistan (103)	India (89)	India (89)	Bangladesh (100)
Pakistan (103)	Pakistan (103)	Iran (98)	Bangladesh (100)	Pakistan (103)	Iran (98)	Kyrgyzstan (80)

## ENDNOTES

- <sup>1</sup> World Bank, 2015 (<http://data.worldbank.org/indicator/IS.AIR.PSGR/countries?display=graph>)
- <sup>2</sup> Historically, migration flows have been linked to prevalent economic forces (e.g., the mercantile period in Europe or the migration flows that followed the industrial revolution and the spread of colonialism). Today is no exception as high-skilled migration is linked to the globalisation of the world economy, which is leading to the globalisation of these high skills. Ideas, know-how and innovative and entrepreneurial people increasingly cross borders and generate value locally and globally. In such a context, international mobility of people is becoming a key aspect of access to talent and the talent development process.
- <sup>3</sup> Legal permanent migration to the OECD amounted to 4.3 million in 2014, a 6% increase compared to 2013. In the European Union (EU), permanent legal migration from outside the EU is now equivalent to what is recorded in the US: about one million a year. Source: OECD (2015), International Migration Outlook 2015.
- <sup>4</sup> Over 70% of the Vietnamese boat people were ultimately resettled into the US, Australia, and Canada.
- <sup>5</sup> OECD (2015), International Migration Outlook 2015
- <sup>6</sup> See the online visualisation of the “Global Flow of People” on [www.global-migration.info](http://www.global-migration.info) for detailed information (authors Nikola Sander, Guy Abel and Ramon Bauer).
- <sup>7</sup> See Chapter 5 for a UK example of the legal/illegal dimension. In 2004, the UK government forecast that 10,000 immigrants would enter Britain after eight new countries joined the EU. In fact more than 700,000 entered legally, plus an additional 700,000 illegally.
- <sup>8</sup> In this classification of countries, we draw upon work from the OECD and the European Commission (OECD/European Union 2015) as well as GTCI data.
- <sup>9</sup> Teitelbaum (2014)
- <sup>10</sup> See “The Global Innovation Index 2014: The human factor in innovation” (Cornell, INSEAD and WIPO, 2014)
- <sup>11</sup> The economic literature on migration has three main strands: (i) understanding the drivers of international migration (i.e., ‘push’ and ‘pull’ factors such as wage differentials across regions); (ii) measuring impacts on the sending country, covering topics like the brain drain, return migration (i.e., of people with new knowledge, entrepreneurial mindset and money for productive activities) and international remittances; (iii) measuring impacts on the host country, covering topics like the reaction of domestic wages, the competition for jobs with natives and the pressure migrants can put on welfare states.
- <sup>12</sup> Czaika and de Haas (2014)
- <sup>13</sup> “Millennials want to lead: Are they ready?”, INSEAD Knowledge, 2014 (retrieved at <http://knowledge.insead.edu/leadership-management/millennials-want-to-lead-are-they-ready-3692>)
- <sup>14</sup> Bloom and Van Reenen (2010); Bloom et al. (2012)
- <sup>15</sup> Cappelli (2008)
- <sup>16</sup> The high professionalism of the US makes up for the lower attention to employee development; indeed the emphasis in US talent management on hiring rather than developing, leads companies to look for talent from abroad.
- <sup>17</sup> Wang (2015)
- <sup>18</sup> Bloom and Van Reenen (2010)
- <sup>19</sup> Cappelli (2008); Pucik et al. (2016)
- <sup>20</sup> <http://www.economist.com/news/business/21594223-it-no-longer-just-plausible-theory-good-management-boosts-productivity-measuring>
- <sup>21</sup> Bloom et al. (2012)
- <sup>22</sup> Migrants with mortar boards, *The Economist*, 16 November 2013.
- <sup>23</sup> Wildavsky (2010)
- <sup>24</sup> Although emigration can alleviate social pressures in countries with struggling economies, a high proportion of emigrants are high-skilled and many do not return to the home country. This is a cost for the sending country in terms of human capital lost and also in terms of resources if public money is being invested to educate these people. Take the example of the Mexican emigration to the USA. While certainly less educated than US natives, these migrants are more educated than the average resident in Mexico (migrants with 10–15 years of schooling were the most common in the 1990s and 2000s). If Mexican immigrants in the US were paid according to Mexican skill wages, they would fall disproportionately in the middle and upper portions of Mexico’s wage distribution. For further details see the work by Borjas (1994) and Chiquiar and Hanson (2005).
- <sup>25</sup> See Chapter 5 for a discussion of brain circulation and its origins.
- <sup>26</sup> Remittances may also encourage entrepreneurship, though evidence is mixed (see Amuedo-Dorantes and Pozo 2006). At the macro level, the existence of a negative correlation between GDP growth and the level of remittances would indicate that remittances serve altruistic considerations and would not be intended to serve as a source of capital for economic development. This is the result obtained by Chami et al. (2005) by employing aggregate cross-country data.
- <sup>27</sup> Wang (2015)
- <sup>28</sup> Safe Cities Index, Economist Intelligence Unit, 2015 (retrieved at <http://safecities.economist.com>)
- <sup>29</sup> “Tools and strategies for innovative talent attraction and retention: a handbook on talent attraction management for cities and regions”. Tensensor, (2014), Stockholm.
- <sup>30</sup> Florida (1997)
- <sup>31</sup> For example, the Heidrick & Struggles’ Global Talent Index and more recently, the World Economic Forum’s Human Capital Index.
- <sup>32</sup> INSEAD built on its expertise and experience in developing two other global indices, now widely recognised by the international community, respectively in the domain of information technology (the Global Information Technology Index, now in its 13<sup>th</sup> year of existence), and innovation (the Global Innovation Index, or GII, whose seventh annual edition was launched in July 2013). For additional details, see INSEAD’s Global Indices page ([global-indices.insead.edu](http://global-indices.insead.edu)). The development and improvement of the GTCI model was facilitated by dialogue with academics from many disciplines at INSEAD, now being anchored in an Academic Council of leading scholars across the globe, and complemented by an expanding Advisory Board of government and business leaders (a full list of members can be found elsewhere in this report).
- <sup>33</sup> Cappelli and Keller (2014); Stahl et al. (2012)
- <sup>34</sup> The method and results of this audit are the subject of Chapter 6 in this report.
- <sup>35</sup> Countries are grouped according to the World Bank Income Classifications (July 2015). Economies are divided based on their 2013 gross national income per capita, calculated using the World Bank Atlas method. The groups are: low income (US\$1,045 or less); lower middle income (US\$1,046 to US\$ 4,125); upper middle income (US\$4,126 to US\$12,745); and high income (US\$12,746 or more).

## REFERENCES

- Abel, G. & Sander, N. (2014). Quantifying global international migration flows. *Science*, 343 (6178), 1520-1522.
- Amuedo Dorantes, C. & Pozo, S. (2006). Remittances as insurance: evidence from Mexican immigrants. *Journal of Population Economics*, 19:227–254.
- Bloom, N. & Van Reenen, J. (2010). Why do management practices differ across firms and countries? *Journal of Economic Perspectives*, 24:1, 203–224.
- Bloom, N., Genakos, C., Sadun, R. & Van Reenen, J. (2012). Management practices across firms and countries. *Academy of Management Perspectives*, February 1, 26 (1), 12–33.
- Borjas, G.J. (1994). The economics of immigration. *Journal of Economic Literature*, 32: 1667–1717.
- Braudel, F. (1985). *Civilization and Capitalism 15th-18th Century*, HarperCollins.
- Cappelli, P. (2008). Talent on demand: *Managing talent in an age of uncertainty*. Boston MA, Harvard Business School Press.
- Cappelli, P. & Keller, J. R. (2014). Talent management: Conceptual approaches and practical challenges. *Annual Review of Organisational Psychology and Organisational Behaviour*, 1, 305–331.
- Chami R., Fullenkamp, C. & Jahjah, S. (2005). Are immigrant remittance flows a source of capital for development? *IMF Staff Papers*, 5(1), 55–81.
- Chiquiar D. & Hanson, G.H. (2005). International migration, self-selection, and the distribution of wages: evidence from Mexico and the United States. *Journal of Political Economy*, 113(2), 239–281.
- Cornell, INSEAD & WIPO (2014). *The Global Innovation Index 2014: The human factor in innovation*. Fontainebleau, Ithaca, and Geneva.
- Czaika, M. & de Haas, H. (2014). The globalization of migration: Has the world become more migratory? *International Migration Review*, 48(2), 283–323.
- Florida, R. (1997). The globalization of R&D: Results of a survey of foreign-affiliated R&D laboratories in the USA. *Research Policy*. 26:1, 85–103.
- OECD. (2015). *International Migration Outlook 2015*. OECD Publishing, Paris.
- OECD/European Union. (2015). *Indicators of Immigrant Integration 2015: Settling In*. OECD Publishing, Paris.
- Pucik, V., Evans, P., Björkman, I. & Morris, S. (2016). *The Global Challenge: International Human Resource Management* (3rd edition), Chicago: Chicago Business Press.
- Stahl, G. K., Björkman, I., Farndale, E., Morris, S.S., Paauwe, J., Stiles, P. & Wright, P. (2012). Six principles of effective global talent management. *MIT Sloan Management Review*, 53, 25–32.
- Teitelbaum, M.S. (2014). *Falling Behind? Boom, Bust, and the Global Race for Scientific Talent*. Princeton University Press.
- Wang, D. (2015). Activating brokerage: Interorganizational knowledge transfer through skilled return migration. *Administrative Science Quarterly*. 60:1, 133–76.
- Wildavsky, B. (2010). *The Great Brain Race: How Global Universities Are Reshaping the World*. Princeton University Press.
- WIPO. (2013). Measuring the international mobility of inventors: A new database. Working Paper 8. WIPO Economics & Statistics Series.





## CHAPTER 2

# MOBILISING TALENT TO BOOST PROSPERITY

**Alain Dehaze**

Chief Executive Officer, The Adecco Group

Today's cutting-edge research labs, prestigious universities, champion soccer teams and even top orchestras, are becoming global microcosms. Pharmaceutical giants extol the diversity of their top brains; Silicon Valley start-ups trumpet much the same. Even the haute couture houses of Paris and Milan laud the diversity of their designers. Always a fact, but ever more pronounced as globalisation has accelerated, talent is mobile and congregates in clusters. Whether it is thanks to the magnetism of a three-star chef, the power of a chemicals conglomerate or the enlightened policies of a country determined to boost its economic and social development, talent flows – and only the best will do.

## TALENT MOBILITY, THE BIG PICTURE

Countless studies highlight the links between talent and mobility – and the growing importance of both. In its *World of Work Report 2014*,<sup>1</sup> the International Labour Organisation

(ILO) put the number of international migrants around the world at 232 million. That figure had increased by 57 million since 2000, with 19% of the rise occurring within the study's closing three years. Likewise the Organisation for Economic Co-operation and Development (OECD) calculated in its *International Migration Outlook 2014*<sup>2</sup> that there were more than 115 million immigrants in OECD countries alone, about 10% of the population.

The recent dramatic pictures in Europe of thousands of people on the move portray 'mobility' at its extreme. The initial priority is humanitarian – a call for action to accommodate the vast numbers of refugees and asylum seekers from conflict zones. But there is also perhaps a once-in-a-lifetime opportunity here for policymakers in host countries to assess the skills of the new arrivals, provide work-based training opportunities and allow those already offering valuable talents to enter the labour force.

For mobility is not just a fact, but a major economic benefit. In October 2013, the United Nations General Assembly stressed the contribution of migration in realising its Millennium Development Goals (*Declaration of the High-level Dialogue on International Migration and Development*, 2013). The UN described human mobility as a key factor for sustainable development, both by providing better jobs for people and through the value of remittances in reducing poverty and improving health, education and local development in migrants' countries of origin.<sup>3</sup>

Of course, not all of the millions of migrants are brain surgeons, university professors or piano virtuosos. It is the remit of this year's Global Talent Competitiveness Index (GTCI) to focus not on mass migration, but on particularly skilled talent and how it can be attracted to countries or companies. We know that weaknesses in education and training are generating growing skill imbalances in labour markets, leading inevitably to yawning mismatches between demand and supply for people with specific talents. And we are aware that such mismatches contribute both to high unemployment, and missed development and business opportunities. The purpose of this chapter is to examine how these may be addressed, at least in part, by greater mobility.

## THE ERA OF AGEING

The need for action is reinforced by glaring demographic challenges in many regions. The OECD and ILO draw attention to the role and value of immigration in countering ageing and population decline, as well as contributing to economic growth.

Governments and companies in Europe, America and Asia's most developed countries face a severe challenge in the form of ever older workers and a 'baby boom' generation now entering retirement.<sup>4</sup> To draw on the UN report, *World Population Ageing 1950–2050*,<sup>5</sup> today we are all enjoying longer lives and having fewer children. Accordingly, by the year 2050, those aged over 65 will be the fastest growing slice of the population. Those developments present big hurdles for the developed world.<sup>6</sup>

The rate of change will be significantly different depending on location. The population of India is likely to rise by about one quarter, Africa's population is likely to double; whereas European population numbers are forecast to sink. The average citizen in Japan – a particularly extreme example – will be aged 53 by 2050. Contrast that with Nigeria's 30 or India's 38.<sup>7</sup>

For Europe, Asia and Latin America, some relief will come from the fact that more women and older people will join the labour force, softening the demographic blow. Technology may also have a greater role to play: the science fiction

pictures of robot aides may no longer be quite so fanciful, if recent developments in Japan to create mechanical helpers for the elderly are anything to go by.

At the same time, higher investments in education in Asia and Africa are helping to turn out ever larger numbers of talented people who are likely to be sought after both in their home countries and further afield. That too, of course, could pose local challenges, requiring governments in developing countries to adjust to make the best of the new talent coming on stream. In sum, almost irrespective of location, all governments will need to implement urgent measures to tackle the demographic changes facing them.<sup>8</sup>

## FILLING THE SKILLS GAPS

Against this background, global talent mobility can make an ever bigger contribution. For those with the highest or most desirable skills, demand from employers is likely to become ever fiercer – particularly in science, technology, engineering and mathematics. Mobility is a crucial tool to address the challenges of demography and skills shortages, and the needs for a diverse workforce, helping economies to flourish.

Just as personal interaction has created unique, and arguably world-beating, groups in science, academia, sport and culture, so the movement of skilled people across borders to engage in productive or innovative activities can offer similar benefits to a broader field. Not only is there the potential to fill demographic and skills gaps, talent mobility fosters the creation of knowledge – a determinant of innovation. It nurtures more open work environments, develops global entrepreneurship experience and helps to build the global networks that facilitate innovation.

Recent data demonstrates that executives and policymakers are increasingly aware of the potential offered by talent mobility to improve companies' and countries' competitiveness. The OECD's *International Migration Outlook 2014* showed Intra-Company Transfers increased by 15% since 2007, indicating sustained global business demand for specific skills. The US continued to be the major destination for such transfer workers – though the number of entries declined slightly in 2012. In the same year, Europe welcomed about 16,500 Intra-Company Transfers, corresponding to about 4% of temporary migrant workers.

Two years later in 2014, the European Union (EU) adopted a council directive aimed, among other things, at facilitating the temporary assignment of highly-skilled employees of international companies to subsidiaries in the EU. Meanwhile, the *Global Mobility Survey Report 2015*<sup>9</sup> forecasts that assignment activity over the coming 12 months will rise by a 24.8%, with engineering and consulting as main drivers.

## LOOKING AT OUR OWN EXPERIENCE

With more than 32,000 (full-time equivalent) employees, almost one million associates placed with clients every day and some 5,100 branches in more than 60 countries, Adecco is not just a global leader in human resources solutions, but one of the world's top 10 employers in terms of human resources numbers. Like most of our peers, we face similar issues to many other multinational companies in attracting, developing and retaining talent. So, we are responding to the need for greater mobility by incorporating international mobility much more closely in Adecco's global talent strategy.

To answer the challenges, we are investing in talent mobility to boost diversity and develop the best skills within our group. Our headquarters has been kept small, both for cost and to reflect our highly decentralised structure – itself an expression of the diversity of our colleagues and the labour regulations in the countries in which we operate. Growth, partly through acquisitions, also played its part in keeping our organisation relatively loose.

My 170 colleagues at Adecco headquarters in Switzerland hail from no less than 30 nationalities, mirroring the variety of cultures and identities in the Adecco Group. I owe most of the key lessons gained throughout my life and career to the fantastic opportunity to have lived and worked in five countries, being surrounded by multicultural teams. An enriching experience that has helped me to substantially enhance my understanding of business and customers, as well as my empathy and people management skills.

We firmly believe that the leaders of today's organisations should reflect the world in which they operate, with international experience forming an essential part of their career development. Such leaders need to have the widest global perspectives and mindsets, while at the same time always acting locally, in the sense of having the most acute awareness of local contexts, sensitivities and needs.

International mobility is hardwired in Adecco. We see diversity as a key value for richness, and mobility as an imperative to gain it. International mobility is being used increasingly as a tool to meet our business and our talent development needs: not only do international assignments serve to meet skills demands in different regions, they are also critical in developing well-rounded talent, retaining key workers, attracting younger generations of colleagues and building talent pipelines for the decade ahead. For many so-called Millennials – the generation born between 1980 and 2000 – seeking a dynamic environment, continuous learning and a higher purpose are essential attributes in their careers.

We have taken important steps to beef up our training to boost our international talent pipeline. Our recently introduced HIPE (high performers exchange) programme is aimed at senior high potentials and top performers, who

are given greater exposure to our international network via two- to four-week one-way exchanges. Similarly, our STEP scheme is targeted at branch managers or equivalents, who can gain valuable insights into how things are done elsewhere through four-week exchanges with branches in other countries.

## LOOK AT THE FACTS

Some internal data may help to show how mobility works in practice within a global organisation like Adecco. In the past eight years, we have seen a 400% increase in mobility cases. We define a 'mobility case' as instances of colleagues spending more than 90 days in a calendar year in a country other than their home nation. Between 2013 and 2014 alone, there was a 23% jump. While moves to and from group headquarters were broadly stable over the entire period, there was a notable increase in transfers between group operating countries. In total, almost 90% of our relocations were not related to headquarters.

The US was our top country in terms of inbound mobility – unsurprisingly, perhaps, given its size and wealth of opportunities. It is also home to some of our main customers and most innovative global businesses, including Modis, Pontoon, Beeline and Lee Hecht Harrison. Talent, as suggested earlier, tends to follow innovation and development.

Europe was the second ranking receiving region, with Germany, Austria and Switzerland the most prominent individual countries. Asia-Pacific came next, with Australia and Singapore – the two top regional destinations – reflecting the rule of thumb that talent generally follows business development. The Asia-Pacific data revealed both experienced managers from more mature regions relocating to set up and develop business and organisational structures, and significant mobility among younger local staff seeking to expand their competence and experience.

Such significant flows required us to invest in new mobility solutions to meet multiple needs. Like many big companies, in recent years we have experienced a critical need to shore up skills in particular disciplines, regions and projects – a dynamic forcing a profound change in the very nature of international assignments. Once, such postings were typically 'duration-based' – for a given period, usually three to five years – followed by a return to headquarters or home location. Now, short-term 'purpose-based' assignments are becoming increasingly the norm. This relative flexibility reflects the growing priority for organisations to have the right skills available in the right place at the right time. Such solutions also allow companies to give talented people the chance to pursue international projects and careers – often in direct response to the interests and specific requests of younger colleagues.

## FLEXIBILITY IN FOCUS

The need for greater flexibility is also shown in the rising number of project-based or temporary international relocations, along with increased commuting. At Adecco, 65% of mobility cases in 2014 were project-based, split between short, medium and long-term assignments (short-term is defined as three to 12 months, medium from 12 to 36 months and long-term as exceeding 36 months). Unsurprisingly, short-term assignments tended to appeal more to younger colleagues seeking to broaden their experience, rather than older colleagues with families, where disruption of education or other commitments were disincentives.

Often, such project-based assignments involve bringing together selected employees from different parts of the group for specific periods. Some may relocate temporarily while others may travel frequently during the life of the project. Ever denser transport links and high-speed rail connections mean ever more assignees are seconded from their bases without formally relocating. For colleagues with family commitments in particular, such improved transport infrastructure can provide viable and personally acceptable alternatives to outright relocation.

Shorter, flexible solutions allow companies to offer international opportunities to a greater number of talented associates, as well as meet the needs and desires of Millennials searching for continuous change and incentives. The latter group is particularly focused on job satisfaction, fulfilment and fast career progression. The flexibility described above means even highly ambitious seconded colleagues can retain home roots while disseminating the international knowledge and cultural understanding they gain.

## PRACTISE WHAT YOU PREACH

What Adecco has learned for itself it has also put into practice for its clients. Leading employment services groups help customers adapt to change through the integration of flexible and diverse resources, increasing the participation of all workforce representatives including women, youth, elderly and disadvantaged people. Given our knowledge of the labour market and our relationships with large employers, we can leverage our expertise to reduce skills imbalance and increase the efficiency of mobility within labour markets.

The Adecco Candidate International Mobility Programme (CIM) sources skilled workers like engineers, technicians, construction specialists and healthcare professionals from parts of the world with high youth unemployment and facilitates their transfer to host countries where unemployment is lower and such skills are in high demand (see Figure 1). The scheme helps candidates find the best job placement abroad for their specific skills and profile. It provides support during the search and interview process and assists in securing the necessary work visas, including help with converting local certification to other countries' requirements if needed. We also take on administrative, contractual and translation burdens, and even assist in providing initial accommodation and any local training if required (see Box A).

The participants included unemployed engineers from Spain, who successfully found new positions among carmakers and suppliers in Germany, and nurses and healthcare personnel who moved from Portugal to Switzerland, France and the Nordic countries. Others included staff with skills in logistics, construction and manufacturing who relocated to the Nordics, Switzerland, Belgium and the UK. Looking at 2014 alone, Norway was

## BOX A

### THE ADECCO CANDIDATE INTERNATIONAL MOBILITY PROGRAMME: BUILDING A BRIDGE TO SUCCESS

"Adecco was firstly the bridge between me and LEGO. This experience would not have been possible without the initial assistance and monitoring of the Adecco team, which also provided me with a relocation service to take care of all the documentation needed to live and work in Denmark. This allowed me to stay focused only on my work. From an engineering point of view, this experience has been very advantageous to my professional development. As a mould designer, I was given the opportunity to work with state-of-the-art resources and implement continuous improvement technics to achieve a very high precision product."

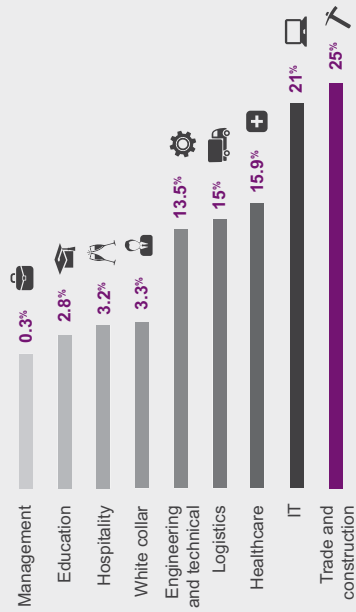
*Ricardo Dias, Portuguese mould designer,  
hired by LEGO in Denmark through Adecco Candidate International Mobility.*

Figure 1: The Adecco Candidate International Mobility Programme – 2014

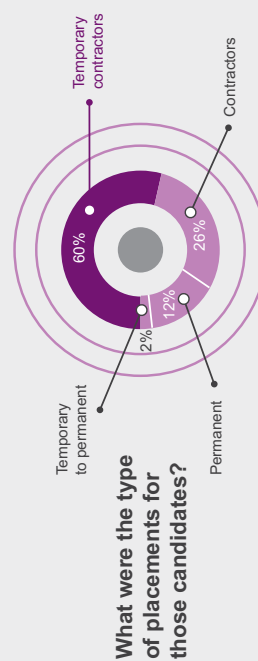
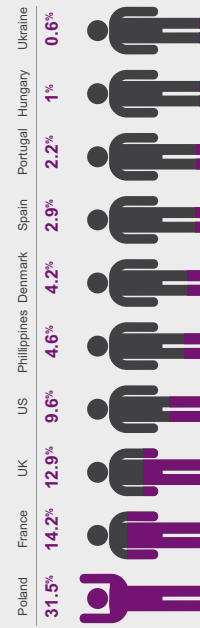
**Where did our candidates go? Which countries welcomed them?**  
The top 15 Adecco host countries (% of total):



**What are the profiles of our international candidates?**



**Which countries did our international candidates come from?**  
The top 10 source countries (% of total):



**What were the type of placements for those candidates?**

the single biggest taker in overall country terms, welcoming 18% of the candidates. Switzerland came next with 12.6%, followed by the Netherlands with 9%. While the biggest single category of candidates was construction, with a 25% share, information technology was a close second at 21%, followed by healthcare (15.9%) and logistics (15%).

Admittedly, some 60% of the initial CIM contracts in 2014 were temporary. But these first openings often provided a springboard to permanent employment. The experience gained allowed candidates progressively to increase their employability and career prospects, contract by contract. And, reassured by Adecco's reputation, candidates knew the work obtained was fair, regulated and in compliance with local norms, including social security.

Such initiatives, whether by Adecco or other employment services groups, have received official recognition. The ILO, for example, has acknowledged the role of private employment agencies in overseas placement, noting such groups can help employers recruit people abroad and assist workers in migrating for employment.

### THERE'S MORE TO MOBILITY THAN MOVING

Mobility, though strictly speaking in geographical terms, is actually a much broader concept. Lee Hecht Harrison (LHH), the global talent mobility firm, has coined the phrase 'the Mobility Mindset' as a broader definition incorporating a set of goals essential in today's increasingly fluid and challenging competitive landscape. In its *2015 Talent Mobility Research Report*<sup>10</sup> – aptly entitled, *Mobilizing your Workforce* – LHH argues convincingly that organisations facing relentless change must develop highly adaptable employees who can embrace evolving business conditions,

new business opportunities and shifting strategies. With a mobile workforce always learning and always prepared for what's next, the organisation is better equipped to absorb churn and attrition, and change course quickly, says LHH.

That means, for example, equipping people to take on new responsibilities or to move quickly into new roles as business needs require. Such achievements do not come easily. Understanding, developing and deploying talent effectively requires an employer to recognise the talented resources within its organisation and understand their needs and expectations. Coaching staff appropriately for new functions, holding managers accountable for developing resources and supporting internal networking, career planning and development are all part of the mix, as is employee self-empowerment.

I would argue best practice also encompasses lifelong learning, including regular coaching and mentoring, as a key measure to secure talent and economic competitiveness to improve people's employability and address the scourges of mismatched talent and unemployment. Ultimately, mobility is not just a physical concept – a definition of an individual's willingness to change location – but a much broader notion involving flexibility and openness to new ideas without prejudice or preconception.

In the endeavour to expand countries' economies and create jobs, structural measures, including appropriate immigration policies, education systems and labour market reforms, will always be priorities. But mobility, in its broadest sense, will remain a crucial adjunct to attract talent and boost prosperity.



## ENDNOTES

- <sup>1</sup> ILO (2014)
- <sup>2</sup> OECD (2014)
- <sup>3</sup> United Nations General Assembly, October 1, 2013. Sixty-eighth session, Agenda item 21 (e) Globalization and Interdependence: International Migration and Development — Declaration of the High-level Dialogue on International Migration and Development. [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/68/L.5](http://www.un.org/ga/search/view_doc.asp?symbol=A/68/L.5)
- <sup>4</sup> Baby boomers are people born during the post-World War II baby boom, approximately between the years 1948 and 1965.
- <sup>5</sup> UN (2001)
- <sup>6</sup> Andrews, Herweijer, Pricewaterhouse Coopers (2014)
- <sup>7</sup> UN (2001)
- <sup>8</sup> Andrews, Herweijer, Pricewaterhouse Coopers (2014)
- <sup>9</sup> Global Mobility Survey (2015)
- <sup>10</sup> Lee Hecht Harrison (2015)

## REFERENCES

- Andrews, J., Herweijer, C., Pricewaterhouse Coopers. (2014). *Megatrend. Demographic and Social Changes*. <http://www.pwc.co.uk/issues/megatrends/issues/demographic-and-social-change.jhtml>
- Global Mobility Survey (2015). *Responsible Global Mobility. Protecting your global mobility programme in a world of heightened risk*.
- International Labour Organization (ILO). (2014). *World of Work Report 2014, Developing with Jobs*.
- Lee Hecht Harrison. (2015). *2015 Talent Mobility Research Report. Mobilizing Your Workforce. Understand, Develop and Deploy Talent for Success*.
- Organisation for Economic Co-operation and Development (OECD). (2014). *International Migration Outlook 2014*. OECD Publishing.
- United Nations. (2001). *World Population Ageing: 1950–2050*.





## CHAPTER 3

# THE ASEAN INTEGRATION: BOON AND BANE FOR TALENT MOBILITY

**Don JQ Chen and Wong Su-Yen**

Human Capital Leadership Institute

At 1997's ASEAN Leaders' Summit, the 10 member countries of ASEAN (Association of Southeast Asian Nations) collectively agreed to adopt the ASEAN Vision 2020 – a vision to transform ASEAN into an economically stable, prosperous, and highly competitive region with equitable development, anchored in the principles of achieving regional prosperity (see Box A). The commitment to integrate and transform ASEAN into an economic regional bloc was reaffirmed subsequently in 2003's and 2006's summits with the collective agreement to advance ASEAN's interest by creating the ASEAN Economic Community (or AEC for short) by the end of 2015.<sup>1</sup>

From a policy standpoint, much has been implemented to ensure that AEC is on track to meet its economic objectives. One aspect of the AEC that seems ambiguous at the moment is how the free movement of talent will be managed and how talent mobility will affect the talent profile of individual ASEAN countries. Although talent mobility is purported to be an important agenda in helping the AEC realise its objectives of achieving a single market, there is a general sense of unease that an open door policy towards talent movement will be a zero-sum game with clear winners and losers among ASEAN countries.<sup>2</sup>

## BOX A

**UNDERSTANDING ASEAN**

The Association of Southeast Asian Nations, or ASEAN, was founded on 8 August 1967 with the signing of the ASEAN Declaration in Bangkok, Thailand. Since its inception with five founding member states (Indonesia, Malaysia, Philippines, Singapore and Thailand), ASEAN has grown to now comprise all countries in Southeast Asia. Its latest member, Cambodia, joined the Association on 30 April 1999.<sup>1</sup>

Aside from accelerating economic growth, the objectives of ASEAN are to promote social progress and cultural development, and in the process, foster regional peace, stability, and promote issues that are of common interest to the region. On the social front, ASEAN aims to promote the growth of research facilities, education, professional, technical, scientific, and administrative fields in order to improve the standards of living in the region.

As a regional entity, ASEAN has signed several Free Trade Agreements (FTAs) and comprehensive economic partnership agreements with major economic players such as Australia, China, India, Japan and the United States.

Collectively, ASEAN has a total population of approximately 625 million, a combined nominal GDP (2013) of US\$2.4 trillion, and foreign direct investment of US\$12 billion in 2013.<sup>3</sup> The Organization for Economic Cooperation and Development (OECD) estimates that ASEAN will experience a steady year-on-year economic growth rate of approximately 5% over the next decade.<sup>4</sup> If growth in the region continues at a fixed rate of 5%, the Asian Development Bank projects that ASEAN will be the fourth largest market in the world after the European Union, United States, and China by 2050.<sup>5</sup>

After describing the current status of AEC, this chapter discusses:

- The key push and pull factors of talent in ASEAN and how these factors might lead to winners and losers among ASEAN countries.
- How the free movement of talent in AEC will lead to both challenges and opportunities on three levels – national, business, and individual PME (professionals, managers and executives).

**THE ASEAN ECONOMIC COMMUNITY (AEC)<sup>6</sup>**

Similar in spirit to the establishment of a common market in the European Union (EU), the AEC is envisaged to deepen and broaden ASEAN's economic integration through four main pillars:

1. To achieve a single market production base
2. To build a competitive economic region
3. To have equitable economic development
4. To attain closer integration with the global economy.

In support of establishing a single market and production base, all member countries of ASEAN have agreed to:

- Recognise professional qualifications from member countries in order to achieve free flow of services
- Standardise the issuance of employment passes across member countries to facilitate the free flow of skilled labour, and
- Foster greater economic integration by eliminating tariffs and barriers to trade; harmonising capital market standards; and creating customised integration with other regional economic blocs.

Although the formation of the AEC is unlikely to be completed by its original target of 2015, that date serves as an important milestone that sets the wheels in motion for greater collaboration. To date, much has been achieved to support the formation of AEC.

For example, to support the single market production base, the ASEAN Trade in Goods Agreement has been in force since 2010 to ensure the free flow of goods within AEC by eliminating 99.2% of the tariff line for six ASEAN

member states (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand). Also, the ASEAN Framework Agreement on Services has been implemented to eliminate restrictions on trade services in 80 sub-sectors to allow foreign ownership in these sectors.

To build a competitive economic region, ASEAN countries have, for example, committed to adopt competition policies and laws to offer cross-border protection of consumers' interests and intellectual property. Importantly, the ASEAN Open Sky Policy will enhance the connectivity of passengers and cargo in the region, enabling greater movement of people, goods and services.

To ensure equitable economic development across ASEAN, the ASEAN Framework for Equitable Economic Development was implemented to narrow the development gaps among members so as to achieve inclusive and sustainable growth that will alleviate poverty.

To better integrate ASEAN with the global economy, a number of Free Trade Agreements (FTAs) have been signed by ASEAN with other countries or regional groups to strengthen trade links and to create business opportunities. ASEAN is currently in the process of negotiating a Regional Comprehensive Economic Partnership with its six FTA partners (Australia, New Zealand, China, Japan, India and South Korea) to create a mega trade bloc that has a combined GDP of US\$21.2 trillion (approximately 30% of global total GDP) and a population of 3.4 billion people (approximately 48% of the world's population). Once concluded, the trade bloc will be the largest of its kind in the world.

### AEC AND TALENT MOBILITY IN ASEAN

The ASEAN Agreement on the Movement of Natural Persons was enacted to provide the legal framework to regulate cross-border movements of people, and the Mutual Recognition Agreement was inked to facilitate cross recognition of eight professional qualifications. Despite this, there has been much disquiet about the impact that free movement of professionals and skilled labour will have on individual ASEAN countries.<sup>2</sup>

With unequal economic and infrastructural development, divergent political systems and beliefs, differences in labour and talent attractiveness, and dissimilar financial and capital market structures, it is difficult to ignore scenarios where AEC might lead to disproportionate benefits for some ASEAN member states while impoverishing others.

### Talent Development and Attraction in ASEAN

By correlating the four Input pillars (Enable, Attract, Grow and Retain) from the Global Talent Competitiveness Index (GTCI),<sup>7</sup> which quantify the drivers of cross-country talent performance, with its two Output pillars (Labour and Vocational Skills, and Global Knowledge Skills), we find that:

1. The pillar Enable has the strongest correlation with Labour and Vocational Skills and Grow has the strongest correlation with Global Knowledge Skills.
2. These two correlations are stronger among ASEAN countries than those observed when considering the whole sample of countries in the overall GTCI index.

These two points suggest that talent performance in ASEAN countries is more strongly driven by indicators belonging to the Enable and Grow pillars. While correlations do not necessarily have a causal interpretation (i.e., between the Input and Output parameters), they do provide an indication of the drivers of cross-country talent development, pull factors that are deemed attractive to talent in ASEAN, as well as how pull factors in ASEAN countries might differ from countries in the overall GTCI sample.

Taking a closer look at specific indicators of GTCI's Enable and Grow pillars and how they correlate to the Output pillars, we find that, in the ASEAN sub-sample of GTCI, Labour and Vocational Skills are strongly correlated with:

- ICT access
- R&D expenditure
- Business-government relations.

Juxtaposing these findings against the current talent landscape in ASEAN, it is not surprising to find Singapore, which has invested heavily in its ICT infrastructure, to be highly attractive to PMEs from the region, especially PMEs from high value-added service industries such as software engineering, precision manufacturing, and banking and finance. Given that the growth and attraction of PMEs, productivity, and pay-to-productivity ratios among ASEAN countries are most closely related to ICT access, it is highly plausible that Singapore will continue to attract talent in high value-added industries from its neighbouring countries given its proportionally higher emphasis in ensuring that the nation continues to be one of the best connected in ASEAN.

Regarding R&D, compared to other countries in ASEAN, Singapore is known to be aggressive in courting multinational corporations to set-up their regional headquarters and research labs in the country.<sup>12</sup> To continue to boost Singapore's status as an R&D hub, the Singapore government committed approximately US\$7.6 billion in 2013 to develop R&D capabilities in order to continue to develop Singapore into an innovation-driven economy. These concerted efforts by the Singapore government to establish the country as an R&D hub and its strategy to constantly develop clusters in new industrial frontiers such as biochemical and life sciences, pharmaceutical, digital media, and more recently, space technologies, have positioned Singapore well as a talent magnet and hub that would continue to attract the best and

## BOX B

## ICT INVESTMENT IN ASEAN

Since the 1980s, the Singapore Government has invested aggressively in the ICT sector and ICT infrastructure. Being a key driver of Singapore's growth, the ICT sector generated approximately US\$22.44 billion<sup>8</sup> in revenue in 2010 and Singapore has continued to invest heavily in ICT. For example, in 2015 alone, Singapore has committed to invest approximately US\$1.8 billion<sup>9</sup> to realise the country's Smart Nation vision. Comparatively, Malaysia, despite being 473 times geographically larger than Singapore, is projected to have government spending of approximately US\$1.34 billion on ICT development<sup>10</sup> during the same time period. Similarly, other ASEAN countries such as the Philippines (US\$1.6 billion in 2015<sup>11</sup>) are spending comparatively smaller amounts of money to develop their ICT infrastructure vis-à-vis Singapore.

brightest in the region. In 2013 alone, 2,200 new R&D jobs were created and this figure is expected to be higher in 2015.<sup>13</sup> With many new jobs created in emerging industries, Singapore is likely to experience net immigration of talent from the rest of ASEAN, and perhaps even from the rest of the world.

Regarding business-government relations, compared to Western economies where governments and businesses may not necessarily always enjoy amicable relationships, governments in ASEAN have in general recognised the importance of being pro-business. In the Ease of Doing Business<sup>14</sup> index published by the World Bank Group, Singapore is ranked first. Malaysia came in at 18<sup>th</sup>, Thailand at 26<sup>th</sup>, and Vietnam at 78<sup>th</sup> in the same index. In a similar rating, Singapore was ranked by The Economist Intelligence Unit in 2014 as having the most conducive environment for business and was rated by IMD as being the least bureaucratic country in Asia to do business.<sup>15</sup> The pro-business environment of Singapore and the generally positive relationship between the Singapore government and businesses continues to attract multinationals to set up their regional headquarters, once again making Singapore a highly attractive location for talent in the region.<sup>16</sup>

Two indicators of the Grow pillar in GTCI stand out for their strong correlation with Global Knowledge Skills in ASEAN:

- University ranking and
- Quality of management schools.

In the ASEAN sub-sample, University ranking is highly correlated with six out of seven indicators in the Higher skills and competencies sub-pillar (i.e., the size of the talent pool) of Global Knowledge; and Quality of management schools is highly correlated with five out of seven indicators in the same sub-pillar. Both University ranking and Quality of

management schools are also highly correlated with three out of four indicators in the Talent impact sub-pillar (i.e., the performance of the talent pool) of Global Knowledge.

In the *QS World University Ranking*<sup>17</sup> and the *Times Higher Education World University Ranking*,<sup>18</sup> tertiary institutions in Singapore are constantly ranked as among the best in the world while tertiary institutions of their counterparts in ASEAN were, typically, not featured in either of these rankings. Given that the quality of tertiary institutions is one of the most significant drivers that help ASEAN countries deepen and attract their talent pools, it is highly plausible that Singapore will continue its upwards trajectory in attracting young talent in the region who are seeking out high-quality tertiary education.

Correlational analyses based on 2014 GTCI data suggest several key indicators that are closely related to talent development and attraction in ASEAN. Although these key indicators may seem similar to those that drive talent development and attraction elsewhere in the world, further analyses would show that there is a pattern that is specific to ASEAN. For example, compared to the correlations in the overall GTCI index, the stronger correlations between the quality of tertiary educational institutions and Global Knowledge Skills in the ASEAN sub-sample underline Asia's traditional emphasis on academic pursuit. Similarly, the strong correlation between Business-government relations and Labour and Vocational Skills among ASEAN countries suggests that government-led growth, which has characterised much of Asia's economic progress since World War II, is likely to continue to have a strong influence on the development of Labour and Vocational Skills among ASEAN countries, especially in Singapore where the government has traditionally played an active role in shaping the country's economy and labour profile.

### Who Gains at Whose Expense?: Push and Pull Factors of Talent and Mobility

Our initial discussion of 2014's GTCI results seem to indicate that, in the context of further integration efforts by ASEAN, Singapore could be the clear winner in the war for talent, and likely to benefit from a net brain gain from the region due to its continued emphasis on ICT and R&D investments, pro-business climate, and strong tertiary institutions. Yet, actual talent migration from other ASEAN countries to Singapore is unlikely to be unfettered. Singapore's attractiveness as a talent hub has in recent years faced strong competition from its neighbouring countries and such competition is likely to intensify when talent is completely mobile in the AEC. Moreover, from a political perspective, Singapore's liberal talent policy has in recent years been put under increasing pressure from its electorate. Since 2011, the Singapore government has tightened its immigration policies, mandating stronger employment criteria for foreigners who intend to work in Singapore.<sup>19</sup> As a result, the growth of the non-resident population and foreign employment in Singapore slowed to 2.9% and 3% in 2014 respectively, from 4% and 5.9% in 2013, the slowest rate in recent years.<sup>20</sup>

The tightening of immigration policies and low economic growth in the context of a lacklustre global economy is a double whammy for Singapore's talent attraction ambitions. Although Singapore will continue to remain an attractive location for talent, tighter immigration policies would mean that talent from the region are more likely also to explore migrating to other emerging economies in the region that offer similar career opportunities. For instance, although the Philippines and Indonesia are traditionally regarded as less attractive to talent in ASEAN, these countries have, in recent years, been seen as viable alternatives to Singapore due to their strong economic growth and career opportunities. In 2014, the Philippines and Indonesia experienced growth of 6.9% and 5% respectively.<sup>20</sup> Their continued strong economic growth, large domestic markets, extensive hinterland, and relative political stability in recent years have made these countries important markets for multinationals and have helped attract investment and talent from the region. For example, Singapore's annual direct investment in the Philippines and Indonesia has increased by 177% and 330% respectively since 2004, from SG\$2.93 billion and SG\$11.2 billion in 2004 to SG\$5.20 billion and to SG\$39.5 billion in 2013.<sup>21</sup> This increase in investment has been accompanied by a corresponding increase in the number of Singaporeans working in these countries.

Malaysia, Singapore's closest neighbouring country, has moved up five spots in the GTCI 2015–16 (from 35<sup>th</sup> in 2014 to 30<sup>th</sup> in 2015), firmly securing it as the second most attractive country in ASEAN for talent. Immigration data from Malaysia suggest that as of 2013, there are approximately 4 million foreign workers in Malaysia. Although a majority

of these foreign workers are unskilled and semi-skilled workers from Bangladesh and Sri Lanka, there is an uptrend of skilled workers from Cambodia, Thailand, Vietnam, and the Philippines immigrating to Malaysia for short-term employment. This trend can be attributed to several factors but, most importantly, to the rapid urbanisation and industrialisation of Malaysia, which has led to increased quality of life and job opportunities.<sup>22</sup> The increased attractiveness of Malaysia as a job location has inevitably taken some of the gleam off Singapore as the talent hub of ASEAN. Malaysia's long-term attractiveness as a talent hub is, however, currently put to the test as the country weathers through its biggest political crisis since its independence in 1957.

It is worth noting that Singapore, despite being rated highly as a talent magnet, has also experienced brain drain to countries in the Asia-Pacific and Oceania region such as China, Australia, and New Zealand. Being well educated, multilingual and internationally mobile, Singaporean talents are well sought after in the larger Asia-Pacific region. In the last decade, Singapore has experienced a 33% increase in the number of its citizens working and living abroad. As of 2014, there are 212,000 Singaporeans overseas, making up about 6% of Singapore's citizen population.<sup>23</sup> In China alone, there are more than 20,000 Singaporeans working in major cities, many of whom are in managerial positions within multinationals or home-grown Chinese companies.

Given Singapore's small citizen population base, the number of Singaporeans emigrating and working abroad is sizable; in fact, Singapore's Prime Minister has publically voiced concerns about the upward trend of young talented Singaporeans leaving the country and not coming back.<sup>24</sup> If Singapore is deemed to be highly attractive to talent from the rest of ASEAN, why are young talented Singaporeans choosing to live and work overseas? Anecdotal evidence suggests that young talented Singaporeans are emigrating from Singapore due to both economic and lifestyle reasons. For example, several young Singaporeans who left Singapore for the United States were quoted as saying that the main impetus for their emigration was the fast-paced lifestyle in Singapore and their yearning for a slower pace of life. Others shared views that countries such as Australia and New Zealand have a more conducive and supportive work environment.<sup>24</sup>

Findings from the GTCI analysis seem to suggest two sets of distinct push and pull factors that may explain talent movement in ASEAN. First, talents are drawn to countries that provide them with better economic opportunities than their home countries. These pull economic factors are best illustrated by Singapore's status as the financial and business hub of ASEAN – despite its slower growth – and the continued commitment from the Singapore government to transform the nation's economy. These factors are deemed to be attractive to mobile ASEAN talent who are in search of better job opportunities.



Second, push factors are often a combination of economic, social, and lifestyle factors that provide talent with the impetus to leave their home countries in search of greener pastures. Although we have used Singapore's experience to explain why young talents are leaving the country in search of a slower pace of life, the desire to move to another part of the world for social and lifestyle reasons is not unique to Singaporeans. For example, the affirmative policies that Malaysia put in place to safeguard the rights of their indigenous majority (*bumiputra*) have adversely curtailed the educational and economic rights of non-*bumiputra* – ethnic minorities of Chinese and Indians who have never held high political office. The New Economic Policies put in place by the Malaysian government since 1969 have been described by many as a form of discrimination against minorities.<sup>25</sup> In a highly interconnected world, such policies have pushed a large number of highly educated and skilled Malaysian Chinese and Indians to live and work in countries such as Singapore, the United Kingdom and Australia, citing 'social injustice' in Malaysia as the key reason why they left their home country.<sup>25</sup> This oddity of an affirmative policy has led to a significant and accelerating brain drain in Malaysia despite it being the second most attractive country for talent in ASEAN after Singapore.

Given that migration of talent in ASEAN is likely to be complex and rooted in both economic and socio-political factors, a related question to ask at this point in time is what ASEAN countries can do to improve their status as talent hubs, since the AEC will lead to a more rapid flow of talent in the region. One obvious measure that they can take is to invest in and improve indicators that are most highly correlated with talent competitiveness. Based on the GTCI data, countries aiming to develop and attract talent with Labour and Vocational Skills ought to invest in providing infrastructure that facilitates ICT access and the establishment of R&D centres. At the same time, they should foster close government-business relationships that encourage businesses to set up their regional headquarters in their countries, thereby initiating a process of vocational skill transfer. Similarly, countries that are keen to build their Global Knowledge talent pool ought to invest heavily in their tertiary education institutions to uplift the overall quality of the workforce and to attract young talent in pursuit of quality education to the country, and in that process, initiate a positive spiral of developing domestic talent and attracting talent from abroad.

Policymakers need to be cognisant that brain drain can and will occur due to socio-political reasons. In the case of countries where affirmative policies are implemented for the indigenous majority (e.g., Malaysia, Indonesia and Brunei Darussalam), careful plans must be put in place to reduce incidences of adverse impacts from perceived 'social injustice' that pushes well-educated and skilled ethnic minorities to leave the country. From the perspective of countries such as

the Philippines and Singapore that have a significant number of citizens working overseas, policymakers ought to continue to implement plans to attract the diaspora back to their home countries as these returnees would bring with them a distinct and important combination of overseas work experience and strong local knowledge.

### AEC Challenges and Opportunities for Talent and Mobility

The future formation of the AEC and the impending implementation of free movement of skilled labour within ASEAN have led to apprehension in different segments of society. While there are obvious advantages when member countries remove barriers that restrict the flow of skilled talent, countries also need to manage the possible downsides that might occur when talent is completely mobile. In this section, we will discuss how the free movement of talent in the AEC will lead to both opportunities and challenges at three levels – national, business, and individual PMEs.

#### National Level Opportunities

One of the clearest opportunities that ASEAN countries have when talent is completely mobile is greater access to a skilled labour pool and the possibility of enjoying growth that is driven by the diaspora population.

Having access to a regional pool of talent has significant implications for a country such as Brunei Darussalam that is struggling to move away from an economy that is fuelled by the export of its oil and gas. In Brunei Darussalam, the risk of an economic crisis is real. Since the discovery of commercially exploitable oil and gas in the 1980s, the economy of the country has been centred squarely on its export. Although it is currently one of the world's largest exporters of oil and gas, its wells are estimated to run dry in 22 years' time and the country has made little progress in diversifying its economy.<sup>26</sup> With weak secondary and tertiary industries, the access to a deep and broad pool of talent from ASEAN may help Brunei Darussalam bring in a different skill set from the region that will be necessary to help the country diversify its economy beyond its current dependence on the oil and gas sector.

The growth of the Philippines is closely intertwined with its diaspora. In 2014, the Philippines received US\$3.7 billion of remittances from 2.3 million overseas Filipinos.<sup>27</sup> The Philippines' diaspora-fuelled growth is often regarded as a unique growth model in ASEAN where a sizeable proportion of its citizens are working outside the country and transferring their earned income back to the Philippines on a regular basis. Aside from remittances, other positive contributions of its diaspora include helping the country strengthen its network with the rest of the world, direct investments to the Philippines from the diaspora who have succeeded elsewhere and skilled returnees from overseas assignments, who in turn, elevate the talent profile of the

country. As elaborated in Chapter 5 of this report, the diaspora effect has an important impact on international 'brain circulation'. With the formation of the AEC and free movement of labour, emerging economies in ASEAN such as Myanmar, Laos, Cambodia, and Vietnam could possibly benefit from the diaspora effect and experience brain circulation when a larger proportion of their citizens venture out of their own countries to work as semi-skilled or skilled labour in the rest of ASEAN.

### National Level Challenges

The biggest challenge that ASEAN countries face when dealing with the free movement of talent is managing its quality and flow. To manage the flow of talent, the Movement of Natural Persons framework was adopted to standardise the issuance of employment passes and the Mutual Recognition Agreement was established to facilitate cross recognition of eight professional qualifications<sup>28</sup> across ASEAN by the end of 2015.

Although these frameworks are meant to ease the difficulties of managing the movement of talent and to facilitate the recognition of professional qualifications, their efficacy to reach those goals is called into question.<sup>2</sup> The fact that individual ASEAN countries have diverse economic structures and possess different attitudes towards talent migration would impose practical limitations on the implementation of these frameworks.

For example, although Singapore has had a relatively liberal attitude towards talent migration, it has clear guidelines on the issuance of employment passes and proactively evaluates its workforce composition on a regular basis. At the other end of the spectrum is Myanmar. As an emerging economy with less established institutional controls, Myanmar's guidelines on the issuance of employment passes are less structured than those of Singapore and its government's stance towards talent migration is more restrictive than that of Singapore due to the country's political structure.

With Singapore and Myanmar occupying both ends of the spectrum, the rest of the ASEAN countries fall somewhere in between these two countries in their attitudes towards talent migration and the clarity of guidelines on employment passes. When there is such a diverse range of policy positions towards talent migration across the different ASEAN countries, any framework imposed under the AEC must necessarily be broad lest it becomes needlessly restrictive (or liberal) in some countries. It is not hard to imagine a country like Singapore resisting the implementation of a common set of ASEAN employment pass guidelines that it deems to be too ambiguous and liberal or Myanmar actively opposing guidelines that are at odds with the political position of its government.

The only possible solution to such a problem is to adopt a set of broad employment pass guidelines that allow ASEAN members leeway for interpretation without being subjected to strict implementation processes. Such a system would, however, run the risk of ASEAN member countries reverting back to their existing employment pass frameworks since such broad guidelines are non-binding. This problem is reflected in the current implementation of the Movement of Natural Persons framework. To date, the framework has made limited headway in standardising and harmonising the issuance of employment passes in ASEAN.

The Mutual Recognition Agreement is likely to be hamstrung by a similar set of problems that plague the Movement of Natural Persons framework. Although the Mutual Recognition Agreement was designed to facilitate the recognition of professional qualifications across ASEAN, it allows each individual ASEAN country to assess the quality of the candidates recognised under the agreement via assessment tests.<sup>29,30</sup> While such safeguards are necessary to ensure that potential job applicants indeed possess the requisite skillset, it will inadvertently render the agreement redundant since each ASEAN country will continue to assess each job candidate based on existing national assessment tests rather than on a regionally recognised skills framework.

### Business Level Opportunities

The AEC will provide immense opportunities to businesses in the region. Beyond greater economic integration and commercial prospects, the AEC would allow businesses to tap into the regional talent pool to drive their growth, both domestically and regionally.

Taking the example of emerging economies such as Cambodia, Vietnam, Laos, and Myanmar, businesses operating in those countries could tap into the managerial expertise of PMEs based in more mature ASEAN economies such as Singapore, Malaysia, Indonesia, the Philippines and Thailand. Businesses in mature ASEAN economies, on the other hand, will have access to a larger pool of managerial talents armed with domestic knowledge when they decide to expand their scope of operations to other countries in the region.

Barring the teething problems of regulating employment passes and creating a common yardstick to evaluate professional qualifications, the AEC would in the long run enable businesses to operate more effectively in the region.

### Business Level Challenges

With ASEAN becoming a single production base that will be more closely integrated with the world's economy, there is a strong impetus for firms, especially home-grown companies

within ASEAN, to expand the scope of their businesses beyond their home countries and into the region. To compete effectively with MNCs who are operating in the region, as well as domestic firms in individual ASEAN countries, companies with regional business ambitions need to accelerate the development of talent with a regional and global outlook, notably executives with the ability to navigate the increased volatility, uncertainty, complexity, and ambiguity (VUCA) of doing business in the integrated bloc. Most importantly, companies who wish to expand their geographical scope of operations to the rest of ASEAN must grow a pool of executives who are willing to move beyond their domestic markets to take up a regional role.

Developing such a pool of regionally mobile talent can be challenging for ASEAN home-grown businesses. Whereas multinationals that always have the option (albeit at a high cost) of deploying globally mobile talent from elsewhere to the region, ASEAN home-grown businesses often have to groom regional talent from their existing pool of local talent. In HCLI's qualitative research in ASEAN, chief human resources officers of multinational companies in the region commonly lament that talent in the region is less mobile than their counterparts elsewhere and are often less willing to take up positions and postings beyond their home country. A large part of this can be attributed to the fact that Asians, in general, are rooted to their family, and are deeply embedded in their social networks.<sup>31</sup> Although an overseas job posting may enhance an individual's career trajectory, they are often less willing to relocate, even within the geographical ASEAN region. For home-grown ASEAN companies that are looking at expansion within the region, the lack of talent mobility can potentially hamper that ambition.

### Individual PME Level Opportunities

For mobile talent in ASEAN, the formation of the AEC will be greeted with much delight. To a pool of footloose talent, the AEC is yet another stepping stone that helps them open the doors to a protean and boundary-free career. Compared to the past where immigration rules and employment pass restrictions might have limited the career choices of such employees, the AEC opens the doors to greater job opportunities in the region by removing employment barriers that would have otherwise limited the options of PMEs. Considering that ASEAN countries are located no more than 4.5 hours by flight from each other, ASEAN is indeed the oyster for highly mobile talent.

### Individual PME Level Challenges

In HCLI's research on how the leadership landscape varies across Asia, we found that executives often have distinctive weaknesses that pose challenges when operating in an environment that is different from their domestic country. For example, executives from Singapore are superb administrators but are uncomfortable with operating in a VUCA environment.<sup>32</sup> Executives from Indonesia, on the other hand, are good collaborators but are not tough drivers of performance.<sup>33</sup>

While remaining an in-country leader for one's entire career was once a viable option, the AEC is a game changer – companies are now more likely than before to seek out and promote employees who have regional experience and the ability to operate across multiple ASEAN countries.

The challenge for employees is to develop distinct skill sets that enable them to operate in the region. As part of the development process, PMEs need to develop cultural metacognition that would enable them to collaborate and interact across different cultures.

### CONCLUSION

The formation of the AEC is highly anticipated and ASEAN countries have shown strong commitment to its development. From a talent management perspective, the prospect of free movement of labour is highly attractive, yet incredibly challenging.

While it is commonly believed that the AEC will lead to clear winners and losers where some countries will inadvertently lose their top talent to others, this chapter highlights that it is more complex than merely people moving across geographies due to economic reasons. Political climate and social reasons such as lifestyle choices will also affect the talent migration process. It is therefore important for countries to proactively manage their economic, political, and social policies in order to continue to be attractive and relevant to highly mobile talent.

The AEC is currently still a work in progress and will continue to be so for the next few years. While it certainly has brought about some challenges for countries, businesses, and individuals, it has also opened new doors and opportunities – a larger playing field.

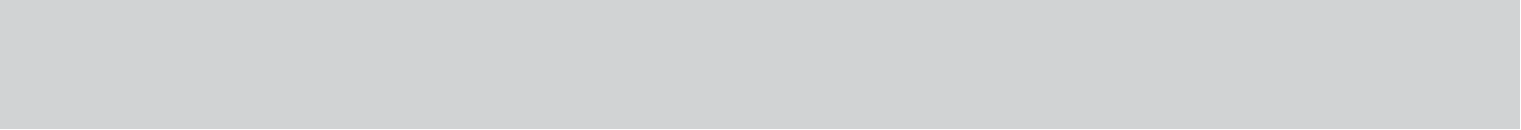


## ENDNOTES

- <sup>1</sup> The ASEAN Secretariat (2008)
- <sup>2</sup> Promchertchoo (2015)
- <sup>3</sup> ASEAN (2014)
- <sup>4</sup> OECD (2015)
- <sup>5</sup> Asian Development Bank (2014)
- <sup>6</sup> The ASEAN Secretariat (2014)
- <sup>7</sup> See Chapter 1 of this publication for a definition of each of the six pillars of GTCI. The GTCI is an annual index published by INSEAD and its research partners that maps the relationships between economic and social policies with talent growth and countries' competitiveness. In its 2014 edition, the GTCI provided talent competitiveness benchmarks for 93 countries based on 65 variables grouped into four Input pillars (Enablers, Attract, Grow and Retain) and two Output pillars (Labour and Vocational Skills and Global Knowledge).
- <sup>8</sup> Economic Review Committee [ICT working group] (2012)
- <sup>9</sup> Mokhtar (2015)
- <sup>10</sup> Economic News Update (2014)
- <sup>11</sup> Casayuran (2015)
- <sup>12</sup> In recent years, a large number of international corporations have set up research and development facilities in Singapore. For example, DSM Nutritional Production has opened its Asia Pacific Nutrition Innovation Centre in Singapore. Similarly, Rolls-Royce, in partnership with the Singapore government has set up the Advanced Technology Centre that develops the next generation of environmentally-friendly engines. Also, Lucasfilm was courted to set up one of its largest operations outside the United States in Singapore.
- <sup>13</sup> Agency for Science, Technology and Research Singapore (2013)
- <sup>14</sup> World Bank Group (2014)
- <sup>15</sup> Business Environment Ranking (2014)
- <sup>16</sup> IMD World Competitiveness Yearbook (2013)
- <sup>17</sup> QS Top Universities (2015)
- <sup>18</sup> Times Higher Education (2015)
- <sup>19</sup> Yeoh and Lin (2012)
- <sup>20</sup> From an economic standpoint, due to a lacklustre global economy and fall in consumption demands among its trading partners, Singapore's economy in 2014 registered a growth rate of 2.9% – the lowest since 2008. This rate of growth is the second lowest in ASEAN after Thailand (0.7%) – a country mired in political quagmire since its former Prime Minister Thaksin Shinawatra was ousted in a military coup in 2006. Source: The World Bank (2015) GDP growth (annual %). Retrieved from [www.data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG](http://www.data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG)
- <sup>21</sup> Department of Statistics, Singapore (2015)
- <sup>22</sup> Ministry of Human Resources of Malaysia (2013)
- <sup>23</sup> National Population and Talent Division, Singapore (2014)
- <sup>24</sup> Lee (2015)
- <sup>25</sup> *The Economist* (2013)
- <sup>26</sup> Vanerklippe (2015)
- <sup>27</sup> Philippine Statistics Authority (2015)
- <sup>28</sup> Professional qualifications currently recognised under the Mutual Recognition Arrangements (MRAs) are architectural services, accountancy services, surveying qualifications, medical practitioners, and dental practitioners. Qualifications for three remaining professionals are still under negotiations.
- <sup>29</sup> The ASEAN Secretariat (2009)
- <sup>30</sup> The ASEAN Secretariat (2014)
- <sup>31</sup> HCLI Research (2014)
- <sup>32</sup> HCLI Insights (2014)
- <sup>33</sup> HCLI Research (2014)

## REFERENCES

- Agency for Science, Technology and Research Singapore. (2013). *National Survey of Research and Development in Singapore*.
- A Never Ending Policy. (2013, 27 April). *The Economist*.
- ASEAN. (2014). *Key Basic ASEAN Indicators*. Retrieved from: <http://www.asean.org/asean/about-asean/overview>.
- The ASEAN Secretariat. (2008). *ASEAN Economic Community Blueprint*. ASEAN Secretariat.
- The ASEAN Secretariat. (2009). *Roadmap for an ASEAN Community*. ASEAN Secretariat.
- The ASEAN Secretariat. (2014). *Thinking Globally, Prospering Regionally: ASEAN Economic Community 2015*. ASEAN Secretariat.
- Asian Development Bank. (2014). *ASEAN Economic Community: 12 Things to Know*. Retrieved from: <http://www.adb.org/features/asean-economic-community-12-things-know>.
- Business Environment Ranking and Index*. (2014). The Economist Intelligence Unit.
- Casayuran, M.B. (2015, 5 September). Poe seeks review of spending on ICT, slow internet speed. *Manila Bulletin*.
- Department of Statistics Singapore. (2015). *Singapore's Direct Investment Abroad by Country/Region, 2004–2013*. Retrieved from <http://www.singstat.gov.sg/statistics/browse-by-theme/investment>
- Economic News Update. (2014). Budget boost for Malaysia's ICT sector. Oxford Business Group. Retrieved from [www.oxfordbusinessgroup.com/news/budget-boost-malaysia-s-ict-sector](http://www.oxfordbusinessgroup.com/news/budget-boost-malaysia-s-ict-sector).
- Economic Review Committee (ICT working group). (2012). *Singapore 2012: The Living Digital Lab*. Ministry of Trade and Industry. Retrieved from: [http://www.mti.gov.sg/researchroom/documents/app.mti.gov.sg/data/pages/507/doc/erc\\_svs\\_ict\\_mainreport.pdf](http://www.mti.gov.sg/researchroom/documents/app.mti.gov.sg/data/pages/507/doc/erc_svs_ict_mainreport.pdf).
- HCLI Insights. (2014). *Building Global Leaders in Asia: A Focus on Singapore Talent*. Human Capital Leadership Institute.
- HCLI Research. (2014). *Leadership Mosaics Across Asia*. Human Capital Leadership Institute.
- HCLI Research. (2014). *Leadership Mosaics Across Asia: For Indonesia, from Indonesia*. Human Capital Leadership Institute
- IMD World Competitiveness Yearbook*. (2013). IMD. <http://www.imd.org/wcc/news-wcy-ranking/>
- Lee, A. (2015, 7 March) More Singaporeans overseas, but brain drain concerns dissipate. *Today*.
- Ministry of Human Resources of Malaysia. (2013). *Immigration in Malaysia: Assessment of its economic effects, and a review of the policy and system*. Human Development Social Protection and Labour Unit East Asia and Pacific Region, World Bank.
- Mokhtar, F. (2015). *Government to launch S\$2.2n in ICT tenders to realize smart nation vision*. Channel New Asia. Retrieved from: [www.channelnewsasia.com/news/business/government-to-launch-s-2/1874506.html](http://www.channelnewsasia.com/news/business/government-to-launch-s-2/1874506.html).
- National Population and Talent Division (Singapore). (2014). *2014 Population in Brief*.
- OECD. (2015). *Economic outlook for Southeast Asia, China, and India 2015: Strengthening institutional capacity*. OECD Publishing, Paris.
- Promchertchoo, P. (2015, 30 June). Free labour movement could pose big problem for ASEAN Economic Community. Channel News Asia. Retrieved from: [www.channelnewsasia.com/news/asiapacific/free-labour-movement/1950482.html](http://www.channelnewsasia.com/news/asiapacific/free-labour-movement/1950482.html).
- QS Top Universities. (2015). *QS University Rankings: Asia*.
- Philippine Statistics Authority. (2015). Statistics on Overseas Filipino Workers. Retrieved from <https://psa.gov.ph/tags/overseas-filipinos>.
- Times Higher Education. (2015). World University Rankings 2015–2016: Results announced. Retrieved from <https://www.timeshighereducation.com/news/world-university-rankings-2015-2016-results-announced>.
- Vanderklippe, N. (2015, 2 February). Brunei's Oil-fuelled Economy Running on Empty. *The Globe and Mail*.
- World Bank Group. (2014). Doing Business. Retrieved from <http://www.doingbusiness.org/rankings>.
- Yeoh, B. & Lin, W. (2012). *Rapid Growth in Singapore's Immigrant Population Brings Policy Challenges*. Migration Policy Institute.





## CHAPTER 4

# TALENT MOBILITY FOR REGIONAL COMPETITIVENESS: THE CASE OF THE BASQUE COUNTRY

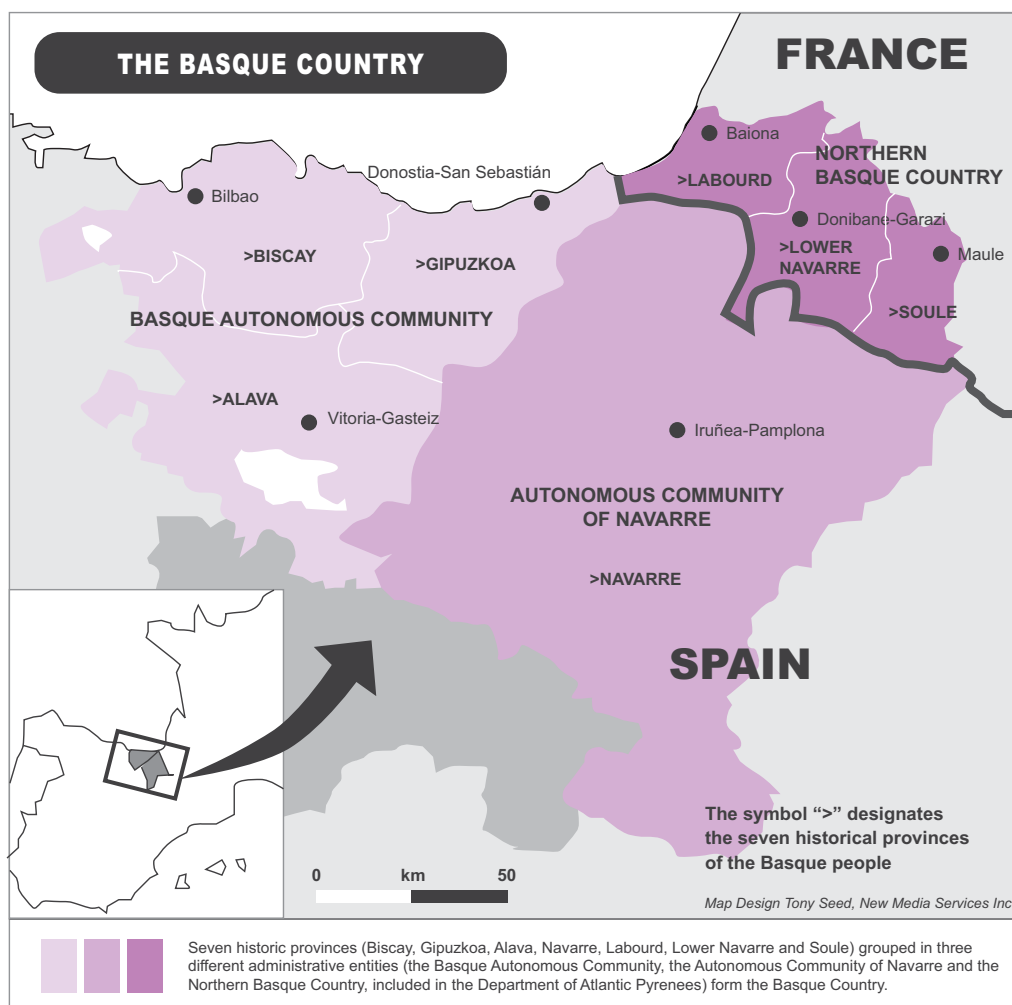
**Leire Lagunilla and Ivan Jimenez**

bizkaia:talent

In the knowledge economy, talent will be the main driver of prosperity. The right combination of knowledge, skills and creativity will lead to the development of groundbreaking products and services. Although the increasing worldwide demand for highly qualified people (HQP) is a fact, very few places can 'produce' appropriate levels of talent for their industry by relying just on their local population and education institutions. Moreover, young talent may become even more scarce as a result of declining birth rates and ageing populations, a problem that will hit Europe hard. Consequently, in order to be at the forefront of business and technology, regions will increasingly need to attract talent from outside.

Smart talent mobility management, along with the capacity to handle data efficiently for the measurement of strategic variables and informed policymaking, will play a fundamental role in determining the competitiveness of European regions and metropolitan areas – the real talent hubs. In the global talent race, it is often metropolitan regions, rather than countries, that act as magnets, mobilising internal and international talent alike.

This chapter presents how the Basque Autonomous Community has been anticipating these challenges and has managed to create innovative solutions to position the region as a leader in talent management and competitiveness by connecting committed local stakeholders.



The Basque Autonomous Community (hereinafter the Basque Country) presents interesting socio-economic characteristics. With almost 2,176,000 inhabitants,<sup>1</sup> it is among the most industrialised areas in Europe and the region within Spain that assigns the highest percentage of its gross domestic product (GDP) to research and development (R&D), positioning itself at the cutting edge of Europe. According to Eustat<sup>2</sup> and Eurostat, Basque R&D expenditure amounted to nearly 2% of its GDP in 2013, compared to 1.2% in Spain.

With the city of Bilbao<sup>3</sup> leading the way, the region has, for decades, been characterised by commercial and industrial specialisation, relative openness and a comparatively highly-skilled human capital. The pioneering competitiveness policies based on clusters, as well as the large network of science and technology parks, are also remarkable.

The Basque Country is one of the European regions with the highest degree of autonomy, a flexibility often leveraged to encourage economic development.<sup>4</sup> Taking advantage of its own autonomous taxation system<sup>5</sup> and

administrative powers, the Basque Country distributes incentives that encourage business, especially those with a high R&D component.

The Basque Country has managed to weather the 2008–2015 Spanish financial crisis better than the rest of Spain. Factors such as employment and productivity have behaved very differently, not only during the period of economic prosperity, but also after the economic crisis erupted, as the two territories have followed two different restructuring models.<sup>6,7</sup> Yet, the region is not exempt from threats. The economy still largely relies on small enterprises – 93.4% of its companies are microenterprises and 53.4% of the population are employed in companies with fewer than 50 employees.<sup>8</sup> This dependence on small enterprises makes it challenging to compete globally on costs and to attract the right talent needed for higher-value industries.<sup>9</sup> Moreover, in 10 years' time, 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.

## THE SKILLS HUNT

The Basque Country has focused on smart specialisation in the sectors of energy, advanced manufacturing and biosciences, wagering that this will pay off in the future. All of these sectors call for general scientific and engineering manpower.<sup>10</sup> However, each one of them requires a very specific set of knowledge adapted to their field of activity and workplace. For example, biosciences require more scientific skills, whereas advanced manufacturing demands more engineering skills. A high number of high-skill-demanding jobs acts as a magnet for talent and, what is more, such jobs create more human capital via more intensive on-the-job learning.<sup>11</sup> Still, some industries, such as biosciences, struggle to find specialised knowledge to fill in positions.

As far as human capital development is concerned, the Basque Country has mainly been focusing on improving the overall level of qualification of its population over the last decade. Thanks to this strategy, the region now has a large pool of tertiary-educated people with strong technical skills who, by contrast, sometimes lack proficiency in transversal skills, such as multicultural and leadership skills.

Fully aware of these vulnerabilities, different regional players such as clusters, scientific and technology parks, professional associations, universities, public agencies and the regional administration, have worked closely together in identifying knowledge and skills that all sectors require (see Figure 1).

Figure 1: Cross-sector soft skills

KNOWLEDGE AND SKILLS DEMANDED BY ALL SECTORS	
<b>MIXED PROFESSIONAL PROFILES</b> Problem-solving profile with global vision Team and project management R&D&I managers Multidisciplinary profiles <i>(technical-sales, biotechnology, etc)</i>	<b>INTERNATIONALISATION</b> Foreign languages International job experience Availability to travel and stay abroad Management of multicultural environments
<b>TRANSVERSAL SKILLS</b> Knowledge sharing and transfer Decision-making in risky situations	<b>DIFFERENTIAL VALUES</b> Integrity Respect for people Self-criticism

Source: Compilation based on bizkaia:talent's internal studies and Luengo & Periañez (2014)

## BARRIERS TO DOMESTIC PRODUCTION OF NEEDED TALENT

The Basque Country has a well-qualified population, with a growing percentage holding a university degree.<sup>12</sup> The increasing level of education in the general population should come as an advantage as the technological component of the economy continues to grow, raising the demand for HQP.

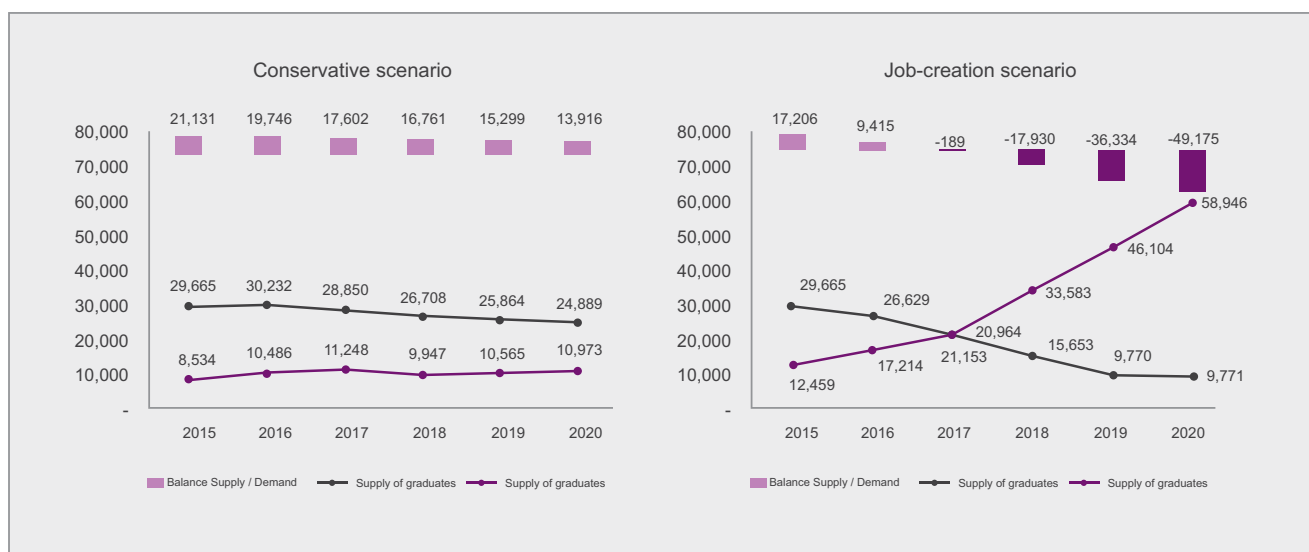
Although the Basque Country has a high level of human capital in general,<sup>13</sup> it is not immune to skill mismatches, meaning that the demand for skills may surpass the supply in some specific fields. This leads to the paradox where there are shortages of HQP in some sectors while, at the same time, some people are overqualified in other sectors. Over the last 15 years, Basques, who benefited from ample job opportunities, have chosen a university degree based mainly on their vocation (i.e., without necessarily taking into account employment prospects). Yet, technological change and the transformation of the economy now demand certain skills more than others.

The mismatch of qualifications might become more apparent when the economy fully recovers from the crisis, thus boosting the demand for specialised skills, and will become even more pronounced when the number of university graduates starts decreasing as a consequence of lower birth rates.

Supply and demand projections for the 2015–2020 period (Figure 2)<sup>14</sup> show that, despite initial surpluses of tertiary-educated people, the number of university graduates entering the labour force will be lower than needed to cover demand.<sup>15</sup> In a conservative scenario, projections estimate a surplus supply (mainly generated by the existing pool of unemployed people with university education), though this excess shrinks over the years. In a job-creation scenario,<sup>16</sup> the excess of graduates continues until 2017, when supply and demand converge. Starting in 2018, the situation reverses and a shortage of skills is expected.

Even if the surplus of tertiary-educated people fades, imbalances across fields of specialisation will persist. Social

Figure 2: Projections of supply and demand of university graduates



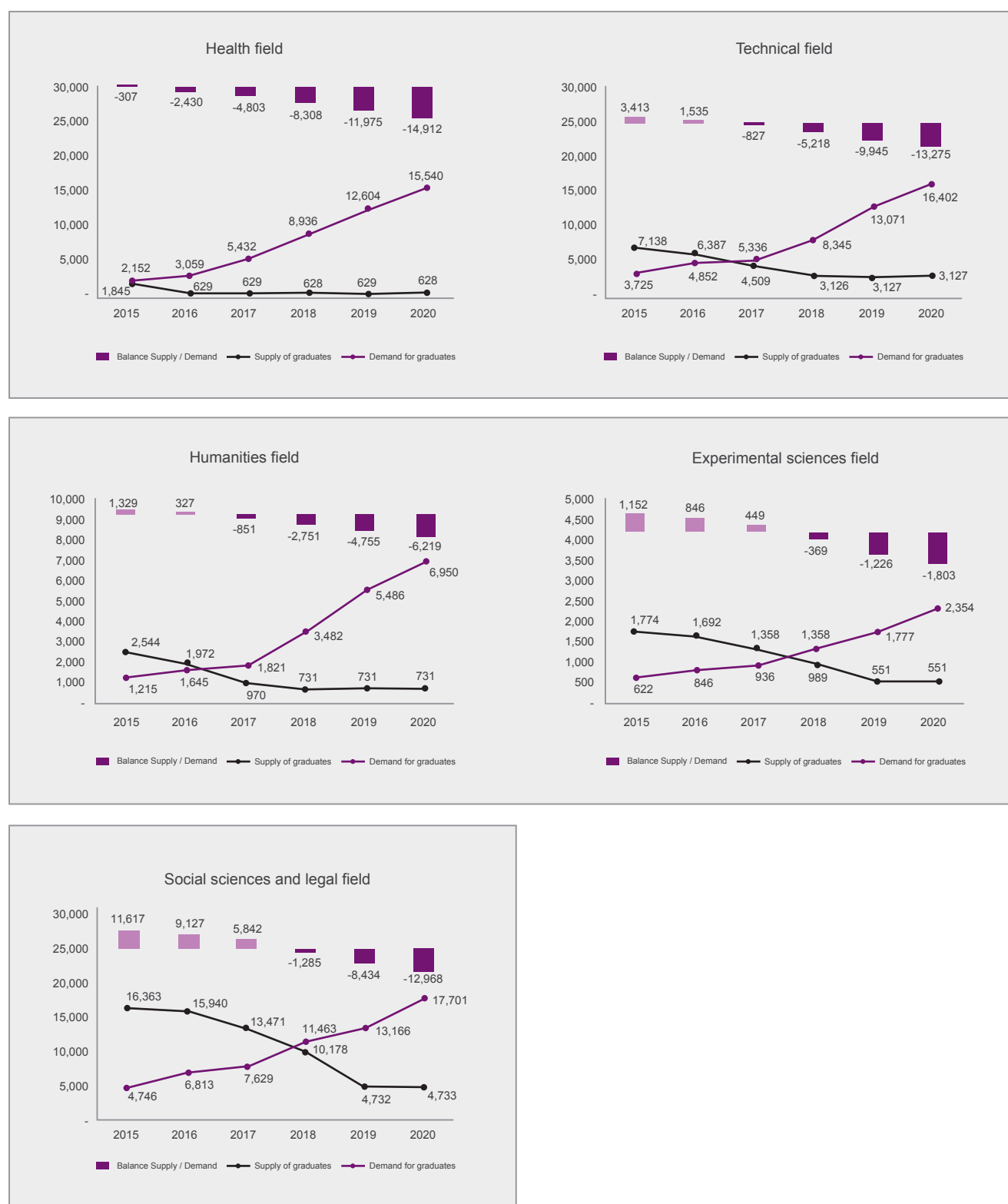
and legal fields continue to produce the largest number of graduates (48%, on average, between 2005 and 2013), while the weight of students in humanities has remained stable at 8%. By contrast, enrolment rates within technical fields show unfavourable results (see Figure 3). Although this still constitutes a significant percentage of graduates (28.3% for the academic year 2012–2013), this proportion is five percentage points lower than seven years ago,

even though demand is projected to increase. Conversely, there has been a rise in the enrolment rate in the health field, although at a slower pace than needed in order to meet the labour market's needs. As a result, large skill shortages are expected.

Employment indicators and trends vary according to the different disciplines. It is crucial that the public and private



Figure 3: Projections of supply and demand of total university graduates by degree field (job-creation scenario)



sectors develop labour market information systems that allow more accurate estimation of demand and supply, and that inform policy. One of the most striking cases has to do with the experimental sciences field, closely related to biosciences. Two decades ago, the Basque Government envisioned the need to invest in life sciences to renew the Basque industry. However, the biosciences' weight over the Basque GDP is still below 1%. Projections vary substantially depending on assumptions. Under a conservative scenario, the number of graduates in experimental sciences will approach the number of professionals needed, but in 2020 there will still be a surplus of degree holders. In a job-creation scenario (Figure 3), by contrast, the surplus would disappear sooner and a shortage of graduates would emerge (intensifying from 2018 on).

In three to six years' time, there will be a need for graduates in biohealth, chemical engineering, technical-environmental

engineering, bioengineering and food technology within the scope of experimental sciences. More specifically, chemistry and biology are two of the degrees for which a better situation is expected in the biotechnology field.

What is clear is that more graduates are needed in the science and technology fields to fill in shortages. This could be achieved in three ways: producing needed talent internally (already analysed), retaining it or attracting it from outside.

Surprisingly, the difficult employment situation<sup>17</sup> has not translated into a greater percentage of Basque graduates moving outside the region (outward mobility <10%), so it could be assumed that talent retention does not pose a problem (see Figure 4). Strong regional ties, a comparatively better economic position than the rest of Spain and the fact that the situation at the European level, although more stable, is also uncertain, may be behind this reality.

Figure 4: Outward mobility of graduates from Basque universities (%)



Competition for global talent, on the other hand, is fierce. In order for the Basque business structure – consisting mainly of small- to medium-sized enterprises (SMEs) – to access attractive and competitive projects in a global environment,

the region and its companies must find the right formula to be appealing to international talent. This has to be by means of new and creative practices of collaboration between talent and capital.

## BIZKAIA:TALENT: A REGIONAL RESPONSE TO TALENT MOBILITY

Alongside policies put into place by national authorities to improve general socio-economic indicators, regional authorities can have a more tailored approach and make a real difference when it comes to improving the region's attractiveness. For example, they can favourably impact:

- Regional accessibility and transportation networks
- Information and communication technologies
- Infrastructure, and research and innovation expenditure
- Education of the labour force
- Links between business and industrial development zones and research and technology institutions
- Support for clusters, centres of excellence, science and technology parks
- Mobility of HQP

Talent mobility management should be high on the agenda of policymakers in the region and, generally, of all the stakeholders.

Precisely as a result of this reflection, bizkaia:talent emerged in 2005 as an instrument to harness the drivers and overcome barriers for an adequate ecosystem for talent. The organisation was created on the initiative of the County Council of Biscay with the involvement of a group of major and cutting-edge Basque organisations.<sup>18</sup> The promoters of the then-pilot project understood perfectly that the global talent race is not focused on countries, but on metropolitan regions that perform as individual economic units and act as magnets, mobilising internal and international talent alike.

From the very beginning the organisation was designed as a facilitator between the Basque stakeholders, and also between those stakeholders and worldwide players. Its activities and services primarily focused on activating the links between talent, industry (especially SMEs), academia and public administration. A decade after its foundation, this not-for-profit private association is a leading model in Europe regarding mobility and professional and personal support of HQP.

One of the major concerns across Europe is to fight the brain drain. Yet, alone-against-the-world approaches no longer make sense. Instead of speaking about attraction and retention, we had better talk about 'the flow of talent' or circular mobility, which grants a potential win-win impact for both origin and destination regions.

Bizkaia:talent believes that "it is not only about identifying or developing internal talent and attracting the external one. Since we are talking about a dynamic element, it is also

necessary to facilitate the departure of 'our' talent, while developing the mechanisms for it to return with greater potential." Therefore, an effective strategy for talent mobility management needs to identify the existing barriers in the regional system and focus on how to create more jobs and better conditions for HQP, rather than always trying to increase/decrease the flows of particular kinds of workforce through it. Hence, when discussing talent mobility management, we are actually talking about the management of a regional ecosystem where talent grows, moves and develops.

## JOINING THE TALENT CIRCUIT

How is the Basque Country going to be able to integrate itself in this talent circuit?

One might say that the Basque Country is an attractive place to live as it has a very well-established production model with a strong industrial sector that nourishes the rest of the economy, it is safe and politically stable and it has a high social cohesion level according to the OECD lifestyle indicators and GINI index.<sup>19</sup> Nevertheless, factors such as a lack of presence on the global scene, being associated with a country hit hard by the international financial and economic crisis, and a business network primarily made up of SMEs might be acting as deterrents for HQP exploring new options.

In order to tackle those mobility limiters, bizkaia:talent has developed a comprehensive set of services ranging from job brokerage to thematic tours that show the region's scientific, technology and business potential.

Why and how does bizkaia:talent mobilise talent from outside the region (be it a Basque person living abroad or a foreigner) to fill the skill gaps?

The international expertise of HQP can bring great added value to Basque businesses in their quest for expansion and development; it can even help to identify better the knowledge and skill gaps of the region. Therefore, bizkaia:talent has not only supported incoming and outgoing mobility through aid programmes,<sup>20</sup> but it has also been working on building stable links worldwide with experienced professionals with a view to leveraging a talent pool that is well adjusted to regional needs.

In this sense, bizkaia:talent has set up international professional networking meetings to identify, attract and connect organisations and professionals, drawing on the wider Basque community. The overall approach consists of the following steps:

- First, bizkaia:talent identifies the profiles and skills needs of the region and the organisations within it and then searches, contacts and mobilises HQP (with a special focus on the Basque professionals abroad) who live in high potential geographical areas and operate in strategic sectors for the Basque Country.

- Second, subsequent contact between HQP and Basque organisations (including clusters, private companies, technology centres, etc.) occurs in the host country/region via personalised and segmented networking and matchmaking activities (e.g., seminars, lunch meetings, personal interviews). These events facilitate a better understanding of the current and future situation of key sectors of the economy and of working conditions in the Basque Country. They also facilitate the access to information about current and future projects in which the Basque organisations are, or will be, involved and about entrepreneurial opportunities in the region. Networking opportunities between the various participants and the sharing of personal experiences of other 'mobile' professionals are also encouraged.
- Third, bizkaia:talent offers services in terms of cultural integration. Dual Career is a service aimed at supporting labour integration but also the social integration of the spouses of the highly qualified professionals coming to the Basque Country.

In collaboration with the business community of the region, this approach tackles both professional and personal needs, as one of the most powerful drivers of mobility decisions is the establishment of emotional links.

In the case of the Basque expats, emotional links with the Basque Country already exist, but usually only at a personal level (family and social ties). Bizkaia:talent goes further by fostering labour or business relations with Basque companies. By so doing, professionals feel valued and supported by their region and its organisations, which reinforces the economic, social and even political capital of the region.<sup>21</sup>

With regard to foreign talent, both personal and professional/business bonds must be targeted, with a special emphasis on socio-cultural and family integration. To that end, bizkaia:talent includes a relocation service. Since its inception at the end of 2006, the service has evolved from advising HQP about administrative issues and regional leisure opportunities to a much more participative model, where the users and even their spouses and families can interact both offline and online. The number of relocated talents has increased from 10 in 2007, to 109 in 2014.

#### LEVERAGING ICTs FOR ATTRACTING TALENT

In the framework of a smart talent mobility management, over the recent years bizkaia:talent has also made an effort to leverage information and communications technology (ICT) tools to identify and monitor the profiles and skills the economy needs. An innovative example is the Be Basque Talent Network, a tool launched in February 2015 that seeks to directly approach the various players in the system to obtain first-hand answers in real time. This virtual network allows monitoring of HQP who are or want to be linked to

the Basque Country regardless of their territorial origin, and gives them a platform that goes beyond networking.<sup>22</sup> It includes information on technological, scientific and business potential, an information exchange forum on several topics, and the Basque Talent Map, the platform's main search tool. Equally, it gives organisations that are interested in contacting mobile professionals the opportunity to consider employment possibilities, start business conversations or just help each other.

This platform complements and supports the various services of bizkaia:talent and also gives access to the main programmes on professional development and business opportunities offered by the regional government.

A concrete example of the Be Basque Talent Network in action would be the platform's positive impact on the International Professional Networking Service, which has dramatically increased its audience. The International Professional Networking Service first started its activity with 56 professionals in 2008 and, after eight international meetings, it had about 350 HQP in 2014. Since the launch of the virtual tool, the service's scope has been extended to 3,425 professionals.<sup>23</sup>

#### LOOKING AHEAD

As a final reflection, given that in the future work will be interconnected and network-oriented, it is not just professionals who must acquire certain competences. Companies also need to develop skills in working across across diverse disciplines and to demonstrate cultural sensitivity. The key in the case of the Basque Country is not only the confluence of differentiating elements analysed at the beginning of the chapter. The capacity to construct a dynamic regional long-term strategy, tailored to the strengths and weaknesses of the Basque economy has played a vital role by giving coherence to public and private talent mobility policies.

Regions, and more specifically cities and metropolitan areas, play a key role in the attraction of the best talent. The global talent race is increasingly driven by what cities, provinces and regions have to offer in terms of professional opportunities, clusters and networks, but also in terms of quality of life. Many decision-makers at this territorial level would see great benefits if a 'sub-national' version of the Global Talent Competitiveness Index could be produced, tailoring it to specific economic contexts. The Bilbao Metropolitan Area, for instance, has roughly one million inhabitants and its global companies make it a leading city in southern Europe. Having specific measurements of how Bilbao and the Basque Country compare to other leading cities or regions from other continents would be useful to inform future policies and initiatives of talent development. We do not doubt that other cities and regions around the world would also support and encourage such a development.

## ENDNOTES

- <sup>1</sup> Population of 2,175,778 inhabitants in 2014 according to Eustat.
- <sup>2</sup> The Basque Statistical Office
- <sup>3</sup> Bilbao is the capital of the Basque Country of Biscay (in Basque and officially, Bizkaia) and the Basque Country's largest city. It stands at the heart of a metropolitan area with over 1,000,000 inhabitants. It has a transport infrastructure that connects it to the main European cities by land, sea and air. It is the centre of economic and social development, as well as the fundamental factor in the modernisation of the Bay of Biscay.
- <sup>4</sup> There are two important institutional factors affecting the impact of these policies: the degree of autonomy of the political authorities of the regional level – regions with more competencies develop better – and the institutional quality, which is linked to the ability to make proper use of those powers (Bak Basel Economics, 2009; Walendowski and Roman, 2011).
- <sup>5</sup> Along with the Autonomous Community of Navarre, this is unique in Spain.
- <sup>6</sup> Back in the days of pre-crisis economic growth, and thanks to the strong investment in the human capital of the Basque Country, employment creation was coupled with an increase in productivity, unlike what occurred in the rest of Spain. Furthermore, after the eruption of the crisis, the adjustment policies promoted in each territory have also been very different. Despite a contraction of GDP similar to that of Spain, the Basque country has continued to promote industrial policies to attract companies with a strong R&D component. As a result, the R&D expenditure in the Basque Country has increased continuously until 2012, while it has sharply decreased in Spain.
- <sup>7</sup> Aranguren, Navarro and Peña (2013)
- <sup>8</sup> Smaller companies do not usually have a specialised recruitment department, with all its implications.
- <sup>9</sup> The Basque Country is an innovation follower (it has the second highest status of the regional performance groups according to the sixth Regional Innovation Scoreboard of the European Commission) and labour costs are relatively high.
- <sup>10</sup> According to the *Informe de Competitividad del País Vasco 2015, Basque Competitiveness Report 2015* developed by Orkestra and Fundación Deusto (2015).
- <sup>11</sup> Castellazzi et al. (2011)
- <sup>12</sup> Percentage of tertiary education students (ISCED 5 and 6) over the total population between ages of 18 and 24 was 46.3% in 2001 and 63.3% in 2012.
- <sup>13</sup> The Basque Country is third in the ranking of 271 European regions with the highest percentage of tertiary-educated population within its workforce.
- <sup>14</sup> Projections from *Analysis of Talent Needs in the Basque Country – Horizon 2020*, bizkaia:talent, July 2014.
- <sup>15</sup> These calculations do not take into consideration the total number of inactive people that could be recovered in light of a shortage of professionals (nearly 40,000 university graduates between the ages of 25 and 64), nor the mobility of talent towards the Basque Country from outside.
- <sup>16</sup> Based on the analysis of the historical employment figures (since 1985), its cyclic evolution, and the GDP growth forecasts of the Basque Government and the BBVA Research Service for 2014 and 2015 (estimate economic growth in 2015: 1.7%; estimate employment growth: 0.7%).
- <sup>17</sup> According to INE (Spanish National Statistics Institute) unemployment rate in the Basque Country for the second quarter of 2015 was 15.98%. [www.bebasquetalentnetwork.org](http://www.bebasquetalentnetwork.org)
- <sup>18</sup> Members of bizkaia:talent cover various spheres, such as public administration (The County Council of Biscay; BEAZ, county company for innovative companies' promotion and entrepreneurship), finance (Bilbao Bizkaia Kutxa – BBK); industry (Iberdrola; Idom; ITP; Sener; Mondragon Corporation, including Mondragon University), academia (University of Deusto and University of the Basque Country) and technology and research centres (CIC bioGUNE; IK4-Research Alliance and Tecnalia Research & Innovation).
- <sup>19</sup> GINI index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution.
- <sup>20</sup> Almost €8,000,000 invested in mobility programmes for HQP since 2006.
- <sup>21</sup> Newland and Tanaka (2010)
- <sup>22</sup> 6.168 HQP registered (date: 08/2015)
- <sup>23</sup> Number of HQP living outside the Basque Country registered on the network. Last update: 13/08/2015.

## REFERENCES

- Aranguren, M.J., Navarro, M. & Peña, I. (2013). ¿Una crisis y una salida diferentes? El caso de la Comunidad Autónoma del País Vasco. *Papeles de economía española*, 138, 164, 174.
- BAK Basel Economics. (2009). From Subsidiarity to Success: The Impact of Decentralisation on Economic Growth. In Assembly of European Regions. *Part 2: Decentralisation and Economic Performance*, 27.
- bizkaia:talent. (2014). *Analysis of Talent Needs in the Basque Country – Horizon 2020*. Retrieved from <http://www.bizkaia:talent.org>.
- bizkaia:talent. (2013). *Talent Mobility Report. Graduating years 2006, 2007 and 2008*. UPV/EHU, UDeusto and MU. Retrieved from <http://www.bizkaia:talent.org>.
- Castellazzi, S., Warnke, A., Pettoruso, A., Reimering, S., Rozier, K., Siemon, L., Yatro I. and Yoo, L. (2011). Human Capital Leading Indicators: How Europe's Regions and Cities Can Drive Growth and Foster Social Inclusion. In The Lisbon Council asbl (Eds.). *Lisbon Council Policy Brief, V (1)*, 9. Retrieved from <http://www.thelisboncouncil.net>.
- Eusko Jaurlaritz-Gobierno Vasco. (2014). *Libro blanco de democracia y participación ciudadana para Euskadi*. 24–40. Retrieved from <http://www.irekia.euskadi.eus>.
- Eustat. (2014). *Panorama de la Industria Vasca*. Retrieved from <http://www.eustat.eus>.
- Luengo, M.J. and Periañez, I. (2014). Identificación de competencias transversales de la excelencia profesional en Bizkaia. In *Bilbao Metropoli-30 y BasquePRO Elkargoak* (Coords.) and Servicio Editorial de la Universidad del País Vasco/Euskal Herriko Unibertsitateko Argitalpen Zerbitzua (Eds.), 53–63.
- Newland, K. & Tanaka, H. (2010). Mobilizing Diaspora Entrepreneurship for Development. In *Migration Policy Institute* (pp. 3–4).
- Orkestra-Instituto Vasco de Competitividad & Fundación Deusto (2015). *Informe de Competitividad del País Vasco 2015*. Transformación productiva en la práctica, 166.
- Walendowski, R. & Roman, L., in association with: UNU-MERIT & Fraunhofer ISI (2012). Identifying Potential and Niches of Innovation – A Policy Intelligence Toolbox. *Regional Innovation Monitor, Thematic paper* 5, 7.







## CHAPTER 5

# INTERNATIONAL MOBILITY AND TALENT ATTRACTION: A RESEARCH COMMENTARY

**Paul Evans and Eduardo Rodriguez-Montemayor**

INSEAD

*This research chapter is a commentary on current scholarly research by academic experts in the field of migration and talent attraction, some of whom were contacted and interviewed by the GTCI team.*

Shortly before his death in 2015, Singapore's architect Lee Kuan Yew pleaded to keep the country's doors open to 'quality' immigrants. He was a man known for his incisive and sometimes controversial insights into economic development and national governance, and Singapore's track record in going from a minor developing country to one of the world's richest nations testifies to his judgment. Aside from making up the numbers in the face of low birth rates, Singapore's quality control over immigration would ensure that the country stayed ahead of other emerging economies in Southeast Asia. "To have a nation, you must have people,"

he said, "and you must have young people to be able to drive the economy and young people buy the products...and if you don't have that, and you refuse migrants...you will just dissolve into nothingness."<sup>1</sup>

## SKILLED MIGRANTS: IMPORTANT FOR ECONOMIC GROWTH...

Economists agree that the immigration of high-skilled people such as scientists, engineers and executives enhances economic growth.<sup>2</sup> The leading nations in GTCI, such as Switzerland and Singapore, have an open approach towards foreign talent. Foreigners have accounted for more than half of the net increase in the labour force of scientists and engineers in the United States since 1995<sup>3</sup> and foreign talent are more likely to be entrepreneurs and innovators:

they are twice as likely to start a business and they patent at double the native rate.<sup>4</sup> Immigrants were behind one in four technology start-ups in the US between 1995 and 2005,<sup>5</sup> they fill skill gaps in the local economy, and high-skilled immigrants are significant tax contributors (and unlikely to demand social benefits from the state). In short, they create jobs and wealth rather than taking jobs from nationals. Moreover, high-skilled foreigners are more likely to build international professional networks.<sup>6</sup> Indeed some influential academics go further. Richard Florida argues cogently that lasting competitive advantage stems from attracting – as well as developing and retaining – what he calls the ‘creative class’ rather than competing for goods, services or capital in an age when growth can only come from innovation.<sup>7</sup>

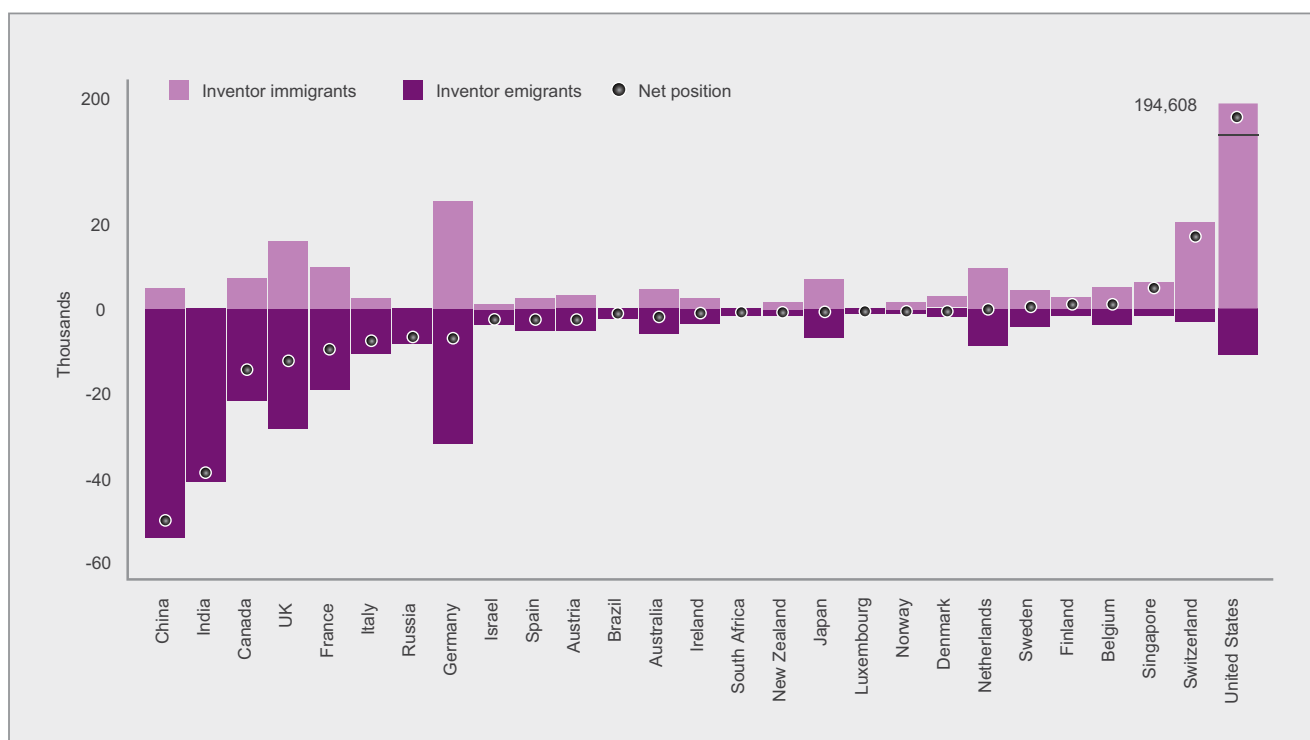
### ...BUT NOT WITHOUT A SIGNIFICANT SHADOW SIDE

But when one looks deeper at the data across countries and what the research says, a more complex picture emerges. One month before Lee Kuan Yew’s statement, 4,000 people had joined a rare protest in the streets of Singapore over government projections that half of a projected population increase by 2030 would be immigrants. Immigration is indeed a politically sensitive issue. The voters of Switzerland, another country that has been successful in part because of its selective immigration (45% of the skilled workers in its chemicals, pharmaceutical

and biotechnology industries are immigrants)<sup>8</sup> recently said no to mass immigration.

The political sensitivity of immigration is not just a question of how to deal with the European refugee dilemma – reflecting what demographers have long singled out as the biggest demographic divide in history between adjacent regions, with ageing European populations next to the troubled but populous Middle East and Africa. Profound inequalities also exist within regions and countries as well as between them, and we realise that the deeper challenge lies within our own societies. While roughly 30% of the population enjoys the ability to use their creative talents at work and get paid for it, the remaining 70% are holding on to lower-paid, indeed precarious, service or manufacturing jobs – stalled on the ladder of socio-economic mobility. As the Singapore protests and Swiss votes remind us, in a democratic society where policy depends on the vote, it is difficult to opt for talent immigration in the face of exponentially growing social inequality. There is overt concern about immigration in some European countries, and this may be exacerbated by widening job inequity in countries such as Portugal, the UK and the Netherlands that are experiencing a significant hollowing out of the economy in terms of skills – the disappearance of many middle-class jobs that are being automated or outsourced.<sup>9</sup>

Figure 1: Inventors net migration position, average 2001–2010



Note: In countries such as Germany there are a large number of immigrant inventors, but the number of people that leave the country is even larger, hence the negative net position.

Source: WIPO 2013, Database of Migrant Inventors

The migration picture is uneven when one looks across countries. As discussed in Chapter 1, migrants originate from an increasingly diverse number of countries, but they move to a shrinking pool of prime destinations such as US, Canada, Australia or Switzerland.<sup>10</sup> The mobility of the top talent, such as scientists and inventors, is even more concentrated. Even rich countries such as the United Kingdom are net losers of high-skilled professionals (the foreign talent that arrives does not offset the local talent that leaves). Figure 1 is one illustration of how the United States is the big winner of foreign innovators, who now account for nearly 20% of all inventors in the country (the rise of ‘ethnic’ patenting is increasingly a subject of study).<sup>11</sup> A country like France, on the contrary, even if still at the forefront of technological innovation, has seen few foreign innovators flourish on its soil; researchers point out that in Italy an inward-looking and poorly-educated ruling class is blind to the benefits of attracting high-skilled immigrants.<sup>12</sup>

Researchers on the brain drain point out that the US is a clear winner in attracting PhDs not only from emerging countries but also from Western Europe. “In tennis, it would be a 6–0 score in the first set of a US versus Rest of the World match,” Boeri and colleagues note, adding that “the second set may be different...Some emerging economies are now successfully attracting highly skilled migrants... Europe may continue to be the land of missed opportunity, unable to attract the talent that is going either to the US or to the new leaders of world growth.”<sup>13</sup>

This is an issue to which we will return in the final section of this chapter, where we review current research on brain drain and brain gain. But first let us review mobility from three perspectives – how countries compete for talent, the corporate viewpoint on international mobility, and how individuals are responding to mobility in today’s globalised world.

## PERSPECTIVES ON INTERNATIONAL MOBILITY: NATIONS, CORPORATIONS, AND INDIVIDUALS

### How Countries Compete for Talent

Immigration policies are the valve that regulates the entry of high-skilled migrants. Such policies usually either respond to cyclical labour market shortages or encourage the circulation of the knowledge and innovativeness embodied in high-skilled workers, even when migration is not permanent (e.g., scientists).

Selective immigration policies such as point systems get much attention, though the United States – the most successful attractor of foreign talent – does not have a selective system. The skill-based point system was

introduced by Canada in 1967 and adopted by Australia and New Zealand. Points are attributed to language, qualifications and experience, and bonus points are given to applications for occupations that have shortages; Australia allows foreign students in growth sectors such as ICT to apply for permanent residence on the basis of their diploma alone. The United Kingdom and Europe are now following the same path (e.g., EU blue card), though the original Canadian approach has been evolving. Having the requisite points gives the right to enter a pool of immigration applicants, but a job must be found within a year to secure a visa permit.

To steer policy in an arena where interest groups may exert undue pressure for short-term outcomes (see Michael Teitelbaum’s incisive analysis of the role of interest groups in the waves of booms and busts around scientific talent in the US),<sup>14</sup> there are merits to the UK approach where an impartial committee provides advice to government (see Box A).

Immigration policies are important, but they simply regulate the valve. In our review of the research, we were equally concerned with understanding what attracts talent to a particular country or region. Evaluated empirically on the basis of historic flows, the United States is the most attractive country, along with Switzerland and Singapore – even though these are countries where the valve is getting screwed down in recent years. Policymakers in other countries are interested in understanding what attracts foreign talent from abroad.

We sketched this out in Chapter 1. Leaving language and culture aside – along with its ‘melting pot’ cultural heritage, the US has an inestimable advantage in that English is the dominant language of the talent pool across the world – as well as pay and lifestyle,<sup>15</sup> **opportunity** is a key factor. In the vocational arena, opportunity means jobs that reflect skill gaps, and this can indeed be regulated by selective immigration policies. An example would be the shortage of technicians and engineers in the German *mittelstand* with its declining population. But with creative talent – what GTCI calls Global Knowledge skills – opportunity has a different meaning. Talent is attracted by the opportunity to learn, create and innovate, and talent will in turn create opportunities for others. Opportunity means not so much jobs but rather the existence of clusters and industry hubs where cutting-edge new innovations are likely to happen. Much of the international migration of scientists and engineers is in fact highly localised around knowledge-intensive clusters and specific research areas (e.g., biosciences). Entrepreneurs are also attracted to these clusters. Their attractiveness is measured not only by the amount of R&D, but also by the presence of top researchers and specialists in the relevant knowledge area.<sup>16</sup> For instance, Taiwan has created a hub in the electronics industry (discussed

## BOX A

**SKILLS, SHORTAGE AND A SENSIBLE RESPONSE:  
PROVIDING MIGRATION ADVICE TO THE UK GOVERNMENT**

The UK government, along with Ireland and Sweden, did not restrict migration from eight new countries, mostly in Eastern Europe, who entered the EU in 2004. The government estimated in public debates that only a small number of migrants from these new entrants into free-movement Europe would enter the UK by 2008, in the region of 10,000. In fact 765,000 migrants entered and registered, perhaps up to 1.5 million if those unregistered had been counted. The resulting controversy led the Labour government to establish a **Migration Advisory Committee** (MAC) of five independent experts appointed by peer review (rather than a political process) to advise the government on policy. Being non-partisan, it was maintained by the subsequent Conservative government.

MAC's approach to responding to government requests for advice, often initiated by employers seeking workers from abroad to meet a skills gap, is guided by what it calls the three S's – skilled, shortage, sensible. Is the need really one of *skills* (MAC does not focus on unskilled occupations)? Is the *shortage* real? And is immigration a *sensible* response when compared to other options such as training or increasing remuneration?

To guide its decisions, MAC has developed a sophisticated methodology dovetailing top-down data from government sources with bottom-up insights from stakeholders in industries, regions, professional societies, and the like.

SOURCE: M. Teitelbaum, *Falling behind*, Princeton University Press, 2014.

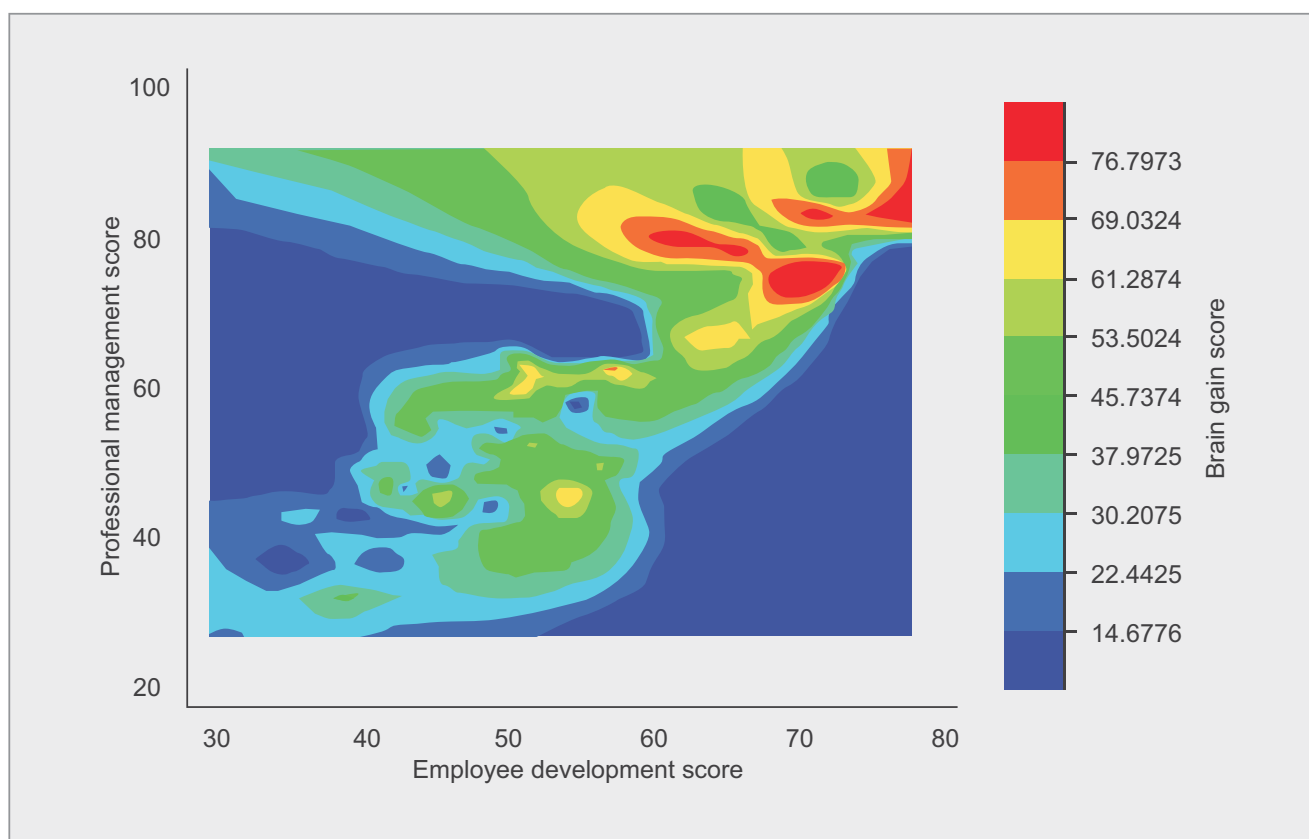
later), Singapore has a growing cluster in biosciences, while Ireland has successfully created a software hub and Finland's Helsinki region aspires to do the same. These hubs become poles for attracting talent in their sectors. The TV clips of software engineers socialising over a beer in a Dublin pub, the images of soaring skyscrapers in Taipei or Dubai, the landscaped architecture of a Helsinki suburb – all these advertise opportunity across the world.

Countries with world-class **institutes of higher education** have an advantage when it comes to attracting creative talent. This boils down to establishing a merit-based university system rewarding scientific achievement for its professors and a rigorous-but-fair process of student admission that will attract both students and researchers from abroad, as well as the home country. Some of these students and researchers will stay and get jobs and foster innovation.<sup>17</sup> Further attractive assets are work with 'star scientists', the access to the social networks of prestigious institutions, as well as autonomy and freedom to debate.

International students graduating from American universities and staying in the country, particularly in science and technology disciplines, fare well in terms of innovation.<sup>18</sup>

The **quality of management practices** is a talent attraction factor, varying greatly from one national culture to another, that should be given more prominence. Talent, particularly Global Knowledge talent, is attracted by opportunities to grow, develop, have an impact, and get rewarded and recognised for it. The early research of one of the authors established that people develop through challenge combined with support,<sup>19</sup> and in the corporate world this became the 70–20–10 formula – 70% of development happens through challenging responsibility, 20% through supportive coaching, and 10% through supportive training. Analysis of the current GTCI data shows that attractive countries that score high on brain gain are those where opportunities go to people on the basis of their merit (rather than to friends or relatives), and where companies take employee development and

Figure 2: Professional management and employee development drive brain gain  
(based on GTCI 2015–16 data)



training seriously. See the three-dimensional Figure 2 – the red ‘brain gain countries’ in the top right corner that are most attractive to the ‘best and brightest from around the world’ are clearly countries that practice professional management and that also provide active support for employee development.

Management practices do matter, as we noted in Chapter 1. We will discuss later in this chapter the current dilemma of China as it tries to attract its capable foreign-trained ‘sea turtles’ back home – so far with mixed success. On GTCI measures, China scores moderate on *Professional Management* and on *Employee Development*, but with large variance between the increasingly attractive private sector and the state-owned one, where state, party and traditional priorities prevail. This contrasts with the attractiveness of management practices in the Nordic countries, who score singularly high on both these measures.

### The Corporate Perspective: Moving to Where the Talent is

Until the turn of the new century, international corporate talent management focused almost exclusively on the expatriation of highly skilled technical and leadership talent, reflecting the era when Western multinationals were expanding into new markets with the expertise and control of these home-country expatriates. But this has rapidly evolved since. Today’s transnational organisations try to harness global economies of scale together with local market responsiveness. There are few neat hierarchical general management positions in such transnationals; the leadership challenge is less about getting a task done and more about connecting people in different parts of the organisation to achieve strategic objectives better, cheaper and faster than competitors. Managers may have local jobs for which they are accountable, but they get promoted for the cross-boundary initiatives they are taking with others. Consequently, the

talent that is in short supply in Shanghai, Mumbai and São Paulo is individuals with deep professional backgrounds but also with the ability to collaborate across functional and cultural borders in the multidimensional structures of today's transnational organisation. Such people demand high salaries in line with global norms, and the Western multinationals no longer have the game to themselves since local multinationals increasingly offer attractive careers.

With this in mind, we highlight three observations about mobility from the corporate perspective. First, what this means is that expatriation (parent to local) has given way to **growing mobility** – in-patriates working at regional or global headquarters, transfers from one subsidiary to another rather than from HQ to field,<sup>20</sup> short assignments abroad for high-potentials – alongside the necessity of being skilled in virtual leadership and virtual communication across cultures. Companies such as Nestlé seek to recruit multiculturals from the growing pool of self-initiated expatriates who moved abroad for personal reasons (discussed later).

In the past, mobility meant moving the person to the job. Today, more and more **jobs are moving to the talented people**, and this is the second corporate trend that we wish to highlight. In the past, companies that set up significant offshore activities, outside their home country, did so either to capture local market share, to establish low-cost manufacturing facilities, or to take advantage of administrative or back-office economies. Activities connected with innovation that were at the core of competitive advantage were kept under tight control in the home country. This is changing, as empirical studies show.<sup>21</sup> There is a rapidly rising trend towards offshoring of R&D, product development and design, and engineering services, particularly to Asia (Singapore, China, South Korea and India) that is clearly motivated by the intention of tapping into talent pools abroad, given a relative shortage of science and engineering talent in the West.<sup>22</sup> Companies are learning that workers in emerging countries are highly qualified, and they are building strategies and capabilities to recruit talent anywhere in the world. This is particularly true for smaller agile companies to increase their innovation capacity. Learning how to organise and manage talent globally becomes an important capability that relies on fine intangibles and is difficult to imitate.<sup>23</sup>

Our third observation is that despite what we say, the internationalisation of corporate elites is not going as fast as some might expect. The importance of mobility for multinational leadership development is well-known,<sup>24</sup> and despite the fact that we know that diverse teams face interpersonal difficulties, one might expect the diversity of top management teams of multinational corporations to

begin to mirror their markets and managerial populations. The reality is that only 67 of the 2013 Fortune 500 Global Companies had a foreign-born CEO, and on average only 15% of their executive team members are not natives of the country where the company is headquartered.<sup>25</sup> This gives a powerful signal to employees that one's passport still does matter in a globalised age. However, the likelihood of having non-native top managers increases with the level of economic development of the HQ and its score on GTCI's index – multinationals based in Switzerland, the Netherlands, UK and Australia all have more than 40% of top managers who are not native. And research indicates a significant correlation between the transnationality of the corporation and the international profile of its top management. Building a diverse transnational management team may be a particular challenge for multinationals from emerging nations such as China, Singapore, Brazil and Russia – as was highlighted by a chapter in GTCI 2014.<sup>26</sup>

### Individuals: Young Talent Embraces Globalisation

Globalisation appears to be deeply influencing the behaviour of younger people across the world, at least for those belonging to the 'creative class'. In Europe, the Erasmus programme of university study abroad has replaced the gap year of travel around the world of the last century. Well-off families in Singapore, China, India and other Asian countries have for generations encouraged their children to go to university or graduate school abroad. A rapidly growing pool in the multinational talent market are the self-initiated expatriates as opposed to assigned expatriates – individuals who take the initiative to study and find employment abroad.<sup>27</sup> Talent swaps – foreign assignments in which employees in the same company but from different countries temporarily switch jobs – are gaining in popularity. Furthermore, a survey by PwC in the US found that 71% of younger workers want to work internationally and consider it essential to career growth (Americans also increasingly choose European business schools to pursue MBAs in order to become attractive for corporate recruiters seeking globally-minded hires).<sup>28</sup> The British press recently reported that 47% of UK graduates were planning to move abroad in the next 12 months, while an additional 23% were actively considering it.<sup>29</sup> In summary, the Millennial generation is embracing globalisation.

Many companies have long believed that international experience is essential for senior executives,<sup>30</sup> and there is growing scientific evidence that broad and in-depth international experience develops the creative mindset that is needed in our globalised world (see Box B). Indeed the millennials may be taking development into their own hands by seeking out that experience.



## BOX B

**INTERNATIONAL EXPOSURE AND GLOBAL MINDSET<sup>31</sup>**

INSEAD research, undertaken in collaboration with scholars in the US, China and elsewhere, suggests that international experience builds genuinely new perspectives and fosters creative performance, notably the ability to exploit unconventional knowledge and creative ideas. If this is the case, countries must consider sending talent abroad (to acquire what GTCI calls Global Knowledge skills).

Research subjects were given a creativity test, to stick various objects on a wall so that they do not fall. People who have in-depth international experience are, statistically, more likely to solve the problem compared to people who have never lived abroad (or even people who travel widely). This is a robust finding that has been replicated with different creativity tests in different cultures and regions.

International experience may thus be indispensable for high-potentials. Take the 'haute couture' fashion sector. Research shows that the longer creative directors of global fashion houses had worked abroad (the depth of their international experience) and the more foreign countries they had worked in (the breadth of their exposure), the more creative they were. This is symbolised by Chanel's Karl Lagerfeld – a German who worked in Japan and the US, now heading an influential French house; or the oldest French fashion house Lanvin which has had British, Taiwanese and then Qatari owners, and where until recently the lead designer was a Moroccan-born Israeli whose formative years were spent in New York.

**FROM BRAIN DRAIN TO BRAIN GAIN...TO BRAIN CIRCULATION**

Mobility is on the increase, and one can argue that it is the most important aspect of globalisation – capital and technology have been globalised, but the globalisation of people has naturally been a slower process.

Following on from the three perspectives that we reviewed, let us return to a key question that is likely to influence the way governments react to mobility. When someone studies or works abroad, is this brain drain? Or brain circulation? When talented people move abroad, this is often labelled as brain drain. The brain drain assumption is that the movement of skill and talent must benefit one country at the expense of another, and that this is a zero sum game where one country benefits at the expense of another. However, if this also benefits the sending country, it is better seen as circulation. The brain circulation argument assumes that high-skilled migration may benefit both receiving and sending countries. Brain circulation changes both the competencies of the people within it and the environments through which they pass.<sup>32</sup>

One of myriad examples is Husnu Ozyegin: an MBA from Harvard Business School, he is the richest man in Turkey. As chairman of Istanbul-based Finansbank, not

only has he run businesses but he has also launched social projects, including building 36 primary schools in Turkey's poorest regions. Seeing education as Turkey's major challenge, he also plans to spend US\$1 billion over the next 15 years to establish a private university. "My vision is that we can train and export people like India does," he said. "I want Turkey to have the same education levels as Europe 25 years from now."<sup>33</sup>

As noted earlier, the US has gained in the past through attracting high-skilled people, but the sending countries may well benefit through direct and indirect transfers back to their countries of origin. For a start, the emigration of those who enter the talent pool has been found to stimulate the development of human capital – the possibility of leaving and the higher income to be earned abroad will encourage people to take education more seriously and to aspire to higher education. Furthermore, if emigrants subsequently return, they should bring back useful skills and professional networks.<sup>34</sup> But the controversy stems from the fact that a high proportion of high-skilled emigrants do not return to the home country – particularly students. Overall, up to one-fifth of students who study abroad do not come back<sup>35</sup> – at least immediately – and there is evidence that those who study at high levels (masters and PhD) are least likely to return after their education.

High-skilled people will continue to circulate in pursuit of opportunities and rewards. But humans are social and cultural, and they have ethnic roots. The Indians and Chinese in the United States or Europe may work and learn from locals, make friends with them, but they tend to marry people of their own ethnic background, maintaining links to their families in the countries of origin.<sup>36</sup> This is the modern diaspora phenomenon that is vital to the brain circulation argument.

### Capitalising on Diasporas

One way of overcoming the negative effects of the brain drain is to engage the diasporas, building on the social and cultural ties of successful emigrants to their countries of origin. Israel, Turkey and Ireland have long nurtured their diasporas, although it was only in 2014 that Ireland appointed its first minister for the Irish diaspora; today over half of all UN states have diaspora departments or ministries.<sup>37</sup> Diasporas of people educated overseas can play an important role in transferring knowledge back to their countries of origin, with positive effects on home-country innovation and subsequent economic growth.<sup>38</sup> Links to diasporas increase the probability that knowledge will continue to flow back to the home country. While many scientists that emigrate do not return (only 9% of foreign-born scientists will return during their working lives), scientific diaspora networks sometimes play a vital role in developing science and technology capacity, and emigrants often innovate and file for patents in their country of origin (see Figure 3). The benefits are clear for the real economy. Evidence shows that stronger scientific links to ethnic scientific and entrepreneurial communities in the US increases manufacturing output in the home country; these ethnic technology transfers are particularly strong in high-tech industries.<sup>39</sup>

Diasporas benefit the sending countries in four ways: through remittances, investments, network effects and knowledge diffusion, and through the transfer of know-how of experienced returnees.

**REMITTANCES** Remittances are sometimes so substantial that they reshape the economy of emerging countries. They are worth 10% of GDP for some countries in Central America and the Philippines, while India alone received US\$70 billion of them in 2014 (and for high-emigration regions such as Kerala remittances can represent 36% of the local economy).<sup>40</sup> *Global remittances are now*

*worth more than twice as much as global foreign aid.* Although remittances are not always immediately invested in productive activities (e.g., in Kerala they are mostly spent in new homes), they allow the now wealthier households to invest in the education of their children.<sup>41</sup>

**INVESTMENTS** Diasporas also represent a financial resource for local investment. Diaspora members sometimes invest back in the home country in productive activities (e.g., Diaspora Direct Investments, DDI).<sup>42</sup> Armenia is often cited as an example of the potential of DDI: between 1998 and 2004 diaspora investment accounted for 25% of total Foreign Direct Investment (FDI) flows.<sup>43</sup> One of the main advantages of DDI is that it is more stable than FDI, particularly during unfavourable economic conditions, because of the emotional connections of diaspora members to their country of origin. Moreover, companies engaging in DDI are often seen as the ‘first movers’ into a country due to potential advantages they have in terms of knowing the culture and having social networks there.<sup>44</sup>

**NETWORK EFFECTS** Migrants who have been successful abroad serve as role models for locals, as recruitment channels, and they provide advice on technical, market and leadership issues – thereby also strengthening the relationships between the host and the home country. DDI may act as a catalyst for further investment from other companies by providing market and operational information about the homeland to potential investors. Research has also shown that the more inventors of a particular ethnicity contribute to the innovation effort of firms in the host country, the more these firms will develop activities (including investments) in countries related to that ethnicity. Thanks to ethnic innovators, US multinationals have been able to form new affiliates abroad without the support of local joint venture partners.<sup>45</sup>

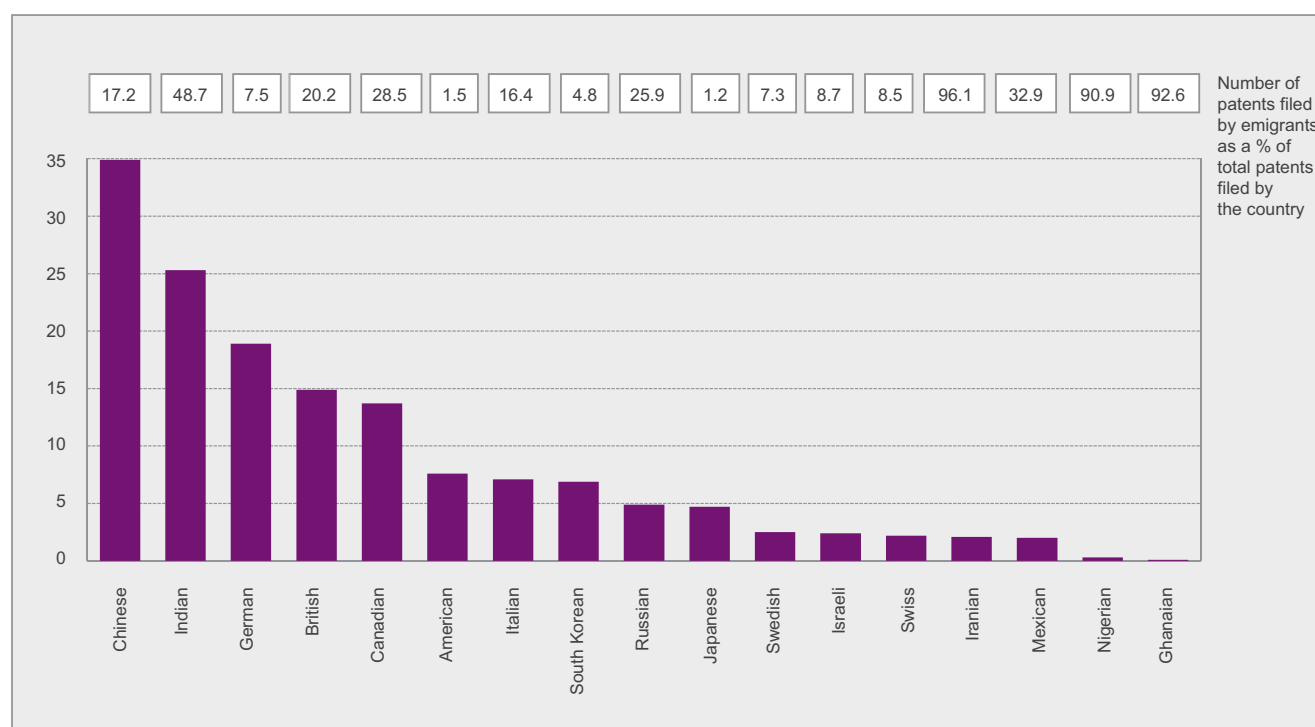
Many high-level officials and managers in developing countries have been trained in Europe or the US, bringing knowledge, norms and values that can be used to improve local institutions<sup>46</sup> – and we highlighted the importance of management practices earlier. It is often people who have lived abroad who do the most to increase the quality of basic education, to fight against corruption, and to break down oligarchic or bureaucratic barriers that handicap the development of a nation or city.



**EXPERIENCED RETURNEES** A large share of scientists and technologists (including inventors) from developing countries – between 30% and 50% – still live in the developed world.<sup>47</sup> Foreign inventors in small rich countries such as Belgium, Ireland, Luxembourg, New Zealand and Switzerland come overwhelmingly from other OECD (developed) countries. But the United States, the largest attractor of foreign inventors, relies mostly on immigrants from emerging countries, notably India and China. Some of these emerging countries are losing their best talent (around half of African inventors live outside their home country). Figure 3 shows the number of patents filed by emigrants, also as a percentage of total patents filed by the country. Can one not capitalise on the diaspora by attracting experienced inventors and successful business leaders to return to their home countries? Imagine what it could mean for Ghana or Nigeria if they could capitalise on their innovative citizens abroad.

As described in Box C, the case of Taiwan is one that has attracted attention. The Taiwanese island experienced a major brain drain 50 years ago. But it managed to woo back emigrants from Silicon Valley to build a thriving electronics and technology industry. Some of this success can be attributed to factors beyond the realm of migration policy, such as strong economic growth and relative political stability. But three policies were important to the success: actively networking with the Taiwanese diaspora so as to promote its return; subsidising vocational rather than advanced education so that returnees would find a ready labour force, who in turn would benefit from their initiatives; and the creation of science parks that replicated the Silicon Valley environment and lifestyle that the returnees were used to.

Figure 3: The power of diasporas: Patents filed by emigrants, 2007–2012 (in thousands)



Source: Figure created using WIPO Patents data<sup>48</sup>

## BOX C

**AN EXAMPLE OF BRAIN CIRCULATION: THE CASE OF TAIWAN'S HIGH-TECH INDUSTRY**

Miin Wu, Taiwanese, arrived in the United States in the early 1970s to study electrical engineering. After earning a doctorate from Stanford University in 1976, Wu saw little use for his new skills in economically backward Taiwan and chose to remain in California to work at Silicon Valley-based semiconductor companies including Siliconix and Intel. A decade later, Taiwan's economy had improved dramatically and Wu decided to return. In 1989 he started one of Taiwan's first semiconductor companies, Macronix Co., which in 1996 became the first Taiwanese company to list on Nasdaq. Although most of its manufacturing facilities are in Taiwan, Macronix has an advanced design and engineering centre in Silicon Valley, where Wu regularly recruits senior managers.<sup>49</sup>

This example illustrates how Taiwan, characterised by both emigration and immigration flows, developed a sophisticated high-tech industry by leveraging the high skills of its diaspora members and return migrants. Yet, the process was not immediate. For years, an exodus of highly skilled people seemed destined to empty Taiwan of its brains. Despite government restrictions, over 100,000 Taiwanese left to study abroad in the latter half of the 20<sup>th</sup> century. During the 1970s and 1980s, around 20% of college graduates went abroad for advanced study (mainly to the United States and to a lesser extent Japan), and few of them returned. At the peak of the brain drain in 1979, only 8% of those students returned to Taiwan upon completion of studies.<sup>50</sup>

Although still a country of net emigration, return migration of talent to Taiwan became prominent in the late 1980s and early 1990s, reversing the previous brain drain and becoming a genuine 'brain gain' – all occurring while Taiwan was also expanding its industries abroad, notably to China and ASEAN countries.<sup>51</sup> Over 50,000 migrants returned between 1985 and 1990.<sup>52</sup> Silicon Valley's Taiwanese engineers had built a vibrant two-way bridge connecting them with Taiwan's technology community (e.g., via Silicon Valley's Monte Jade Science and Technology Association). By 1987, 20% of the executives of large Taiwanese firms were former migrants.<sup>53</sup> These entrepreneurs received the nickname of 'astronauts' because so many 'lived in the air' commuting to and from Silicon Valley. The economic environment was now brighter and some emigrants even accepted offers to go back with pay cuts of 30% to 40% (relative to US salaries) given the better prospects of upward mobility.<sup>54</sup>

The Taiwanese government was quick to recognise the potential of migrants as a resource and used migrant expertise in formulating government policy. Crucial were policies that subsidised vocational education, creating a labour market that returnees could employ to mutual benefit. The government established the National Youth Council in the early 1970s to connect Taiwanese businesses with skilled migrants via databases of migrants, jobs advertisements, and temporary job placements for returnees.<sup>55</sup> The Taiwanese government's most celebrated achievement has been the Hsinchu Science-based Industrial Park (Taiwan's Silicon Valley). Established in 1980, it is the nucleus of Taiwan's successful electronics and IT industry, replicating the living conditions in the San Francisco valley.

With its strong economy, Taiwan is now trying to lure foreign talent itself. It is increasingly easier to go and work there, with the opportunity to become a resident after having launched a successful business. Emigration still presents challenges. Talent from the island increasingly goes to mainland China, where some of the most promising technology firms have been started by Taiwanese entrepreneurs (many concentrated in the Shanghai area):<sup>56</sup> "Taiwanese Entrepreneurs Saying Goodbye to the US, Hello to China", was the title of a 2012 Forbes' article.

China and India are trying to develop their own creative class, but they would also like to accelerate this by building on the lessons of Taiwan. However, they find it difficult to attract the ‘sea turtles’, as China calls them, who are five times more likely than the Taiwanese to wish to remain abroad. For example, the failure of the ZGC science park in Beijing can be attributed to two factors: the relatively shallow transnational experience and networks of Chinese returnees, and the fact that most knowledge assets such as venture capital, research funds and labs, are controlled in China by the Chinese state.<sup>57</sup> China is trying to curb what even the Communist mouthpiece *People’s Daily* in 2013 called “the world’s worst brain drain” (85% of Chinese people who earned their science or engineering doctorates in the United States in 2006 were still there in 2011).<sup>58</sup>

Management practices and business culture, as noted earlier in this chapter, play an important role for these prospects of success in attracting experienced returnees and ensuring the transfer of their knowledge and experience. We would generalise this observation to hierarchical societies where getting ahead has typically relied on family connections, status and age, and *guanxi*-type relationships rather than professional merit.

In some sectors, China and Chinese companies are becoming more attractive. Many Chinese firms are now global multinationals themselves. They offer international secondments and rich career path options to their top employees, with increasingly professional management practices that are attractive to Chinese that want to return home.<sup>59</sup> Other state-owned sectors struggle. Take the example of China’s science sector. Despite such high-profile successes as achieving manned spaceflight and building the world’s fastest supercomputer, the sector is especially unwelcoming for young researchers and entrepreneurs, who struggle to scramble up the career ladder and secure adequate funding for projects. China’s science sector has for the past two decades been burdened by corruption and top-down priorities set by bureaucrats in Beijing, as well as by the demands of its strict system of rank and hierarchy.<sup>60</sup> India, with an infrastructure and level of vocational skills that are generally not near that of China, is in a similar situation, with even more marked contrast between a few world-class

corporations and universities and the broad tail of indigenous companies that have little attraction to the creative Indian citizens abroad.<sup>61</sup>

Knowledge management theory calls this the problem of ‘absorptive capacity’, the ability to recognise the value of new knowledge and more particularly to assimilate it. To use a corporate analogy, businesses got excited by Japanese knowledge on lean management, as practiced by Toyota and others in Japan. But it took Western enterprises 20 years to assimilate this into their own different contexts. The transfer of know-how to environments with major ‘institutional voids’ as they have been called<sup>62</sup> – the lack of an infrastructure that is taken for granted in the developed world – poses significant challenges to capitalizing on the know-how of experienced returnees.

### Brain Gain or Drain: The Balance Sheet

A group of international researchers have recently done an invaluable and difficult job of trying to assess the balance sheet of gains and losses to sending countries like China and India, who send their most talented youth abroad for education – knowing that they will lose many, if not most, along the way. Adding it up, they find that most developing countries experience a net economic gain from skilled emigration.<sup>63</sup> Significant brain drain losses normally only occur in a limited number of countries. This is a risk for countries with emigration rates above 30% such as India or China.<sup>64</sup> With intensifying competition for high-skilled migrants, sending countries are likely to face an inverted-U shaped relationship between the emigration of high-skills and economic growth: they first benefit from emigration via remittances and brain circulation, but then they suffer if this becomes an exodus of the best people.

It took Taiwan decades to capture the benefits of its skilled diaspora. Harvard’s Richard Freeman (an authority on migration issues) argues that China’s leap forward in science and engineering and the associated collaborations between Chinese and American scientists is one of the defining events in modern intellectual history, and as important to the future of the world as China’s extraordinary economic growth.<sup>65</sup> It is a model that could be fruitfully extended to include other countries.

## CONCLUSIONS: TALENT DEVELOPMENT AS CIRCULATION

Talent is mobile. There has been more and more attention to the growing international mobility of talent. But maybe the causality is also the other way around? Maybe it is mobility – or diverse and multifaceted educational and work experiences, if you prefer – that helps develop creative talent? We have cited enough evidence in this chapter for the idea to be plausible – the high percentage of innovators and entrepreneurs who have their origins abroad, the effect of mobility on creative problem solving... We would hazard a guess that the elites in countries across the world have for generations believed this when preparing their children for the future.

If that is the case, if the causality works both ways, then the metaphor of ‘circulation’ makes sense for individuals, for corporations trying to develop their talent pools, and for nations hoping to attract the best talent – including emerging nations who hope that the education of their best talent abroad together with their diaspora links will lead them into a step-jump on the path to prosperity. Brain circulation becomes an intrinsic part of a globalised economy

### Talent is Mobile, but Mobility Develops Talent: What Are Some Implications of This Circular Imagery?

**Modern corporations**, with their horizontal integrated structures, need to pay close attention to coaching their managers and professionals in working with people of different cultures and to developing their skills in working virtually – and they need to make sure that it is the merit of the person that counts and not the passport. They will undoubtedly find that practices such as the talent swaps we mentioned will help attract and retain good people in Mumbai and Shanghai as well as London and New York. There may be understandable reasons why top management teams favour parent company nationals today, but we suspect that the composition of such teams will get more attention in the future. We also suspect that as talent becomes more important, so more attention will focus on the quality of management practices, albeit adapted to local contexts. Without practices that attract talent, corporate profits may not be sustainable.

Nations need to realise that corporations will gravitate to where the talent is.

- Countries should not take for granted that the best talent will come just by ‘opening the valve’; national policies are excessively oriented to filling skill gaps in part created by decades of neglect of vocational education (see the key messages of GTCI 2014). The best talent is attracted by opportunity, which includes well-developed clusters, knowledge networks and management practices. In other words, it is not only whether you open or close the door, it is also whether the house is warm and welcoming.
- Countries, especially in the developing world, should focus on developing local vocational skills and infrastructure that will both provide opportunity for their citizens and act as a magnet to their creative talent pool abroad. They should also strive for the professionalisation of local management practices, albeit with a necessarily local flavour.
- Nations should be open to the globalisation of skills without fearing a brain drain. Most countries experience a net gain from skilled emigration, including developing countries that source those migrants. The key to success is twofold: (1) engage the diasporas – a big source of knowledge and resources; and (2) promote the right business culture that rewards merit and facilitates career upward mobility.

**For researchers**, we leave a single issue in the air. With few exceptions,<sup>66</sup> economists have focused on the role of formal education and training in developing talent, neglecting factors that are more difficult to measure – such as mobility. Management researchers know that there is much more to talent development than formal education. What is the role of mobility in developing talent? Our evidence and understanding is still too anecdotal.

These are some of the current challenges. But a lot depends on electorates. In concluding this review, we leave our earlier observation on the table – that it will be difficult to pay attention to these challenges if our attention is only focused on the 30% of people in the creative class, and none on providing opportunity for the other 70% who often feel threatened by globalisation and technological change.

## ENDNOTES

- <sup>1</sup> "Keep S'pores doors open to quality immigrants", *Today*, 21 March 2013
- <sup>2</sup> This has been established via several macroeconomic studies exploring the impact of high-skilled immigration on GDP, capital accumulation, total factor productivity and employment (see Boeri et al., 2012). See also the evidence presented by Haque and Kim (1994).
- <sup>3</sup> Kerr and Lincoln (2010)
- <sup>4</sup> Hunt and Gauthier-Loiselle (2010). Note that this is entirely accounted for by their disproportionately holding degrees in science and engineering.
- <sup>5</sup> The team of researchers at Duke University also found that companies led by immigrant entrepreneurs employed 450,000 workers and generated US\$52 billion in sales in 2005 (see <http://www.foreignaffairs.com/articles/142498/robert-litan/start-up-slowdown>).
- <sup>6</sup> Foreign scientists and also foreign managers are more likely than domestic professionals to form international networks. For instance, up to 40% of foreign-born researchers would keep research links with colleagues in their country of origin and are also more likely to collaborate with someone in other countries (Scellato et al., 2015). International managers often show different corporate and personal goals while showing a greater willingness to build social capital and keep international contacts (see Inkson et al., 1997; Bozkurt and Mohr, 2011)
- <sup>7</sup> Florida (2002; 2005). Florida argues that about 30% of the US workforce belongs to this creative class, and he uses Standard Occupational Classification codes to break this into two sections: the super-creative core of science, engineering, education, computer programming, research, and also arts, design and media (about 12% of US jobs); and creative professionals, knowledge workers in healthcare, business, and finance, law and education. His work has been challenged by scholars who critique the lack of precision of his concept of the creative class, as well as his global index of creative cities. Florida argues that the US should once again welcome foreigners possessing any skills, as well as doing more to develop the creative capacity of its local citizens, notably through transforming the educational system.
- <sup>8</sup> "Swiss Vote to Curb Immigration Could Hamper Research". AAAS, ScienceNews, <http://news.sciencemag.org/europe/2014/02/swiss-vote-curb-immigration-could-hamper-research>. Retrieved 16 February 2014.
- <sup>9</sup> Holmes and Mayhew (2014)
- <sup>10</sup> See Czaika and de Haas (2014)
- <sup>11</sup> The percentage of foreign inventors is also based on data from the WIPO global database of inventors.
- <sup>12</sup> Boeri et al. (2012), p. 5
- <sup>13</sup> Boeri et al. (2012), p. 1
- <sup>14</sup> Teitelbaum (2014)
- <sup>15</sup> The functioning of labour markets is indeed a key driver: e.g., the premium paid for education and labour market deregulation and a less generous welfare state would be conducive to high-skilled immigration; by contrast, generous benefits and strict employment protection end up attracting more unskilled workers (France is a negative example). See the evidence presented by Boeri et al., 2012 (p. 66). Also, countries and cities vie with each other to offer attractive lifestyles.
- <sup>16</sup> See OECD (2001)
- <sup>17</sup> See OECD (2001) and Stuen et al. (2012)
- <sup>18</sup> Research has shown that a 1% increase in the number of immigrant college graduates increases the patenting of innovative products by between 9% and 18% in the US (Hunt and Gauthier-Loiselle, 2010). Hunt (2011) reports similar results. Does that mean that the US government should start facilitating green cards to all incoming students in science and technology? Not necessarily. Foreign STEM students who receive green cards only after graduation are more likely to start a growth-oriented business subsequently (see Ganco, 2015). They tend to seek immediate employment in their chosen field, acquiring experience more rapidly than those with a permanent visa at the beginning of their studies. More study is needed on such counter-intuitive insights.
- <sup>19</sup> See Pucik et al. (2016), chapter 8. Ready, Hill and Conger (2008) argue that opportunity means much the same in the developed and developing worlds: challenging work, stretch assignments, continual training and development, and competitive pay.
- <sup>20</sup> 40% of international assignees today are relocated from/to a country other than the one where the HQ is located (Brookfield 2014 Global Mobility Trends Survey) [www.brookfieldgrs.com](http://www.brookfieldgrs.com).
- <sup>21</sup> Lewin, Massini and Peeters (2009)
- <sup>22</sup> Studies show that students from countries at higher levels of economic development tend to shun studies in STEM (science, technology, engineering and mathematics fields), which is not the case for students in developing countries.
- <sup>23</sup> Pucik et al. (2016)
- <sup>24</sup> Our early research showed that while in-depth expertise is important for managers early in their careers, attachment to expertise is a blockage to the development of leadership ability (see Pucik et al. (2016) chapter 8 for a summary of this research). This led us to a partnership with Shell who pioneered the practice of 'job rotation' for high-potential managers – a practice adopted by many multinationals, and by the Singapore and Dutch governments for the development of civil service leaders. See Nalbantian and Guzzo (2009). Much current research on leadership development builds on these insights.
- <sup>25</sup> Ghemawat and Vantrappen (2015). It should be pointed out that their data does not capture the international experience of these top managers, only their nationalities.
- <sup>26</sup> Puri and Siow (2014) argue that the reluctance of Singaporeans (and other Asians) to work abroad, particularly in cultures where the mentality is very different from at home, is a major obstacle to the ability of Asian enterprises to develop local leadership capability.
- <sup>27</sup> See Cerdin and Selmer (2014)
- <sup>28</sup> "Across border, talent swaps help develop skills and careers", *New York Times*, May 15, 2015. INSEAD is mentioned as a global example in the article "Why Americans Are Going Abroad for an MBA", *Wall Street Journal*, 2 September 2015.
- <sup>29</sup> "The Great Britain brain-drain: 70% of graduates set to avoid the world of work and move abroad", *Mail Online*, 4 September 2014
- <sup>30</sup> There are already measurable returns to the 'career capital' of internationally-mobile professionals, particularly for certain occupations and 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).
- <sup>31</sup> See Maddux and Galinsky (2009). For the fashion industry study, see Godart et al. (2014)



- <sup>32</sup> The term 'brain' does not necessarily refers to scientific and technological brain-power (e.g., STEM skills). Business executives and entrepreneurs are also part of the brain circulation.
- <sup>33</sup> <https://www.alumni.hbs.edu/stories/Pages/story-bulletin.aspx?num=640>
- <sup>34</sup> Also, the accumulation of experience in a country with fewer barriers to entrepreneurship, or in less hierarchical organisational contexts, enables transitions to entrepreneurship back in the home country or in a new host country (see Riddle and Brinkerhoff, 2011).
- <sup>35</sup> There is evidence that studying abroad increases the probability of people staying abroad, in which case the home country could lose that talent (see Parey and Waldinger, 2011).
- <sup>36</sup> According to Pew Research data, Asians in the US see America as far better in opportunities to get ahead, in freedom to express political views and other freedoms (the important dimension of management practices that we discussed earlier), and in conditions for raising children. But they see their country of origins as equally strong in terms of moral values of society, and far better in terms of the strength of family ties. See "The model minority is losing patience", *The Economist*, 2015.
- <sup>37</sup> "Diasporas: Gone but not forgotten", *The Economist*, 2014
- <sup>38</sup> Systematic empirical evidence on the knowledge flows associated with diasporas has only emerged recently, making use of inventor and prior art citation information included in patent applications (Agrawal et al., 2006; Kerr, 2008; Foley and Kerr, 2013).
- <sup>39</sup> Kerr (2008) shows that the increase in manufacturing output has an elasticity of 0.1–0.3.
- <sup>40</sup> "Remittances: Like manna from heaven", *The Economist*, 2015
- <sup>41</sup> The article by *The Economist* (2015) cites the research on the impacts of remittances done by Dean Yang from the University of Michigan.
- <sup>42</sup> Diaspora entrepreneurs are migrants who establish ventures abroad, and they or their descendants sometimes invest in their country of origin.
- <sup>43</sup> See Riddle et al. (2010)
- <sup>44</sup> See Rodriguez-Montemayor (2012)
- <sup>45</sup> See the evidence presented by Foley and Kerr (2013)
- <sup>46</sup> See Boeri et al. (2012)
- <sup>47</sup> See WIPO (2013)
- <sup>48</sup> The figure was created using data from WIPO that was reported by *The Economist* in the article "How valuable are they: Migrant brainpower", 2015.
- <sup>49</sup> This example was extracted from <http://www.brookings.edu/research/articles/2002/12/winter-immigration-saxenian>
- <sup>50</sup> "Brain drain and gain: The case of Taiwan". Migration Policy Institute, 2003
- <sup>51</sup> "Tradition and progress: Taiwan's evolving migration reality", Migration Policy Institute, 2012
- <sup>52</sup> "Brain drain and gain: The case of Taiwan", Migration Policy Institute, 2003
- <sup>53</sup> Ibid.
- <sup>54</sup> <https://migration.ucdavis.edu/mn/more.php?id=624>
- <sup>55</sup> "Brain drain and gain: The case of Taiwan", Migration Policy Institute, 2003
- <sup>56</sup> There are more than 700,000 Taiwanese-born residents in the Shanghai area (often in a type of circular migration since Taiwan remains the permanent residence for most emigrants). Source: "Tradition and progress: Taiwan's evolving migration reality", Migration Policy Institute, (2012). It cites data from the 2010 China Population Census.
- <sup>57</sup> Chen (2008)
- <sup>58</sup> Foreignpolicy.com, (accessed 29/09/2015); <http://foreignpolicy.com/2015/09/29/beijings-test-tube-baby-china-science-zhao-bowen-bgi-start-up-gene-mapping-dropout/>
- <sup>59</sup> <http://www.forbes.com/sites/sylviaorhausersmith/2012/09/18/the-global-war-for-talent-goes-local-in-china/>
- <sup>60</sup> Foreignpolicy.com, (accessed 29/09/2015); <http://foreignpolicy.com/2015/09/29/beijings-test-tube-baby-china-science-zhao-bowen-bgi-start-up-gene-mapping-dropout/>
- <sup>61</sup> See for example Forbes (2014) for an assessment of the Indian situation, with a particular focus on the educational sector.
- <sup>62</sup> Khanna and Palepu (2006)
- <sup>63</sup> Doquier and Rapoport, in Boeri et al. (2012)
- <sup>64</sup> See Boeri et al. (2012)
- <sup>65</sup> Freeman and Huang (2015)
- <sup>66</sup> The exceptional paper we found is in the top economic journal in the field – Pozo (2014), entitled "Does the US labor market reward international experience?" The author concludes "there are measurable returns to international human capital. While, on average, these returns are modest – about 5% for women and 2.5% for men – the returns are sizable in certain occupations and seem to always be present in the managerial and professional categories, occupations that particularly value creativity and innovation."

## REFERENCES

- Ackers, L. (2005). Moving people and knowledge: scientific mobility in the European Union. *International Migration*, 43(5), 99–131.
- Agrawal, A., Cockburn, I., & McHale, J. (2006). Gone but not forgotten: knowledge flows, labor mobility and enduring social relationships. *Journal of Economic Geography*, 6, 571–591.
- Boeri, T., Brucker, H., Docquier, F., & Rapoport, H. (2012). *Brain Drain and Brain Gain: the Global Competition to Attract High-Skilled Migrants*, Oxford University Press.
- Bozkurt, Ö., & Mohr, A. T. (2011). Forms of cross-border mobility and social capital in multinational enterprises. *Human Resource Management Journal*, 21(2), 138–155.
- Cerdin, J.-L., & Selmer, J. (2014). Who is a self-initiated expatriate? Towards conceptual clarity of a common notion. *Journal of International Human Resource Management*, 25(9), 2181–2301.
- Chen, Y. (2008). The limits of brain-circulation: Chinese returnees and technological development in Beijing. *Pacific Affairs*, 81(2), 195–215.
- Czaika, M., & de Haas, H. (2014). The globalization of migration: Has the world become more migratory?. *International Migration Review*, 48(2), 283–323.
- Florida, R.L. (2005). *The Flight of the Creative Class: The New Global Competition for Talent*. New York: HarperBusiness.
- Florida, R.L. (2002). *The Rise of the Creative Class*. New York: Basic Books.
- Foley, C. F., & Kerr, W. R. (2013). Ethnic innovation and U.S. multinational firm activity. *Management Science*, 59(7), 1529–1544.
- Forbes, N. (2014). Higher education in India: growth with challenges. In S. Dutta, B. Lanvin, and S. Wunsch-Vincent, *The Global Innovation Index 2014: The human factor in innovation*. Fontainebleau, France: Cornell University, INSEAD, and WIPO.
- Freeman, R. (2006). People flows in globalization. *Journal of Economic Perspectives*, 20(2), 145–170.
- Freeman, R.B., & Huang, W. (2015). China's 'great leap forward' in science and engineering. In A. Geuna (Ed.), *Global mobility of research scientists: The economics of who goes where and why*. Academy Press.
- Ganco, M. (2015). Marked for life?: Temporary mobility constraints and entrepreneurship decisions by foreign graduates in science and engineering. University of Minnesota, unpublished manuscript.
- Ghemawat, P., & Vantrappen, H. (2015). How global is your C-suite?. *MITSloan Management Review*, 56(4), 72–82.
- Godart, F., Maddux, W., Shipilov, A., & Galinsky, A. (2014). Fashion with a foreign flair: Professional experiences abroad facilitate the creative innovations of organizations. *Academy of Management Journal*, 58(1), 195–220.
- Haque, N., & Kim, S.A. (1994). Human capital flight: Impact of migration on income and growth. IMF Working Paper, 94/155.
- Hart, D. (2007). Understanding immigration in a national systems of innovation framework. *Science and Public Policy*, 34(1), 45–53.
- Holmes, C., & Mayhew, K. (2014). The winners and losers in the hourglass labour market. In L. Archer, A. Mann and J. Stanley (eds.), *Understanding Employer Engagement in Education: theories and evidence*. London: Routledge.
- Hunt, J. (2011). Which immigrants are most innovative and entrepreneurial? Distinctions by entry visa. *Journal of Labor Economics*, 29(3), 417–457.
- Hunt, J., & Gauthier-Loiselle, M. (2010). How Much Does Immigration Boost Innovation? *American Economic Journal: Macroeconomics*, 2(2), 31–56.
- Inkson, K., Arthur, M.B., Pringle, J. & Barry, S. (1997). Expatriate assignment versus overseas experience: Contrasting models of international human resource development. *Journal of World Business*, 32(4), 351–368.
- Kerr, W. R. (2008). Ethnic scientific communities and international technology diffusion. *Review of Economics and Statistics*, 90(3), 518–537.
- Kerr, W. R., & Lincoln, W. F. (2010). The supply side of innovation: H-1B Visa reforms and U.S. ethnic invention. *Journal of Labor Economics*, 28(3), 473–508.
- Khanna, T., & Palepu, K.G. (2006). Emerging giants: Building world-class companies in developing countries. *Harvard Business Review*, October, 60–71.
- Lewin, A.Y., Massini, S., & Peeters, C. (2009). Why are companies offshoring innovation? The emerging global race for talent. *Journal of International Business*, 40, 901–25.
- Maddux, W. & Galinsky, A.D. (2009). Cultural borders and mental barriers: The relationship between living abroad and creativity. *Personality & Social Psychology*, 96(5).
- Nalbantian, H.R., & Guzzo, R.A. (2009). Making mobility matter. *Harvard Business Review*, March.
- Niebuhr, A. (2010). Migration and innovation: Does cultural diversity matter for regional R&D activity? *Papers in Regional Science*, 89(3).
- OECD. (2002). Annex 1: Current regulations in OECD countries regarding Possibilities for Student Visa holders to change residence status, 2001.
- OECD. (2002). Annex 2: Eligibility criteria for recruitment and residence of skilled foreign workers in some OECD countries.
- OECD. (2001). International Mobility of the Highly Skilled, OECD Proceedings 2001.
- Parey, M., & Waldinger, F. (2011). Studying abroad and the effect on international labour market mobility: Evidence from the introduction of Erasmus. *The Economic Journal*, 121(March), 194–222.
- Parrotta, P., Pozzoli, D., & Pytlíkova, M. (2014). The nexus between labor diversity and firm's innovation. *Journal of Population Economics*, 27, 303–364.
- Peri, G. (2005). Determinants of knowledge flows and their effect on innovation. *The Review of Economics and Statistics*, 87(2), 308–322.
- Pozo, S. (2014). Does the US labor market reward international experience? *American Economic Review: Papers & Proceedings 2014*, 104(5), 250–254.
- Pucik, V., Evans, P.A.L., Björkman, I., & Morris, S. (2016 in press). *The Global Challenge: International Human Resource Management*, 3<sup>rd</sup> edition. Chicago: Chicago Business Press.
- Puri, S., & Siow, R. (2014). Can Southeast Asia develop its global leaders?. In B. Lanvin and P. Evans, *The Global Talent Competitive Index 2014*, INSEAD: Fontainebleau and Singapore.

Ready, D.A., Hill, L.A., & Conger, J.A. (2008). Winning the race for talent in emerging markets. *Harvard Business Review*, November.

Regets, M.C. (2001). Research and policy issues in high skilled international migration: A perspective with data from the United States. National Science Foundation. IZA Discussion Paper 366.

Riddle, L., Hrivnak, G. A., & Nielsen, T. M. (2010). Transnational diaspora entrepreneurship in emerging markets: Bridging institutional divides. *Journal of International Management*, 16, 398–411.

Riddle, L., & Brinkerhoff, J. (2011). Diaspora entrepreneurs as institutional change agents: The case of thamel.com. *International Business Review*, 20, 670–680.

Rodriguez-Montemayor, E. (2012). Diaspora direct investment: Policy options for development. Inter-American Development Bank, Integration and Trade Sector Policy Brief IDB–PB–183.

Salt, J. (1997). International movements of the highly skilled. Occasional Paper 3, OECD.

Saxenian, A. (2002). Silicon Valley's new immigrant high-growth entrepreneurs. *Economic Development Quarterly*, 16(1), 20–31.

Scellato, G., Franzoni, C., & Stephan, P. (2015). Mobile scientists and international networks. *Research Policy*, 44, 108–120.

Stephan, P.E., & Levin, S.G. (2001). Exceptional contributions to US science by the foreign-born and foreign-educated. *Population Research and Policy Review*, 20, 59–79.

Stuen, E.T., Mobarak, A. M., and Maskus, K. E. (2012). Skilled Immigration and Innovation: Evidence from enrolment fluctuations in US doctoral programmes. *The Economic Journal*, 122(December), 1143–1176.

Teitelbaum, M.S. (2014). *Falling Behind? Boom, Bust, and the Global Race for Scientific Talent*. Princeton University Press.

Zikic, J. (2015). Skilled migrants' career capital as a source of competitive advantage: Implications for strategic HRM. *The International Journal of Human Resource Management*. 26(10), 1360–138.

WIPO. (2013). Measuring the international mobility of inventors: A new database. Working Paper 8. *WIPO Economics & Statistics Series*.







## CHAPTER 6

# JRC STATISTICAL AUDIT ON THE GLOBAL TALENT COMPETITIVENESS INDEX 2015–16

**Michaela Saisana and Marcos Domínguez-Torreiro**

The European Commission Joint Research Centre

The Global Talent Competitiveness Index (GTCI) attempts to summarise complex and interrelated concepts relevant to human capital and talent competitiveness at the national scale in 109 countries worldwide. In so doing, it raises some conceptual and practical challenges, which are discussed in the *GTCI 2015–16* report. Herein, the focus is on the practical challenges related to the data quality and the methodological choices on the grouping of 61 variables into 14 sub-pillars, six pillars, two sub-indices and an overall index. GTCI 2015–16 has a very high statistical reliability (Cronbach's alpha value at 0.94). Methodological changes related to the treatment of missing values, weighting and aggregation rule have a negligible impact on country ranks (less than  $\pm 2$  positions shift with respect to the simulated median in 90% of the countries). The added value of GTCI lies in its ability to summarise different aspects of talent competitiveness in a

more efficient and parsimonious manner than is possible with the indicators and pillars taken separately.

Last year, the audit of the GTCI model conducted by the European Commission Joint Research Centre (JRC) concluded that the model was robust and reliable, with a statistically coherent and balanced multi-level structure. Indications were provided of areas in which the quality and relevance of the model could be enhanced. The Econometrics and Applied Statistics Unit at JRC in Ispra, Italy, has been invited for a third time by the GTCI development team to undertake an analysis of the statistical properties of the GTCI model, in order to ensure the transparency and reliability of the report and thus to enable policymakers to derive more accurate and meaningful conclusions, and potentially to guide choices on priority setting and policy formulation.

As in the previous audits, the present JRC assessment of GTCI 2015–16 focuses on two main issues: the statistical coherence of the structure, and the impact of key modelling assumptions on the GTCI scores and ranks.<sup>1</sup> The JRC analysis complements the reported country rankings for 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 missing data estimation, weights and aggregation formula). Furthermore, the JRC analysis includes an assessment of the added value of the GTCI, and a comparison to other global measures of competitiveness and innovation. Its main conclusions can be summarised as follows: the version of the GTCI model presented in 2015 is coherent, balanced and robust, displaying strong associations between the underlying indicators and the GTCI sub-indices, pillars and sub-pillars, and hence offering a sound basis for policy interpretations. Further improvements can still be envisaged in order to enhance the model's ability to identify critical talent-related issues in a variety of economic contexts.

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 GTCI will mostly, though not exclusively, be based on correlations, the correspondence of the index with a real-world phenomenon needs to be critically addressed as “correlations need not necessarily represent the real influence of the individual indicators on the phenomenon being measured”.<sup>2</sup> The point is that the validity of GTCI relies on the interplay between both statistical and conceptual soundness. In this respect, 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

Earlier versions of the GTCI model were assessed by JRC in July 2015. Preliminary suggestions by JRC focused on dealing with variables with strong colinearity, reconsidering variables that behaved as noise in the overall framework and repositioning indicators on different (sub-) pillars. The JRC recommendations were taken into account in the final computation of the rankings by the GTCI development team through an iterative process, which aimed at setting the foundation for a balanced index.

The underlying concepts and framework used to describe global talent competitiveness in GTCI 2015–16 have remained essentially the same when compared to GTCI 2014. With regards to the changes experienced, they are related to the specific variables used to capture each underlying concept. Some of these modifications have been the result of the discussions held between JRC and the

GTCI development team preceding the construction of the final version of GTCI 2015–16. Overall – and in spite of the addition of a new indicator (Tertiary education expenditure) – the number of variables used in the current model decreased from 65 variables in GTCI 2014 to 61 in GTCI 2015–16. With the aim of enhancing the statistical coherence of the index, those variables showing measurement problems, pointing in the opposite direction of the phenomenon being measured and adding noise to the framework, were excluded from this edition's model (e.g., FDI inflow and Pay level of executives, both present in GTCI 2014). Furthermore, some highly correlated variables were combined to prevent double counting of information (e.g., using overall Migrant stock instead of two separate variables measuring male and female adult migrants). Finally, some variables were moved from one pillar to another to improve the statistical coherence of the framework (e.g., International students was moved from Formal education to External openness). Note that the reasons for keeping, excluding or repositioning variables are both conceptual and empirical, as well as being related to data quality issues. As such, the GTCI 2015–16 development team chose to retain some variables for conceptual reasons despite their high correlation (e.g., Brain gain and Brain drain were both kept in the External openness sub-pillar) or very low impact on the variation of the GTCI scores (see Table 2 and relevant discussion below). Also, of the variables that could fit statistically better in another pillar, many of them have been kept in their current position, based on analytical and practical considerations.

Following on the iterative process during which the index has been fine-tuned, the current assessment of the statistical coherence in this final version of GTCI 2015–16 followed four steps:

### Step 1: Relevance

Candidate indicators 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, indicators were scaled either at the source or by the GTCI development team as appropriate and where needed.

### Step 2: Data checks

The most recently released data for each of the 61 variables were used for each country. The cut-off year for considering older data as valid was changed from 2002 to 2005, thus affecting country coverage figures. Countries were included in the GTCI final sample if two conditions were met: (i) data were available for at least 80% of the indicators at the index level (i.e., of all the 61 indicators); and (ii) data were available for at least 40% of indicators contained in each of the six sub-pillars. As a result, the GTCI 2015–16 data set comprises 109 countries. Also, data availability for any of the countries included in GTCI 2015–16 was found

to be at least 80% at the Input sub-index level and 59% at the Output sub-index level. Potentially problematic indicators with outliers that could bias the overall results were identified by the GTCI development team as those having absolute skewness greater than two and kurtosis greater than 3.5,<sup>3</sup> and were treated either by Winsorisation or by taking the natural logarithm (in case of more than five outliers). For variables with five outliers and above, log transformation is used (for more details, please refer to the Technical Notes section in the Appendices). These criteria follow the WIPO–INSEAD Global Innovation Index practice (formulated with JRC in 2011).

### Step 3: Statistical coherence

#### i) Principal components analysis and reliability analysis

Principal component analysis (PCA) was used to assess the extent to which the conceptual framework is confirmed

by statistical approaches. PCA confirms the presence of a single statistical dimension (i.e., a single principal component with eigenvalue greater than 1.0) in half of the sub-pillars, which captures 61% (Lifestyle) to 69% (Employable skills) of the total variance in the underlying indicators.<sup>4</sup> Nevertheless, 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 (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 77% of the total variance, and the six loadings (correlation coefficients) are very similar to each other. The latter suggests that the six pillars contribute in a similar way to the variation of the GTCI scores, as envisaged

Table 1: Statistical coherence in GTCI: correlations between sub-pillars and pillars

		Enable	Attract	Grow	Retain	LV	GK
INPUT	1.1 Regulatory landscape	0.93	0.81	0.81	0.77	0.70	0.78
	1.2 Market landscape	0.91	0.71	0.85	0.80	0.70	0.87
	1.3 Business–labour landscape	0.81	0.58	0.53	0.51	0.40	0.46
	2.1 External openness	0.73	0.85	0.62	0.57	0.35	0.57
	2.2 Internal openness	0.59	0.82	0.64	0.41	0.37	0.50
	3.1 Formal education	0.66	0.47	0.86	0.72	0.70	0.81
	3.2 Lifelong learning	0.73	0.74	0.86	0.54	0.43	0.59
	3.3 Access to growth opportunities	0.77	0.79	0.87	0.64	0.43	0.71
	4.1 Sustainability	0.78	0.59	0.72	0.94	0.72	0.78
	4.2 Lifestyle	0.72	0.53	0.69	0.95	0.75	0.76
OUTPUT	5.1 Employable skills	0.55	0.35	0.53	0.70	0.94	0.63
	5.2 Labour productivity	0.67	0.42	0.56	0.61	0.72	0.57
	6.1 Higher skills and competencies	0.78	0.61	0.81	0.82	0.70	0.94
	6.2 Talent impact	0.70	0.59	0.73	0.68	0.60	0.92

Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

by the GTCI development team, given that all six pillars are assigned equal weights. The reliability of the GTCI, measured by the Cronbach's alpha value, is very high at 0.94, which is well above the 0.7 threshold for a reliable aggregate.<sup>5</sup>

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 index 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 more important than 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 0.98 and 0.94 respectively, which suggests that the sub-indices are effectively placed on equal footing. Overall, the tests so far show that the grouping of indicators into sub-pillars, pillars and an overall index is statistically coherent, and that GTCI has a balanced structure, whereby all six pillars are equally important in determining the variation in the GTCI scores. For some of the sub-pillars, recommendations have been made to modify the underlying indicators in future versions of the index, so as to render it even sounder from both a conceptual and statistical point of view.

## ii) Importance of the variables in the GTCI framework

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' conceptual importance in the index. However, in practice, the correlation structure of the variables and the different variances do not always allow for the weights assigned to the variables to be considered as equivalent to the importance of the variables.

In this section we assess the importance of all 61 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.<sup>6</sup> The importance of the selected variables is taken to be equivalent to the contribution of the 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 61 variables, we see that almost all variables are important at the various levels of aggregation. For example, country variations in 1.1.1 Government effectiveness scores captures 87% of the variance in the respective sub-pillar scores (Regulatory landscape), 84% of the variance in the respective pillar scores (Enable) and 87% both in the Input sub-index and overall GTCI scores. Similarly, country variations in 2.1.1 FDI and technology transfer scores captures 43%, 28%, 26% and 22% of the variance in the scores of External openness, Attract, Input and GTCI overall index, respectively. In the 2015 data set, there seem to be only six variables that have a very low impact (less than 10%) on the GTCI variance. These are: 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, 4.1.2 Taxation and 5.2.3 Mid-value exports. Although conceptually enriching the overall GTCI framework, these variables are not found to be important at the overall index level. It is suggested that the GTCI development team reconsiders the inclusion of these variables (or their replacement by other variables) in next year's release.

## iii) 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 GTCI. In fact, for more than 39% (up to 59%) of the 109 countries included in GTCI 2015–16, the overall GTCI ranking differs by 10 positions or more from any of the six pillar rankings (see Table 3). For example, in the most extreme case, Senegal ranks 99<sup>th</sup> in the overall GTCI, but climbs up to the 32<sup>nd</sup> position when only the 'Attract' pillar is taken into account. 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 at 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.

Table 2: Importance measures for the variables at the various levels of the GTCI structure

			Sub-pillar	Pillar	Input/ Output	GTCI Index
1. ENABLE	1.1 Regulatory landscape	1.1.1 Government effectiveness	87%	84%	87%	87%
		1.1.2 Business–government relations	38%	41%	31%	22%
		1.1.3 Political stability	76%	60%	62%	59%
		1.1.4 Starting a foreign business	49%	27%	27%	36%
	1.2 Market landscape	1.2.1 Competition intensity	48%	42%	34%	33%
		1.2.2 Ease of doing business	71%	72%	67%	70%
		1.2.3 Cluster development	53%	44%	40%	36%
		1.2.4 R&D expenditure	73%	51%	48%	53%
		1.2.5 ICT Infrastructure	74%	61%	76%	82%
		1.2.6 Technology utilisation	75%	68%	70%	65%
	1.3 Business–labour landscape	1.3.1 Ease of hiring	56%	22%	10%	9%
		1.3.2 Ease of redundancy	56%	25%	15%	12%
		1.3.3 Labour–employer cooperation	39%	45%	40%	32%
		1.3.4 Professional management	36%	65%	65%	57%
2. ATTRACT	2.1 External openness	2.1.1 FDI and technology transfer	43%	28%	26%	22%
		2.1.2 Prevalence of foreign ownership	47%	49%	39%	36%
		2.1.3 Migrant stock	57%	32%	36%	32%
		2.1.4 International students	71%	52%	39%	33%
		2.1.5 Brain gain	76%	54%	39%	29%
		2.1.6 Brain drain	66%	51%	42%	32%
	2.2 Internal openness	2.2.1 Tolerance to minorities	64%	36%	13%	10%
		2.2.2 Tolerance to immigrants	58%	34%	17%	13%
		2.2.3 Social mobility	35%	68%	66%	56%
		2.2.4 Female graduates	17%	9%	12%	15%
		2.2.5 Gender earnings gap	34%	12%	6%	6%
3. GROW	3.1 Formal education	3.1.1 Vocational enrolment	49%	30%	21%	27%
		3.1.2 Tertiary enrolment	65%	44%	40%	47%
		3.1.3 Tertiary education expenditure	16%	16%	10%	9%
		3.1.4 Reading, maths and science	69%	35%	32%	43%
		3.1.5 University ranking	62%	56%	44%	45%

			Sub-pillar	Pillar	Input/ Output	GTCL Index
3. GROW	3.2 Lifelong learning	3.2.1 Quality of management schools	54%	56%	53%	47%
		3.2.2 Prevalence of training in firms	66%	26%	7%	4%
		3.2.3 Employee development	64%	56%	59%	52%
	3.3 Access to growth opportunities	3.3.1 Use of virtual social networks	46%	45%	57%	58%
		3.3.2 Use of virtual professional networks	75%	68%	66%	62%
		3.3.3 Delegation of authority	67%	63%	63%	56%
		3.3.4 Freedom of voice	51%	24%	15%	10%
4. RETAIN	4.1 Sustainability	4.1.1 Pension system	86%	82%	62%	70%
		4.1.2 Taxation	8%	3%	8%	5%
	4.2 Lifestyle	4.2.1 Environmental performance	81%	82%	71%	77%
		4.2.2 Safety at night	29%	28%	26%	24%
		4.2.3 Physician density	61%	52%	34%	38%
		4.2.4 Sanitation	79%	71%	47%	51%
		4.2.5 Flexible employment	35%	25%	22%	21%
5. LV SKILLS	5.1 Employable skills	5.1.1 Secondary-educated workforce	77%	56%	11%	19%
		5.1.2 Secondary-educated population	80%	67%	15%	26%
		5.1.3 Technicians and associate professionals	65%	71%	59%	70%
	5.2 Labour productivity	5.2.1 Labour productivity per employee	51%	39%	53%	71%
		5.2.2 Relationship of pay to productivity	23%	14%	14%	15%
		5.2.3 Mid-value exports	40%	15%	8%	2%
6. GK SKILLS	6.1 Higher skills and competencies	6.1.1 Tertiary-educated workforce	74%	66%	53%	52%
		6.1.2 Tertiary-educated population	64%	56%	49%	45%
		6.1.3 Professionals	74%	65%	69%	68%
		6.1.4 Researchers	82%	71%	65%	70%
		6.1.5 Senior officials and managers	37%	32%	25%	22%
		6.1.6 Quality of scientific institutions	66%	64%	55%	69%
		6.1.7 Scientific journal articles	75%	64%	57%	57%
	6.2 Talent impact	6.2.1 Innovation output	72%	85%	76%	78%
		6.2.2 High-value exports	41%	31%	28%	21%
		6.2.3 New product entrepreneurial activity	30%	15%	13%	11%
		6.2.4 New business density	46%	34%	23%	24%

Notes: The values are the squared Pearson correlation coefficients.

Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015



Table 3: Distribution of differences between pillar and GTCI rankings

	GTCI Input sub-index				GTCI Output sub-index	
Shifts with respect to GTCI score	Enable	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge Skills
More than 30 positions	4%	21%	6%	3%	11%	5%
20 to 29 positions	9%	20%	13%	9%	19%	11%
10 to 19 positions	27%	17%	25%	31%	28%	21%
5 to 9 positions	22%	18%	25%	24%	24%	29%
Less than 5 positions	31%	17%	30%	27%	17%	26%
0 positions	7%	6%	2%	6%	0%	8%
Total	100%	100%	100%	100%	100%	100%
More than 10	39%	58%	43%	43%	59%	37%

Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

In addition we compared GTCI 2015–16 with both the World Economic Forum's (WEF) 2014–15 Global Competitiveness Index<sup>5</sup> and the 2015 Global Innovation Index.<sup>6</sup> After having extracted data from both projects' websites, we find that GTCI 2015–16 correlates substantially with both indices (correlation  $\approx 0.9$ ). GTCI has most in common with the INSEAD 2015 Global Innovation Index. Looking at the shifts in rankings (see Table 4), we nevertheless find that 41% and 25% out of the 109 countries differ in ranking with more than 10 positions when comparing GTCI 2014 with respectively the WEF 2014–15 Global Competitiveness Index and the INSEAD 2015 Global Innovation Index. This indicates that GTCI 2015–16 clearly differs from these other indices.

#### Step 4: Qualitative review

Finally, the GTCI results, including overall country classifications and relative performances in terms of the Input or Output sub-indices were evaluated by the GTCI development team and external experts to verify that the overall results were, to a great extent, consistent with current evidence, existing research or prevailing theory.

Notwithstanding these statistical tests and the positive outcomes on the statistical soundness of GTCI, it is important to mention that the GTCI has to remain open for

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 GTCI and its two sub-indices depends on modelling choices: six-pillar structure, selected indicators, imputation (or not) of missing data, normalisation, weights and aggregation method, among other elements. These choices are based on expert opinion (e.g., selection of indicators) 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 eventual errors and typos were corrected during the computation phase.

The robustness assessment of GTCI was based on a combination of a Monte Carlo experiment<sup>7</sup> and a multi-modelling approach that dealt with three issues: pillar weights, missing data and the aggregation formula. This

Table 4: Distribution of differences between GTCI and other international rankings

Shifts with respect to the GTCI	WEF 2014–15 Global Competitiveness Index	2015 Global Innovation Index
More than 30 positions	8%	1%
20 to 29 positions	11%	10%
10 to 19 positions	22%	14%
5 to 9 positions	27%	35%
Less than 5 positions	26%	37%
0 positions	7%	4%
Total	100%	100%
More than 10	41%	25%

Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

type of assessment aims to respond to eventual criticism that the country scores associated with aggregate measures are generally not calculated under conditions of certainty, even though they are frequently presented as such.<sup>8</sup>

The Monte Carlo simulation related to 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: ensure a wide enough interval to have meaningful robustness checks; and respect the rationale of 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 GTCI, the limit values of uncertainty intervals for all six pillar weights are: 12% to 20%. In all simulations, sampled weights are rescaled to unity sum.

The GTCI development team, for transparency and replicability, opted not to estimate the missing data (only 6.9% missing data in the data set of 109 countries × 61 variables). The 'no imputation' choice, which is common

in similar contexts, might encourage countries not to report low data values.<sup>9</sup> To overcome this limitation, JRC estimated missing data using the Expectation Maximisation (EM) algorithm.<sup>10</sup>

Regarding the aggregation formula, decision-theory practitioners have challenged the use of simple arithmetic averages because of their fully compensatory nature, in which a comparative high advantage on a few indicators can compensate for a comparative disadvantage on many indicators.<sup>11</sup> Despite the arithmetic averaging formula receiving statistical support for the development of GTCI, as already discussed in the previous section, the geometric average was considered instead,<sup>12</sup> which is a partially compensatory approach that rewards countries with similar performance in all pillars, and 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 GTCI, and each of the two sub-indices (see Table 5 for a summary of the uncertainties considered in GTCI 2015–16).

Table 5: Uncertainty analysis for GTCI 2015–16: weights, missing data and aggregation

I. Uncertainty in the treatment of missing values			
Reference: no estimation of missing data		Alternative: Expectation Maximisation (EM)	
II. Uncertainty in the aggregation formula at pillar level			
Reference: arithmetic average		Alternative: geometric average	
III. Uncertainty in the weights			
	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	Labour and Vocational Skills	0.5	U[0.40,0.60]
	Global Knowledge Skills	0.5	U[0.40,0.60]

Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

## UNCERTAINTY ANALYSIS RESULTS

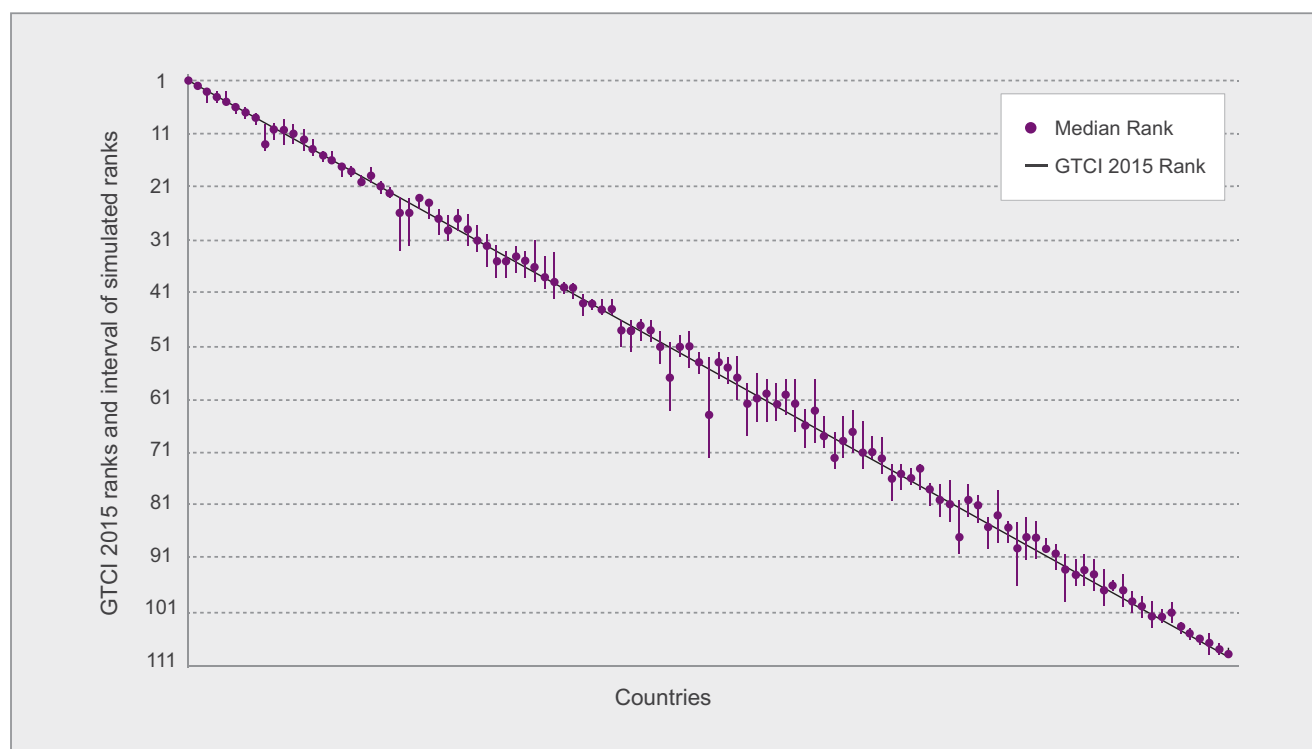
The main results of the robustness analysis are shown in Figure 1, with median ranks and 90% confidence intervals computed across the 4,000 Monte Carlo simulations for GTCI and its two sub-indices. Countries are ordered from best to worst according to their reference rank (black line), the dot being the 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 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 (less than two positions away) for 90% of the countries suggests that GTCI is a suitable summary measure. Furthermore, the narrow confidence intervals for the majority of the countries' ranks (less than  $\pm 3$  positions for more than two-thirds 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 two positions away) for 90% of the countries and the rank intervals are  $\pm 3$  positions for 52% of the countries. Similarly the Output rank is close to the median rank (less than two positions away) for 83% of the countries, and the rank intervals are  $\pm 3$  positions for 72% of the countries.

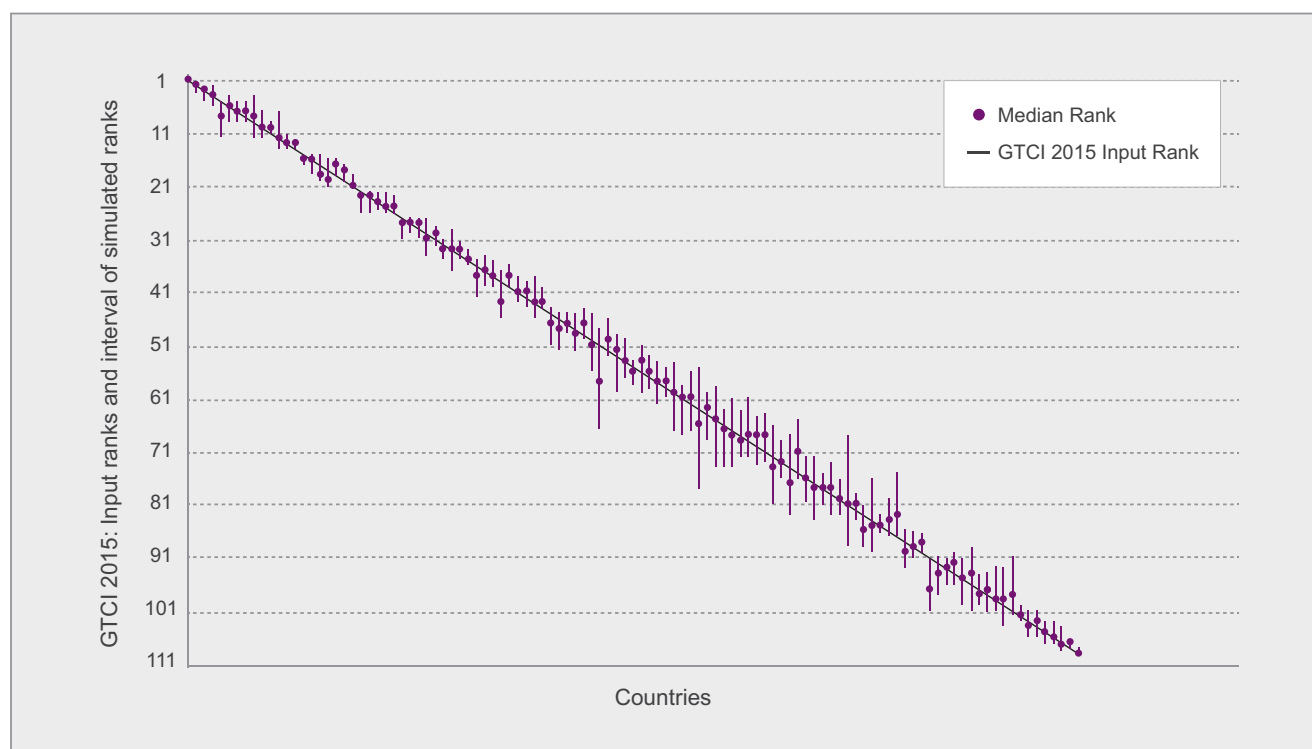
Overall, country ranks in GTCI and its two sub-indices are robust to changes in the pillar weights, the imputation method and the aggregation formula for the majority of the countries considered. For full transparency and information, Table 6 reports the GTCI country ranks (and those of the sub-indices) 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.

Figure 1a: Robustness analysis (GTCI rank vs. median rank, 90% confidence intervals)



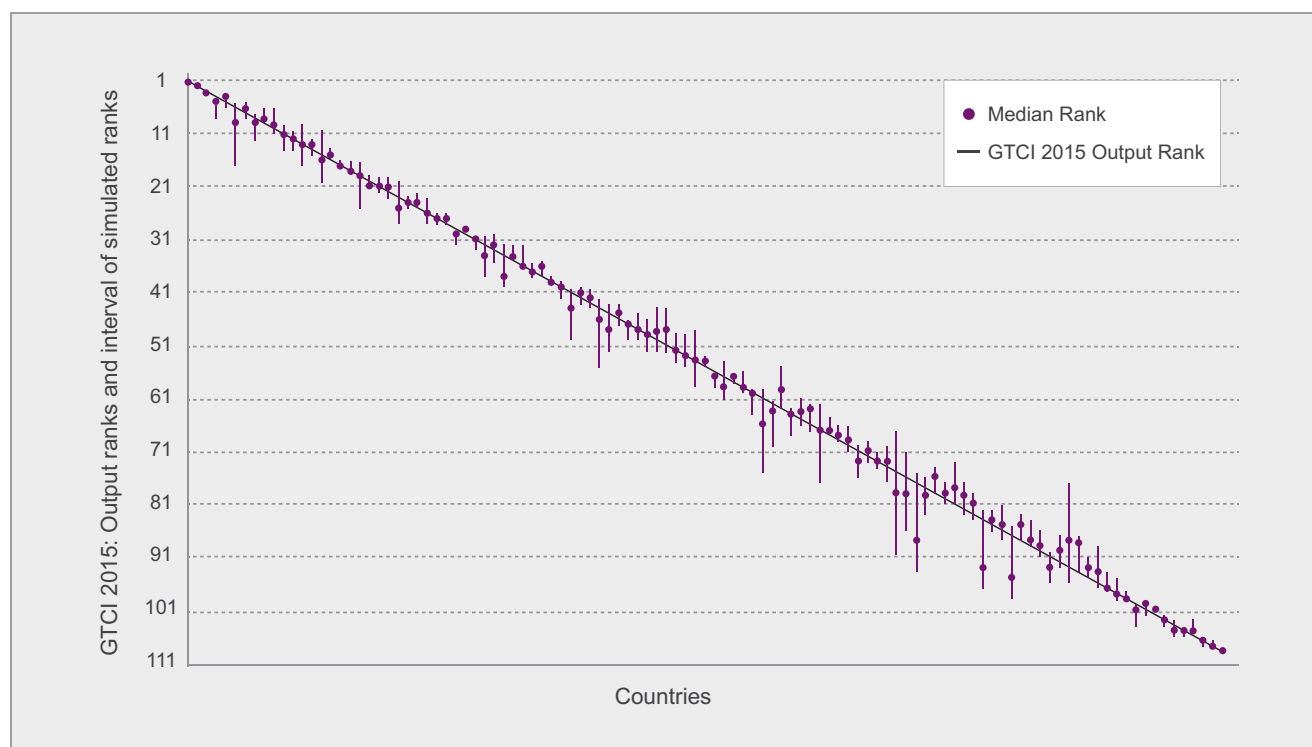
Notes: The Spearman rank correlation between the median rank and the GTCI 2015–16 rank is 0.999. Median ranks and intervals are calculated over 4,000 simulated scenarios combining random weights, imputation versus no imputation of missing values, and geometric versus arithmetic average at the pillar level. Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

Figure 1b: Robustness analysis (Input rank vs. median rank, 90% confidence intervals)



Notes: The Spearman rank correlation between the median rank and the GTCI 2015–16 Input rank is 0.999. 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.  
Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

Figure 1c: Robustness analysis (Output rank vs. median rank, 90% confidence intervals)



Notes: The Spearman rank correlation between the median rank and the GTCI 2015–16 Output rank is 0.997. Median ranks and intervals are calculated over 4,000 simulated scenarios combining random weights, imputation versus no imputation of missing values, and geometric versus arithmetic average at the pillar level.  
Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

Table 6: Country ranks and 90% intervals for GTCI 2015–16 and its Input/Output sub-indices

Country	GTCI 2015–16		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, 3]	2	[2, 2]
Luxembourg	3	[3, 5]	12	[7, 14]	1	[1, 1]
United States	4	[3, 5]	7	[5, 9]	5	[4, 6]
Denmark	5	[3, 5]	4	[2, 6]	9	[6, 9]
Sweden	6	[6, 7]	11	[9, 11]	7	[5, 8]
United Kingdom	7	[6, 8]	8	[5, 9]	13	[9, 17]
Norway	8	[7, 9]	3	[3, 5]	20	[19, 21]
Canada	9	[9, 14]	5	[5, 12]	24	[23, 25]
Finland	10	[9, 12]	13	[11, 14]	12	[11, 14]
New Zealand	11	[8, 13]	9	[4, 12]	19	[16, 25]
Netherlands	12	[9, 13]	10	[7, 12]	18	[16, 19]
Australia	13	[10, 14]	6	[4, 9]	26	[23, 28]
Germany	14	[12, 15]	19	[16, 19]	8	[7, 12]
Austria	15	[14, 16]	15	[15, 17]	15	[10, 20]
Ireland	16	[14, 16]	14	[12, 14]	28	[26, 28]
Iceland	17	[17, 19]	20	[17, 20]	22	[19, 23]
Belgium	18	[17, 19]	16	[15, 19]	27	[26, 28]
Japan	19	[19, 20]	21	[19, 21]	17	[16, 17]
Czech Republic	20	[17, 20]	22	[22, 26]	4	[4, 8]
Estonia	21	[20, 22]	23	[22, 26]	11	[9, 14]
France	22	[21, 22]	24	[22, 25]	16	[14, 16]
United Arab Emirates	23	[23, 33]	18	[16, 21]	47	[46, 50]
Qatar	24	[23, 32]	17	[15, 20]	53	[49, 55]
Israel	25	[23, 25]	33	[29, 37]	10	[6, 11]
Slovenia	26	[23, 27]	34	[32, 35]	14	[12, 15]
Slovakia	27	[25, 30]	42	[39, 42]	6	[5, 17]
Malta	28	[26, 31]	27	[27, 31]	32	[30, 38]
Latvia	29	[25, 29]	35	[33, 36]	21	[19, 22]
Malaysia	30	[26, 32]	29	[27, 31]	35	[32, 35]
Hungary	31	[28, 33]	40	[36, 40]	23	[20, 28]
Cyprus	32	[30, 36]	32	[31, 35]	33	[30, 35]
Portugal	33	[32, 38]	26	[23, 26]	51	[44, 52]
Chile	34	[33, 38]	31	[29, 32]	39	[38, 39]
Lithuania	35	[32, 37]	38	[35, 40]	30	[29, 30]
Spain	36	[33, 38]	28	[27, 30]	42	[40, 43]
South Korea	37	[31, 39]	43	[38, 46]	25	[22, 25]
Poland	38	[34, 40]	41	[38, 43]	29	[29, 32]
Barbados	39	[33, 42]	25	[22, 26]	63	[55, 63]
Costa Rica	40	[39, 41]	30	[27, 34]	48	[45, 50]
Italy	41	[39, 42]	44	[40, 44]	31	[31, 33]
Saudi Arabia	42	[41, 45]	36	[35, 42]	45	[43, 52]
Croatia	43	[42, 44]	47	[45, 49]	36	[32, 37]
Bulgaria	44	[42, 45]	46	[45, 52]	38	[35, 38]
Montenegro	45	[42, 45]	49	[44, 50]	37	[35, 38]
Macedonia	46	[46, 51]	48	[45, 52]	44	[42, 55]
Uruguay	47	[46, 52]	37	[34, 40]	70	[66, 71]
China	48	[46, 50]	52	[46, 53]	41	[40, 50]

Country	GTCI 2015–16		Input Sub-index		Output Sub-index	
	Rank	Interval	Rank	Interval	Rank	Interval
Greece	49	[46, 50]	45	[44, 51]	52	[49, 54]
Serbia	50	[48, 54]	70	[65, 74]	34	[32, 40]
Kuwait	51	[50, 63]	39	[37, 46]	82	[77, 83]
Romania	52	[49, 53]	59	[55, 60]	43	[40, 44]
Russia	53	[48, 55]	62	[56, 67]	40	[39, 42]
Panama	54	[52, 56]	50	[45, 56]	60	[59, 64]
Bosnia and Herzegovina	55	[53, 72]	51	[48, 67]	61	[59, 75]
Philippines	56	[52, 57]	55	[54, 59]	54	[48, 59]
South Africa	57	[53, 58]	58	[54, 62]	55	[53, 55]
Kazakhstan	58	[53, 61]	53	[49, 60]	65	[61, 66]
Georgia	59	[58, 68]	63	[55, 78]	57	[54, 61]
Mexico	60	[56, 65]	66	[63, 74]	56	[56, 59]
Armenia	61	[57, 65]	72	[66, 81]	49	[46, 52]
Colombia	62	[58, 65]	54	[50, 57]	72	[69, 73]
Turkey	63	[57, 64]	65	[59, 74]	59	[56, 60]
Moldova	64	[57, 67]	77	[72, 84]	46	[43, 47]
Argentina	65	[63, 70]	61	[59, 68]	68	[65, 68]
Ukraine	66	[57, 69]	79	[73, 83]	50	[44, 52]
Brazil	67	[64, 70]	57	[53, 59]	79	[74, 79]
Botswana	68	[67, 74]	60	[54, 67]	76	[71, 86]
Thailand	69	[64, 72]	56	[51, 60]	81	[73, 81]
Jordan	70	[63, 71]	69	[61, 72]	66	[62, 67]
Azerbaijan	71	[65, 74]	68	[63, 72]	67	[62, 77]
Mongolia	72	[68, 72]	75	[65, 76]	64	[63, 68]
Tunisia	73	[68, 75]	86	[80, 87]	58	[57, 58]
Peru	74	[73, 80]	74	[68, 83]	71	[70, 76]
Guatemala	75	[73, 78]	64	[60, 69]	88	[83, 88]
Dominican Republic	76	[74, 77]	76	[72, 81]	73	[71, 74]
Lebanon	77	[73, 78]	87	[75, 87]	62	[61, 70]
Ecuador	78	[77, 81]	71	[64, 73]	89	[84, 89]
Namibia	79	[77, 83]	81	[68, 89]	78	[76, 83]
Kyrgyzstan	80	[76, 84]	82	[79, 84]	75	[67, 91]
Nicaragua	81	[80, 90]	83	[81, 89]	77	[75, 94]
Vietnam	82	[77, 83]	85	[83, 86]	74	[70, 77]
Sri Lanka	83	[79, 84]	73	[69, 76]	94	[87, 94]
El Salvador	84	[83, 89]	80	[76, 83]	87	[85, 99]
Albania	85	[78, 88]	78	[75, 81]	93	[77, 96]
Kenya	86	[84, 88]	84	[76, 90]	90	[86, 91]
Rwanda	87	[84, 96]	67	[61, 74]	100	[100, 104]
Egypt	88	[83, 91]	101	[91, 102]	69	[66, 69]
India	89	[84, 91]	94	[90, 96]	80	[77, 81]
Indonesia	90	[87, 90]	90	[87, 90]	92	[87, 93]
Paraguay	91	[88, 93]	88	[86, 93]	95	[91, 95]
Lesotho	92	[90, 99]	96	[89, 101]	84	[82, 97]
Morocco	93	[91, 96]	89	[86, 91]	99	[98, 99]
Bolivia	94	[90, 96]	97	[94, 100]	86	[81, 88]
Venezuela	95	[91, 97]	100	[93, 104]	83	[79, 84]



Country	GTCI 2015–16		Input Sub-index		Output Sub-index	
	Rank	Interval	Rank	Interval	Rank	Interval
Cambodia	96	[93, 100]	91	[91, 101]	97	[94, 97]
Honduras	97	[95, 97]	93	[91, 96]	98	[95, 99]
Iran	98	[94, 100]	99	[93, 101]	96	[89, 97]
Senegal	99	[97, 101]	92	[91, 98]	101	[100, 102]
Bangladesh	100	[98, 102]	102	[100, 103]	91	[90, 96]
Uganda	101	[99, 104]	95	[91, 100]	106	[103, 106]
Ghana	102	[101, 103]	98	[94, 101]	103	[102, 104]
Pakistan	103	[99, 103]	108	[107, 108]	85	[82, 86]
Algeria	104	[103, 105]	104	[101, 106]	102	[101, 102]
Mali	105	[104, 106]	105	[103, 107]	104	[103, 106]
Tanzania	106	[106, 107]	103	[101, 106]	108	[107, 108]
Ethiopia	107	[105, 109]	107	[104, 109]	105	[105, 106]
Burkina Faso	108	[107, 109]	106	[103, 107]	109	[109, 109]
Madagascar	109	[108, 109]	109	[108, 109]	107	[107, 108]

Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

## 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 GTCI and its sub-indices 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 GTCI).

The most influential methodological assumption is the choice of no imputation versus EM imputation. This choice has the largest impact on differences in ranking for the Output sub-index, less so for the Input sub-index, and least for the overall GTCI 2015–16. For example, in the most extreme case, a country declines by three positions in the Output ranking if a geometric aggregation is applied, yet the country improves by 16 positions if EM imputation is applied. If both assumptions are changed (namely EM imputation and geometric averaging – assuming equal pillar weights), this country with the most extreme shift improves by 12 positions. 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.<sup>13</sup>

Overall, the JRC recommendation is not to alter the GTCI inclusion criteria on data availability, but to consider country ranks in GTCI 2015–16 and in the Input and Output sub-indices within the 90% confidence intervals, as those are

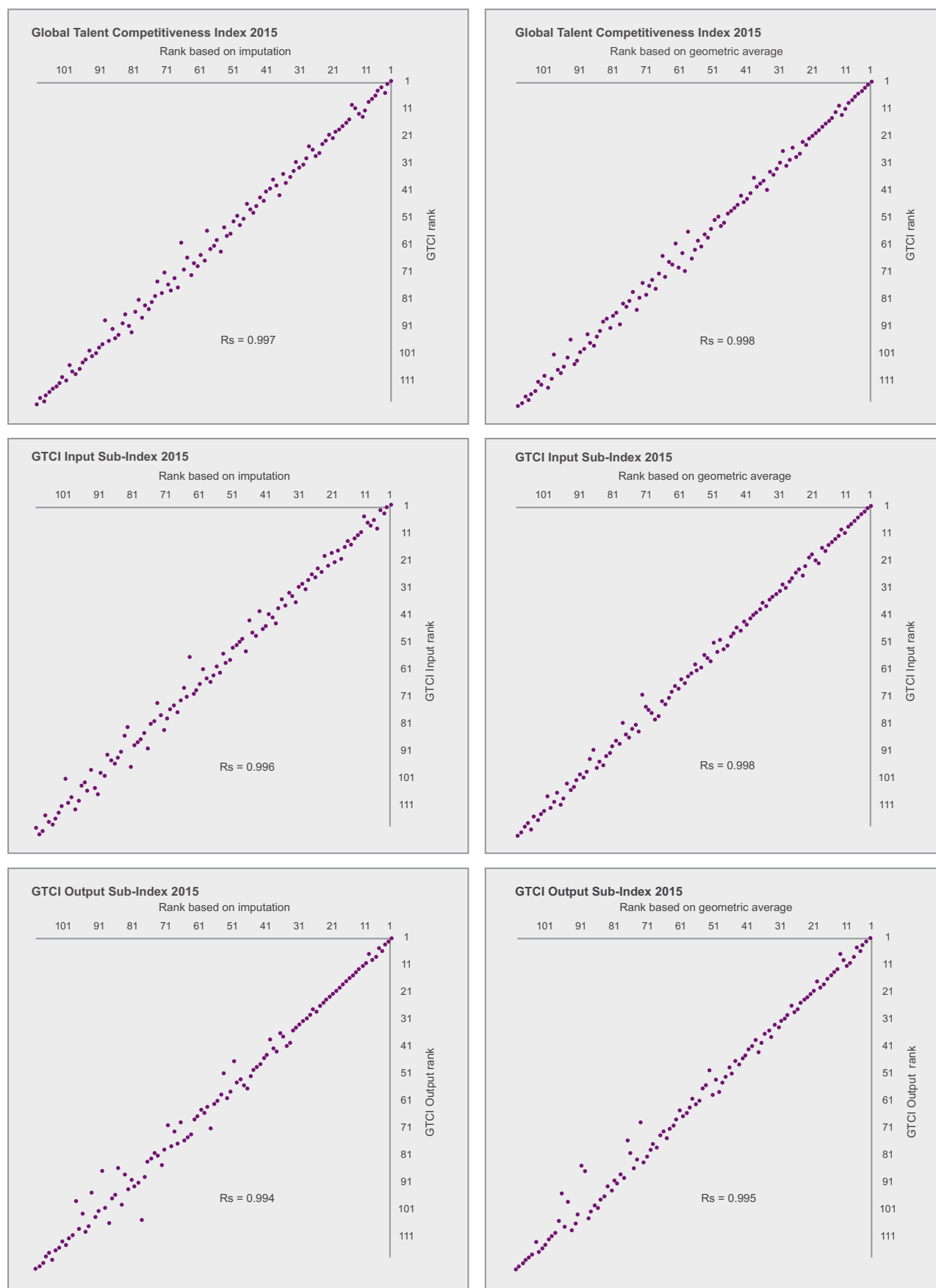
reported in Table 6, in order to better appreciate to what degree a country's rank depends on the modelling choices. It is reassuring that for over 80% of the countries included in GTCI, their ranks in GTCI 2015–16, and Input and Output sub-indices are the result of the underlying data and not modelling choices.<sup>14</sup>

## CONCLUSION

The JRC analysis suggests that the conceptualised multilevel structure of GTCI 2015–16 is statistically coherent and balanced (i.e., not dominated by any pillar or sub-pillar; all indicators 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 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 at 0.94, 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 regard mainly six out of the 61 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, 4.1.2 Taxation and 5.2.3 Mid-value exports. Although present in the conceptual framework, these variables do not contribute significantly to the variation of the GTCI country scores

Figure 2: Sensitivity analysis: impact of modelling choices



Source: Saisana and Domínguez-Torreiro, European Commission Joint Research Centre, 2015

and consequently, do not have an impact on the GTCI ranking. The GTCI development team has opted to keep these variables in the current framework because of their conceptual relevance to the phenomenon, but it is suggested that next year's release should be refined on these issues. Furthermore, two highly-correlated variables (2.1.5 Brain gain and 2.1.6 Brain drain) have also been retained by the development team, arguing that having a clear distinction between the countries that are good at attracting talent and those that are good at retaining talent would add value to GTCI. As an alternative for keeping both variables while at the same time avoiding double counting, we proposed to assign 0.5 weights to these variables in the sub-pillar calculations. The development team preferred to keep both variables without assigning them a specific weight. They will revisit the issue in the context of the next GTCI. Also, in light of the statistical insights provided this year, for the next GTCI the development team will work on reconsidering the allocation of some of the variables that could fit in a different sub-pillar (e.g., 5.2.1 Labour productivity per employee and 5.2.2 Relationship of pay to productivity). Moreover, the development team has manifested its intention of revising and fine-tuning the output side of the model. Accordingly, this will allow them to tackle the point of whether the pillar 'Retain' (strongly correlated to both the Input and Output sub-indices, 0.89 and 0.86 respectively) should belong to the Input or Output sub-indices, or whether a model of Input-Process-Output (where 'Retain' could be considered as part of the 'Process' side) would be more suitable to characterise the phenomenon being measured.

GTCI and sub-indices country ranks are robust to methodological assumptions related to the estimation of missing data, weighting and aggregation formula. It is reassuring that for over 80% of the countries included in 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 GTCI, whilst some caution may be needed for a few countries. Note that perfect robustness would have been undesirable, as this would have implied that the GTCI components are perfectly correlated and hence redundant, which is not the case for GTCI 2015–16. In fact, one way in which 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 GTCI and each of the six pillars: for more than 39% (up to 59%) of the countries, the GTCI ranking and any of the six pillar rankings differ by 10 positions or more. 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, as noted earlier, 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 2015–16, upon some further refinements, in reliably identifying weaknesses and best practices and ultimately monitoring national performance in human capital and competitiveness issues around the world.

## ENDNOTES

- <sup>1</sup> The JRC analysis was based on the recommendations of the OECD (2008) Handbook on 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).
- <sup>2</sup> OECD (2008)
- <sup>3</sup> Groeneveld and Meeden (1984) set the criteria for absolute skewness above one and kurtosis above 3.5. The skewness criterion was relaxed to account for the small sample (109 countries).
- <sup>4</sup> The sub-pillars that have a single latent dimension are: 1.2 Market landscape, 2.1 External openness, 3.3 Access to growth opportunities, 4.1 Sustainability, 4.2 Lifestyle, 5.1 Employable skills and 6.1 Higher skills and competencies. Hence, in the remaining sub-pillars there is more than one single latent dimension, and as a result a notable amount of information is lost when aggregating directly the variables into sub-pillars.
- <sup>5</sup> World Economic Forum (2014)
- <sup>6</sup> Cornell University, INSEAD and WIPO (2014); Saisana and Saltelli (2011); Saltelli et al. (2008)
- <sup>7</sup> Monte Carlo experiments are a broad class of computational algorithms that rely on repeated random sampling to obtain numerical results. Monte Carlo methods are mainly used in three distinct problem classes: optimisation, numerical integration, and generating draws from a probability distribution.
- <sup>8</sup> Saisana, Saltelli and Tarantola (2005); Saisana, D'Hombres and Saltelli (2011)
- <sup>9</sup> With arithmetic average, the 'no imputation' choice is equivalent to replacing missing values with the average of the available (normalised) data within each sub-pillar.
- <sup>10</sup> The Expectation-Maximisation (EM) algorithm (Little and 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 maximisation M-step: Given a complete-data log likelihood, the M-step finds the parameter estimates to maximise the complete-data log likelihood from the E-step. The two steps are iterated until the iterations converge.
- <sup>11</sup> Munda (2008)
- <sup>12</sup> In the geometric average, pillars are multiplied as opposed to summed in the arithmetic average. Pillar weights appear as exponents in the multiplication. All pillar scores were greater than 1.0, hence there was no reason to rescale them (so as to avoid zero values that would have led to zero geometric averages).
- <sup>13</sup> Saltelli and Funtowicz (2014)
- <sup>14</sup> As already mentioned in the uncertainty analysis, at least 80% of the simulated median ranks for the GTCI, Input and Output (sub-) indices are less than two positions away from the reported 2015 rank.

## REFERENCES

- Cornell University, INSEAD, & WIPO. (2014). The Global Innovation Index 2015: Effective Innovation Policies for Development. Retrieved from <https://www.globalinnovationindex.org/content.aspx?page=GII-Home>
- Groeneveld, R. A., & Meeden, G. (1984). Measuring skewness and kurtosis. *The Statistician*, 33, 391–399.
- Little, R. J. A. & Rubin, D. B. (2002). *Statistical Analysis with Missing Data* (2nd ed.). New York: John Wiley & Sons, Inc.
- Munda, G. (2008). *Social Multi-Criteria Evaluation for a Sustainable Economy*. Berlin Heidelberg: Springer-Verlag.
- Nunnally, J. (1978). *Psychometric Theory*. New York: McGraw-Hill.
- OECD & EC JRC. (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Paris: OECD. Retrieved from <http://www.oecd.org/std/42495745.pdf>
- Saisana, M., D'Hombres, B., & Saltelli, A. (2011). Rickety numbers: Volatility of university rankings and policy implications. *Research Policy*, 40(1), 165–177.
- Saisana, M. & Saltelli, A. (2011). Rankings and Ratings: Instructions for Use. *Hague Journal on the Rule of Law*, 3(2), 247–268.
- Saisana, M., Saltelli, A., & Tarantola, S. (2005). Uncertainty and sensitivity analysis techniques as tools for the analysis and validation of composite indicators. *Journal of the Royal Statistical Society: Series A* (Statistics in Society), 168(2), 307–323.
- Saltelli, A. & Funtowicz, S. (2014). When all models are wrong. *Issues in Science and Technology*, Winter 2014, 79–85.
- Saltelli, A., Ratto, M., Andres, T., Campolongo, F., Cariboni, J., Gatelli, D., Saisana, M., & Tarantola, S. (2008). *Global Sensitivity Analysis: The Primer*. Chichester, England: John Wiley & Sons.
- World Economic Forum. (2014). *The Global Competitiveness Report 2014–2015: Full Data Edition*. Geneva: World Economic Forum.

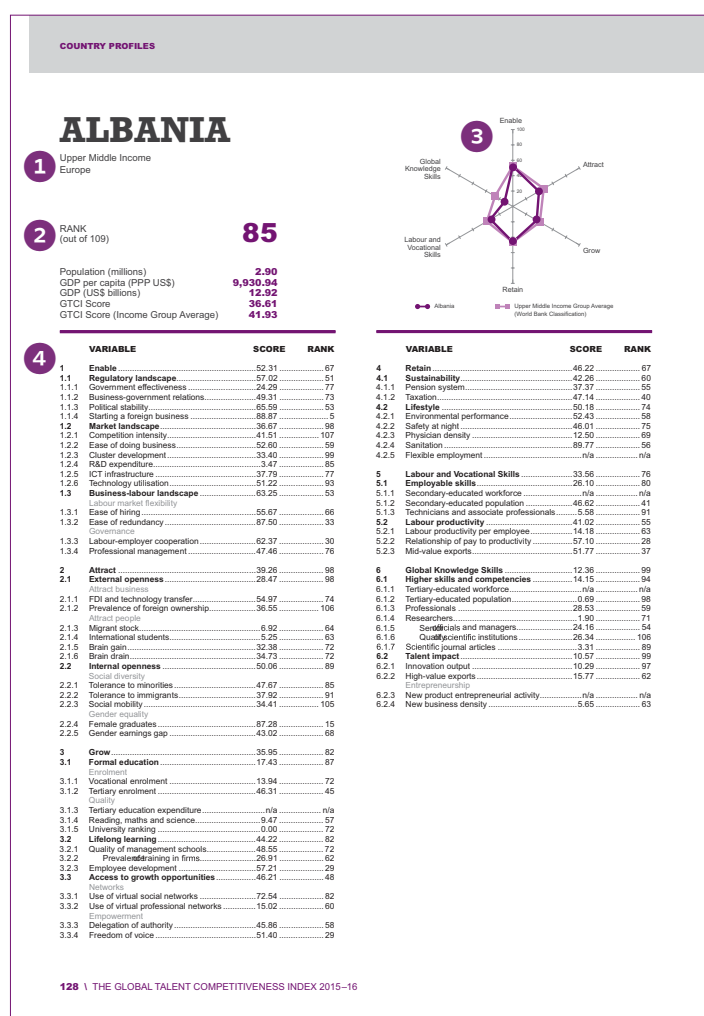


# COUNTRY PROFILES





## How to read the country profiles



**1** The first section introduces the country's regional and income groups. Regional groups are based on the United Nations Regional Classification (2013), and include: Europe; Northern America; Latin, Central America and the Caribbean; Central and Southern Asia; Eastern, Southeastern Asia and Oceania; Northern Africa and Western Asia; and Sub-Saharan Africa. Income groups are based on the *World Bank Income Group Classification*, as of July 2015.

**2** The second section comprises the respective country's rank (out of 109 countries), GTCI score, and Income group average GTCI score. Additionally, basic indicators are included to put the country review in context. These include population (in millions), GDP per capita (PPP\$) and GDP (current US\$ in billions) from *World Development Indicators*, World Bank.<sup>†</sup>

**3** The third section consists of a radar chart that outlines the respective country's performance along the six pillars, and its position with respect to its Income group peers. The dark purple line plots the country's score on each of the six pillars, while the light purple line represents its income group average.

**4** The fourth 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 bold two-digit notation (e.g., **1.1 Regulatory Landscape**). Under selected sub-pillars, components are provided in grey colour. There are no values attached to the components, as they only contextualise the theoretical framework. The 61 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.

<sup>†</sup> The GDP per capita indicator for Argentina is drawn from World Economic Outlook, April 2015, International Monetary Fund.

The country profiles provide more granular information on how each of the 109 countries performs in the various dimensions of the Global Talent Competitiveness Index (GTCI).

Each country profile consists of four parts:

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

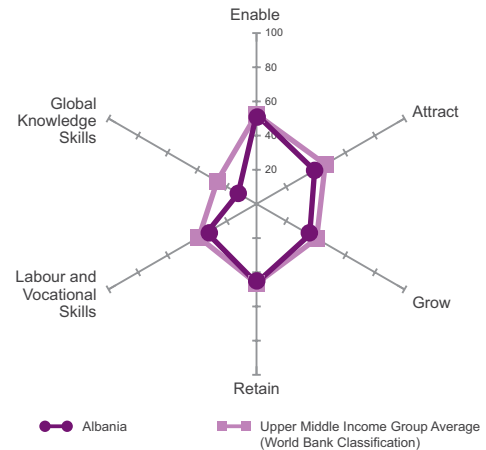
# ALBANIA

Upper Middle Income  
Europe

RANK  
(out of 109)

85

Population (millions) **2.90**  
GDP per capita (PPP US\$) **9,930.94**  
GDP (US\$ billions) **12.92**  
GTCI Score **36.61**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	52.31	67
<b>1.1 Regulatory landscape</b> .....	57.02	51
1.1.1 Government effectiveness.....	24.29	77
1.1.2 Business-government relations.....	49.31	73
1.1.3 Political stability.....	65.59	53
1.1.4 Starting a foreign business.....	88.87	5
<b>1.2 Market landscape</b> .....	36.67	98
1.2.1 Competition intensity.....	41.51	107
1.2.2 Ease of doing business.....	52.60	59
1.2.3 Cluster development.....	33.40	99
1.2.4 R&D expenditure.....	3.47	85
1.2.5 ICT infrastructure.....	37.79	77
1.2.6 Technology utilisation.....	51.22	93
<b>1.3 Business-labour landscape</b> .....	63.25	53
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	87.50	33
Governance		
1.3.3 Labour-employer cooperation.....	62.37	30
1.3.4 Professional management.....	47.46	76
<b>2 Attract</b> .....	39.26	98
<b>2.1 External openness</b> .....	28.47	98
Attract business		
2.1.1 FDI and technology transfer.....	54.97	74
2.1.2 Prevalence of foreign ownership.....	36.55	106
Attract people		
2.1.3 Migrant stock.....	6.92	64
2.1.4 International students.....	5.25	63
2.1.5 Brain gain.....	32.38	72
2.1.6 Brain drain.....	34.73	72
<b>2.2 Internal openness</b> .....	50.06	89
Social diversity		
2.2.1 Tolerance to minorities.....	47.67	85
2.2.2 Tolerance to immigrants.....	37.92	91
2.2.3 Social mobility.....	34.41	105
Gender equality		
2.2.4 Female graduates.....	87.28	15
2.2.5 Gender earnings gap.....	43.02	68
<b>3 Grow</b> .....	35.95	82
<b>3.1 Formal education</b> .....	17.43	87
Enrolment		
3.1.1 Vocational enrolment.....	13.94	72
3.1.2 Tertiary enrolment.....	46.31	45
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths and science.....	9.47	57
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	44.22	82
3.2.1 Quality of management schools.....	48.55	72
3.2.2 Prevalence of training in firms.....	26.91	62
3.2.3 Employee development.....	57.21	29
<b>3.3 Access to growth opportunities</b> .....	46.21	48
Networks		
3.3.1 Use of virtual social networks.....	72.54	82
3.3.2 Use of virtual professional networks.....	15.02	60
Empowerment		
3.3.3 Delegation of authority.....	45.86	58
3.3.4 Freedom of voice.....	51.40	29

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	46.22	67
<b>4.1 Sustainability</b> .....	42.26	60
4.1.1 Pension system.....	37.37	55
4.1.2 Taxation.....	47.14	40
<b>4.2 Lifestyle</b> .....	50.18	74
4.2.1 Environmental performance.....	52.43	58
4.2.2 Safety at night.....	46.01	75
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	89.77	56
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	33.56	76
<b>5.1 Employable skills</b> .....	26.10	80
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	46.62	41
5.1.3 Technicians and associate professionals.....	5.58	91
<b>5.2 Labour productivity</b> .....	41.02	55
5.2.1 Labour productivity per employee.....	14.18	63
5.2.2 Relationship of pay to productivity.....	57.10	28
5.2.3 Mid-value exports.....	51.77	37
<b>6 Global Knowledge Skills</b> .....	12.36	99
<b>6.1 Higher skills and competencies</b> .....	14.15	94
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	0.69	98
6.1.3 Professionals.....	28.53	59
6.1.4 Researchers.....	1.90	71
6.1.5 Senior officials and managers.....	24.16	54
6.1.6 Quality of scientific institutions.....	26.34	106
6.1.7 Scientific journal articles.....	3.31	89
<b>6.2 Talent impact</b> .....	10.57	99
6.2.1 Innovation output.....	10.29	97
6.2.2 High-value exports.....	15.77	62
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	5.65	63

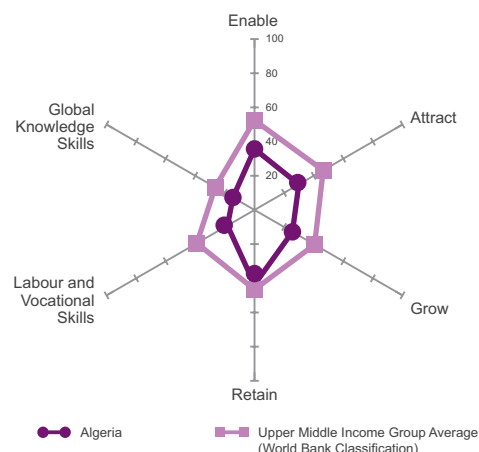
# ALGERIA

Upper Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

# 104

Population (millions) **39.21**  
GDP per capita (PPP US\$) **13,320.33**  
GDP (US\$ billions) **210.18**  
GTCI Score **27.96**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	35.69	106
<b>1.1 Regulatory landscape</b> .....	32.77	103
1.1.1 Government effectiveness.....	16.19	93
1.1.2 Business-government relations.....	46.90	81
1.1.3 Political stability.....	35.22	98
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	30.26	105
1.2.1 Competition intensity.....	46.74	105
1.2.2 Ease of doing business.....	19.80	103
1.2.3 Cluster development.....	38.64	85
1.2.4 R&D expenditure.....	1.49	91
1.2.5 ICT infrastructure.....	35.73	83
1.2.6 Technology utilisation.....	39.17	109
<b>1.3 Business-labour landscape</b> .....	44.03	97
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	43.29	101
1.3.4 Professional management.....	27.15	109
<b>2 Attract</b> .....	29.94	107
<b>2.1 External openness</b> .....	21.76	107
Attract business		
2.1.1 FDI and technology transfer.....	47.97	97
2.1.2 Prevalence of foreign ownership.....	37.05	104
Attract people		
2.1.3 Migrant stock.....	1.46	88
2.1.4 International students.....	2.04	72
2.1.5 Brain gain.....	20.98	98
2.1.6 Brain drain.....	21.08	100
<b>2.2 Internal openness</b> .....	38.12	103
Social diversity		
2.2.1 Tolerance to minorities.....	16.30	100
2.2.2 Tolerance to immigrants.....	45.30	81
2.2.3 Social mobility.....	40.12	101
Gender equality		
2.2.4 Female graduates.....	88.91	12
2.2.5 Gender earnings gap.....	0.00	106
<b>3 Grow</b> .....	25.63	103
<b>3.1 Formal education</b> .....	17.12	88
Enrolment		
3.1.1 Vocational enrolment.....	16.69	69
3.1.2 Tertiary enrolment.....	25.19	71
Quality		
3.1.3 Tertiary education expenditure.....	26.57	41
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	33.26	105
3.2.1 Quality of management schools.....	41.31	95
3.2.2 Prevalence of training in firms.....	18.34	71
3.2.3 Employee development.....	40.13	95
<b>3.3 Access to growth opportunities</b> .....	26.51	107
Networks		
3.3.1 Use of virtual social networks.....	63.57	95
3.3.2 Use of virtual professional networks.....	7.01	81
Empowerment		
3.3.3 Delegation of authority.....	35.48	101
3.3.4 Freedom of voice.....	0.00	104

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	43.67	74
<b>4.1 Sustainability</b> .....	37.39	71
4.1.1 Pension system.....	36.36	57
4.1.2 Taxation.....	38.42	70
<b>4.2 Lifestyle</b> .....	49.94	75
4.2.1 Environmental performance.....	45.71	76
4.2.2 Safety at night.....	47.25	72
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	94.32	45
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	18.27	101
<b>5.1 Employable skills</b> .....	14.57	98
5.1.1 Secondary-educated workforce.....	17.21	87
5.1.2 Secondary-educated population.....	10.75	92
5.1.3 Technicians and associate professionals.....	15.74	81
<b>5.2 Labour productivity</b> .....	21.97	104
5.2.1 Labour productivity per employee.....	14.98	62
5.2.2 Relationship of pay to productivity.....	38.11	98
5.2.3 Mid-value exports.....	12.82	107
<b>6 Global Knowledge Skills</b> .....	14.59	94
<b>6.1 Higher skills and competencies</b> .....	17.89	85
6.1.1 Tertiary-educated workforce.....	24.56	75
6.1.2 Tertiary-educated population.....	n/a	n/a
6.1.3 Professionals.....	32.52	53
6.1.4 Researchers.....	2.13	67
6.1.5 Senior officials and managers.....	13.48	73
6.1.6 Quality of scientific institutions.....	27.15	103
6.1.7 Scientific journal articles.....	7.53	68
<b>6.2 Talent impact</b> .....	11.28	97
6.2.1 Innovation output.....	2.52	108
6.2.2 High-value exports.....	11.95	106
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	27.31	63
6.2.4 New business density.....	3.32	72

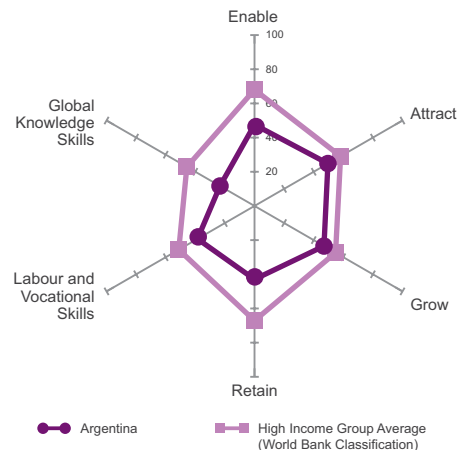
# ARGENTINA

High Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

65

Population (millions) **41.45**  
GDP per capita (PPP US\$) **18,749.00**  
GDP (US\$ billions) **609.89**  
GTCI Score **41.49**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b> .....	47.57	85
1.1	<b>Regulatory landscape</b> .....	43.81	90
1.1.1	Government effectiveness.....	25.61	75
1.1.2	Business-government relations.....	22.16	108
1.1.3	Political stability.....	65.63	52
1.1.4	Starting a foreign business.....	61.83	40
1.2	<b>Market landscape</b> .....	41.78	86
1.2.1	Competition intensity.....	51.22	102
1.2.2	Ease of doing business.....	34.29	92
1.2.3	Cluster development.....	35.34	95
1.2.4	R&D expenditure.....	15.88	51
1.2.5	ICT infrastructure.....	63.50	48
1.2.6	Technology utilisation.....	50.47	96
1.3	<b>Business-labour landscape</b> .....	57.11	68
	Labour market flexibility		
1.3.1	Ease of hiring.....	33.33	92
1.3.2	Ease of redundancy.....	100.00	1
	Governance		
1.3.3	Labour-employer cooperation.....	41.05	104
1.3.4	Professional management.....	54.08	52
2	<b>Attract</b> .....	49.61	50
2.1	<b>External openness</b> .....	33.21	78
	Attract business		
2.1.1	FDI and technology transfer.....	34.89	108
2.1.2	Prevalence of foreign ownership.....	57.15	61
	Attract people		
2.1.3	Migrant stock.....	10.39	52
2.1.4	International students.....	n/a	n/a
2.1.5	Brain gain.....	24.96	89
2.1.6	Brain drain.....	38.66	61
2.2	<b>Internal openness</b> .....	66.00	32
	Social diversity		
2.2.1	Tolerance to minorities.....	80.82	27
2.2.2	Tolerance to immigrants.....	86.54	15
2.2.3	Social mobility.....	44.49	87
	Gender equality		
2.2.4	Female graduates.....	80.96	26
2.2.5	Gender earnings gap.....	37.21	80
3	<b>Grow</b> .....	46.94	39
3.1	<b>Formal education</b> .....	35.58	42
	Enrolment		
3.1.1	Vocational enrolment.....	27.92	52
3.1.2	Tertiary enrolment.....	68.10	9
	Quality		
3.1.3	Tertiary education expenditure.....	22.72	56
3.1.4	Reading, maths and science.....	10.15	55
3.1.5	University ranking.....	49.03	29
3.2	<b>Lifelong learning</b> .....	62.87	27
3.2.1	Quality of management schools.....	63.68	32
3.2.2	Prevalence of training in firms.....	79.42	6
3.2.3	Employee development.....	45.21	78
3.3	<b>Access to growth opportunities</b> .....	42.37	58
	Networks		
3.3.1	Use of virtual social networks.....	82.82	48
3.3.2	Use of virtual professional networks.....	30.81	29
	Empowerment		
3.3.3	Delegation of authority.....	41.89	77
3.3.4	Freedom of voice.....	13.97	79

	VARIABLE	SCORE	RANK
4	<b>Retain</b> .....	42.95	78
4.1	<b>Sustainability</b> .....	28.00	97
4.1.1	Pension system.....	41.41	53
4.1.2	Taxation.....	14.59	108
4.2	<b>Lifestyle</b> .....	57.90	53
4.2.1	Environmental performance.....	44.95	77
4.2.2	Safety at night.....	34.71	95
4.2.3	Physician density.....	37.50	19
4.2.4	Sanitation.....	96.59	40
4.2.5	Flexible employment.....	75.75	30
5	<b>Labour and Vocational Skills</b> .....	38.54	63
5.1	<b>Employable skills</b> .....	50.01	47
5.1.1	Secondary-educated workforce.....	45.70	48
5.1.2	Secondary-educated population.....	40.87	47
5.1.3	Technicians and associate professionals.....	63.45	28
5.2	<b>Labour productivity</b> .....	27.07	95
5.2.1	Labour productivity per employee.....	19.58	51
5.2.2	Relationship of pay to productivity.....	25.01	108
5.2.3	Mid-value exports.....	36.62	65
6	<b>Global Knowledge Skills</b> .....	23.33	72
6.1	<b>Higher skills and competencies</b> .....	22.11	76
6.1.1	Tertiary-educated workforce.....	33.28	52
6.1.2	Tertiary-educated population.....	22.96	59
6.1.3	Professionals.....	11.04	84
6.1.4	Researchers.....	16.45	43
6.1.5	Senior officials and managers.....	1.12	95
6.1.6	Quality of scientific institutions.....	51.72	45
6.1.7	Scientific journal articles.....	18.17	49
6.2	<b>Talent impact</b> .....	24.55	69
6.2.1	Innovation output.....	32.77	57
6.2.2	High-value exports.....	16.83	58
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	45.68	38
6.2.4	New business density.....	2.93	78

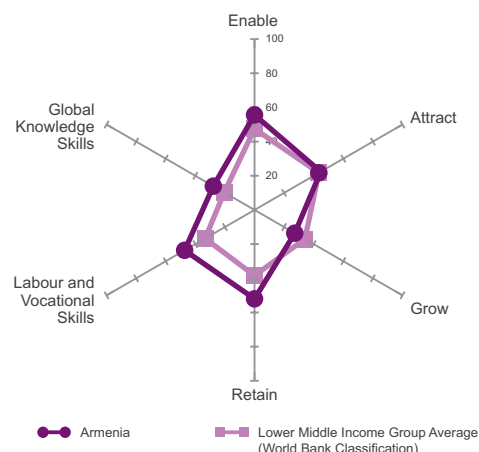
# ARMENIA

Lower Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

61

Population (millions) **2.98**  
GDP per capita (PPP US\$) **7,776.29**  
GDP (US\$ billions) **10.43**  
GTCI Score **42.44**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 55.62 ..... 55		
<b>1.1 Regulatory landscape</b> ..... 58.62 ..... 47		
1.1.1 Government effectiveness ..... 36.37 ..... 55		
1.1.2 Business-government relations ..... 50.82 ..... 67		
1.1.3 Political stability ..... 65.90 ..... 51		
1.1.4 Starting a foreign business ..... 81.41 ..... 14		
<b>1.2 Market landscape</b> ..... 45.33 ..... 71		
1.2.1 Competition intensity ..... 64.48 ..... 72		
1.2.2 Ease of doing business ..... 62.29 ..... 42		
1.2.3 Cluster development ..... 36.95 ..... 90		
1.2.4 R&D expenditure ..... 6.45 ..... 70		
1.2.5 ICT infrastructure ..... 50.90 ..... 61		
1.2.6 Technology utilisation ..... 50.91 ..... 94		
<b>1.3 Business-labour landscape</b> ..... 62.90 ..... 55		
Labour market flexibility		
1.3.1 Ease of hiring ..... 55.67 ..... 66		
1.3.2 Ease of redundancy ..... 87.50 ..... 33		
Governance		
1.3.3 Labour-employer cooperation ..... 61.16 ..... 33		
1.3.4 Professional management ..... 47.28 ..... 78		
<b>2 Attract</b> ..... 44.74 ..... 75		
<b>2.1 External openness</b> ..... 33.52 ..... 76		
Attract business		
2.1.1 FDI and technology transfer ..... 58.26 ..... 67		
2.1.2 Prevalence of foreign ownership ..... 54.24 ..... 73		
Attract people		
2.1.3 Migrant stock ..... 24.52 ..... 33		
2.1.4 International students ..... 12.59 ..... 45		
2.1.5 Brain gain ..... 25.35 ..... 87		
2.1.6 Brain drain ..... 26.17 ..... 94		
<b>2.2 Internal openness</b> ..... 55.96 ..... 71		
Social diversity		
2.2.1 Tolerance to minorities ..... 51.78 ..... 80		
2.2.2 Tolerance to immigrants ..... 50.80 ..... 75		
2.2.3 Social mobility ..... 46.72 ..... 78		
Gender equality		
2.2.4 Female graduates ..... 81.67 ..... 23		
2.2.5 Gender earnings gap ..... 48.84 ..... 51		
<b>3 Grow</b> ..... 27.20 ..... 102		
<b>3.1 Formal education</b> ..... 14.56 ..... 90		
Enrolment		
3.1.1 Vocational enrolment ..... 19.45 ..... 65		
3.1.2 Tertiary enrolment ..... 38.06 ..... 56		
Quality		
3.1.3 Tertiary education expenditure ..... 0.75 ..... 97		
3.1.4 Reading, maths and science ..... n/a ..... n/a		
3.1.5 University ranking ..... 0.00 ..... 72		
<b>3.2 Lifelong learning</b> ..... 32.68 ..... 108		
3.2.1 Quality of management schools ..... 41.19 ..... 96		
3.2.2 Prevalence of training in firms ..... 16.89 ..... 73		
3.2.3 Employee development ..... 39.98 ..... 96		
<b>3.3 Access to growth opportunities</b> ..... 34.35 ..... 94		
Networks		
3.3.1 Use of virtual social networks ..... 78.83 ..... 65		
3.3.2 Use of virtual professional networks ..... 7.84 ..... 77		
Empowerment		
3.3.3 Delegation of authority ..... 39.55 ..... 87		
3.3.4 Freedom of voice ..... 11.17 ..... 88		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 52.02 ..... 54		
<b>4.1 Sustainability</b> ..... 35.30 ..... 78		
4.1.1 Pension system ..... 31.31 ..... 63		
4.1.2 Taxation ..... 39.29 ..... 67		
<b>4.2 Lifestyle</b> ..... 68.73 ..... 36		
4.2.1 Environmental performance ..... 62.45 ..... 44		
4.2.2 Safety at night ..... 87.19 ..... 13		
4.2.3 Physician density ..... 37.50 ..... 19		
4.2.4 Sanitation ..... 89.77 ..... 56		
4.2.5 Flexible employment ..... 66.76 ..... 51		
<b>5 Labour and Vocational Skills</b> ..... 47.23 ..... 38		
<b>5.1 Employable skills</b> ..... 64.22 ..... 17		
5.1.1 Secondary-educated workforce ..... 88.11 ..... 4		
5.1.2 Secondary-educated population ..... 62.41 ..... 19		
5.1.3 Technicians and associate professionals ..... 42.13 ..... 48		
<b>5.2 Labour productivity</b> ..... 30.25 ..... 87		
5.2.1 Labour productivity per employee ..... 10.27 ..... 73		
5.2.2 Relationship of pay to productivity ..... 53.80 ..... 39		
5.2.3 Mid-value exports ..... 26.68 ..... 77		
<b>6 Global Knowledge Skills</b> ..... 27.84 ..... 63		
<b>6.1 Higher skills and competencies</b> ..... 35.76 ..... 36		
6.1.1 Tertiary-educated workforce ..... 41.03 ..... 38		
6.1.2 Tertiary-educated population ..... 32.51 ..... 42		
6.1.3 Professionals ..... 45.09 ..... 32		
6.1.4 Researchers ..... n/a ..... n/a		
6.1.5 Senior officials and managers ..... 25.28 ..... 53		
6.1.6 Quality of scientific institutions ..... 35.79 ..... 90		
6.1.7 Scientific journal articles ..... 34.84 ..... 30		
<b>6.2 Talent impact</b> ..... 19.93 ..... 80		
6.2.1 Innovation output ..... 36.13 ..... 52		
6.2.2 High-value exports ..... 13.54 ..... 79		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... n/a ..... n/a		
6.2.4 New business density ..... 10.11 ..... 50		

# AUSTRALIA

High Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

13

Population (millions) **23.13**  
GDP per capita (PPP US\$) **43,202.37**  
GDP (US\$ billions) **1,560.37**  
GTCI Score **65.08**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 75.68 ..... 15		
<b>1.1 Regulatory landscape</b> ..... 78.05 ..... 16		
1.1.1 Government effectiveness ..... 83.55 ..... 10		
1.1.2 Business-government relations ..... 61.30 ..... 33		
1.1.3 Political stability ..... 89.29 ..... 17		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 73.36 ..... 16		
1.2.1 Competition intensity ..... 83.24 ..... 5		
1.2.2 Ease of doing business ..... 83.76 ..... 9		
1.2.3 Cluster development ..... 53.05 ..... 37		
1.2.4 R&D expenditure ..... 59.06 ..... 13		
1.2.5 ICT infrastructure ..... 84.19 ..... 19		
1.2.6 Technology utilisation ..... 76.85 ..... 21		
<b>1.3 Business-labour landscape</b> ..... 75.63 ..... 18		
Labour market flexibility		
1.3.1 Ease of hiring ..... 89.00 ..... 20		
1.3.2 Ease of redundancy ..... 87.50 ..... 33		
Governance		
1.3.3 Labour-employer cooperation ..... 48.59 ..... 90		
1.3.4 Professional management ..... 77.45 ..... 13		
<b>2 Attract</b> ..... 77.70 ..... 2		
<b>2.1 External openness</b> ..... 67.59 ..... 6		
Attract business		
2.1.1 FDI and technology transfer ..... 68.75 ..... 20		
2.1.2 Prevalence of foreign ownership ..... 77.58 ..... 10		
Attract people		
2.1.3 Migrant stock ..... 64.02 ..... 9		
2.1.4 International students ..... 77.92 ..... 6		
2.1.5 Brain gain ..... 63.19 ..... 14		
2.1.6 Brain drain ..... 54.07 ..... 25		
<b>2.2 Internal openness</b> ..... 87.82 ..... 1		
Social diversity		
2.2.1 Tolerance to minorities ..... 93.97 ..... 9		
2.2.2 Tolerance to immigrants ..... 98.55 ..... 2		
2.2.3 Social mobility ..... 82.72 ..... 9		
Gender equality		
2.2.4 Female graduates ..... 72.00 ..... 53		
2.2.5 Gender earnings gap ..... 91.86 ..... 2		
<b>3 Grow</b> ..... 64.56 ..... 12		
<b>3.1 Formal education</b> ..... 64.86 ..... 5		
Enrolment		
3.1.1 Vocational enrolment ..... 71.82 ..... 10		
3.1.2 Tertiary enrolment ..... 73.39 ..... 5		
Quality		
3.1.3 Tertiary education expenditure ..... 27.00 ..... 40		
3.1.4 Reading, maths and science ..... 64.69 ..... 14		
3.1.5 University ranking ..... 87.42 ..... 6		
<b>3.2 Lifelong learning</b> ..... 63.13 ..... 26		
3.2.1 Quality of management schools ..... 67.54 ..... 26		
3.2.2 Prevalence of training in firms ..... n/a ..... n/a		
3.2.3 Employee development ..... 58.72 ..... 27		
<b>3.3 Access to growth opportunities</b> ..... 65.68 ..... 14		
Networks		
3.3.1 Use of virtual social networks ..... 89.94 ..... 14		
3.3.2 Use of virtual professional networks ..... 76.41 ..... 9		
Empowerment		
3.3.3 Delegation of authority ..... 65.37 ..... 17		
3.3.4 Freedom of voice ..... 31.01 ..... 56		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 71.81 ..... 13		
<b>4.1 Sustainability</b> ..... 66.68 ..... 15		
4.1.1 Pension system ..... 90.91 ..... 15		
4.1.2 Taxation ..... 42.45 ..... 58		
<b>4.2 Lifestyle</b> ..... 76.94 ..... 15		
4.2.1 Environmental performance ..... 92.39 ..... 3		
4.2.2 Safety at night ..... 67.77 ..... 44		
4.2.3 Physician density ..... 37.50 ..... 19		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... 87.06 ..... 12		
<b>5 Labour and Vocational Skills</b> ..... 44.02 ..... 48		
<b>5.1 Employable skills</b> ..... 50.88 ..... 43		
5.1.1 Secondary-educated workforce ..... 44.44 ..... 52		
5.1.2 Secondary-educated population ..... 43.74 ..... 44		
5.1.3 Technicians and associate professionals ..... 64.47 ..... 27		
<b>5.2 Labour productivity</b> ..... 37.15 ..... 68		
5.2.1 Labour productivity per employee ..... 55.39 ..... 11		
5.2.2 Relationship of pay to productivity ..... 37.25 ..... 99		
5.2.3 Mid-value exports ..... 18.79 ..... 94		
<b>6 Global Knowledge Skills</b> ..... 56.71 ..... 10		
<b>6.1 Higher skills and competencies</b> ..... 62.53 ..... 11		
6.1.1 Tertiary-educated workforce ..... 54.60 ..... 20		
6.1.2 Tertiary-educated population ..... 53.23 ..... 13		
6.1.3 Professionals ..... 54.29 ..... 17		
6.1.4 Researchers ..... 57.17 ..... 15		
6.1.5 Senior officials and managers ..... 62.36 ..... 9		
6.1.6 Quality of scientific institutions ..... 79.64 ..... 9		
6.1.7 Scientific journal articles ..... 76.45 ..... 7		
<b>6.2 Talent impact</b> ..... 50.89 ..... 14		
6.2.1 Innovation output ..... 63.03 ..... 21		
6.2.2 High-value exports ..... 16.67 ..... 60		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 43.21 ..... 42		
6.2.4 New business density ..... 80.65 ..... 7		



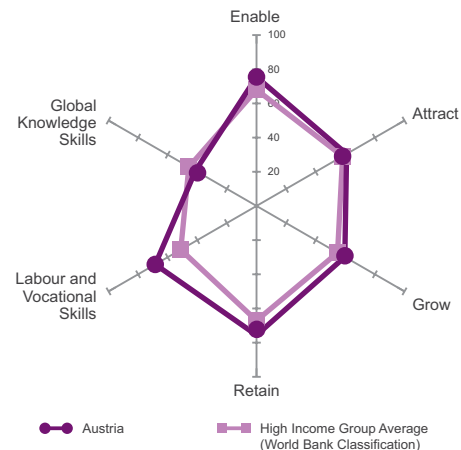
# AUSTRIA

High Income  
Europe

RANK  
(out of 109)

15

Population (millions) **8.48**  
GDP per capita (PPP US\$) **45,079.09**  
GDP (US\$ billions) **428.32**  
GTCI Score **63.55**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	75.48	16
<b>1.1 Regulatory landscape</b> .....	79.51	14
1.1.1 Government effectiveness.....	81.79	14
1.1.2 Business-government relations.....	64.79	26
1.1.3 Political stability.....	97.36	4
1.1.4 Starting a foreign business.....	74.08	22
<b>1.2 Market landscape</b> .....	76.01	11
1.2.1 Competition intensity.....	80.29	12
1.2.2 Ease of doing business.....	76.85	19
1.2.3 Cluster development.....	65.82	14
1.2.4 R&D expenditure.....	70.22	9
1.2.5 ICT infrastructure.....	84.83	16
1.2.6 Technology utilisation.....	78.02	17
<b>1.3 Business-labour landscape</b> .....	70.93	29
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	73.86	11
1.3.4 Professional management.....	70.88	24
<b>2 Attract</b> .....	60.88	22
<b>2.1 External openness</b> .....	55.98	18
Attract business		
2.1.1 FDI and technology transfer.....	60.56	59
2.1.2 Prevalence of foreign ownership.....	65.48	40
Attract people		
2.1.3 Migrant stock.....	36.21	20
2.1.4 International students.....	65.62	10
2.1.5 Brain gain.....	52.04	26
2.1.6 Brain drain.....	55.96	22
<b>2.2 Internal openness</b> .....	65.79	34
Social diversity		
2.2.1 Tolerance to minorities.....	74.25	39
2.2.2 Tolerance to immigrants.....	73.66	29
2.2.3 Social mobility.....	76.43	18
Gender equality		
2.2.4 Female graduates.....	66.22	67
2.2.5 Gender earnings gap.....	38.37	76
<b>3 Grow</b> .....	59.68	16
<b>3.1 Formal education</b> .....	57.71	10
Enrolment		
3.1.1 Vocational enrolment.....	81.49	3
3.1.2 Tertiary enrolment.....	61.19	21
Quality		
3.1.3 Tertiary education expenditure.....	36.83	18
3.1.4 Reading, maths and science.....	58.36	18
3.1.5 University ranking.....	50.10	27
<b>3.2 Lifelong learning</b> .....	62.04	28
3.2.1 Quality of management schools.....	60.48	41
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	63.60	18
<b>3.3 Access to growth opportunities</b> .....	59.29	24
Networks		
3.3.1 Use of virtual social networks.....	87.28	20
3.3.2 Use of virtual professional networks.....	19.26	48
Empowerment		
3.3.3 Delegation of authority.....	61.06	22
3.3.4 Freedom of voice.....	69.55	7

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	75.59	6
<b>4.1 Sustainability</b> .....	63.00	25
4.1.1 Pension system.....	93.94	6
4.1.2 Taxation.....	32.06	89
<b>4.2 Lifestyle</b> .....	88.17	1
4.2.1 Environmental performance.....	86.50	8
4.2.2 Safety at night.....	91.87	6
4.2.3 Physician density.....	62.50	3
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	100.00	1
<b>5 Labour and Vocational Skills</b> .....	68.44	3
<b>5.1 Employable skills</b> .....	81.49	3
5.1.1 Secondary-educated workforce.....	83.72	7
5.1.2 Secondary-educated population.....	89.34	6
5.1.3 Technicians and associate professionals.....	89.34	6
<b>5.2 Labour productivity</b> .....	55.38	10
5.2.1 Labour productivity per employee.....	53.79	12
5.2.2 Relationship of pay to productivity.....	48.44	60
5.2.3 Mid-value exports.....	63.92	16
<b>6 Global Knowledge Skills</b> .....	41.24	32
<b>6.1 Higher skills and competencies</b> .....	44.46	28
6.1.1 Tertiary-educated workforce.....	32.31	55
6.1.2 Tertiary-educated population.....	31.38	44
6.1.3 Professionals.....	42.02	37
6.1.4 Researchers.....	60.98	12
6.1.5 Senior officials and managers.....	28.09	48
6.1.6 Quality of scientific institutions.....	66.75	23
6.1.7 Scientific journal articles.....	49.70	23
<b>6.2 Talent impact</b> .....	38.02	39
6.2.1 Innovation output.....	63.03	21
6.2.2 High-value exports.....	39.33	23
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	46.61	36
6.2.4 New business density.....	3.13	76



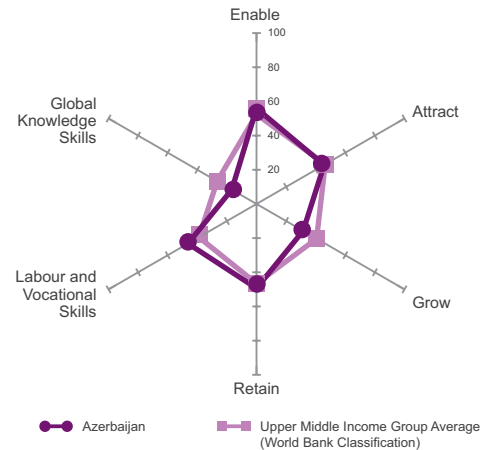
# AZERBAIJAN

Upper Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

71

Population (millions) **9.42**  
GDP per capita (PPP US\$) **17,143.11**  
GDP (US\$ billions) **73.56**  
GTCI Score **40.92**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	55.94	53
<b>1.1 Regulatory landscape</b> .....	50.79	60
1.1.1 Government effectiveness.....	20.61	84
1.1.2 Business-government relations.....	57.43	53
1.1.3 Political stability.....	54.01	75
1.1.4 Starting a foreign business.....	71.13	26
<b>1.2 Market landscape</b> .....	44.64	76
1.2.1 Competition intensity.....	55.81	97
1.2.2 Ease of doing business.....	48.38	67
1.2.3 Cluster development.....	40.08	82
1.2.4 R&D expenditure.....	4.96	75
1.2.5 ICT infrastructure.....	56.43	58
1.2.6 Technology utilisation.....	62.21	56
<b>1.3 Business-labour landscape</b> .....	72.39	24
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	87.50	33
Governance		
1.3.3 Labour-employer cooperation.....	55.18	54
1.3.4 Professional management.....	46.88	79
<b>2 Attract</b> .....	45.70	66
<b>2.1 External openness</b> .....	36.32	62
Attract business		
2.1.1 FDI and technology transfer.....	61.48	5
2.1.2 Prevalence of foreign ownership.....	46.31	93
Attract people		
2.1.3 Migrant stock.....	7.83	62
2.1.4 International students.....	10.40	49
2.1.5 Brain gain.....	49.90	29
2.1.6 Brain drain.....	42.02	50
<b>2.2 Internal openness</b> .....	55.08	77
Social diversity		
2.2.1 Tolerance to minorities.....	72.33	48
2.2.2 Tolerance to immigrants.....	67.15	47
2.2.3 Social mobility.....	45.57	82
Gender equality		
2.2.4 Female graduates.....	58.95	71
2.2.5 Gender earnings gap.....	31.40	88
<b>3 Grow</b> .....	31.49	95
<b>3.1 Formal education</b> .....	19.47	80
Enrolment		
3.1.1 Vocational enrolment.....	37.49	40
3.1.2 Tertiary enrolment.....	15.51	82
Quality		
3.1.3 Tertiary education expenditure.....	5.00	89
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	19.90	61
<b>3.2 Lifelong learning</b> .....	35.16	102
3.2.1 Quality of management schools.....	37.89	102
3.2.2 Prevalence of training in firms.....	22.03	67
3.2.3 Employee development.....	45.56	77
<b>3.3 Access to growth opportunities</b> .....	39.83	72
Networks		
3.3.1 Use of virtual social networks.....	85.43	30
3.3.2 Use of virtual professional networks.....	3.52	89
Empowerment		
3.3.3 Delegation of authority.....	44.12	64
3.3.4 Freedom of voice.....	26.26	61

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	49.34	62
<b>4.1 Sustainability</b> .....	37.49	70
4.1.1 Pension system.....	34.34	58
4.1.2 Taxation.....	40.63	62
<b>4.2 Lifestyle</b> .....	61.20	47
4.2.1 Environmental performance.....	53.50	55
4.2.2 Safety at night.....	74.24	31
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	79.55	68
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	46.32	41
<b>5.1 Employable skills</b> .....	65.04	15
5.1.1 Secondary-educated workforce.....	94.68	3
5.1.2 Secondary-educated population.....	85.73	4
5.1.3 Technicians and associate professionals.....	14.72	82
<b>5.2 Labour productivity</b> .....	27.59	93
5.2.1 Labour productivity per employee.....	12.05	66
5.2.2 Relationship of pay to productivity.....	56.91	29
5.2.3 Mid-value exports.....	13.81	106
<b>6 Global Knowledge Skills</b> .....	16.71	87
<b>6.1 Higher skills and competencies</b> .....	23.34	73
6.1.1 Tertiary-educated workforce.....	26.33	74
6.1.2 Tertiary-educated population.....	16.26	75
6.1.3 Professionals.....	45.09	32
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	6.74	85
6.1.6 Quality of scientific institutions.....	40.48	80
6.1.7 Scientific journal articles.....	5.15	78
<b>6.2 Talent impact</b> .....	10.08	101
6.2.1 Innovation output.....	13.24	93
6.2.2 High-value exports.....	12.55	97
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	4.45	69

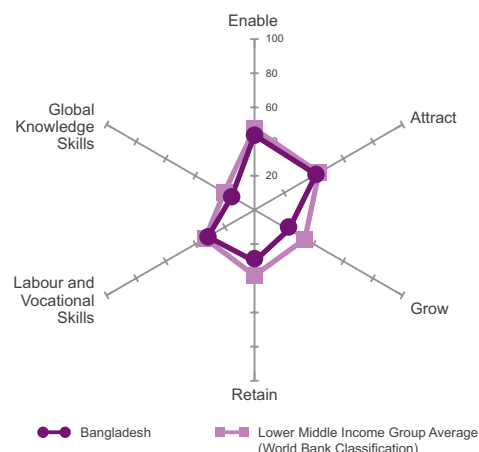
# BANGLADESH

Lower Middle Income  
Central and Southern Asia

RANK  
(out of 109)

100

Population (millions) **156.59**  
GDP per capita (PPP US\$) **2,948.01**  
GDP (US\$ billions) **149.99**  
GTCI Score **30.89**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	43.78	95
<b>1.1 Regulatory landscape</b> .....	32.91	102
1.1.1 Government effectiveness.....	9.58	103
1.1.2 Business-government relations.....	49.60	72
1.1.3 Political stability.....	24.28	105
1.1.4 Starting a foreign business.....	48.17	57
<b>1.2 Market landscape</b> .....	37.59	96
1.2.1 Competition intensity.....	65.37	66
1.2.2 Ease of doing business.....	11.59	108
1.2.3 Cluster development.....	47.47	57
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	11.44	102
1.2.6 Technology utilisation.....	52.08	90
<b>1.3 Business-labour landscape</b> .....	60.85	61
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	49.73	85
1.3.4 Professional management.....	43.69	89
<b>2 Attract</b> .....	41.55	91
<b>2.1 External openness</b> .....	24.76	106
Attract business		
2.1.1 FDI and technology transfer.....	48.99	94
2.1.2 Prevalence of foreign ownership.....	45.66	95
Attract people		
2.1.3 Migrant stock.....	1.93	86
2.1.4 International students.....	0.12	87
2.1.5 Brain gain.....	23.39	93
2.1.6 Brain drain.....	28.44	89
<b>2.2 Internal openness</b> .....	58.34	64
Social diversity		
2.2.1 Tolerance to minorities.....	95.12	7
2.2.2 Tolerance to immigrants.....	73.23	31
2.2.3 Social mobility.....	49.69	72
Gender equality		
2.2.4 Female graduates.....	32.90	83
2.2.5 Gender earnings gap.....	40.70	72
<b>3 Grow</b> .....	23.11	108
<b>3.1 Formal education</b> .....	8.83	104
Enrolment		
3.1.1 Vocational enrolment.....	6.63	89
3.1.2 Tertiary enrolment.....	9.17	91
Quality		
3.1.3 Tertiary education expenditure.....	2.61	95
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	16.91	65
<b>3.2 Lifelong learning</b> .....	35.51	101
3.2.1 Quality of management schools.....	45.35	89
3.2.2 Prevalence of training in firms.....	24.41	65
3.2.3 Employee development.....	36.76	104
<b>3.3 Access to growth opportunities</b> .....	24.99	108
Networks		
3.3.1 Use of virtual social networks.....	60.23	100
3.3.2 Use of virtual professional networks.....	0.88	101
Empowerment		
3.3.3 Delegation of authority.....	27.39	108
3.3.4 Freedom of voice.....	11.45	85

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	29.99	97
<b>4.1 Sustainability</b> .....	22.29	107
4.1.1 Pension system.....	2.02	98
4.1.2 Taxation.....	42.56	57
<b>4.2 Lifestyle</b> .....	37.69	93
4.2.1 Environmental performance.....	10.37	107
4.2.2 Safety at night.....	89.26	8
4.2.3 Physician density.....	00.00	87
4.2.4 Sanitation.....	51.14	89
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	31.46	81
<b>5.1 Employable skills</b> .....	23.71	87
5.1.1 Secondary-educated workforce.....	29.01	70
5.1.2 Secondary-educated population.....	18.40	85
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	39.21	60
5.2.1 Labour productivity per employee.....	2.16	88
5.2.2 Relationship of pay to productivity.....	42.06	85
5.2.3 Mid-value exports.....	73.40	5
<b>6 Global Knowledge Skills</b> .....	15.48	91
<b>6.1 Higher skills and competencies</b> .....	25.04	67
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	6.88	84
6.1.3 Professionals.....	16.26	76
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	70.22	7
6.1.6 Quality of scientific institutions.....	28.65	101
6.1.7 Scientific journal articles.....	3.19	90
<b>6.2 Talent impact</b> .....	5.92	109
6.2.1 Innovation output.....	8.82	100
6.2.2 High-value exports.....	13.91	76
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	0.55	83
6.2.4 New business density.....	0.40	85

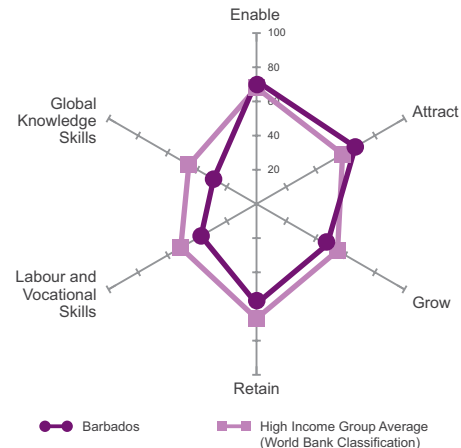
# BARBADOS

High Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

39

Population (millions) **0.28**  
GDP per capita (PPP US\$) **n/a**  
GDP (US\$ billions) **n/a**  
GTCI Score **51.88**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	71.94	22
<b>1.1 Regulatory landscape</b> .....	78.05	17
1.1.1 Government effectiveness.....	75.09	22
1.1.2 Business-government relations.....	62.92	31
1.1.3 Political stability.....	96.12	8
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	61.94	30
1.2.1 Competition intensity.....	76.41	23
1.2.2 Ease of doing business.....	40.89	83
1.2.3 Cluster development.....	46.10	63
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	79.43	23
1.2.6 Technology utilisation.....	66.86	41
<b>1.3 Business-labour landscape</b> .....	75.82	17
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	87.50	33
Governance		
1.3.3 Labour-employer cooperation.....	64.28	26
1.3.4 Professional management.....	62.52	32
<b>2 Attract</b> .....	66.74	12
<b>2.1 External openness</b> .....	56.60	14
Attract business		
2.1.1 FDI and technology transfer.....	68.58	22
2.1.2 Prevalence of foreign ownership.....	74.41	15
Attract people		
2.1.3 Migrant stock.....	26.12	30
2.1.4 International students.....	58.69	11
2.1.5 Brain gain.....	57.78	19
2.1.6 Brain drain.....	54.01	26
<b>2.2 Internal openness</b> .....	76.89	9
Social diversity		
2.2.1 Tolerance to minorities.....	n/a	n/a
2.2.2 Tolerance to immigrants.....	n/a	n/a
2.2.3 Social mobility.....	74.85	23
Gender equality		
2.2.4 Female graduates.....	100.00	1
2.2.5 Gender earnings gap.....	55.81	31
<b>3 Grow</b> .....	47.70	36
<b>3.1 Formal education</b> .....	25.43	62
Enrolment		
3.1.1 Vocational enrolment.....	0.00	102
3.1.2 Tertiary enrolment.....	51.00	38
Quality		
3.1.3 Tertiary education expenditure.....	50.72	7
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	55.25	44
3.2.1 Quality of management schools.....	66.97	27
3.2.2 Prevalence of training in firms.....	42.35	45
3.2.3 Employee development.....	56.44	35
<b>3.3 Access to growth opportunities</b> .....	62.43	20
Networks		
3.3.1 Use of virtual social networks.....	88.40	17
3.3.2 Use of virtual professional networks.....	51.45	16
Empowerment		
3.3.3 Delegation of authority.....	47.42	49
3.3.4 Freedom of voice.....	n/a	n/a

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	58.40	44
<b>4.1 Sustainability</b> .....	65.12	22
4.1.1 Pension system.....	83.84	28
4.1.2 Taxation.....	46.41	42
<b>4.2 Lifestyle</b> .....	51.67	67
4.2.1 Environmental performance.....	39.10	84
4.2.2 Safety at night.....	n/a	n/a
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	90.91	53
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	37.45	65
<b>5.1 Employable skills</b> .....	30.12	73
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	12.01	90
5.1.3 Technicians and associate professionals.....	48.22	43
<b>5.2 Labour productivity</b> .....	44.79	39
5.2.1 Labour productivity per employee.....	49.01	20
5.2.2 Relationship of pay to productivity.....	40.95	92
5.2.3 Mid-value exports.....	44.41	53
<b>6 Global Knowledge Skills</b> .....	29.03	59
<b>6.1 Higher skills and competencies</b> .....	28.68	58
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	1.52	97
6.1.3 Professionals.....	33.74	52
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	50.56	14
6.1.6 Quality of scientific institutions.....	49.84	50
6.1.7 Scientific journal articles.....	7.74	67
<b>6.2 Talent impact</b> .....	29.39	53
6.2.1 Innovation output.....	37.18	50
6.2.2 High-value exports.....	15.13	67
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	35.85	54
6.2.4 New business density.....	n/a	n/a

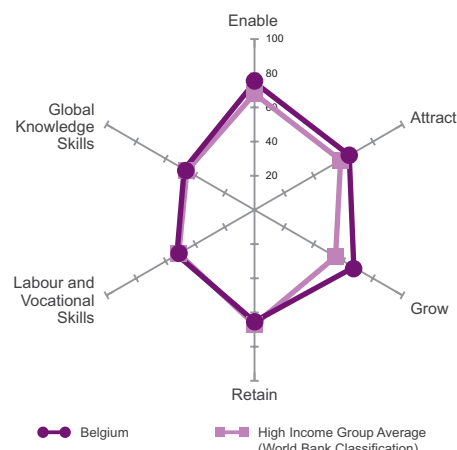
# BELGIUM

High Income  
Europe

RANK  
(out of 109)

18

Population (millions) **11.18**  
GDP per capita (PPP US\$) **41,574.76**  
GDP (US\$ billions) **524.81**  
GTCI Score **61.85**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	74.68	19
1.1	<b>Regulatory landscape</b>	72.65	23
1.1.1	Government effectiveness	82.51	13
1.1.2	Business-government relations	48.60	74
1.1.3	Political stability	86.84	26
1.1.4	Starting a foreign business	n/a	n/a
1.2	<b>Market landscape</b>	71.04	18
1.2.1	Competition intensity	84.09	4
1.2.2	Ease of doing business	63.38	39
1.2.3	Cluster development	61.61	19
1.2.4	R&D expenditure	55.33	15
1.2.5	ICT infrastructure	84.58	17
1.2.6	Technology utilisation	77.25	18
1.3	<b>Business-labour landscape</b>	80.36	13
	Labour market flexibility		
1.3.1	Ease of hiring	89.00	20
1.3.2	Ease of redundancy	100.00	1
	Governance		
1.3.3	Labour-employer cooperation	53.77	63
1.3.4	Professional management	78.67	11
2	<b>Attract</b>	64.01	16
2.1	<b>External openness</b>	51.89	24
	Attract business		
2.1.1	FDI and technology transfer	66.94	29
2.1.2	Prevalence of foreign ownership	73.42	18
	Attract people		
2.1.3	Migrant stock	24.04	34
2.1.4	International students	38.10	17
2.1.5	Brain gain	50.43	27
2.1.6	Brain drain	58.38	18
2.2	<b>Internal openness</b>	76.13	10
	Social diversity		
2.2.1	Tolerance to minorities	85.07	20
2.2.2	Tolerance to immigrants	84.80	17
2.2.3	Social mobility	80.19	14
	Gender equality		
2.2.4	Female graduates	77.10	38
2.2.5	Gender earnings gap	53.49	42
3	<b>Grow</b>	67.11	8
3.1	<b>Formal education</b>	60.82	8
	Enrolment		
3.1.1	Vocational enrolment	80.60	4
3.1.2	Tertiary enrolment	59.77	23
	Quality		
3.1.3	Tertiary education expenditure	33.76	24
3.1.4	Reading, maths and science	63.21	15
3.1.5	University ranking	66.78	15
3.2	<b>Lifelong learning</b>	76.01	2
3.2.1	Quality of management schools	83.49	2
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	68.52	9
3.3	<b>Access to growth opportunities</b>	64.51	15
	Networks		
3.3.1	Use of virtual social networks	87.18	22
3.3.2	Use of virtual professional networks	66.01	14
	Empowerment		
3.3.3	Delegation of authority	67.68	12
3.3.4	Freedom of voice	37.15	47

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	65.30	31
4.1	<b>Sustainability</b>	56.42	36
4.1.1	Pension system	90.91	15
4.1.2	Taxation	21.94	105
4.2	<b>Lifestyle</b>	74.17	25
4.2.1	Environmental performance	69.58	35
4.2.2	Safety at night	64.88	49
4.2.3	Physician density	37.50	19
4.2.4	Sanitation	100.00	1
4.2.5	Flexible employment	98.91	5
5	<b>Labour and Vocational Skills</b>	52.45	28
5.1	<b>Employable skills</b>	55.25	36
5.1.1	Secondary-educated workforce	45.07	50
5.1.2	Secondary-educated population	45.04	43
5.1.3	Technicians and associate professionals	75.63	18
5.2	<b>Labour productivity</b>	49.65	23
5.2.1	Labour productivity per employee	57.67	9
5.2.2	Relationship of pay to productivity	42.60	83
5.2.3	Mid-value exports	48.69	43
6	<b>Global Knowledge Skills</b>	47.54	25
6.1	<b>Higher skills and competencies</b>	56.62	18
6.1.1	Tertiary-educated workforce	64.30	8
6.1.2	Tertiary-educated population	30.60	47
6.1.3	Professionals	61.35	13
6.1.4	Researchers	53.20	18
6.1.5	Senior officials and managers	40.45	30
6.1.6	Quality of scientific institutions	84.70	5
6.1.7	Scientific journal articles	61.73	14
6.2	<b>Talent impact</b>	38.47	36
6.2.1	Innovation output	62.39	23
6.2.2	High-value exports	27.94	33
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	47.23	33
6.2.4	New business density	16.29	39

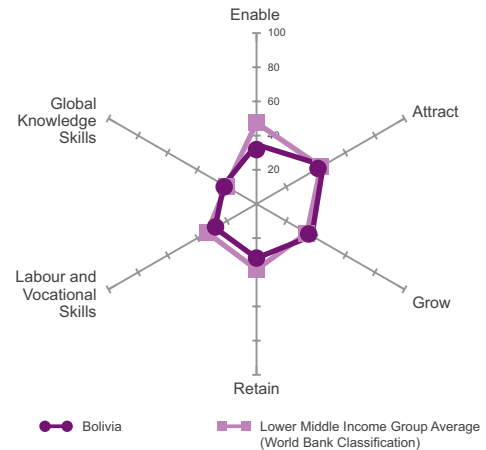
# BOLIVIA

Lower Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

94

Population (millions) **10.67**  
GDP per capita (PPP US\$) **6,131.06**  
GDP (US\$ billions) **30.60**  
GTCI Score **33.17**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	34.73	107
<b>1.1 Regulatory landscape</b> .....	44.52	87
1.1.1 Government effectiveness.....	22.34	81
1.1.2 Business-government relations.....	40.89	92
1.1.3 Political stability.....	55.66	70
1.1.4 Starting a foreign business.....	59.30	44
<b>1.2 Market landscape</b> .....	30.95	104
1.2.1 Competition intensity.....	46.00	106
1.2.2 Ease of doing business.....	18.22	104
1.2.3 Cluster development.....	40.97	77
1.2.4 R&D expenditure.....	3.72	81
1.2.5 ICT infrastructure.....	31.23	88
1.2.6 Technology utilisation.....	45.56	105
<b>1.3 Business-labour landscape</b> .....	28.71	108
Labour market flexibility		
1.3.1 Ease of hiring.....	22.33	95
1.3.2 Ease of redundancy.....	00.00	107
Governance		
1.3.3 Labour-employer cooperation.....	45.80	95
1.3.4 Professional management.....	46.73	80
<b>2 Attract</b> .....	45.09	73
<b>2.1 External openness</b> .....	34.76	71
Attract business		
2.1.1 FDI and technology transfer.....	43.47	104
2.1.2 Prevalence of foreign ownership.....	41.58	97
Attract people		
2.1.3 Migrant stock.....	3.22	79
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	39.37	54
2.1.6 Brain drain.....	46.16	41
<b>2.2 Internal openness</b> .....	55.41	76
Social diversity		
2.2.1 Tolerance to minorities.....	67.26	59
2.2.2 Tolerance to immigrants.....	61.36	58
2.2.3 Social mobility.....	41.86	97
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	51.16	44
<b>3 Grow</b> .....	37.37	75
<b>3.1 Formal education</b> .....	22.96	71
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	30.66	65
Quality		
3.1.3 Tertiary education expenditure.....	38.22	17
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	48.46	71
3.2.1 Quality of management schools.....	32.52	106
3.2.2 Prevalence of training in firms.....	70.84	12
3.2.3 Employee development.....	42.02	92
<b>3.3 Access to growth opportunities</b> .....	40.69	67
Networks		
3.3.1 Use of virtual social networks.....	47.09	108
3.3.2 Use of virtual professional networks.....	8.44	71
Empowerment		
3.3.3 Delegation of authority.....	42.40	75
3.3.4 Freedom of voice.....	64.80	13

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	31.68	94
<b>4.1 Sustainability</b> .....	26.99	98
4.1.1 Pension system.....	11.11	80
4.1.2 Taxation.....	42.87	56
<b>4.2 Lifestyle</b> .....	36.36	95
4.2.1 Environmental performance.....	46.29	72
4.2.2 Safety at night.....	26.45	99
4.2.3 Physician density.....	00.00	87
4.2.4 Sanitation.....	38.64	94
4.2.5 Flexible employment.....	70.44	45
<b>5 Labour and Vocational Skills</b> .....	28.01	93
<b>5.1 Employable skills</b> .....	33.73	69
5.1.1 Secondary-educated workforce.....	43.19	54
5.1.2 Secondary-educated population.....	26.52	68
5.1.3 Technicians and associate professionals.....	31.47	61
<b>5.2 Labour productivity</b> .....	22.30	103
5.2.1 Labour productivity per employee.....	5.53	81
5.2.2 Relationship of pay to productivity.....	46.13	76
5.2.3 Mid-value exports.....	15.23	102
<b>6 Global Knowledge Skills</b> .....	22.13	75
<b>6.1 Higher skills and competencies</b> .....	18.21	84
6.1.1 Tertiary-educated workforce.....	23.42	77
6.1.2 Tertiary-educated population.....	36.38	31
6.1.3 Professionals.....	20.86	66
6.1.4 Researchers.....	2.09	68
6.1.5 Senior officials and managers.....	5.06	88
6.1.6 Quality of scientific institutions.....	36.89	87
6.1.7 Scientific journal articles.....	2.79	92
<b>6.2 Talent impact</b> .....	26.04	64
6.2.1 Innovation output.....	15.34	91
6.2.2 High-value exports.....	12.25	99
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	73.07	7
6.2.4 New business density.....	3.52	71

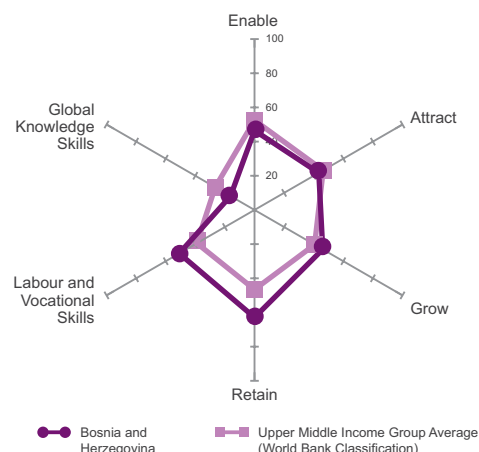
# BOSNIA AND HERZEGOVINA

Upper Middle Income  
Europe

RANK  
(out of 109)

**55**

Population (millions) **3.83**  
GDP per capita (PPP US\$) **9,535.54**  
GDP (US\$ billions) **17.85**  
GTCI Score **44.34**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	46.49	89
<b>1.1 Regulatory landscape</b> .....	49.50	66
1.1.1 Government effectiveness.....	20.69	83
1.1.2 Business-government relations.....	59.23	45
1.1.3 Political stability.....	55.11	71
1.1.4 Starting a foreign business.....	62.96	36
<b>1.2 Market landscape</b> .....	34.20	100
1.2.1 Competition intensity.....	40.40	108
1.2.2 Ease of doing business.....	40.85	84
1.2.3 Cluster development.....	16.00	109
1.2.4 R&D expenditure.....	0.25	96
1.2.5 ICT infrastructure.....	50.77	62
1.2.6 Technology utilisation.....	56.96	71
<b>1.3 Business-labour landscape</b> .....	55.78	75
Labour market flexibility		
1.3.1 Ease of hiring.....	44.33	86
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	60.31	35
1.3.4 Professional management.....	55.99	46
<b>2 Attract</b> .....	43.44	84
<b>2.1 External openness</b> .....	35.94	63
Attract business		
2.1.1 FDI and technology transfer.....	58.49	66
2.1.2 Prevalence of foreign ownership.....	56.61	67
Attract people		
2.1.3 Migrant stock.....	1.26	93
2.1.4 International students.....	27.41	23
2.1.5 Brain gain.....	n/a	n/a
2.1.6 Brain drain.....	n/a	n/a
<b>2.2 Internal openness</b> .....	50.93	87
Social diversity		
2.2.1 Tolerance to minorities.....	51.23	81
2.2.2 Tolerance to immigrants.....	57.02	65
2.2.3 Social mobility.....	16.58	109
Gender equality		
2.2.4 Female graduates.....	78.88	34
2.2.5 Gender earnings gap.....	n/a	n/a
<b>3 Grow</b> .....	46.10	42
<b>3.1 Formal education</b> .....	40.99	35
Enrolment		
3.1.1 Vocational enrolment.....	81.97	2
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	72
<b>3.2 Lifelong learning</b> .....	59.50	35
3.2.1 Quality of management schools.....	61.55	39
3.2.2 Prevalence of training in firms.....	64.54	19
3.2.3 Employee development.....	52.29	46
<b>3.3 Access to growth opportunities</b> .....	37.83	80
Networks		
3.3.1 Use of virtual social networks.....	82.88	46
3.3.2 Use of virtual professional networks.....	10.29	66
Empowerment		
3.3.3 Delegation of authority.....	43.08	71
3.3.4 Freedom of voice.....	15.08	78

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	62.89	38
<b>4.1 Sustainability</b> .....	70.71	11
4.1.1 Pension system.....	70.71	34
4.1.2 Taxation.....	n/a	n/a
<b>4.2 Lifestyle</b> .....	55.08	60
4.2.1 Environmental performance.....	39.51	83
4.2.2 Safety at night.....	71.07	38
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	94.32	45
4.2.5 Flexible employment.....	45.50	60
<b>5 Labour and Vocational Skills</b> .....	50.88	33
<b>5.1 Employable skills</b> .....	59.23	30
5.1.1 Secondary-educated workforce.....	85.60	5
5.1.2 Secondary-educated population.....	32.87	58
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	42.52	49
5.2.1 Labour productivity per employee.....	19.95	50
5.2.2 Relationship of pay to productivity.....	49.02	58
5.2.3 Mid-value exports.....	58.59	27
<b>6 Global Knowledge Skills</b> .....	16.23	90
<b>6.1 Higher skills and competencies</b> .....	17.86	86
6.1.1 Tertiary-educated workforce.....	23.42	77
6.1.2 Tertiary-educated population.....	10.22	80
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	2.50	65
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	47.63	62
6.1.7 Scientific journal articles.....	5.55	74
<b>6.2 Talent impact</b> .....	14.60	91
6.2.1 Innovation output.....	21.01	83
6.2.2 High-value exports.....	15.23	66
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	17.69	74
6.2.4 New business density.....	4.45	69



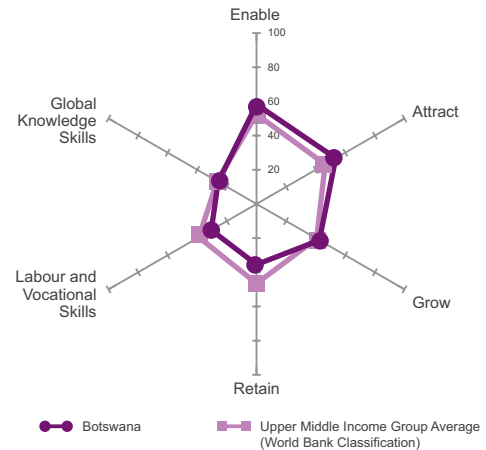
# BOTSWANA

Upper Middle Income  
Sub-Saharan Africa

RANK  
(out of 109)

68

Population (millions) **2.02**  
GDP per capita (PPP US\$) **15,751.90**  
GDP (US\$ billions) **14.78**  
GTCI Score **41.04**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 58.26 ..... 45		
<b>1.1 Regulatory landscape</b> ..... 66.18 ..... 34		
1.1.1 Government effectiveness ..... 42.79 ..... 50		
1.1.2 Business-government relations ..... 65.47 ..... 22		
1.1.3 Political stability ..... 90.27 ..... 14		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 41.69 ..... 87		
1.2.1 Competition intensity ..... 62.44 ..... 80		
1.2.2 Ease of doing business ..... 50.06 ..... 64		
1.2.3 Cluster development ..... 38.71 ..... 84		
1.2.4 R&D expenditure ..... 12.90 ..... 55		
1.2.5 ICT infrastructure ..... 30.59 ..... 89		
1.2.6 Technology utilisation ..... 55.41 ..... 77		
<b>1.3 Business-labour landscape</b> ..... 66.93 ..... 41		
Labour market flexibility		
1.3.1 Ease of hiring ..... 100.00 ..... 1		
1.3.2 Ease of redundancy ..... 50.00 ..... 74		
Governance		
1.3.3 Labour-employer cooperation ..... 54.98 ..... 57		
1.3.4 Professional management ..... 62.73 ..... 31		
<b>2 Attract</b> ..... 53.52 ..... 36		
<b>2.1 External openness</b> ..... 38.96 ..... 54		
Attract business		
2.1.1 FDI and technology transfer ..... 53.87 ..... 79		
2.1.2 Prevalence of foreign ownership ..... 74.51 ..... 14		
Attract people		
2.1.3 Migrant stock ..... 16.64 ..... 45		
2.1.4 International students ..... 1.20 ..... 78		
2.1.5 Brain gain ..... 45.25 ..... 39		
2.1.6 Brain drain ..... 42.29 ..... 48		
<b>2.2 Internal openness</b> ..... 68.08 ..... 28		
Social diversity		
2.2.1 Tolerance to minorities ..... 61.92 ..... 67		
2.2.2 Tolerance to immigrants ..... 69.75 ..... 39		
2.2.3 Social mobility ..... 62.74 ..... 32		
Gender equality		
2.2.4 Female graduates ..... n/a ..... n/a		
2.2.5 Gender earnings gap ..... 77.91 ..... 5		
<b>3 Grow</b> ..... 42.50 ..... 55		
<b>3.1 Formal education</b> ..... 30.69 ..... 55		
Enrolment		
3.1.1 Vocational enrolment ..... 9.49 ..... 82		
3.1.2 Tertiary enrolment ..... 13.28 ..... 86		
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 ..... 72		
<b>3.2 Lifelong learning</b> ..... 52.37 ..... 53		
3.2.1 Quality of management schools ..... 42.79 ..... 93		
3.2.2 Prevalence of training in firms ..... 63.98 ..... 20		
3.2.3 Employee development ..... 50.35 ..... 55		
<b>3.3 Access to growth opportunities</b> ..... 44.44 ..... 54		
Networks		
3.3.1 Use of virtual social networks ..... 73.06 ..... 80		
3.3.2 Use of virtual professional networks ..... 17.11 ..... 55		
Empowerment		
3.3.3 Delegation of authority ..... 40.40 ..... 80		
3.3.4 Freedom of voice ..... 47.21 ..... 34		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 35.46 ..... 93		
<b>4.1 Sustainability</b> ..... 34.13 ..... 80		
4.1.1 Pension system ..... 8.08 ..... 85		
4.1.2 Taxation ..... 60.18 ..... 10		
<b>4.2 Lifestyle</b> ..... 36.80 ..... 94		
4.2.1 Environmental performance ..... 42.13 ..... 81		
4.2.2 Safety at night ..... 18.04 ..... 103		
4.2.3 Physician density ..... 00.00 ..... 87		
4.2.4 Sanitation ..... 59.09 ..... 86		
4.2.5 Flexible employment ..... 64.71 ..... 53		
<b>5 Labour and Vocational Skills</b> ..... 30.58 ..... 86		
<b>5.1 Employable skills</b> ..... 29.70 ..... 74		
5.1.1 Secondary-educated workforce ..... 24.88 ..... 77		
5.1.2 Secondary-educated population ..... n/a ..... n/a		
5.1.3 Technicians and associate professionals ..... 34.52 ..... 58		
<b>5.2 Labour productivity</b> ..... 31.46 ..... 84		
5.2.1 Labour productivity per employee ..... n/a ..... n/a		
5.2.2 Relationship of pay to productivity ..... 47.13 ..... 69		
5.2.3 Mid-value exports ..... 15.80 ..... 99		
<b>6 Global Knowledge Skills</b> ..... 25.91 ..... 66		
<b>6.1 Higher skills and competencies</b> ..... 16.23 ..... 89		
6.1.1 Tertiary-educated workforce ..... 0.0 ..... 90		
6.1.2 Tertiary-educated population ..... n/a ..... n/a		
6.1.3 Professionals ..... 19.63 ..... 70		
6.1.4 Researchers ..... n/a ..... n/a		
6.1.5 Senior officials and managers ..... 19.10 ..... 62		
6.1.6 Quality of scientific institutions ..... 37.02 ..... 86		
6.1.7 Scientific journal articles ..... 5.38 ..... 75		
<b>6.2 Talent impact</b> ..... 36.60 ..... 46		
6.2.1 Innovation output ..... 10.50 ..... 96		
6.2.2 High-value exports ..... 13.18 ..... 88		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 37.14 ..... 51		
6.2.4 New business density ..... 81.58 ..... 6		



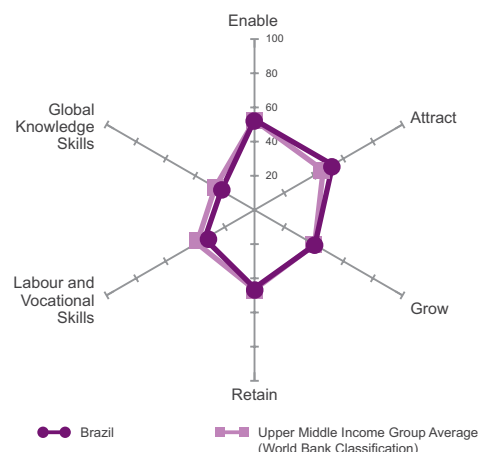
# BRAZIL

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

67

Population (millions) **200.36**  
GDP per capita (PPP US\$) **15,037.46**  
GDP (US\$ billions) **2,245.67**  
GTCI Score **41.37**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	52.79	65
<b>1.1 Regulatory landscape</b> .....	48.54	69
1.1.1 Government effectiveness.....	32.00	66
1.1.2 Business-government relations.....	46.56	82
1.1.3 Political stability.....	57.27	69
1.1.4 Starting a foreign business.....	58.31	47
<b>1.2 Market landscape</b> .....	52.83	47
1.2.1 Competition intensity.....	71.19	44
1.2.2 Ease of doing business.....	35.42	91
1.2.3 Cluster development.....	60.44	21
1.2.4 R&D expenditure.....	29.78	31
1.2.5 ICT infrastructure.....	57.33	57
1.2.6 Technology utilisation.....	62.84	53
<b>1.3 Business-labour landscape</b> .....	57.01	69
Labour market flexibility		
1.3.1 Ease of hiring.....	22.33	95
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	45.69	97
1.3.4 Professional management.....	60.01	36
<b>2 Attract</b> .....	52.79	39
<b>2.1 External openness</b> .....	35.42	69
Attract business		
2.1.1 FDI and technology transfer.....	65.64	36
2.1.2 Prevalence of foreign ownership.....	54.99	71
Attract people		
2.1.3 Migrant stock.....	0.55	101
2.1.4 International students.....	0.59	81
2.1.5 Brain gain.....	42.94	45
2.1.6 Brain drain.....	47.80	38
<b>2.2 Internal openness</b> .....	70.16	23
Social diversity		
2.2.1 Tolerance to minorities.....	86.99	16
2.2.2 Tolerance to immigrants.....	76.70	25
2.2.3 Social mobility.....	57.36	50
Gender equality		
2.2.4 Female graduates.....	80.92	28
2.2.5 Gender earnings gap.....	48.84	51
<b>3 Grow</b> .....	40.82	60
<b>3.1 Formal education</b> .....	24.14	65
Enrolment		
3.1.1 Vocational enrolment.....	12.81	77
3.1.2 Tertiary enrolment.....	19.98	77
Quality		
3.1.3 Tertiary education expenditure.....	20.87	60
3.1.4 Reading, maths and science.....	12.70	53
3.1.5 University ranking.....	54.33	23
<b>3.2 Lifelong learning</b> .....	55.04	45
3.2.1 Quality of management schools.....	58.84	47
3.2.2 Prevalence of training in firms.....	51.19	34
3.2.3 Employee development.....	55.10	38
<b>3.3 Access to growth opportunities</b> .....	43.29	57
Networks		
3.3.1 Use of virtual social networks.....	83.26	43
3.3.2 Use of virtual professional networks.....	26.88	32
Empowerment		
3.3.3 Delegation of authority.....	52.12	35
3.3.4 Freedom of voice.....	10.89	92

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	45.65	68
<b>4.1 Sustainability</b> .....	40.04	64
4.1.1 Pension system.....	54.55	46
4.1.2 Taxation.....	25.54	103
<b>4.2 Lifestyle</b> .....	51.25	71
4.2.1 Environmental performance.....	49.88	65
4.2.2 Safety at night.....	20.80	101
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	78.41	70
4.2.5 Flexible employment.....	82.15	20
<b>5 Labour and Vocational Skills</b> .....	33.66	75
<b>5.1 Employable skills</b> .....	38.58	63
5.1.1 Secondary-educated workforce.....	40.53	60
5.1.2 Secondary-educated population.....	41.21	46
5.1.3 Technicians and associate professionals.....	34.01	60
<b>5.2 Labour productivity</b> .....	28.73	92
5.2.1 Labour productivity per employee.....	11.08	69
5.2.2 Relationship of pay to productivity.....	38.84	95
5.2.3 Mid-value exports.....	36.27	66
<b>6 Global Knowledge Skills</b> .....	22.50	74
<b>6.1 Higher skills and competencies</b> .....	24.85	69
6.1.1 Tertiary-educated workforce.....	27.79	68
6.1.2 Tertiary-educated population.....	20.07	68
6.1.3 Professionals.....	19.33	72
6.1.4 Researchers.....	9.42	53
6.1.5 Senior officials and managers.....	27.53	50
6.1.6 Quality of scientific institutions.....	50.42	46
6.1.7 Scientific journal articles.....	19.33	46
<b>6.2 Talent impact</b> .....	20.14	79
6.2.1 Innovation output.....	32.14	60
6.2.2 High-value exports.....	19.79	50
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	14.41	78
6.2.4 New business density.....	14.23	42

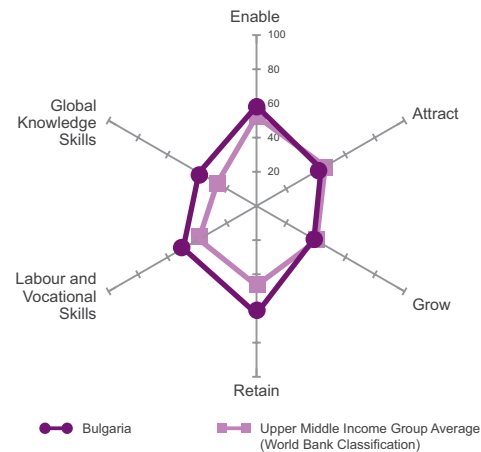
# BULGARIA

Upper Middle Income  
Europe

RANK  
(out of 109)

44

Population (millions) **7.27**  
GDP per capita (PPP US\$) **15,731.67**  
GDP (US\$ billions) **54.48**  
GTCI Score **48.73**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	58.45	44
<b>1.1 Regulatory landscape</b> .....	56.62	52
1.1.1 Government effectiveness.....	39.02	54
1.1.2 Business-government relations.....	37.55	101
1.1.3 Political stability.....	68.50	48
1.1.4 Starting a foreign business.....	81.41	14
<b>1.2 Market landscape</b> .....	50.17	56
1.2.1 Competition intensity.....	66.06	64
1.2.2 Ease of doing business.....	64.85	35
1.2.3 Cluster development.....	32.60	102
1.2.4 R&D expenditure.....	15.63	52
1.2.5 ICT infrastructure.....	65.42	46
1.2.6 Technology utilisation.....	56.46	72
<b>1.3 Business-labour landscape</b> .....	68.56	35
Labour market flexibility		
1.3.1 Ease of hiring.....	83.33	40
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	48.32	91
1.3.4 Professional management.....	42.57	92
<b>2 Attract</b> .....	43.60	80
<b>2.1 External openness</b> .....	25.21	105
Attract business		
2.1.1 FDI and technology transfer.....	54.60	76
2.1.2 Prevalence of foreign ownership.....	50.50	86
Attract people		
2.1.3 Migrant stock.....	2.56	83
2.1.4 International students.....	16.52	38
2.1.5 Brain gain.....	13.54	104
2.1.6 Brain drain.....	13.55	106
<b>2.2 Internal openness</b> .....	61.99	43
Social diversity		
2.2.1 Tolerance to minorities.....	71.37	51
2.2.2 Tolerance to immigrants.....	58.18	60
2.2.3 Social mobility.....	39.02	103
Gender equality		
2.2.4 Female graduates.....	80.94	27
2.2.5 Gender earnings gap.....	60.47	20
<b>3 Grow</b> .....	38.83	68
<b>3.1 Formal education</b> .....	35.57	43
Enrolment		
3.1.1 Vocational enrolment.....	58.57	21
3.1.2 Tertiary enrolment.....	52.63	31
Quality		
3.1.3 Tertiary education expenditure.....	12.75	81
3.1.4 Reading, maths and science.....	30.76	43
3.1.5 University ranking.....	22.15	58
<b>3.2 Lifelong learning</b> .....	43.33	85
3.2.1 Quality of management schools.....	39.84	100
3.2.2 Prevalence of training in firms.....	51.85	32
3.2.3 Employee development.....	38.29	101
<b>3.3 Access to growth opportunities</b> .....	37.78	82
Networks		
3.3.1 Use of virtual social networks.....	82.82	47
3.3.2 Use of virtual professional networks.....	17.90	53
Empowerment		
3.3.3 Delegation of authority.....	36.44	97
3.3.4 Freedom of voice.....	13.97	79

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	63.10	37
<b>4.1 Sustainability</b> .....	59.27	32
4.1.1 Pension system.....	78.79	31
4.1.2 Taxation.....	39.75	64
<b>4.2 Lifestyle</b> .....	66.94	40
4.2.1 Environmental performance.....	65.83	39
4.2.2 Safety at night.....	56.20	59
4.2.3 Physician density.....	50.00	4
4.2.4 Sanitation.....	100.0	1
4.2.5 Flexible employment.....	62.67	55
<b>5 Labour and Vocational Skills</b> .....	49.52	35
<b>5.1 Employable skills</b> .....	62.10	25
5.1.1 Secondary-educated workforce.....	77.62	11
5.1.2 Secondary-educated population.....	73.64	9
5.1.3 Technicians and associate professionals.....	35.03	57
<b>5.2 Labour productivity</b> .....	36.94	69
5.2.1 Labour productivity per employee.....	15.56	60
5.2.2 Relationship of pay to productivity.....	51.94	44
5.2.3 Mid-value exports.....	43.32	54
<b>6 Global Knowledge Skills</b> .....	38.88	37
<b>6.1 Higher skills and competencies</b> .....	34.85	38
6.1.1 Tertiary-educated workforce.....	42.97	35
6.1.2 Tertiary-educated population.....	n/a	n/a
6.1.3 Professionals.....	46.01	29
6.1.4 Researchers.....	20.68	40
6.1.5 Senior officials and managers.....	35.96	33
6.1.6 Quality of scientific institutions.....	41.76	75
6.1.7 Scientific journal articles.....	21.71	41
<b>6.2 Talent impact</b> .....	42.92	29
6.2.1 Innovation output.....	45.38	36
6.2.2 High-value exports.....	23.54	40
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	59.84	11

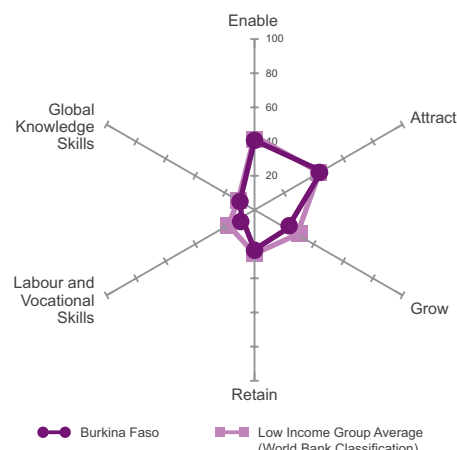
# BURKINA FASO

Low Income  
Sub-Saharan Africa

RANK  
(out of 109)

# 108

Population (millions) **16.93**  
GDP per capita (PPP US\$) **1,684.48**  
GDP (US\$ billions) **12.88**  
GTCI Score **24.96**  
GTCI Score (Income Group Average) **28.40**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	40.73	98
1.1	<b>Regulatory landscape</b>	38.76	96
1.1.1	Government effectiveness	15.71	94
1.1.2	Business-government relations	60.55	36
1.1.3	Political stability	45.54	88
1.1.4	Starting a foreign business	33.24	64
1.2	<b>Market landscape</b>	27.62	109
1.2.1	Competition intensity	59.42	89
1.2.2	Ease of doing business	14.83	107
1.2.3	Cluster development	31.62	104
1.2.4	R&D expenditure	4.71	77
1.2.5	ICT infrastructure	10.03	103
1.2.6	Technology utilisation	45.12	107
1.3	<b>Business-labour landscape</b>	55.81	74
	Labour market flexibility		
1.3.1	Ease of hiring	77.67	42
1.3.2	Ease of redundancy	62.50	55
	Governance		
1.3.3	Labour-employer cooperation	51.06	78
1.3.4	Professional management	32.03	108
2	<b>Attract</b>	45.37	69
2.1	<b>External openness</b>	30.67	85
	Attract business		
2.1.1	FDI and technology transfer	54.09	77
2.1.2	Prevalence of foreign ownership	51.06	83
	Attract people		
2.1.3	Migrant stock	9.39	55
2.1.4	International students	12.09	46
2.1.5	Brain gain	23.90	92
2.1.6	Brain drain	33.49	78
2.2	<b>Internal openness</b>	60.07	56
	Social diversity		
2.2.1	Tolerance to minorities	99.04	2
2.2.2	Tolerance to immigrants	93.20	7
2.2.3	Social mobility	42.26	96
	Gender equality		
2.2.4	Female graduates	7.73	87
2.2.5	Gender earnings gap	58.14	26
3	<b>Grow</b>	21.99	109
3.1	<b>Formal education</b>	6.33	106
	Enrolment		
3.1.1	Vocational enrolment	7.44	87
3.1.2	Tertiary enrolment	1.75	99
	Quality		
3.1.3	Tertiary education expenditure	16.15	73
3.1.4	Reading, maths and science	n/a	n/a
3.1.5	University ranking	0.00	72
3.2	<b>Lifelong learning</b>	35.13	103
3.2.1	Quality of management schools	46.90	82
3.2.2	Prevalence of training in firms	28.23	60
3.2.3	Employee development	30.26	108
3.3	<b>Access to growth opportunities</b>	24.51	109
	Networks		
3.3.1	Use of virtual social networks	53.50	105
3.3.2	Use of virtual professional networks	0.99	100
	Empowerment		
3.3.3	Delegation of authority	18.70	109
3.3.4	Freedom of voice	24.86	64

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	23.22	105
4.1	<b>Sustainability</b>	22.76	104
4.1.1	Pension system	0.00	99
4.1.2	Taxation	45.53	46
4.2	<b>Lifestyle</b>	23.67	102
4.2.1	Environmental performance	31.90	94
4.2.2	Safety at night	54.82	62
4.2.3	Physician density	0.00	87
4.2.4	Sanitation	7.95	103
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	8.64	109
5.1	<b>Employable skills</b>	0.25	109
5.1.1	Secondary-educated workforce	n/a	n/a
5.1.2	Secondary-educated population	0.00	100
5.1.3	Technicians and associate professionals	0.51	93
5.2	<b>Labour productivity</b>	17.03	109
5.2.1	Labour productivity per employee	0.49	94
5.2.2	Relationship of pay to productivity	34.88	103
5.2.3	Mid-value exports	15.71	101
6	<b>Global Knowledge Skills</b>	9.84	107
6.1	<b>Higher skills and competencies</b>	8.08	109
6.1.1	Tertiary-educated workforce	n/a	n/a
6.1.2	Tertiary-educated population	0.00	99
6.1.3	Professionals	0.31	97
6.1.4	Researchers	0.56	79
6.1.5	Senior officials and managers	0.00	97
6.1.6	Quality of scientific institutions	39.79	81
6.1.7	Scientific journal articles	7.82	65
6.2	<b>Talent impact</b>	11.59	95
6.2.1	Innovation output	16.81	90
6.2.2	High-value exports	13.12	89
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	15.65	76
6.2.4	New business density	0.80	82

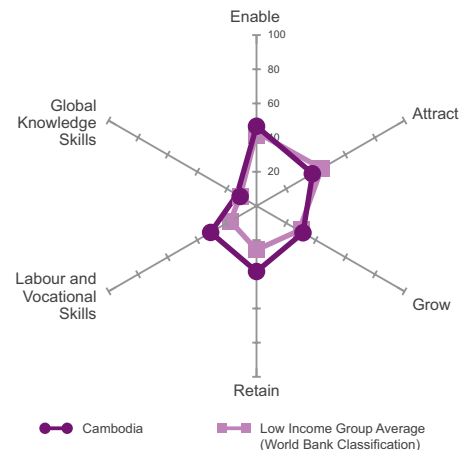
# CAMBODIA

Low Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

96

Population (millions) **15.14**  
GDP per capita (PPP US\$) **3,041.08**  
GDP (US\$ billions) **15.24**  
GTCI Score **33.08**  
GTCI Score (Income Group Average) **28.40**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	46.63	88
1.1	<b>Regulatory landscape</b>	37.44	98
1.1.1	Government effectiveness	6.47	107
1.1.2	Business-government relations	49.73	71
1.1.3	Political stability	60.31	65
1.1.4	Starting a foreign business	33.24	65
1.2	<b>Market landscape</b>	44.53	77
1.2.1	Competition intensity	64.30	73
1.2.2	Ease of doing business	29.71	98
1.2.3	Cluster development	47.74	54
1.2.4	R&D expenditure	n/a	n/a
1.2.5	ICT infrastructure	26.35	95
1.2.6	Technology utilisation	54.57	81
1.3	<b>Business-labour landscape</b>	57.92	67
	Labour market flexibility		
1.3.1	Ease of hiring	66.67	48
1.3.2	Ease of redundancy	62.50	55
	Governance		
1.3.3	Labour-employer cooperation	54.13	60
1.3.4	Professional management	48.37	72
2	<b>Attract</b>	37.90	101
2.1	<b>External openness</b>	35.82	64
	Attract business		
2.1.1	FDI and technology transfer	62.89	47
2.1.2	Prevalence of foreign ownership	61.64	50
	Attract people		
2.1.3	Migrant stock	1.02	94
2.1.4	International students	0.00	90
2.1.5	Brain gain	44.10	44
2.1.6	Brain drain	45.27	43
2.2	<b>Internal openness</b>	39.99	102
	Social diversity		
2.2.1	Tolerance to minorities	61.23	68
2.2.2	Tolerance to immigrants	0.00	105
2.2.3	Social mobility	44.82	85
	Gender equality		
2.2.4	Female graduates	32.25	84
2.2.5	Gender earnings gap	61.63	18
3	<b>Grow</b>	31.40	96
3.1	<b>Formal education</b>	5.27	107
	Enrolment		
3.1.1	Vocational enrolment	4.04	94
3.1.2	Tertiary enrolment	11.46	89
	Quality		
3.1.3	Tertiary education expenditure	5.59	87
3.1.4	Reading, maths and science	n/a	n/a
3.1.5	University ranking	0.00	72
3.2	<b>Lifelong learning</b>	57.46	40
3.2.1	Quality of management schools	39.03	101
3.2.2	Prevalence of training in firms	85.09	4
3.2.3	Employee development	48.27	66
3.3	<b>Access to growth opportunities</b>	31.45	100
	Networks		
3.3.1	Use of virtual social networks	70.11	89
3.3.2	Use of virtual professional networks	1.98	94
	Empowerment		
3.3.3	Delegation of authority	39.75	85
3.3.4	Freedom of voice	13.97	79

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	38.37	86
4.1	<b>Sustainability</b>	50.96	47
4.1.1	Pension system	n/a	n/a
4.1.2	Taxation	50.96	25
4.2	<b>Lifestyle</b>	25.78	100
4.2.1	Environmental performance	24.57	101
4.2.2	Safety at night	50.14	69
4.2.3	Physician density	0.00	87
4.2.4	Sanitation	28.41	95
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	31.00	84
5.1	<b>Employable skills</b>	9.34	104
5.1.1	Secondary-educated workforce	15.65	89
5.1.2	Secondary-educated population	5.78	95
5.1.3	Technicians and associate professionals	6.60	89
5.2	<b>Labour productivity</b>	52.65	14
5.2.1	Labour productivity per employee	2.26	87
5.2.2	Relationship of pay to productivity	55.68	33
5.2.3	Mid-value exports	100.00	1
6	<b>Global Knowledge Skills</b>	13.19	97
6.1	<b>Higher skills and competencies</b>	9.16	106
6.1.1	Tertiary-educated workforce	4.52	88
6.1.2	Tertiary-educated population	n/a	n/a
6.1.3	Professionals	3.99	95
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	3.37	90
6.1.6	Quality of scientific institutions	30.96	98
6.1.7	Scientific journal articles	2.96	91
6.2	<b>Talent impact</b>	17.23	86
6.2.1	Innovation output	18.91	87
6.2.2	High-value exports	15.55	63
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a

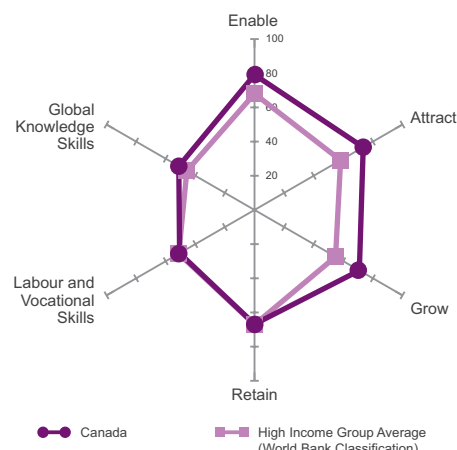
# CANADA

High Income  
Northern America

RANK  
(out of 109)

9

Population (millions) **35.15**  
GDP per capita (PPP US\$) **42,752.66**  
GDP (US\$ billions) **1,826.77**  
GTCI Score **65.35**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	79.14	10
<b>1.1 Regulatory landscape</b> .....	83.78	9
1.1.1 Government effectiveness.....	87.99	7
1.1.2 Business-government relations.....	72.27	13
1.1.3 Political stability.....	89.64	16
1.1.4 Starting a foreign business.....	85.21	8
<b>1.2 Market landscape</b> .....	69.37	21
1.2.1 Competition intensity.....	74.99	28
1.2.2 Ease of doing business.....	80.41	15
1.2.3 Cluster development.....	62.89	17
1.2.4 R&D expenditure.....	42.68	21
1.2.5 ICT infrastructure.....	81.26	21
1.2.6 Technology utilisation.....	73.89	27
<b>1.3 Business-labour landscape</b> .....	84.25	10
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	65.93	21
1.3.4 Professional management.....	82.09	8
<b>2 Attract</b> .....	73.45	4
<b>2.1 External openness</b> .....	63.49	8
Attract business		
2.1.1 FDI and technology transfer.....	60.04	61
2.1.2 Prevalence of foreign ownership.....	75.63	11
Attract people		
2.1.3 Migrant stock.....	47.79	13
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	70.61	8
2.1.6 Brain drain.....	63.35	13
<b>2.2 Internal openness</b> .....	83.41	5
Social diversity		
2.2.1 Tolerance to minorities.....	97.40	3
2.2.2 Tolerance to immigrants.....	95.95	5
2.2.3 Social mobility.....	83.30	7
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	56.98	27
<b>3 Grow</b> .....	70.84	4
<b>3.1 Formal education</b> .....	67.99	2
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.....	45.33	11
3.1.4 Reading, maths and science.....	69.27	7
3.1.5 University ranking.....	89.36	4
<b>3.2 Lifelong learning</b> .....	70.58	10
3.2.1 Quality of management schools.....	79.47	7
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	61.70	21
<b>3.3 Access to growth opportunities</b> .....	73.96	6
Networks		
3.3.1 Use of virtual social networks.....	90.02	13
3.3.2 Use of virtual professional networks.....	79.67	7
Empowerment		
3.3.3 Delegation of authority.....	67.75	11
3.3.4 Freedom of voice.....	58.38	21

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	66.85	25
<b>4.1 Sustainability</b> .....	60.74	29
4.1.1 Pension system.....	66.67	37
4.1.2 Taxation.....	54.82	17
<b>4.2 Lifestyle</b> .....	72.97	26
4.2.1 Environmental performance.....	79.02	24
4.2.2 Safety at night.....	79.34	23
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	81.47	21
<b>5 Labour and Vocational Skills</b> .....	50.64	34
<b>5.1 Employable skills</b> .....	50.98	41
5.1.1 Secondary-educated workforce.....	46.17	47
5.1.2 Secondary-educated population.....	33.18	56
5.1.3 Technicians and associate professionals.....	73.60	19
<b>5.2 Labour productivity</b> .....	50.30	20
5.2.1 Labour productivity per employee.....	51.29	16
5.2.2 Relationship of pay to productivity.....	58.24	24
5.2.3 Mid-value exports.....	41.37	58
<b>6 Global Knowledge Skills</b> .....	51.16	17
<b>6.1 Higher skills and competencies</b> .....	66.07	4
6.1.1 Tertiary-educated workforce.....	75.12	2
6.1.2 Tertiary-educated population.....	80.84	2
6.1.3 Professionals.....	52.76	19
6.1.4 Researchers.....	60.96	13
6.1.5 Senior officials and managers.....	52.25	12
6.1.6 Quality of scientific institutions.....	74.51	15
6.1.7 Scientific journal articles.....	n/a	n/a
<b>6.2 Talent impact</b> .....	36.24	42
6.2.1 Innovation output.....	64.08	20
6.2.2 High-value exports.....	25.24	37
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	48.74	29
6.2.4 New business density.....	6.91	57

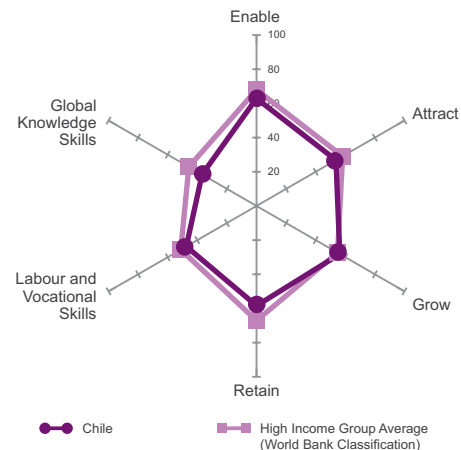
# CHILE

High Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

# 34

Population (millions) **17.62**  
GDP per capita (PPP US\$) **21,942.15**  
GDP (US\$ billions) **277.20**  
GTCI Score **52.59**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 62.91 ..... 30		
<b>1.1 Regulatory landscape</b> ..... 68.23 ..... 30		
1.1.1 Government effectiveness ..... 72.07 ..... 24		
1.1.2 Business-government relations ..... 68.18 ..... 17		
1.1.3 Political stability ..... 73.39 ..... 43		
1.1.4 Starting a foreign business ..... 59.30 ..... 44		
<b>1.2 Market landscape</b> ..... 54.78 ..... 41		
1.2.1 Competition intensity ..... 76.51 ..... 22		
1.2.2 Ease of doing business ..... 63.66 ..... 38		
1.2.3 Cluster development ..... 48.38 ..... 53		
1.2.4 R&D expenditure ..... 10.17 ..... 65		
1.2.5 ICT infrastructure ..... 60.03 ..... 54		
1.2.6 Technology utilisation ..... 69.94 ..... 35		
<b>1.3 Business-labour landscape</b> ..... 65.72 ..... 42		
Labour market flexibility		
1.3.1 Ease of hiring ..... 66.67 ..... 48		
1.3.2 Ease of redundancy ..... 75.00 ..... 43		
Governance		
1.3.3 Labour-employer cooperation ..... 59.27 ..... 40		
1.3.4 Professional management ..... 61.93 ..... 33		
<b>2 Attract</b> ..... 53.68 ..... 64		
<b>2.1 External openness</b> ..... 45.27 ..... 32		
Attract business		
2.1.1 FDI and technology transfer ..... 71.63 ..... 12		
2.1.2 Prevalence of foreign ownership ..... 74.89 ..... 12		
Attract people		
2.1.3 Migrant stock ..... 5.09 ..... 70		
2.1.4 International students ..... 1.02 ..... 79		
2.1.5 Brain gain ..... 55.63 ..... 20		
2.1.6 Brain drain ..... 63.30 ..... 14		
<b>2.2 Internal openness</b> ..... 62.08 ..... 42		
Social diversity		
2.2.1 Tolerance to minorities ..... 72.74 ..... 45		
2.2.2 Tolerance to immigrants ..... 69.03 ..... 41		
2.2.3 Social mobility ..... 62.55 ..... 34		
Gender equality		
2.2.4 Female graduates ..... 68.88 ..... 62		
2.2.5 Gender earnings gap ..... 37.21 ..... 80		
<b>3 Grow</b> ..... 56.28 ..... 20		
<b>3.1 Formal education</b> ..... 42.80 ..... 32		
Enrolment		
3.1.1 Vocational enrolment ..... 46.28 ..... 28		
3.1.2 Tertiary enrolment ..... 62.90 ..... 17		
Quality		
3.1.3 Tertiary education expenditure ..... 21.05 ..... 59		
3.1.4 Reading, maths and science ..... 28.82 ..... 46		
3.1.5 University ranking ..... 54.97 ..... 22		
<b>3.2 Lifelong learning</b> ..... 66.21 ..... 22		
3.2.1 Quality of management schools ..... 73.50 ..... 13		
3.2.2 Prevalence of training in firms ..... 71.37 ..... 11		
3.2.3 Employee development ..... 53.75 ..... 42		
<b>3.3 Access to growth opportunities</b> ..... 59.83 ..... 22		
Networks		
3.3.1 Use of virtual social networks ..... 85.74 ..... 26		
3.3.2 Use of virtual professional networks ..... 47.19 ..... 18		
Empowerment		
3.3.3 Delegation of authority ..... 45.23 ..... 60		
3.3.4 Freedom of voice ..... 61.17 ..... 18		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 58.39 ..... 45		
<b>4.1 Sustainability</b> ..... 56.71 ..... 35		
4.1.1 Pension system ..... 59.60 ..... 42		
4.1.2 Taxation ..... 53.83 ..... 20		
<b>4.2 Lifestyle</b> ..... 60.08 ..... 50		
4.2.1 Environmental performance ..... 74.38 ..... 29		
4.2.2 Safety at night ..... 43.80 ..... 76		
4.2.3 Physician density ..... 12.50 ..... 69		
4.2.4 Sanitation ..... 98.86 ..... 33		
4.2.5 Flexible employment ..... 70.84 ..... 43		
<b>5 Labour and Vocational Skills</b> ..... 47.46 ..... 36		
<b>5.1 Employable skills</b> ..... 61.78 ..... 27		
5.1.1 Secondary-educated workforce ..... 72.77 ..... 18		
5.1.2 Secondary-educated population ..... 50.78 ..... 35		
5.1.3 Technicians and associate professionals ..... n/a ..... n/a		
<b>5.2 Labour productivity</b> ..... 33.14 ..... 81		
5.2.1 Labour productivity per employee ..... 24.77 ..... 44		
5.2.2 Relationship of pay to productivity ..... 55.23 ..... 35		
5.2.3 Mid-value exports ..... 19.42 ..... 90		
<b>6 Global Knowledge Skills</b> ..... 36.80 ..... 41		
<b>6.1 Higher skills and competencies</b> ..... 26.80 ..... 61		
6.1.1 Tertiary-educated workforce ..... 31.83 ..... 59		
6.1.2 Tertiary-educated population ..... 25.16 ..... 56		
6.1.3 Professionals ..... n/a ..... n/a		
6.1.4 Researchers ..... 4.16 ..... 62		
6.1.5 Senior officials and managers ..... n/a ..... n/a		
6.1.6 Quality of scientific institutions ..... 50.44 ..... 47		
6.1.7 Scientific journal articles ..... 22.41 ..... 40		
<b>6.2 Talent impact</b> ..... 46.80 ..... 23		
6.2.1 Innovation output ..... 36.34 ..... 51		
6.2.2 High-value exports ..... 13.23 ..... 87		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 100.00 ..... 1		
6.2.4 New business density ..... 37.63 ..... 18		



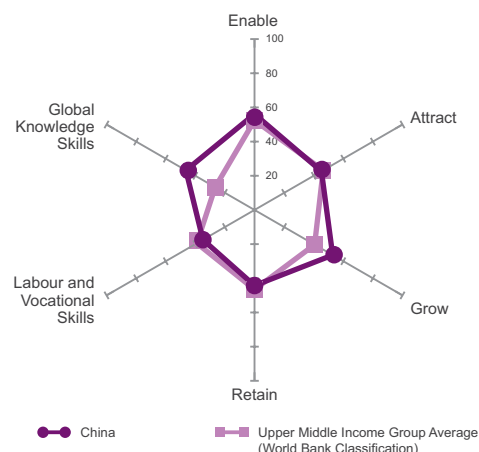
# CHINA

Upper Middle Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

48

Population (millions) **1,357.38**  
GDP per capita (PPP\$) **11,906.51**  
GDP (US\$ billions) **9,240.27**  
GTCI Score **46.60**  
GTCI Score (Income Group Average) **41.93**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	56.09	52
1.1	<b>Regulatory landscape</b>	52.20	58
1.1.1	Government effectiveness	33.50	61
1.1.2	Business-government relations	64.63	27
1.1.3	Political stability	50.65	80
1.1.4	Starting a foreign business	60.00	43
1.2	<b>Market landscape</b>	55.15	40
1.2.1	Competition intensity	72.64	38
1.2.2	Ease of doing business	45.18	73
1.2.3	Cluster development	59.30	22
1.2.4	R&D expenditure	48.88	19
1.2.5	ICT infrastructure	43.96	70
1.2.6	Technology utilisation	60.97	59
1.3	<b>Business-labour landscape</b>	60.92	60
	Labour market flexibility		
1.3.1	Ease of hiring	89.00	20
1.3.2	Ease of redundancy	37.50	88
	Governance		
1.3.3	Labour-employer cooperation	56.98	49
1.3.4	Professional management	60.20	35
2	<b>Attract</b>	45.24	71
2.1	<b>External openness</b>	37.39	60
	Attract business		
2.1.1	FDI and technology transfer	57.81	68
2.1.2	Prevalence of foreign ownership	58.87	54
	Attract people		
2.1.3	Migrant stock	0.00	109
2.1.4	International students	0.86	80
2.1.5	Brain gain	54.04	24
2.1.6	Brain drain	52.76	28
2.2	<b>Internal openness</b>	53.08	80
	Social diversity		
2.2.1	Tolerance to minorities	58.49	73
2.2.2	Tolerance to immigrants	42.55	86
2.2.3	Social mobility	55.04	52
	Gender equality		
2.2.4	Female graduates	54.67	74
2.2.5	Gender earnings gap	54.65	36
3	<b>Grow</b>	52.81	27
3.1	<b>Formal education</b>	60.65	9
	Enrolment		
3.1.1	Vocational enrolment	42.61	31
3.1.2	Tertiary enrolment	21.01	76
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths and science	100.00	1
3.1.5	University ranking	78.99	11
3.2	<b>Lifelong learning</b>	67.88	17
3.2.1	Quality of management schools	48.78	71
3.2.2	Prevalence of training in firms	100.00	1
3.2.3	Employee development	54.85	39
3.3	<b>Access to growth opportunities</b>	29.90	103
	Networks		
3.3.1	Use of virtual social networks	61.35	99
3.3.2	Use of virtual professional networks	0.69	102
	Empowerment		
3.3.3	Delegation of authority	48.89	41
3.3.4	Freedom of voice	8.66	95

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	44.25	71
4.1	<b>Sustainability</b>	38.32	66
4.1.1	Pension system	26.26	66
4.1.2	Taxation	50.38	27
4.2	<b>Lifestyle</b>	50.19	73
4.2.1	Environmental performance	35.49	91
4.2.2	Safety at night	80.03	21
4.2.3	Physician density	25.00	47
4.2.4	Sanitation	60.23	85
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	34.86	73
5.1	<b>Employable skills</b>	24.46	85
5.1.1	Secondary-educated workforce	29.67	69
5.1.2	Secondary-educated population	19.25	84
5.1.3	Technicians and associate professionals	n/a	n/a
5.2	<b>Labour productivity</b>	45.26	36
5.2.1	Labour productivity per employee	10.98	70
5.2.2	Relationship of pay to productivity	62.51	12
5.2.3	Mid-value exports	62.30	19
6	<b>Global Knowledge Skills</b>	46.35	26
6.1	<b>Higher skills and competencies</b>	22.67	75
6.1.1	Tertiary-educated workforce	n/a	n/a
6.1.2	Tertiary-educated population	14.07	76
6.1.3	Professionals	16.26	76
6.1.4	Researchers	13.56	45
6.1.5	Senior officials and managers	9.55	82
6.1.6	Quality of scientific institutions	55.65	36
6.1.7	Scientific journal articles	26.95	37
6.2	<b>Talent impact</b>	70.02	3
6.2.1	Innovation output	66.81	16
6.2.2	High-value exports	79.42	3
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	63.84	11
6.2.4	New business density	n/a	n/a



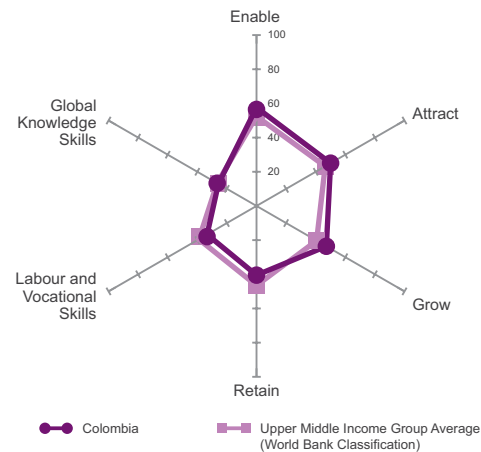
# COLOMBIA

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

62

Population (millions) **48.32**  
GDP per capita (PPP\$) **12,423.92**  
GDP (US\$ billions) **378.42**  
GTCI Score **42.42**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	57.59	48
<b>1.1 Regulatory landscape</b> .....	48.29	72
1.1.1 Government effectiveness.....	35.68	58
1.1.2 Business-government relations.....	58.06	52
1.1.3 Political stability.....	32.79	101
1.1.4 Starting a foreign business.....	66.62	32
<b>1.2 Market landscape</b> .....	48.30	65
1.2.1 Competition intensity.....	70.35	48
1.2.2 Ease of doing business.....	65.90	31
1.2.3 Cluster development.....	45.15	67
1.2.4 R&D expenditure.....	3.97	80
1.2.5 ICT infrastructure.....	48.33	67
1.2.6 Technology utilisation.....	56.07	75
<b>1.3 Business-labour landscape</b> .....	76.20	16
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	59.32	39
1.3.4 Professional management.....	56.48	44
<b>2 Attract</b> .....	50.07	48
<b>2.1 External openness</b> .....	39.32	52
Attract business		
2.1.1 FDI and technology transfer.....	62.69	49
2.1.2 Prevalence of foreign ownership.....	57.82	58
Attract people		
2.1.3 Migrant stock.....	0.48	102
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	35.74	63
2.1.6 Brain drain.....	39.87	58
<b>2.2 Internal openness</b> .....	60.82	51
Social diversity		
2.2.1 Tolerance to minorities.....	73.15	42
2.2.2 Tolerance to immigrants.....	72.94	32
2.2.3 Social mobility.....	45.65	81
Gender equality		
2.2.4 Female graduates.....	67.02	66
2.2.5 Gender earnings gap.....	45.35	66
<b>3 Grow</b> .....	47.19	38
<b>3.1 Formal education</b> .....	24.58	63
Enrolment		
3.1.1 Vocational enrolment.....	14.13	71
3.1.2 Tertiary enrolment.....	40.01	50
Quality		
3.1.3 Tertiary education expenditure.....	18.72	68
3.1.4 Reading, maths and science.....	8.35	58
3.1.5 University ranking.....	41.71	56
<b>3.2 Lifelong learning</b> .....	61.31	29
3.2.1 Quality of management schools.....	54.25	58
3.2.2 Prevalence of training in firms.....	81.53	5
3.2.3 Employee development.....	48.14	67
<b>3.3 Access to growth opportunities</b> .....	55.67	30
Networks		
3.3.1 Use of virtual social networks.....	74.95	74
3.3.2 Use of virtual professional networks.....	24.29	40
Empowerment		
3.3.3 Delegation of authority.....	48.32	44
3.3.4 Freedom of voice.....	75.14	6

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	40.50	83
<b>4.1 Sustainability</b> .....	31.17	85
4.1.1 Pension system.....	30.30	64
4.1.2 Taxation.....	32.03	90
<b>4.2 Lifestyle</b> .....	49.83	76
4.2.1 Environmental performance.....	46.71	70
4.2.2 Safety at night.....	38.98	87
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	77.27	71
4.2.5 Flexible employment.....	73.71	35
<b>5 Labour and Vocational Skills</b> .....	33.39	77
<b>5.1 Employable skills</b> .....	40.30	60
5.1.1 Secondary-educated workforce.....	52.43	35
5.1.2 Secondary-educated population.....	30.90	61
5.1.3 Technicians and associate professionals.....	37.56	54
<b>5.2 Labour productivity</b> .....	26.48	96
5.2.1 Labour productivity per employee.....	11.25	68
5.2.2 Relationship of pay to productivity.....	44.22	80
5.2.3 Mid-value exports.....	23.96	80
<b>6 Global Knowledge Skills</b> .....	25.78	68
<b>6.1 Higher skills and competencies</b> .....	23.12	74
6.1.1 Tertiary-educated workforce.....	36.51	46
6.1.2 Tertiary-educated population.....	36.95	29
6.1.3 Professionals.....	6.13	89
6.1.4 Researchers.....	2.38	66
6.1.5 Senior officials and managers.....	33.71	38
6.1.6 Quality of scientific institutions.....	41.27	76
6.1.7 Scientific journal articles.....	4.91	81
<b>6.2 Talent impact</b> .....	28.44	56
6.2.1 Innovation output.....	25.42	72
6.2.2 High-value exports.....	13.38	85
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	61.87	12
6.2.4 New business density.....	13.10	44

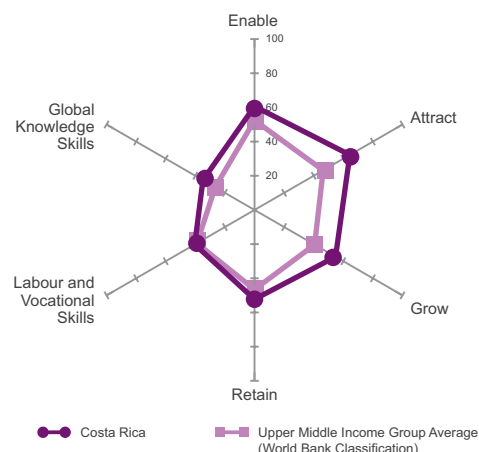
# COSTA RICA

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

40

Population (millions) **4.87**  
GDP per capita (PPP\$) **13,875.86**  
GDP (US\$ billions) **49.62**  
GTCI Score **51.23**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	60.64	36
<b>1.1 Regulatory landscape</b> .....	66.09	35
1.1.1 Government effectiveness.....	48.62	42
1.1.2 Business-government relations.....	61.05	34
1.1.3 Political stability.....	80.63	33
1.1.4 Starting a foreign business.....	74.08	22
<b>1.2 Market landscape</b> .....	51.49	50
1.2.1 Competition intensity.....	69.73	51
1.2.2 Ease of doing business.....	47.50	69
1.2.3 Cluster development.....	53.93	33
1.2.4 R&D expenditure.....	11.66	59
1.2.5 ICT infrastructure.....	59.00	55
1.2.6 Technology utilisation.....	67.10	40
<b>1.3 Business-labour landscape</b> .....	64.34	47
Labour market flexibility		
1.3.1 Ease of hiring.....	22.33	95
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	73.71	12
1.3.4 Professional management.....	61.30	34
<b>2 Attract</b> .....	64.42	15
<b>2.1 External openness</b> .....	56.18	16
Attract business		
2.1.1 FDI and technology transfer.....	76.71	5
2.1.2 Prevalence of foreign ownership.....	71.78	22
Attract people		
2.1.3 Migrant stock.....	19.80	39
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	50.11	28
2.1.6 Brain drain.....	62.52	15
<b>2.2 Internal openness</b> .....	72.66	18
Social diversity		
2.2.1 Tolerance to minorities.....	79.59	28
2.2.2 Tolerance to immigrants.....	81.19	21
2.2.3 Social mobility.....	69.15	28
Gender equality		
2.2.4 Female graduates.....	86.89	16
2.2.5 Gender earnings gap.....	46.51	61
<b>3 Grow</b> .....	54.77	23
<b>3.1 Formal education</b> .....	32.68	53
Enrolment		
3.1.1 Vocational enrolment.....	42.29	32
3.1.2 Tertiary enrolment.....	39.36	53
Quality		
3.1.3 Tertiary education expenditure.....	33.35	26
3.1.4 Reading, maths and science.....	23.79	47
3.1.5 University ranking.....	24.61	52
<b>3.2 Lifelong learning</b> .....	67.22	21
3.2.1 Quality of management schools.....	71.87	15
3.2.2 Prevalence of training in firms.....	67.68	18
3.2.3 Employee development.....	62.11	20
<b>3.3 Access to growth opportunities</b> .....	64.40	17
Networks		
3.3.1 Use of virtual social networks.....	82.92	45
3.3.2 Use of virtual professional networks.....	30.59	30
Empowerment		
3.3.3 Delegation of authority.....	56.65	27
3.3.4 Freedom of voice.....	87.43	2

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	52.27	53
<b>4.1 Sustainability</b> .....	50.47	49
4.1.1 Pension system.....	55.56	45
4.1.2 Taxation.....	45.38	47
<b>4.2 Lifestyle</b> .....	54.06	64
4.2.1 Environmental performance.....	57.91	50
4.2.2 Safety at night.....	41.74	82
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	93.18	48
4.2.5 Flexible employment.....	64.99	52
<b>5 Labour and Vocational Skills</b> .....	40.40	57
<b>5.1 Employable skills</b> .....	42.76	54
5.1.1 Secondary-educated workforce.....	41.47	59
5.1.2 Secondary-educated population.....	23.34	74
5.1.3 Technicians and associate professionals.....	63.45	28
<b>5.2 Labour productivity</b> .....	38.04	64
5.2.1 Labour productivity per employee.....	18.91	52
5.2.2 Relationship of pay to productivity.....	52.54	42
5.2.3 Mid-value exports.....	42.67	56
<b>6 Global Knowledge Skills</b> .....	34.87	43
<b>6.1 Higher skills and competencies</b> .....	29.38	57
6.1.1 Tertiary-educated workforce.....	37.64	44
6.1.2 Tertiary-educated population.....	35.28	35
6.1.3 Professionals.....	30.37	54
6.1.4 Researchers.....	17.16	41
6.1.5 Senior officials and managers.....	15.73	67
6.1.6 Quality of scientific institutions.....	63.15	30
6.1.7 Scientific journal articles.....	6.30	69
<b>6.2 Talent impact</b> .....	40.35	34
6.2.1 Innovation output.....	37.39	48
6.2.2 High-value exports.....	61.58	7
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	39.04	48
6.2.4 New business density.....	23.40	31

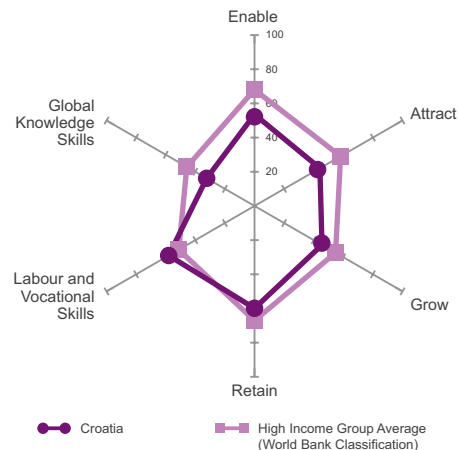
# CROATIA

High Income  
Europe

RANK  
(out of 109)

43

Population (millions) **4.26**  
GDP per capita (PPP\$) **21,350.52**  
GDP (US\$ billions) **57.87**  
GTCI Score **48.93**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	53.55	61
<b>1.1 Regulatory landscape</b> .....	63.79	39
1.1.1 Government effectiveness.....	55.24	39
1.1.2 Business-government relations.....	35.38	104
1.1.3 Political stability.....	79.34	34
1.1.4 Starting a foreign business.....	85.21	8
<b>1.2 Market landscape</b> .....	50.72	54
1.2.1 Competition intensity.....	64.71	70
1.2.2 Ease of doing business.....	53.61	58
1.2.3 Cluster development.....	36.06	93
1.2.4 R&D expenditure.....	18.36	44
1.2.5 ICT infrastructure.....	72.37	34
1.2.6 Technology utilisation.....	59.21	61
<b>1.3 Business-labour landscape</b> .....	46.16	93
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	37.50	88
Governance		
1.3.3 Labour-employer cooperation.....	44.81	99
1.3.4 Professional management.....	46.62	82
<b>2 Attract</b> .....	44.19	78
<b>2.1 External openness</b> .....	29.93	93
Attract business		
2.1.1 FDI and technology transfer.....	50.08	91
2.1.2 Prevalence of foreign ownership.....	54.71	72
Attract people		
2.1.3 Migrant stock.....	40.71	15
2.1.4 International students.....	1.98	73
2.1.5 Brain gain.....	13.54	104
2.1.6 Brain drain.....	18.56	103
<b>2.2 Internal openness</b> .....	58.44	63
Social diversity		
2.2.1 Tolerance to minorities.....	59.32	70
2.2.2 Tolerance to immigrants.....	48.63	78
2.2.3 Social mobility.....	44.47	88
Gender equality		
2.2.4 Female graduates.....	77.02	39
2.2.5 Gender earnings gap.....	62.79	14
<b>3 Grow</b> .....	45.60	45
<b>3.1 Formal education</b> .....	45.05	30
Enrolment		
3.1.1 Vocational enrolment.....	78.83	7
3.1.2 Tertiary enrolment.....	51.69	36
Quality		
3.1.3 Tertiary education expenditure.....	20.27	64
3.1.4 Reading, maths and science.....	50.50	33
3.1.5 University ranking.....	23.96	54
<b>3.2 Lifelong learning</b> .....	50.30	63
3.2.1 Quality of management schools.....	53.33	65
3.2.2 Prevalence of training in firms.....	60.55	24
3.2.3 Employee development.....	37.02	103
<b>3.3 Access to growth opportunities</b> .....	41.44	63
Networks		
3.3.1 Use of virtual social networks.....	81.80	53
3.3.2 Use of virtual professional networks.....	26.81	33
Empowerment		
3.3.3 Delegation of authority.....	40.67	79
3.3.4 Freedom of voice.....	16.48	77

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	59.90	42
<b>4.1 Sustainability</b> .....	51.41	46
4.1.1 Pension system.....	82.83	29
4.1.2 Taxation.....	19.99	106
<b>4.2 Lifestyle</b> .....	68.40	38
4.2.1 Environmental performance.....	63.26	43
4.2.2 Safety at night.....	79.34	23
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	97.73	36
4.2.5 Flexible employment.....	64.17	54
<b>5 Labour and Vocational Skills</b> .....	58.00	14
<b>5.1 Employable skills</b> .....	72.28	9
5.1.1 Secondary-educated workforce.....	82.94	8
5.1.2 Secondary-educated population.....	75.53	8
5.1.3 Technicians and associate professionals.....	58.38	32
<b>5.2 Labour productivity</b> .....	43.71	44
5.2.1 Labour productivity per employee.....	30.76	38
5.2.2 Relationship of pay to productivity.....	47.93	66
5.2.3 Mid-value exports.....	52.44	35
<b>6 Global Knowledge Skills</b> .....	32.24	48
<b>6.1 Higher skills and competencies</b> .....	36.63	35
6.1.1 Tertiary-educated workforce.....	34.89	47
6.1.2 Tertiary-educated population.....	30.79	46
6.1.3 Professionals.....	39.88	41
6.1.4 Researchers.....	20.69	39
6.1.5 Senior officials and managers.....	24.16	54
6.1.6 Quality of scientific institutions.....	50.05	49
6.1.7 Scientific journal articles.....	55.94	18
<b>6.2 Talent impact</b> .....	28.04	58
6.2.1 Innovation output.....	43.91	39
6.2.2 High-value exports.....	28.41	32
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	21.31	71
6.2.4 New business density.....	18.55	36

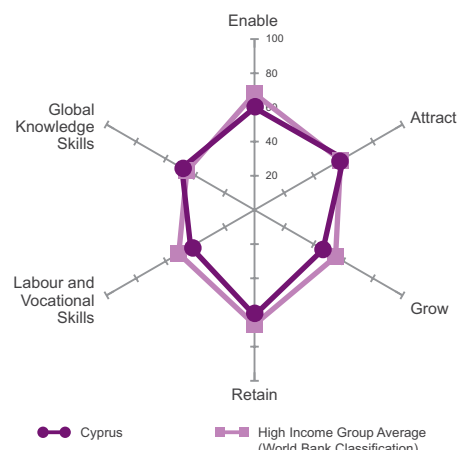
# CYPRUS

High Income  
Northern Africa and Western Asia

RANK  
(out of 109)

# 32

Population (millions) **1.14**  
GDP per capita (PPP\$) **28,224.46**  
GDP (US\$ billions) **21.91**  
GTCI Score **53.34**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	59.77	41
<b>1.1 Regulatory landscape</b> .....	70.52	26
1.1.1 Government effectiveness.....	75.28	21
1.1.2 Business-government relations.....	59.32	44
1.1.3 Political stability.....	76.97	37
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	54.34	42
1.2.1 Competition intensity.....	73.76	32
1.2.2 Ease of doing business.....	53.65	57
1.2.3 Cluster development.....	50.72	42
1.2.4 R&D expenditure.....	11.41	60
1.2.5 ICT infrastructure.....	67.48	44
1.2.6 Technology utilisation.....	68.99	36
<b>1.3 Business-labour landscape</b> .....	54.45	80
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	63.05	29
1.3.4 Professional management.....	49.07	69
<b>2 Attract</b> .....	60.04	25
<b>2.1 External openness</b> .....	58.40	12
Attract business		
2.1.1 FDI and technology transfer.....	58.86	65
2.1.2 Prevalence of foreign ownership.....	56.85	65
Attract people		
2.1.3 Migrant stock.....	41.92	14
2.1.4 International students.....	100.00	1
2.1.5 Brain gain.....	41.97	47
2.1.6 Brain drain.....	50.80	33
<b>2.2 Internal openness</b> .....	61.68	44
Social diversity		
2.2.1 Tolerance to minorities.....	70.68	54
2.2.2 Tolerance to immigrants.....	54.27	70
2.2.3 Social mobility.....	54.88	53
Gender equality		
2.2.4 Female graduates.....	79.71	31
2.2.5 Gender earnings gap.....	48.84	51
<b>3 Grow</b> .....	46.29	41
<b>3.1 Formal education</b> .....	23.52	68
Enrolment		
3.1.1 Vocational enrolment.....	13.38	74
3.1.2 Tertiary enrolment.....	37.84	57
Quality		
3.1.3 Tertiary education expenditure.....	34.82	20
3.1.4 Reading, maths and science.....	31.55	41
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	60.74	31
3.2.1 Quality of management schools.....	66.33	29
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	55.15	37
<b>3.3 Access to growth opportunities</b> .....	54.63	32
Networks		
3.3.1 Use of virtual social networks.....	84.45	35
3.3.2 Use of virtual professional networks.....	37.07	25
Empowerment		
3.3.3 Delegation of authority.....	49.78	40
3.3.4 Freedom of voice.....	47.21	34

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	61.63	41
<b>4.1 Sustainability</b> .....	56.39	37
4.1.1 Pension system.....	n/a	n/a
4.1.2 Taxation.....	56.39	14
<b>4.2 Lifestyle</b> .....	66.88	41
4.2.1 Environmental performance.....	69.04	36
4.2.2 Safety at night.....	65.43	48
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	74.93	31
<b>5 Labour and Vocational Skills</b> .....	43.19	49
<b>5.1 Employable skills</b> .....	51.60	40
5.1.1 Secondary-educated workforce.....	45.23	49
5.1.2 Secondary-educated population.....	49.17	38
5.1.3 Technicians and associate professionals.....	60.41	30
<b>5.2 Labour productivity</b> .....	34.77	76
5.2.1 Labour productivity per employee.....	34.52	34
5.2.2 Relationship of pay to productivity.....	50.28	48
5.2.3 Mid-value exports.....	19.52	89
<b>6 Global Knowledge Skills</b> .....	49.11	23
<b>6.1 Higher skills and competencies</b> .....	41.98	30
6.1.1 Tertiary-educated workforce.....	67.04	4
6.1.2 Tertiary-educated population.....	57.06	9
6.1.3 Professionals.....	50.92	22
6.1.4 Researchers.....	10.53	49
6.1.5 Senior officials and managers.....	23.03	59
6.1.6 Quality of scientific institutions.....	55.12	37
6.1.7 Scientific journal articles.....	30.18	34
<b>6.2 Talent impact</b> .....	56.23	6
6.2.1 Innovation output.....	51.26	33
6.2.2 High-value exports.....	17.42	57
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	100.00	1

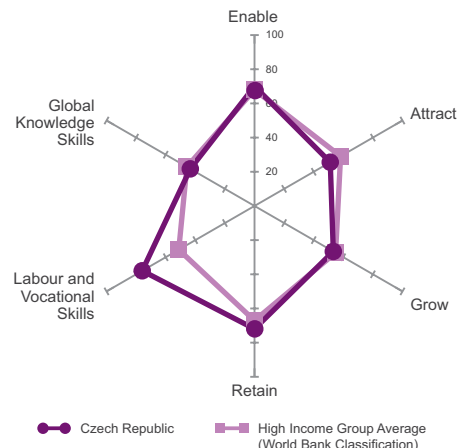
# CZECH REPUBLIC

High Income  
Europe

RANK  
(out of 109)

20

Population (millions) **10.51**  
GDP per capita (PPP\$) **29,017.84**  
GDP (US\$ billions) **208.80**  
GTCI Score **60.95**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 70.04 ..... 24		
<b>1.1 Regulatory landscape</b> ..... 70.61 ..... 25		
1.1.1 Government effectiveness ..... 60.91 ..... 35		
1.1.2 Business-government relations ..... 46.14 ..... 85		
1.1.3 Political stability ..... 90.18 ..... 15		
1.1.4 Starting a foreign business ..... 85.21 ..... 8		
<b>1.2 Market landscape</b> ..... 62.83 ..... 29		
1.2.1 Competition intensity ..... 78.88 ..... 14		
1.2.2 Ease of doing business ..... 63.04 ..... 41		
1.2.3 Cluster development ..... 51.04 ..... 40		
1.2.4 R&D expenditure ..... 46.40 ..... 20		
1.2.5 ICT infrastructure ..... 71.72 ..... 36		
1.2.6 Technology utilisation ..... 65.89 ..... 45		
<b>1.3 Business-labour landscape</b> ..... 76.67 ..... 15		
Labour market flexibility		
1.3.1 Ease of hiring ..... 89.00 ..... 20		
1.3.2 Ease of redundancy ..... 100.00 ..... 1		
Governance		
1.3.3 Labour-employer cooperation ..... 58.74 ..... 44		
1.3.4 Professional management ..... 58.96 ..... 38		
<b>2 Attract</b> ..... 51.18 ..... 44		
<b>2.1 External openness</b> ..... 44.88 ..... 33		
Attract business		
2.1.1 FDI and technology transfer ..... 66.40 ..... 33		
2.1.2 Prevalence of foreign ownership ..... 82.69 ..... 6		
Attract people		
2.1.3 Migrant stock ..... 9.22 ..... 58		
2.1.4 International students ..... 38.01 ..... 18		
2.1.5 Brain gain ..... 34.53 ..... 67		
2.1.6 Brain drain ..... 38.45 ..... 62		
<b>2.2 Internal openness</b> ..... 57.49 ..... 67		
Social diversity		
2.2.1 Tolerance to minorities ..... 42.33 ..... 91		
2.2.2 Tolerance to immigrants ..... 46.16 ..... 79		
2.2.3 Social mobility ..... 65.74 ..... 29		
Gender equality		
2.2.4 Female graduates ..... 84.36 ..... 19		
2.2.5 Gender earnings gap ..... 48.84 ..... 51		
<b>3 Grow</b> ..... 53.25 ..... 25		
<b>3.1 Formal education</b> ..... 53.28 ..... 16		
Enrolment		
3.1.1 Vocational enrolment ..... 79.92 ..... 5		
3.1.2 Tertiary enrolment ..... 53.28 ..... 29		
Quality		
3.1.3 Tertiary education expenditure ..... 26.38 ..... 44		
3.1.4 Reading, maths and science ..... 58.83 ..... 19		
3.1.5 University ranking ..... 47.32 ..... 30		
<b>3.2 Lifelong learning</b> ..... 58.38 ..... 37		
3.2.1 Quality of management schools ..... 54.52 ..... 57		
3.2.2 Prevalence of training in firms ..... 68.21 ..... 16		
3.2.3 Employee development ..... 52.42 ..... 45		
<b>3.3 Access to growth opportunities</b> ..... 48.08 ..... 44		
Networks		
3.3.1 Use of virtual social networks ..... 82.81 ..... 49		
3.3.2 Use of virtual professional networks ..... 21.92 ..... 43		
Empowerment		
3.3.3 Delegation of authority ..... 51.02 ..... 37		
3.3.4 Freedom of voice ..... 36.59 ..... 48		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 71.94 ..... 12		
<b>4.1 Sustainability</b> ..... 65.36 ..... 21		
4.1.1 Pension system ..... 94.95 ..... 3		
4.1.2 Taxation ..... 35.77 ..... 79		
<b>4.2 Lifestyle</b> ..... 78.52 ..... 9		
4.2.1 Environmental performance ..... 91.05 ..... 5		
4.2.2 Safety at night ..... 66.39 ..... 47		
4.2.3 Physician density ..... 50.00 ..... 4		
4.2.4 Sanitation ..... 100.0 ..... 1		
4.2.5 Flexible employment ..... 85.15 ..... 14		
<b>5 Labour and Vocational Skills</b> ..... 75.89 ..... 1		
<b>5.1 Employable skills</b> ..... 97.63 ..... 1		
5.1.1 Secondary-educated workforce ..... 100.00 ..... 1		
5.1.2 Secondary-educated population ..... 100.00 ..... 1		
5.1.3 Technicians and associate professionals ..... 92.89 ..... 4		
<b>5.2 Labour productivity</b> ..... 54.15 ..... 11		
5.2.1 Labour productivity per employee ..... 32.72 ..... 35		
5.2.2 Relationship of pay to productivity ..... 60.51 ..... 16		
5.2.3 Mid-value exports ..... 69.23 ..... 9		
<b>6 Global Knowledge Skills</b> ..... 43.40 ..... 28		
<b>6.1 Higher skills and competencies</b> ..... 39.60 ..... 33		
6.1.1 Tertiary-educated workforce ..... 32.31 ..... 55		
6.1.2 Tertiary-educated population ..... 30.82 ..... 45		
6.1.3 Professionals ..... 37.73 ..... 46		
6.1.4 Researchers ..... 41.53 ..... 26		
6.1.5 Senior officials and managers ..... 26.40 ..... 52		
6.1.6 Quality of scientific institutions ..... 59.14 ..... 33		
6.1.7 Scientific journal articles ..... 49.27 ..... 24		
<b>6.2 Talent impact</b> ..... 47.19 ..... 22		
6.2.1 Innovation output ..... 65.76 ..... 17		
6.2.2 High-value exports ..... 50.71 ..... 15		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 52.80 ..... 19		
6.2.4 New business density ..... 19.48 ..... 33		

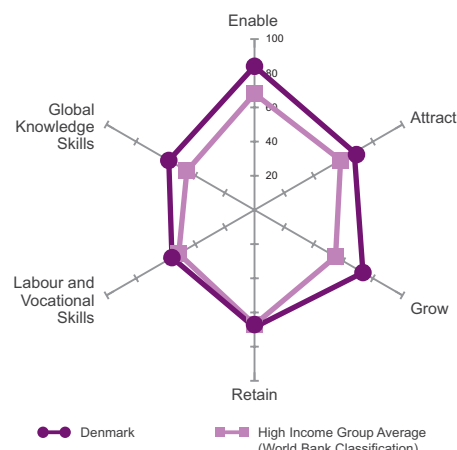
# DENMARK

High Income  
Europe

RANK  
(out of 109)

5

Population (millions) **5.61**  
GDP per capita (PPP\$) **43,782.17**  
GDP (US\$ billions) **335.88**  
GTCI Score **67.86**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	84.08	3
<b>1.1 Regulatory landscape</b> .....	83.45	10
1.1.1 Government effectiveness.....	94.04	3
1.1.2 Business-government relations.....	68.74	16
1.1.3 Political stability.....	87.56	21
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	77.14	8
1.2.1 Competition intensity.....	72.63	39
1.2.2 Ease of doing business.....	91.31	3
1.2.3 Cluster development.....	55.15	30
1.2.4 R&D expenditure.....	73.70	6
1.2.5 ICT infrastructure.....	91.52	10
1.2.6 Technology utilisation.....	78.55	15
<b>1.3 Business-labour landscape</b> .....	91.66	3
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	82.96	3
1.3.4 Professional management.....	83.96	5
<b>2 Attract</b> .....	67.41	10
<b>2.1 External openness</b> .....	48.19	27
Attract business		
2.1.1 FDI and technology transfer.....	64.03	43
2.1.2 Prevalence of foreign ownership.....	72.63	21
Attract people		
2.1.3 Migrant stock.....	22.80	36
2.1.4 International students.....	34.46	19
2.1.5 Brain gain.....	46.06	38
2.1.6 Brain drain.....	49.16	34
<b>2.2 Internal openness</b> .....	86.63	3
Social diversity		
2.2.1 Tolerance to minorities.....	86.44	18
2.2.2 Tolerance to immigrants.....	89.44	11
2.2.3 Social mobility.....	84.36	5
Gender equality		
2.2.4 Female graduates.....	72.92	49
2.2.5 Gender earnings gap.....	100.00	1
<b>3 Grow</b> .....	73.28	2
<b>3.1 Formal education</b> .....	62.88	6
Enrolment		
3.1.1 Vocational enrolment.....	55.51	24
3.1.2 Tertiary enrolment.....	67.48	11
Quality		
3.1.3 Tertiary education expenditure.....	60.28	3
3.1.4 Reading, maths and science.....	57.97	22
3.1.5 University ranking.....	73.19	14
<b>3.2 Lifelong learning</b> .....	67.97	15
3.2.1 Quality of management schools.....	70.22	20
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	65.71	15
<b>3.3 Access to growth opportunities</b> .....	88.98	1
Networks		
3.3.1 Use of virtual social networks.....	85.25	32
3.3.2 Use of virtual professional networks.....	85.74	4
Empowerment		
3.3.3 Delegation of authority.....	84.94	1
3.3.4 Freedom of voice.....	100.00	1

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	68.69	21
<b>4.1 Sustainability</b> .....	60.91	27
4.1.1 Pension system.....	92.38	8
4.1.2 Taxation.....	28.89	98
<b>4.2 Lifestyle</b> .....	76.47	17
4.2.1 Environmental performance.....	84.47	13
4.2.2 Safety at night.....	87.19	13
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	73.16	36
<b>5 Labour and Vocational Skills</b> .....	55.80	17
<b>5.1 Employable skills</b> .....	63.66	19
5.1.1 Secondary-educated workforce.....	49.45	40
5.1.2 Secondary-educated population.....	62.86	18
5.1.3 Technicians and associate professionals.....	78.68	13
<b>5.2 Labour productivity</b> .....	47.94	29
5.2.1 Labour productivity per employee.....	47.79	24
5.2.2 Relationship of pay to productivity.....	50.02	50
5.2.3 Mid-value exports.....	46.01	50
<b>6 Global Knowledge Skills</b> .....	57.93	8
<b>6.1 Higher skills and competencies</b> .....	65.74	5
6.1.1 Tertiary-educated workforce.....	51.05	23
6.1.2 Tertiary-educated population.....	55.82	10
6.1.3 Professionals.....	75.15	3
6.1.4 Researchers.....	89.94	3
6.1.5 Senior officials and managers.....	15.17	69
6.1.6 Quality of scientific institutions.....	73.07	17
6.1.7 Scientific journal articles.....	100.00	1
<b>6.2 Talent impact</b> .....	50.12	16
6.2.1 Innovation output.....	71.43	12
6.2.2 High-value exports.....	40.76	22
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	59.48	15
6.2.4 New business density.....	28.79	24



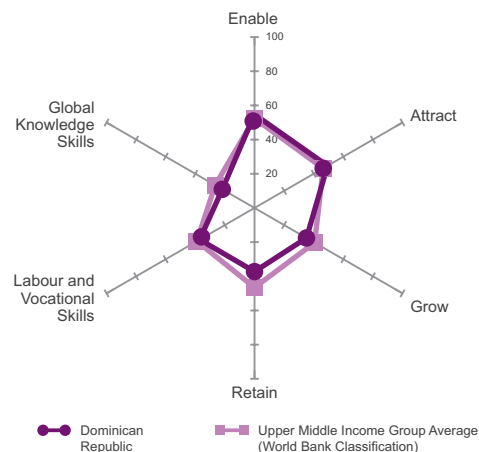
# DOMINICAN REPUBLIC

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

76

Population (millions) **10.40**  
GDP per capita (PPP\$) **12,186.39**  
GDP (US\$ billions) **61.16**  
GTCI Score **39.21**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	54.74	58
<b>1.1 Regulatory landscape</b> .....	49.68	65
1.1.1 Government effectiveness.....	19.50	88
1.1.2 Business-government relations.....	60.78	35
1.1.3 Political stability.....	68.77	47
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	49.74	57
1.2.1 Competition intensity.....	66.65	62
1.2.2 Ease of doing business.....	46.99	70
1.2.3 Cluster development.....	44.69	68
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	31.75	87
1.2.6 Technology utilisation.....	58.61	64
<b>1.3 Business-labour landscape</b> .....	64.81	46
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	57.92	46
1.3.4 Professional management.....	45.65	85
<b>2 Attract</b> .....	49.32	51
<b>2.1 External openness</b> .....	39.48	50
Attract business		
2.1.1 FDI and technology transfer.....	67.70	27
2.1.2 Prevalence of foreign ownership.....	68.40	32
Attract people		
2.1.3 Migrant stock.....	8.82	59
2.1.4 International students.....	14.59	42
2.1.5 Brain gain.....	39.10	55
2.1.6 Brain drain.....	38.25	64
<b>2.2 Internal openness</b> .....	59.17	60
Social diversity		
2.2.1 Tolerance to minorities.....	53.01	78
2.2.2 Tolerance to immigrants.....	57.89	61
2.2.3 Social mobility.....	41.04	99
Gender equality		
2.2.4 Female graduates.....	89.25	9
2.2.5 Gender earnings gap.....	54.65	36
<b>3 Grow</b> .....	35.12	84
<b>3.1 Formal education</b> .....	12.79	94
Enrolment		
3.1.1 Vocational enrolment.....	8.90	83
3.1.2 Tertiary enrolment.....	38.29	55
Quality		
3.1.3 Tertiary education expenditure.....	3.98	92
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	54.06	47
3.2.1 Quality of management schools.....	43.81	91
3.2.2 Prevalence of training in firms.....	70.71	13
3.2.3 Employee development.....	47.67	69
<b>3.3 Access to growth opportunities</b> .....	38.52	77
Networks		
3.3.1 Use of virtual social networks.....	77.58	67
3.3.2 Use of virtual professional networks.....	12.73	63
Empowerment		
3.3.3 Delegation of authority.....	44.49	63
3.3.4 Freedom of voice.....	19.27	73

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	37.25	90
<b>4.1 Sustainability</b> .....	28.84	94
4.1.1 Pension system.....	25.25	68
4.1.2 Taxation.....	32.43	86
<b>4.2 Lifestyle</b> .....	45.66	84
4.2.1 Environmental performance.....	50.27	64
4.2.2 Safety at night.....	27.00	98
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	79.55	68
4.2.5 Flexible employment.....	58.99	56
<b>5 Labour and Vocational Skills</b> .....	37.06	67
<b>5.1 Employable skills</b> .....	33.29	70
5.1.1 Secondary-educated workforce.....	36.93	65
5.1.2 Secondary-educated population.....	32.48	59
5.1.3 Technicians and associate professionals.....	30.46	63
<b>5.2 Labour productivity</b> .....	40.84	56
5.2.1 Labour productivity per employee.....	18.73	54
5.2.2 Relationship of pay to productivity.....	46.87	70
5.2.3 Mid-value exports.....	56.91	31
<b>6 Global Knowledge Skills</b> .....	21.78	76
<b>6.1 Higher skills and competencies</b> .....	20.17	79
6.1.1 Tertiary-educated workforce.....	32.63	54
6.1.2 Tertiary-educated population.....	18.20	72
6.1.3 Professionals.....	20.86	66
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	16.85	65
6.1.6 Quality of scientific institutions.....	32.46	95
6.1.7 Scientific journal articles.....	0.00	106
<b>6.2 Talent impact</b> .....	23.40	72
6.2.1 Innovation output.....	29.62	67
6.2.2 High-value exports.....	20.95	48
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	36.24	53
6.2.4 New business density.....	6.78	59



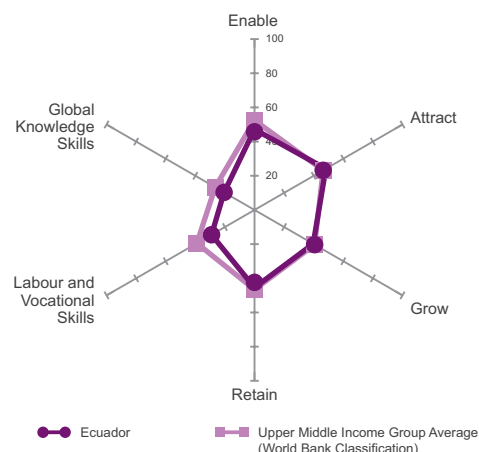
# ECUADOR

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

78

Population (millions) **15.74**  
GDP per capita (PPP\$) **10,889.99**  
GDP (US\$ billions) **94.47**  
GTCI Score **38.34**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	47.18	86
<b>1.1 Regulatory landscape</b> .....	43.43	91
1.1.1 Government effectiveness.....	19.67	86
1.1.2 Business-government relations.....	46.55	83
1.1.3 Political stability.....	59.32	66
1.1.4 Starting a foreign business.....	48.17	57
<b>1.2 Market landscape</b> .....	41.89	85
1.2.1 Competition intensity.....	58.17	93
1.2.2 Ease of doing business.....	37.28	88
1.2.3 Cluster development.....	47.52	56
1.2.4 R&D expenditure.....	5.46	73
1.2.5 ICT infrastructure.....	44.73	69
1.2.6 Technology utilisation.....	58.18	65
<b>1.3 Business-labour landscape</b> .....	56.23	72
Labour market flexibility		
1.3.1 Ease of hiring.....	44.33	86
1.3.2 Ease of redundancy.....	75.00	43
Governance		
1.3.3 Labour-employer cooperation.....	55.07	55
1.3.4 Professional management.....	50.52	65
<b>2 Attract</b> .....	48.18	56
<b>2.1 External openness</b> .....	27.19	101
Attract business		
2.1.1 FDI and technology transfer.....	49.77	92
2.1.2 Prevalence of foreign ownership.....	51.65	80
Attract people		
2.1.3 Migrant stock.....	5.15	69
2.1.4 International students.....	2.21	71
2.1.5 Brain gain.....	n/a	n/a
2.1.6 Brain drain.....	n/a	n/a
<b>2.2 Internal openness</b> .....	69.17	26
Social diversity		
2.2.1 Tolerance to minorities.....	85.07	20
2.2.2 Tolerance to immigrants.....	71.49	34
2.2.3 Social mobility.....	51.39	66
Gender equality		
2.2.4 Female graduates.....	75.09	41
2.2.5 Gender earnings gap.....	62.79	14
<b>3 Grow</b> .....	39.66	63
<b>3.1 Formal education</b> .....	29.83	57
Enrolment		
3.1.1 Vocational enrolment.....	45.02	30
3.1.2 Tertiary enrolment.....	33.14	63
Quality		
3.1.3 Tertiary education expenditure.....	26.37	45
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	14.80	68
<b>3.2 Lifelong learning</b> .....	52.35	54
3.2.1 Quality of management schools.....	53.59	62
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	51.12	52
<b>3.3 Access to growth opportunities</b> .....	36.80	88
Networks		
3.3.1 Use of virtual social networks.....	68.64	93
3.3.2 Use of virtual professional networks.....	20.37	46
Empowerment		
3.3.3 Delegation of authority.....	47.04	52
3.3.4 Freedom of voice.....	11.17	88

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	45.45	69
<b>4.1 Sustainability</b> .....	36.29	74
4.1.1 Pension system.....	25.25	68
4.1.2 Taxation.....	47.32	39
<b>4.2 Lifestyle</b> .....	54.61	61
4.2.1 Environmental performance.....	57.93	49
4.2.2 Safety at night.....	42.42	79
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	80.68	67
4.2.5 Flexible employment.....	67.03	50
<b>5 Labour and Vocational Skills</b> .....	29.04	91
<b>5.1 Employable skills</b> .....	32.38	72
5.1.1 Secondary-educated workforce.....	40.38	61
5.1.2 Secondary-educated population.....	34.98	55
5.1.3 Technicians and associate professionals.....	21.83	75
<b>5.2 Labour productivity</b> .....	25.69	98
5.2.1 Labour productivity per employee.....	13.74	64
5.2.2 Relationship of pay to productivity.....	46.85	71
5.2.3 Mid-value exports.....	16.50	97
<b>6 Global Knowledge Skills</b> .....	20.56	80
<b>6.1 Higher skills and competencies</b> .....	18.55	83
6.1.1 Tertiary-educated workforce.....	33.60	50
6.1.2 Tertiary-educated population.....	22.76	60
6.1.3 Professionals.....	23.62	63
6.1.4 Researchers.....	1.30	74
6.1.5 Senior officials and managers.....	6.74	85
6.1.6 Quality of scientific institutions.....	40.69	79
6.1.7 Scientific journal articles.....	1.10	99
<b>6.2 Talent impact</b> .....	22.57	73
6.2.1 Innovation output.....	12.18	95
6.2.2 High-value exports.....	12.93	90
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	42.58	43
6.2.4 New business density.....	n/a	n/a

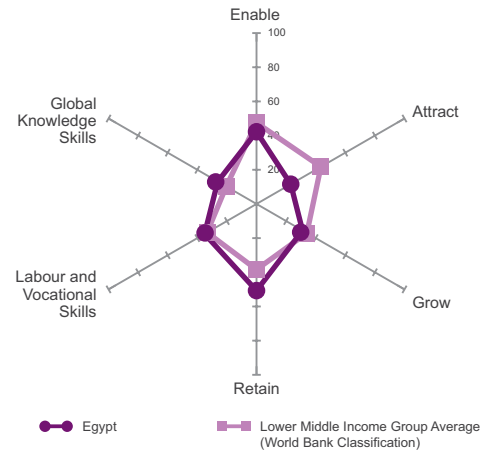
# EGYPT

Lower Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

88

Population (millions) **82.06**  
GDP per capita (PPP\$) **11,089.21**  
GDP (US\$ billions) **271.97**  
GTCI Score **34.75**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	42.25	97
<b>1.1 Regulatory landscape</b> .....	33.34	101
1.1.1 Government effectiveness.....	7.36	106
1.1.2 Business-government relations.....	42.60	90
1.1.3 Political stability.....	24.10	106
1.1.4 Starting a foreign business.....	59.30	44
<b>1.2 Market landscape</b> .....	40.94	89
1.2.1 Competition intensity.....	50.81	103
1.2.2 Ease of doing business.....	38.69	86
1.2.3 Cluster development.....	54.53	32
1.2.4 R&D expenditure.....	10.42	61
1.2.5 ICT infrastructure.....	43.83	71
1.2.6 Technology utilisation.....	47.37	101
<b>1.3 Business-labour landscape</b> .....	52.47	82
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	25.00	97
Governance		
1.3.3 Labour-employer cooperation.....	50.61	79
1.3.4 Professional management.....	34.26	106
<b>2 Attract</b> .....	23.14	109
<b>2.1 External openness</b> .....	27.20	100
Attract business		
2.1.1 FDI and technology transfer.....	56.17	71
2.1.2 Prevalence of foreign ownership.....	38.85	101
Attract people		
2.1.3 Migrant stock.....	0.70	97
2.1.4 International students.....	7.61	57
2.1.5 Brain gain.....	28.73	79
2.1.6 Brain drain.....	31.13	86
<b>2.2 Internal openness</b> .....	19.08	109
Social diversity		
2.2.1 Tolerance to minorities.....	2.74	104
2.2.2 Tolerance to immigrants.....	25.04	100
2.2.3 Social mobility.....	32.28	108
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	16.28	97
<b>3 Grow</b> .....	31.08	98
<b>3.1 Formal education</b> .....	34.18	46
Enrolment		
3.1.1 Vocational enrolment.....	40.83	33
3.1.2 Tertiary enrolment.....	23.96	72
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.....	37.75	41
<b>3.2 Lifelong learning</b> .....	23.49	109
3.2.1 Quality of management schools.....	17.14	109
3.2.2 Prevalence of training in firms.....	24.14	66
3.2.3 Employee development.....	29.17	109
<b>3.3 Access to growth opportunities</b> .....	35.57	92
Networks		
3.3.1 Use of virtual social networks.....	77.66	66
3.3.2 Use of virtual professional networks.....	6.54	84
Empowerment		
3.3.3 Delegation of authority.....	52.77	31
3.3.4 Freedom of voice.....	5.31	99

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	50.71	57
<b>4.1 Sustainability</b> .....	43.89	59
4.1.1 Pension system.....	54.55	46
4.1.2 Taxation.....	33.23	85
<b>4.2 Lifestyle</b> .....	57.53	55
4.2.1 Environmental performance.....	61.64	46
4.2.2 Safety at night.....	35.54	94
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	95.45	42
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	35.11	72
<b>5.1 Employable skills</b> .....	39.93	61
5.1.1 Secondary-educated workforce.....	41.78	57
5.1.2 Secondary-educated population.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	38.07	53
<b>5.2 Labour productivity</b> .....	30.28	86
5.2.1 Labour productivity per employee.....	10.61	72
5.2.2 Relationship of pay to productivity.....	34.02	104
5.2.3 Mid-value exports.....	46.22	49
<b>6 Global Knowledge Skills</b> .....	26.20	65
<b>6.1 Higher skills and competencies</b> .....	33.17	49
6.1.1 Tertiary-educated workforce.....	31.02	62
6.1.2 Tertiary-educated population.....	n/a	n/a
6.1.3 Professionals.....	37.73	46
6.1.4 Researchers.....	6.93	56
6.1.5 Senior officials and managers.....	84.27	4
6.1.6 Quality of scientific institutions.....	22.78	108
6.1.7 Scientific journal articles.....	16.29	53
<b>6.2 Talent impact</b> .....	19.23	82
6.2.1 Innovation output.....	22.06	81
6.2.2 High-value exports.....	13.43	81
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	22.22	69
6.2.4 New business density.....	n/a	n/a

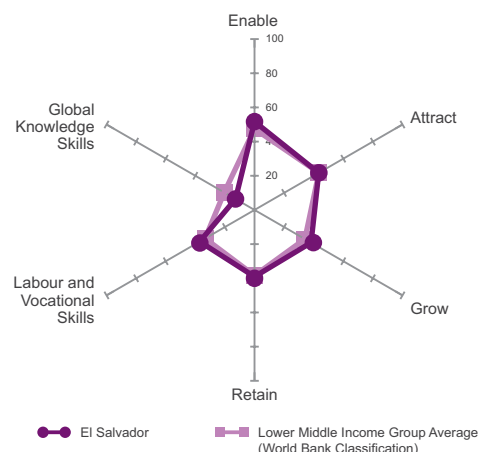
# EL SALVADOR

Lower Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

**84**

Population (millions) **6.34**  
GDP per capita (PPP\$) **7,764.14**  
GDP (US\$ billions) **24.26**  
GTCI Score **37.04**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	51.70	70
<b>1.1 Regulatory landscape</b> .....	47.77	74
1.1.1 Government effectiveness.....	30.43	70
1.1.2 Business-government relations.....	49.79	70
1.1.3 Political stability.....	63.08	58
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	43.06	81
1.2.1 Competition intensity.....	63.39	75
1.2.2 Ease of doing business.....	39.52	85
1.2.3 Cluster development.....	58.05	27
1.2.4 R&D expenditure.....	0.50	95
1.2.5 ICT infrastructure.....	39.59	76
1.2.6 Technology utilisation.....	57.28	69
<b>1.3 Business-labour landscape</b> .....	64.28	49
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	53.15	66
1.3.4 Professional management.....	48.29	73
<b>2 Attract</b> .....	43.39	85
<b>2.1 External openness</b> .....	31.28	80
Attract business		
2.1.1 FDI and technology transfer.....	51.90	87
2.1.2 Prevalence of foreign ownership.....	50.20	88
Attract people		
2.1.3 Migrant stock.....	1.38	90
2.1.4 International students.....	1.42	77
2.1.5 Brain gain.....	41.60	48
2.1.6 Brain drain.....	41.20	52
<b>2.2 Internal openness</b> .....	55.50	75
Social diversity		
2.2.1 Tolerance to minorities.....	54.66	74
2.2.2 Tolerance to immigrants.....	57.31	63
2.2.3 Social mobility.....	43.47	92
Gender equality		
2.2.4 Female graduates.....	74.37	47
2.2.5 Gender earnings gap.....	47.67	57
<b>3 Grow</b> .....	38.23	70
<b>3.1 Formal education</b> .....	15.37	89
Enrolment		
3.1.1 Vocational enrolment.....	38.42	39
3.1.2 Tertiary enrolment.....	19.91	78
Quality		
3.1.3 Tertiary education expenditure.....	3.15	94
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	60.34	33
3.2.1 Quality of management schools.....	55.17	53
3.2.2 Prevalence of training in firms.....	75.99	8
3.2.3 Employee development.....	49.88	56
<b>3.3 Access to growth opportunities</b> .....	38.97	74
Networks		
3.3.1 Use of virtual social networks.....	72.39	83
3.3.2 Use of virtual professional networks.....	12.30	64
Empowerment		
3.3.3 Delegation of authority.....	51.93	36
3.3.4 Freedom of voice.....	19.27	73

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	39.05	84
<b>4.1 Sustainability</b> .....	29.27	90
4.1.1 Pension system.....	22.22	73
4.1.2 Taxation.....	36.22	78
<b>4.2 Lifestyle</b> .....	48.83	82
4.2.1 Environmental performance.....	36.63	89
4.2.2 Safety at night.....	43.11	77
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	67.05	83
4.2.5 Flexible employment.....	72.34	38
<b>5 Labour and Vocational Skills</b> .....	37.05	68
<b>5.1 Employable skills</b> .....	16.96	93
5.1.1 Secondary-educated workforce.....	0.00	97
5.1.2 Secondary-educated population.....	21.93	77
5.1.3 Technicians and associate professionals.....	28.93	68
<b>5.2 Labour productivity</b> .....	57.15	7
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	40.98	91
5.2.3 Mid-value exports.....	73.32	6
<b>6 Global Knowledge Skills</b> .....	12.84	98
<b>6.1 Higher skills and competencies</b> .....	16.63	87
6.1.1 Tertiary-educated workforce.....	19.06	80
6.1.2 Tertiary-educated population.....	18.81	71
6.1.3 Professionals.....	10.74	85
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	7.30	84
6.1.6 Quality of scientific institutions.....	43.54	71
6.1.7 Scientific journal articles.....	0.32	105
<b>6.2 Talent impact</b> .....	9.04	105
6.2.1 Innovation output.....	13.03	94
6.2.2 High-value exports.....	20.15	49
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	0.00	84
6.2.4 New business density.....	2.99	77

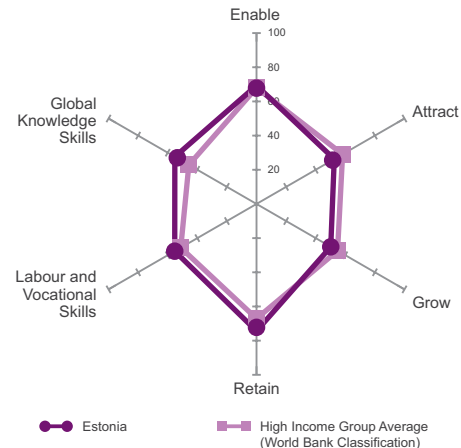
# ESTONIA

High Income  
Europe

RANK  
(out of 109)

21

Population (millions) **1.32**  
GDP per capita (PPP\$) **25,823.39**  
GDP (US\$ billions) **24.48**  
GTCI Score **59.47**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	69.31	25
<b>1.1 Regulatory landscape</b> .....	70.01	29
1.1.1 Government effectiveness.....	64.17	33
1.1.2 Business-government relations.....	63.77	29
1.1.3 Political stability.....	82.09	32
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	67.86	24
1.2.1 Competition intensity.....	75.83	24
1.2.2 Ease of doing business.....	79.88	16
1.2.3 Cluster development.....	45.56	65
1.2.4 R&D expenditure.....	53.85	16
1.2.5 ICT infrastructure.....	78.92	24
1.2.6 Technology utilisation.....	73.11	29
<b>1.3 Business-labour landscape</b> .....	70.06	31
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	75.00	43
Governance		
1.3.3 Labour-employer cooperation.....	65.39	23
1.3.4 Professional management.....	73.17	22
<b>2 Attract</b> .....	52.53	40
<b>2.1 External openness</b> .....	43.56	36
Attract business		
2.1.1 FDI and technology transfer.....	66.63	31
2.1.2 Prevalence of foreign ownership.....	79.52	7
Attract people		
2.1.3 Migrant stock.....	37.63	17
2.1.4 International students.....	9.64	50
2.1.5 Brain gain.....	34.33	68
2.1.6 Brain drain.....	33.63	76
<b>2.2 Internal openness</b> .....	61.50	45
Social diversity		
2.2.1 Tolerance to minorities.....	48.49	84
2.2.2 Tolerance to immigrants.....	30.54	95
2.2.3 Social mobility.....	75.02	22
Gender equality		
2.2.4 Female graduates.....	97.65	3
2.2.5 Gender earnings gap.....	55.81	31
<b>3 Grow</b> .....	50.17	30
<b>3.1 Formal education</b> .....	48.37	27
Enrolment		
3.1.1 Vocational enrolment.....	39.64	35
3.1.2 Tertiary enrolment.....	64.92	15
Quality		
3.1.3 Tertiary education expenditure.....	29.86	35
3.1.4 Reading, maths and science.....	71.09	6
3.1.5 University ranking.....	36.34	43
<b>3.2 Lifelong learning</b> .....	53.12	51
3.2.1 Quality of management schools.....	60.46	42
3.2.2 Prevalence of training in firms.....	41.95	47
3.2.3 Employee development.....	56.94	32
<b>3.3 Access to growth opportunities</b> .....	49.02	43
Networks		
3.3.1 Use of virtual social networks.....	91.59	6
3.3.2 Use of virtual professional networks.....	26.10	37
Empowerment		
3.3.3 Delegation of authority.....	59.13	24
3.3.4 Freedom of voice.....	19.27	73

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	74.35	10
<b>4.1 Sustainability</b> .....	74.30	4
4.1.1 Pension system.....	93.94	6
4.1.2 Taxation.....	54.67	18
<b>4.2 Lifestyle</b> .....	74.39	23
4.2.1 Environmental performance.....	81.21	20
4.2.2 Safety at night.....	70.39	41
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	94.32	45
4.2.5 Flexible employment.....	88.56	11
<b>5 Labour and Vocational Skills</b> .....	55.27	19
<b>5.1 Employable skills</b> .....	63.46	21
5.1.1 Secondary-educated workforce.....	66.51	27
5.1.2 Secondary-educated population.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	60.41	30
<b>5.2 Labour productivity</b> .....	47.08	33
5.2.1 Labour productivity per employee.....	25.91	41
5.2.2 Relationship of pay to productivity.....	65.03	6
5.2.3 Mid-value exports.....	50.30	40
<b>6 Global Knowledge Skills</b> .....	55.20	12
<b>6.1 Higher skills and competencies</b> .....	58.52	16
6.1.1 Tertiary-educated workforce.....	60.10	12
6.1.2 Tertiary-educated population.....	62.95	6
6.1.3 Professionals.....	58.59	14
6.1.4 Researchers.....	47.28	22
6.1.5 Senior officials and managers.....	50.56	14
6.1.6 Quality of scientific institutions.....	66.75	24
6.1.7 Scientific journal articles.....	63.40	12
<b>6.2 Talent impact</b> .....	51.88	12
6.2.1 Innovation output.....	64.71	19
6.2.2 High-value exports.....	44.08	19
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	46.28	37
6.2.4 New business density.....	52.46	14

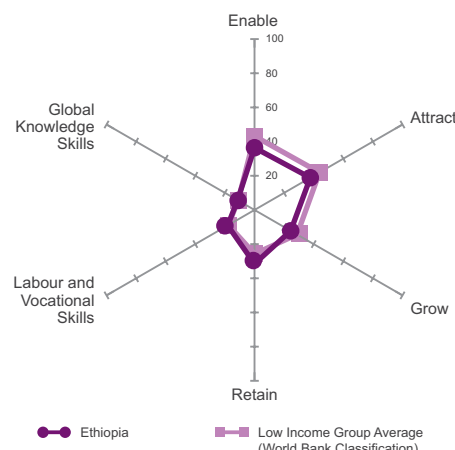
# ETHIOPIA

Low Income  
Sub-Saharan Africa

RANK  
(out of 109)

# 107

Population (millions) **94.10**  
GDP per capita (PPP\$) **1,380.00**  
GDP (US\$ billions) **47.53**  
GTCI Score **26.61**  
GTCI Score (Income Group Average) **28.40**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	36.41	105
<b>1.1 Regulatory landscape</b> .....	24.61	108
1.1.1 Government effectiveness.....	18.67	89
1.1.2 Business-government relations.....	50.09	69
1.1.3 Political stability.....	29.68	104
1.1.4 Starting a foreign business.....	0.00	70
<b>1.2 Market landscape</b> .....	29.86	107
1.2.1 Competition intensity.....	58.77	91
1.2.2 Ease of doing business.....	31.80	97
1.2.3 Cluster development.....	33.30	100
1.2.4 R&D expenditure.....	5.96	72
1.2.5 ICT infrastructure.....	2.44	107
1.2.6 Technology utilisation.....	46.89	103
<b>1.3 Business-labour landscape</b> .....	54.75	77
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	50.38	81
1.3.4 Professional management.....	39.46	99
<b>2 Attract</b> .....	37.70	102
<b>2.1 External openness</b> .....	30.65	86
Attract business		
2.1.1 FDI and technology transfer.....	49.69	93
2.1.2 Prevalence of foreign ownership.....	36.67	105
Attract people		
2.1.3 Migrant stock.....	1.63	87
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	29.54	76
2.1.6 Brain drain.....	35.73	69
<b>2.2 Internal openness</b> .....	44.75	97
Social diversity		
2.2.1 Tolerance to minorities.....	72.88	44
2.2.2 Tolerance to immigrants.....	67.00	48
2.2.3 Social mobility.....	44.34	89
Gender equality		
2.2.4 Female graduates.....	0.00	88
2.2.5 Gender earnings gap.....	39.53	74
<b>3 Grow</b> .....	24.45	107
<b>3.1 Formal education</b> .....	2.04	109
Enrolment		
3.1.1 Vocational enrolment.....	8.16	85
3.1.2 Tertiary enrolment.....	0.00	104
Quality		
3.1.3 Tertiary education expenditure.....	0.00	98
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	40.54	91
3.2.1 Quality of management schools.....	47.22	80
3.2.2 Prevalence of training in firms.....	35.09	55
3.2.3 Employee development.....	39.32	99
<b>3.3 Access to growth opportunities</b> .....	30.77	102
Networks		
3.3.1 Use of virtual social networks.....	58.32	102
3.3.2 Use of virtual professional networks.....	0.00	104
Empowerment		
3.3.3 Delegation of authority.....	39.36	89
3.3.4 Freedom of voice.....	25.42	63

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	31.53	95
<b>4.1 Sustainability</b> .....	36.44	72
4.1.1 Pension system.....	n/a	n/a
4.1.2 Taxation.....	36.44	76
<b>4.2 Lifestyle</b> .....	26.63	99
4.2.1 Environmental performance.....	30.33	95
4.2.2 Safety at night.....	62.53	51
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	13.64	101
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	18.12	102
<b>5.1 Employable skills</b> .....	15.42	97
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	3.93	96
5.1.3 Technicians and associate professionals.....	26.90	70
<b>5.2 Labour productivity</b> .....	20.81	106
5.2.1 Labour productivity per employee.....	0.17	95
5.2.2 Relationship of pay to productivity.....	42.89	82
5.2.3 Mid-value exports.....	19.37	91
<b>6 Global Knowledge Skills</b> .....	11.44	103
<b>6.1 Higher skills and competencies</b> .....	12.99	100
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	1.58	96
6.1.3 Professionals.....	19.02	73
6.1.4 Researchers.....	0.48	81
6.1.5 Senior officials and managers.....	15.73	67
6.1.6 Quality of scientific institutions.....	35.33	91
6.1.7 Scientific journal articles.....	5.82	71
<b>6.2 Talent impact</b> .....	9.89	102
6.2.1 Innovation output.....	10.29	97
6.2.2 High-value exports.....	13.42	82
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	15.84	75
6.2.4 New business density.....	0.00	88

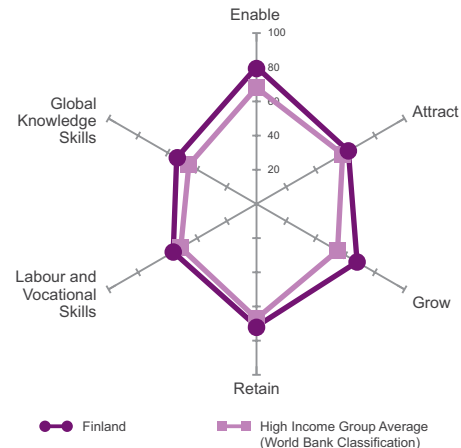
# FINLAND

High Income  
Europe

RANK  
(out of 109)

10

Population (millions) **5.44**  
GDP per capita (PPP\$) **39,740.21**  
GDP (US\$ billions) **267.33**  
GTCI Score **65.33**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	80.09	7
<b>1.1 Regulatory landscape</b> .....	93.14	1
1.1.1 Government effectiveness.....	100.00	1
1.1.2 Business-government relations.....	81.67	5
1.1.3 Political stability.....	97.76	3
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	76.51	9
1.2.1 Competition intensity.....	60.04	88
1.2.2 Ease of doing business.....	84.12	8
1.2.3 Cluster development.....	67.73	12
1.2.4 R&D expenditure.....	87.84	3
1.2.5 ICT infrastructure.....	78.66	25
1.2.6 Technology utilisation.....	80.63	10
<b>1.3 Business-labour landscape</b> .....	70.61	30
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	75.00	43
Governance		
1.3.3 Labour-employer cooperation.....	65.88	22
1.3.4 Professional management.....	85.90	3
<b>2 Attract</b> .....	62.07	20
<b>2.1 External openness</b> .....	46.76	29
Attract business		
2.1.1 FDI and technology transfer.....	55.65	72
2.1.2 Prevalence of foreign ownership.....	67.50	36
Attract people		
2.1.3 Migrant stock.....	12.37	49
2.1.4 International students.....	24.10	27
2.1.5 Brain gain.....	44.56	40
2.1.6 Brain drain.....	76.36	4
<b>2.2 Internal openness</b> .....	77.38	8
Social diversity		
2.2.1 Tolerance to minorities.....	78.08	30
2.2.2 Tolerance to immigrants.....	77.13	23
2.2.3 Social mobility.....	89.89	1
Gender equality		
2.2.4 Female graduates.....	81.32	24
2.2.5 Gender earnings gap.....	60.47	20
<b>3 Grow</b> .....	67.97	7
<b>3.1 Formal education</b> .....	66.89	3
Enrolment		
3.1.1 Vocational enrolment.....	66.77	15
3.1.2 Tertiary enrolment.....	79.88	4
Quality		
3.1.3 Tertiary education expenditure.....	52.97	5
3.1.4 Reading, maths and science.....	72.66	5
3.1.5 University ranking.....	62.18	17
<b>3.2 Lifelong learning</b> .....	74.14	5
3.2.1 Quality of management schools.....	76.30	12
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	71.97	5
<b>3.3 Access to growth opportunities</b> .....	62.88	19
Networks		
3.3.1 Use of virtual social networks.....	89.28	15
3.3.2 Use of virtual professional networks.....	36.65	26
Empowerment		
3.3.3 Delegation of authority.....	76.99	5
3.3.4 Freedom of voice.....	48.60	32

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	71.63	15
<b>4.1 Sustainability</b> .....	66.65	16
4.1.1 Pension system.....	89.90	18
4.1.2 Taxation.....	43.40	53
<b>4.2 Lifestyle</b> .....	76.61	16
4.2.1 Environmental performance.....	82.74	18
4.2.2 Safety at night.....	88.57	9
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	74.25	34
<b>5 Labour and Vocational Skills</b> .....	56.28	16
<b>5.1 Employable skills</b> .....	64.56	16
5.1.1 Secondary-educated workforce.....	57.43	32
5.1.2 Secondary-educated population.....	56.05	27
5.1.3 Technicians and associate professionals.....	80.20	12
<b>5.2 Labour productivity</b> .....	48.00	28
5.2.1 Labour productivity per employee.....	48.79	21
5.2.2 Relationship of pay to productivity.....	48.38	61
5.2.3 Mid-value exports.....	46.82	46
<b>6 Global Knowledge Skills</b> .....	53.96	13
<b>6.1 Higher skills and competencies</b> .....	65.39	7
6.1.1 Tertiary-educated workforce.....	61.71	9
6.1.2 Tertiary-educated population.....	38.25	28
6.1.3 Professionals.....	64.11	11
6.1.4 Researchers.....	100.00	1
6.1.5 Senior officials and managers.....	29.21	46
6.1.6 Quality of scientific institutions.....	78.70	10
6.1.7 Scientific journal articles.....	85.76	5
<b>6.2 Talent impact</b> .....	42.53	30
6.2.1 Innovation output.....	80.46	6
6.2.2 High-value exports.....	33.15	28
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	41.29	47
6.2.4 New business density.....	15.23	40



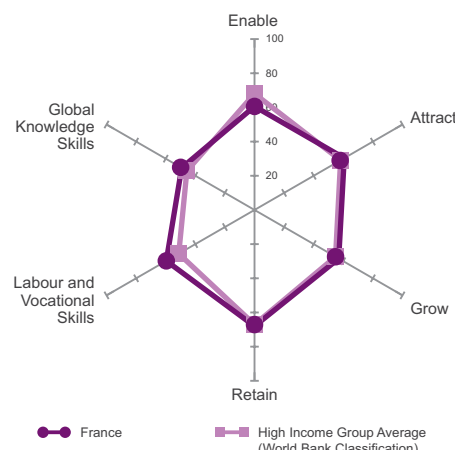
# FRANCE

High Income  
Europe

RANK  
(out of 109)

22

Population (millions) **65.94**  
GDP per capita (PPP\$) **37,532.39**  
GDP (US\$ billions) **2,806.43**  
GTCI Score **59.17**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 60.59 ..... 38		
<b>1.1 Regulatory landscape</b> ..... 68.17 ..... 31		
1.1.1 Government effectiveness ..... 78.86 ..... 19		
1.1.2 Business-government relations ..... 39.76 ..... 95		
1.1.3 Political stability ..... 74.63 ..... 42		
1.1.4 Starting a foreign business ..... 79.44 ..... 19		
<b>1.2 Market landscape</b> ..... 69.94 ..... 19		
1.2.1 Competition intensity ..... 75.11 ..... 26		
1.2.2 Ease of doing business ..... 69.29 ..... 28		
1.2.3 Cluster development ..... 55.65 ..... 29		
1.2.4 R&D expenditure ..... 55.83 ..... 14		
1.2.5 ICT infrastructure ..... 89.59 ..... 11		
1.2.6 Technology utilisation ..... 74.18 ..... 24		
<b>1.3 Business-labour landscape</b> ..... 43.65 ..... 98		
Labour market flexibility		
1.3.1 Ease of hiring ..... 22.33 ..... 95		
1.3.2 Ease of redundancy ..... 50.00 ..... 74		
Governance		
1.3.3 Labour-employer cooperation ..... 43.39 ..... 100		
1.3.4 Professional management ..... 58.88 ..... 39		
<b>2 Attract</b> ..... 60.65 ..... 23		
<b>2.1 External openness</b> ..... 50.76 ..... 26		
Attract business		
2.1.1 FDI and technology transfer ..... 63.58 ..... 44		
2.1.2 Prevalence of foreign ownership ..... 73.21 ..... 19		
Attract people		
2.1.3 Migrant stock ..... 26.65 ..... 28		
2.1.4 International students ..... 50.22 ..... 13		
2.1.5 Brain gain ..... 47.38 ..... 35		
2.1.6 Brain drain ..... 43.53 ..... 46		
<b>2.2 Internal openness</b> ..... 70.53 ..... 21		
Social diversity		
2.2.1 Tolerance to minorities ..... 85.07 ..... 20		
2.2.2 Tolerance to immigrants ..... 76.85 ..... 24		
2.2.3 Social mobility ..... 62.04 ..... 35		
Gender equality		
2.2.4 Female graduates ..... 69.40 ..... 60		
2.2.5 Gender earnings gap ..... 59.30 ..... 24		
<b>3 Grow</b> ..... 56.90 ..... 17		
<b>3.1 Formal education</b> ..... 51.76 ..... 20		
Enrolment		
3.1.1 Vocational enrolment ..... 40.45 ..... 34		
3.1.2 Tertiary enrolment ..... 48.77 ..... 40		
Quality		
3.1.3 Tertiary education expenditure ..... 29.85 ..... 36		
3.1.4 Reading, maths and science ..... 58.72 ..... 20		
3.1.5 University ranking ..... 81.01 ..... 8		
<b>3.2 Lifelong learning</b> ..... 68.33 ..... 14		
3.2.1 Quality of management schools ..... 78.85 ..... 8		
3.2.2 Prevalence of training in firms ..... n/a ..... n/a		
3.2.3 Employee development ..... 57.80 ..... 28		
<b>3.3 Access to growth opportunities</b> ..... 50.62 ..... 38		
Networks		
3.3.1 Use of virtual social networks ..... 79.60 ..... 63		
3.3.2 Use of virtual professional networks ..... 43.98 ..... 22		
Empowerment		
3.3.3 Delegation of authority ..... 48.44 ..... 42		
3.3.4 Freedom of voice ..... 30.45 ..... 57		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 68.01 ..... 23		
<b>4.1 Sustainability</b> ..... 58.92 ..... 33		
4.1.1 Pension system ..... 86.87 ..... 23		
4.1.2 Taxation ..... 30.96 ..... 93		
<b>4.2 Lifestyle</b> ..... 77.11 ..... 14		
4.2.1 Environmental performance ..... 76.00 ..... 27		
4.2.2 Safety at night ..... 72.73 ..... 36		
4.2.3 Physician density ..... 37.50 ..... 19		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... 99.32 ..... 3		
<b>5 Labour and Vocational Skills</b> ..... 59.61 ..... 10		
<b>5.1 Employable skills</b> ..... 67.69 ..... 12		
5.1.1 Secondary-educated workforce ..... 51.80 ..... 36		
5.1.2 Secondary-educated population ..... 54.30 ..... 29		
5.1.3 Technicians and associate professionals ..... 96.95 ..... 3		
<b>5.2 Labour productivity</b> ..... 51.54 ..... 17		
5.2.1 Labour productivity per employee ..... 52.70 ..... 14		
5.2.2 Relationship of pay to productivity ..... 48.05 ..... 65		
5.2.3 Mid-value exports ..... 53.88 ..... 32		
<b>6 Global Knowledge Skills</b> ..... 49.23 ..... 22		
<b>6.1 Higher skills and competencies</b> ..... 52.43 ..... 21		
6.1.1 Tertiary-educated workforce ..... 54.44 ..... 21		
6.1.2 Tertiary-educated population ..... 43.87 ..... 23		
6.1.3 Professionals ..... 50.00 ..... 24		
6.1.4 Researchers ..... 52.33 ..... 20		
6.1.5 Senior officials and managers ..... 41.57 ..... 28		
6.1.6 Quality of scientific institutions ..... 76.01 ..... 12		
6.1.7 Scientific journal articles ..... 48.78 ..... 27		
<b>6.2 Talent impact</b> ..... 46.03 ..... 25		
6.2.1 Innovation output ..... 61.55 ..... 25		
6.2.2 High-value exports ..... 51.49 ..... 14		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 52.13 ..... 22		
6.2.4 New business density ..... 18.95 ..... 35		



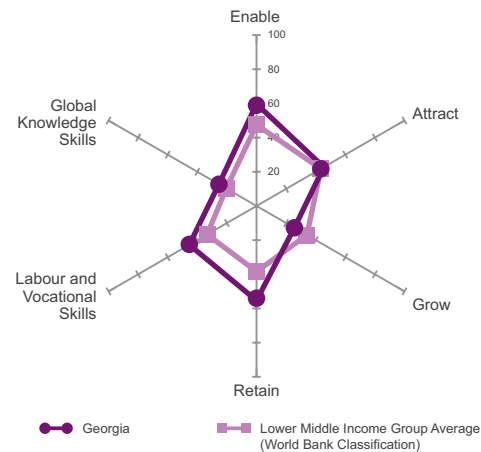
# GEORGIA

Lower Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

59

Population (millions) **4.49**  
GDP per capita (PPP\$) **7,159.97**  
GDP (US\$ billions) **16.14**  
GTCI Score **42.82**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	59.71	42
<b>1.1 Regulatory landscape</b> .....	62.29	42
1.1.1 Government effectiveness.....	50.50	41
1.1.2 Business-government relations.....	57.09	55
1.1.3 Political stability.....	52.69	76
1.1.4 Starting a foreign business.....	88.87	5
<b>1.2 Market landscape</b> .....	48.62	64
1.2.1 Competition intensity.....	60.67	86
1.2.2 Ease of doing business.....	81.20	14
1.2.3 Cluster development.....	37.09	89
1.2.4 R&D expenditure.....	4.22	79
1.2.5 ICT infrastructure.....	55.40	59
1.2.6 Technology utilisation.....	53.12	86
<b>1.3 Business-labour landscape</b> .....	68.21	36
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	53.69	65
1.3.4 Professional management.....	52.49	61
<b>2 Attract</b> .....	45.46	68
<b>2.1 External openness</b> .....	30.69	84
Attract business		
2.1.1 FDI and technology transfer.....	48.94	95
2.1.2 Prevalence of foreign ownership.....	52.55	77
Attract people		
2.1.3 Migrant stock.....	9.99	54
2.1.4 International students.....	12.66	44
2.1.5 Brain gain.....	26.87	84
2.1.6 Brain drain.....	33.12	80
<b>2.2 Internal openness</b> .....	60.22	54
Social diversity		
2.2.1 Tolerance to minorities.....	77.40	32
2.2.2 Tolerance to immigrants.....	62.08	54
2.2.3 Social mobility.....	58.21	44
Gender equality		
2.2.4 Female graduates.....	70.87	55
2.2.5 Gender earnings gap.....	32.56	87
<b>3 Grow</b> .....	25.58	104
<b>3.1 Formal education</b> .....	11.69	96
Enrolment		
3.1.1 Vocational enrolment.....	14.54	70
3.1.2 Tertiary enrolment.....	26.59	69
Quality		
3.1.3 Tertiary education expenditure.....	5.63	86
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	32.72	107
3.2.1 Quality of management schools.....	46.75	83
3.2.2 Prevalence of training in firms.....	9.37	77
3.2.3 Employee development.....	42.05	91
<b>3.3 Access to growth opportunities</b> .....	32.32	99
Networks		
3.3.1 Use of virtual social networks.....	83.29	42
3.3.2 Use of virtual professional networks.....	8.69	70
Empowerment		
3.3.3 Delegation of authority.....	37.02	96
3.3.4 Freedom of voice.....	0.28	103

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	55.34	47
<b>4.1 Sustainability</b> .....	42.22	61
4.1.1 Pension system.....	28.28	65
4.1.2 Taxation.....	56.16	16
<b>4.2 Lifestyle</b> .....	68.47	37
4.2.1 Environmental performance.....	41.59	82
4.2.2 Safety at night.....	90.22	7
4.2.3 Physician density.....	50.00	4
4.2.4 Sanitation.....	92.05	51
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	45.45	45
<b>5.1 Employable skills</b> .....	54.05	37
5.1.1 Secondary-educated workforce.....	77.78	10
5.1.2 Secondary-educated population.....	59.49	21
5.1.3 Technicians and associate professionals.....	24.87	71
<b>5.2 Labour productivity</b> .....	36.86	70
5.2.1 Labour productivity per employee.....	9.95	75
5.2.2 Relationship of pay to productivity.....	51.47	46
5.2.3 Mid-value exports.....	49.16	41
<b>6 Global Knowledge Skills</b> .....	25.41	69
<b>6.1 Higher skills and competencies</b> .....	26.67	63
6.1.1 Tertiary-educated workforce.....	50.40	24
6.1.2 Tertiary-educated population.....	4.60	88
6.1.3 Professionals.....	38.04	44
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	20.22	61
6.1.6 Quality of scientific institutions.....	30.70	99
6.1.7 Scientific journal articles.....	16.08	54
<b>6.2 Talent impact</b> .....	24.14	71
6.2.1 Innovation output.....	26.26	71
6.2.2 High-value exports.....	14.78	70
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	23.43	68
6.2.4 New business density.....	32.11	19

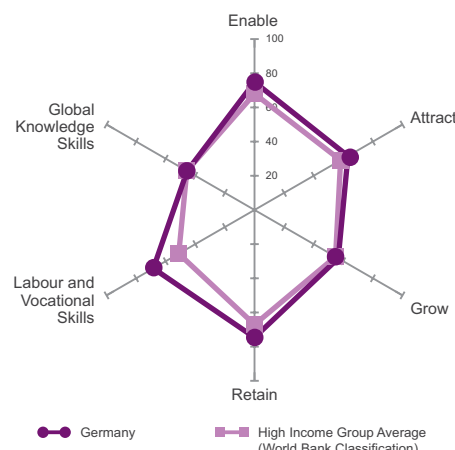
# GERMANY

High Income  
Europe

RANK  
(out of 109)

# 14

Population (millions) **80.65**  
GDP per capita (PPP\$) **43,883.91**  
GDP (US\$ billions) **3,730.26**  
GTCI Score **63.85**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	74.85	18
<b>1.1 Regulatory landscape</b> .....	78.04	18
1.1.1 Government effectiveness.....	80.34	15
1.1.2 Business-government relations.....	66.69	20
1.1.3 Political stability.....	87.08	23
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	81.04	3
1.2.1 Competition intensity.....	81.84	9
1.2.2 Ease of doing business.....	81.78	13
1.2.3 Cluster development.....	74.86	2
1.2.4 R&D expenditure.....	72.21	7
1.2.5 ICT infrastructure.....	96.53	4
1.2.6 Technology utilisation.....	79.03	13
<b>1.3 Business-labour landscape</b> .....	65.48	43
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	70.41	18
1.3.4 Professional management.....	74.82	19
<b>2 Attract</b> .....	63.14	19
<b>2.1 External openness</b> .....	52.90	22
Attract business		
2.1.1 FDI and technology transfer.....	64.17	40
2.1.2 Prevalence of foreign ownership.....	66.75	38
Attract people		
2.1.3 Migrant stock.....	27.41	26
2.1.4 International students.....	29.80	22
2.1.5 Brain gain.....	61.62	16
2.1.6 Brain drain.....	67.66	9
<b>2.2 Internal openness</b> .....	73.37	16
Social diversity		
2.2.1 Tolerance to minorities.....	83.15	25
2.2.2 Tolerance to immigrants.....	81.33	20
2.2.3 Social mobility.....	75.59	20
Gender equality		
2.2.4 Female graduates.....	72.14	52
2.2.5 Gender earnings gap.....	54.65	36
<b>3 Grow</b> .....	56.59	18
<b>3.1 Formal education</b> .....	53.97	15
Enrolment		
3.1.1 Vocational enrolment.....	38.76	37
3.1.2 Tertiary enrolment.....	51.71	35
Quality		
3.1.3 Tertiary education expenditure.....	32.70	27
3.1.4 Reading, maths and science.....	65.93	13
3.1.5 University ranking.....	80.74	9
<b>3.2 Lifelong learning</b> .....	58.50	36
3.2.1 Quality of management schools.....	66.37	28
3.2.2 Prevalence of training in firms.....	42.22	46
3.2.3 Employee development.....	66.92	13
<b>3.3 Access to growth opportunities</b> .....	57.29	27
Networks		
3.3.1 Use of virtual social networks.....	81.57	55
3.3.2 Use of virtual professional networks.....	13.23	62
Empowerment		
3.3.3 Delegation of authority.....	64.80	19
3.3.4 Freedom of voice.....	69.55	7

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	74.61	9
<b>4.1 Sustainability</b> .....	65.94	18
4.1.1 Pension system.....	86.87	23
4.1.2 Taxation.....	45.01	49
<b>4.2 Lifestyle</b> .....	83.27	5
4.2.1 Environmental performance.....	89.60	6
4.2.2 Safety at night.....	79.34	23
4.2.3 Physician density.....	50.00	4
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	97.41	6
<b>5 Labour and Vocational Skills</b> .....	68.38	4
<b>5.1 Employable skills</b> .....	81.18	4
5.1.1 Secondary-educated workforce.....	74.02	16
5.1.2 Secondary-educated population.....	72.04	10
5.1.3 Technicians and associate professionals.....	97.46	2
<b>5.2 Labour productivity</b> .....	55.59	9
5.2.1 Labour productivity per employee.....	47.99	23
5.2.2 Relationship of pay to productivity.....	55.42	34
5.2.3 Mid-value exports.....	63.35	17
<b>6 Global Knowledge Skills</b> .....	45.54	27
<b>6.1 Higher skills and competencies</b> .....	50.62	23
6.1.1 Tertiary-educated workforce.....	45.40	33
6.1.2 Tertiary-educated population.....	43.93	22
6.1.3 Professionals.....	51.84	20
6.1.4 Researchers.....	55.28	16
6.1.5 Senior officials and managers.....	27.53	50
6.1.6 Quality of scientific institutions.....	79.69	8
6.1.7 Scientific journal articles.....	50.64	22
<b>6.2 Talent impact</b> .....	40.46	33
6.2.1 Innovation output.....	76.05	8
6.2.2 High-value exports.....	43.39	21
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	34.04	55
6.2.4 New business density.....	8.38	54

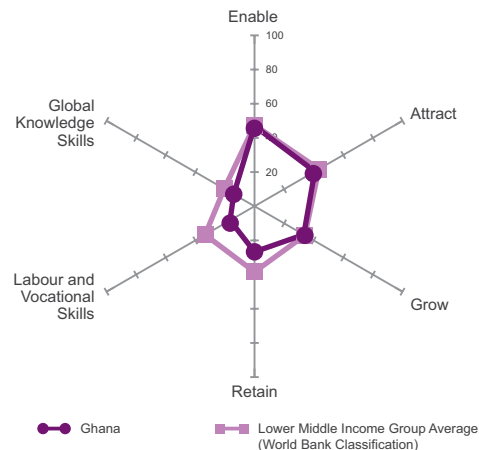
## GHANA

Lower Middle Income  
Sub-Saharan Africa

RANK  
(out of 109)

102

Population (millions) **25.90**  
GDP per capita (PPP\$) **3,992.09**  
GDP (US\$ billions) **48.14**  
GTCI Score **29.70**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	46.93	87
<b>1.1 Regulatory landscape</b> .....	39.76	95
1.1.1 Government effectiveness.....	31.78	67
1.1.2 Business-government relations.....	44.15	87
1.1.3 Political stability.....	64.66	55
1.1.4 Starting a foreign business.....	18.45	69
<b>1.2 Market landscape</b> .....	42.32	83
1.2.1 Competition intensity.....	57.44	94
1.2.2 Ease of doing business.....	50.85	60
1.2.3 Cluster development.....	45.48	66
1.2.4 R&D expenditure.....	9.18	68
1.2.5 ICT infrastructure.....	35.86	82
1.2.6 Technology utilisation.....	55.11	80
<b>1.3 Business-labour landscape</b> .....	58.70	64
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	37.50	88
Governance		
1.3.3 Labour-employer cooperation.....	51.99	69
1.3.4 Professional management.....	56.31	45
<b>2 Attract</b> .....	40.74	93
<b>2.1 External openness</b> .....	35.26	70
Attract business		
2.1.1 FDI and technology transfer.....	53.18	84
2.1.2 Prevalence of foreign ownership.....	58.84	55
Attract people		
2.1.3 Migrant stock.....	3.07	81
2.1.4 International students.....	12.91	43
2.1.5 Brain gain.....	40.60	49
2.1.6 Brain drain.....	42.99	47
<b>2.2 Internal openness</b> .....	46.22	92
Social diversity		
2.2.1 Tolerance to minorities.....	41.51	92
2.2.2 Tolerance to immigrants.....	55.86	67
2.2.3 Social mobility.....	49.87	71
Gender equality		
2.2.4 Female graduates.....	26.88	85
2.2.5 Gender earnings gap.....	56.98	27
<b>3 Grow</b> .....	33.27	91
<b>3.1 Formal education</b> .....	9.23	103
Enrolment		
3.1.1 Vocational enrolment.....	4.74	93
3.1.2 Tertiary enrolment.....	8.27	92
Quality		
3.1.3 Tertiary education expenditure.....	23.89	51
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	53.12	50
3.2.1 Quality of management schools.....	59.56	44
3.2.2 Prevalence of training in firms.....	48.42	39
3.2.3 Employee development.....	51.38	51
<b>3.3 Access to growth opportunities</b> .....	37.47	84
Networks		
3.3.1 Use of virtual social networks.....	58.89	101
3.3.2 Use of virtual professional networks.....	6.64	83
Empowerment		
3.3.3 Delegation of authority.....	47.77	48
3.3.4 Freedom of voice.....	36.59	48

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	26.68	101
<b>4.1 Sustainability</b> .....	28.38	96
4.1.1 Pension system.....	7.07	86
4.1.2 Taxation.....	49.69	29
<b>4.2 Lifestyle</b> .....	24.98	101
4.2.1 Environmental performance.....	19.70	104
4.2.2 Safety at night.....	77.96	28
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	2.27	104
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	16.51	104
<b>5.1 Employable skills</b> .....	9.06	105
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	13.04	89
5.1.3 Technicians and associate professionals.....	5.08	92
<b>5.2 Labour productivity</b> .....	23.97	100
5.2.1 Labour productivity per employee.....	3.21	85
5.2.2 Relationship of pay to productivity.....	49.71	51
5.2.3 Mid-value exports.....	18.99	93
<b>6 Global Knowledge Skills</b> .....	14.05	96
<b>6.1 Higher skills and competencies</b> .....	10.90	102
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	5.04	87
6.1.3 Professionals.....	7.36	88
6.1.4 Researchers.....	0.44	82
6.1.5 Senior officials and managers.....	2.25	93
6.1.6 Quality of scientific institutions.....	45.15	68
6.1.7 Scientific journal articles.....	5.16	76
<b>6.2 Talent impact</b> .....	17.19	87
6.2.1 Innovation output.....	24.16	75
6.2.2 High-value exports.....	12.85	92
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	14.57	77
6.2.4 New business density.....	n/a	n/a

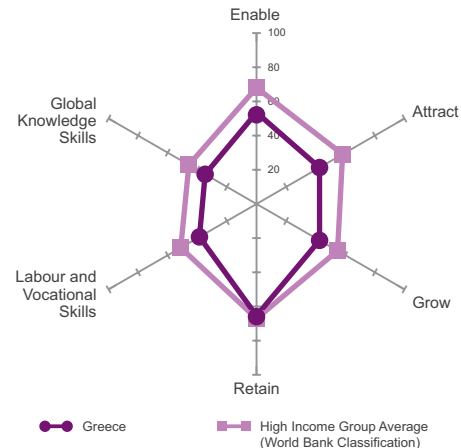
# GREECE

High Income  
Europe

RANK  
(out of 109)

49

Population (millions) **11.03**  
GDP per capita (PPP\$) **25,666.67**  
GDP (US\$ billions) **242.23**  
GTCI Score **46.23**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	53.50	62
<b>1.1 Regulatory landscape</b> .....	53.38	57
1.1.1 Government effectiveness.....	47.98	44
1.1.2 Business-government relations.....	39.65	98
1.1.3 Political stability.....	59.27	67
1.1.4 Starting a foreign business.....	66.62	32
<b>1.2 Market landscape</b> .....	50.99	51
1.2.1 Competition intensity.....	67.55	61
1.2.2 Ease of doing business.....	53.97	54
1.2.3 Cluster development.....	33.44	98
1.2.4 R&D expenditure.....	16.87	48
1.2.5 ICT infrastructure.....	75.19	32
1.2.6 Technology utilisation.....	58.89	62
<b>1.3 Business-labour landscape</b> .....	56.14	73
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	48.75	89
1.3.4 Professional management.....	46.63	81
<b>2 Attract</b> .....	42.60	88
<b>2.1 External openness</b> .....	34.17	74
Attract business		
2.1.1 FDI and technology transfer.....	52.20	86
2.1.2 Prevalence of foreign ownership.....	57.79	59
Attract people		
2.1.3 Migrant stock.....	20.42	38
2.1.4 International students.....	18.38	33
2.1.5 Brain gain.....	22.46	94
2.1.6 Brain drain.....	33.79	75
<b>2.2 Internal openness</b> .....	51.02	86
Social diversity		
2.2.1 Tolerance to minorities.....	41.51	92
2.2.2 Tolerance to immigrants.....	45.88	80
2.2.3 Social mobility.....	48.23	76
Gender equality		
2.2.4 Female graduates.....	76.47	40
2.2.5 Gender earnings gap.....	43.02	68
<b>3 Grow</b> .....	42.61	54
<b>3.1 Formal education</b> .....	49.09	26
Enrolment		
3.1.1 Vocational enrolment.....	36.22	42
3.1.2 Tertiary enrolment.....	100.00	1
Quality		
3.1.3 Tertiary education expenditure.....	34.71	21
3.1.4 Reading, maths and science.....	42.62	38
3.1.5 University ranking.....	31.91	46
<b>3.2 Lifelong learning</b> .....	37.45	100
3.2.1 Quality of management schools.....	47.95	75
3.2.2 Prevalence of training in firms.....	21.90	68
3.2.3 Employee development.....	42.51	89
<b>3.3 Access to growth opportunities</b> .....	41.27	64
Networks		
3.3.1 Use of virtual social networks.....	74.38	76
3.3.2 Use of virtual professional networks.....	25.53	39
Empowerment		
3.3.3 Delegation of authority.....	42.56	74
3.3.4 Freedom of voice.....	22.63	67

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	65.42	30
<b>4.1 Sustainability</b> .....	55.72	40
4.1.1 Pension system.....	85.86	27
4.1.2 Taxation.....	25.57	102
<b>4.2 Lifestyle</b> .....	75.13	20
4.2.1 Environmental performance.....	79.22	23
4.2.2 Safety at night.....	46.56	74
4.2.3 Physician density.....	75.00	2
4.2.4 Sanitation.....	98.86	33
4.2.5 Flexible employment.....	76.02	28
<b>5 Labour and Vocational Skills</b> .....	38.56	62
<b>5.1 Employable skills</b> .....	40.37	59
5.1.1 Secondary-educated workforce.....	48.04	42
5.1.2 Secondary-educated population.....	38.56	51
5.1.3 Technicians and associate professionals.....	34.52	58
<b>5.2 Labour productivity</b> .....	36.74	71
5.2.1 Labour productivity per employee.....	39.88	28
5.2.2 Relationship of pay to productivity.....	38.29	96
5.2.3 Mid-value exports.....	32.05	71
<b>6 Global Knowledge Skills</b> .....	34.72	44
<b>6.1 Higher skills and competencies</b> .....	40.75	31
6.1.1 Tertiary-educated workforce.....	47.01	28
6.1.2 Tertiary-educated population.....	33.81	38
6.1.3 Professionals.....	53.07	18
6.1.4 Researchers.....	28.92	32
6.1.5 Senior officials and managers.....	23.60	56
6.1.6 Quality of scientific institutions.....	45.64	65
6.1.7 Scientific journal articles.....	53.21	21
<b>6.2 Talent impact</b> .....	28.68	55
6.2.1 Innovation output.....	34.66	54
6.2.2 High-value exports.....	17.54	56
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	33.85	57
6.2.4 New business density.....	n/a	n/a

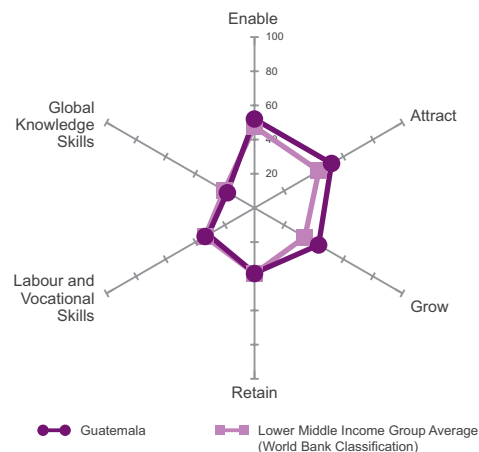
# GUATEMALA

Lower Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

75

Population (millions) **15.47**  
GDP per capita (PPP\$) **7,296.59**  
GDP (US\$ billions) **53.80**  
GTCI Score **39.21**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	52.04	69
<b>1.1 Regulatory landscape</b> .....	42.78	92
1.1.1 Government effectiveness.....	12.83	99
1.1.2 Business-government relations.....	59.49	42
1.1.3 Political stability.....	46.97	84
1.1.4 Starting a foreign business.....	51.83	52
<b>1.2 Market landscape</b> .....	45.77	70
1.2.1 Competition intensity.....	73.40	36
1.2.2 Ease of doing business.....	50.09	63
1.2.3 Cluster development.....	49.06	49
1.2.4 R&D expenditure.....	0.99	93
1.2.5 ICT infrastructure.....	34.32	84
1.2.6 Technology utilisation.....	66.78	42
<b>1.3 Business-labour landscape</b> .....	67.56	39
Labour market flexibility		
1.3.1 Ease of hiring.....	44.33	86
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	70.48	17
1.3.4 Professional management.....	55.44	48
<b>2 Attract</b> .....	52.06	42
<b>2.1 External openness</b> .....	44.00	34
Attract business		
2.1.1 FDI and technology transfer.....	66.02	35
2.1.2 Prevalence of foreign ownership.....	64.42	43
Attract people		
2.1.3 Migrant stock.....	0.95	95
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	37.67	62
2.1.6 Brain drain.....	50.95	31
<b>2.2 Internal openness</b> .....	60.12	55
Social diversity		
2.2.1 Tolerance to minorities.....	75.07	36
2.2.2 Tolerance to immigrants.....	42.84	85
2.2.3 Social mobility.....	60.43	39
Gender equality		
2.2.4 Female graduates.....	74.61	45
2.2.5 Gender earnings gap.....	47.67	57
<b>3 Grow</b> .....	43.32	53
<b>3.1 Formal education</b> .....	19.64	78
Enrolment		
3.1.1 Vocational enrolment.....	59.74	20
3.1.2 Tertiary enrolment.....	14.01	85
Quality		
3.1.3 Tertiary education expenditure.....	4.83	90
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	60.55	32
3.2.1 Quality of management schools.....	61.80	37
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	59.29	26
<b>3.3 Access to growth opportunities</b> .....	49.76	41
Networks		
3.3.1 Use of virtual social networks.....	77.15	70
3.3.2 Use of virtual professional networks.....	9.34	69
Empowerment		
3.3.3 Delegation of authority.....	50.55	38
3.3.4 Freedom of voice.....	62.01	15

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	38.14	87
<b>4.1 Sustainability</b> .....	33.04	83
4.1.1 Pension system.....	19.19	77
4.1.2 Taxation.....	46.89	41
<b>4.2 Lifestyle</b> .....	43.23	88
4.2.1 Environmental performance.....	42.79	80
4.2.2 Safety at night.....	40.36	84
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	77.27	71
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	31.28	82
<b>5.1 Employable skills</b> .....	25.20	82
5.1.1 Secondary-educated workforce.....	27.54	75
5.1.2 Secondary-educated population.....	22.86	75
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	37.37	67
5.2.1 Labour productivity per employee.....	11.34	67
5.2.2 Relationship of pay to productivity.....	54.29	38
5.2.3 Mid-value exports.....	46.47	47
<b>6 Global Knowledge Skills</b> .....	18.45	85
<b>6.1 Higher skills and competencies</b> .....	9.89	104
6.1.1 Tertiary-educated workforce.....	10.18	85
6.1.2 Tertiary-educated population.....	4.27	89
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	0.25	86
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	34.06	94
6.1.7 Scientific journal articles.....	0.68	101
<b>6.2 Talent impact</b> .....	27.01	60
6.2.1 Innovation output.....	19.54	86
6.2.2 High-value exports.....	13.53	80
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	71.72	8
6.2.4 New business density.....	3.26	74

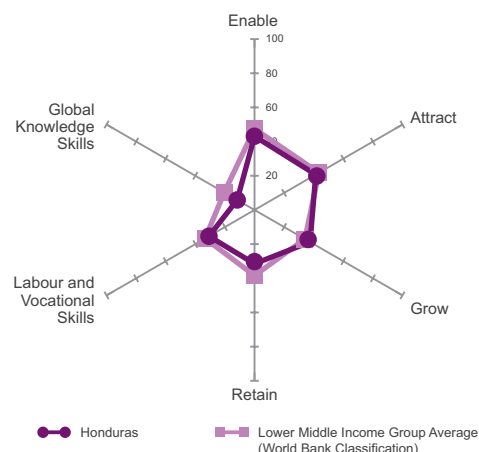
# HONDURAS

Lower Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

97

Population (millions) **8.10**  
GDP per capita (PPP\$) **4,592.59**  
GDP (US\$ billions) **18.55**  
GTCI Score **32.67**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	43.14	96
<b>1.1 Regulatory landscape</b> .....	45.56	82
1.1.1 Government effectiveness.....	11.88	100
1.1.2 Business-government relations.....	51.11	65
1.1.3 Political stability.....	52.63	77
1.1.4 Starting a foreign business.....	66.62	32
<b>1.2 Market landscape</b> .....	49.44	59
1.2.1 Competition intensity.....	63.45	74
1.2.2 Ease of doing business.....	40.97	81
1.2.3 Cluster development.....	50.92	41
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	29.05	92
1.2.6 Technology utilisation.....	62.80	54
<b>1.3 Business-labour landscape</b> .....	34.42	107
Labour market flexibility		
1.3.1 Ease of hiring.....	0.00	106
1.3.2 Ease of redundancy.....	25.00	97
Governance		
1.3.3 Labour-employer cooperation.....	61.20	32
1.3.4 Professional management.....	51.47	63
<b>2 Attract</b> .....	41.39	92
<b>2.1 External openness</b> .....	34.22	73
Attract business		
2.1.1 FDI and technology transfer.....	64.36	39
2.1.2 Prevalence of foreign ownership.....	61.98	48
Attract people		
2.1.3 Migrant stock.....	0.65	99
2.1.4 International students.....	3.50	66
2.1.5 Brain gain.....	35.53	64
2.1.6 Brain drain.....	39.30	59
<b>2.2 Internal openness</b> .....	48.56	90
Social diversity		
2.2.1 Tolerance to minorities.....	45.48	89
2.2.2 Tolerance to immigrants.....	31.69	94
2.2.3 Social mobility.....	52.27	63
Gender equality		
2.2.4 Female graduates.....	86.62	17
2.2.5 Gender earnings gap.....	26.74	91
<b>3 Grow</b> .....	37.54	74
<b>3.1 Formal education</b> .....	23.84	67
Enrolment		
3.1.1 Vocational enrolment.....	57.88	22
3.1.2 Tertiary enrolment.....	16.12	81
Quality		
3.1.3 Tertiary education expenditure.....	21.34	58
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	47.54	75
3.2.1 Quality of management schools.....	43.19	92
3.2.2 Prevalence of training in firms.....	42.74	44
3.2.3 Employee development.....	56.68	34
<b>3.3 Access to growth opportunities</b> .....	41.24	65
Networks		
3.3.1 Use of virtual social networks.....	76.76	73
3.3.2 Use of virtual professional networks.....	7.94	76
Empowerment		
3.3.3 Delegation of authority.....	45.33	59
3.3.4 Freedom of voice.....	34.92	52

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	31.48	96
<b>4.1 Sustainability</b> .....	22.90	103
4.1.1 Pension system.....	16.16	79
4.1.2 Taxation.....	29.63	95
<b>4.2 Lifestyle</b> .....	40.05	92
4.2.1 Environmental performance.....	43.96	79
4.2.2 Safety at night.....	38.98	87
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	77.27	71
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	30.79	85
<b>5.1 Employable skills</b> .....	18.60	91
5.1.1 Secondary-educated workforce.....	20.97	79
5.1.2 Secondary-educated population.....	16.24	87
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	42.97	46
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	47.44	67
5.2.3 Mid-value exports.....	38.51	60
<b>6 Global Knowledge Skills</b> .....	11.71	102
<b>6.1 Higher skills and competencies</b> .....	13.77	97
6.1.1 Tertiary-educated workforce.....	9.85	86
6.1.2 Tertiary-educated population.....	6.93	83
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	37.68	84
6.1.7 Scientific journal articles.....	0.59	102
<b>6.2 Talent impact</b> .....	9.65	103
6.2.1 Innovation output.....	6.51	104
6.2.2 High-value exports.....	12.80	93
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	n/a	n/a



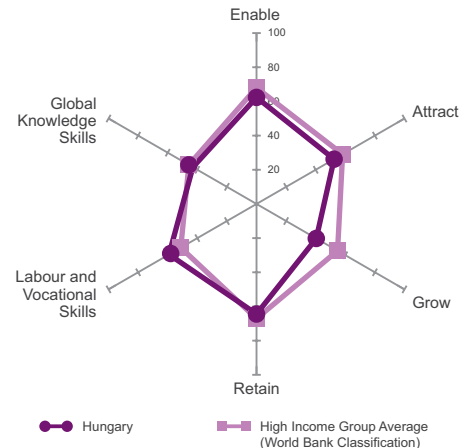
# HUNGARY

High Income  
Europe

RANK  
(out of 109)

31

Population (millions) **9.89**  
GDP per capita (PPP\$) **23,334.32**  
GDP (US\$ billions) **133.42**  
GTCI Score **53.63**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b> .....	62.36	32
1.1	<b>Regulatory landscape</b> .....	59.10	46
1.1.1	Government effectiveness.....	53.89	40
1.1.2	Business-government relations.....	39.99	94
1.1.3	Political stability.....	83.43	30
1.1.4	Starting a foreign business.....	n/a	n/a
1.2	<b>Market landscape</b> .....	56.42	39
1.2.1	Competition intensity.....	72.48	40
1.2.2	Ease of doing business.....	58.43	49
1.2.3	Cluster development.....	41.54	74
1.2.4	R&D expenditure.....	32.01	27
1.2.5	ICT infrastructure.....	72.49	33
1.2.6	Technology utilisation.....	61.56	57
1.3	<b>Business-labour landscape</b> .....	71.56	26
	Labour market flexibility		
1.3.1	Ease of hiring.....	89.00	20
1.3.2	Ease of redundancy.....	100.00	1
	Governance		
1.3.3	Labour-employer cooperation.....	54.75	59
1.3.4	Professional management.....	42.48	93
2	<b>Attract</b> .....	52.44	41
2.1	<b>External openness</b> .....	37.84	58
	Attract business		
2.1.1	FDI and technology transfer.....	69.05	18
2.1.2	Prevalence of foreign ownership.....	74.95	13
	Attract people		
2.1.3	Migrant stock.....	10.86	51
2.1.4	International students.....	19.37	31
2.1.5	Brain gain.....	26.53	86
2.1.6	Brain drain.....	26.30	93
2.2	<b>Internal openness</b> .....	67.04	30
	Social diversity		
2.2.1	Tolerance to minorities.....	78.08	30
2.2.2	Tolerance to immigrants.....	74.53	28
2.2.3	Social mobility.....	42.60	95
	Gender equality		
2.2.4	Female graduates.....	88.80	13
2.2.5	Gender earnings gap.....	51.16	44
3	<b>Grow</b> .....	40.39	61
3.1	<b>Formal education</b> .....	37.46	40
	Enrolment		
3.1.1	Vocational enrolment.....	32.92	45
3.1.2	Tertiary enrolment.....	49.94	39
	Quality		
3.1.3	Tertiary education expenditure.....	24.78	49
3.1.4	Reading, maths and science.....	52.50	30
3.1.5	University ranking.....	27.18	49
3.2	<b>Lifelong learning</b> .....	38.32	97
3.2.1	Quality of management schools.....	54.78	55
3.2.2	Prevalence of training in firms.....	16.36	74
3.2.3	Employee development.....	43.83	86
3.3	<b>Access to growth opportunities</b> .....	45.37	49
	Networks		
3.3.1	Use of virtual social networks.....	79.22	64
3.3.2	Use of virtual professional networks.....	16.79	56
	Empowerment		
3.3.3	Delegation of authority.....	32.70	104
3.3.4	Freedom of voice.....	52.79	27

	VARIABLE	SCORE	RANK
4	<b>Retain</b> .....	64.42	34
4.1	<b>Sustainability</b> .....	60.89	28
4.1.1	Pension system.....	91.92	12
4.1.2	Taxation.....	29.86	94
4.2	<b>Lifestyle</b> .....	67.95	39
4.2.1	Environmental performance.....	74.88	28
4.2.2	Safety at night.....	49.17	70
4.2.3	Physician density.....	37.50	19
4.2.4	Sanitation.....	100.00	1
4.2.5	Flexible employment.....	78.20	26
5	<b>Labour and Vocational Skills</b> .....	59.15	12
5.1	<b>Employable skills</b> .....	73.19	7
5.1.1	Secondary-educated workforce.....	81.69	9
5.1.2	Secondary-educated population.....	71.39	12
5.1.3	Technicians and associate professionals.....	66.50	24
5.2	<b>Labour productivity</b> .....	45.11	37
5.2.1	Labour productivity per employee.....	27.48	40
5.2.2	Relationship of pay to productivity.....	49.64	52
5.2.3	Mid-value exports.....	58.21	29
6	<b>Global Knowledge Skills</b> .....	43.02	29
6.1	<b>Higher skills and competencies</b> .....	40.28	32
6.1.1	Tertiary-educated workforce.....	39.58	41
6.1.2	Tertiary-educated population.....	23.39	58
6.1.3	Professionals.....	47.24	27
6.1.4	Researchers.....	31.88	31
6.1.5	Senior officials and managers.....	32.02	41
6.1.6	Quality of scientific institutions.....	67.97	22
6.1.7	Scientific journal articles.....	39.86	28
6.2	<b>Talent impact</b> .....	45.77	26
6.2.1	Innovation output.....	56.09	28
6.2.2	High-value exports.....	56.71	8
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	38.89	49
6.2.4	New business density.....	31.38	20



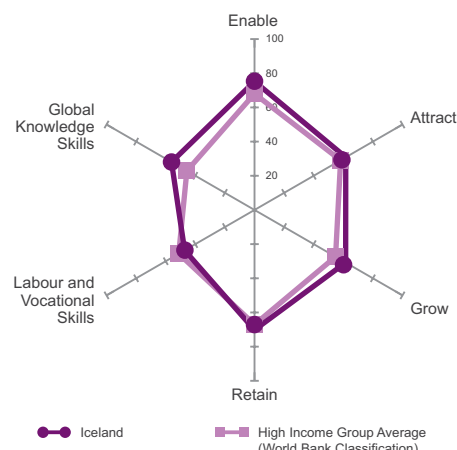
# ICELAND

High Income  
Europe

RANK  
(out of 109)

17

Population (millions) **0.32**  
GDP per capita (PPP\$) **41,859.19**  
GDP (US\$ billions) **15.33**  
GTCI Score **62.00**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	75.21	17
<b>1.1 Regulatory landscape</b> .....	76.34	20
1.1.1 Government effectiveness.....	79.27	17
1.1.2 Business-government relations.....	54.43	59
1.1.3 Political stability.....	95.32	9
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	74.12	14
1.2.1 Competition intensity.....	64.92	67
1.2.2 Ease of doing business.....	82.93	11
1.2.3 Cluster development.....	48.69	52
1.2.4 R&D expenditure.....	64.27	12
1.2.5 ICT infrastructure.....	97.69	3
1.2.6 Technology utilisation.....	86.21	1
<b>1.3 Business-labour landscape</b> .....	75.17	19
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	73.89	10
1.3.4 Professional management.....	71.11	23
<b>2 Attract</b> .....	61.66	21
<b>2.1 External openness</b> .....	38.32	57
Attract business		
2.1.1 FDI and technology transfer.....	45.73	101
2.1.2 Prevalence of foreign ownership.....	37.78	102
Attract people		
2.1.3 Migrant stock.....	24.01	35
2.1.4 International students.....	26.24	25
2.1.5 Brain gain.....	40.29	50
2.1.6 Brain drain.....	55.90	23
<b>2.2 Internal openness</b> .....	85.00	4
Social diversity		
2.2.1 Tolerance to minorities.....	96.16	5
2.2.2 Tolerance to immigrants.....	97.25	4
2.2.3 Social mobility.....	81.04	13
Gender equality		
2.2.4 Female graduates.....	90.07	7
2.2.5 Gender earnings gap.....	60.47	20
<b>3 Grow</b> .....	61.60	15
<b>3.1 Formal education</b> .....	39.86	38
Enrolment		
3.1.1 Vocational enrolment.....	45.32	29
3.1.2 Tertiary enrolment.....	69.02	8
Quality		
3.1.3 Tertiary education expenditure.....	33.46	25
3.1.4 Reading, maths and science.....	51.51	31
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	65.71	23
3.2.1 Quality of management schools.....	70.57	19
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	60.85	24
<b>3.3 Access to growth opportunities</b> .....	79.24	4
Networks		
3.3.1 Use of virtual social networks.....	96.51	1
3.3.2 Use of virtual professional networks.....	92.67	2
Empowerment		
3.3.3 Delegation of authority.....	66.60	14
3.3.4 Freedom of voice.....	61.17	18

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	70.20	18
<b>4.1 Sustainability</b> .....	62.59	26
4.1.1 Pension system.....	86.87	23
4.1.2 Taxation.....	38.31	72
<b>4.2 Lifestyle</b> .....	77.82	11
4.2.1 Environmental performance.....	83.87	14
4.2.2 Safety at night.....	87.88	11
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	79.84	23
<b>5 Labour and Vocational Skills</b> .....	47.24	37
<b>5.1 Employable skills</b> .....	52.78	38
5.1.1 Secondary-educated workforce.....	39.44	62
5.1.2 Secondary-educated population.....	40.74	48
5.1.3 Technicians and associate professionals.....	78.17	14
<b>5.2 Labour productivity</b> .....	41.70	54
5.2.1 Labour productivity per employee.....	51.05	17
5.2.2 Relationship of pay to productivity.....	53.25	40
5.2.3 Mid-value exports.....	20.79	87
<b>6 Global Knowledge Skills</b> .....	56.09	11
<b>6.1 Higher skills and competencies</b> .....	63.55	9
6.1.1 Tertiary-educated workforce.....	50.08	26
6.1.2 Tertiary-educated population.....	46.60	19
6.1.3 Professionals.....	69.02	5
6.1.4 Researchers.....	93.71	2
6.1.5 Senior officials and managers.....	50.56	14
6.1.6 Quality of scientific institutions.....	63.73	28
6.1.7 Scientific journal articles.....	71.13	10
<b>6.2 Talent impact</b> .....	48.63	20
6.2.1 Innovation output.....	75.21	9
6.2.2 High-value exports.....	14.93	69
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	50.25	25
6.2.4 New business density.....	54.12	12

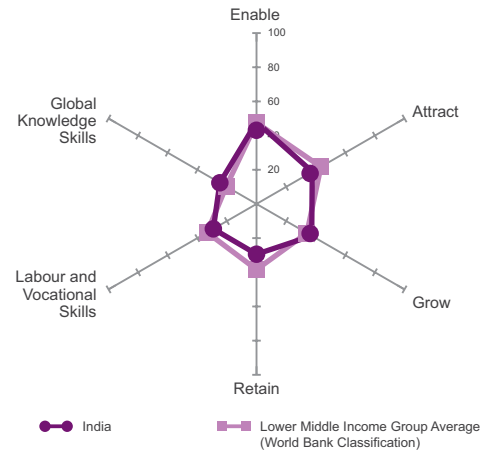
# INDIA

Lower Middle Income  
Central and Southern Asia

RANK  
(out of 109)

## 89

Population (millions) **1,252.14**  
GDP per capita (PPP\$) **5,417.75**  
GDP (US\$ billions) **1,875.14**  
GTCI Score **34.37**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 47.92 ..... 83		
<b>1.1 Regulatory landscape</b> ..... 47.34 ..... 75		
1.1.1 Government effectiveness ..... 28.64 ..... 72		
1.1.2 Business-government relations ..... 48.18 ..... 76		
1.1.3 Political stability ..... 34.79 ..... 99		
1.1.4 Starting a foreign business ..... 77.75 ..... 20		
<b>1.2 Market landscape</b> ..... 39.83 ..... 92		
1.2.1 Competition intensity ..... 63.09 ..... 77		
1.2.2 Ease of doing business ..... 26.80 ..... 100		
1.2.3 Cluster development ..... 58.38 ..... 24		
1.2.4 R&D expenditure ..... 19.85 ..... 42		
1.2.5 ICT infrastructure ..... 17.61 ..... 99		
1.2.6 Technology utilisation ..... 53.22 ..... 85		
<b>1.3 Business-labour landscape</b> ..... 56.61 ..... 71		
Labour market flexibility		
1.3.1 Ease of hiring ..... 72.17 ..... 47		
1.3.2 Ease of redundancy ..... 50.00 ..... 74		
Governance		
1.3.3 Labour-employer cooperation ..... 51.39 ..... 74		
1.3.4 Professional management ..... 52.87 ..... 60		
<b>2 Attract</b> ..... 37.67 ..... 103		
<b>2.1 External openness</b> ..... 34.08 ..... 75		
Attract business		
2.1.1 FDI and technology transfer ..... 53.71 ..... 80		
2.1.2 Prevalence of foreign ownership ..... 54.01 ..... 75		
Attract people		
2.1.3 Migrant stock ..... 0.85 ..... 96		
2.1.4 International students ..... 0.12 ..... 86		
2.1.5 Brain gain ..... 46.99 ..... 37		
2.1.6 Brain drain ..... 48.77 ..... 35		
<b>2.2 Internal openness</b> ..... 41.26 ..... 100		
Social diversity		
2.2.1 Tolerance to minorities ..... 62.88 ..... 66		
2.2.2 Tolerance to immigrants ..... 41.68 ..... 88		
2.2.3 Social mobility ..... 52.35 ..... 61		
Gender equality		
2.2.4 Female graduates ..... n/a ..... n/a		
2.2.5 Gender earnings gap ..... 8.14 ..... 103		
<b>3 Grow</b> ..... 37.30 ..... 76		
<b>3.1 Formal education</b> ..... 24.14 ..... 66		
Enrolment		
3.1.1 Vocational enrolment ..... 0.99 ..... 99		
3.1.2 Tertiary enrolment ..... 19.34 ..... 79		
Quality		
3.1.3 Tertiary education expenditure ..... 28.93 ..... 37		
3.1.4 Reading, maths and science ..... n/a ..... n/a		
3.1.5 University ranking ..... 47.28 ..... 31		
<b>3.2 Lifelong learning</b> ..... 49.71 ..... 66		
3.2.1 Quality of management schools ..... 57.19 ..... 49		
3.2.2 Prevalence of training in firms ..... 42.88 ..... 43		
3.2.3 Employee development ..... 49.06 ..... 62		
<b>3.3 Access to growth opportunities</b> ..... 38.05 ..... 78		
Networks		
3.3.1 Use of virtual social networks ..... 56.06 ..... 104		
3.3.2 Use of virtual professional networks ..... 7.68 ..... 79		
Empowerment		
3.3.3 Delegation of authority ..... 47.94 ..... 47		
3.3.4 Freedom of voice ..... 40.50 ..... 42		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 29.41 ..... 98		
<b>4.1 Sustainability</b> ..... 28.85 ..... 93		
4.1.1 Pension system ..... 9.09 ..... 82		
4.1.2 Taxation ..... 48.62 ..... 35		
<b>4.2 Lifestyle</b> ..... 29.96 ..... 98		
4.2.1 Environmental performance ..... 18.49 ..... 105		
4.2.2 Safety at night ..... 61.57 ..... 52		
4.2.3 Physician density ..... 12.50 ..... 69		
4.2.4 Sanitation ..... 27.27 ..... 96		
4.2.5 Flexible employment ..... n/a ..... n/a		
<b>5 Labour and Vocational Skills</b> ..... 29.17 ..... 90		
<b>5.1 Employable skills</b> ..... 24.64 ..... 84		
5.1.1 Secondary-educated workforce ..... 39.12 ..... 63		
5.1.2 Secondary-educated population ..... n/a ..... n/a		
5.1.3 Technicians and associate professionals ..... 10.15 ..... 86		
<b>5.2 Labour productivity</b> ..... 33.70 ..... 79		
5.2.1 Labour productivity per employee ..... 5.44 ..... 82		
5.2.2 Relationship of pay to productivity ..... 49.29 ..... 57		
5.2.3 Mid-value exports ..... 46.38 ..... 48		
<b>6 Global Knowledge Skills</b> ..... 24.78 ..... 70		
<b>6.1 Higher skills and competencies</b> ..... 21.17 ..... 77		
6.1.1 Tertiary-educated workforce ..... 15.83 ..... 81		
6.1.2 Tertiary-educated population ..... n/a ..... n/a		
6.1.3 Professionals ..... 10.43 ..... 86		
6.1.4 Researchers ..... 2.06 ..... 69		
6.1.5 Senior officials and managers ..... 31.46 ..... 42		
6.1.6 Quality of scientific institutions ..... 50.11 ..... 48		
6.1.7 Scientific journal articles ..... 17.10 ..... 51		
<b>6.2 Talent impact</b> ..... 28.39 ..... 57		
6.2.1 Innovation output ..... 31.30 ..... 61		
6.2.2 High-value exports ..... 21.87 ..... 44		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 59.79 ..... 14		
6.2.4 New business density ..... 0.60 ..... 83		

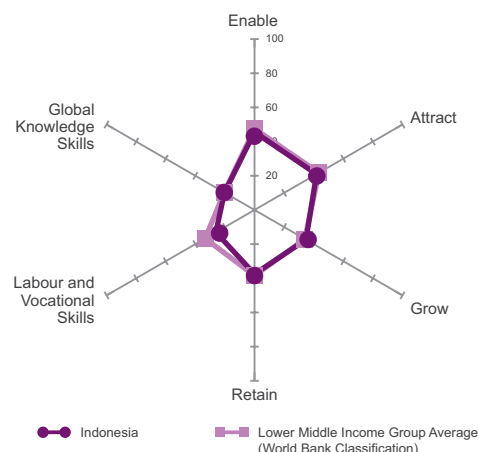
# INDONESIA

Lower Middle Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

90

Population (millions) **249.87**  
GDP per capita (PPP\$) **9,561.13**  
GDP (US\$ billions) **868.35**  
GTCI Score **34.36**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	45.59	90
<b>1.1 Regulatory landscape</b> .....	46.83	76
1.1.1 Government effectiveness.....	27.19	74
1.1.2 Business-government relations.....	63.98	28
1.1.3 Political stability.....	51.78	79
1.1.4 Starting a foreign business.....	44.37	60
<b>1.2 Market landscape</b> .....	45.16	73
1.2.1 Competition intensity.....	71.04	45
1.2.2 Ease of doing business.....	37.86	87
1.2.3 Cluster development.....	58.81	23
1.2.4 R&D expenditure.....	1.74	90
1.2.5 ICT infrastructure.....	33.93	85
1.2.6 Technology utilisation.....	67.62	38
<b>1.3 Business-labour landscape</b> .....	44.78	95
Labour market flexibility		
1.3.1 Ease of hiring.....	27.67	94
1.3.2 Ease of redundancy.....	25.00	97
Governance		
1.3.3 Labour-employer cooperation.....	59.61	38
1.3.4 Professional management.....	66.86	25
<b>2 Attract</b> .....	41.91	90
<b>2.1 External openness</b> .....	38.78	55
Attract business		
2.1.1 FDI and technology transfer.....	65.19	37
2.1.2 Prevalence of foreign ownership.....	59.51	52
Attract people		
2.1.3 Migrant stock.....	0.13	107
2.1.4 International students.....	0.19	84
2.1.5 Brain gain.....	55.09	22
2.1.6 Brain drain.....	52.54	29
<b>2.2 Internal openness</b> .....	45.05	96
Social diversity		
2.2.1 Tolerance to minorities.....	72.05	49
2.2.2 Tolerance to immigrants.....	10.71	101
2.2.3 Social mobility.....	59.07	43
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	38.37	76
<b>3 Grow</b> .....	34.77	86
<b>3.1 Formal education</b> .....	24.20	64
Enrolment		
3.1.1 Vocational enrolment.....	38.45	38
3.1.2 Tertiary enrolment.....	25.24	70
Quality		
3.1.3 Tertiary education expenditure.....	11.80	82
3.1.4 Reading, maths and science.....	4.36	59
3.1.5 University ranking.....	41.17	37
<b>3.2 Lifelong learning</b> .....	40.97	89
3.2.1 Quality of management schools.....	60.12	43
3.2.2 Prevalence of training in firms.....	1.72	79
3.2.3 Employee development.....	61.07	23
<b>3.3 Access to growth opportunities</b> .....	39.13	73
Networks		
3.3.1 Use of virtual social networks.....	82.71	51
3.3.2 Use of virtual professional networks.....	4.02	88
Empowerment		
3.3.3 Delegation of authority.....	57.51	26
3.3.4 Freedom of voice.....	12.29	84

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	37.50	88
<b>4.1 Sustainability</b> .....	28.96	92
4.1.1 Pension system.....	6.06	88
4.1.2 Taxation.....	51.87	23
<b>4.2 Lifestyle</b> .....	46.03	83
4.2.1 Environmental performance.....	37.45	87
4.2.2 Safety at night.....	93.25	5
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	53.41	88
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	26.11	97
<b>5.1 Employable skills</b> .....	18.59	92
5.1.1 Secondary-educated workforce.....	18.47	84
5.1.2 Secondary-educated population.....	30.20	62
5.1.3 Technicians and associate professionals.....	7.11	88
<b>5.2 Labour productivity</b> .....	33.62	80
5.2.1 Labour productivity per employee.....	6.49	79
5.2.2 Relationship of pay to productivity.....	58.15	25
5.2.3 Mid-value exports.....	36.22	67
<b>6 Global Knowledge Skills</b> .....	20.31	82
<b>6.1 Higher skills and competencies</b> .....	14.84	93
6.1.1 Tertiary-educated workforce.....	11.47	83
6.1.2 Tertiary-educated population.....	13.13	77
6.1.3 Professionals.....	13.80	81
6.1.4 Researchers.....	1.12	76
6.1.5 Senior officials and managers.....	9.55	82
6.1.6 Quality of scientific institutions.....	54.34	38
6.1.7 Scientific journal articles.....	0.49	103
<b>6.2 Talent impact</b> .....	25.78	65
6.2.1 Innovation output.....	32.98	56
6.2.2 High-value exports.....	21.78	45
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	46.64	35
6.2.4 New business density.....	1.73	79

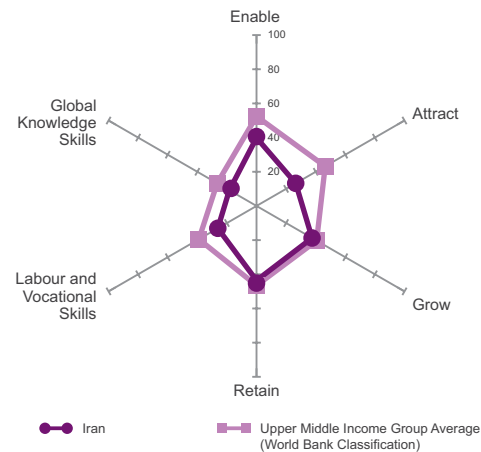
# IRAN

Upper Middle Income  
Central and Southern Asia

RANK  
(out of 109)

98

Population (millions) **77.45**  
GDP per capita (PPP\$) **15,590.15**  
GDP (US\$ billions) **368.90**  
GTCI Score **32.01**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	39.89	101
<b>1.1 Regulatory landscape</b> .....	28.22	105
1.1.1 Government effectiveness.....	13.31	98
1.1.2 Business-government relations.....	38.59	100
1.1.3 Political stability.....	32.77	102
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	40.42	91
1.2.1 Competition intensity.....	56.59	95
1.2.2 Ease of doing business.....	32.22	95
1.2.3 Cluster development.....	40.37	80
1.2.4 R&D expenditure.....	18.36	44
1.2.5 ICT infrastructure.....	49.49	64
1.2.6 Technology utilisation.....	45.52	106
<b>1.3 Business-labour landscape</b> .....	51.03	85
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	37.50	88
Governance		
1.3.3 Labour-employer cooperation.....	41.89	103
1.3.4 Professional management.....	35.75	105
<b>2 Attract</b> .....	26.49	108
<b>2.1 External openness</b> .....	18.80	108
Attract business		
2.1.1 FDI and technology transfer.....	46.05	100
2.1.2 Prevalence of foreign ownership.....	19.90	109
Attract people		
2.1.3 Migrant stock.....	7.78	63
2.1.4 International students.....	0.13	85
2.1.5 Brain gain.....	13.70	103
2.1.6 Brain drain.....	25.24	95
<b>2.2 Internal openness</b> .....	34.19	107
Social diversity		
2.2.1 Tolerance to minorities.....	59.86	69
2.2.2 Tolerance to immigrants.....	45.30	81
2.2.3 Social mobility.....	41.15	98
Gender equality		
2.2.4 Female graduates.....	24.64	86
2.2.5 Gender earnings gap.....	0.00	106
<b>3 Grow</b> .....	37.54	73
<b>3.1 Formal education</b> .....	27.68	60
Enrolment		
3.1.1 Vocational enrolment.....	23.16	58
3.1.2 Tertiary enrolment.....	46.01	46
Quality		
3.1.3 Tertiary education expenditure.....	17.94	70
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	23.61	55
<b>3.2 Lifelong learning</b> .....	39.84	93
3.2.1 Quality of management schools.....	45.86	87
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	33.82	107
<b>3.3 Access to growth opportunities</b> .....	45.10	50
Networks		
3.3.1 Use of virtual social networks.....	45.58	109
3.3.2 Use of virtual professional networks.....	n/a	n/a
Empowerment		
3.3.3 Delegation of authority.....	32.44	106
3.3.4 Freedom of voice.....	57.26	22

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	43.60	76
<b>4.1 Sustainability</b> .....	37.71	69
4.1.1 Pension system.....	33.33	60
4.1.2 Taxation.....	42.08	59
<b>4.2 Lifestyle</b> .....	49.50	80
4.2.1 Environmental performance.....	47.15	68
4.2.2 Safety at night.....	50.83	68
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	87.50	64
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	26.16	96
<b>5.1 Employable skills</b> .....	25.85	81
5.1.1 Secondary-educated workforce.....	23.16	78
5.1.2 Secondary-educated population.....	35.10	54
5.1.3 Technicians and associate professionals.....	19.29	77
<b>5.2 Labour productivity</b> .....	26.46	97
5.2.1 Labour productivity per employee.....	25.25	42
5.2.2 Relationship of pay to productivity.....	34.92	102
5.2.3 Mid-value exports.....	19.21	92
<b>6 Global Knowledge Skills</b> .....	18.38	86
<b>6.1 Higher skills and competencies</b> .....	26.48	65
6.1.1 Tertiary-educated workforce.....	30.37	64
6.1.2 Tertiary-educated population.....	28.68	51
6.1.3 Professionals.....	22.70	64
6.1.4 Researchers.....	9.91	52
6.1.5 Senior officials and managers.....	13.48	73
6.1.6 Quality of scientific institutions.....	52.50	42
6.1.7 Scientific journal articles.....	27.71	36
<b>6.2 Talent impact</b> .....	10.27	100
6.2.1 Innovation output.....	7.35	103
6.2.2 High-value exports.....	12.18	100
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	11.29	79
6.2.4 New business density.....	n/a	n/a

# IRELAND

High Income  
Europe

RANK  
(out of 109)

# 16

Population (millions) **4.60**  
GDP per capita (PPP\$) **45,684.45**  
GDP (US\$ billions) **232.08**  
GTCI Score **63.14**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	76.58	14
<b>1.1 Regulatory landscape</b> .....	78.37	15
1.1.1 Government effectiveness.....	78.72	20
1.1.2 Business-government relations.....	80.02	8
1.1.3 Political stability.....	85.86	27
1.1.4 Starting a foreign business.....	68.87	30
<b>1.2 Market landscape</b> .....	69.70	20
1.2.1 Competition intensity.....	69.56	52
1.2.2 Ease of doing business.....	82.50	12
1.2.3 Cluster development.....	63.33	16
1.2.4 R&D expenditure.....	42.43	22
1.2.5 ICT infrastructure.....	84.32	18
1.2.6 Technology utilisation.....	76.04	23
<b>1.3 Business-labour landscape</b> .....	81.67	12
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	87.50	33
Governance		
1.3.3 Labour-employer cooperation.....	73.16	15
1.3.4 Professional management.....	77.03	14
<b>2 Attract</b> .....	66.59	13
<b>2.1 External openness</b> .....	59.57	11
Attract business		
2.1.1 FDI and technology transfer.....	89.49	1
2.1.2 Prevalence of foreign ownership.....	84.76	3
Attract people		
2.1.3 Migrant stock.....	36.66	18
2.1.4 International students.....	24.33	26
2.1.5 Brain gain.....	68.69	9
2.1.6 Brain drain.....	53.47	27
<b>2.2 Internal openness</b> .....	73.60	15
Social diversity		
2.2.1 Tolerance to minorities.....	90.00	13
2.2.2 Tolerance to immigrants.....	89.58	10
2.2.3 Social mobility.....	76.82	17
Gender equality		
2.2.4 Female graduates.....	65.11	69
2.2.5 Gender earnings gap.....	46.51	61
<b>3 Grow</b> .....	66.18	9
<b>3.1 Formal education</b> .....	50.65	23
Enrolment		
3.1.1 Vocational enrolment.....	33.09	44
3.1.2 Tertiary enrolment.....	60.14	22
Quality		
3.1.3 Tertiary education expenditure.....	31.02	33
3.1.4 Reading, maths and science.....	66.14	12
3.1.5 University ranking.....	62.89	16
<b>3.2 Lifelong learning</b> .....	75.70	3
3.2.1 Quality of management schools.....	71.95	14
3.2.2 Prevalence of training in firms.....	92.08	3
3.2.3 Employee development.....	63.08	19
<b>3.3 Access to growth opportunities</b> .....	72.19	7
Networks		
3.3.1 Use of virtual social networks.....	87.48	19
3.3.2 Use of virtual professional networks.....	80.78	6
Empowerment		
3.3.3 Delegation of authority.....	64.90	18
3.3.4 Freedom of voice.....	55.59	24

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	69.61	19
<b>4.1 Sustainability</b> .....	64.13	24
4.1.1 Pension system.....	88.89	21
4.1.2 Taxation.....	39.37	66
<b>4.2 Lifestyle</b> .....	75.10	21
4.2.1 Environmental performance.....	81.22	19
4.2.2 Safety at night.....	73.69	33
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	98.86	33
4.2.5 Flexible employment.....	84.20	17
<b>5 Labour and Vocational Skills</b> .....	47.05	39
<b>5.1 Employable skills</b> .....	43.00	53
5.1.1 Secondary-educated workforce.....	41.63	58
5.1.2 Secondary-educated population.....	39.16	49
5.1.3 Technicians and associate professionals.....	48.22	43
<b>5.2 Labour productivity</b> .....	51.09	19
5.2.1 Labour productivity per employee.....	60.95	6
5.2.2 Relationship of pay to productivity.....	58.23	23
5.2.3 Mid-value exports.....	34.01	70
<b>6 Global Knowledge Skills</b> .....	52.82	16
<b>6.1 Higher skills and competencies</b> .....	55.84	19
6.1.1 Tertiary-educated workforce.....	67.04	4
6.1.2 Tertiary-educated population.....	36.37	32
6.1.3 Professionals.....	65.34	10
6.1.4 Researchers.....	46.91	23
6.1.5 Senior officials and managers.....	42.13	25
6.1.6 Quality of scientific institutions.....	74.96	13
6.1.7 Scientific journal articles.....	58.11	16
<b>6.2 Talent impact</b> .....	49.79	17
6.2.1 Innovation output.....	72.48	11
6.2.2 High-value exports.....	46.56	18
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	50.42	24
6.2.4 New business density.....	29.72	22

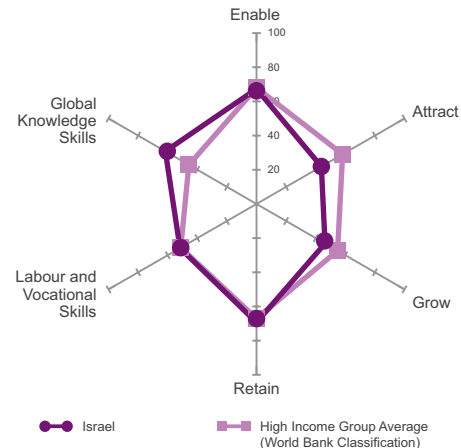
# ISRAEL

High Income  
Northern Africa and Western Asia

RANK  
(out of 109)

25

Population (millions) **8.06**  
GDP per capita (PPP\$) **32,490.62**  
GDP (US\$ billions) **290.55**  
GTCI Score **56.69**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b> .....	67.33	27
1.1	<b>Regulatory landscape</b> .....	54.20	55
1.1.1	Government effectiveness.....	71.23	26
1.1.2	Business-government relations.....	54.25	60
1.1.3	Political stability.....	37.12	96
1.1.4	Starting a foreign business.....	n/a	n/a
1.2	<b>Market landscape</b> .....	73.78	15
1.2.1	Competition intensity.....	54.04	99
1.2.2	Ease of doing business.....	63.68	37
1.2.3	Cluster development.....	58.31	25
1.2.4	R&D expenditure.....	97.27	2
1.2.5	ICT infrastructure.....	85.22	15
1.2.6	Technology utilisation.....	84.16	5
1.3	<b>Business-labour landscape</b> .....	74.02	22
	Labour market flexibility		
1.3.1	Ease of hiring.....	89.00	20
1.3.2	Ease of redundancy.....	100.00	1
	Governance		
1.3.3	Labour-employer cooperation.....	53.88	61
1.3.4	Professional management.....	53.19	59
2	<b>Attract</b> .....	43.83	79
2.1	<b>External openness</b> .....	47.51	28
	Attract business		
2.1.1	FDI and technology transfer.....	72.79	11
2.1.2	Prevalence of foreign ownership.....	64.74	42
	Attract people		
2.1.3	Migrant stock.....	61.14	10
2.1.4	International students.....	4.77	64
2.1.5	Brain gain.....	37.85	60
2.1.6	Brain drain.....	43.75	45
2.2	<b>Internal openness</b> .....	40.16	101
	Social diversity		
2.2.1	Tolerance to minorities.....	30.27	98
2.2.2	Tolerance to immigrants.....	32.71	93
2.2.3	Social mobility.....	51.14	67
	Gender equality		
2.2.4	Female graduates.....	n/a	n/a
2.2.5	Gender earnings gap.....	46.51	61
3	<b>Grow</b> .....	46.30	40
3.1	<b>Formal education</b> .....	44.21	31
	Enrolment		
3.1.1	Vocational enrolment.....	39.50	36
3.1.2	Tertiary enrolment.....	57.19	27
	Quality		
3.1.3	Tertiary education expenditure.....	19.81	65
3.1.4	Reading, maths and science.....	46.62	36
3.1.5	University ranking.....	57.92	21
3.2	<b>Lifelong learning</b> .....	44.51	81
3.2.1	Quality of management schools.....	64.25	31
3.2.2	Prevalence of training in firms.....	20.05	69
3.2.3	Employee development.....	49.23	60
3.3	<b>Access to growth opportunities</b> .....	50.17	39
	Networks		
3.3.1	Use of virtual social networks.....	86.29	24
3.3.2	Use of virtual professional networks.....	47.02	19
	Empowerment		
3.3.3	Delegation of authority.....	53.40	30
3.3.4	Freedom of voice.....	13.97	79

	VARIABLE	SCORE	RANK
4	<b>Retain</b> .....	69.35	20
4.1	<b>Sustainability</b> .....	66.44	17
4.1.1	Pension system.....	88.99	20
4.1.2	Taxation.....	43.89	51
4.2	<b>Lifestyle</b> .....	72.26	28
4.2.1	Environmental performance.....	68.39	37
4.2.2	Safety at night.....	70.94	39
4.2.3	Physician density.....	37.50	19
4.2.4	Sanitation.....	100.00	1
4.2.5	Flexible employment.....	84.47	16
5	<b>Labour and Vocational Skills</b> .....	51.70	29
5.1	<b>Employable skills</b> .....	60.92	28
5.1.1	Secondary-educated workforce.....	47.42	45
5.1.2	Secondary-educated population.....	51.08	34
5.1.3	Technicians and associate professionals.....	84.26	9
5.2	<b>Labour productivity</b> .....	42.48	50
5.2.1	Labour productivity per employee.....	40.99	27
5.2.2	Relationship of pay to productivity.....	48.09	64
5.2.3	Mid-value exports.....	38.68	61
6	<b>Global Knowledge Skills</b> .....	61.60	5
6.1	<b>Higher skills and competencies</b> .....	71.89	2
6.1.1	Tertiary-educated workforce.....	72.86	3
6.1.2	Tertiary-educated population.....	75.38	3
6.1.3	Professionals.....	47.24	27
6.1.4	Researchers.....	88.23	4
6.1.5	Senior officials and managers.....	43.82	22
6.1.6	Quality of scientific institutions.....	87.76	3
6.1.7	Scientific journal articles.....	87.93	4
6.2	<b>Talent impact</b> .....	51.31	13
6.2.1	Innovation output.....	70.59	13
6.2.2	High-value exports.....	55.99	9
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	59.18	16
6.2.4	New business density.....	19.48	33



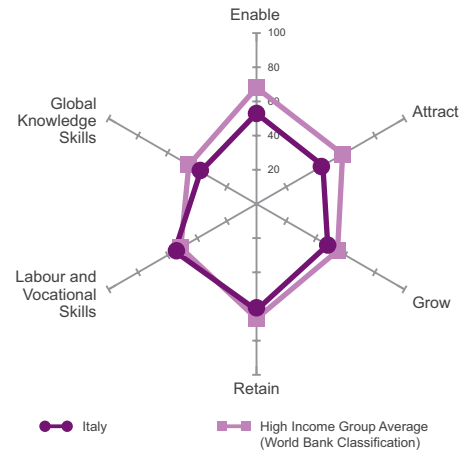
# ITALY

High Income  
Europe

RANK  
(out of 109)

41

Population (millions) **60.23**  
GDP per capita (PPP\$) **35,280.74**  
GDP (US\$ billions) **2,149.48**  
GTCI Score **50.21**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	52.98	64
<b>1.1 Regulatory landscape</b> .....	50.80	59
1.1.1 Government effectiveness.....	48.05	43
1.1.2 Business-government relations.....	27.60	107
1.1.3 Political stability.....	76.76	38
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	60.73	32
1.2.1 Competition intensity.....	69.84	50
1.2.2 Ease of doing business.....	57.77	51
1.2.3 Cluster development.....	76.64	1
1.2.4 R&D expenditure.....	31.27	29
1.2.5 ICT infrastructure.....	76.35	31
1.2.6 Technology utilisation.....	52.54	88
<b>1.3 Business-labour landscape</b> .....	47.40	91
Labour market flexibility		
1.3.1 Ease of hiring.....	72.33	45
1.3.2 Ease of redundancy.....	37.50	88
Governance		
1.3.3 Labour-employer cooperation.....	39.67	105
1.3.4 Professional management.....	40.11	97
<b>2 Attract</b> .....	44.85	74
<b>2.1 External openness</b> .....	28.77	97
Attract business		
2.1.1 FDI and technology transfer.....	44.20	103
2.1.2 Prevalence of foreign ownership.....	41.00	99
Attract people		
2.1.3 Migrant stock.....	21.58	37
2.1.4 International students.....	16.95	36
2.1.5 Brain gain.....	22.33	95
2.1.6 Brain drain.....	26.59	92
<b>2.2 Internal openness</b> .....	60.92	50
Social diversity		
2.2.1 Tolerance to minorities.....	70.82	53
2.2.2 Tolerance to immigrants.....	68.89	44
2.2.3 Social mobility.....	44.29	90
Gender equality		
2.2.4 Female graduates.....	84.54	18
2.2.5 Gender earnings gap.....	36.05	82
<b>3 Grow</b> .....	48.10	35
<b>3.1 Formal education</b> .....	50.40	24
Enrolment		
3.1.1 Vocational enrolment.....	74.55	8
3.1.2 Tertiary enrolment.....	52.43	32
Quality		
3.1.3 Tertiary education expenditure.....	17.60	71
3.1.4 Reading, maths and science.....	53.88	28
3.1.5 University ranking.....	53.52	24
<b>3.2 Lifelong learning</b> .....	52.21	56
3.2.1 Quality of management schools.....	68.00	25
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	36.42	105
<b>3.3 Access to growth opportunities</b> .....	41.70	60
Networks		
3.3.1 Use of virtual social networks.....	83.96	37
3.3.2 Use of virtual professional networks.....	43.09	23
Empowerment		
3.3.3 Delegation of authority.....	34.44	102
3.3.4 Freedom of voice.....	5.31	99

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	62.11	40
<b>4.1 Sustainability</b> .....	52.83	45
4.1.1 Pension system.....	89.90	18
4.1.2 Taxation.....	15.76	107
<b>4.2 Lifestyle</b> .....	71.38	30
4.2.1 Environmental performance.....	80.78	22
4.2.2 Safety at night.....	61.57	52
4.2.3 Physician density.....	50.00	4
4.2.4 Sanitation.....	n/a	n/a
4.2.5 Flexible employment.....	93.19	8
<b>5 Labour and Vocational Skills</b> .....	55.36	18
<b>5.1 Employable skills</b> .....	62.66	23
5.1.1 Secondary-educated workforce.....	56.65	33
5.1.2 Secondary-educated population.....	48.60	39
5.1.3 Technicians and associate professionals.....	82.74	10
<b>5.2 Labour productivity</b> .....	48.06	27
5.2.1 Labour productivity per employee.....	47.35	25
5.2.2 Relationship of pay to productivity.....	26.86	107
5.2.3 Mid-value exports.....	69.97	8
<b>6 Global Knowledge Skills</b> .....	37.86	38
<b>6.1 Higher skills and competencies</b> .....	34.73	42
6.1.1 Tertiary-educated workforce.....	28.92	66
6.1.2 Tertiary-educated population.....	21.42	66
6.1.3 Professionals.....	39.26	42
6.1.4 Researchers.....	24.26	36
6.1.5 Senior officials and managers.....	21.91	60
6.1.6 Quality of scientific institutions.....	58.36	35
6.1.7 Scientific journal articles.....	48.97	25
<b>6.2 Talent impact</b> .....	40.98	31
6.2.1 Innovation output.....	51.68	32
6.2.2 High-value exports.....	25.38	36
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	74.37	6
6.2.4 New business density.....	12.50	45



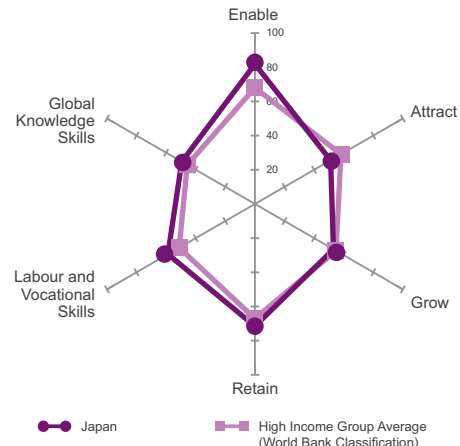
# JAPAN

High Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

19

Population (millions) **127.34**  
GDP per capita (PPP US\$) **36,223.34**  
GDP (US\$ billions) **4,919.56**  
GTCI Score **60.98**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 81.86 ..... 4		
<b>1.1 Regulatory landscape</b> ..... 82.27 ..... 11		
1.1.1 Government effectiveness ..... 82.66 ..... 12		
1.1.2 Business-government relations ..... 72.78 ..... 12		
1.1.3 Political stability ..... 88.43 ..... 19		
1.1.4 Starting a foreign business ..... 85.21 ..... 8		
<b>1.2 Market landscape</b> ..... 81.19 ..... 2		
1.2.1 Competition intensity ..... 89.52 ..... 1		
1.2.2 Ease of doing business ..... 71.25 ..... 26		
1.2.3 Cluster development ..... 71.39 ..... 7		
1.2.4 R&D expenditure ..... 83.87 ..... 5		
1.2.5 ICT infrastructure ..... 86.38 ..... 13		
1.2.6 Technology utilisation ..... 84.71 ..... 2		
<b>1.3 Business-labour landscape</b> ..... 82.11 ..... 11		
Labour market flexibility		
1.3.1 Ease of hiring ..... 89.00 ..... 20		
1.3.2 Ease of redundancy ..... 87.50 ..... 33		
Governance		
1.3.3 Labour-employer cooperation ..... 76.31 ..... 6		
1.3.4 Professional management ..... 75.64 ..... 18		
<b>2 Attract</b> ..... 51.14 ..... 45		
<b>2.1 External openness</b> ..... 41.64 ..... 42		
Attract business		
2.1.1 FDI and technology transfer ..... 62.22 ..... 50		
2.1.2 Prevalence of foreign ownership ..... 71.78 ..... 22		
Attract people		
2.1.3 Migrant stock ..... 4.30 ..... 75		
2.1.4 International students ..... 16.27 ..... 39		
2.1.5 Brain gain ..... 38.52 ..... 57		
2.1.6 Brain drain ..... 56.77 ..... 21		
<b>2.2 Internal openness</b> ..... 60.65 ..... 53		
Social diversity		
2.2.1 Tolerance to minorities ..... 74.11 ..... 40		
2.2.2 Tolerance to immigrants ..... 63.39 ..... 53		
2.2.3 Social mobility ..... 77.97 ..... 15		
Gender equality		
2.2.4 Female graduates ..... 49.38 ..... 75		
2.2.5 Gender earnings gap ..... 38.37 ..... 76		
<b>3 Grow</b> ..... 53.09 ..... 26		
<b>3.1 Formal education</b> ..... 50.67 ..... 22		
Enrolment		
3.1.1 Vocational enrolment ..... 23.61 ..... 66		
3.1.2 Tertiary enrolment ..... 51.54 ..... 37		
Quality		
3.1.3 Tertiary education expenditure ..... 16.11 ..... 74		
3.1.4 Reading, maths and science ..... 77.84 ..... 4		
3.1.5 University ranking ..... 84.23 ..... 7		
<b>3.2 Lifelong learning</b> ..... 63.67 ..... 24		
3.2.1 Quality of management schools ..... 53.80 ..... 61		
3.2.2 Prevalence of training in firms ..... n/a ..... n/a		
3.2.3 Employee development ..... 73.53 ..... 2		
<b>3.3 Access to growth opportunities</b> ..... 44.93 ..... 51		
Networks		
3.3.1 Use of virtual social networks ..... 81.42 ..... 57		
3.3.2 Use of virtual professional networks ..... 2.41 ..... 93		
Empowerment		
3.3.3 Delegation of authority ..... 62.09 ..... 20		
3.3.4 Freedom of voice ..... 33.80 ..... 53		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 71.54 ..... 16		
<b>4.1 Sustainability</b> ..... 70.47 ..... 12		
4.1.1 Pension system ..... 94.55 ..... 3		
4.1.2 Taxation ..... 45.99 ..... 44		
<b>4.2 Lifestyle</b> ..... 72.62 ..... 27		
4.2.1 Environmental performance ..... 77.87 ..... 26		
4.2.2 Safety at night ..... 73.55 ..... 34		
4.2.3 Physician density ..... 25.00 ..... 47		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... 86.65 ..... 13		
<b>5 Labour and Vocational Skills</b> ..... 58.81 ..... 13		
<b>5.1 Employable skills</b> ..... 58.68 ..... 32		
5.1.1 Secondary-educated workforce ..... 59.83 ..... 31		
5.1.2 Secondary-educated population ..... 57.53 ..... 23		
5.1.3 Technicians and associate professionals ..... n/a ..... n/a		
<b>5.2 Labour productivity</b> ..... 58.94 ..... 5		
5.2.1 Labour productivity per employee ..... 45.12 ..... 26		
5.2.2 Relationship of pay to productivity ..... 63.49 ..... 8		
5.2.3 Mid-value exports ..... 68.21 ..... 10		
<b>6 Global Knowledge Skills</b> ..... 49.43 ..... 21		
<b>6.1 Higher skills and competencies</b> ..... 60.48 ..... 13		
6.1.1 Tertiary-educated workforce ..... 66.88 ..... 6		
6.1.2 Tertiary-educated population ..... 50.56 ..... 16		
6.1.3 Professionals ..... n/a ..... n/a		
6.1.4 Researchers ..... 68.91 ..... 10		
6.1.5 Senior officials and managers ..... n/a ..... n/a		
6.1.6 Quality of scientific institutions ..... 80.11 ..... 7		
6.1.7 Scientific journal articles ..... 35.93 ..... 29		
<b>6.2 Talent impact</b> ..... 38.87 ..... 38		
6.2.1 Innovation output ..... 56.93 ..... 26		
6.2.2 High-value exports ..... 49.03 ..... 16		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 46.94 ..... 34		
6.2.4 New business density ..... 0.60 ..... 83		

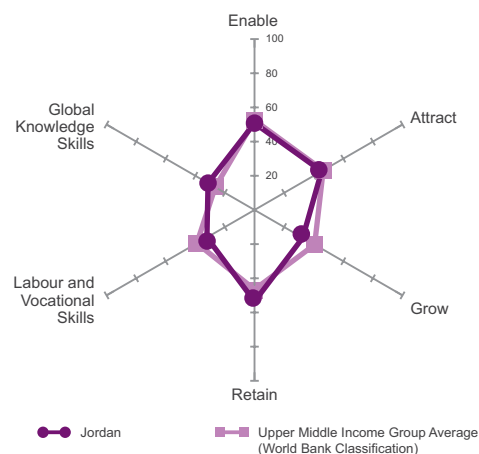
# JORDAN

Upper Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

70

Population (millions) **6.46**  
GDP per capita (PPP US\$) **11,782.21**  
GDP (US\$ billions) **33.68**  
GTCI Score **40.97**  
GTCI Score (Income Group Average) **41.93**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	50.81	72
1.1	<b>Regulatory landscape</b>	46.33	78
1.1.1	Government effectiveness	30.99	69
1.1.2	Business-government relations	59.08	47
1.1.3	Political stability	48.92	82
1.1.4	Starting a foreign business	n/a	n/a
1.2	<b>Market landscape</b>	49.23	63
1.2.1	Competition intensity	69.92	49
1.2.2	Ease of doing business	36.26	89
1.2.3	Cluster development	58.14	26
1.2.4	R&D expenditure	10.42	61
1.2.5	ICT infrastructure	48.71	66
1.2.6	Technology utilisation	71.92	32
1.3	<b>Business-labour landscape</b>	56.86	70
	Labour market flexibility		
1.3.1	Ease of hiring	89.00	20
1.3.2	Ease of redundancy	25.00	97
	Governance		
1.3.3	Labour-employer cooperation	59.88	36
1.3.4	Professional management	53.56	55
2	<b>Attract</b>	45.32	70
2.1	<b>External openness</b>	59.64	10
	Attract business		
2.1.1	FDI and technology transfer	66.83	30
2.1.2	Prevalence of foreign ownership	60.81	51
	Attract people		
2.1.3	Migrant stock	92.98	6
2.1.4	International students	38.64	16
2.1.5	Brain gain	49.86	30
2.1.6	Brain drain	48.71	37
2.2	<b>Internal openness</b>	31.00	108
	Social diversity		
2.2.1	Tolerance to minorities	13.15	102
2.2.2	Tolerance to immigrants	37.63	92
2.2.3	Social mobility	57.46	49
	Gender equality		
2.2.4	Female graduates	45.89	79
2.2.5	Gender earnings gap	1.16	104
3	<b>Grow</b>	32.57	93
3.1	<b>Formal education</b>	19.51	79
	Enrolment		
3.1.1	Vocational enrolment	6.57	90
3.1.2	Tertiary enrolment	38.50	54
	Quality		
3.1.3	Tertiary education expenditure	n/a	n/a
3.1.4	Reading, maths and science	10.77	54
3.1.5	University ranking	22.20	57
3.2	<b>Lifelong learning</b>	37.85	99
3.2.1	Quality of management schools	61.69	38
3.2.2	Prevalence of training in firms	0.00	80
3.2.3	Employee development	51.85	49
3.3	<b>Access to growth opportunities</b>	40.34	70
	Networks		
3.3.1	Use of virtual social networks	81.80	53
3.3.2	Use of virtual professional networks	23.67	41
	Empowerment		
3.3.3	Delegation of authority	55.90	29
3.3.4	Freedom of voice	0.00	104

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	53.55	51
4.1	<b>Sustainability</b>	38.25	67
4.1.1	Pension system	37.37	55
4.1.2	Taxation	39.13	68
4.2	<b>Lifestyle</b>	68.85	34
4.2.1	Environmental performance	53.94	53
4.2.2	Safety at night	86.23	16
4.2.3	Physician density	37.50	19
4.2.4	Sanitation	97.73	36
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	32.15	79
5.1	<b>Employable skills</b>	19.47	90
5.1.1	Secondary-educated workforce	18.62	83
5.1.2	Secondary-educated population	20.32	80
5.1.3	Technicians and associate professionals	n/a	n/a
5.2	<b>Labour productivity</b>	44.83	38
5.2.1	Labour productivity per employee	15.87	58
5.2.2	Relationship of pay to productivity	54.65	37
5.2.3	Mid-value exports	63.97	15
6	<b>Global Knowledge Skills</b>	31.41	50
6.1	<b>Higher skills and competencies</b>	38.37	34
6.1.1	Tertiary-educated workforce	45.72	30
6.1.2	Tertiary-educated population	27.35	53
6.1.3	Professionals	n/a	n/a
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Quality of scientific institutions	49.09	53
6.1.7	Scientific journal articles	31.42	33
6.2	<b>Talent impact</b>	24.44	70
6.2.1	Innovation output	34.87	53
6.2.2	High-value exports	12.70	95
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	43.88	41
6.2.4	New business density	6.32	60

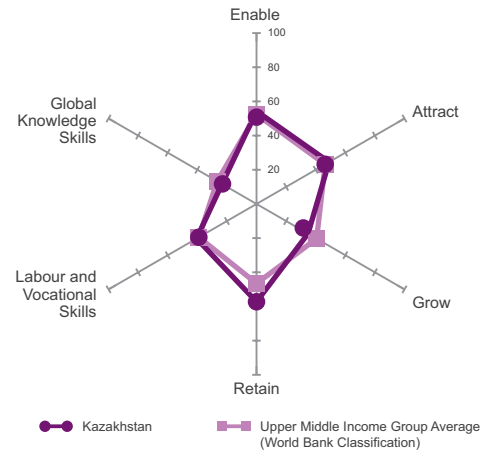
# KAZAKHSTAN

Upper Middle Income  
Central and Southern Asia

RANK  
(out of 109)

58

Population (millions) **17.04**  
GDP per capita (PPP US\$) **23,214.35**  
GDP (US\$ billions) **231.88**  
GTCI Score **43.20**  
GTCI Score (Income Group Average) **41.93**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	54.32	59
1.1	<b>Regulatory landscape</b>	49.02	68
1.1.1	Government effectiveness	18.14	90
1.1.2	Business-government relations	60.26	37
1.1.3	Political stability	54.73	73
1.1.4	Starting a foreign business	62.96	36
1.2	<b>Market landscape</b>	45.17	72
1.2.1	Competition intensity	59.27	90
1.2.2	Ease of doing business	49.47	65
1.2.3	Cluster development	36.22	92
1.2.4	R&D expenditure	3.72	81
1.2.5	ICT infrastructure	66.32	45
1.2.6	Technology utilisation	56.04	76
1.3	<b>Business-labour landscape</b>	68.76	34
	Labour market flexibility		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	62.50	55
	Governance		
1.3.3	Labour-employer cooperation	59.13	41
1.3.4	Professional management	53.41	58
2	<b>Attract</b>	49.00	52
2.1	<b>External openness</b>	40.60	47
	Attract business		
2.1.1	FDI and technology transfer	51.19	88
2.1.2	Prevalence of foreign ownership	49.32	89
	Attract people		
2.1.3	Migrant stock	48.81	12
2.1.4	International students	5.58	62
2.1.5	Brain gain	48.62	32
2.1.6	Brain drain	40.11	56
2.2	<b>Internal openness</b>	57.40	69
	Social diversity		
2.2.1	Tolerance to minorities	65.62	62
2.2.2	Tolerance to immigrants	64.54	51
2.2.3	Social mobility	51.75	64
	Gender equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	47.67	57
3	<b>Grow</b>	34.80	85
3.1	<b>Formal education</b>	23.31	70
	Enrolment		
3.1.1	Vocational enrolment	13.28	75
3.1.2	Tertiary enrolment	36.67	58
	Quality		
3.1.3	Tertiary education expenditure	6.21	85
3.1.4	Reading, maths and science	19.45	49
3.1.5	University ranking	40.92	38
3.2	<b>Lifelong learning</b>	43.89	83
3.2.1	Quality of management schools	47.65	78
3.2.2	Prevalence of training in firms	32.98	56
3.2.3	Employee development	51.03	53
3.3	<b>Access to growth opportunities</b>	37.22	86
	Networks		
3.3.1	Use of virtual social networks	73.44	78
3.3.2	Use of virtual professional networks	6.02	85
	Empowerment		
3.3.3	Delegation of authority	48.18	45
3.3.4	Freedom of voice	21.23	70

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	57.25	46
4.1	<b>Sustainability</b>	55.73	39
4.1.1	Pension system	62.63	40
4.1.2	Taxation	48.44	33
4.2	<b>Lifestyle</b>	58.77	51
4.2.1	Environmental performance	47.14	69
4.2.2	Safety at night	40.22	85
4.2.3	Physician density	50.00	4
4.2.4	Sanitation	97.73	36
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	40.51	55
5.1	<b>Employable skills</b>	49.19	48
5.1.1	Secondary-educated workforce	n/a	n/a
5.1.2	Secondary-educated population	57.27	25
5.1.3	Technicians and associate professionals	41.12	49
5.2	<b>Labour productivity</b>	31.82	83
5.2.1	Labour productivity per employee	16.67	57
5.2.2	Relationship of pay to productivity	61.20	13
5.2.3	Mid-value exports	17.60	36
6	<b>Global Knowledge Skills</b>	23.32	73
6.1	<b>Higher skills and competencies</b>	27.31	59
6.1.1	Tertiary-educated workforce	n/a	n/a
6.1.2	Tertiary-educated population	43.08	24
6.1.3	Professionals	38.04	44
6.1.4	Researchers	8.64	54
6.1.5	Senior officials and managers	35.96	33
6.1.6	Quality of scientific institutions	37.08	85
6.1.7	Scientific journal articles	1.05	100
6.2	<b>Talent impact</b>	19.33	81
6.2.1	Innovation output	18.70	88
6.2.2	High-value exports	13.57	78
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	33.88	56
6.2.4	New business density	11.17	47

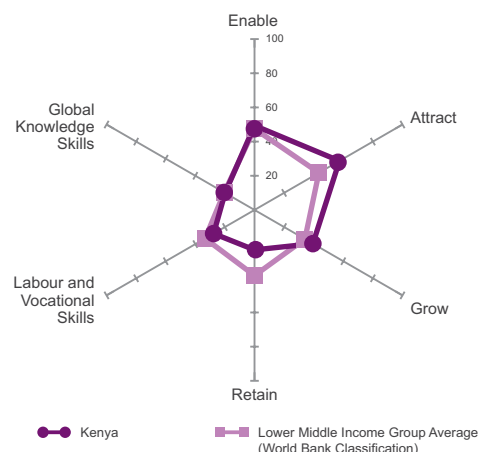
# KENYA

Lower Middle Income  
Sub-Saharan Africa

RANK  
(out of 109)

# 86

Population (millions) **44.35**  
GDP per capita (PPP US\$) **2,794.98**  
GDP (US\$ billions) **55.24**  
GTCI Score **36.19**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	49.39	77
<b>1.1 Regulatory landscape</b> .....	41.48	94
1.1.1 Government effectiveness.....	19.67	86
1.1.2 Business-government relations.....	58.66	50
1.1.3 Political stability.....	35.76	97
1.1.4 Starting a foreign business.....	51.83	52
<b>1.2 Market landscape</b> .....	44.77	74
1.2.1 Competition intensity.....	77.64	18
1.2.2 Ease of doing business.....	28.96	99
1.2.3 Cluster development.....	53.26	35
1.2.4 R&D expenditure.....	24.07	36
1.2.5 ICT infrastructure.....	20.69	97
1.2.6 Technology utilisation.....	64.00	51
<b>1.3 Business-labour landscape</b> .....	61.92	58
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	54.85	58
1.3.4 Professional management.....	63.65	29
<b>2 Attract</b> .....	57.38	27
<b>2.1 External openness</b> .....	42.97	38
Attract business		
2.1.1 FDI and technology transfer.....	61.83	53
2.1.2 Prevalence of foreign ownership.....	57.78	60
Attract people		
2.1.3 Migrant stock.....	4.85	74
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	44.18	43
2.1.6 Brain drain.....	46.22	40
<b>2.2 Internal openness</b> .....	71.80	20
Social diversity		
2.2.1 Tolerance to minorities.....	79.32	29
2.2.2 Tolerance to immigrants.....	71.06	36
2.2.3 Social mobility.....	49.61	73
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	87.21	4
<b>3 Grow</b> .....	39.45	64
<b>3.1 Formal education</b> .....	10.17	100
Enrolment		
3.1.1 Vocational enrolment.....	0.31	101
3.1.2 Tertiary enrolment.....	1.11	102
Quality		
3.1.3 Tertiary education expenditure.....	24.38	50
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	14.90	67
<b>3.2 Lifelong learning</b> .....	56.06	41
3.2.1 Quality of management schools.....	61.53	37
3.2.2 Prevalence of training in firms.....	49.47	37
3.2.3 Employee development.....	57.18	31
<b>3.3 Access to growth opportunities</b> .....	52.12	35
Networks		
3.3.1 Use of virtual social networks.....	80.98	58
3.3.2 Use of virtual professional networks.....	7.52	80
Empowerment		
3.3.3 Delegation of authority.....	52.37	33
3.3.4 Freedom of voice.....	67.60	9

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	23.37	104
<b>4.1 Sustainability</b> .....	25.01	102
4.1.1 Pension system.....	7.07	86
4.1.2 Taxation.....	42.95	55
<b>4.2 Lifestyle</b> .....	21.73	104
4.2.1 Environmental performance.....	26.81	99
4.2.2 Safety at night.....	39.67	86
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	20.45	99
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	27.65	94
<b>5.1 Employable skills</b> .....	24.92	83
5.1.1 Secondary-educated workforce.....	30.08	68
5.1.2 Secondary-educated population.....	19.76	82
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	30.38	85
5.2.1 Labour productivity per employee.....	1.41	90
5.2.2 Relationship of pay to productivity.....	51.94	44
5.2.3 Mid-value exports.....	37.78	62
<b>6 Global Knowledge Skills</b> .....	19.90	84
<b>6.1 Higher skills and competencies</b> .....	23.38	72
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	n/a	n/a
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	2.96	64
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	53.57	39
6.1.7 Scientific journal articles.....	13.62	58
<b>6.2 Talent impact</b> .....	16.42	88
6.2.1 Innovation output.....	28.36	69
6.2.2 High-value exports.....	15.51	64
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	5.39	67

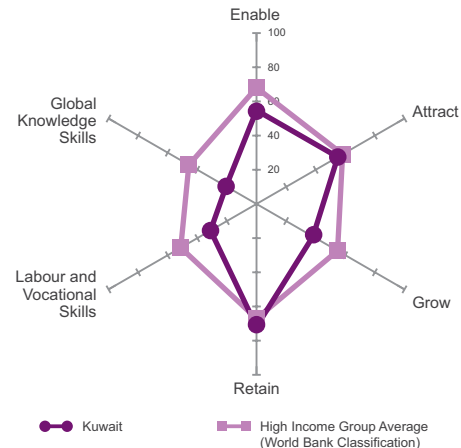
# KUWAIT

High Income  
Northern Africa and Western Asia

RANK  
(out of 109)

51

Population (millions) **3.37**  
GDP per capita (PPP US\$) **85,659.55**  
GDP (US\$ billions) **175.83**  
GTCI Score **45.21**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	54.79	57
<b>1.1 Regulatory landscape</b> .....	46.52	77
1.1.1 Government effectiveness.....	32.17	64
1.1.2 Business-government relations.....	39.72	96
1.1.3 Political stability.....	67.67	50
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	42.73	82
1.2.1 Competition intensity.....	58.48	92
1.2.2 Ease of doing business.....	46.31	71
1.2.3 Cluster development.....	44.54	69
1.2.4 R&D expenditure.....	1.99	89
1.2.5 ICT infrastructure.....	n/a	n/a
1.2.6 Technology utilisation.....	62.34	55
<b>1.3 Business-labour landscape</b> .....	75.12	20
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	57.51	47
1.3.4 Professional management.....	42.97	91
<b>2 Attract</b> .....	54.92	29
<b>2.1 External openness</b> .....	51.09	25
Attract business		
2.1.1 FDI and technology transfer.....	37.06	107
2.1.2 Prevalence of foreign ownership.....	33.50	108
Attract people		
2.1.3 Migrant stock.....	100.00	1
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	44.37	41
2.1.6 Brain drain.....	40.52	55
<b>2.2 Internal openness</b> .....	58.75	62
Social diversity		
2.2.1 Tolerance to minorities.....	74.38	38
2.2.2 Tolerance to immigrants.....	69.32	40
2.2.3 Social mobility.....	54.58	56
Gender equality		
2.2.4 Female graduates.....	74.52	46
2.2.5 Gender earnings gap.....	20.93	96
<b>3 Grow</b> .....	38.12	71
<b>3.1 Formal education</b> .....	17.44	86
Enrolment		
3.1.1 Vocational enrolment.....	3.94	95
3.1.2 Tertiary enrolment.....	22.55	74
Quality		
3.1.3 Tertiary education expenditure.....	28.06	38
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	15.20	66
<b>3.2 Lifelong learning</b> .....	46.83	78
3.2.1 Quality of management schools.....	48.54	73
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	45.12	80
<b>3.3 Access to growth opportunities</b> .....	50.08	40
Networks		
3.3.1 Use of virtual social networks.....	80.34	59
3.3.2 Use of virtual professional networks.....	22.76	42
Empowerment		
3.3.3 Delegation of authority.....	52.26	34
3.3.4 Freedom of voice.....	44.97	37

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	71.49	14
<b>4.1 Sustainability</b> .....	71.97	8
4.1.1 Pension system.....	n/a	n/a
4.1.2 Taxation.....	71.97	4
<b>4.2 Lifestyle</b> .....	71.61	29
4.2.1 Environmental performance.....	65.73	40
4.2.2 Safety at night.....	95.73	4
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	31.10	83
<b>5.1 Employable skills</b> .....	24.26	86
5.1.1 Secondary-educated workforce.....	15.96	88
5.1.2 Secondary-educated population.....	20.79	79
5.1.3 Technicians and associate professionals.....	36.04	55
<b>5.2 Labour productivity</b> .....	37.93	65
5.2.1 Labour productivity per employee.....	56.22	10
5.2.2 Relationship of pay to productivity.....	41.84	86
5.2.3 Mid-value exports.....	15.72	100
<b>6 Global Knowledge Skills</b> .....	20.55	81
<b>6.1 Higher skills and competencies</b> .....	18.85	82
6.1.1 Tertiary-educated workforce.....	30.86	63
6.1.2 Tertiary-educated population.....	22.48	63
6.1.3 Professionals.....	24.85	63
6.1.4 Researchers.....	1.69	72
6.1.5 Senior officials and managers.....	11.24	79
6.1.6 Quality of scientific institutions.....	36.26	88
6.1.7 Scientific journal articles.....	4.58	84
<b>6.2 Talent impact</b> .....	22.25	74
6.2.1 Innovation output.....	32.35	58
6.2.2 High-value exports.....	12.15	102
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	n/a	n/a

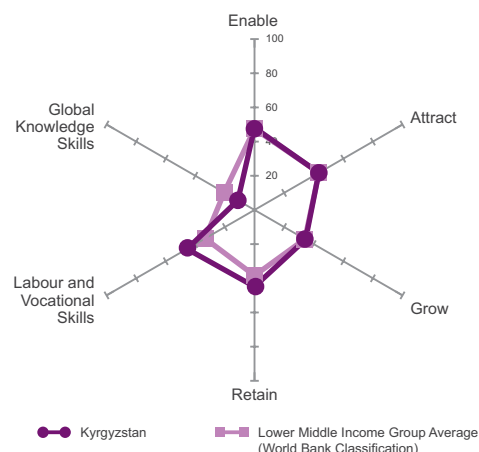
# KYRGYZSTAN

Lower Middle Income  
Central and Southern Asia

RANK  
(out of 109)

**80**

Population (millions) **5.72**  
GDP per capita (PPP US\$) **3,212.88**  
GDP (US\$ billions) **7.23**  
GTCI Score **37.98**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	48.13	81
<b>1.1 Regulatory landscape</b> .....	44.09	88
1.1.1 Government effectiveness.....	13.41	97
1.1.2 Business-government relations.....	47.21	80
1.1.3 Political stability.....	41.64	92
1.1.4 Starting a foreign business.....	74.08	22
<b>1.2 Market landscape</b> .....	36.21	99
1.2.1 Competition intensity.....	60.12	87
1.2.2 Ease of doing business.....	41.25	80
1.2.3 Cluster development.....	32.57	103
1.2.4 R&D expenditure.....	3.72	81
1.2.5 ICT infrastructure.....	30.46	90
1.2.6 Technology utilisation.....	49.11	97
<b>1.3 Business-labour landscape</b> .....	64.10	50
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	51.75	72
1.3.4 Professional management.....	37.98	102
<b>2 Attract</b> .....	43.48	33
<b>2.1 External openness</b> .....	27.17	102
Attract business		
2.1.1 FDI and technology transfer.....	47.89	98
2.1.2 Prevalence of foreign ownership.....	52.26	78
Attract people		
2.1.3 Migrant stock.....	9.33	57
2.1.4 International students.....	16.61	37
2.1.5 Brain gain.....	17.70	101
2.1.6 Brain drain.....	19.21	102
<b>2.2 Internal openness</b> .....	59.79	58
Social diversity		
2.2.1 Tolerance to minorities.....	72.60	46
2.2.2 Tolerance to immigrants.....	57.45	62
2.2.3 Social mobility.....	46.68	79
Gender equality		
2.2.4 Female graduates.....	79.18	33
2.2.5 Gender earnings gap.....	43.02	68
<b>3 Grow</b> .....	34.53	89
<b>3.1 Formal education</b> .....	19.17	81
Enrolment		
3.1.1 Vocational enrolment.....	17.80	68
3.1.2 Tertiary enrolment.....	39.40	52
Quality		
3.1.3 Tertiary education expenditure.....	19.49	67
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	50.65	61
3.2.1 Quality of management schools.....	31.67	108
3.2.2 Prevalence of training in firms.....	78.23	7
3.2.3 Employee development.....	42.06	90
<b>3.3 Access to growth opportunities</b> .....	33.77	96
Networks		
3.3.1 Use of virtual social networks.....	69.38	92
3.3.2 Use of virtual professional networks.....	1.87	95
Empowerment		
3.3.3 Delegation of authority.....	39.53	88
3.3.4 Freedom of voice.....	24.30	66

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	44.84	70
<b>4.1 Sustainability</b> .....	39.43	65
4.1.1 Pension system.....	39.39	54
4.1.2 Taxation.....	39.47	65
<b>4.2 Lifestyle</b> .....	50.25	72
4.2.1 Environmental performance.....	32.06	93
4.2.2 Safety at night.....	53.03	63
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	90.91	53
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	45.64	44
<b>5.1 Employable skills</b> .....	62.37	24
5.1.1 Secondary-educated workforce.....	69.80	22
5.1.2 Secondary-educated population.....	88.87	3
5.1.3 Technicians and associate professionals.....	28.43	69
<b>5.2 Labour productivity</b> .....	28.91	90
5.2.1 Labour productivity per employee.....	3.18	86
5.2.2 Relationship of pay to productivity.....	58.72	21
5.2.3 Mid-value exports.....	24.83	79
<b>6 Global Knowledge Skills</b> .....	11.24	104
<b>6.1 Higher skills and competencies</b> .....	13.17	99
6.1.1 Tertiary-educated workforce.....	4.04	89
6.1.2 Tertiary-educated population.....	3.42	91
6.1.3 Professionals.....	27.61	60
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	12.92	75
6.1.6 Quality of scientific institutions.....	26.88	105
6.1.7 Scientific journal articles.....	4.15	86
<b>6.2 Talent impact</b> .....	9.32	104
6.2.1 Innovation output.....	4.41	107
6.2.2 High-value exports.....	17.62	55
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	5.92	61



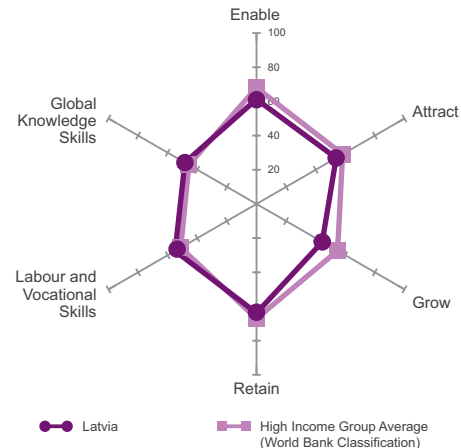
# LATVIA

High Income  
Europe

RANK  
(out of 109)

29

Population (millions) **2.01**  
GDP per capita (PPP\$) **22,568.50**  
GDP (US\$ billions) **30.96**  
GTCI Score **54.46**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	61.26	35
1.1	<b>Regulatory landscape</b>	62.56	40
1.1.1	Government effectiveness	61.08	34
1.1.2	Business-government relations	48.30	75
1.1.3	Political stability	78.31	36
1.1.4	Starting a foreign business	n/a	n/a
1.2	<b>Market landscape</b>	58.11	35
1.2.1	Competition intensity	76.84	20
1.2.2	Ease of doing business	75.37	21
1.2.3	Cluster development	41.67	72
1.2.4	R&D expenditure	16.13	49
1.2.5	ICT infrastructure	72.11	35
1.2.6	Technology utilisation	66.52	43
1.3	<b>Business-labour landscape</b>	63.11	54
	Labour market flexibility		
1.3.1	Ease of hiring	50.00	85
1.3.2	Ease of redundancy	75.00	43
	Governance		
1.3.3	Labour-employer cooperation	63.72	28
1.3.4	Professional management	63.72	28
2	<b>Attract</b>	53.81	33
2.1	<b>External openness</b>	40.39	49
	Attract business		
2.1.1	FDI and technology transfer	64.16	41
2.1.2	Prevalence of foreign ownership	71.28	24
	Attract people		
2.1.3	Migrant stock	31.80	22
2.1.4	International students	11.66	48
2.1.5	Brain gain	28.92	78
2.1.6	Brain drain	34.54	73
2.2	<b>Internal openness</b>	67.24	29
	Social diversity		
2.2.1	Tolerance to minorities	64.38	64
2.2.2	Tolerance to immigrants	43.56	84
2.2.3	Social mobility	70.04	26
	Gender equality		
2.2.4	Female graduates	97.73	2
2.2.5	Gender earnings gap	60.47	20
3	<b>Grow</b>	44.43	49
3.1	<b>Formal education</b>	40.90	36
	Enrolment		
3.1.1	Vocational enrolment	52.15	25
3.1.2	Tertiary enrolment	54.77	28
	Quality		
3.1.3	Tertiary education expenditure	22.34	57
3.1.4	Reading, maths and science	55.90	24
3.1.5	University ranking	19.33	62
3.2	<b>Lifelong learning</b>	48.43	73
3.2.1	Quality of management schools	59.32	46
3.2.2	Prevalence of training in firms	28.76	59
3.2.3	Employee development	57.20	30
3.3	<b>Access to growth opportunities</b>	43.97	55
	Networks		
3.3.1	Use of virtual social networks	85.57	28
3.3.2	Use of virtual professional networks	26.18	36
	Empowerment		
3.3.3	Delegation of authority	50.15	39
3.3.4	Freedom of voice	13.97	79

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	63.83	36
4.1	<b>Sustainability</b>	65.41	20
4.1.1	Pension system	92.93	8
4.1.2	Taxation	37.90	73
4.2	<b>Lifestyle</b>	62.24	46
4.2.1	Environmental performance	65.89	38
4.2.2	Safety at night	55.65	60
4.2.3	Physician density	37.50	19
4.2.4	Sanitation	76.14	75
4.2.5	Flexible employment	76.02	28
5	<b>Labour and Vocational Skills</b>	55.00	21
5.1	<b>Employable skills</b>	67.37	13
5.1.1	Secondary-educated workforce	75.43	15
5.1.2	Secondary-educated population	70.85	13
5.1.3	Technicians and associate professionals	55.84	34
5.2	<b>Labour productivity</b>	42.63	48
5.2.1	Labour productivity per employee	24.00	45
5.2.2	Relationship of pay to productivity	62.76	10
5.2.3	Mid-value exports	41.14	59
6	<b>Global Knowledge Skills</b>	48.40	24
6.1	<b>Higher skills and competencies</b>	43.25	29
6.1.1	Tertiary-educated workforce	50.24	25
6.1.2	Tertiary-educated population	48.68	18
6.1.3	Professionals	49.69	25
6.1.4	Researchers	25.77	33
6.1.5	Senior officials and managers	56.18	11
6.1.6	Quality of scientific institutions	52.90	40
6.1.7	Scientific journal articles	19.80	45
6.2	<b>Talent impact</b>	53.56	9
6.2.1	Innovation output	52.31	31
6.2.2	High-value exports	31.98	30
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	52.80	19
6.2.4	New business density	77.13	8



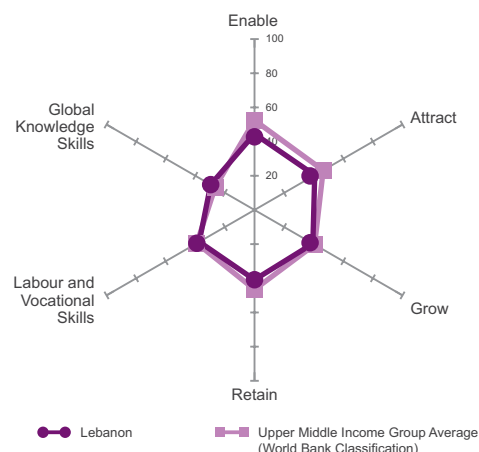
# LEBANON

Upper Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

77

Population (millions) **4.47**  
GDP per capita (PPP\$) **17,173.84**  
GDP (US\$ billions) **44.35**  
GTCI Score **38.74**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	44.52	93
<b>1.1 Regulatory landscape</b> .....	27.05	107
1.1.1 Government effectiveness.....	22.54	80
1.1.2 Business-government relations.....	36.37	103
1.1.3 Political stability.....	22.25	108
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	54.13	44
1.2.1 Competition intensity.....	75.27	25
1.2.2 Ease of doing business.....	40.97	81
1.2.3 Cluster development.....	37.93	86
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	61.31	53
1.2.6 Technology utilisation.....	55.15	79
<b>1.3 Business-labour landscape</b> .....	52.39	83
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	52.99	67
1.3.4 Professional management.....	38.40	100
<b>2 Attract</b> .....	40.69	94
<b>2.1 External openness</b> .....	37.11	61
Attract business		
2.1.1 FDI and technology transfer.....	39.34	106
2.1.2 Prevalence of foreign ownership.....	47.94	91
Attract people		
2.1.3 Migrant stock.....	40.66	16
2.1.4 International students.....	54.49	12
2.1.5 Brain gain.....	19.25	100
2.1.6 Brain drain.....	20.98	101
<b>2.2 Internal openness</b> .....	44.27	99
Social diversity		
2.2.1 Tolerance to minorities.....	34.25	96
2.2.2 Tolerance to immigrants.....	62.37	56
2.2.3 Social mobility.....	44.76	86
Gender equality		
2.2.4 Female graduates.....	68.33	63
2.2.5 Gender earnings gap.....	11.63	101
<b>3 Grow</b> .....	39.42	66
<b>3.1 Formal education</b> .....	32.89	51
Enrolment		
3.1.1 Vocational enrolment.....	30.25	48
3.1.2 Tertiary enrolment.....	39.66	51
Quality		
3.1.3 Tertiary education expenditure.....	15.16	78
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	46.51	33
<b>3.2 Lifelong learning</b> .....	47.64	74
3.2.1 Quality of management schools.....	71.25	16
3.2.2 Prevalence of training in firms.....	30.61	58
3.2.3 Employee development.....	41.07	94
<b>3.3 Access to growth opportunities</b> .....	37.72	83
Networks		
3.3.1 Use of virtual social networks.....	80.00	61
3.3.2 Use of virtual professional networks.....	26.39	35
Empowerment		
3.3.3 Delegation of authority.....	36.39	98
3.3.4 Freedom of voice.....	8.10	96

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	40.48	81
<b>4.1 Sustainability</b> .....	40.91	63
4.1.1 Pension system.....	34.34	58
4.1.2 Taxation.....	47.48	38
<b>4.2 Lifestyle</b> .....	40.76	91
4.2.1 Environmental performance.....	45.81	75
4.2.2 Safety at night.....	38.98	87
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	n/a	n/a
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	37.35	66
<b>5.1 Employable skills</b> .....	27.10	77
5.1.1 Secondary-educated workforce.....	12.05	91
5.1.2 Secondary-educated population.....	25.07	72
5.1.3 Technicians and associate professionals.....	44.16	46
<b>5.2 Labour productivity</b> .....	47.60	31
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	50.16	49
5.2.3 Mid-value exports.....	45.04	51
<b>6 Global Knowledge Skills</b> .....	29.63	56
<b>6.1 Higher skills and competencies</b> .....	33.81	46
6.1.1 Tertiary-educated workforce.....	39.10	43
6.1.2 Tertiary-educated population.....	25.79	55
6.1.3 Professionals.....	30.37	54
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	66.85	8
6.1.6 Quality of scientific institutions.....	27.01	104
6.1.7 Scientific journal articles.....	13.73	57
<b>6.2 Talent impact</b> .....	25.45	67
6.2.1 Innovation output.....	19.96	84
6.2.2 High-value exports.....	22.71	42
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	33.69	59
6.2.4 New business density.....	n/a	n/a

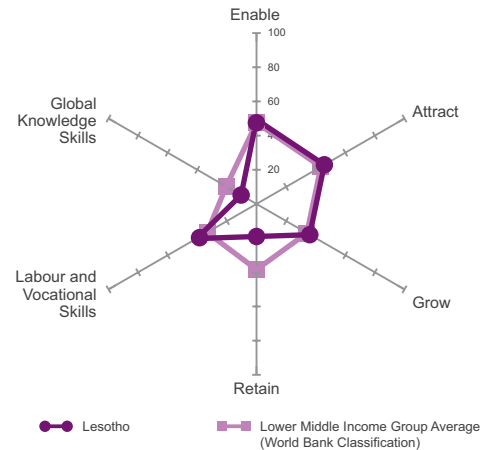
# LESOTHO

Lower Middle Income  
Sub-Saharan Africa

RANK  
(out of 109)

92

Population (millions) **2.07**  
GDP per capita (PPP\$) **2,576.26**  
GDP (US\$ billions) **2.33**  
GTCI Score **33.51**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	49.34	78
<b>1.1 Regulatory landscape</b> .....	49.98	64
1.1.1 Government effectiveness.....	22.83	79
1.1.2 Business-government relations.....	54.89	58
1.1.3 Political stability.....	72.22	44
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	33.73	102
1.2.1 Competition intensity.....	62.86	79
1.2.2 Ease of doing business.....	32.50	93
1.2.3 Cluster development.....	47.53	55
1.2.4 R&D expenditure.....	0.00	97
1.2.5 ICT infrastructure.....	17.22	101
1.2.6 Technology utilisation.....	42.27	108
<b>1.3 Business-labour landscape</b> .....	64.31	48
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	49.85	84
1.3.4 Professional management.....	40.73	96
<b>2 Attract</b> .....	45.84	63
<b>2.1 External openness</b> .....	29.48	94
Attract business		
2.1.1 FDI and technology transfer.....	40.93	105
2.1.2 Prevalence of foreign ownership.....	50.82	85
Attract people		
2.1.3 Migrant stock.....	0.21	106
2.1.4 International students.....	1.82	76
2.1.5 Brain gain.....	42.55	46
2.1.6 Brain drain.....	40.56	54
<b>2.2 Internal openness</b> .....	62.21	40
Social diversity		
2.2.1 Tolerance to minorities.....	n/a	n/a
2.2.2 Tolerance to immigrants.....	n/a	n/a
2.2.3 Social mobility.....	53.05	58
Gender equality		
2.2.4 Female graduates.....	82.41	22
2.2.5 Gender earnings gap.....	51.16	44
<b>3 Grow</b> .....	35.98	81
<b>3.1 Formal education</b> .....	29.19	59
Enrolment		
3.1.1 Vocational enrolment.....	9.68	81
3.1.2 Tertiary enrolment.....	7.06	93
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	72
<b>3.2 Lifelong learning</b> .....	49.53	67
3.2.1 Quality of management schools.....	47.78	77
3.2.2 Prevalence of training in firms.....	51.58	33
3.2.3 Employee development.....	49.23	60
<b>3.3 Access to growth opportunities</b> .....	29.23	105
Networks		
3.3.1 Use of virtual social networks.....	50.15	107
3.3.2 Use of virtual professional networks.....	3.51	90
Empowerment		
3.3.3 Delegation of authority.....	34.02	103
3.3.4 Freedom of voice.....	n/a	n/a

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	19.05	108
<b>4.1 Sustainability</b> .....	26.15	100
4.1.1 Pension system.....	3.03	95
4.1.2 Taxation.....	49.27	31
<b>4.2 Lifestyle</b> .....	11.95	108
4.2.1 Environmental performance.....	3.44	108
4.2.2 Safety at night.....	n/a	n/a
4.2.3 Physician density.....	n/a	n/a
4.2.4 Sanitation.....	20.45	99
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	40.44	56
<b>5.1 Employable skills</b> .....	21.45	89
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	11.94	91
5.1.3 Technicians and associate professionals.....	30.96	62
<b>5.2 Labour productivity</b> .....	59.44	4
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	46.77	72
5.2.3 Mid-value exports.....	72.11	7
<b>6 Global Knowledge Skills</b> .....	10.40	105
<b>6.1 Higher skills and competencies</b> .....	9.61	105
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	2.93	93
6.1.3 Professionals.....	4.91	91
6.1.4 Researchers.....	0.00	88
6.1.5 Senior officials and managers.....	12.92	75
6.1.6 Quality of scientific institutions.....	32.15	96
6.1.7 Scientific journal articles.....	4.76	82
<b>6.2 Talent impact</b> .....	11.18	98
6.2.1 Innovation output.....	0.00	109
6.2.2 High-value exports.....	23.84	39
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	9.71	52

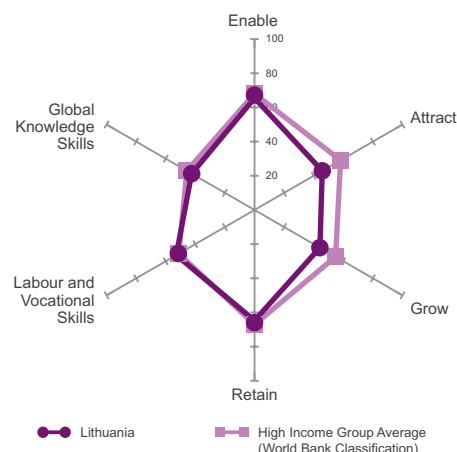
# LITHUANIA

High Income  
Europe

RANK  
(out of 109)

# 35

Population (millions) **2.96**  
GDP per capita (PPP\$) **25,453.54**  
GDP (US\$ billions) **45.93**  
GTCI Score **52.59**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 65.47 ..... 29		
<b>1.1 Regulatory landscape</b> ..... 65.79 ..... 37		
1.1.1 Government effectiveness ..... 59.34 ..... 36		
1.1.2 Business-government relations ..... 51.07 ..... 66		
1.1.3 Political stability ..... 86.96 ..... 24		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 59.38 ..... 34		
1.2.1 Competition intensity ..... 77.07 ..... 19		
1.2.2 Ease of doing business ..... 74.48 ..... 22		
1.2.3 Cluster development ..... 41.67 ..... 72		
1.2.4 R&D expenditure ..... 22.08 ..... 37		
1.2.5 ICT infrastructure ..... 68.38 ..... 43		
1.2.6 Technology utilisation ..... 72.60 ..... 30		
<b>1.3 Business-labour landscape</b> ..... 71.25 ..... 30		
Labour market flexibility		
1.3.1 Ease of hiring ..... 100.00 ..... 1		
1.3.2 Ease of redundancy ..... 75.00 ..... 43		
Governance		
1.3.3 Labour-employer cooperation ..... 51.92 ..... 71		
1.3.4 Professional management ..... 58.06 ..... 41		
<b>2 Attract</b> ..... 45.77 ..... 64		
<b>2.1 External openness</b> ..... 33.33 ..... 77		
Attract business		
2.1.1 FDI and technology transfer ..... 75.79 ..... 7		
2.1.2 Prevalence of foreign ownership ..... 56.02 ..... 68		
Attract people		
2.1.3 Migrant stock ..... 11.20 ..... 50		
2.1.4 International students ..... 7.36 ..... 59		
2.1.5 Brain gain ..... 21.87 ..... 96		
2.1.6 Brain drain ..... 27.74 ..... 91		
<b>2.2 Internal openness</b> ..... 58.21 ..... 65		
Social diversity		
2.2.1 Tolerance to minorities ..... 47.67 ..... 85		
2.2.2 Tolerance to immigrants ..... 39.80 ..... 90		
2.2.3 Social mobility ..... 60.32 ..... 40		
Gender equality		
2.2.4 Female graduates ..... 88.61 ..... 14		
2.2.5 Gender earnings gap ..... 54.55 ..... 36		
<b>3 Grow</b> ..... 44.18 ..... 50		
<b>3.1 Formal education</b> ..... 38.15 ..... 39		
Enrolment		
3.1.1 Vocational enrolment ..... 22.36 ..... 59		
3.1.2 Tertiary enrolment ..... 62.51 ..... 19		
Quality		
3.1.3 Tertiary education expenditure ..... 34.59 ..... 22		
3.1.4 Reading, maths and science ..... 51.25 ..... 32		
3.1.5 University ranking ..... 20.03 ..... 60		
<b>3.2 Lifelong learning</b> ..... 53.84 ..... 48		
3.2.1 Quality of management schools ..... 56.51 ..... 50		
3.2.2 Prevalence of training in firms ..... 50.92 ..... 35		
3.2.3 Employee development ..... 54.09 ..... 41		
<b>3.3 Access to growth opportunities</b> ..... 40.55 ..... 68		
Networks		
3.3.1 Use of virtual social networks ..... 90.65 ..... 11		
3.3.2 Use of virtual professional networks ..... 19.61 ..... 47		
Empowerment		
3.3.3 Delegation of authority ..... 46.07 ..... 56		
3.3.4 Freedom of voice ..... 5.87 ..... 98		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 64.73 ..... 32		
<b>4.1 Sustainability</b> ..... 65.10 ..... 23		
4.1.1 Pension system ..... 98.99 ..... 2		
4.1.2 Taxation ..... 31.20 ..... 92		
<b>4.2 Lifestyle</b> ..... 64.37 ..... 44		
4.2.1 Environmental performance ..... 61.86 ..... 45		
4.2.2 Safety at night ..... 42.42 ..... 79		
4.2.3 Physician density ..... 50.00 ..... 4		
4.2.4 Sanitation ..... 93.18 ..... 48		
4.2.5 Flexible employment ..... 74.39 ..... 33		
<b>5 Labour and Vocational Skills</b> ..... 52.89 ..... 27		
<b>5.1 Employable skills</b> ..... 58.26 ..... 33		
5.1.1 Secondary-educated workforce ..... 73.87 ..... 17		
5.1.2 Secondary-educated population ..... 47.11 ..... 40		
5.1.3 Technicians and associate professionals ..... 53.81 ..... 35		
<b>5.2 Labour productivity</b> ..... 47.52 ..... 32		
5.2.1 Labour productivity per employee ..... 30.33 ..... 39		
5.2.2 Relationship of pay to productivity ..... 63.29 ..... 9		
5.2.3 Mid-value exports ..... 48.94 ..... 42		
<b>6 Global Knowledge Skills</b> ..... 42.47 ..... 30		
<b>6.1 Higher skills and competencies</b> ..... 50.25 ..... 25		
6.1.1 Tertiary-educated workforce ..... 59.94 ..... 13		
6.1.2 Tertiary-educated population ..... 49.82 ..... 17		
6.1.3 Professionals ..... 66.56 ..... 8		
6.1.4 Researchers ..... 35.37 ..... 30		
6.1.5 Senior officials and managers ..... 51.12 ..... 13		
6.1.6 Quality of scientific institutions ..... 63.82 ..... 27		
6.1.7 Scientific journal articles ..... 25.13 ..... 39		
<b>6.2 Talent impact</b> ..... 34.68 ..... 48		
6.2.1 Innovation output ..... 37.39 ..... 48		
6.2.2 High-value exports ..... 21.07 ..... 47		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 49.15 ..... 28		
6.2.4 New business density ..... 31.12 ..... 21		

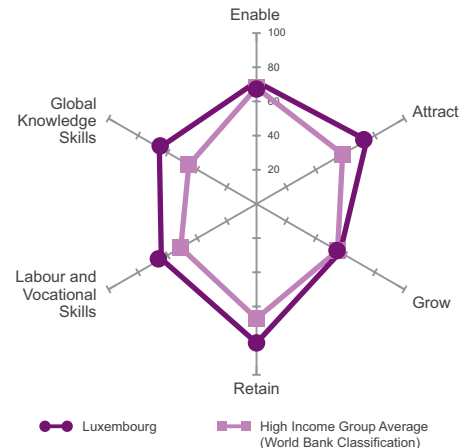
# LUXEMBOURG

High Income  
Europe

RANK  
(out of 109)

3

Population (millions) **0.54**  
GDP per capita (PPP\$) **91,047.59**  
GDP (US\$ billions) **60.13**  
GTCI Score **68.98**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	71.55	23
<b>1.1 Regulatory landscape</b> .....	87.98	6
1.1.1 Government effectiveness.....	83.28	11
1.1.2 Business-government relations.....	83.58	4
1.1.3 Political stability.....	97.09	6
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	68.22	23
1.2.1 Competition intensity.....	70.77	46
1.2.2 Ease of doing business.....	55.89	52
1.2.3 Cluster development.....	64.18	15
1.2.4 R&D expenditure.....	35.48	26
1.2.5 ICT infrastructure.....	100.00	1
1.2.6 Technology utilisation.....	82.97	8
<b>1.3 Business-labour landscape</b> .....	58.44	65
Labour market flexibility		
1.3.1 Ease of hiring.....	22.33	95
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	73.22	14
1.3.4 Professional management.....	75.72	17
<b>2 Attract</b> .....	74.51	3
<b>2.1 External openness</b> .....	83.66	3
Attract business		
2.1.1 FDI and technology transfer.....	73.11	9
2.1.2 Prevalence of foreign ownership.....	87.67	1
Attract people		
2.1.3 Migrant stock.....	100.00	1
2.1.4 International students.....	100.00	1
2.1.5 Brain gain.....	74.69	7
2.1.6 Brain drain.....	66.51	11
<b>2.2 Internal openness</b> .....	65.36	35
Social diversity		
2.2.1 Tolerance to minorities.....	69.59	55
2.2.2 Tolerance to immigrants.....	63.97	52
2.2.3 Social mobility.....	81.20	12
Gender equality		
2.2.4 Female graduates.....	73.69	48
2.2.5 Gender earnings gap.....	38.37	76
<b>3 Grow</b> .....	56.49	19
<b>3.1 Formal education</b> .....	33.00	50
Enrolment		
3.1.1 Vocational enrolment.....	63.18	16
3.1.2 Tertiary enrolment.....	14.90	83
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths and science.....	53.92	26
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	67.84	18
3.2.1 Quality of management schools.....	62.40	35
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	73.28	3
<b>3.3 Access to growth opportunities</b> .....	68.63	11
Networks		
3.3.1 Use of virtual social networks.....	85.49	29
3.3.2 Use of virtual professional networks.....	76.61	8
Empowerment		
3.3.3 Delegation of authority.....	66.60	14
3.3.4 Freedom of voice.....	45.81	36

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	81.32	2
<b>4.1 Sustainability</b> .....	84.25	2
4.1.1 Pension system.....	100.00	1
4.1.2 Taxation.....	68.50	6
<b>4.2 Lifestyle</b> .....	78.38	10
4.2.1 Environmental performance.....	93.67	2
4.2.2 Safety at night.....	60.88	56
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	99.86	2
<b>5 Labour and Vocational Skills</b> .....	64.32	5
<b>5.1 Employable skills</b> .....	65.19	14
5.1.1 Secondary-educated workforce.....	42.57	56
5.1.2 Secondary-educated population.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	87.82	7
<b>5.2 Labour productivity</b> .....	63.45	1
5.2.1 Labour productivity per employee.....	67.36	4
5.2.2 Relationship of pay to productivity.....	55.03	36
5.2.3 Mid-value exports.....	67.97	11
<b>6 Global Knowledge Skills</b> .....	65.68	1
<b>6.1 Higher skills and competencies</b> .....	60.28	15
6.1.1 Tertiary-educated workforce.....	66.56	7
6.1.2 Tertiary-educated population.....	65.96	5
6.1.3 Professionals.....	100.00	1
6.1.4 Researchers.....	82.77	6
6.1.5 Senior officials and managers.....	23.60	56
6.1.6 Quality of scientific institutions.....	66.53	25
6.1.7 Scientific journal articles.....	16.57	52
<b>6.2 Talent impact</b> .....	71.07	2
6.2.1 Innovation output.....	82.77	5
6.2.2 High-value exports.....	24.14	38
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	77.36	4
6.2.4 New business density.....	100.00	1

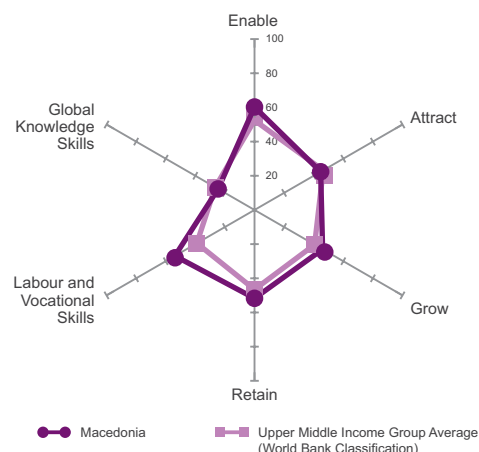
# MACEDONIA

Upper Middle Income  
Europe

RANK  
(out of 109)

46

Population (millions) **2.11**  
GDP per capita (PPP\$) **11,611.97**  
GDP (US\$ billions) **10.20**  
GTCI Score **46.85**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	60.26	39
<b>1.1 Regulatory landscape</b> .....	57.65	50
1.1.1 Government effectiveness.....	32.53	62
1.1.2 Business-government relations.....	65.40	24
1.1.3 Political stability.....	54.91	72
1.1.4 Starting a foreign business.....	77.75	20
<b>1.2 Market landscape</b> .....	50.77	52
1.2.1 Competition intensity.....	73.21	37
1.2.2 Ease of doing business.....	69.78	27
1.2.3 Cluster development.....	40.96	78
1.2.4 R&D expenditure.....	5.21	74
1.2.5 ICT infrastructure.....	62.60	52
1.2.6 Technology utilisation.....	52.87	87
<b>1.3 Business-labour landscape</b> .....	72.35	25
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	55.80	51
1.3.4 Professional management.....	44.61	88
<b>2 Attract</b> .....	44.70	76
<b>2.1 External openness</b> .....	29.35	96
Attract business		
2.1.1 FDI and technology transfer.....	59.27	64
2.1.2 Prevalence of foreign ownership.....	48.57	90
Attract people		
2.1.3 Migrant stock.....	15.21	46
2.1.4 International students.....	8.96	54
2.1.5 Brain gain.....	19.43	99
2.1.6 Brain drain.....	24.67	96
<b>2.2 Internal openness</b> .....	60.04	57
Social diversity		
2.2.1 Tolerance to minorities.....	67.81	58
2.2.2 Tolerance to immigrants.....	62.81	55
2.2.3 Social mobility.....	52.28	62
Gender equality		
2.2.4 Female graduates.....	67.32	65
2.2.5 Gender earnings gap.....	50.00	49
<b>3 Grow</b> .....	46.03	43
<b>3.1 Formal education</b> .....	31.14	54
Enrolment		
3.1.1 Vocational enrolment.....	62.09	17
3.1.2 Tertiary enrolment.....	31.34	64
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	72
<b>3.2 Lifelong learning</b> .....	51.22	59
3.2.1 Quality of management schools.....	47.80	76
3.2.2 Prevalence of training in firms.....	57.39	27
3.2.3 Employee development.....	48.48	65
<b>3.3 Access to growth opportunities</b> .....	55.72	29
Networks		
3.3.1 Use of virtual social networks.....	90.74	10
3.3.2 Use of virtual professional networks.....	n/a	n/a
Empowerment		
3.3.3 Delegation of authority.....	38.70	91
3.3.4 Freedom of voice.....	37.71	46

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	51.71	55
<b>4.1 Sustainability</b> .....	54.43	43
4.1.1 Pension system.....	52.53	48
4.1.2 Taxation.....	56.32	15
<b>4.2 Lifestyle</b> .....	48.99	81
4.2.1 Environmental performance.....	46.19	73
4.2.2 Safety at night.....	71.49	37
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	89.77	56
4.2.5 Flexible employment.....	0.00	62
<b>5 Labour and Vocational Skills</b> .....	53.80	23
<b>5.1 Employable skills</b> .....	55.34	35
5.1.1 Secondary-educated workforce.....	68.08	24
5.1.2 Secondary-educated population.....	51.24	33
5.1.3 Technicians and associate professionals.....	46.70	45
<b>5.2 Labour productivity</b> .....	52.25	15
5.2.1 Labour productivity per employee.....	20.03	49
5.2.2 Relationship of pay to productivity.....	61.05	14
5.2.3 Mid-value exports.....	75.68	2
<b>6 Global Knowledge Skills</b> .....	24.60	71
<b>6.1 Higher skills and competencies</b> .....	27.02	60
6.1.1 Tertiary-educated workforce.....	34.73	48
6.1.2 Tertiary-educated population.....	20.53	67
6.1.3 Professionals.....	38.34	43
6.1.4 Researchers.....	5.60	57
6.1.5 Senior officials and managers.....	32.58	39
6.1.6 Quality of scientific institutions.....	45.35	66
6.1.7 Scientific journal articles.....	11.98	61
<b>6.2 Talent impact</b> .....	22.18	76
6.2.1 Innovation output.....	31.30	61
6.2.2 High-value exports.....	14.01	75
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	19.67	73
6.2.4 New business density.....	23.74	30

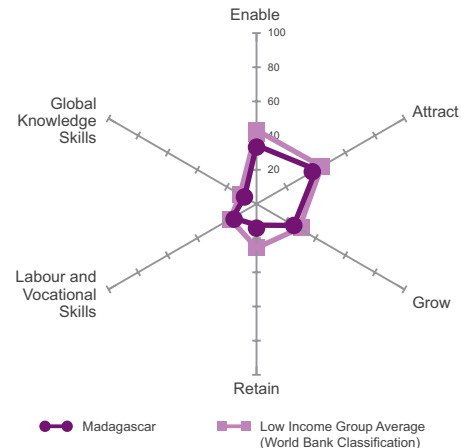
# MADAGASCAR

Low Income  
Sub-Saharan Africa

RANK  
(out of 109)

# 109

Population (millions) **22.92**  
GDP per capita (PPP\$) **1,413.99**  
GDP (US\$ billions) **10.61**  
GTCI Score **22.73**  
GTCI Score (Income Group Average) **28.40**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	34.32	108
1.1	<b>Regulatory landscape</b>	36.84	99
1.1.1	Government effectiveness	0.38	108
1.1.2	Business-government relations	38.64	99
1.1.3	Political stability	46.49	85
1.1.4	Starting a foreign business	61.83	40
1.2	<b>Market landscape</b>	28.28	108
1.2.1	Competition intensity	63.26	76
1.2.2	Ease of doing business	16.73	106
1.2.3	Cluster development	31.09	105
1.2.4	R&D expenditure	2.48	87
1.2.5	ICT infrastructure	0.00	108
1.2.6	Technology utilisation	56.10	73
1.3	<b>Business-labour landscape</b>	37.84	105
	Labour market flexibility		
1.3.1	Ease of hiring	0.00	106
1.3.2	Ease of redundancy	50.00	74
	Governance		
1.3.3	Labour-employer cooperation	53.84	62
1.3.4	Professional management	47.52	74
2	<b>Attract</b>	40.20	96
2.1	<b>External openness</b>	29.99	91
	Attract business		
2.1.1	FDI and technology transfer	52.52	85
2.1.2	Prevalence of foreign ownership	54.23	74
	Attract people		
2.1.3	Migrant stock	0.21	105
2.1.4	International students	7.12	61
2.1.5	Brain gain	33.47	70
2.1.6	Brain drain	32.38	82
2.2	<b>Internal openness</b>	50.41	88
	Social diversity		
2.2.1	Tolerance to minorities	n/a	n/a
2.2.2	Tolerance to immigrants	n/a	n/a
2.2.3	Social mobility	42.72	94
	Gender equality		
2.2.4	Female graduates	46.87	78
2.2.5	Gender earnings gap	61.63	18
3	<b>Grow</b>	25.19	105
3.1	<b>Formal education</b>	3.58	108
	Enrolment		
3.1.1	Vocational enrolment	6.57	90
3.1.2	Tertiary enrolment	1.14	101
	Quality		
3.1.3	Tertiary education expenditure	6.61	84
3.1.4	Reading, maths and science	n/a	n/a
3.1.5	University ranking	0.00	72
3.2	<b>Lifelong learning</b>	34.75	104
3.2.1	Quality of management schools	47.49	79
3.2.2	Prevalence of training in firms	12.27	75
3.2.3	Employee development	44.49	83
3.3	<b>Access to growth opportunities</b>	37.24	85
	Networks		
3.3.1	Use of virtual social networks	67.98	94
3.3.2	Use of virtual professional networks	0.33	103
	Empowerment		
3.3.3	Delegation of authority	43.42	69
3.3.4	Freedom of voice	n/a	n/a

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	12.39	109
4.1	<b>Sustainability</b>	20.03	108
4.1.1	Pension system	4.34	91
4.1.2	Taxation	35.73	80
4.2	<b>Lifestyle</b>	4.74	109
4.2.1	Environmental performance	11.94	106
4.2.2	Safety at night	n/a	n/a
4.2.3	Physician density	0.00	87
4.2.4	Sanitation	2.27	104
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	16.11	105
5.1	<b>Employable skills</b>	3.44	108
5.1.1	Secondary-educated workforce	6.89	93
5.1.2	Secondary-educated population	n/a	n/a
5.1.3	Technicians and associate professionals	0.00	94
5.2	<b>Labour productivity</b>	28.77	91
5.2.1	Labour productivity per employee	0.00	96
5.2.2	Relationship of pay to productivity	48.89	59
5.2.3	Mid-value exports	37.43	63
6	<b>Global Knowledge Skills</b>	8.15	109
6.1	<b>Higher skills and competencies</b>	9.15	107
6.1.1	Tertiary-educated workforce	5.49	87
6.1.2	Tertiary-educated population	n/a	n/a
6.1.3	Professionals	4.91	91
6.1.4	Researchers	0.60	78
6.1.5	Senior officials and managers	2.81	91
6.1.6	Quality of scientific institutions	35.97	89
6.1.7	Scientific journal articles	5.10	80
6.2	<b>Talent impact</b>	7.16	108
6.2.1	Innovation output	8.61	101
6.2.2	High-value exports	12.73	94
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	0.13	86



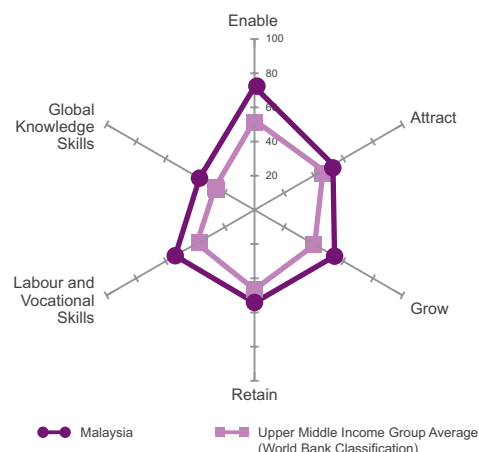
# MALAYSIA

Upper Middle Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

30

Population (millions) **29.72**  
GDP per capita (PPP\$) **23,338.01**  
GDP (US\$ billions) **313.16**  
GTCI Score **54.04**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	72.10	21
<b>1.1 Regulatory landscape</b> .....	66.48	33
1.1.1 Government effectiveness.....	67.69	30
1.1.2 Business-government relations.....	77.30	11
1.1.3 Political stability.....	65.44	26
1.1.4 Starting a foreign business.....	55.49	49
<b>1.2 Market landscape</b> .....	65.28	26
1.2.1 Competition intensity.....	74.95	29
1.2.2 Ease of doing business.....	79.85	17
1.2.3 Cluster development.....	71.29	8
1.2.4 R&D expenditure.....	26.30	34
1.2.5 ICT infrastructure.....	62.98	50
1.2.6 Technology utilisation.....	76.31	22
<b>1.3 Business-labour landscape</b> .....	84.53	8
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	87.50	33
Governance		
1.3.3 Labour-employer cooperation.....	73.63	13
1.3.4 Professional management.....	77.00	15
<b>2 Attract</b> .....	53.00	37
<b>2.1 External openness</b> .....	53.75	21
Attract business		
2.1.1 FDI and technology transfer.....	75.32	8
2.1.2 Prevalence of foreign ownership.....	71.01	25
Attract people		
2.1.3 Migrant stock.....	19.10	41
2.1.4 International students.....	22.01	28
2.1.5 Brain gain.....	67.12	10
2.1.6 Brain drain.....	67.91	8
<b>2.2 Internal openness</b> .....	52.26	82
Social diversity		
2.2.1 Tolerance to minorities.....	66.71	60
2.2.2 Tolerance to immigrants.....	8.83	102
2.2.3 Social mobility.....	75.97	19
Gender equality		
2.2.4 Female graduates.....	70.28	57
2.2.5 Gender earnings gap.....	39.53	74
<b>3 Grow</b> .....	54.10	24
<b>3.1 Formal education</b> .....	34.11	47
Enrolment		
3.1.1 Vocational enrolment.....	19.04	66
3.1.2 Tertiary enrolment.....	30.23	66
Quality		
3.1.3 Tertiary education expenditure.....	53.80	4
3.1.4 Reading, maths and science.....	17.71	51
3.1.5 University ranking.....	49.77	28
<b>3.2 Lifelong learning</b> .....	67.61	19
3.2.1 Quality of management schools.....	68.75	24
3.2.2 Prevalence of training in firms.....	61.61	23
3.2.3 Employee development.....	72.46	4
<b>3.3 Access to growth opportunities</b> .....	60.60	21
Networks		
3.3.1 Use of virtual social networks.....	84.78	33
3.3.2 Use of virtual professional networks.....	21.03	44
Empowerment		
3.3.3 Delegation of authority.....	69.81	10
3.3.4 Freedom of voice.....	66.76	12

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	54.28	49
<b>4.1 Sustainability</b> .....	58.82	34
4.1.1 Pension system.....	48.48	49
4.1.2 Taxation.....	69.16	5
<b>4.2 Lifestyle</b> .....	49.74	77
4.2.1 Environmental performance.....	59.04	47
4.2.2 Safety at night.....	31.96	96
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	95.45	42
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	53.57	24
<b>5.1 Employable skills</b> .....	63.56	20
5.1.1 Secondary-educated workforce.....	70.89	21
5.1.2 Secondary-educated population.....	49.74	36
5.1.3 Technicians and associate professionals.....	70.05	21
<b>5.2 Labour productivity</b> .....	43.57	45
5.2.1 Labour productivity per employee.....	21.79	48
5.2.2 Relationship of pay to productivity.....	73.67	1
5.2.3 Mid-value exports.....	35.25	68
<b>6 Global Knowledge Skills</b> .....	37.18	39
<b>6.1 Higher skills and competencies</b> .....	33.48	48
6.1.1 Tertiary-educated workforce.....	39.42	42
6.1.2 Tertiary-educated population.....	27.57	52
6.1.3 Professionals.....	18.10	75
6.1.4 Researchers.....	21.90	38
6.1.5 Senior officials and managers.....	42.13	25
6.1.6 Quality of scientific institutions.....	70.10	20
6.1.7 Scientific journal articles.....	15.15	55
<b>6.2 Talent impact</b> .....	40.88	32
6.2.1 Innovation output.....	48.74	34
6.2.2 High-value exports.....	75.00	4
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	24.82	66
6.2.4 New business density.....	14.96	41



# MALI

Low Income  
Sub-Saharan Africa

RANK  
(out of 109)

# 105

Population (millions) **15.30**  
GDP per capita (PPP\$) **1,641.83**  
GDP (US\$ billions) **10.94**  
GTCI Score **27.21**  
GTCI Score (Income Group Average) **28.40**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	37.43	103
<b>1.1 Regulatory landscape</b> .....	28.19	106
1.1.1 Government effectiveness.....	9.00	104
1.1.2 Business-government relations.....	51.12	64
1.1.3 Political stability.....	22.48	107
1.1.4 Starting a foreign business.....	30.14	66
<b>1.2 Market landscape</b> .....	37.86	95
1.2.1 Competition intensity.....	61.73	81
1.2.2 Ease of doing business.....	23.86	101
1.2.3 Cluster development.....	49.16	48
1.2.4 R&D expenditure.....	16.13	49
1.2.5 ICT infrastructure.....	24.04	96
1.2.6 Technology utilisation.....	52.23	89
<b>1.3 Business-labour landscape</b> .....	46.23	92
Labour market flexibility		
1.3.1 Ease of hiring.....	44.33	86
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	58.42	45
1.3.4 Professional management.....	32.18	107
<b>2 Attract</b> .....	48.06	58
<b>2.1 External openness</b> .....	30.23	88
Attract business		
2.1.1 FDI and technology transfer.....	55.23	73
2.1.2 Prevalence of foreign ownership.....	41.80	96
Attract people		
2.1.3 Migrant stock.....	2.82	83
2.1.4 International students.....	1.95	75
2.1.5 Brain gain.....	38.87	56
2.1.6 Brain drain.....	40.72	53
<b>2.2 Internal openness</b> .....	65.88	33
Social diversity		
2.2.1 Tolerance to minorities.....	94.79	8
2.2.2 Tolerance to immigrants.....	93.20	7
2.2.3 Social mobility.....	47.63	77
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	27.91	90
<b>3 Grow</b> .....	28.45	101
<b>3.1 Formal education</b> .....	13.04	92
Enrolment		
3.1.1 Vocational enrolment.....	25.31	54
3.1.2 Tertiary enrolment.....	4.12	97
Quality		
3.1.3 Tertiary education expenditure.....	22.73	55
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	38.76	95
3.2.1 Quality of management schools.....	40.11	99
3.2.2 Prevalence of training in firms.....	37.86	51
3.2.3 Employee development.....	38.29	101
<b>3.3 Access to growth opportunities</b> .....	33.54	97
Networks		
3.3.1 Use of virtual social networks.....	61.76	97
3.3.2 Use of virtual professional networks.....	1.27	99
Empowerment		
3.3.3 Delegation of authority.....	37.89	92
3.3.4 Freedom of voice.....	33.24	54

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	19.23	107
<b>4.1 Sustainability</b> .....	22.39	106
4.1.1 Pension system.....	6.06	88
4.1.2 Taxation.....	38.72	69
<b>4.2 Lifestyle</b> .....	16.06	107
4.2.1 Environmental performance.....	0.00	109
4.2.2 Safety at night.....	52.89	64
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	11.36	102
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	16.02	106
<b>5.1 Employable skills</b> .....	13.11	99
5.1.1 Secondary-educated workforce.....	19.67	81
5.1.2 Secondary-educated population.....	6.54	93
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	18.94	108
5.2.1 Labour productivity per employee.....	1.33	91
5.2.2 Relationship of pay to productivity.....	41.57	87
5.2.3 Mid-value exports.....	13.91	105
<b>6 Global Knowledge Skills</b> .....	14.10	95
<b>6.1 Higher skills and competencies</b> .....	13.50	98
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	5.20	86
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	0.35	85
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	43.30	73
6.1.7 Scientific journal articles.....	5.15	77
<b>6.2 Talent impact</b> .....	14.69	90
6.2.1 Innovation output.....	17.23	89
6.2.2 High-value exports.....	12.16	101
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	n/a	n/a

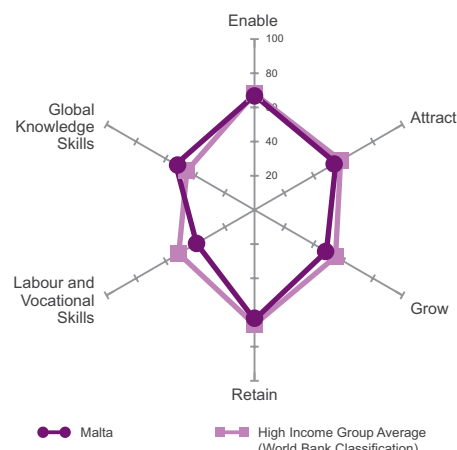
# MALTA

High Income  
Europe

RANK  
(out of 109)

## 28

Population (millions) **0.42**  
GDP per capita (PPP\$) **29,126.78**  
GDP (US\$ billions) **9.64**  
GTCI Score **54.53**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	67.10	28
1.1	<b>Regulatory landscape</b>	75.38	21
1.1.1	Government effectiveness	72.16	23
1.1.2	Business-government relations	64.94	25
1.1.3	Political stability	89.05	18
1.1.4	Starting a foreign business	n/a	n/a
1.2	<b>Market landscape</b>	60.69	33
1.2.1	Competition intensity	84.76	2
1.2.2	Ease of doing business	44.17	76
1.2.3	Cluster development	50.72	42
1.2.4	R&D expenditure	20.60	40
1.2.5	ICT infrastructure	93.83	6
1.2.6	Technology utilisation	70.06	34
1.3	<b>Business-labour landscape</b>	65.23	45
	Labour market flexibility		
1.3.1	Ease of hiring	72.33	45
1.3.2	Ease of redundancy	75.00	43
	Governance		
1.3.3	Labour-employer cooperation	63.85	27
1.3.4	Professional management	49.75	67
2	<b>Attract</b>	54.92	30
2.1	<b>External openness</b>	46.47	30
	Attract business		
2.1.1	FDI and technology transfer	70.80	13
2.1.2	Prevalence of foreign ownership	62.97	47
	Attract people		
2.1.3	Migrant stock	18.45	43
2.1.4	International students	20.40	29
2.1.5	Brain gain	55.37	21
2.1.6	Brain drain	50.84	32
2.2	<b>Internal openness</b>	63.36	37
	Social diversity		
2.2.1	Tolerance to minorities	73.84	41
2.2.2	Tolerance to immigrants	76.41	26
2.2.3	Social mobility	65.09	30
	Gender equality		
2.2.4	Female graduates	72.39	50
2.2.5	Gender earnings gap	29.07	89
3	<b>Grow</b>	48.60	34
3.1	<b>Formal education</b>	17.97	84
	Enrolment		
3.1.1	Vocational enrolment	13.20	76
3.1.2	Tertiary enrolment	33.76	61
	Quality		
3.1.3	Tertiary education expenditure	24.92	48
3.1.4	Reading, maths and science	n/a	n/a
3.1.5	University ranking	0.00	72
3.2	<b>Lifelong learning</b>	60.88	30
3.2.1	Quality of management schools	65.48	30
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	56.29	36
3.3	<b>Access to growth opportunities</b>	66.96	13
	Networks		
3.3.1	Use of virtual social networks	90.10	12
3.3.2	Use of virtual professional networks	81.93	5
	Empowerment		
3.3.3	Delegation of authority	48.02	46
3.3.4	Freedom of voice	47.77	33

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	64.16	35
4.1	<b>Sustainability</b>	53.94	44
4.1.1	Pension system	n/a	n/a
4.1.2	Taxation	53.94	19
4.2	<b>Lifestyle</b>	74.39	24
4.2.1	Environmental performance	70.75	33
4.2.2	Safety at night	79.75	22
4.2.3	Physician density	37.50	19
4.2.4	Sanitation	100.00	1
4.2.5	Flexible employment	83.92	18
5	<b>Labour and Vocational Skills</b>	39.18	60
5.1	<b>Employable skills</b>	38.09	65
5.1.1	Secondary-educated workforce	32.08	66
5.1.2	Secondary-educated population	15.68	88
5.1.3	Technicians and associate professionals	66.50	24
5.2	<b>Labour productivity</b>	40.28	59
5.2.1	Labour productivity per employee	38.83	31
5.2.2	Relationship of pay to productivity	50.99	47
5.2.3	Mid-value exports	31.03	72
6	<b>Global Knowledge Skills</b>	53.22	15
6.1	<b>Higher skills and competencies</b>	33.56	47
6.1.1	Tertiary-educated workforce	33.76	49
6.1.2	Tertiary-educated population	19.97	69
6.1.3	Professionals	45.40	30
6.1.4	Researchers	24.72	34
6.1.5	Senior officials and managers	48.31	17
6.1.6	Quality of scientific institutions	48.79	55
6.1.7	Scientific journal articles	13.99	56
6.2	<b>Talent impact</b>	72.87	1
6.2.1	Innovation output	73.11	10
6.2.2	High-value exports	55.21	11
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	90.29	5

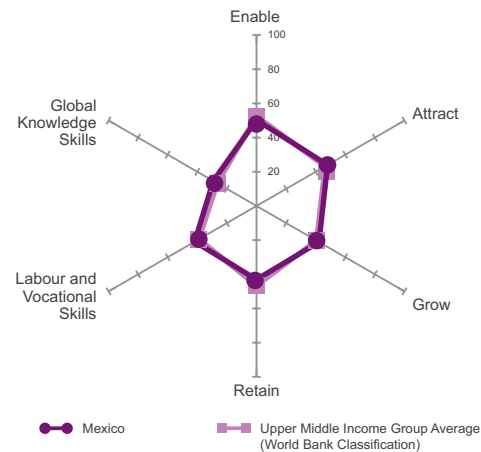
# MEXICO

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

60

Population (millions) **122.33**  
GDP per capita (PPP\$) **16,369.69**  
GDP (US\$ billions) **1,260.91**  
GTCI Score **42.44**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	50.32	76
<b>1.1 Regulatory landscape</b> .....	53.78	56
1.1.1 Government effectiveness.....	43.69	49
1.1.2 Business-government relations.....	62.55	32
1.1.3 Political stability.....	45.92	86
1.1.4 Starting a foreign business.....	62.96	36
<b>1.2 Market landscape</b> .....	49.37	62
1.2.1 Competition intensity.....	68.91	55
1.2.2 Ease of doing business.....	64.28	36
1.2.3 Cluster development.....	52.45	39
1.2.4 R&D expenditure.....	10.42	61
1.2.5 ICT infrastructure.....	40.10	74
1.2.6 Technology utilisation.....	60.05	60
<b>1.3 Business-labour landscape</b> .....	47.81	89
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	12.50	105
Governance		
1.3.3 Labour-employer cooperation.....	59.77	37
1.3.4 Professional management.....	52.30	62
<b>2 Attract</b> .....	48.02	59
<b>2.1 External openness</b> .....	43.74	35
Attract business		
2.1.1 FDI and technology transfer.....	68.47	24
2.1.2 Prevalence of foreign ownership.....	68.42	31
Attract people		
2.1.3 Migrant stock.....	1.95	85
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	38.36	58
2.1.6 Brain drain.....	41.49	51
<b>2.2 Internal openness</b> .....	52.31	81
Social diversity		
2.2.1 Tolerance to minorities.....	59.04	72
2.2.2 Tolerance to immigrants.....	56.01	66
2.2.3 Social mobility.....	50.39	69
Gender equality		
2.2.4 Female graduates.....	62.39	70
2.2.5 Gender earnings gap.....	33.72	85
<b>3 Grow</b> .....	42.22	56
<b>3.1 Formal education</b> .....	29.81	58
Enrolment		
3.1.1 Vocational enrolment.....	34.05	43
3.1.2 Tertiary enrolment.....	23.02	73
Quality		
3.1.3 Tertiary education expenditure.....	20.29	63
3.1.4 Reading, maths and science.....	19.84	48
3.1.5 University ranking.....	51.85	26
<b>3.2 Lifelong learning</b> .....	55.26	43
3.2.1 Quality of management schools.....	54.01	59
3.2.2 Prevalence of training in firms.....	62.53	22
3.2.3 Employee development.....	49.25	59
<b>3.3 Access to growth opportunities</b> .....	41.57	61
Networks		
3.3.1 Use of virtual social networks.....	72.03	85
3.3.2 Use of virtual professional networks.....	18.05	52
Empowerment		
3.3.3 Delegation of authority.....	46.04	57
3.3.4 Freedom of voice.....	30.17	58

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	43.08	77
<b>4.1 Sustainability</b> .....	30.01	87
4.1.1 Pension system.....	26.26	66
4.1.2 Taxation.....	33.76	84
<b>4.2 Lifestyle</b> .....	56.15	57
4.2.1 Environmental performance.....	52.86	56
4.2.2 Safety at night.....	52.48	65
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	82.95	66
4.2.5 Flexible employment.....	67.44	49
<b>5 Labour and Vocational Skills</b> .....	41.79	52
<b>5.1 Employable skills</b> .....	40.75	58
5.1.1 Secondary-educated workforce.....	53.99	34
5.1.2 Secondary-educated population.....	24.09	73
5.1.3 Technicians and associate professionals.....	44.16	46
<b>5.2 Labour productivity</b> .....	42.83	47
5.2.1 Labour productivity per employee.....	21.80	47
5.2.2 Relationship of pay to productivity.....	46.66	74
5.2.3 Mid-value exports.....	60.03	24
<b>6 Global Knowledge Skills</b> .....	29.23	58
<b>6.1 Higher skills and competencies</b> .....	24.21	70
6.1.1 Tertiary-educated workforce.....	37.64	44
6.1.2 Tertiary-educated population.....	22.67	62
6.1.3 Professionals.....	19.63	70
6.1.4 Researchers.....	5.08	58
6.1.5 Senior officials and managers.....	11.24	79
6.1.6 Quality of scientific institutions.....	49.00	54
6.1.7 Scientific journal articles.....	n/a	n/a
<b>6.2 Talent impact</b> .....	34.26	49
6.2.1 Innovation output.....	30.25	66
6.2.2 High-value exports.....	55.58	10
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	45.55	39
6.2.4 New business density.....	5.65	63

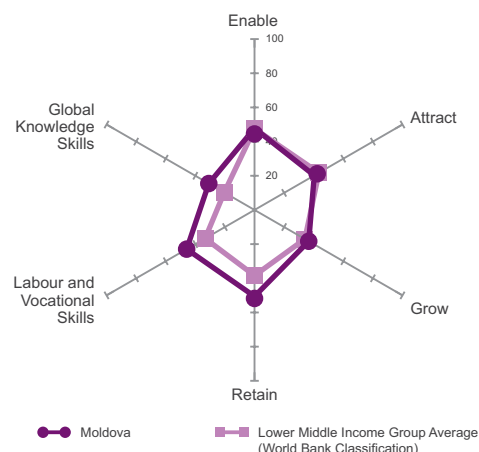
# MOLDOVA

Lower Middle Income  
Europe

RANK  
(out of 109)

64

Population (millions) **3.56**  
GDP per capita (PPP\$) **4,670.92**  
GDP (US\$ billions) **7.97**  
GTCI Score **42.02**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	47.76	84
<b>1.1 Regulatory landscape</b> .....	49.30	67
1.1.1 Government effectiveness.....	22.32	82
1.1.2 Business-government relations.....	42.67	89
1.1.3 Political stability.....	63.32	57
1.1.4 Starting a foreign business.....	68.87	30
<b>1.2 Market landscape</b> .....	43.76	80
1.2.1 Competition intensity.....	61.35	82
1.2.2 Ease of doing business.....	53.76	56
1.2.3 Cluster development.....	23.24	108
1.2.4 R&D expenditure.....	9.68	67
1.2.5 ICT infrastructure.....	62.72	51
1.2.6 Technology utilisation.....	51.84	91
<b>1.3 Business-labour landscape</b> .....	50.23	87
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	51.98	78
1.3.4 Professional management.....	43.27	90
<b>2 Attract</b> .....	40.39	95
<b>2.1 External openness</b> .....	26.86	103
Attract business		
2.1.1 FDI and technology transfer.....	53.27	82
2.1.2 Prevalence of foreign ownership.....	45.82	94
Attract people		
2.1.3 Migrant stock.....	25.86	32
2.1.4 International students.....	7.74	56
2.1.5 Brain gain.....	13.72	102
2.1.6 Brain drain.....	14.73	104
<b>2.2 Internal openness</b> .....	53.93	79
Social diversity		
2.2.1 Tolerance to minorities.....	40.68	95
2.2.2 Tolerance to immigrants.....	41.53	89
2.2.3 Social mobility.....	39.79	102
Gender equality		
2.2.4 Female graduates.....	77.88	36
2.2.5 Gender earnings gap.....	69.77	11
<b>3 Grow</b> .....	36.64	78
<b>3.1 Formal education</b> .....	23.47	69
Enrolment		
3.1.1 Vocational enrolment.....	25.62	53
3.1.2 Tertiary enrolment.....	33.81	60
Quality		
3.1.3 Tertiary education expenditure.....	34.44	60
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	38.48	96
3.2.1 Quality of management schools.....	37.22	103
3.2.2 Prevalence of training in firms.....	38.26	50
3.2.3 Employee development.....	39.96	97
<b>3.3 Access to growth opportunities</b> .....	47.97	45
Networks		
3.3.1 Use of virtual social networks.....	77.43	68
3.3.2 Use of virtual professional networks.....	n/a	n/a
Empowerment		
3.3.3 Delegation of authority.....	40.22	81
3.3.4 Freedom of voice.....	26.26	61

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	50.58	58
<b>4.1 Sustainability</b> .....	45.10	58
4.1.1 Pension system.....	58.59	43
4.1.2 Taxation.....	31.62	91
<b>4.2 Lifestyle</b> .....	56.05	58
4.2.1 Environmental performance.....	50.45	63
4.2.2 Safety at night.....	37.33	92
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	85.23	65
4.2.5 Flexible employment.....	69.75	46
<b>5 Labour and Vocational Skills</b> .....	45.86	43
<b>5.1 Employable skills</b> .....	55.70	34
5.1.1 Secondary-educated workforce.....	68.86	23
5.1.2 Secondary-educated population.....	59.16	22
5.1.3 Technicians and associate professionals.....	39.09	52
<b>5.2 Labour productivity</b> .....	36.02	73
5.2.1 Labour productivity per employee.....	6.74	78
5.2.2 Relationship of pay to productivity.....	56.86	30
5.2.3 Mid-value exports.....	44.47	52
<b>6 Global Knowledge Skills</b> .....	30.90	51
<b>6.1 Higher skills and competencies</b> .....	34.83	39
6.1.1 Tertiary-educated workforce.....	40.06	40
6.1.2 Tertiary-educated population.....	55.04	11
6.1.3 Professionals.....	43.87	35
6.1.4 Researchers.....	10.37	50
6.1.5 Senior officials and managers.....	44.38	21
6.1.6 Quality of scientific institutions.....	28.69	100
6.1.7 Scientific journal articles.....	21.38	42
<b>6.2 Talent impact</b> .....	26.96	61
6.2.1 Innovation output.....	55.88	29
6.2.2 High-value exports.....	14.37	73
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	10.64	49

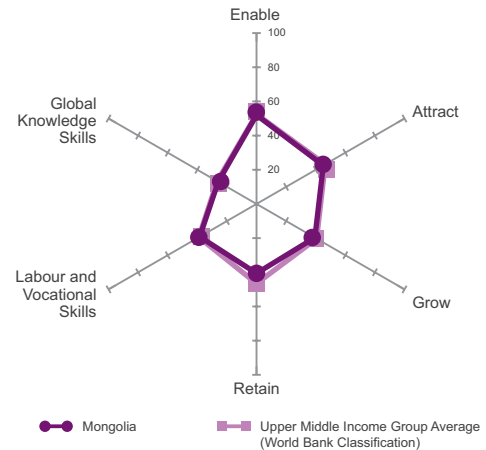
# MONGOLIA

Upper Middle Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

72

Population (millions) **2.84**  
GDP per capita (PPP\$) **9,434.96**  
GDP (US\$ billions) **11.52**  
GTCI Score **40.25**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	52.04	68
<b>1.1 Regulatory landscape</b> .....	42.50	93
1.1.1 Government effectiveness.....	18.01	91
1.1.2 Business-government relations.....	33.00	105
1.1.3 Political stability.....	76.50	39
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	42.29	84
1.2.1 Competition intensity.....	64.73	69
1.2.2 Ease of doing business.....	50.38	62
1.2.3 Cluster development.....	30.79	106
1.2.4 R&D expenditure.....	6.45	70
1.2.5 ICT infrastructure.....	39.97	75
1.2.6 Technology utilisation.....	61.39	58
<b>1.3 Business-labour landscape</b> .....	71.33	27
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	51.14	76
1.3.4 Professional management.....	45.18	86
<b>2 Attract</b> .....	45.12	72
<b>2.1 External openness</b> .....	30.88	83
Attract business		
2.1.1 FDI and technology transfer.....	61.48	55
2.1.2 Prevalence of foreign ownership.....	61.83	49
Attract people		
2.1.3 Migrant stock.....	1.27	92
2.1.4 International students.....	2.35	70
2.1.5 Brain gain.....	27.62	82
2.1.6 Brain drain.....	30.71	87
<b>2.2 Internal openness</b> .....	59.43	59
Social diversity		
2.2.1 Tolerance to minorities.....	54.52	76
2.2.2 Tolerance to immigrants.....	27.79	99
2.2.3 Social mobility.....	59.59	41
Gender equality		
2.2.4 Female graduates.....	90.12	6
2.2.5 Gender earnings gap.....	65.12	13
<b>3 Grow</b> .....	39.44	65
<b>3.1 Formal education</b> .....	18.44	83
Enrolment		
3.1.1 Vocational enrolment.....	20.40	61
3.1.2 Tertiary enrolment.....	52.25	33
Quality		
3.1.3 Tertiary education expenditure.....	1.11	96
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	52.31	55
3.2.1 Quality of management schools.....	31.76	107
3.2.2 Prevalence of training in firms.....	75.86	9
3.2.3 Employee development.....	49.30	58
<b>3.3 Access to growth opportunities</b> .....	47.57	46
Networks		
3.3.1 Use of virtual social networks.....	83.62	40
3.3.2 Use of virtual professional networks.....	6.90	82
Empowerment		
3.3.3 Delegation of authority.....	37.75	94
3.3.4 Freedom of voice.....	62.01	15

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	40.60	82
<b>4.1 Sustainability</b> .....	38.14	68
4.1.1 Pension system.....	32.32	62
4.1.2 Taxation.....	43.95	50
<b>4.2 Lifestyle</b> .....	43.06	89
4.2.1 Environmental performance.....	37.90	86
4.2.2 Safety at night.....	46.83	73
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	50.00	90
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	38.41	64
<b>5.1 Employable skills</b> .....	38.06	66
5.1.1 Secondary-educated workforce.....	49.77	39
5.1.2 Secondary-educated population.....	46.14	42
5.1.3 Technicians and associate professionals.....	18.27	78
<b>5.2 Labour productivity</b> .....	38.75	62
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	62.62	11
5.2.3 Mid-value exports.....	14.89	103
<b>6 Global Knowledge Skills</b> .....	25.89	67
<b>6.1 Higher skills and competencies</b> .....	29.53	54
6.1.1 Tertiary-educated workforce.....	42.23	36
6.1.2 Tertiary-educated population.....	35.84	34
6.1.3 Professionals.....	34.05	51
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	23.60	56
6.1.6 Quality of scientific institutions.....	35.31	92
6.1.7 Scientific journal articles.....	6.07	70
<b>6.2 Talent impact</b> .....	22.25	75
6.2.1 Innovation output.....	31.09	63
6.2.2 High-value exports.....	13.40	84
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	n/a	n/a

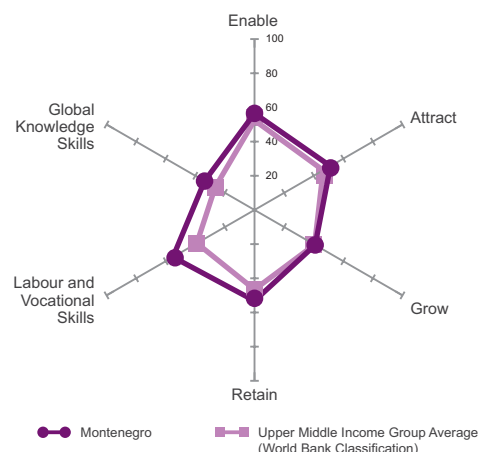
# MONTENEGRO

Upper Middle Income  
Europe

RANK  
(out of 109)

45

Population (millions) **0.62**  
GDP per capita (PPP\$) **14,131.61**  
GDP (US\$ billions) **4.42**  
GTCI Score **48.48**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	56.53	49
<b>1.1 Regulatory landscape</b> .....	63.92	38
1.1.1 Government effectiveness.....	39.14	53
1.1.2 Business-government relations.....	58.97	48
1.1.3 Political stability.....	76.15	40
1.1.4 Starting a foreign business.....	81.41	14
<b>1.2 Market landscape</b> .....	46.37	68
1.2.1 Competition intensity.....	48.00	104
1.2.2 Ease of doing business.....	65.32	33
1.2.3 Cluster development.....	33.85	97
1.2.4 R&D expenditure.....	9.93	66
1.2.5 ICT infrastructure.....	65.04	47
1.2.6 Technology utilisation.....	56.08	74
<b>1.3 Business-labour landscape</b> .....	59.30	62
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	75.00	43
Governance		
1.3.3 Labour-employer cooperation.....	49.28	87
1.3.4 Professional management.....	46.24	84
<b>2 Attract</b> .....	51.30	43
<b>2.1 External openness</b> .....	41.12	43
Attract business		
2.1.1 FDI and technology transfer.....	57.75	69
2.1.2 Prevalence of foreign ownership.....	58.14	57
Attract people		
2.1.3 Migrant stock.....	18.75	42
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	32.49	71
2.1.6 Brain drain.....	38.45	62
<b>2.2 Internal openness</b> .....	61.48	46
Social diversity		
2.2.1 Tolerance to minorities.....	65.75	61
2.2.2 Tolerance to immigrants.....	65.99	50
2.2.3 Social mobility.....	52.69	59
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	n/a	n/a
<b>3 Grow</b> .....	40.99	59
<b>3.1 Formal education</b> .....	33.78	48
Enrolment		
3.1.1 Vocational enrolment.....	70.49	13
3.1.2 Tertiary enrolment.....	46.34	44
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths and science.....	18.28	50
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	45.65	79
3.2.1 Quality of management schools.....	62.55	34
3.2.2 Prevalence of training in firms.....	26.78	63
3.2.3 Employee development.....	47.61	70
<b>3.3 Access to growth opportunities</b> .....	43.55	96
Networks		
3.3.1 Use of virtual social networks.....	85.67	27
3.3.2 Use of virtual professional networks.....	18.97	49
Empowerment		
3.3.3 Delegation of authority.....	44.70	62
3.3.4 Freedom of voice.....	24.86	64

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	53.18	52
<b>4.1 Sustainability</b> .....	45.26	57
4.1.1 Pension system.....	n/a	n/a
4.1.2 Taxation.....	45.26	48
<b>4.2 Lifestyle</b> .....	61.10	48
4.2.1 Environmental performance.....	53.57	54
4.2.2 Safety at night.....	88.15	10
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	88.64	61
4.2.5 Flexible employment.....	50.14	59
<b>5 Labour and Vocational Skills</b> .....	55.12	20
<b>5.1 Employable skills</b> .....	75.10	5
5.1.1 Secondary-educated workforce.....	67.76	26
5.1.2 Secondary-educated population.....	76.32	7
5.1.3 Technicians and associate professionals.....	81.22	11
<b>5.2 Labour productivity</b> .....	35.13	74
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	48.31	62
5.2.3 Mid-value exports.....	21.95	84
<b>6 Global Knowledge Skills</b> .....	33.77	46
<b>6.1 Higher skills and competencies</b> .....	31.67	50
6.1.1 Tertiary-educated workforce.....	41.20	37
6.1.2 Tertiary-educated population.....	32.94	40
6.1.3 Professionals.....	45.40	30
6.1.4 Researchers.....	10.13	51
6.1.5 Senior officials and managers.....	30.34	44
6.1.6 Quality of scientific institutions.....	48.76	56
6.1.7 Scientific journal articles.....	12.90	59
<b>6.2 Talent impact</b> .....	35.88	43
6.2.1 Innovation output.....	27.10	70
6.2.2 High-value exports.....	14.59	71
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	31.14	61
6.2.4 New business density.....	70.68	10



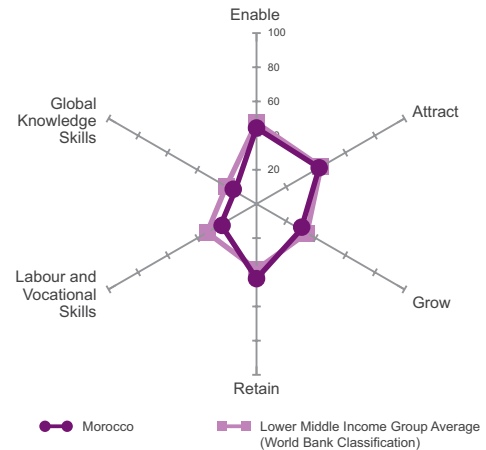
# MOROCCO

Lower Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

93

Population (millions) **33.01**  
GDP per capita (PPP\$) **7,198.16**  
GDP (US\$ billions) **103.84**  
GTCI Score **33.23**  
GTCI Score (Income Group Average) **36.22**



	VARIABLE	SCORE	RANK
1	<b>Enable</b> .....	44.48	94
1.1	<b>Regulatory landscape</b> .....	47.81	73
1.1.1	Government effectiveness.....	32.16	65
1.1.2	Business-government relations.....	59.13	46
1.1.3	Political stability.....	51.79	78
1.1.4	Starting a foreign business.....	48.17	57
1.2	<b>Market landscape</b> .....	49.43	61
1.2.1	Competition intensity.....	72.37	41
1.2.2	Ease of doing business.....	50.47	61
1.2.3	Cluster development.....	46.27	62
1.2.4	R&D expenditure.....	17.87	47
1.2.5	ICT infrastructure.....	50.77	62
1.2.6	Technology utilisation.....	58.81	63
1.3	<b>Business-labour landscape</b> .....	36.21	106
	Labour market flexibility		
1.3.1	Ease of hiring.....	0.00	106
1.3.2	Ease of redundancy.....	37.50	88
	Governance		
1.3.3	Labour-employer cooperation.....	52.68	68
1.3.4	Professional management.....	54.67	50
2	<b>Attract</b> .....	42.34	89
2.1	<b>External openness</b> .....	39.21	53
	Attract business		
2.1.1	FDI and technology transfer.....	64.06	42
2.1.2	Prevalence of foreign ownership.....	68.39	33
	Attract people		
2.1.3	Migrant stock.....	0.22	104
2.1.4	International students.....	7.94	55
2.1.5	Brain gain.....	48.28	34
2.1.6	Brain drain.....	46.37	39
2.2	<b>Internal openness</b> .....	45.48	95
	Social diversity		
2.2.1	Tolerance to minorities.....	54.66	74
2.2.2	Tolerance to immigrants.....	53.98	71
2.2.3	Social mobility.....	59.09	42
	Gender equality		
2.2.4	Female graduates.....	46.88	77
2.2.5	Gender earnings gap.....	12.79	99
3	<b>Grow</b> .....	30.04	99
3.1	<b>Formal education</b> .....	12.56	95
	Enrolment		
3.1.1	Vocational enrolment.....	12.00	78
3.1.2	Tertiary enrolment.....	11.75	88
	Quality		
3.1.3	Tertiary education expenditure.....	26.49	42
3.1.4	Reading, maths and science.....	n/a	n/a
3.1.5	University ranking.....	0.00	72
3.2	<b>Lifelong learning</b> .....	43.25	86
3.2.1	Quality of management schools.....	57.61	48
3.2.2	Prevalence of training in firms.....	28.10	61
3.2.3	Employee development.....	44.04	85
3.3	<b>Access to growth opportunities</b> .....	34.30	95
	Networks		
3.3.1	Use of virtual social networks.....	72.61	81
3.3.2	Use of virtual professional networks.....	10.05	67
	Empowerment		
3.3.3	Delegation of authority.....	43.37	70
3.3.4	Freedom of voice.....	11.17	88

	VARIABLE	SCORE	RANK
4	<b>Retain</b> .....	43.71	73
4.1	<b>Sustainability</b> .....	36.07	75
4.1.1	Pension system.....	23.23	71
4.1.2	Taxation.....	48.90	32
4.2	<b>Lifestyle</b> .....	51.35	70
4.2.1	Environmental performance.....	48.32	67
4.2.2	Safety at night.....	73.00	35
4.2.3	Physician density.....	12.50	69
4.2.4	Sanitation.....	71.59	76
4.2.5	Flexible employment.....	n/a	n/a
5	<b>Labour and Vocational Skills</b> .....	24.06	99
5.1	<b>Employable skills</b> .....	9.49	103
5.1.1	Secondary-educated workforce.....	1.72	95
5.1.2	Secondary-educated population.....	n/a	n/a
5.1.3	Technicians and associate professionals.....	17.26	80
5.2	<b>Labour productivity</b> .....	38.62	63
5.2.1	Labour productivity per employee.....	7.30	77
5.2.2	Relationship of pay to productivity.....	49.63	53
5.2.3	Mid-value exports.....	58.94	25
6	<b>Global Knowledge Skills</b> .....	14.73	93
6.1	<b>Higher skills and competencies</b> .....	13.88	96
6.1.1	Tertiary-educated workforce.....	14.86	82
6.1.2	Tertiary-educated population.....	n/a	n/a
6.1.3	Professionals.....	4.29	94
6.1.4	Researchers.....	11.48	47
6.1.5	Senior officials and managers.....	3.93	89
6.1.6	Quality of scientific institutions.....	40.94	78
6.1.7	Scientific journal articles.....	7.77	66
6.2	<b>Talent impact</b> .....	15.59	89
6.2.1	Innovation output.....	23.11	79
6.2.2	High-value exports.....	22.86	41
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	8.20	80
6.2.4	New business density.....	8.18	55



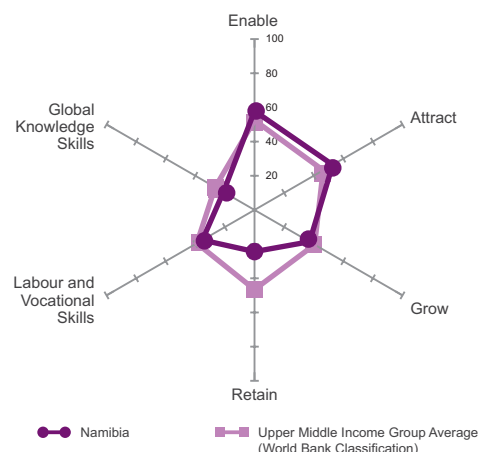
# NAMIBIA

Upper Middle Income  
Sub-Saharan Africa

RANK  
(out of 109)

## 79

Population (millions) **2.30**  
GDP per capita (PPP\$) **9,583.18**  
GDP (US\$ billions) **13.11**  
GTCI Score **38.09**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	57.91	47
<b>1.1 Regulatory landscape</b> .....	62.33	41
1.1.1 Government effectiveness.....	40.24	52
1.1.2 Business-government relations.....	59.61	40
1.1.3 Political stability.....	87.14	22
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	41.63	88
1.2.1 Competition intensity.....	60.67	85
1.2.2 Ease of doing business.....	45.67	72
1.2.3 Cluster development.....	46.81	59
1.2.4 R&D expenditure.....	3.23	86
1.2.5 ICT infrastructure.....	28.92	93
1.2.6 Technology utilisation.....	64.48	49
<b>1.3 Business-labour landscape</b> .....	69.76	32
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	75.00	43
Governance		
1.3.3 Labour-employer cooperation.....	50.02	83
1.3.4 Professional management.....	54.03	53
<b>2 Attract</b> .....	52.83	38
<b>2.1 External openness</b> .....	43.26	37
Attract business		
2.1.1 FDI and technology transfer.....	61.97	52
2.1.2 Prevalence of foreign ownership.....	69.15	30
Attract people		
2.1.3 Migrant stock.....	5.03	72
2.1.4 International students.....	43.17	15
2.1.5 Brain gain.....	40.22	51
2.1.6 Brain drain.....	40.00	57
<b>2.2 Internal openness</b> .....	62.40	38
Social diversity		
2.2.1 Tolerance to minorities.....	77.12	33
2.2.2 Tolerance to immigrants.....	50.94	74
2.2.3 Social mobility.....	58.10	45
Gender equality		
2.2.4 Female graduates.....	74.70	44
2.2.5 Gender earnings gap.....	51.16	44
<b>3 Grow</b> .....	37.19	77
<b>3.1 Formal education</b> .....	17.77	85
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	5.75	95
Quality		
3.1.3 Tertiary education expenditure.....	47.56	9
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	48.91	69
3.2.1 Quality of management schools.....	40.52	97
3.2.2 Prevalence of training in firms.....	54.22	29
3.2.3 Employee development.....	51.98	48
<b>3.3 Access to growth opportunities</b> .....	44.90	52
Networks		
3.3.1 Use of virtual social networks.....	74.66	75
3.3.2 Use of virtual professional networks.....	16.40	57
Empowerment		
3.3.3 Delegation of authority.....	44.12	64
3.3.4 Freedom of voice.....	44.41	38

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	24.38	103
<b>4.1 Sustainability</b> .....	29.20	91
4.1.1 Pension system.....	9.09	82
4.1.2 Taxation.....	49.31	30
<b>4.2 Lifestyle</b> .....	19.56	105
4.2.1 Environmental performance.....	36.51	90
4.2.2 Safety at night.....	19.01	102
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	22.73	98
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	35.22	71
<b>5.1 Employable skills</b> .....	34.28	68
5.1.1 Secondary-educated workforce.....	67.92	25
5.1.2 Secondary-educated population.....	16.64	86
5.1.3 Technicians and associate professionals.....	18.27	78
<b>5.2 Labour productivity</b> .....	36.16	72
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	41.50	88
5.2.3 Mid-value exports.....	30.82	73
<b>6 Global Knowledge Skills</b> .....	21.02	79
<b>6.1 Higher skills and competencies</b> .....	15.79	90
6.1.1 Tertiary-educated workforce.....	10.82	84
6.1.2 Tertiary-educated population.....	3.51	90
6.1.3 Professionals.....	20.55	68
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	16.29	66
6.1.6 Quality of scientific institutions.....	41.06	77
6.1.7 Scientific journal articles.....	2.49	93
<b>6.2 Talent impact</b> .....	26.26	63
6.2.1 Innovation output.....	10.08	99
6.2.2 High-value exports.....	15.01	68
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	74.47	5
6.2.4 New business density.....	5.45	66

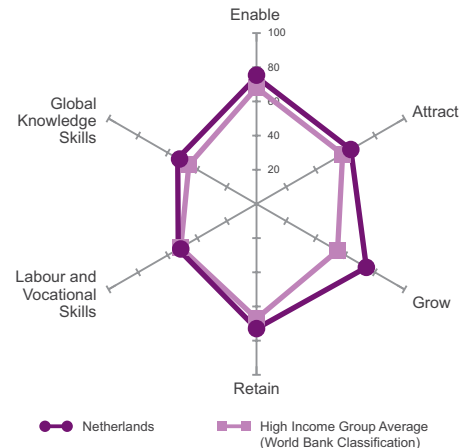
# NETHERLANDS

High Income  
Europe

RANK  
(out of 109)

12

Population (millions) **16.80**  
GDP per capita (PPP\$) **46,162.09**  
GDP (US\$ billions) **853.54**  
GTCI Score **65.22**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 74.25 ..... 20		
<b>1.1 Regulatory landscape</b> ..... 83.92 ..... 8		
1.1.1 Government effectiveness ..... 87.87 ..... 8		
1.1.2 Business-government relations ..... 72.10 ..... 14		
1.1.3 Political stability ..... 91.78 ..... 12		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 74.82 ..... 12		
1.2.1 Competition intensity ..... 81.10 ..... 11		
1.2.2 Ease of doing business ..... 71.70 ..... 25		
1.2.3 Cluster development ..... 72.42 ..... 6		
1.2.4 R&D expenditure ..... 53.35 ..... 17		
1.2.5 ICT infrastructure ..... 93.19 ..... 8		
1.2.6 Technology utilisation ..... 77.18 ..... 19		
<b>1.3 Business-labour landscape</b> ..... 64.02 ..... 51		
Labour market flexibility		
1.3.1 Ease of hiring ..... 83.33 ..... 40		
1.3.2 Ease of redundancy ..... 12.50 ..... 105		
Governance		
1.3.3 Labour-employer cooperation ..... 75.73 ..... 7		
1.3.4 Professional management ..... 84.51 ..... 4		
<b>2 Attract</b> ..... 63.73 ..... 17		
<b>2.1 External openness</b> ..... 54.37 ..... 20		
Attract business		
2.1.1 FDI and technology transfer ..... 66.13 ..... 34		
2.1.2 Prevalence of foreign ownership ..... 74.36 ..... 16		
Attract people		
2.1.3 Migrant stock ..... 27.00 ..... 27		
2.1.4 International students ..... 30.67 ..... 21		
2.1.5 Brain gain ..... 63.91 ..... 13		
2.1.6 Brain drain ..... 64.15 ..... 12		
<b>2.2 Internal openness</b> ..... 73.08 ..... 17		
Social diversity		
2.2.1 Tolerance to minorities ..... 86.71 ..... 17		
2.2.2 Tolerance to immigrants ..... 90.88 ..... 9		
2.2.3 Social mobility ..... 81.67 ..... 11		
Gender equality		
2.2.4 Female graduates ..... 70.11 ..... 59		
2.2.5 Gender earnings gap ..... 36.05 ..... 82		
<b>3 Grow</b> ..... 74.23 ..... 1		
<b>3.1 Formal education</b> ..... 70.33 ..... 1		
Enrolment		
3.1.1 Vocational enrolment ..... 100.00 ..... 1		
3.1.2 Tertiary enrolment ..... 65.50 ..... 14		
Quality		
3.1.3 Tertiary education expenditure ..... 41.25 ..... 15		
3.1.4 Reading, maths and science ..... 67.64 ..... 9		
3.1.5 University ranking ..... 77.25 ..... 12		
<b>3.2 Lifelong learning</b> ..... 72.79 ..... 7		
3.2.1 Quality of management schools ..... 78.34 ..... 9		
3.2.2 Prevalence of training in firms ..... n/a ..... n/a		
3.2.3 Employee development ..... 67.24 ..... 12		
<b>3.3 Access to growth opportunities</b> ..... 79.58 ..... 3		
Networks		
3.3.1 Use of virtual social networks ..... 93.41 ..... 4		
3.3.2 Use of virtual professional networks ..... 87.99 ..... 3		
Empowerment		
3.3.3 Delegation of authority ..... 77.70 ..... 3		
3.3.4 Freedom of voice ..... 59.22 ..... 20		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 72.96 ..... 11		
<b>4.1 Sustainability</b> ..... 68.34 ..... 13		
4.1.1 Pension system ..... 90.91 ..... 15		
4.1.2 Taxation ..... 45.77 ..... 45		
<b>4.2 Lifestyle</b> ..... 77.59 ..... 13		
4.2.1 Environmental performance ..... 85.67 ..... 11		
4.2.2 Safety at night ..... 87.19 ..... 13		
4.2.3 Physician density ..... 37.50 ..... 19		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... n/a ..... n/a		
<b>5 Labour and Vocational Skills</b> ..... 52.90 ..... 26		
<b>5.1 Employable skills</b> ..... 60.24 ..... 29		
5.1.1 Secondary-educated workforce ..... 48.04 ..... 42		
5.1.2 Secondary-educated population ..... 55.51 ..... 28		
5.1.3 Technicians and associate professionals ..... 77.16 ..... 17		
<b>5.2 Labour productivity</b> ..... 45.57 ..... 35		
5.2.1 Labour productivity per employee ..... 50.48 ..... 18		
5.2.2 Relationship of pay to productivity ..... 44.31 ..... 79		
5.2.3 Mid-value exports ..... 41.92 ..... 57		
<b>6 Global Knowledge Skills</b> ..... 53.24 ..... 14		
<b>6.1 Higher skills and competencies</b> ..... 56.17 ..... 17		
6.1.1 Tertiary-educated workforce ..... 51.86 ..... 22		
6.1.2 Tertiary-educated population ..... 32.81 ..... 41		
6.1.3 Professionals ..... 67.79 ..... 7		
6.1.4 Researchers ..... 46.82 ..... 24		
6.1.5 Senior officials and managers ..... 41.01 ..... 29		
6.1.6 Quality of scientific institutions ..... 81.10 ..... 6		
6.1.7 Scientific journal articles ..... 75.61 ..... 8		
<b>6.2 Talent impact</b> ..... 49.76 ..... 18		
6.2.1 Innovation output ..... 88.66 ..... 2		
6.2.2 High-value exports ..... 43.71 ..... 20		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 37.36 ..... 50		
6.2.4 New business density ..... 29.32 ..... 23		

# NEW ZEALAND

High Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

11

Population (millions) **4.44**  
GDP per capita (PPP\$) **34,731.57**  
GDP (US\$ billions) **185.79**  
GTCI Score **65.26**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 81.13 ..... 6		
<b>1.1 Regulatory landscape</b> ..... 88.76 ..... 4		
1.1.1 Government effectiveness ..... 87.22 ..... 9		
1.1.2 Business-government relations ..... 79.06 ..... 9		
1.1.3 Political stability ..... 100.00 ..... 1		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 68.92 ..... 22		
1.2.1 Competition intensity ..... 76.54 ..... 21		
1.2.2 Ease of doing business ..... 97.10 ..... 2		
1.2.3 Cluster development ..... 50.09 ..... 46		
1.2.4 R&D expenditure ..... 31.27 ..... 29		
1.2.5 ICT infrastructure ..... 78.53 ..... 26		
1.2.6 Technology utilisation ..... 80.01 ..... 11		
<b>1.3 Business-labour landscape</b> ..... 85.69 ..... 6		
Labour market flexibility		
1.3.1 Ease of hiring ..... 89.00 ..... 20		
1.3.2 Ease of redundancy ..... 87.50 ..... 33		
Governance		
1.3.3 Labour-employer cooperation ..... 75.14 ..... 8		
1.3.4 Professional management ..... 91.14 ..... 1		
<b>2 Attract</b> ..... 72.94 ..... 5		
<b>2.1 External openness</b> ..... 62.90 ..... 9		
Attract business		
2.1.1 FDI and technology transfer ..... 68.78 ..... 21		
2.1.2 Prevalence of foreign ownership ..... 77.81 ..... 8		
Attract people		
2.1.3 Migrant stock ..... 58.07 ..... 11		
2.1.4 International students ..... 67.21 ..... 9		
2.1.5 Brain gain ..... 60.69 ..... 17		
2.1.6 Brain drain ..... 44.89 ..... 44		
<b>2.2 Internal openness</b> ..... 82.99 ..... 6		
Social diversity		
2.2.1 Tolerance to minorities ..... 100.00 ..... 1		
2.2.2 Tolerance to immigrants ..... 100.00 ..... 1		
2.2.3 Social mobility ..... 88.82 ..... 3		
Gender equality		
2.2.4 Female graduates ..... 77.28 ..... 37		
2.2.5 Gender earnings gap ..... 48.84 ..... 51		
<b>3 Grow</b> ..... 63.38 ..... 13		
<b>3.1 Formal education</b> ..... 52.86 ..... 18		
Enrolment		
3.1.1 Vocational enrolment ..... 28.48 ..... 50		
3.1.2 Tertiary enrolment ..... 67.63 ..... 10		
Quality		
3.1.3 Tertiary education expenditure ..... 44.95 ..... 12		
3.1.4 Reading, maths and science ..... 63.14 ..... 16		
3.1.5 University ranking ..... 60.10 ..... 18		
<b>3.2 Lifelong learning</b> ..... 67.54 ..... 20		
3.2.1 Quality of management schools ..... 69.60 ..... 20		
3.2.2 Prevalence of training in firms ..... n/a ..... n/a		
3.2.3 Employee development ..... 65.49 ..... 16		
<b>3.3 Access to growth opportunities</b> ..... 69.73 ..... 10		
Networks		
3.3.1 Use of virtual social networks ..... 89.19 ..... 16		
3.3.2 Use of virtual professional networks ..... 75.04 ..... 11		
Empowerment		
3.3.3 Delegation of authority ..... 75.32 ..... 6		
3.3.4 Freedom of voice ..... 39.39 ..... 43		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 68.25 ..... 22		
<b>4.1 Sustainability</b> ..... 66.83 ..... 14		
4.1.1 Pension system ..... n/a ..... n/a		
4.1.2 Taxation ..... 66.83 ..... 8		
<b>4.2 Lifestyle</b> ..... 69.66 ..... 33		
4.2.1 Environmental performance ..... 83.74 ..... 16		
4.2.2 Safety at night ..... 66.80 ..... 45		
4.2.3 Physician density ..... 37.50 ..... 19		
4.2.4 Sanitation ..... n/a ..... n/a		
4.2.5 Flexible employment ..... 90.60 ..... 10		
<b>5 Labour and Vocational Skills</b> ..... 42.77 ..... 50		
<b>5.1 Employable skills</b> ..... 45.15 ..... 51		
5.1.1 Secondary-educated workforce ..... 48.04 ..... 42		
5.1.2 Secondary-educated population ..... 29.53 ..... 64		
5.1.3 Technicians and associate professionals ..... 57.87 ..... 33		
<b>5.2 Labour productivity</b> ..... 40.39 ..... 57		
5.2.1 Labour productivity per employee ..... 38.93 ..... 30		
5.2.2 Relationship of pay to productivity ..... 59.85 ..... 17		
5.2.3 Mid-value exports ..... 22.38 ..... 83		
<b>6 Global Knowledge Skills</b> ..... 63.12 ..... 4		
<b>6.1 Higher skills and competencies</b> ..... 65.54 ..... 6		
6.1.1 Tertiary-educated workforce ..... 58.48 ..... 15		
6.1.2 Tertiary-educated population ..... 58.86 ..... 8		
6.1.3 Professionals ..... 50.31 ..... 33		
6.1.4 Researchers ..... 49.32 ..... 21		
6.1.5 Senior officials and managers ..... 76.97 ..... 5		
6.1.6 Quality of scientific institutions ..... 70.94 ..... 19		
6.1.7 Scientific journal articles ..... 93.87 ..... 3		
<b>6.2 Talent impact</b> ..... 60.70 ..... 5		
6.2.1 Innovation output ..... 65.34 ..... 18		
6.2.2 High-value exports ..... 16.76 ..... 59		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... n/a ..... n/a		
6.2.4 New business density ..... 100.00 ..... 1		

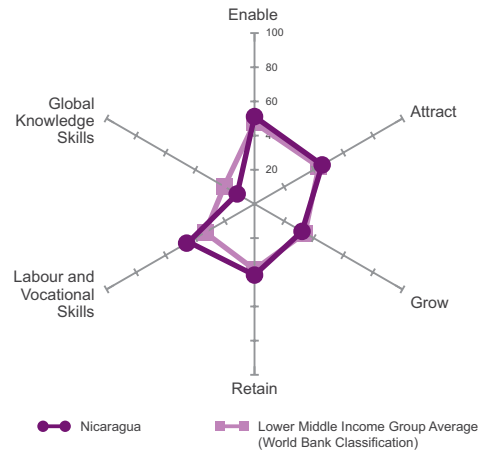
# NICARAGUA

Lower Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

81

Population (millions) **6.08**  
GDP per capita (PPP\$) **4,642.70**  
GDP (US\$ billions) **11.26**  
GTCI Score **37.81**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	51.14	71
<b>1.1 Regulatory landscape</b> .....	44.62	86
1.1.1 Government effectiveness.....	9.68	102
1.1.2 Business-government relations.....	58.94	49
1.1.3 Political stability.....	58.05	68
1.1.4 Starting a foreign business.....	51.83	52
<b>1.2 Market landscape</b> .....	40.60	90
1.2.1 Competition intensity.....	52.92	101
1.2.2 Ease of doing business.....	35.60	90
1.2.3 Cluster development.....	37.45	88
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	29.56	91
1.2.6 Technology utilisation.....	47.49	100
<b>1.3 Business-labour landscape</b> .....	68.20	37
Labour market flexibility		
1.3.1 Ease of hiring.....	77.67	42
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	55.07	55
1.3.4 Professional management.....	40.07	98
<b>2 Attract</b> .....	45.70	65
<b>2.1 External openness</b> .....	35.65	65
Attract business		
2.1.1 FDI and technology transfer.....	50.52	90
2.1.2 Prevalence of foreign ownership.....	55.31	70
Attract people		
2.1.3 Migrant stock.....	1.44	89
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	35.38	65
2.1.6 Brain drain.....	35.61	70
<b>2.2 Internal openness</b> .....	55.75	73
Social diversity		
2.2.1 Tolerance to minorities.....	76.44	34
2.2.2 Tolerance to immigrants.....	67.00	48
2.2.3 Social mobility.....	45.84	80
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	33.72	85
<b>3 Grow</b> .....	32.11	94
<b>3.1 Formal education</b> .....	9.43	102
Enrolment		
3.1.1 Vocational enrolment.....	2.38	98
3.1.2 Tertiary enrolment.....	n/a	n/a
Quality		
3.1.3 Tertiary education expenditure.....	25.91	46
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	50.20	64
3.2.1 Quality of management schools.....	45.34	90
3.2.2 Prevalence of training in firms.....	57.78	26
3.2.3 Employee development.....	47.47	71
<b>3.3 Access to growth opportunities</b> .....	36.71	89
Networks		
3.3.1 Use of virtual social networks.....	61.40	98
3.3.2 Use of virtual professional networks.....	9.35	68
Empowerment		
3.3.3 Delegation of authority.....	40.05	82
3.3.4 Freedom of voice.....	36.03	51

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	41.62	80
<b>4.1 Sustainability</b> .....	28.78	95
4.1.1 Pension system.....	21.21	75
4.1.2 Taxation.....	36.35	77
<b>4.2 Lifestyle</b> .....	54.47	63
4.2.1 Environmental performance.....	46.06	74
4.2.2 Safety at night.....	55.65	60
4.2.3 Physician density.....	n/a	n/a
4.2.4 Sanitation.....	45.45	91
4.2.5 Flexible employment.....	70.71	44
<b>5 Labour and Vocational Skills</b> .....	44.54	46
<b>5.1 Employable skills</b> .....	38.81	62
5.1.1 Secondary-educated workforce.....	38.03	64
5.1.2 Secondary-educated population.....	n/a	n/a
5.1.3 Technicians and associate professionals.....	39.59	50
<b>5.2 Labour productivity</b> .....	50.26	21
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	49.52	55
5.2.3 Mid-value exports.....	51.00	38
<b>6 Global Knowledge Skills</b> .....	11.72	101
<b>6.1 Higher skills and competencies</b> .....	15.08	91
6.1.1 Tertiary-educated workforce.....	20.84	79
6.1.2 Tertiary-educated population.....	n/a	n/a
6.1.3 Professionals.....	9.51	87
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	14.61	71
6.1.6 Quality of scientific institutions.....	28.45	102
6.1.7 Scientific journal articles.....	2.02	95
<b>6.2 Talent impact</b> .....	8.36	107
6.2.1 Innovation output.....	4.62	106
6.2.2 High-value exports.....	12.10	103
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	n/a	n/a

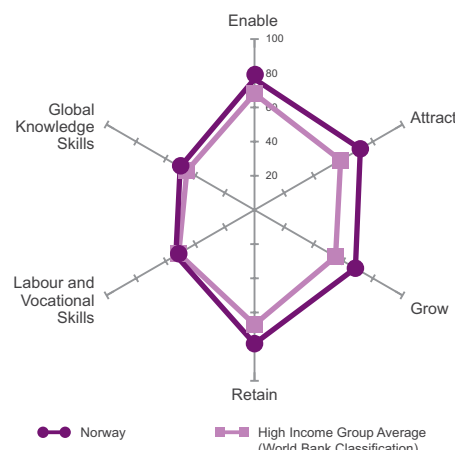
# NORWAY

High Income  
Europe

RANK  
(out of 109)

8

Population (millions) **5.08**  
GDP per capita (PPP\$) **64,405.71**  
GDP (US\$ billions) **512.58**  
GTCI Score **66.34**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 76.65 ..... 13		
<b>1.1 Regulatory landscape</b> ..... 89.56 ..... 3		
1.1.1 Government effectiveness ..... 90.82 ..... 5		
1.1.2 Business-government relations ..... 80.79 ..... 7		
1.1.3 Political stability ..... 97.08 ..... 7		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 73.03 ..... 17		
1.2.1 Competition intensity ..... 72.28 ..... 42		
1.2.2 Ease of doing business ..... 87.47 ..... 5		
1.2.3 Cluster development ..... 67.66 ..... 13		
1.2.4 R&D expenditure ..... 40.69 ..... 24		
1.2.5 ICT infrastructure ..... 85.86 ..... 14		
1.2.6 Technology utilisation ..... 84.21 ..... 4		
<b>1.3 Business-labour landscape</b> ..... 67.37 ..... 40		
Labour market flexibility		
1.3.1 Ease of hiring ..... 39.00 ..... 91		
1.3.2 Ease of redundancy ..... 62.50 ..... 55		
Governance		
1.3.3 Labour-employer cooperation ..... 80.47 ..... 4		
1.3.4 Professional management ..... 87.50 ..... 2		
<b>2 Attract</b> ..... 71.51 ..... 8		
<b>2.1 External openness</b> ..... 56.13 ..... 17		
Attract business		
2.1.1 FDI and technology transfer ..... 60.89 ..... 58		
2.1.2 Prevalence of foreign ownership ..... 71.00 ..... 26		
Attract people		
2.1.3 Migrant stock ..... 31.75 ..... 24		
2.1.4 International students ..... 32.81 ..... 20		
2.1.5 Brain gain ..... 64.06 ..... 12		
2.1.6 Brain drain ..... 76.28 ..... 34		
<b>2.2 Internal openness</b> ..... 86.63 ..... 2		
Social diversity		
2.2.1 Tolerance to minorities ..... 96.58 ..... 4		
2.2.2 Tolerance to immigrants ..... 97.97 ..... 3		
2.2.3 Social mobility ..... 87.63 ..... 5		
Gender equality		
2.2.4 Female graduates ..... 81.29 ..... 25		
2.2.5 Gender earnings gap ..... 70.93 ..... 9		
<b>3 Grow</b> ..... 68.19 ..... 6		
<b>3.1 Formal education</b> ..... 57.27 ..... 12		
Enrolment		
3.1.1 Vocational enrolment ..... 59.95 ..... 19		
3.1.2 Tertiary enrolment ..... 62.65 ..... 18		
Quality		
3.1.3 Tertiary education expenditure ..... 47.50 ..... 10		
3.1.4 Reading, maths and science ..... 56.90 ..... 23		
3.1.5 University ranking ..... 59.33 ..... 19		
<b>3.2 Lifelong learning</b> ..... 70.17 ..... 11		
3.2.1 Quality of management schools ..... 70.95 ..... 18		
3.2.2 Prevalence of training in firms ..... n/a ..... n/a		
3.2.3 Employee development ..... 69.39 ..... 8		
<b>3.3 Access to growth opportunities</b> ..... 77.14 ..... 5		
Networks		
3.3.1 Use of virtual social networks ..... 94.70 ..... 2		
3.3.2 Use of virtual professional networks ..... 66.33 ..... 13		
Empowerment		
3.3.3 Delegation of authority ..... 82.71 ..... 2		
3.3.4 Freedom of voice ..... 64.80 ..... 13		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 78.26 ..... 4		
<b>4.1 Sustainability</b> ..... 73.19 ..... 5		
4.1.1 Pension system ..... 92.93 ..... 8		
4.1.2 Taxation ..... 53.44 ..... 21		
<b>4.2 Lifestyle</b> ..... 83.34 ..... 4		
4.2.1 Environmental performance ..... 86.09 ..... 10		
4.2.2 Safety at night ..... 95.87 ..... 3		
4.2.3 Physician density ..... 50.00 ..... 4		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... 84.74 ..... 15		
<b>5 Labour and Vocational Skills</b> ..... 53.15 ..... 25		
<b>5.1 Employable skills</b> ..... 62.06 ..... 26		
5.1.1 Secondary-educated workforce ..... 50.70 ..... 37		
5.1.2 Secondary-educated population ..... 57.30 ..... 24		
5.1.3 Technicians and associate professionals ..... 78.17 ..... 14		
<b>5.2 Labour productivity</b> ..... 44.25 ..... 41		
5.2.1 Labour productivity per employee ..... 64.31 ..... 5		
5.2.2 Relationship of pay to productivity ..... 45.53 ..... 78		
5.2.3 Mid-value exports ..... 22.92 ..... 81		
<b>6 Global Knowledge Skills</b> ..... 50.26 ..... 19		
<b>6.1 Higher skills and competencies</b> ..... 60.43 ..... 14		
6.1.1 Tertiary-educated workforce ..... 60.42 ..... 11		
6.1.2 Tertiary-educated population ..... 53.17 ..... 14		
6.1.3 Professionals ..... 66.56 ..... 8		
6.1.4 Researchers ..... 74.67 ..... 8		
6.1.5 Senior officials and managers ..... 36.52 ..... 32		
6.1.6 Quality of scientific institutions ..... 70.00 ..... 21		
6.1.7 Scientific journal articles ..... 61.67 ..... 15		
<b>6.2 Talent impact</b> ..... 40.10 ..... 35		
6.2.1 Innovation output ..... 69.96 ..... 14		
6.2.2 High-value exports ..... 18.21 ..... 53		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 20.37 ..... 72		
6.2.4 New business density ..... 51.86 ..... 15		

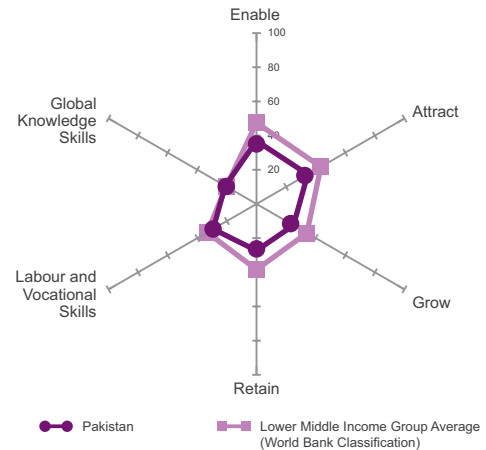
# PAKISTAN

Lower Middle Income  
Central and Southern Asia

RANK  
(out of 109)

# 103

Population (millions) **182.14**  
GDP per capita (PPP\$) **4,601.69**  
GDP (US\$ billions) **232.29**  
GTCI Score **29.04**  
GTCI Score (Income Group Average) **36.22**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	36.93	104
1.1	<b>Regulatory landscape</b>	28.50	104
1.1.1	Government effectiveness	10.17	101
1.1.2	Business-government relations	42.41	91
1.1.3	Political stability	0.00	109
1.1.4	Starting a foreign business	61.41	42
1.2	<b>Market landscape</b>	38.05	94
1.2.1	Competition intensity	64.53	71
1.2.2	Ease of doing business	32.50	93
1.2.3	Cluster development	49.00	50
1.2.4	R&D expenditure	7.94	69
1.2.5	ICT infrastructure	17.35	100
1.2.6	Technology utilisation	57.00	70
1.3	<b>Business-labour landscape</b>	44.24	96
	Labour market flexibility		
1.3.1	Ease of hiring	16.67	105
1.3.2	Ease of redundancy	62.50	55
	Governance		
1.3.3	Labour-employer cooperation	48.89	88
1.3.4	Professional management	48.91	70
2	<b>Attract</b>	34.59	104
2.1	<b>External openness</b>	34.32	72
	Attract business		
2.1.1	FDI and technology transfer	54.72	75
2.1.2	Prevalence of foreign ownership	47.07	92
	Attract people		
2.1.3	Migrant stock	5.05	71
2.1.4	International students	n/a	n/a
2.1.5	Brain gain	28.50	80
2.1.6	Brain drain	36.26	68
2.2	<b>Internal openness</b>	34.85	105
	Social diversity		
2.2.1	Tolerance to minorities	65.21	63
2.2.2	Tolerance to immigrants	29.23	96
2.2.3	Social mobility	43.80	91
	Gender equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	1.16	104
3	<b>Grow</b>	24.96	106
3.1	<b>Formal education</b>	12.94	93
	Enrolment		
3.1.1	Vocational enrolment	6.53	92
3.1.2	Tertiary enrolment	6.18	94
	Quality		
3.1.3	Tertiary education expenditure	16.82	72
3.1.4	Reading, maths and science	n/a	n/a
3.1.5	University ranking	22.25	56
3.2	<b>Lifelong learning</b>	32.89	106
3.2.1	Quality of management schools	54.74	56
3.2.2	Prevalence of training in firms	4.35	78
3.2.3	Employee development	39.58	98
3.3	<b>Access to growth opportunities</b>	29.04	106
	Networks		
3.3.1	Use of virtual social networks	62.69	96
3.3.2	Use of virtual professional networks	4.46	87
	Empowerment		
3.3.3	Delegation of authority	37.85	93
3.3.4	Freedom of voice	11.17	88

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	27.30	100
4.1	<b>Sustainability</b>	22.53	105
4.1.1	Pension system	3.03	95
4.1.2	Taxation	42.04	60
4.2	<b>Lifestyle</b>	32.06	96
4.2.1	Environmental performance	23.32	103
4.2.2	Safety at night	51.52	66
4.2.3	Physician density	12.50	69
4.2.4	Sanitation	40.91	93
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	29.36	88
5.1	<b>Employable skills</b>	16.49	94
5.1.1	Secondary-educated workforce	1.72	95
5.1.2	Secondary-educated population	25.92	71
5.1.3	Technicians and associate professionals	21.83	75
5.2	<b>Labour productivity</b>	42.24	51
5.2.1	Labour productivity per employee	4.91	83
5.2.2	Relationship of pay to productivity	46.71	73
5.2.3	Mid-value exports	75.09	3
6	<b>Global Knowledge Skills</b>	21.13	78
6.1	<b>Higher skills and competencies</b>	24.97	68
6.1.1	Tertiary-educated workforce	40.55	39
6.1.2	Tertiary-educated population	9.77	81
6.1.3	Professionals	3.37	96
6.1.4	Researchers	1.91	70
6.1.5	Senior officials and managers	71.35	6
6.1.6	Quality of scientific institutions	39.23	82
6.1.7	Scientific journal articles	8.57	64
6.2	<b>Talent impact</b>	17.29	85
6.2.1	Innovation output	14.92	92
6.2.2	High-value exports	12.86	91
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	41.33	45
6.2.4	New business density	0.07	87



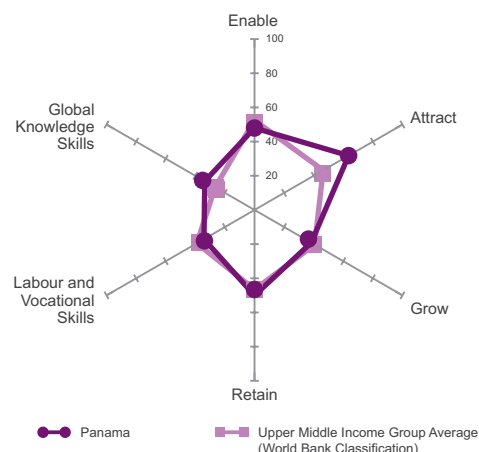
# PANAMA

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

54

Population (millions) **3.86**  
GDP per capita (PPP\$) **19,416.23**  
GDP (US\$ billions) **42.65**  
GTCI Score **44.61**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	47.94	82
<b>1.1 Regulatory landscape</b> .....	54.91	54
1.1.1 Government effectiveness.....	44.11	48
1.1.2 Business-government relations.....	59.78	39
1.1.3 Political stability.....	60.85	63
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	50.76	53
1.2.1 Competition intensity.....	68.37	58
1.2.2 Ease of doing business.....	59.35	48
1.2.3 Cluster development.....	50.29	45
1.2.4 R&D expenditure.....	4.71	77
1.2.5 ICT infrastructure.....	49.49	64
1.2.6 Technology utilisation.....	72.34	31
<b>1.3 Business-labour landscape</b> .....	38.16	103
Labour market flexibility		
1.3.1 Ease of hiring.....	22.33	95
1.3.2 Ease of redundancy.....	25.00	97
Governance		
1.3.3 Labour-employer cooperation.....	58.76	43
1.3.4 Professional management.....	46.54	83
<b>2 Attract</b> .....	63.58	18
<b>2.1 External openness</b> .....	57.30	13
Attract business		
2.1.1 FDI and technology transfer.....	77.97	4
2.1.2 Prevalence of foreign ownership.....	74.18	17
Attract people		
2.1.3 Migrant stock.....	9.35	56
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	65.37	11
2.1.6 Brain drain.....	59.64	17
<b>2.2 Internal openness</b> .....	69.86	24
Social diversity		
2.2.1 Tolerance to minorities.....	74.93	37
2.2.2 Tolerance to immigrants.....	69.03	41
2.2.3 Social mobility.....	61.77	37
Gender equality		
2.2.4 Female graduates.....	92.41	5
2.2.5 Gender earnings gap.....	51.16	44
<b>3 Grow</b> .....	38.30	69
<b>3.1 Formal education</b> .....	19.88	76
Enrolment		
3.1.1 Vocational enrolment.....	28.57	49
3.1.2 Tertiary enrolment.....	35.73	59
Quality		
3.1.3 Tertiary education expenditure.....	15.23	77
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	39.47	94
3.2.1 Quality of management schools.....	53.86	60
3.2.2 Prevalence of training in firms.....	10.03	76
3.2.3 Employee development.....	54.52	40
<b>3.3 Access to growth opportunities</b> .....	55.55	31
Networks		
3.3.1 Use of virtual social networks.....	84.07	36
3.3.2 Use of virtual professional networks.....	25.62	38
Empowerment		
3.3.3 Delegation of authority.....	44.89	61
3.3.4 Freedom of voice.....	67.60	9

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	50.60	60
<b>4.1 Sustainability</b> .....	50.55	48
4.1.1 Pension system.....	n/a	n/a
4.1.2 Taxation.....	50.55	26
<b>4.2 Lifestyle</b> .....	49.56	79
4.2.1 Environmental performance.....	55.47	52
4.2.2 Safety at night.....	42.42	79
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	69.32	80
4.2.5 Flexible employment.....	55.59	58
<b>5 Labour and Vocational Skills</b> .....	34.14	74
<b>5.1 Employable skills</b> .....	36.30	67
5.1.1 Secondary-educated workforce.....	43.97	53
5.1.2 Secondary-educated population.....	28.88	65
5.1.3 Technicians and associate professionals.....	36.04	55
<b>5.2 Labour productivity</b> .....	31.98	82
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	42.42	84
5.2.3 Mid-value exports.....	21.53	86
<b>6 Global Knowledge Skills</b> .....	33.66	47
<b>6.1 Higher skills and competencies</b> .....	30.07	52
6.1.1 Tertiary-educated workforce.....	59.61	14
6.1.2 Tertiary-educated population.....	31.84	43
6.1.3 Professionals.....	28.83	58
6.1.4 Researchers.....	1.40	73
6.1.5 Senior officials and managers.....	32.58	39
6.1.6 Quality of scientific institutions.....	51.99	43
6.1.7 Scientific journal articles.....	4.20	85
<b>6.2 Talent impact</b> .....	37.26	40
6.2.1 Innovation output.....	41.39	41
6.2.2 High-value exports.....	11.92	108
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	2.18	82
6.2.4 New business density.....	93.55	4



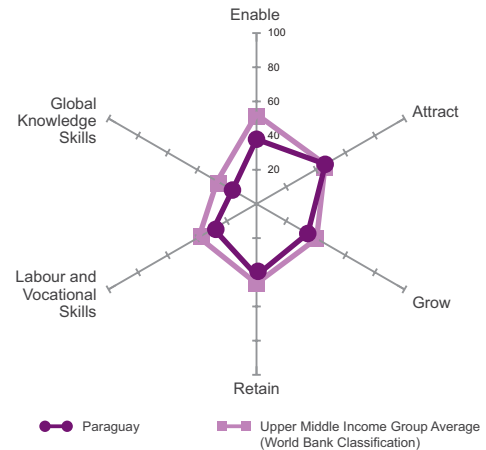
# PARAGUAY

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

91

Population (millions) **6.80**  
GDP per capita (PPP\$) **8,092.67**  
GDP (US\$ billions) **29.01**  
GTCI Score **34.35**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	37.87	102
<b>1.1 Regulatory landscape</b> .....	36.43	100
1.1.1 Government effectiveness.....	7.74	105
1.1.2 Business-government relations.....	53.96	61
1.1.3 Political stability.....	47.59	83
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	39.21	93
1.2.1 Competition intensity.....	67.94	59
1.2.2 Ease of doing business.....	45.01	75
1.2.3 Cluster development.....	34.55	96
1.2.4 R&D expenditure.....	0.99	93
1.2.5 ICT infrastructure.....	36.12	80
1.2.6 Technology utilisation.....	50.84	95
<b>1.3 Business-labour landscape</b> .....	37.96	104
Labour market flexibility		
1.3.1 Ease of hiring.....	33.33	92
1.3.2 Ease of redundancy.....	25.00	97
Governance		
1.3.3 Labour-employer cooperation.....	56.79	50
1.3.4 Professional management.....	36.72	104
<b>2 Attract</b> .....	46.56	62
<b>2.1 External openness</b> .....	35.62	66
Attract business		
2.1.1 FDI and technology transfer.....	53.54	81
2.1.2 Prevalence of foreign ownership.....	56.69	66
Attract people		
2.1.3 Migrant stock.....	6.18	66
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	28.48	81
2.1.6 Brain drain.....	33.23	79
<b>2.2 Internal openness</b> .....	57.49	68
Social diversity		
2.2.1 Tolerance to minorities.....	48.90	83
2.2.2 Tolerance to immigrants.....	82.34	19
2.2.3 Social mobility.....	51.02	68
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	47.67	57
<b>3 Grow</b> .....	34.63	88
<b>3.1 Formal education</b> .....	22.15	74
Enrolment		
3.1.1 Vocational enrolment.....	21.09	60
3.1.2 Tertiary enrolment.....	27.87	68
Quality		
3.1.3 Tertiary education expenditure.....	39.65	16
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	49.03	68
3.2.1 Quality of management schools.....	34.91	105
3.2.2 Prevalence of training in firms.....	67.94	17
3.2.3 Employee development.....	44.24	84
<b>3.3 Access to growth opportunities</b> .....	32.69	98
Networks		
3.3.1 Use of virtual social networks.....	70.57	87
3.3.2 Use of virtual professional networks.....	7.95	75
Empowerment		
3.3.3 Delegation of authority.....	32.70	104
3.3.4 Freedom of voice.....	19.55	71

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	41.83	79
<b>4.1 Sustainability</b> .....	34.04	81
4.1.1 Pension system.....	11.11	80
4.1.2 Taxation.....	56.97	13
<b>4.2 Lifestyle</b> .....	49.61	78
4.2.1 Environmental performance.....	30.07	96
4.2.2 Safety at night.....	22.31	100
4.2.3 Physician density.....	n/a	n/a
4.2.4 Sanitation.....	77.27	71
4.2.5 Flexible employment.....	68.80	48
<b>5 Labour and Vocational Skills</b> .....	29.00	92
<b>5.1 Employable skills</b> .....	28.21	76
5.1.1 Secondary-educated workforce.....	28.64	72
5.1.2 Secondary-educated population.....	26.04	70
5.1.3 Technicians and associate professionals.....	29.95	64
<b>5.2 Labour productivity</b> .....	29.79	89
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	41.42	90
5.2.3 Mid-value exports.....	18.15	95
<b>6 Global Knowledge Skills</b> .....	16.25	89
<b>6.1 Higher skills and competencies</b> .....	14.00	95
6.1.1 Tertiary-educated workforce.....	26.66	72
6.1.2 Tertiary-educated population.....	17.44	73
6.1.3 Professionals.....	15.03	80
6.1.4 Researchers.....	0.56	79
6.1.5 Senior officials and managers.....	18.54	63
6.1.6 Quality of scientific institutions.....	19.33	109
6.1.7 Scientific journal articles.....	0.44	104
<b>6.2 Talent impact</b> .....	18.50	84
6.2.1 Innovation output.....	24.58	74
6.2.2 High-value exports.....	12.42	98
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	n/a	n/a

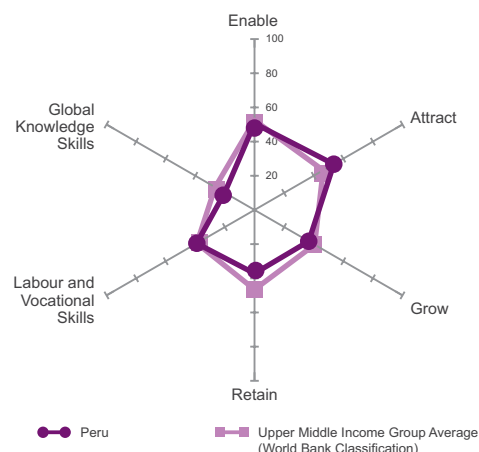
# PERU

Upper Middle Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

# 74

Population (millions) **30.38**  
GDP per capita (PPP\$) **11,774.19**  
GDP (US\$ billions) **202.35**  
GTCI Score **39.54**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	50.61	75
<b>1.1 Regulatory landscape</b> .....	50.30	62
1.1.1 Government effectiveness.....	30.08	71
1.1.2 Business-government relations.....	53.66	62
1.1.3 Political stability.....	45.07	90
1.1.4 Starting a foreign business.....	72.39	25
<b>1.2 Market landscape</b> .....	53.16	46
1.2.1 Competition intensity.....	67.80	60
1.2.2 Ease of doing business.....	65.51	32
1.2.3 Cluster development.....	37.75	87
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	36.76	79
1.2.6 Technology utilisation.....	57.98	66
<b>1.3 Business-labour landscape</b> .....	48.38	88
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	25.00	97
Governance		
1.3.3 Labour-employer cooperation.....	55.30	52
1.3.4 Professional management.....	57.56	43
<b>2 Attract</b> .....	53.57	35
<b>2.1 External openness</b> .....	46.32	31
Attract business		
2.1.1 FDI and technology transfer.....	67.99	25
2.1.2 Prevalence of foreign ownership.....	66.95	37
Attract people		
2.1.3 Migrant stock.....	0.66	98
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	47.25	36
2.1.6 Brain drain.....	48.77	35
<b>2.2 Internal openness</b> .....	60.82	52
Social diversity		
2.2.1 Tolerance to minorities.....	59.32	70
2.2.2 Tolerance to immigrants.....	69.03	41
2.2.3 Social mobility.....	57.95	46
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	56.98	79
<b>3 Grow</b> .....	36.64	79
<b>3.1 Formal education</b> .....	14.07	91
Enrolment		
3.1.1 Vocational enrolment.....	2.67	97
3.1.2 Tertiary enrolment.....	33.26	62
Quality		
3.1.3 Tertiary education expenditure.....	10.17	83
3.1.4 Reading, maths and science.....	0.00	61
3.1.5 University ranking.....	24.26	53
<b>3.2 Lifelong learning</b> .....	58.04	38
3.2.1 Quality of management schools.....	53.24	66
3.2.2 Prevalence of training in firms.....	74.80	10
3.2.3 Employee development.....	46.08	76
<b>3.3 Access to growth opportunities</b> .....	37.80	81
Networks		
3.3.1 Use of virtual social networks.....	70.25	88
3.3.2 Use of virtual professional networks.....	1.52	98
Empowerment		
3.3.3 Delegation of authority.....	46.18	55
3.3.4 Freedom of voice.....	33.24	54

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	37.15	91
<b>4.1 Sustainability</b> .....	29.34	89
4.1.1 Pension system.....	21.21	75
4.1.2 Taxation.....	37.46	74
<b>4.2 Lifestyle</b> .....	44.97	87
4.2.1 Environmental performance.....	38.45	85
4.2.2 Safety at night.....	31.96	96
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	69.32	80
4.2.5 Flexible employment.....	72.62	37
<b>5 Labour and Vocational Skills</b> .....	39.11	61
<b>5.1 Employable skills</b> .....	50.78	44
5.1.1 Secondary-educated workforce.....	72.77	18
5.1.2 Secondary-educated population.....	49.62	37
5.1.3 Technicians and associate professionals.....	29.95	64
<b>5.2 Labour productivity</b> .....	27.44	94
5.2.1 Labour productivity per employee.....	12.56	65
5.2.2 Relationship of pay to productivity.....	48.21	63
5.2.3 Mid-value exports.....	21.54	85
<b>6 Global Knowledge Skills</b> .....	20.16	83
<b>6.1 Higher skills and competencies</b> .....	19.67	80
6.1.1 Tertiary-educated workforce.....	24.39	76
6.1.2 Tertiary-educated population.....	36.01	33
6.1.3 Professionals.....	22.09	65
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	2.81	91
6.1.6 Quality of scientific institutions.....	31.22	97
6.1.7 Scientific journal articles.....	1.50	98
<b>6.2 Talent impact</b> .....	20.65	78
6.2.1 Innovation output.....	23.32	78
6.2.2 High-value exports.....	12.62	96
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	21.39	70
6.2.4 New business density.....	25.27	28

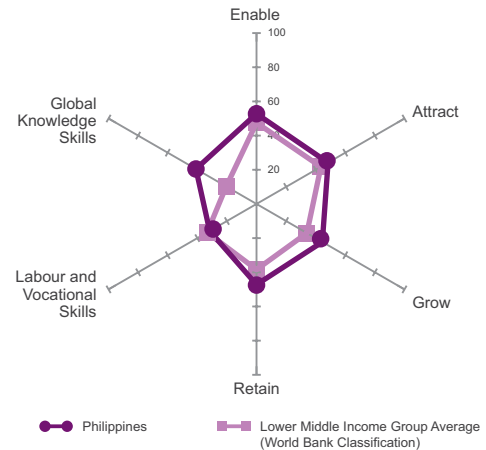
# PHILIPPINES

Lower Middle Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

56

Population (millions) **98.39**  
GDP per capita (PPP\$) **6,535.88**  
GDP (US\$ billions) **272.07**  
GTCI Score **44.23**  
GTCI Score (Income Group Average) **36.22**



	VARIABLE	SCORE	RANK
1	<b>Enable</b> .....	52.79	66
1.1	<b>Regulatory landscape</b> .....	48.44	71
1.1.1	Government effectiveness.....	36.18	57
1.1.2	Business-government relations.....	67.78	18
1.1.3	Political stability.....	37.96	94
1.1.4	Starting a foreign business.....	51.83	52
1.2	<b>Market landscape</b> .....	44.65	75
1.2.1	Competition intensity.....	69.25	53
1.2.2	Ease of doing business.....	44.11	77
1.2.3	Cluster development.....	50.53	44
1.2.4	R&D expenditure.....	2.48	87
1.2.5	ICT infrastructure.....	33.68	86
1.2.6	Technology utilisation.....	67.89	37
1.3	<b>Business-labour landscape</b> .....	65.27	44
	Labour market flexibility		
1.3.1	Ease of hiring.....	66.67	48
1.3.2	Ease of redundancy.....	62.50	55
	Governance		
1.3.3	Labour-employer cooperation.....	65.15	24
1.3.4	Professional management.....	66.76	26
2	<b>Attract</b> .....	48.35	55
2.1	<b>External openness</b> .....	35.44	68
	Attract business		
2.1.1	FDI and technology transfer.....	66.95	28
2.1.2	Prevalence of foreign ownership.....	65.16	41
	Attract people		
2.1.3	Migrant stock.....	0.36	103
2.1.4	International students.....	0.12	86
2.1.5	Brain gain.....	37.97	59
2.1.6	Brain drain.....	42.05	49
2.2	<b>Internal openness</b> .....	61.26	47
	Social diversity		
2.2.1	Tolerance to minorities.....	49.86	82
2.2.2	Tolerance to immigrants.....	62.95	54
2.2.3	Social mobility.....	61.78	36
	Gender equality		
2.2.4	Female graduates.....	72.39	50
2.2.5	Gender earnings gap.....	59.30	24
3	<b>Grow</b> .....	44.47	47
3.1	<b>Formal education</b> .....	21.14	75
	Enrolment		
3.1.1	Vocational enrolment.....	n/a	n/a
3.1.2	Tertiary enrolment.....	22.33	75
	Quality		
3.1.3	Tertiary education expenditure.....	3.96	93
3.1.4	Reading, maths and science.....	n/a	n/a
3.1.5	University ranking.....	37.15	42
3.2	<b>Lifelong learning</b> .....	53.02	52
3.2.1	Quality of management schools.....	62.35	36
3.2.2	Prevalence of training in firms.....	36.54	53
3.2.3	Employee development.....	60.16	25
3.3	<b>Access to growth opportunities</b> .....	59.23	25
	Networks		
3.3.1	Use of virtual social networks.....	87.24	21
3.3.2	Use of virtual professional networks.....	8.08	73
	Empowerment		
3.3.3	Delegation of authority.....	60.89	23
3.3.4	Freedom of voice.....	80.73	3

	VARIABLE	SCORE	RANK
4	<b>Retain</b> .....	47.20	64
4.1	<b>Sustainability</b> .....	36.32	73
4.1.1	Pension system.....	24.24	70
4.1.2	Taxation.....	48.40	36
4.2	<b>Lifestyle</b> .....	58.07	52
4.2.1	Environmental performance.....	36.96	88
4.2.2	Safety at night.....	66.80	45
4.2.3	Physician density.....	n/a	n/a
4.2.4	Sanitation.....	70.45	78
4.2.5	Flexible employment.....	n/a	n/a
5	<b>Labour and Vocational Skills</b> .....	31.65	80
5.1	<b>Employable skills</b> .....	29.49	75
5.1.1	Secondary-educated workforce.....	44.91	51
5.1.2	Secondary-educated population.....	35.43	52
5.1.3	Technicians and associate professionals.....	8.12	87
5.2	<b>Labour productivity</b> .....	33.82	78
5.2.1	Labour productivity per employee.....	6.11	80
5.2.2	Relationship of pay to productivity.....	58.44	22
5.2.3	Mid-value exports.....	36.90	64
6	<b>Global Knowledge Skills</b> .....	40.93	33
6.1	<b>Higher skills and competencies</b> .....	34.46	43
6.1.1	Tertiary-educated workforce.....	45.23	34
6.1.2	Tertiary-educated population.....	44.31	21
6.1.3	Professionals.....	13.80	81
6.1.4	Researchers.....	0.96	77
6.1.5	Senior officials and managers.....	91.01	2
6.1.6	Quality of scientific institutions.....	44.13	70
6.1.7	Scientific journal articles.....	1.78	97
6.2	<b>Talent impact</b> .....	47.39	21
6.2.1	Innovation output.....	23.74	77
6.2.2	High-value exports.....	100.00	1
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	64.24	10
6.2.4	New business density.....	1.60	80

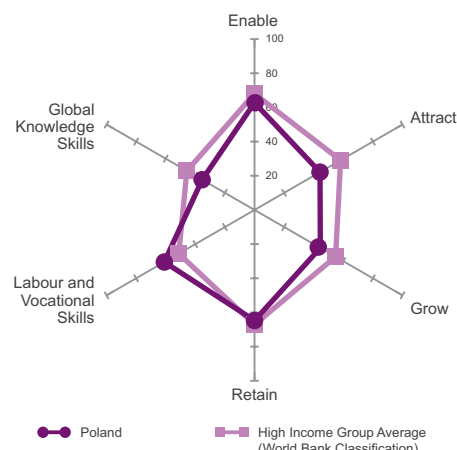
# POLAND

High Income  
Europe

RANK  
(out of 109)

**38**

Population (millions) **38.51**  
GDP per capita (PPP\$) **23,689.90**  
GDP (US\$ billions) **525.87**  
GTCI Score **52.08**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
<b>1</b>	<b>Enable</b> .....	62.74	31
<b>1.1</b>	<b>Regulatory landscape</b> .....	70.16	27
1.1.1	Government effectiveness.....	55.82	38
1.1.2	Business-government relations.....	47.24	79
1.1.3	Political stability.....	87.59	20
1.1.4	Starting a foreign business.....	90.00	3
<b>1.2</b>	<b>Market landscape</b> .....	54.25	43
1.2.1	Competition intensity.....	71.20	43
1.2.2	Ease of doing business.....	68.61	29
1.2.3	Cluster development.....	41.40	75
1.2.4	R&D expenditure.....	22.08	37
1.2.5	ICT infrastructure.....	68.89	40
1.2.6	Technology utilisation.....	53.29	84
<b>1.3</b>	<b>Business-labour landscape</b> .....	63.82	52
	Labour market flexibility		
1.3.1	Ease of hiring.....	89.00	20
1.3.2	Ease of redundancy.....	62.50	55
	Governance		
1.3.3	Labour-employer cooperation.....	50.18	82
1.3.4	Professional management.....	53.60	54
<b>2</b>	<b>Attract</b> .....	44.27	77
<b>2.1</b>	<b>External openness</b> .....	30.97	82
	Attract business		
2.1.1	FDI and technology transfer.....	60.47	60
2.1.2	Prevalence of foreign ownership.....	64.31	44
	Attract people		
2.1.3	Migrant stock.....	3.88	76
2.1.4	International students.....	4.70	65
2.1.5	Brain gain.....	24.19	91
2.1.6	Brain drain.....	28.27	90
<b>2.2</b>	<b>Internal openness</b> .....	57.57	66
	Social diversity		
2.2.1	Tolerance to minorities.....	44.11	90
2.2.2	Tolerance to immigrants.....	42.55	86
2.2.3	Social mobility.....	51.45	65
	Gender equality		
2.2.4	Female graduates.....	93.91	4
2.2.5	Gender earnings gap.....	55.81	31
<b>3</b>	<b>Grow</b> .....	44.46	48
<b>3.1</b>	<b>Formal education</b> .....	50.94	21
	Enrolment		
3.1.1	Vocational enrolment.....	60.59	18
3.1.2	Tertiary enrolment.....	61.85	20
	Quality		
3.1.3	Tertiary education expenditure.....	25.46	47
3.1.4	Reading, maths and science.....	68.47	8
3.1.5	University ranking.....	38.31	40
<b>3.2</b>	<b>Lifelong learning</b> .....	46.85	77
3.2.1	Quality of management schools.....	49.93	70
3.2.2	Prevalence of training in firms.....	41.16	49
3.2.3	Employee development.....	49.46	57
<b>3.3</b>	<b>Access to growth opportunities</b> .....	35.58	91
	Networks		
3.3.1	Use of virtual social networks.....	72.25	84
3.3.2	Use of virtual professional networks.....	11.44	65
	Empowerment		
3.3.3	Delegation of authority.....	47.18	51
3.3.4	Freedom of voice.....	11.45	85

	VARIABLE	SCORE	RANK
<b>4</b>	<b>Retain</b> .....	64.71	33
<b>4.1</b>	<b>Sustainability</b> .....	60.63	30
4.1.1	Pension system.....	80.81	30
4.1.2	Taxation.....	40.44	63
<b>4.2</b>	<b>Lifestyle</b> .....	68.79	35
4.2.1	Environmental performance.....	73.80	30
4.2.2	Safety at night.....	74.24	31
4.2.3	Physician density.....	25.00	47
4.2.4	Sanitation.....	88.64	61
4.2.5	Flexible employment.....	82.29	19
<b>5</b>	<b>Labour and Vocational Skills</b> .....	60.95	7
<b>5.1</b>	<b>Employable skills</b> .....	72.52	8
5.1.1	Secondary-educated workforce.....	84.19	6
5.1.2	Secondary-educated population.....	82.10	5
5.1.3	Technicians and associate professionals.....	51.27	39
<b>5.2</b>	<b>Labour productivity</b> .....	49.38	24
5.2.1	Labour productivity per employee.....	31.21	36
5.2.2	Relationship of pay to productivity.....	52.33	43
5.2.3	Mid-value exports.....	64.61	14
<b>6</b>	<b>Global Knowledge Skills</b> .....	35.38	42
<b>6.1</b>	<b>Higher skills and competencies</b> .....	34.90	37
6.1.1	Tertiary-educated workforce.....	45.56	32
6.1.2	Tertiary-educated population.....	8.02	82
6.1.3	Professionals.....	51.84	20
6.1.4	Researchers.....	23.37	37
6.1.5	Senior officials and managers.....	34.27	37
6.1.6	Quality of scientific institutions.....	47.94	58
6.1.7	Scientific journal articles.....	33.33	32
<b>6.2</b>	<b>Talent impact</b> .....	35.85	44
6.2.1	Innovation output.....	38.87	45
6.2.2	High-value exports.....	33.75	27
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	67.47	9
6.2.4	New business density.....	3.32	72

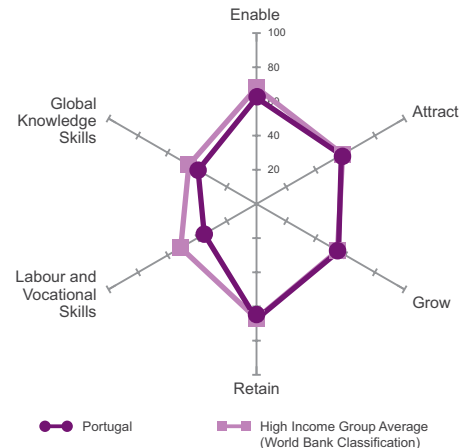
# PORTUGAL

High Income  
Europe

RANK  
(out of 109)

33

Population (millions) **10.46**  
GDP per capita (PPP\$) **27,804.16**  
GDP (US\$ billions) **227.32**  
GTCI Score **52.87**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 62.12 ..... 33		
<b>1.1 Regulatory landscape</b> ..... 71.37 ..... 24		
1.1.1 Government effectiveness ..... 71.53 ..... 25		
1.1.2 Business-government relations ..... 60.09 ..... 38		
1.1.3 Political stability ..... 82.47 ..... 31		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 64.51 ..... 27		
1.2.1 Competition intensity ..... 69.08 ..... 54		
1.2.2 Ease of doing business ..... 73.88 ..... 23		
1.2.3 Cluster development ..... 53.20 ..... 36		
1.2.4 R&D expenditure ..... 36.97 ..... 25		
1.2.5 ICT infrastructure ..... 76.99 ..... 29		
1.2.6 Technology utilisation ..... 76.94 ..... 20		
<b>1.3 Business-labour landscape</b> ..... 50.49 ..... 86		
Labour market flexibility		
1.3.1 Ease of hiring ..... 55.67 ..... 66		
1.3.2 Ease of redundancy ..... 37.50 ..... 88		
Governance		
1.3.3 Labour-employer cooperation ..... 55.28 ..... 53		
1.3.4 Professional management ..... 53.50 ..... 56		
<b>2 Attract</b> ..... 57.33 ..... 28		
<b>2.1 External openness</b> ..... 40.42 ..... 48		
Attract business		
2.1.1 FDI and technology transfer ..... 70.75 ..... 14		
2.1.2 Prevalence of foreign ownership ..... 56.98 ..... 63		
Attract people		
2.1.3 Migrant stock ..... 19.37 ..... 40		
2.1.4 International students ..... 19.99 ..... 30		
2.1.5 Brain gain ..... 40.15 ..... 52		
2.1.6 Brain drain ..... 35.27 ..... 71		
<b>2.2 Internal openness</b> ..... 74.25 ..... 14		
Social diversity		
2.2.1 Tolerance to minorities ..... 83.84 ..... 23		
2.2.2 Tolerance to immigrants ..... 89.00 ..... 12		
2.2.3 Social mobility ..... 55.52 ..... 51		
Gender equality		
2.2.4 Female graduates ..... 80.12 ..... 30		
2.2.5 Gender earnings gap ..... 62.79 ..... 14		
<b>3 Grow</b> ..... 55.44 ..... 21		
<b>3.1 Formal education</b> ..... 45.38 ..... 29		
Enrolment		
3.1.1 Vocational enrolment ..... 51.94 ..... 26		
3.1.2 Tertiary enrolment ..... 58.05 ..... 26		
Quality		
3.1.3 Tertiary education expenditure ..... 23.09 ..... 53		
3.1.4 Reading, maths and science ..... 53.17 ..... 29		
3.1.5 University ranking ..... 40.64 ..... 39		
<b>3.2 Lifelong learning</b> ..... 57.50 ..... 39		
3.2.1 Quality of management schools ..... 81.94 ..... 4		
3.2.2 Prevalence of training in firms ..... 37.60 ..... 52		
3.2.3 Employee development ..... 52.96 ..... 44		
<b>3.3 Access to growth opportunities</b> ..... 63.43 ..... 18		
Networks		
3.3.1 Use of virtual social networks ..... 83.25 ..... 44		
3.3.2 Use of virtual professional networks ..... 50.71 ..... 17		
Empowerment		
3.3.3 Delegation of authority ..... 43.77 ..... 66		
3.3.4 Freedom of voice ..... 75.98 ..... 5		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 67.50 ..... 24		
<b>4.1 Sustainability</b> ..... 60.56 ..... 31		
4.1.1 Pension system ..... 91.92 ..... 12		
4.1.2 Taxation ..... 29.21 ..... 97		
<b>4.2 Lifestyle</b> ..... 74.43 ..... 22		
4.2.1 Environmental performance ..... 82.86 ..... 17		
4.2.2 Safety at night ..... 69.70 ..... 42		
4.2.3 Physician density ..... 50.00 ..... 4		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... 69.62 ..... 47		
<b>5 Labour and Vocational Skills</b> ..... 35.32 ..... 70		
<b>5.1 Employable skills</b> ..... 26.23 ..... 79		
5.1.1 Secondary-educated workforce ..... 18.00 ..... 85		
5.1.2 Secondary-educated population ..... 21.10 ..... 78		
5.1.3 Technicians and associate professionals ..... 39.59 ..... 50		
<b>5.2 Labour productivity</b> ..... 44.20 ..... 40		
5.2.1 Labour productivity per employee ..... 30.88 ..... 37		
5.2.2 Relationship of pay to productivity ..... 40.32 ..... 93		
5.2.3 Mid-value exports ..... 62.06 ..... 20		
<b>6 Global Knowledge Skills</b> ..... 39.49 ..... 35		
<b>6.1 Higher skills and competencies</b> ..... 47.86 ..... 26		
6.1.1 Tertiary-educated workforce ..... 31.99 ..... 57		
6.1.2 Tertiary-educated population ..... 25.90 ..... 54		
6.1.3 Professionals ..... 42.33 ..... 36		
6.1.4 Researchers ..... 63.87 ..... 11		
6.1.5 Senior officials and managers ..... 34.83 ..... 35		
6.1.6 Quality of scientific institutions ..... 73.04 ..... 18		
6.1.7 Scientific journal articles ..... 63.06 ..... 13		
<b>6.2 Talent impact</b> ..... 31.12 ..... 51		
6.2.1 Innovation output ..... 48.74 ..... 34		
6.2.2 High-value exports ..... 22.09 ..... 43		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 29.80 ..... 62		
6.2.4 New business density ..... 23.87 ..... 29		

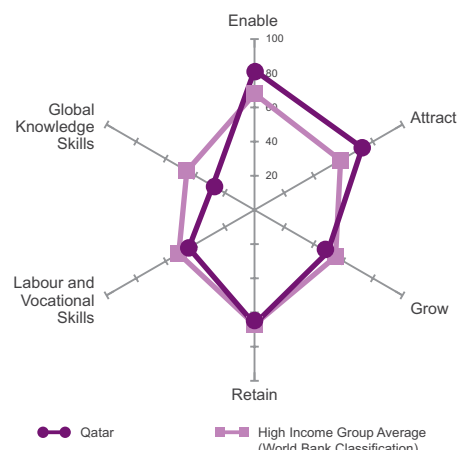
# QATAR

High Income  
Northern Africa and Western Asia

RANK  
(out of 109)

# 24

Population (millions) **2.17**  
GDP per capita (PPP\$) **136,727.25**  
GDP (US\$ billions) **203.24**  
GTCI Score **57.24**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	81.75	5
<b>1.1 Regulatory landscape</b> .....	82.15	12
1.1.1 Government effectiveness.....	66.79	31
1.1.2 Business-government relations.....	85.41	3
1.1.3 Political stability.....	94.26	10
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	74.32	13
1.2.1 Competition intensity.....	78.75	15
1.2.2 Ease of doing business.....	60.93	46
1.2.3 Cluster development.....	70.21	10
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	82.39	20
1.2.6 Technology utilisation.....	79.33	12
<b>1.3 Business-labour landscape</b> .....	88.67	4
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	77.88	5
1.3.4 Professional management.....	76.82	16
<b>2 Attract</b> .....	72.79	6
<b>2.1 External openness</b> .....	83.39	4
Attract business		
2.1.1 FDI and technology transfer.....	76.64	6
2.1.2 Prevalence of foreign ownership.....	63.01	46
Attract people		
2.1.3 Migrant stock.....	100.00	1
2.1.4 International students.....	100.00	1
2.1.5 Brain gain.....	81.68	4
2.1.6 Brain drain.....	79.64	2
<b>2.2 Internal openness</b> .....	62.08	41
Social diversity		
2.2.1 Tolerance to minorities.....	n/a	n/a
2.2.2 Tolerance to immigrants.....	n/a	n/a
2.2.3 Social mobility.....	82.21	10
Gender equality		
2.2.4 Female graduates.....	80.79	29
2.2.5 Gender earnings gap.....	23.26	95
<b>3 Grow</b> .....	49.44	33
<b>3.1 Formal education</b> .....	10.08	101
Enrolment		
3.1.1 Vocational enrolment.....	0.80	100
3.1.2 Tertiary enrolment.....	10.08	90
Quality		
3.1.3 Tertiary education expenditure.....	n/a	n/a
3.1.4 Reading, maths and science.....	3.49	60
3.1.5 University ranking.....	25.97	51
<b>3.2 Lifelong learning</b> .....	73.82	6
3.2.1 Quality of management schools.....	76.57	10
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	71.07	6
<b>3.3 Access to growth opportunities</b> .....	64.43	16
Networks		
3.3.1 Use of virtual social networks.....	87.95	18
3.3.2 Use of virtual professional networks.....	32.88	28
Empowerment		
3.3.3 Delegation of authority.....	72.45	7
3.3.4 Freedom of voice.....	n/a	n/a

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	66.85	26
<b>4.1 Sustainability</b> .....	45.57	56
4.1.1 Pension system.....	3.43	94
4.1.2 Taxation.....	87.70	1
<b>4.2 Lifestyle</b> .....	88.14	2
4.2.1 Environmental performance.....	64.41	42
4.2.2 Safety at night.....	n/a	n/a
4.2.3 Physician density.....	100.00	1
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	44.43	47
<b>5.1 Employable skills</b> .....	27.02	78
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	30.19	63
5.1.3 Technicians and associate professionals.....	23.86	73
<b>5.2 Labour productivity</b> .....	61.84	2
5.2.1 Labour productivity per employee.....	100.00	1
5.2.2 Relationship of pay to productivity.....	72.83	2
5.2.3 Mid-value exports.....	12.70	108
<b>6 Global Knowledge Skills</b> .....	28.23	60
<b>6.1 Higher skills and competencies</b> .....	30.95	51
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	34.63	36
6.1.3 Professionals.....	29.14	57
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	15.17	69
6.1.6 Quality of scientific institutions.....	73.92	16
6.1.7 Scientific journal articles.....	1.87	96
<b>6.2 Talent impact</b> .....	25.51	66
6.2.1 Innovation output.....	30.88	65
6.2.2 High-value exports.....	11.92	107
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	47.85	32
6.2.4 New business density.....	11.37	46



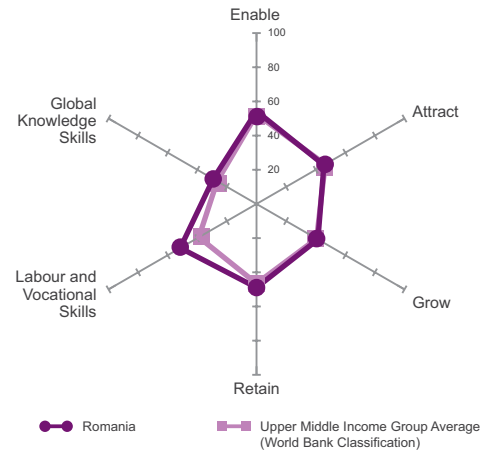
# ROMANIA

Upper Middle Income  
Europe

RANK  
(out of 109)

52

Population (millions) **19.98**  
GDP per capita (PPP\$) **18,974.41**  
GDP (US\$ billions) **189.64**  
GTCI Score **45.18**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	54.28	60
<b>1.1 Regulatory landscape</b> .....	60.16	45
1.1.1 Government effectiveness.....	32.18	63
1.1.2 Business-government relations.....	44.19	86
1.1.3 Political stability.....	67.94	49
1.1.4 Starting a foreign business.....	96.34	2
<b>1.2 Market landscape</b> .....	49.43	60
1.2.1 Competition intensity.....	55.96	96
1.2.2 Ease of doing business.....	61.48	44
1.2.3 Cluster development.....	46.40	61
1.2.4 R&D expenditure.....	11.91	57
1.2.5 ICT infrastructure.....	63.50	48
1.2.6 Technology utilisation.....	57.31	68
<b>1.3 Business-labour landscape</b> .....	53.25	81
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	45.54	98
1.3.4 Professional management.....	38.28	101
<b>2 Attract</b> .....	45.55	67
<b>2.1 External openness</b> .....	29.94	92
Attract business		
2.1.1 FDI and technology transfer.....	63.00	45
2.1.2 Prevalence of foreign ownership.....	55.67	69
Attract people		
2.1.3 Migrant stock.....	1.98	84
2.1.4 International students.....	7.58	58
2.1.5 Brain gain.....	26.97	83
2.1.6 Brain drain.....	24.45	97
<b>2.2 Internal openness</b> .....	61.15	48
Social diversity		
2.2.1 Tolerance to minorities.....	68.90	57
2.2.2 Tolerance to immigrants.....	50.65	76
2.2.3 Social mobility.....	40.57	100
Gender equality		
2.2.4 Female graduates.....	82.86	20
2.2.5 Gender earnings gap.....	62.79	14
<b>3 Grow</b> .....	41.50	58
<b>3.1 Formal education</b> .....	35.24	44
Enrolment		
3.1.1 Vocational enrolment.....	67.31	14
3.1.2 Tertiary enrolment.....	42.88	48
Quality		
3.1.3 Tertiary education expenditure.....	18.11	69
3.1.4 Reading, maths and science.....	30.70	44
3.1.5 University ranking.....	17.18	64
<b>3.2 Lifelong learning</b> .....	48.43	72
3.2.1 Quality of management schools.....	53.48	64
3.2.2 Prevalence of training in firms.....	49.21	38
3.2.3 Employee development.....	42.59	88
<b>3.3 Access to growth opportunities</b> .....	40.84	66
Networks		
3.3.1 Use of virtual social networks.....	76.97	72
3.3.2 Use of virtual professional networks.....	20.79	45
Empowerment		
3.3.3 Delegation of authority.....	43.56	68
3.3.4 Freedom of voice.....	22.07	69

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	48.94	63
<b>4.1 Sustainability</b> .....	46.41	53
4.1.1 Pension system.....	67.68	36
4.1.2 Taxation.....	25.15	104
<b>4.2 Lifestyle</b> .....	51.47	69
4.2.1 Environmental performance.....	46.35	71
4.2.2 Safety at night.....	61.43	55
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	68.18	82
4.2.5 Flexible employment.....	56.40	57
<b>5 Labour and Vocational Skills</b> .....	51.52	30
<b>5.1 Employable skills</b> .....	59.04	31
5.1.1 Secondary-educated workforce.....	76.84	12
5.1.2 Secondary-educated population.....	70.84	14
5.1.3 Technicians and associate professionals.....	29.44	66
<b>5.2 Labour productivity</b> .....	44.01	43
5.2.1 Labour productivity per employee.....	15.87	59
5.2.2 Relationship of pay to productivity.....	49.62	54
5.2.3 Mid-value exports.....	66.53	13
<b>6 Global Knowledge Skills</b> .....	29.28	57
<b>6.1 Higher skills and competencies</b> .....	26.54	64
6.1.1 Tertiary-educated workforce.....	28.43	67
6.1.2 Tertiary-educated population.....	22.74	61
6.1.3 Professionals.....	41.72	39
6.1.4 Researchers.....	11.00	48
6.1.5 Senior officials and managers.....	11.80	78
6.1.6 Quality of scientific institutions.....	49.60	51
6.1.7 Scientific journal articles.....	20.50	43
<b>6.2 Talent impact</b> .....	32.03	50
6.2.1 Innovation output.....	40.55	42
6.2.2 High-value exports.....	26.66	35
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	33.71	58
6.2.4 New business density.....	27.19	27



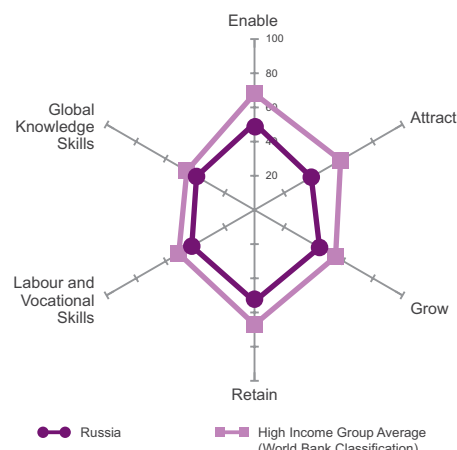
# RUSSIA

High Income  
Europe

RANK  
(out of 109)

## 53

Population (millions) **143.50**  
GDP per capita (PPP\$) **25,247.94**  
GDP (US\$ billions) **2,096.78**  
GTCI Score **44.67**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	50.61	74
1.1	<b>Regulatory landscape</b>	45.90	79
1.1.1	Government effectiveness	23.46	78
1.1.2	Business-government relations	47.94	77
1.1.3	Political stability	45.60	87
1.1.4	Starting a foreign business	66.62	32
1.2	<b>Market landscape</b>	51.49	49
1.2.1	Competition intensity	66.23	63
1.2.2	Ease of doing business	53.88	55
1.2.3	Cluster development	35.56	94
1.2.4	R&D expenditure	27.54	32
1.2.5	ICT infrastructure	71.59	37
1.2.6	Technology utilisation	54.11	82
1.3	<b>Business-labour landscape</b>	54.45	78
	Labour market flexibility		
1.3.1	Ease of hiring	66.67	48
1.3.2	Ease of redundancy	50.00	74
	Governance		
1.3.3	Labour-employer cooperation	51.64	73
1.3.4	Professional management	49.49	68
2	<b>Attract</b>	38.36	99
2.1	<b>External openness</b>	30.04	90
	Attract business		
2.1.1	FDI and technology transfer	46.18	99
2.1.2	Prevalence of foreign ownership	39.86	100
	Attract people		
2.1.3	Migrant stock	17.76	44
2.1.4	International students	8.99	53
2.1.5	Brain gain	35.05	66
2.1.6	Brain drain	32.42	81
2.2	<b>Internal openness</b>	46.67	91
	Social diversity		
2.2.1	Tolerance to minorities	41.51	92
2.2.2	Tolerance to immigrants	50.36	77
2.2.3	Social mobility	49.84	74
	Gender equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	45.35	66
3	<b>Grow</b>	43.95	51
3.1	<b>Formal education</b>	46.88	28
	Enrolment		
3.1.1	Vocational enrolment	n/a	n/a
3.1.2	Tertiary enrolment	64.44	16
	Quality		
3.1.3	Tertiary education expenditure	20.69	62
3.1.4	Reading, maths and science	49.96	35
3.1.5	University ranking	52.42	25
3.2	<b>Lifelong learning</b>	49.80	65
3.2.1	Quality of management schools	45.78	88
3.2.2	Prevalence of training in firms	56.33	28
3.2.3	Employee development	47.29	72
3.3	<b>Access to growth opportunities</b>	35.15	93
	Networks		
3.3.1	Use of virtual social networks	77.18	69
3.3.2	Use of virtual professional networks	8.36	72
	Empowerment		
3.3.3	Delegation of authority	43.67	67
3.3.4	Freedom of voice	11.45	85

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	53.56	50
4.1	<b>Sustainability</b>	50.40	50
4.1.1	Pension system	66.67	37
4.1.2	Taxation	34.14	83
4.2	<b>Lifestyle</b>	56.71	56
4.2.1	Environmental performance	50.58	62
4.2.2	Safety at night	37.88	91
4.2.3	Physician density	50.00	4
4.2.4	Sanitation	67.05	83
4.2.5	Flexible employment	78.07	27
5	<b>Labour and Vocational Skills</b>	42.39	51
5.1	<b>Employable skills</b>	50.11	46
5.1.1	Secondary-educated workforce	46.79	46
5.1.2	Secondary-educated population	31.46	60
5.1.3	Technicians and associate professionals	72.08	20
5.2	<b>Labour productivity</b>	34.66	77
5.2.1	Labour productivity per employee	21.88	46
5.2.2	Relationship of pay to productivity	59.34	19
5.2.3	Mid-value exports	22.77	82
6	<b>Global Knowledge Skills</b>	39.18	36
6.1	<b>Higher skills and competencies</b>	50.91	22
6.1.1	Tertiary-educated workforce	n/a	n/a
6.1.2	Tertiary-educated population	100.00	1
6.1.3	Professionals	55.52	16
6.1.4	Researchers	41.33	27
6.1.5	Senior officials and managers	39.33	31
6.1.6	Quality of scientific institutions	49.30	52
6.1.7	Scientific journal articles	20.00	44
6.2	<b>Talent impact</b>	27.45	59
6.2.1	Innovation output	39.92	43
6.2.2	High-value exports	15.78	61
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	25.71	65
6.2.4	New business density	28.39	26

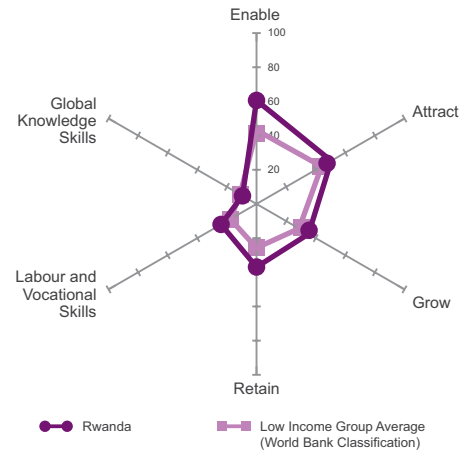
# RWANDA

Low Income  
Sub-Saharan Africa

RANK  
(out of 109)

87

Population (millions) **11.78**  
GDP per capita (PPP\$) **1,473.64**  
GDP (US\$ billions) **7.52**  
GTCI Score **36.10**  
GTCI Score (Income Group Average) **28.40**



	VARIABLE	SCORE	RANK
1	<b>Enable</b> .....	60.61	37
1.1	<b>Regulatory landscape</b> .....	58.36	48
1.1.1	Government effectiveness.....	34.39	59
1.1.2	Business-government relations.....	81.49	6
1.1.3	Political stability.....	62.07	60
1.1.4	Starting a foreign business.....	55.49	49
1.2	<b>Market landscape</b> .....	50.44	55
1.2.1	Competition intensity.....	65.56	65
1.2.2	Ease of doing business.....	62.01	43
1.2.3	Cluster development.....	48.88	51
1.2.4	R&D expenditure.....	n/a	n/a
1.2.5	ICT infrastructure.....	9.64	104
1.2.6	Technology utilisation.....	66.12	44
1.3	<b>Business-labour landscape</b> .....	73.04	23
	Labour market flexibility		
1.3.1	Ease of hiring.....	100.00	1
1.3.2	Ease of redundancy.....	62.50	55
	Governance		
1.3.3	Labour-employer cooperation.....	66.74	20
1.3.4	Professional management.....	62.90	30
2	<b>Attract</b> .....	50.47	47
2.1	<b>External openness</b> .....	42.10	40
	Attract business		
2.1.1	FDI and technology transfer.....	68.54	23
2.1.2	Prevalence of foreign ownership.....	56.87	64
	Attract people		
2.1.3	Migrant stock.....	8.75	61
2.1.4	International students.....	2.96	69
2.1.5	Brain gain.....	60.17	18
2.1.6	Brain drain.....	55.33	24
2.2	<b>Internal openness</b> .....	58.84	61
	Social diversity		
2.2.1	Tolerance to minorities.....	72.47	47
2.2.2	Tolerance to immigrants.....	53.69	72
2.2.3	Social mobility.....	64.16	31
	Gender equality		
2.2.4	Female graduates.....	35.27	82
2.2.5	Gender earnings gap.....	68.60	12
3	<b>Grow</b> .....	35.14	83
3.1	<b>Formal education</b> .....	11.57	97
	Enrolment		
3.1.1	Vocational enrolment.....	28.18	51
3.1.2	Tertiary enrolment.....	3.62	98
	Quality		
3.1.3	Tertiary education expenditure.....	14.47	79
3.1.4	Reading, maths and science.....	n/a	n/a
3.1.5	University ranking.....	0.00	72
3.2	<b>Lifelong learning</b> .....	55.26	42
3.2.1	Quality of management schools.....	46.53	84
3.2.2	Prevalence of training in firms.....	68.60	15
3.2.3	Employee development.....	50.57	54
3.3	<b>Access to growth opportunities</b> .....	38.60	76
	Networks		
3.3.1	Use of virtual social networks.....	69.84	90
3.3.2	Use of virtual professional networks.....	1.62	97
	Empowerment		
3.3.3	Delegation of authority.....	46.35	54
3.3.4	Freedom of voice.....	36.59	48

	VARIABLE	SCORE	RANK
4	<b>Retain</b> .....	36.91	92
4.1	<b>Sustainability</b> .....	30.94	86
4.1.1	Pension system.....	4.04	92
4.1.2	Taxation.....	57.84	12
4.2	<b>Lifestyle</b> .....	42.87	90
4.2.1	Environmental performance.....	24.52	102
4.2.2	Safety at night.....	87.88	11
4.2.3	Physician density.....	0.00	87
4.2.4	Sanitation.....	59.09	186
4.2.5	Flexible employment.....	n/a	n/a
5	<b>Labour and Vocational Skills</b> .....	23.96	100
5.1	<b>Employable skills</b> .....	13.00	100
5.1.1	Secondary-educated workforce.....	19.58	82
5.1.2	Secondary-educated population.....	6.42	94
5.1.3	Technicians and associate professionals.....	n/a	n/a
5.2	<b>Labour productivity</b> .....	34.91	75
5.2.1	Labour productivity per employee.....	n/a	n/a
5.2.2	Relationship of pay to productivity.....	49.48	56
5.2.3	Mid-value exports.....	20.34	88
6	<b>Global Knowledge Skills</b> .....	9.50	108
6.1	<b>Higher skills and competencies</b> .....	10.19	103
6.1.1	Tertiary-educated workforce.....	n/a	n/a
6.1.2	Tertiary-educated population.....	5.31	85
6.1.3	Professionals.....	4.91	91
6.1.4	Researchers.....	0.08	87
6.1.5	Senior officials and managers.....	0.56	96
6.1.6	Quality of scientific institutions.....	45.16	67
6.1.7	Scientific journal articles.....	5.11	79
6.2	<b>Talent impact</b> .....	8.81	106
6.2.1	Innovation output.....	6.09	105
6.2.2	High-value exports.....	13.42	82
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	n/a	n/a
6.2.4	New business density.....	6.91	57

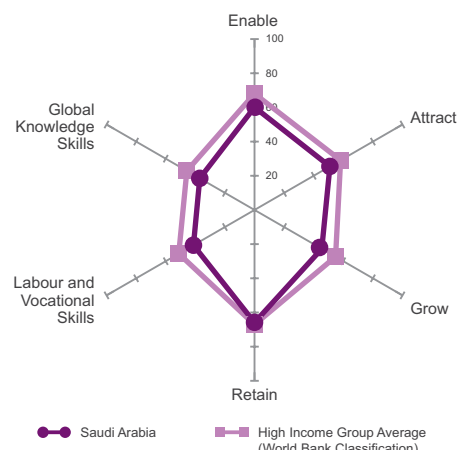
# SAUDI ARABIA

High Income  
Northern Africa and Western Asia

RANK  
(out of 109)

## 42

Population (millions) **28.83**  
GDP per capita (PPP\$) **53,644.13**  
GDP (US\$ billions) **748.45**  
GTCI Score **50.11**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	60.11	40
1.1	<b>Regulatory landscape</b>	44.08	89
1.1.1	Government effectiveness	36.22	56
1.1.2	Business-government relations	66.48	21
1.1.3	Political stability	54.05	74
1.1.4	Starting a foreign business	19.58	68
1.2	<b>Market landscape</b>	56.61	37
1.2.1	Competition intensity	73.48	34
1.2.2	Ease of doing business	60.99	45
1.2.3	Cluster development	61.00	20
1.2.4	R&D expenditure	1.49	91
1.2.5	ICT infrastructure	68.89	40
1.2.6	Technology utilisation	73.82	28
1.3	<b>Business-labour landscape</b>	79.64	14
	Labour market flexibility		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
	Governance		
1.3.3	Labour-employer cooperation	59.02	42
1.3.4	Professional management	59.53	37
2	<b>Attract</b>	50.94	46
2.1	<b>External openness</b>	55.89	19
	Attract business		
2.1.1	FDI and technology transfer	72.87	10
2.1.2	Prevalence of foreign ownership	50.84	84
	Attract people		
2.1.3	Migrant stock	72.62	7
2.1.4	International students	19.27	32
2.1.5	Brain gain	62.28	15
2.1.6	Brain drain	57.46	19
2.2	<b>Internal openness</b>	46.00	93
	Social diversity		
2.2.1	Tolerance to minorities	24.38	99
2.2.2	Tolerance to immigrants	68.89	44
2.2.3	Social mobility	69.96	27
	Gender equality		
2.2.4	Female graduates	56.31	72
2.2.5	Gender earnings gap	10.47	102
3	<b>Grow</b>	45.46	46
3.1	<b>Formal education</b>	33.53	49
	Enrolment		
3.1.1	Vocational enrolment	6.77	88
3.1.2	Tertiary enrolment	48.08	41
	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	45.74	35
3.2	<b>Lifelong learning</b>	52.04	57
3.2.1	Quality of management schools	52.63	67
3.2.2	Prevalence of training in firms	n/a	n/a
3.2.3	Employee development	51.44	50
3.3	<b>Access to growth opportunities</b>	50.82	37
	Networks		
3.3.1	Use of virtual social networks	85.31	31
3.3.2	Use of virtual professional networks	17.87	54
	Empowerment		
3.3.3	Delegation of authority	56.54	28
3.3.4	Freedom of voice	43.58	39

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	65.90	28
4.1	<b>Sustainability</b>	65.82	19
4.1.1	Pension system	n/a	n/a
4.1.2	Taxation	65.82	9
4.2	<b>Lifestyle</b>	65.99	42
4.2.1	Environmental performance	69.66	34
4.2.2	Safety at night	81.82	20
4.2.3	Physician density	12.50	69
4.2.4	Sanitation	100.00	1
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	41.26	53
5.1	<b>Employable skills</b>	38.28	64
5.1.1	Secondary-educated workforce	28.01	74
5.1.2	Secondary-educated population	33.02	57
5.1.3	Technicians and associate professionals	53.81	35
5.2	<b>Labour productivity</b>	44.25	42
5.2.1	Labour productivity per employee	57.74	8
5.2.2	Relationship of pay to productivity	59.08	20
5.2.3	Mid-value exports	15.92	98
6	<b>Global Knowledge Skills</b>	37.00	40
6.1	<b>Higher skills and competencies</b>	29.95	53
6.1.1	Tertiary-educated workforce	33.44	51
6.1.2	Tertiary-educated population	34.48	37
6.1.3	Professionals	34.66	49
6.1.4	Researchers	n/a	n/a
6.1.5	Senior officials and managers	18.54	63
6.1.6	Quality of scientific institutions	52.78	41
6.1.7	Scientific journal articles	5.80	72
6.2	<b>Talent impact</b>	44.05	27
6.2.1	Innovation output	41.81	40
6.2.2	High-value exports	12.06	104
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	78.29	3
6.2.4	New business density	n/a	n/a

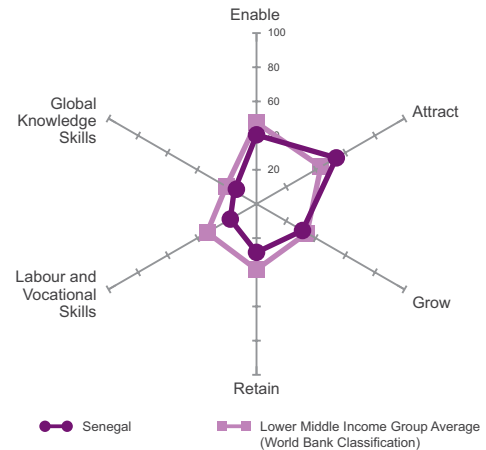
# SENEGAL

Lower Middle Income  
Sub-Saharan Africa

RANK  
(out of 109)

99

Population (millions) **14.31**  
GDP per capita (PPP\$) **2,242.00**  
GDP (US\$ billions) **14.79**  
GTCI Score **31.10**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	40.39	99
<b>1.1 Regulatory landscape</b> .....	44.67	85
1.1.1 Government effectiveness.....	19.90	85
1.1.2 Business-government relations.....	63.08	30
1.1.3 Political stability.....	62.02	61
1.1.4 Starting a foreign business.....	33.66	63
<b>1.2 Market landscape</b> .....	36.84	97
1.2.1 Competition intensity.....	64.75	68
1.2.2 Ease of doing business.....	16.99	105
1.2.3 Cluster development.....	38.85	83
1.2.4 R&D expenditure.....	13.15	54
1.2.5 ICT infrastructure.....	19.92	98
1.2.6 Technology utilisation.....	67.38	39
<b>1.3 Business-labour landscape</b> .....	39.67	101
Labour market flexibility		
1.3.1 Ease of hiring.....	0.00	106
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	57.39	48
1.3.4 Professional management.....	51.30	64
<b>2 Attract</b> .....	53.92	32
<b>2.1 External openness</b> .....	40.92	45
Attract business		
2.1.1 FDI and technology transfer.....	59.51	63
2.1.2 Prevalence of foreign ownership.....	58.28	56
Attract people		
2.1.3 Migrant stock.....	3.29	78
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	44.33	42
2.1.6 Brain drain.....	39.20	60
<b>2.2 Internal openness</b> .....	66.93	31
Social diversity		
2.2.1 Tolerance to minorities.....	92.05	11
2.2.2 Tolerance to immigrants.....	75.98	27
2.2.3 Social mobility.....	53.16	57
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	46.51	61
<b>3 Grow</b> .....	31.08	97
<b>3.1 Formal education</b> .....	11.25	99
Enrolment		
3.1.1 Vocational enrolment.....	8.69	84
3.1.2 Tertiary enrolment.....	4.26	96
Quality		
3.1.3 Tertiary education expenditure.....	32.04	29
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	41.85	88
3.2.1 Quality of management schools.....	59.53	45
3.2.2 Prevalence of training in firms.....	17.02	72
3.2.3 Employee development.....	49.01	63
<b>3.3 Access to growth opportunities</b> .....	40.13	71
Networks		
3.3.1 Use of virtual social networks.....	73.93	77
3.3.2 Use of virtual professional networks.....	4.84	86
Empowerment		
3.3.3 Delegation of authority.....	42.94	73
3.3.4 Freedom of voice.....	38.83	45

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	28.32	99
<b>4.1 Sustainability</b> .....	26.41	99
4.1.1 Pension system.....	4.04	92
4.1.2 Taxation.....	48.77	34
<b>4.2 Lifestyle</b> .....	30.23	97
4.2.1 Environmental performance.....	32.35	92
4.2.2 Safety at night.....	43.11	77
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	45.45	91
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	17.73	103
<b>5.1 Employable skills</b> .....	10.36	102
5.1.1 Secondary-educated workforce.....	17.25	86
5.1.2 Secondary-educated population.....	3.47	97
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	25.11	99
5.2.1 Labour productivity per employee.....	2.05	89
5.2.2 Relationship of pay to productivity.....	45.86	77
5.2.3 Mid-value exports.....	27.42	76
<b>6 Global Knowledge Skills</b> .....	15.13	92
<b>6.1 Higher skills and competencies</b> .....	16.42	88
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	2.81	94
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	4.75	60
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	47.67	61
6.1.7 Scientific journal articles.....	10.46	63
<b>6.2 Talent impact</b> .....	13.85	93
6.2.1 Innovation output.....	25.42	72
6.2.2 High-value exports.....	14.52	72
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	1.60	80

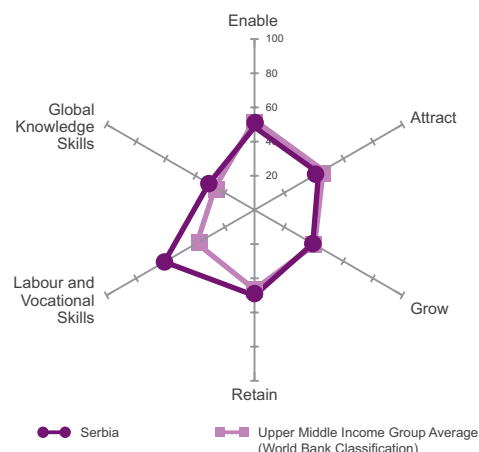
# SERBIA

Upper Middle Income  
Europe

RANK  
(out of 109)

50

Population (millions) **7.16**  
GDP per capita (PPP\$) **13,019.82**  
GDP (US\$ billions) **45.52**  
GTCI Score **45.50**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	48.51	80
<b>1.1 Regulatory landscape</b> .....	56.27	53
1.1.1 Government effectiveness.....	31.29	68
1.1.2 Business-government relations.....	43.12	88
1.1.3 Political stability.....	61.80	62
1.1.4 Starting a foreign business.....	88.87	5
<b>1.2 Market landscape</b> .....	46.29	69
1.2.1 Competition intensity.....	53.33	100
1.2.2 Ease of doing business.....	45.16	74
1.2.3 Cluster development.....	36.45	91
1.2.4 R&D expenditure.....	24.32	35
1.2.5 ICT infrastructure.....	71.21	38
1.2.6 Technology utilisation.....	47.25	102
<b>1.3 Business-labour landscape</b> .....	42.97	100
Labour market flexibility		
1.3.1 Ease of hiring.....	22.33	95
1.3.2 Ease of redundancy.....	75.00	43
Governance		
1.3.3 Labour-employer cooperation.....	37.66	107
1.3.4 Professional management.....	36.87	103
<b>2 Attract</b> .....	43.29	86
<b>2.1 External openness</b> .....	25.53	104
Attract business		
2.1.1 FDI and technology transfer.....	50.78	89
2.1.2 Prevalence of foreign ownership.....	50.30	87
Attract people		
2.1.3 Migrant stock.....	12.82	47
2.1.4 International students.....	15.67	40
2.1.5 Brain gain.....	10.03	106
2.1.6 Brain drain.....	13.60	105
<b>2.2 Internal openness</b> .....	61.05	49
Social diversity		
2.2.1 Tolerance to minorities.....	71.51	50
2.2.2 Tolerance to immigrants.....	67.87	46
2.2.3 Social mobility.....	33.98	106
Gender equality		
2.2.4 Female graduates.....	74.90	42
2.2.5 Gender earnings gap.....	56.98	27
<b>3 Grow</b> .....	39.39	67
<b>3.1 Formal education</b> .....	41.11	34
Enrolment		
3.1.1 Vocational enrolment.....	78.85	6
3.1.2 Tertiary enrolment.....	47.08	42
Quality		
3.1.3 Tertiary education expenditure.....	32.49	28
3.1.4 Reading, maths and science.....	33.66	40
3.1.5 University ranking.....	13.49	69
<b>3.2 Lifelong learning</b> .....	40.91	90
3.2.1 Quality of management schools.....	42.53	94
3.2.2 Prevalence of training in firms.....	45.38	41
3.2.3 Employee development.....	34.82	106
<b>3.3 Access to growth opportunities</b> .....	36.14	90
Networks		
3.3.1 Use of virtual social networks.....	79.92	62
3.3.2 Use of virtual professional networks.....	13.80	61
Empowerment		
3.3.3 Delegation of authority.....	31.27	107
3.3.4 Freedom of voice.....	19.55	71

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	50.11	59
<b>4.1 Sustainability</b> .....	35.40	77
4.1.1 Pension system.....	44.44	52
4.1.2 Taxation.....	26.35	100
<b>4.2 Lifestyle</b> .....	64.82	43
4.2.1 Environmental performance.....	73.22	31
4.2.2 Safety at night.....	64.46	50
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	96.59	40
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	60.85	8
<b>5.1 Employable skills</b> .....	71.60	10
5.1.1 Secondary-educated workforce.....	76.06	14
5.1.2 Secondary-educated population.....	69.77	15
5.1.3 Technicians and associate professionals.....	69.04	22
<b>5.2 Labour productivity</b> .....	50.08	22
5.2.1 Labour productivity per employee.....	n/a	n/a
5.2.2 Relationship of pay to productivity.....	40.02	94
5.2.3 Mid-value exports.....	60.14	23
<b>6 Global Knowledge Skills</b> .....	30.86	53
<b>6.1 Higher skills and competencies</b> .....	34.78	40
6.1.1 Tertiary-educated workforce.....	33.28	52
6.1.2 Tertiary-educated population.....	29.42	50
6.1.3 Professionals.....	34.97	48
6.1.4 Researchers.....	16.44	44
6.1.5 Senior officials and managers.....	28.65	47
6.1.6 Quality of scientific institutions.....	45.71	64
6.1.7 Scientific journal articles.....	54.99	20
<b>6.2 Talent impact</b> .....	26.94	62
6.2.1 Innovation output.....	34.03	55
6.2.2 High-value exports.....	21.43	46
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	41.33	45
6.2.4 New business density.....	10.97	48

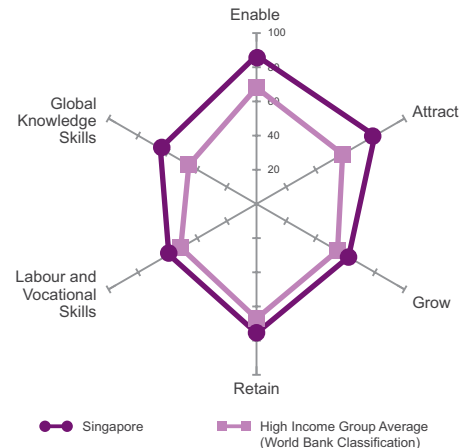
# SINGAPORE

High Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

2

Population (millions) **5.40**  
GDP per capita (PPP\$) **78,763.38**  
GDP (US\$ billions) **297.93**  
GTCI Score **71.46**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	86.80	2
<b>1.1 Regulatory landscape</b> .....	90.91	2
1.1.1 Government effectiveness.....	97.16	2
1.1.2 Business-government relations.....	87.95	1
1.1.3 Political stability.....	97.14	5
1.1.4 Starting a foreign business.....	81.41	14
<b>1.2 Market landscape</b> .....	77.67	7
1.2.1 Competition intensity.....	77.75	17
1.2.2 Ease of doing business.....	100.00	1
1.2.3 Cluster development.....	68.81	11
1.2.4 R&D expenditure.....	51.86	18
1.2.5 ICT infrastructure.....	89.07	12
1.2.6 Technology utilisation.....	78.54	16
<b>1.3 Business-labour landscape</b> .....	91.80	2
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	84.18	2
1.3.4 Professional management.....	83.02	6
<b>2 Attract</b> .....	79.90	1
<b>2.1 External openness</b> .....	83.77	2
Attract business		
2.1.1 FDI and technology transfer.....	82.40	2
2.1.2 Prevalence of foreign ownership.....	85.49	2
Attract people		
2.1.3 Migrant stock.....	99.25	5
2.1.4 International students.....	81.63	5
2.1.5 Brain gain.....	83.46	2
2.1.6 Brain drain.....	70.40	7
<b>2.2 Internal openness</b> .....	76.02	11
Social diversity		
2.2.1 Tolerance to minorities.....	95.89	6
2.2.2 Tolerance to immigrants.....	69.90	38
2.2.3 Social mobility.....	83.64	6
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	54.65	36
<b>3 Grow</b> .....	62.18	14
<b>3.1 Formal education</b> .....	54.92	14
Enrolment		
3.1.1 Vocational enrolment.....	23.46	57
3.1.2 Tertiary enrolment.....	n/a	n/a
Quality		
3.1.3 Tertiary education expenditure.....	23.02	54
3.1.4 Reading, maths and science.....	85.05	2
3.1.5 University ranking.....	88.14	5
<b>3.2 Lifelong learning</b> .....	75.66	4
3.2.1 Quality of management schools.....	80.42	6
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	70.90	7
<b>3.3 Access to growth opportunities</b> .....	55.95	28
Networks		
3.3.1 Use of virtual social networks.....	91.06	9
3.3.2 Use of virtual professional networks.....	67.96	12
Empowerment		
3.3.3 Delegation of authority.....	61.71	21
3.3.4 Freedom of voice.....	3.07	101

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	75.60	5
<b>4.1 Sustainability</b> .....	72.40	6
4.1.1 Pension system.....	61.62	41
4.1.2 Taxation.....	83.18	3
<b>4.2 Lifestyle</b> .....	78.81	8
4.2.1 Environmental performance.....	91.49	4
4.2.2 Safety at night.....	98.76	2
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	59.26	11
<b>5.1 Employable skills</b> .....	62.85	22
5.1.1 Secondary-educated workforce.....	61.66	28
5.1.2 Secondary-educated population.....	26.90	66
5.1.3 Technicians and associate professionals.....	100.00	1
<b>5.2 Labour productivity</b> .....	55.66	8
5.2.1 Labour productivity per employee.....	60.30	7
5.2.2 Relationship of pay to productivity.....	72.33	3
5.2.3 Mid-value exports.....	34.35	69
<b>6 Global Knowledge Skills</b> .....	65.00	2
<b>6.1 Higher skills and competencies</b> .....	67.14	3
6.1.1 Tertiary-educated workforce.....	47.50	27
6.1.2 Tertiary-educated population.....	69.98	4
6.1.3 Professionals.....	40.80	40
6.1.4 Researchers.....	86.04	5
6.1.5 Senior officials and managers.....	100.00	1
6.1.6 Quality of scientific institutions.....	76.76	11
6.1.7 Scientific journal articles.....	48.90	26
<b>6.2 Talent impact</b> .....	62.87	4
6.2.1 Innovation output.....	61.76	24
6.2.2 High-value exports.....	87.78	2
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	48.67	30
6.2.4 New business density.....	53.26	13



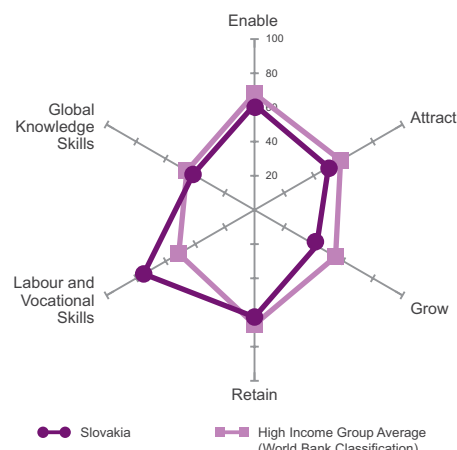
# SLOVAKIA

High Income  
Europe

RANK  
(out of 109)

27

Population (millions) **5.41**  
GDP per capita (PPP\$) **26,496.62**  
GDP (US\$ billions) **97.71**  
GTCI Score **55.43**  
GTCI Score (Income Group Average) **57.49**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	61.54	34
1.1	<b>Regulatory landscape</b>	70.14	28
1.1.1	Government effectiveness	57.90	37
1.1.2	Business-government relations	31.31	106
1.1.3	Political stability	91.35	13
1.1.4	Starting a foreign business	100.00	1
1.2	<b>Market landscape</b>	56.50	38
1.2.1	Competition intensity	75.03	27
1.2.2	Ease of doing business	64.92	34
1.2.3	Cluster development	46.73	60
1.2.4	R&D expenditure	20.10	41
1.2.5	ICT infrastructure	68.77	42
1.2.6	Technology utilisation	63.44	52
1.3	<b>Business-labour landscape</b>	58.00	66
	Labour market flexibility		
1.3.1	Ease of hiring	66.67	48
1.3.2	Ease of redundancy	62.50	55
	Governance		
1.3.3	Labour-employer cooperation	49.34	86
1.3.4	Professional management	53.48	57
2	<b>Attract</b>	49.96	49
2.1	<b>External openness</b>	37.55	59
	Attract business		
2.1.1	FDI and technology transfer	69.12	17
2.1.2	Prevalence of foreign ownership	82.73	5
	Attract people		
2.1.3	Migrant stock	6.22	65
2.1.4	International students	17.20	35
2.1.5	Brain gain	26.67	85
2.1.6	Brain drain	23.39	98
2.2	<b>Internal openness</b>	62.36	39
	Social diversity		
2.2.1	Tolerance to minorities	63.84	65
2.2.2	Tolerance to immigrants	55.43	69
2.2.3	Social mobility	54.76	55
	Gender equality		
2.2.4	Female graduates	88.92	11
2.2.5	Gender earnings gap	48.84	51
3	<b>Grow</b>	41.97	57
3.1	<b>Formal education</b>	36.59	41
	Enrolment		
3.1.1	Vocational enrolment	70.74	12
3.1.2	Tertiary enrolment	45.96	47
	Quality		
3.1.3	Tertiary education expenditure	20.70	61
3.1.4	Reading, maths and science	45.56	37
3.1.5	University ranking	0.00	72
3.2	<b>Lifelong learning</b>	48.82	70
3.2.1	Quality of management schools	46.34	86
3.2.2	Prevalence of training in firms	52.90	30
3.2.3	Employee development	47.21	73
3.3	<b>Access to growth opportunities</b>	40.49	69
	Networks		
3.3.1	Use of virtual social networks	81.90	52
3.3.2	Use of virtual professional networks	15.32	59
	Empowerment		
3.3.3	Delegation of authority	42.31	76
3.3.4	Freedom of voice	22.43	68

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	62.66	39
4.1	<b>Sustainability</b>	55.51	41
4.1.1	Pension system	78.79	31
4.1.2	Taxation	32.33	87
4.2	<b>Lifestyle</b>	69.81	32
4.2.1	Environmental performance	80.91	21
4.2.2	Safety at night	59.50	57
4.2.3	Physician density	37.50	19
4.2.4	Sanitation	100.00	1
4.2.5	Flexible employment	71.12	42
5	<b>Labour and Vocational Skills</b>	74.89	2
5.1	<b>Employable skills</b>	96.58	2
5.1.1	Secondary-educated workforce	100.00	1
5.1.2	Secondary-educated population	98.38	2
5.1.3	Technicians and associate professionals	91.37	5
5.2	<b>Labour productivity</b>	53.20	13
5.2.1	Labour productivity per employee	35.21	33
5.2.2	Relationship of pay to productivity	57.29	27
5.2.3	Mid-value exports	67.11	12
6	<b>Global Knowledge Skills</b>	41.56	31
6.1	<b>Higher skills and competencies</b>	34.39	44
6.1.1	Tertiary-educated workforce	31.99	57
6.1.2	Tertiary-educated population	30.15	49
6.1.3	Professionals	34.36	50
6.1.4	Researchers	37.43	28
6.1.5	Senior officials and managers	29.78	45
6.1.6	Quality of scientific institutions	47.68	60
6.1.7	Scientific journal articles	29.35	35
6.2	<b>Talent impact</b>	48.72	19
6.2.1	Innovation output	45.17	37
6.2.2	High-value exports	52.28	13
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	n/a	n/a



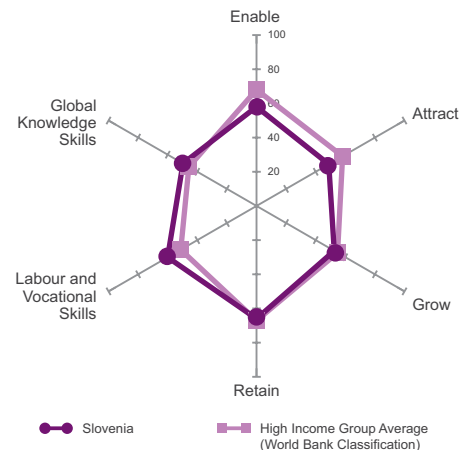
# SLOVENIA

High Income  
Europe

RANK  
(out of 109)

26

Population (millions) **2.06**  
GDP per capita (PPP\$) **28,858.68**  
GDP (US\$ billions) **47.99**  
GTCI Score **55.86**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 58.02 ..... 46		
<b>1.1 Regulatory landscape</b> ..... 62.29 ..... 43		
1.1.1 Government effectiveness ..... 64.67 ..... 32		
1.1.2 Business-government relations ..... 36.63 ..... 102		
1.1.3 Political stability ..... 85.56 ..... 28		
1.1.4 Starting a foreign business ..... n/a ..... n/a		
<b>1.2 Market landscape</b> ..... 64.13 ..... 28		
1.2.1 Competition intensity ..... 68.59 ..... 57		
1.2.2 Ease of doing business ..... 60.73 ..... 47		
1.2.3 Cluster development ..... 40.43 ..... 79		
1.2.4 R&D expenditure ..... 69.23 ..... 10		
1.2.5 ICT infrastructure ..... 80.08 ..... 22		
1.2.6 Technology utilisation ..... 65.72 ..... 46		
<b>1.3 Business-labour landscape</b> ..... 47.64 ..... 90		
Labour market flexibility		
1.3.1 Ease of hiring ..... 22.33 ..... 95		
1.3.2 Ease of redundancy ..... 75.00 ..... 43		
Governance		
1.3.3 Labour-employer cooperation ..... 45.72 ..... 96		
1.3.4 Professional management ..... 47.50 ..... 75		
<b>2 Attract</b> ..... 48.83 ..... 54		
<b>2.1 External openness</b> ..... 29.42 ..... 95		
Attract business		
2.1.1 FDI and technology transfer ..... 48.75 ..... 96		
2.1.2 Prevalence of foreign ownership ..... 35.99 ..... 107		
Attract people		
2.1.3 Migrant stock ..... 25.93 ..... 31		
2.1.4 International students ..... 9.38 ..... 51		
2.1.5 Brain gain ..... 25.14 ..... 88		
2.1.6 Brain drain ..... 31.34 ..... 85		
<b>2.2 Internal openness</b> ..... 68.25 ..... 27		
Social diversity		
2.2.1 Tolerance to minorities ..... 75.34 ..... 35		
2.2.2 Tolerance to immigrants ..... 57.16 ..... 64		
2.2.3 Social mobility ..... 54.78 ..... 54		
Gender equality		
2.2.4 Female graduates ..... 79.52 ..... 32		
2.2.5 Gender earnings gap ..... 74.42 ..... 7		
<b>3 Grow</b> ..... 52.53 ..... 28		
<b>3.1 Formal education</b> ..... 53.11 ..... 17		
Enrolment		
3.1.1 Vocational enrolment ..... 74.38 ..... 9		
3.1.2 Tertiary enrolment ..... 73.12 ..... 6		
Quality		
3.1.3 Tertiary education expenditure ..... 32.01 ..... 30		
3.1.4 Reading, maths and science ..... 58.27 ..... 21		
3.1.5 University ranking ..... 27.79 ..... 48		
<b>3.2 Lifelong learning</b> ..... 50.48 ..... 62		
3.2.1 Quality of management schools ..... 56.15 ..... 52		
3.2.2 Prevalence of training in firms ..... 50.26 ..... 36		
3.2.3 Employee development ..... 45.02 ..... 81		
<b>3.3 Access to growth opportunities</b> ..... 54.00 ..... 33		
Networks		
3.3.1 Use of virtual social networks ..... 83.87 ..... 38		
3.3.2 Use of virtual professional networks ..... 28.18 ..... 31		
Empowerment		
3.3.3 Delegation of authority ..... 48.36 ..... 43		
3.3.4 Freedom of voice ..... 55.59 ..... 24		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 66.01 ..... 27		
<b>4.1 Sustainability</b> ..... 56.28 ..... 38		
4.1.1 Pension system ..... 86.87 ..... 23		
4.1.2 Taxation ..... 25.69 ..... 101		
<b>4.2 Lifestyle</b> ..... 75.75 ..... 18		
4.2.1 Environmental performance ..... 83.77 ..... 15		
4.2.2 Safety at night ..... 86.23 ..... 16		
4.2.3 Physician density ..... 37.50 ..... 19		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... 71.25 ..... 41		
<b>5 Labour and Vocational Skills</b> ..... 60.08 ..... 9		
<b>5.1 Employable skills</b> ..... 73.90 ..... 6		
5.1.1 Secondary-educated workforce ..... 76.37 ..... 13		
5.1.2 Secondary-educated population ..... 79.36 ..... 6		
5.1.3 Technicians and associate professionals ..... 65.99 ..... 26		
<b>5.2 Labour productivity</b> ..... 46.25 ..... 34		
5.2.1 Labour productivity per employee ..... 36.30 ..... 32		
5.2.2 Relationship of pay to productivity ..... 41.43 ..... 89		
5.2.3 Mid-value exports ..... 61.01 ..... 22		
<b>6 Global Knowledge Skills</b> ..... 49.71 ..... 20		
<b>6.1 Higher skills and competencies</b> ..... 55.41 ..... 20		
6.1.1 Tertiary-educated workforce ..... 47.01 ..... 28		
6.1.2 Tertiary-educated population ..... 41.96 ..... 25		
6.1.3 Professionals ..... 58.59 ..... 14		
6.1.4 Researchers ..... 58.75 ..... 14		
6.1.5 Senior officials and managers ..... 46.63 ..... 19		
6.1.6 Quality of scientific institutions ..... 62.32 ..... 31		
6.1.7 Scientific journal articles ..... 72.61 ..... 9		
<b>6.2 Talent impact</b> ..... 44.00 ..... 28		
6.2.1 Innovation output ..... 54.41 ..... 30		
6.2.2 High-value exports ..... 32.68 ..... 29		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 60.13 ..... 13		
6.2.4 New business density ..... 28.79 ..... 24		

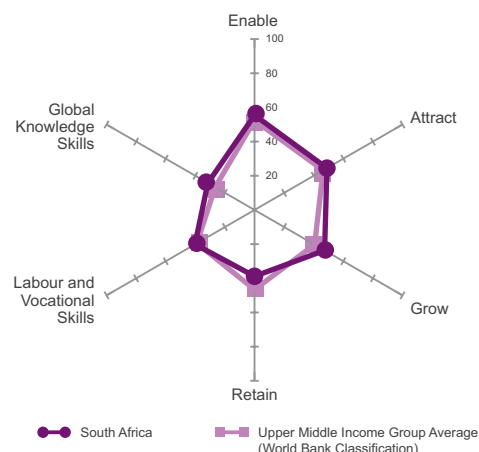
# SOUTH AFRICA

Upper Middle Income  
Sub-Saharan Africa

RANK  
(out of 109)

## 57

Population (millions) **53.16**  
GDP per capita (PPP\$) **12,866.94**  
GDP (US\$ billions) **366.06**  
GTCI Score **43.73**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	55.46	56
<b>1.1 Regulatory landscape</b> .....	58.06	49
1.1.1 Government effectiveness.....	47.52	45
1.1.2 Business-government relations.....	40.59	93
1.1.3 Political stability.....	62.73	59
1.1.4 Starting a foreign business.....	81.41	14
<b>1.2 Market landscape</b> .....	53.88	45
1.2.1 Competition intensity.....	74.36	31
1.2.2 Ease of doing business.....	63.32	40
1.2.3 Cluster development.....	52.71	38
1.2.4 R&D expenditure.....	18.61	43
1.2.5 ICT infrastructure.....	40.36	73
1.2.6 Technology utilisation.....	73.91	26
<b>1.3 Business-labour landscape</b> .....	54.45	79
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	25.29	109
1.3.4 Professional management.....	74.34	21
<b>2 Attract</b> .....	48.95	53
<b>2.1 External openness</b> .....	42.07	41
Attract business		
2.1.1 FDI and technology transfer.....	62.94	46
2.1.2 Prevalence of foreign ownership.....	67.74	35
Attract people		
2.1.3 Migrant stock.....	10.39	52
2.1.4 International students.....	17.62	34
2.1.5 Brain gain.....	48.34	33
2.1.6 Brain drain.....	45.36	42
<b>2.2 Internal openness</b> .....	55.83	72
Social diversity		
2.2.1 Tolerance to minorities.....	53.29	77
2.2.2 Tolerance to immigrants.....	44.14	83
2.2.3 Social mobility.....	62.59	33
Gender equality		
2.2.4 Female graduates.....	78.44	35
2.2.5 Gender earnings gap.....	40.70	72
<b>3 Grow</b> .....	47.35	37
<b>3.1 Formal education</b> .....	22.73	73
Enrolment		
3.1.1 Vocational enrolment.....	13.72	73
3.1.2 Tertiary enrolment.....	14.86	84
Quality		
3.1.3 Tertiary education expenditure.....	16.06	75
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	46.28	34
<b>3.2 Lifelong learning</b> .....	59.51	34
3.2.1 Quality of management schools.....	69.35	23
3.2.2 Prevalence of training in firms.....	44.06	42
3.2.3 Employee development.....	65.13	17
<b>3.3 Access to growth opportunities</b> .....	59.82	23
Networks		
3.3.1 Use of virtual social networks.....	77.02	71
3.3.2 Use of virtual professional networks.....	26.57	34
Empowerment		
3.3.3 Delegation of authority.....	57.74	25
3.3.4 Freedom of voice.....	77.93	4

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	38.83	85
<b>4.1 Sustainability</b> .....	32.10	84
4.1.1 Pension system.....	5.05	90
4.1.2 Taxation.....	59.16	11
<b>4.2 Lifestyle</b> .....	45.56	85
4.2.1 Environmental performance.....	50.66	61
4.2.2 Safety at night.....	14.88	104
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	70.45	78
4.2.5 Flexible employment.....	79.29	24
<b>5 Labour and Vocational Skills</b> .....	40.22	58
<b>5.1 Employable skills</b> .....	50.50	45
5.1.1 Secondary-educated workforce.....	32.08	66
5.1.2 Secondary-educated population.....	68.16	16
5.1.3 Technicians and associate professionals.....	51.27	39
<b>5.2 Labour productivity</b> .....	29.93	88
5.2.1 Labour productivity per employee.....	18.82	53
5.2.2 Relationship of pay to productivity.....	28.05	105
5.2.3 Mid-value exports.....	42.91	55
<b>6 Global Knowledge Skills</b> .....	31.54	49
<b>6.1 Higher skills and competencies</b> .....	26.69	62
6.1.1 Tertiary-educated workforce.....	26.66	72
6.1.2 Tertiary-educated population.....	10.54	79
6.1.3 Professionals.....	16.26	76
6.1.4 Researchers.....	4.79	59
6.1.5 Senior officials and managers.....	47.75	18
6.1.6 Quality of scientific institutions.....	61.96	32
6.1.7 Scientific journal articles.....	18.88	48
<b>6.2 Talent impact</b> .....	36.40	41
6.2.1 Innovation output.....	32.35	58
6.2.2 High-value exports.....	17.96	54
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	52.00	23
6.2.4 New business density.....	43.28	16

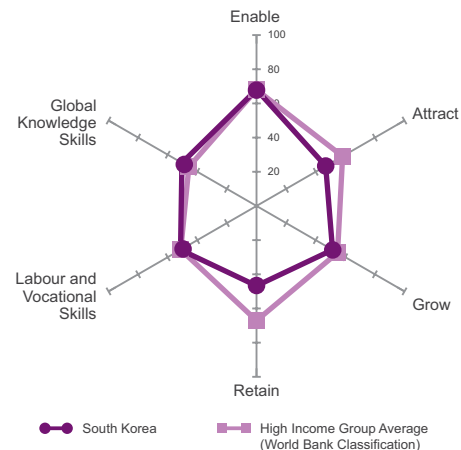
# SOUTH KOREA

High Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

37

Population (millions) **50.22**  
GDP per capita (PPP\$) **33,062.44**  
GDP (US\$ billions) **1,304.55**  
GTCI Score **52.45**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	68.08	26
<b>1.1 Regulatory landscape</b> .....	67.04	32
1.1.1 Government effectiveness.....	68.34	29
1.1.2 Business-government relations.....	59.40	43
1.1.3 Political stability.....	70.00	45
1.1.4 Starting a foreign business.....	70.42	27
<b>1.2 Market landscape</b> .....	82.39	1
1.2.1 Competition intensity.....	81.52	10
1.2.2 Ease of doing business.....	89.61	4
1.2.3 Cluster development.....	55.78	28
1.2.4 R&D expenditure.....	100.00	1
1.2.5 ICT infrastructure.....	93.32	7
1.2.6 Technology utilisation.....	74.09	25
<b>1.3 Business-labour landscape</b> .....	54.81	76
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	42.94	102
1.3.4 Professional management.....	58.12	40
<b>2 Attract</b> .....	46.75	61
<b>2.1 External openness</b> .....	39.45	51
Attract business		
2.1.1 FDI and technology transfer.....	59.68	62
2.1.2 Prevalence of foreign ownership.....	52.77	76
Attract people		
2.1.3 Migrant stock.....	5.65	67
2.1.4 International students.....	7.27	60
2.1.5 Brain gain.....	53.99	25
2.1.6 Brain drain.....	57.32	20
<b>2.2 Internal openness</b> .....	54.05	78
Social diversity		
2.2.1 Tolerance to minorities.....	73.01	43
2.2.2 Tolerance to immigrants.....	61.07	59
2.2.3 Social mobility.....	45.11	83
Gender equality		
2.2.4 Female graduates.....	55.02	73
2.2.5 Gender earnings gap.....	36.05	82
<b>3 Grow</b> .....	51.38	29
<b>3.1 Formal education</b> .....	55.76	13
Enrolment		
3.1.1 Vocational enrolment.....	19.99	62
3.1.2 Tertiary enrolment.....	83.97	2
Quality		
3.1.3 Tertiary education expenditure.....	15.69	76
3.1.4 Reading, maths and science.....	78.80	3
3.1.5 University ranking.....	80.37	10
<b>3.2 Lifelong learning</b> .....	51.60	58
3.2.1 Quality of management schools.....	53.55	63
3.2.2 Prevalence of training in firms.....	47.63	40
3.2.3 Employee development.....	53.63	43
<b>3.3 Access to growth opportunities</b> .....	46.76	47
Networks		
3.3.1 Use of virtual social networks.....	82.79	50
3.3.2 Use of virtual professional networks.....	n/a	n/a
Empowerment		
3.3.3 Delegation of authority.....	46.60	53
3.3.4 Freedom of voice.....	10.89	92

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	46.74	65
<b>4.1 Sustainability</b> .....	41.93	62
4.1.1 Pension system.....	48.48	49
4.1.2 Taxation.....	35.38	81
<b>4.2 Lifestyle</b> .....	51.55	68
4.2.1 Environmental performance.....	65.51	41
4.2.2 Safety at night.....	57.02	58
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	10.22	61
<b>5 Labour and Vocational Skills</b> .....	51.35	32
<b>5.1 Employable skills</b> .....	50.98	42
5.1.1 Secondary-educated workforce.....	49.30	41
5.1.2 Secondary-educated population.....	53.90	30
5.1.3 Technicians and associate professionals.....	49.75	42
<b>5.2 Labour productivity</b> .....	51.72	16
5.2.1 Labour productivity per employee.....	39.72	29
5.2.2 Relationship of pay to productivity.....	56.53	31
5.2.3 Mid-value exports.....	58.92	26
<b>6 Global Knowledge Skills</b> .....	50.40	18
<b>6.1 Higher skills and competencies</b> .....	50.36	24
6.1.1 Tertiary-educated workforce.....	56.54	16
6.1.2 Tertiary-educated population.....	53.79	12
6.1.3 Professionals.....	27.61	60
6.1.4 Researchers.....	79.21	7
6.1.5 Senior officials and managers.....	12.92	75
6.1.6 Quality of scientific institutions.....	66.29	26
6.1.7 Scientific journal articles.....	56.17	17
<b>6.2 Talent impact</b> .....	50.43	15
6.2.1 Innovation output.....	69.12	15
6.2.2 High-value exports.....	69.04	5
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	50.25	25
6.2.4 New business density.....	13.30	43

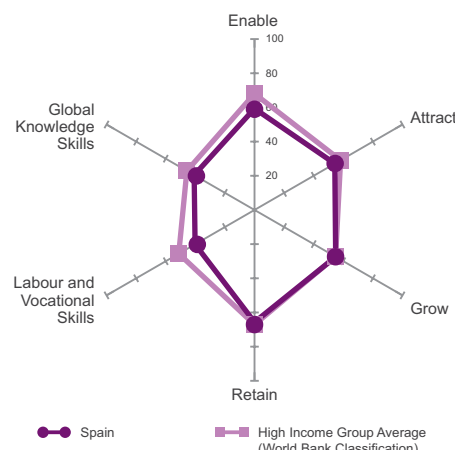
# SPAIN

High Income  
Europe

RANK  
(out of 109)

## 36

Population (millions) **46.62**  
GDP per capita (PPP\$) **33,093.95**  
GDP (US\$ billions) **1,393.04**  
GTCI Score **52.51**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 59.34 ..... 43		
<b>1.1 Regulatory landscape</b> ..... 65.89 ..... 36		
1.1.1 Government effectiveness ..... 69.08 ..... 28		
1.1.2 Business-government relations ..... 59.53 ..... 41		
1.1.3 Political stability ..... 64.52 ..... 56		
1.1.4 Starting a foreign business ..... 70.42 ..... 27		
<b>1.2 Market landscape</b> ..... 61.08 ..... 31		
1.2.1 Competition intensity ..... 74.60 ..... 30		
1.2.2 Ease of doing business ..... 67.78 ..... 30		
1.2.3 Cluster development ..... 49.71 ..... 47		
1.2.4 R&D expenditure ..... 32.01 ..... 27		
1.2.5 ICT infrastructure ..... 77.38 ..... 28		
1.2.6 Technology utilisation ..... 65.00 ..... 47		
<b>1.3 Business-labour landscape</b> ..... 51.06 ..... 84		
Labour market flexibility		
1.3.1 Ease of hiring ..... 22.33 ..... 95		
1.3.2 Ease of redundancy ..... 75.00 ..... 43		
Governance		
1.3.3 Labour-employer cooperation ..... 51.08 ..... 77		
1.3.4 Professional management ..... 55.83 ..... 47		
<b>2 Attract</b> ..... 54.25 ..... 31		
<b>2.1 External openness</b> ..... 38.75 ..... 56		
Attract business		
2.1.1 FDI and technology transfer ..... 61.25 ..... 57		
2.1.2 Prevalence of foreign ownership ..... 65.79 ..... 39		
Attract people		
2.1.3 Migrant stock ..... 31.76 ..... 23		
2.1.4 International students ..... 11.82 ..... 47		
2.1.5 Brain gain ..... 30.23 ..... 74		
2.1.6 Brain drain ..... 31.66 ..... 83		
<b>2.2 Internal openness</b> ..... 69.75 ..... 25		
Social diversity		
2.2.1 Tolerance to minorities ..... 83.84 ..... 23		
2.2.2 Tolerance to immigrants ..... 87.99 ..... 14		
2.2.3 Social mobility ..... 57.79 ..... 47		
Gender equality		
2.2.4 Female graduates ..... 69.61 ..... 61		
2.2.5 Gender earnings gap ..... 50.00 ..... 49		
<b>3 Grow</b> ..... 54.85 ..... 22		
<b>3.1 Formal education</b> ..... 49.29 ..... 25		
Enrolment		
3.1.1 Vocational enrolment ..... 36.25 ..... 41		
3.1.2 Tertiary enrolment ..... 71.84 ..... 7		
Quality		
3.1.3 Tertiary education expenditure ..... 26.49 ..... 42		
3.1.4 Reading, maths and science ..... 53.90 ..... 27		
3.1.5 University ranking ..... 57.95 ..... 20		
<b>3.2 Lifelong learning</b> ..... 63.54 ..... 25		
3.2.1 Quality of management schools ..... 82.17 ..... 3		
3.2.2 Prevalence of training in firms ..... 63.19 ..... 21		
3.2.3 Employee development ..... 45.25 ..... 79		
<b>3.3 Access to growth opportunities</b> ..... 51.71 ..... 36		
Networks		
3.3.1 Use of virtual social networks ..... 81.43 ..... 56		
3.3.2 Use of virtual professional networks ..... 41.54 ..... 24		
Empowerment		
3.3.3 Delegation of authority ..... 41.69 ..... 78		
3.3.4 Freedom of voice ..... 42.18 ..... 40		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 65.66 ..... 29		
<b>4.1 Sustainability</b> ..... 49.01 ..... 51		
4.1.1 Pension system ..... 68.69 ..... 35		
4.1.2 Taxation ..... 29.33 ..... 96		
<b>4.2 Lifestyle</b> ..... 82.31 ..... 6		
4.2.1 Environmental performance ..... 88.62 ..... 7		
4.2.2 Safety at night ..... 78.93 ..... 26		
4.2.3 Physician density ..... 50.00 ..... 4		
4.2.4 Sanitation ..... 100.00 ..... 1		
4.2.5 Flexible employment ..... 94.01 ..... 7		
<b>5 Labour and Vocational Skills</b> ..... 40.17 ..... 59		
<b>5.1 Employable skills</b> ..... 32.48 ..... 71		
5.1.1 Secondary-educated workforce ..... 20.50 ..... 80		
5.1.2 Secondary-educated population ..... 26.68 ..... 67		
5.1.3 Technicians and associate professionals ..... 50.25 ..... 41		
<b>5.2 Labour productivity</b> ..... 47.86 ..... 30		
5.2.1 Labour productivity per employee ..... 49.78 ..... 19		
5.2.2 Relationship of pay to productivity ..... 36.43 ..... 101		
5.2.3 Mid-value exports ..... 57.38 ..... 30		
<b>6 Global Knowledge Skills</b> ..... 40.79 ..... 34		
<b>6.1 Higher skills and competencies</b> ..... 46.89 ..... 27		
6.1.1 Tertiary-educated workforce ..... 56.22 ..... 17		
6.1.2 Tertiary-educated population ..... 45.56 ..... 20		
6.1.3 Professionals ..... 47.85 ..... 26		
6.1.4 Researchers ..... 36.29 ..... 29		
6.1.5 Senior officials and managers ..... 28.09 ..... 48		
6.1.6 Quality of scientific institutions ..... 58.62 ..... 34		
6.1.7 Scientific journal articles ..... 55.59 ..... 19		
<b>6.2 Talent impact</b> ..... 34.70 ..... 47		
6.2.1 Innovation output ..... 56.93 ..... 26		
6.2.2 High-value exports ..... 27.46 ..... 34		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... 36.58 ..... 52		
6.2.4 New business density ..... 17.82 ..... 37		

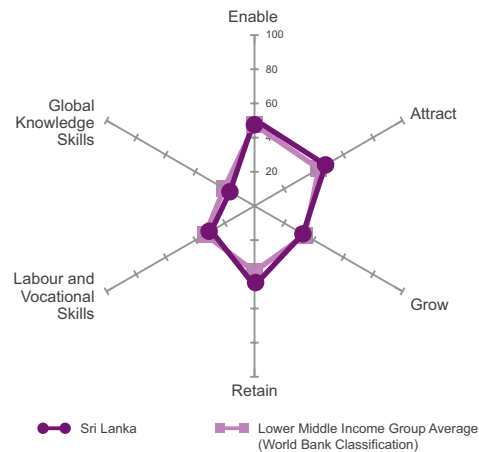
# SRI LANKA

Lower Middle Income  
Central and Southern Asia

RANK  
(out of 109)

**83**

Population (millions) **20.48**  
GDP per capita (PPP\$) **9,738.12**  
GDP (US\$ billions) **67.18**  
GTCI Score **37.31**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> ..... 50.66 ..... 73		
<b>1.1 Regulatory landscape</b> ..... 44.93 ..... 83		
1.1.1 Government effectiveness ..... 27.35 ..... 73		
1.1.2 Business-government relations ..... 65.45 ..... 23		
1.1.3 Political stability ..... 49.16 ..... 81		
1.1.4 Starting a foreign business ..... 37.75 ..... 61		
<b>1.2 Market landscape</b> ..... 44.28 ..... 79		
1.2.1 Competition intensity ..... 79.41 ..... 13		
1.2.2 Ease of doing business ..... 42.57 ..... 79		
1.2.3 Cluster development ..... 47.25 ..... 58		
1.2.4 R&D expenditure ..... 3.72 ..... 81		
1.2.5 ICT infrastructure ..... 27.89 ..... 94		
1.2.6 Technology utilisation ..... 64.80 ..... 48		
<b>1.3 Business-labour landscape</b> ..... 62.79 ..... 56		
Labour market flexibility		
1.3.1 Ease of hiring ..... 100.00 ..... 1		
1.3.2 Ease of redundancy ..... 25.00 ..... 97		
Governance		
1.3.3 Labour-employer cooperation ..... 62.03 ..... 31		
1.3.4 Professional management ..... 64.12 ..... 27		
<b>2 Attract</b> ..... 48.02 ..... 60		
<b>2.1 External openness</b> ..... 31.05 ..... 81		
Attract business		
2.1.1 FDI and technology transfer ..... 62.72 ..... 48		
2.1.2 Prevalence of foreign ownership ..... 63.48 ..... 45		
Attract people		
2.1.3 Migrant stock ..... 3.40 ..... 77		
2.1.4 International students ..... 0.28 ..... 83		
2.1.5 Brain gain ..... 24.94 ..... 90		
2.1.6 Brain drain ..... 31.46 ..... 84		
<b>2.2 Internal openness</b> ..... 65.00 ..... 36		
Social diversity		
2.2.1 Tolerance to minorities ..... 88.22 ..... 14		
2.2.2 Tolerance to immigrants ..... 71.35 ..... 35		
2.2.3 Social mobility ..... 70.84 ..... 25		
Gender equality		
2.2.4 Female graduates ..... 70.17 ..... 58		
2.2.5 Gender earnings gap ..... 24.42 ..... 94		
<b>3 Grow</b> ..... 32.71 ..... 92		
<b>3.1 Formal education</b> ..... 11.43 ..... 98		
Enrolment		
3.1.1 Vocational enrolment ..... 11.24 ..... 79		
3.1.2 Tertiary enrolment ..... 12.46 ..... 87		
Quality		
3.1.3 Tertiary education expenditure ..... 4.11 ..... 91		
3.1.4 Reading, maths and science ..... n/a ..... n/a		
3.1.5 University ranking ..... 17.92 ..... 63		
<b>3.2 Lifelong learning</b> ..... 45.19 ..... 80		
3.2.1 Quality of management schools ..... 63.53 ..... 33		
3.2.2 Prevalence of training in firms ..... 19.79 ..... 70		
3.2.3 Employee development ..... 52.25 ..... 47		
<b>3.3 Access to growth opportunities</b> ..... 41.49 ..... 62		
Networks		
3.3.1 Use of virtual social networks ..... 71.31 ..... 86		
3.3.2 Use of virtual professional networks ..... 8.06 ..... 74		
Empowerment		
3.3.3 Delegation of authority ..... 47.22 ..... 50		
3.3.4 Freedom of voice ..... 39.39 ..... 43		

VARIABLE	SCORE	RANK
<b>4 Retain</b> ..... 46.61 ..... 66		
<b>4.1 Sustainability</b> ..... 35.46 ..... 76		
4.1.1 Pension system ..... 23.23 ..... 71		
4.1.2 Taxation ..... 47.68 ..... 37		
<b>4.2 Lifestyle</b> ..... 57.76 ..... 54		
4.2.1 Environmental performance ..... 51.20 ..... 59		
4.2.2 Safety at night ..... 76.45 ..... 29		
4.2.3 Physician density ..... 12.50 ..... 69		
4.2.4 Sanitation ..... 90.91 ..... 53		
4.2.5 Flexible employment ..... n/a ..... n/a		
<b>5 Labour and Vocational Skills</b> ..... 29.24 ..... 89		
<b>5.1 Employable skills</b> ..... 16.39 ..... 95		
5.1.1 Secondary-educated workforce ..... 8.92 ..... 92		
5.1.2 Secondary-educated population ..... n/a ..... n/a		
5.1.3 Technicians and associate professionals ..... 23.86 ..... 73		
<b>5.2 Labour productivity</b> ..... 42.08 ..... 52		
5.2.1 Labour productivity per employee ..... 8.68 ..... 76		
5.2.2 Relationship of pay to productivity ..... 56.34 ..... 32		
5.2.3 Mid-value exports ..... 61.24 ..... 21		
<b>6 Global Knowledge Skills</b> ..... 16.64 ..... 88		
<b>6.1 Higher skills and competencies</b> ..... 19.42 ..... 81		
6.1.1 Tertiary-educated workforce ..... 27.14 ..... 70		
6.1.2 Tertiary-educated population ..... 23.73 ..... 57		
6.1.3 Professionals ..... 18.40 ..... 74		
6.1.4 Researchers ..... 1.30 ..... 74		
6.1.5 Senior officials and managers ..... 10.11 ..... 81		
6.1.6 Quality of scientific institutions ..... 51.74 ..... 44		
6.1.7 Scientific journal articles ..... 3.50 ..... 88		
<b>6.2 Talent impact</b> ..... 13.87 ..... 92		
6.2.1 Innovation output ..... 24.16 ..... 75		
6.2.2 High-value exports ..... 14.24 ..... 74		
Entrepreneurship		
6.2.3 New product entrepreneurial activity ..... n/a ..... n/a		
6.2.4 New business density ..... 3.19 ..... 75		

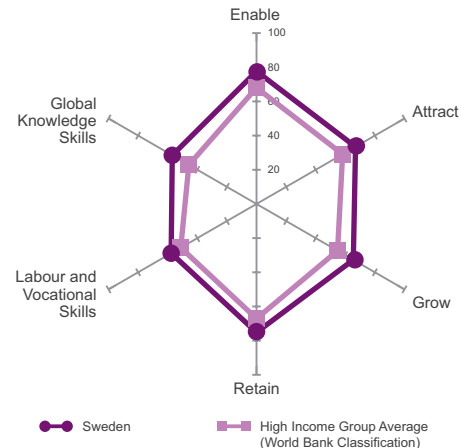
# SWEDEN

High Income  
Europe

RANK  
(out of 109)

6

Population (millions) **9.60**  
GDP per capita (PPP\$) **44,658.23**  
GDP (US\$ billions) **579.68**  
GTCI Score **66.62**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	77.63	12
<b>1.1 Regulatory landscape</b> .....	85.12	7
1.1.1 Government effectiveness.....	91.60	4
1.1.2 Business-government relations.....	71.74	15
1.1.3 Political stability.....	92.02	11
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	79.95	5
1.2.1 Competition intensity.....	73.47	35
1.2.2 Ease of doing business.....	83.63	10
1.2.3 Cluster development.....	62.32	18
1.2.4 R&D expenditure.....	84.37	4
1.2.5 ICT infrastructure.....	93.19	8
1.2.6 Technology utilisation.....	82.73	9
<b>1.3 Business-labour landscape</b> .....	67.82	38
Labour market flexibility		
1.3.1 Ease of hiring.....	66.67	48
1.3.2 Ease of redundancy.....	50.00	74
Governance		
1.3.3 Labour-employer cooperation.....	72.81	16
1.3.4 Professional management.....	81.80	9
<b>2 Attract</b> .....	66.92	11
<b>2.1 External openness</b> .....	51.93	23
Attract business		
2.1.1 FDI and technology transfer.....	61.54	54
2.1.2 Prevalence of foreign ownership.....	69.41	28
Attract people		
2.1.3 Migrant stock.....	36.62	19
2.1.4 International students.....	26.69	24
2.1.5 Brain gain.....	54.81	23
2.1.6 Brain drain.....	62.51	16
<b>2.2 Internal openness</b> .....	81.91	7
Social diversity		
2.2.1 Tolerance to minorities.....	90.68	12
2.2.2 Tolerance to immigrants.....	88.86	13
2.2.3 Social mobility.....	75.08	21
Gender equality		
2.2.4 Female graduates.....	82.83	21
2.2.5 Gender earnings gap.....	72.09	8
<b>3 Grow</b> .....	65.42	10
<b>3.1 Formal education</b> .....	57.43	11
Enrolment		
3.1.1 Vocational enrolment.....	55.61	23
3.1.2 Tertiary enrolment.....	59.07	24
Quality		
3.1.3 Tertiary education expenditure.....	48.14	8
3.1.4 Reading, maths and science.....	50.40	34
3.1.5 University ranking.....	73.96	13
<b>3.2 Lifelong learning</b> .....	68.83	13
3.2.1 Quality of management schools.....	69.36	22
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	68.30	10
<b>3.3 Access to growth opportunities</b> .....	69.99	9
Networks		
3.3.1 Use of virtual social networks.....	91.35	8
3.3.2 Use of virtual professional networks.....	60.60	15
Empowerment		
3.3.3 Delegation of authority.....	77.15	4
3.3.4 Freedom of voice.....	50.84	30

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	75.15	7
<b>4.1 Sustainability</b> .....	71.04	10
4.1.1 Pension system.....	88.89	21
4.1.2 Taxation.....	53.18	22
<b>4.2 Lifestyle</b> .....	79.27	7
4.2.1 Environmental performance.....	86.16	9
4.2.2 Safety at night.....	85.54	18
4.2.3 Physician density.....	50.00	4
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	74.66	32
<b>5 Labour and Vocational Skills</b> .....	57.68	15
<b>5.1 Employable skills</b> .....	64.04	18
5.1.1 Secondary-educated workforce.....	60.09	30
5.1.2 Secondary-educated population.....	53.85	31
5.1.3 Technicians and associate professionals.....	78.17	14
<b>5.2 Labour productivity</b> .....	51.31	18
5.2.1 Labour productivity per employee.....	53.68	13
5.2.2 Relationship of pay to productivity.....	46.45	75
5.2.3 Mid-value exports.....	53.81	33
<b>6 Global Knowledge Skills</b> .....	56.93	9
<b>6.1 Higher skills and competencies</b> .....	60.57	12
6.1.1 Tertiary-educated workforce.....	54.93	19
6.1.2 Tertiary-educated population.....	33.40	39
6.1.3 Professionals.....	76.07	2
6.1.4 Researchers.....	69.22	9
6.1.5 Senior officials and managers.....	30.90	43
6.1.6 Quality of scientific institutions.....	74.60	14
6.1.7 Scientific journal articles.....	84.87	6
<b>6.2 Talent impact</b> .....	53.28	10
6.2.1 Innovation output.....	87.39	3
6.2.2 High-value exports.....	38.95	24
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	44.37	40
6.2.4 New business density.....	42.42	17



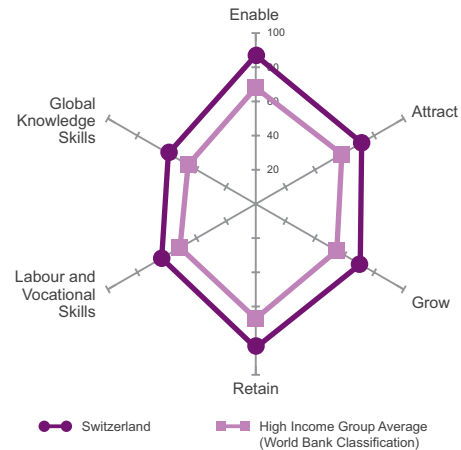
# SWITZERLAND

High Income  
Europe

RANK  
(out of 109)

1

Population (millions) **8.09**  
GDP per capita (PPP\$) **56,950.02**  
GDP (US\$ billions) **685.43**  
GTCI Score **72.65**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	86.95	1
<b>1.1 Regulatory landscape</b> .....	88.33	5
1.1.1 Government effectiveness.....	89.04	6
1.1.2 Business-government relations.....	77.86	10
1.1.3 Political stability.....	98.09	2
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	80.41	4
1.2.1 Competition intensity.....	78.48	16
1.2.2 Ease of doing business.....	77.61	18
1.2.3 Cluster development.....	72.53	5
1.2.4 R&D expenditure.....	70.97	8
1.2.5 ICT infrastructure.....	98.71	2
1.2.6 Technology utilisation.....	84.13	6
<b>1.3 Business-labour landscape</b> .....	92.11	1
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	86.28	1
1.3.4 Professional management.....	82.17	7
<b>2 Attract</b> .....	71.56	7
<b>2.1 External openness</b> .....	72.88	5
Attract business		
2.1.1 FDI and technology transfer.....	66.58	32
2.1.2 Prevalence of foreign ownership.....	69.39	29
Attract people		
2.1.3 Migrant stock.....	66.79	8
2.1.4 International students.....	70.22	8
2.1.5 Brain gain.....	84.56	1
2.1.6 Brain drain.....	79.74	1
<b>2.2 Internal openness</b> .....	70.23	22
Social diversity		
2.2.1 Tolerance to minorities.....	81.64	26
2.2.2 Tolerance to immigrants.....	77.57	22
2.2.3 Social mobility.....	89.24	2
Gender equality		
2.2.4 Female graduates.....	48.05	76
2.2.5 Gender earnings gap.....	54.65	36
<b>3 Grow</b> .....	70.62	5
<b>3.1 Formal education</b> .....	61.41	7
Enrolment		
3.1.1 Vocational enrolment.....	71.70	11
3.1.2 Tertiary enrolment.....	46.36	43
Quality		
3.1.3 Tertiary education expenditure.....	31.93	31
3.1.4 Reading, maths and science.....	67.49	10
3.1.5 University ranking.....	89.56	3
<b>3.2 Lifelong learning</b> .....	82.07	1
3.2.1 Quality of management schools.....	86.02	1
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	78.12	1
<b>3.3 Access to growth opportunities</b> .....	68.39	12
Networks		
3.3.1 Use of virtual social networks.....	87.05	23
3.3.2 Use of virtual professional networks.....	46.67	20
Empowerment		
3.3.3 Delegation of authority.....	72.23	8
3.3.4 Freedom of voice.....	67.60	9

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	84.13	1
<b>4.1 Sustainability</b> .....	81.57	3
4.1.1 Pension system.....	94.95	3
4.1.2 Taxation.....	68.19	7
<b>4.2 Lifestyle</b> .....	86.70	3
4.2.1 Environmental performance.....	100.00	1
4.2.2 Safety at night.....	84.30	19
4.2.3 Physician density.....	50.00	4
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	99.18	4
<b>5 Labour and Vocational Skills</b> .....	63.56	6
<b>5.1 Employable skills</b> .....	69.94	11
5.1.1 Secondary-educated workforce.....	60.72	29
5.1.2 Secondary-educated population.....	61.80	20
5.1.3 Technicians and associate professionals.....	87.31	8
<b>5.2 Labour productivity</b> .....	57.18	6
5.2.1 Labour productivity per employee.....	48.38	22
5.2.2 Relationship of pay to productivity.....	70.85	4
5.2.3 Mid-value exports.....	52.32	36
<b>6 Global Knowledge Skills</b> .....	59.06	6
<b>6.1 Higher skills and competencies</b> .....	65.31	8
6.1.1 Tertiary-educated workforce.....	55.41	18
6.1.2 Tertiary-educated population.....	58.97	7
6.1.3 Professionals.....	69.02	5
6.1.4 Researchers.....	43.86	25
6.1.5 Senior officials and managers.....	43.82	22
6.1.6 Quality of scientific institutions.....	89.23	1
6.1.7 Scientific journal articles.....	96.90	2
<b>6.2 Talent impact</b> .....	52.81	11
6.2.1 Innovation output.....	100.00	1
6.2.2 High-value exports.....	52.63	12
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	41.98	44
6.2.4 New business density.....	16.62	38



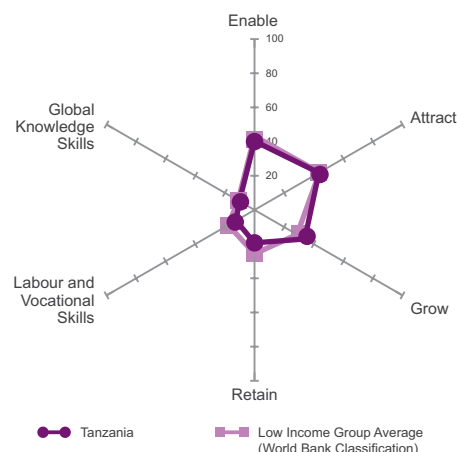
# TANZANIA

Low Income  
Sub-Saharan Africa

RANK  
(out of 109)

# 106

Population (millions) **49.25**  
GDP per capita (PPP\$) **2,443.07**  
GDP (US\$ billions) **43.65**  
GTCI Score **26.62**  
GTCI Score (Income Group Average) **28.40**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	40.26	100
<b>1.1 Regulatory landscape</b> .....	44.74	84
1.1.1 Government effectiveness.....	14.04	96
1.1.2 Business-government relations.....	46.21	84
1.1.3 Political stability.....	60.41	64
1.1.4 Starting a foreign business.....	58.31	47
<b>1.2 Market landscape</b> .....	32.61	103
1.2.1 Competition intensity.....	55.30	98
1.2.2 Ease of doing business.....	31.95	96
1.2.3 Cluster development.....	40.28	81
1.2.4 R&D expenditure.....	12.66	56
1.2.5 ICT infrastructure.....	8.87	105
1.2.6 Technology utilisation.....	46.59	104
<b>1.3 Business-labour landscape</b> .....	43.42	99
Labour market flexibility		
1.3.1 Ease of hiring.....	44.33	86
1.3.2 Ease of redundancy.....	37.50	88
Governance		
1.3.3 Labour-employer cooperation.....	46.73	92
1.3.4 Professional management.....	45.10	87
<b>2 Attract</b> .....	43.52	81
<b>2.1 External openness</b> .....	35.48	67
Attract business		
2.1.1 FDI and technology transfer.....	53.22	83
2.1.2 Prevalence of foreign ownership.....	51.41	82
Attract people		
2.1.3 Migrant stock.....	1.34	91
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	37.80	61
2.1.6 Brain drain.....	33.60	77
<b>2.2 Internal openness</b> .....	51.57	84
Social diversity		
2.2.1 Tolerance to minorities.....	46.30	88
2.2.2 Tolerance to immigrants.....	28.80	98
2.2.3 Social mobility.....	42.80	93
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	88.37	3
<b>3 Grow</b> .....	33.96	90
<b>3.1 Formal education</b> .....	18.99	82
Enrolment		
3.1.1 Vocational enrolment.....	24.56	55
3.1.2 Tertiary enrolment.....	1.00	103
Quality		
3.1.3 Tertiary education expenditure.....	41.94	14
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	8.46	71
<b>3.2 Lifelong learning</b> .....	38.26	98
3.2.1 Quality of management schools.....	36.97	104
3.2.2 Prevalence of training in firms.....	36.02	54
3.2.3 Employee development.....	41.79	93
<b>3.3 Access to growth opportunities</b> .....	44.63	53
Networks		
3.3.1 Use of virtual social networks.....	52.66	106
3.3.2 Use of virtual professional networks.....	n/a	n/a
Empowerment		
3.3.3 Delegation of authority.....	39.62	86
3.3.4 Freedom of voice.....	41.62	41

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	19.27	106
<b>4.1 Sustainability</b> .....	19.97	109
4.1.1 Pension system.....	3.03	95
4.1.2 Taxation.....	36.92	75
<b>4.2 Lifestyle</b> .....	18.57	106
4.2.1 Environmental performance.....	25.65	100
4.2.2 Safety at night.....	48.62	71
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	0.00	106
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	12.49	108
<b>5.1 Employable skills</b> .....	3.49	107
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	0.89	99
5.1.3 Technicians and associate professionals.....	6.09	90
<b>5.2 Labour productivity</b> .....	21.49	105
5.2.1 Labour productivity per employee.....	1.11	93
5.2.2 Relationship of pay to productivity.....	38.24	97
5.2.3 Mid-value exports.....	25.12	78
<b>6 Global Knowledge Skills</b> .....	10.24	106
<b>6.1 Higher skills and competencies</b> .....	8.91	108
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	3.00	92
6.1.3 Professionals.....	0.00	98
6.1.4 Researchers.....	0.40	84
6.1.5 Senior officials and managers.....	1.69	94
6.1.6 Quality of scientific institutions.....	42.61	74
6.1.7 Scientific journal articles.....	5.79	73
<b>6.2 Talent impact</b> .....	11.56	96
6.2.1 Innovation output.....	7.77	102
6.2.2 High-value exports.....	15.35	65
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	n/a	n/a
6.2.4 New business density.....	n/a	n/a

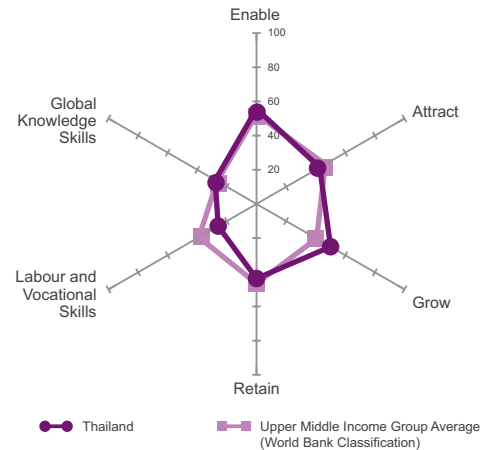
# THAILAND

Upper Middle Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

69

Population (millions) **67.01**  
GDP per capita (PPP\$) **14,393.53**  
GDP (US\$ billions) **387.25**  
GTCI Score **40.99**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	55.64	54
<b>1.1 Regulatory landscape</b> .....	45.82	80
1.1.1 Government effectiveness.....	40.82	51
1.1.2 Business-government relations.....	55.50	57
1.1.3 Political stability.....	31.46	103
1.1.4 Starting a foreign business.....	55.49	49
<b>1.2 Market landscape</b> .....	51.61	48
1.2.1 Competition intensity.....	73.67	33
1.2.2 Ease of doing business.....	72.26	24
1.2.3 Cluster development.....	53.28	34
1.2.4 R&D expenditure.....	4.96	75
1.2.5 ICT infrastructure.....	41.13	72
1.2.6 Technology utilisation.....	64.36	50
<b>1.3 Business-labour landscape</b> .....	69.50	33
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	64.33	25
1.3.4 Professional management.....	58.00	42
<b>2 Attract</b> .....	42.73	87
<b>2.1 External openness</b> .....	41.05	44
Attract business		
2.1.1 FDI and technology transfer.....	69.67	15
2.1.2 Prevalence of foreign ownership.....	59.10	53
Attract people		
2.1.3 Migrant stock.....	12.72	48
2.1.4 International students.....	3.27	68
2.1.5 Brain gain.....	49.11	31
2.1.6 Brain drain.....	52.43	30
<b>2.2 Internal openness</b> .....	44.41	98
Social diversity		
2.2.1 Tolerance to minorities.....	15.75	101
2.2.2 Tolerance to immigrants.....	6.95	104
2.2.3 Social mobility.....	57.49	48
Gender equality		
2.2.4 Female graduates.....	70.92	54
2.2.5 Gender earnings gap.....	70.93	9
<b>3 Grow</b> .....	50.06	31
<b>3.1 Formal education</b> .....	32.88	52
Enrolment		
3.1.1 Vocational enrolment.....	31.56	46
3.1.2 Tertiary enrolment.....	42.56	49
Quality		
3.1.3 Tertiary education expenditure.....	14.36	80
3.1.4 Reading, maths and science.....	29.29	45
3.1.5 University ranking.....	46.61	32
<b>3.2 Lifelong learning</b> .....	67.93	16
3.2.1 Quality of management schools.....	52.19	68
3.2.2 Prevalence of training in firms.....	94.85	2
3.2.3 Employee development.....	56.75	33
<b>3.3 Access to growth opportunities</b> .....	49.37	42
Networks		
3.3.1 Use of virtual social networks.....	86.23	25
3.3.2 Use of virtual professional networks.....	2.97	91
Empowerment		
3.3.3 Delegation of authority.....	52.68	32
3.3.4 Freedom of voice.....	55.59	24

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	43.66	75
<b>4.1 Sustainability</b> .....	34.26	79
4.1.1 Pension system.....	22.22	73
4.1.2 Taxation.....	46.29	43
<b>4.2 Lifestyle</b> .....	53.06	65
4.2.1 Environmental performance.....	49.68	66
4.2.2 Safety at night.....	70.52	40
4.2.3 Physician density.....	0.00	87
4.2.4 Sanitation.....	92.05	51
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	25.92	98
<b>5.1 Employable skills</b> .....	12.92	101
5.1.1 Secondary-educated workforce.....	6.26	94
5.1.2 Secondary-educated population.....	20.32	80
5.1.3 Technicians and associate professionals.....	12.18	84
<b>5.2 Labour productivity</b> .....	38.91	61
5.2.1 Labour productivity per employee.....	10.61	71
5.2.2 Relationship of pay to productivity.....	53.25	40
5.2.3 Mid-value exports.....	52.87	34
<b>6 Global Knowledge Skills</b> .....	27.91	62
<b>6.1 Higher skills and competencies</b> .....	20.17	78
6.1.1 Tertiary-educated workforce.....	27.63	69
6.1.2 Tertiary-educated population.....	19.87	70
6.1.3 Professionals.....	13.50	83
6.1.4 Researchers.....	4.36	61
6.1.5 Senior officials and managers.....	14.61	71
6.1.6 Quality of scientific institutions.....	48.51	57
6.1.7 Scientific journal articles.....	12.81	60
<b>6.2 Talent impact</b> .....	35.64	45
6.2.1 Innovation output.....	38.45	47
6.2.2 High-value exports.....	48.83	17
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	49.77	27
6.2.4 New business density.....	5.52	65

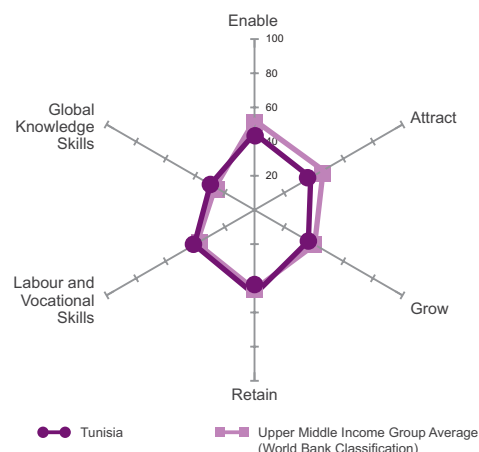
# TUNISIA

Upper Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

## 73

Population (millions) **10.89**  
GDP per capita (PPP\$) **11,124.50**  
GDP (US\$ billions) **46.99**  
GTCI Score **39.85**  
GTCI Score (Income Group Average) **41.93**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	44.74	92
<b>1.1 Regulatory landscape</b> .....	48.50	70
1.1.1 Government effectiveness.....	34.38	60
1.1.2 Business-government relations.....	47.59	78
1.1.3 Political stability.....	41.59	93
1.1.4 Starting a foreign business.....	70.42	27
<b>1.2 Market landscape</b> .....	46.95	67
1.2.1 Competition intensity.....	62.94	78
1.2.2 Ease of doing business.....	55.36	53
1.2.3 Cluster development.....	41.78	71
1.2.4 R&D expenditure.....	27.05	33
1.2.5 ICT infrastructure.....	37.02	78
1.2.6 Technology utilisation.....	57.58	67
<b>1.3 Business-labour landscape</b> .....	38.76	102
Labour market flexibility		
1.3.1 Ease of hiring.....	61.00	65
1.3.2 Ease of redundancy.....	0.00	107
Governance		
1.3.3 Labour-employer cooperation.....	46.60	93
1.3.4 Professional management.....	47.43	77
<b>2 Attract</b> .....	37.97	100
<b>2.1 External openness</b> .....	30.05	89
Attract business		
2.1.1 FDI and technology transfer.....	56.64	70
2.1.2 Prevalence of foreign ownership.....	57.08	62
Attract people		
2.1.3 Migrant stock.....	0.63	100
2.1.4 International students.....	1.97	74
2.1.5 Brain gain.....	30.18	75
2.1.6 Brain drain.....	33.82	74
<b>2.2 Internal openness</b> .....	45.89	94
Social diversity		
2.2.1 Tolerance to minorities.....	5.21	103
2.2.2 Tolerance to immigrants.....	72.65	33
2.2.3 Social mobility.....	49.06	75
Gender equality		
2.2.4 Female graduates.....	89.74	8
2.2.5 Gender earnings gap.....	12.79	99
<b>3 Grow</b> .....	36.40	80
<b>3.1 Formal education</b> .....	19.85	77
Enrolment		
3.1.1 Vocational enrolment.....	18.66	67
3.1.2 Tertiary enrolment.....	28.47	67
Quality		
3.1.3 Tertiary education expenditure.....	41.98	13
3.1.4 Reading, maths and science.....	10.14	56
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	50.66	60
3.2.1 Quality of management schools.....	56.35	51
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	44.98	82
<b>3.3 Access to growth opportunities</b> .....	38.70	75
Networks		
3.3.1 Use of virtual social networks.....	80.18	60
3.3.2 Use of virtual professional networks.....	15.47	58
Empowerment		
3.3.3 Delegation of authority.....	39.87	84
3.3.4 Freedom of voice.....	19.27	73

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	49.49	61
<b>4.1 Sustainability</b> .....	46.16	54
4.1.1 Pension system.....	48.48	49
4.1.2 Taxation.....	43.84	52
<b>4.2 Lifestyle</b> .....	52.81	66
4.2.1 Environmental performance.....	58.58	48
4.2.2 Safety at night.....	51.52	66
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	88.64	61
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	40.68	54
<b>5.1 Employable skills</b> .....	40.99	57
5.1.1 Secondary-educated workforce.....	42.88	55
5.1.2 Secondary-educated population.....	39.11	50
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	40.36	58
5.2.1 Labour productivity per employee.....	14.98	61
5.2.2 Relationship of pay to productivity.....	43.70	81
5.2.3 Mid-value exports.....	62.42	18
<b>6 Global Knowledge Skills</b> .....	29.83	54
<b>6.1 Higher skills and competencies</b> .....	29.52	55
6.1.1 Tertiary-educated workforce.....	31.34	61
6.1.2 Tertiary-educated population.....	22.26	64
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	24.49	35
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	34.97	93
6.1.7 Scientific journal articles.....	34.55	31
<b>6.2 Talent impact</b> .....	30.13	52
6.2.1 Innovation output.....	22.27	80
6.2.2 High-value exports.....	35.54	26
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	52.80	19
6.2.4 New business density.....	9.91	71

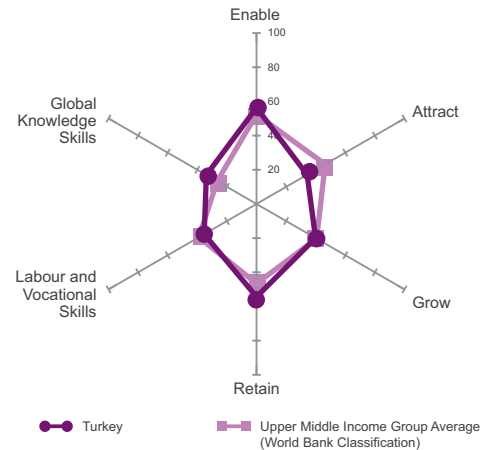
# TURKEY

Upper Middle Income  
Northern Africa and Western Asia

RANK  
(out of 109)

63

Population (millions) **74.93**  
GDP per capita (PPP\$) **18,782.85**  
GDP (US\$ billions) **822.14**  
GTCI Score **42.34**  
GTCI Score (Income Group Average) **41.93**



	VARIABLE	SCORE	RANK
1	<b>Enable</b> .....	56.34	51
1.1	<b>Regulatory landscape</b> .....	50.29	63
1.1.1	Government effectiveness.....	45.50	47
1.1.2	Business-government relations.....	58.08	51
1.1.3	Political stability.....	34.61	100
1.1.4	Starting a foreign business.....	62.96	36
1.2	<b>Market landscape</b> .....	56.67	36
1.2.1	Competition intensity.....	82.16	8
1.2.2	Ease of doing business.....	58.15	50
1.2.3	Cluster development.....	54.73	31
1.2.4	R&D expenditure.....	21.09	39
1.2.5	ICT infrastructure.....	53.34	60
1.2.6	Technology utilisation.....	70.54	33
1.3	<b>Business-labour landscape</b> .....	62.07	57
	Labour market flexibility		
1.3.1	Ease of hiring.....	55.67	66
1.3.2	Ease of redundancy.....	87.50	33
	Governance		
1.3.3	Labour-employer cooperation.....	50.42	80
1.3.4	Professional management.....	54.69	49
2	<b>Attract</b> .....	34.21	105
2.1	<b>External openness</b> .....	32.83	79
	Attract business		
2.1.1	FDI and technology transfer.....	67.75	26
2.1.2	Prevalence of foreign ownership.....	51.95	79
	Attract people		
2.1.3	Migrant stock.....	5.62	68
2.1.4	International students.....	3.48	67
2.1.5	Brain gain.....	31.88	73
2.1.6	Brain drain.....	36.32	67
2.2	<b>Internal openness</b> .....	35.58	104
	Social diversity		
2.2.1	Tolerance to minorities.....	30.55	97
2.2.2	Tolerance to immigrants.....	28.94	97
2.2.3	Social mobility.....	49.94	70
	Gender equality		
2.2.4	Female graduates.....	42.90	80
2.2.5	Gender earnings gap.....	25.58	93
3	<b>Grow</b> .....	39.91	62
3.1	<b>Formal education</b> .....	40.57	37
	Enrolment		
3.1.1	Vocational enrolment.....	48.58	27
3.1.2	Tertiary enrolment.....	58.51	25
	Quality		
3.1.3	Tertiary education expenditure.....	19.76	66
3.1.4	Reading, maths and science.....	41.05	39
3.1.5	University ranking.....	34.93	44
3.2	<b>Lifelong learning</b> .....	42.12	87
3.2.1	Quality of management schools.....	46.55	85
3.2.2	Prevalence of training in firms.....	32.98	56
3.2.3	Employee development.....	46.82	74
3.3	<b>Access to growth opportunities</b> .....	37.04	87
	Networks		
3.3.1	Use of virtual social networks.....	83.50	41
3.3.2	Use of virtual professional networks.....	18.81	50
	Empowerment		
3.3.3	Delegation of authority.....	43.04	72
3.3.4	Freedom of voice.....	2.79	102

	VARIABLE	SCORE	RANK
4	<b>Retain</b> .....	54.34	48
4.1	<b>Sustainability</b> .....	48.50	52
4.1.1	Pension system.....	58.59	43
4.1.2	Taxation.....	38.41	71
4.2	<b>Lifestyle</b> .....	60.19	49
4.2.1	Environmental performance.....	52.69	57
4.2.2	Safety at night.....	61.57	52
4.2.3	Physician density.....	25.00	47
4.2.4	Sanitation.....	89.77	56
4.2.5	Flexible employment.....	71.93	39
5	<b>Labour and Vocational Skills</b> .....	35.34	69
5.1	<b>Employable skills</b> .....	22.11	88
5.1.1	Secondary-educated workforce.....	15.34	90
5.1.2	Secondary-educated population.....	26.11	69
5.1.3	Technicians and associate professionals.....	24.87	71
5.2	<b>Labour productivity</b> .....	48.58	25
5.2.1	Labour productivity per employee.....	24.94	43
5.2.2	Relationship of pay to productivity.....	47.15	68
5.2.3	Mid-value exports.....	73.64	4
6	<b>Global Knowledge Skills</b> .....	33.89	45
6.1	<b>Higher skills and competencies</b> .....	29.38	56
6.1.1	Tertiary-educated workforce.....	29.56	65
6.1.2	Tertiary-educated population.....	21.63	65
6.1.3	Professionals.....	20.55	68
6.1.4	Researchers.....	13.12	46
6.1.5	Senior officials and managers.....	46.63	19
6.1.6	Quality of scientific institutions.....	47.90	59
6.1.7	Scientific journal articles.....	26.24	38
6.2	<b>Talent impact</b> .....	38.40	37
6.2.1	Innovation output.....	44.54	38
6.2.2	High-value exports.....	19.35	52
	Entrepreneurship		
6.2.3	New product entrepreneurial activity.....	84.67	2
6.2.4	New business density.....	5.05	68

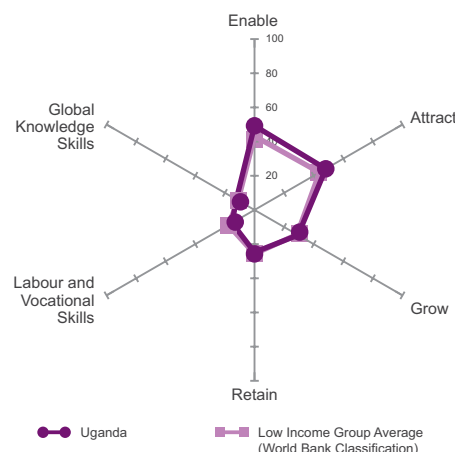
# UGANDA

Low Income  
Sub-Saharan Africa

RANK  
(out of 109)

# 101

Population (millions) **37.58**  
GDP per capita (PPP\$) **1,674.29**  
GDP (US\$ billions) **24.70**  
GTCI Score **29.85**  
GTCI Score (Income Group Average) **28.40**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	49.25	79
1.1	<b>Regulatory landscape</b>	38.63	97
1.1.1	Government effectiveness	16.83	92
1.1.2	Business-government relations	57.27	54
1.1.3	Political stability	43.37	91
1.1.4	Starting a foreign business	37.04	62
1.2	<b>Market landscape</b>	34.17	101
1.2.1	Competition intensity	70.68	47
1.2.2	Ease of doing business	20.70	102
1.2.3	Cluster development	42.08	70
1.2.4	R&D expenditure	13.65	53
1.2.5	ICT infrastructure	6.43	106
1.2.6	Technology utilisation	51.50	92
1.3	<b>Business-labour landscape</b>	74.96	21
	Labour market flexibility		
1.3.1	Ease of hiring	100.00	1
1.3.2	Ease of redundancy	100.00	1
	Governance		
1.3.3	Labour-employer cooperation	51.18	75
1.3.4	Professional management	48.64	71
2	<b>Attract</b>	48.16	57
2.1	<b>External openness</b>	40.80	46
	Attract business		
2.1.1	FDI and technology transfer	62.10	51
2.1.2	Prevalence of foreign ownership	70.09	27
	Attract people		
2.1.3	Migrant stock	3.13	80
2.1.4	International students	45.58	14
2.1.5	Brain gain	33.57	69
2.1.6	Brain drain	30.30	88
2.2	<b>Internal openness</b>	55.53	74
	Social diversity		
2.2.1	Tolerance to minorities	69.45	56
2.2.2	Tolerance to immigrants	73.37	30
2.2.3	Social mobility	52.55	60
	Gender equality		
2.2.4	Female graduates	n/a	n/a
2.2.5	Gender earnings gap	26.74	91
3	<b>Grow</b>	29.41	100
3.1	<b>Formal education</b>	6.38	105
	Enrolment		
3.1.1	Vocational enrolment	7.93	86
3.1.2	Tertiary enrolment	1.40	100
	Quality		
3.1.3	Tertiary education expenditure	5.51	88
3.1.4	Reading, maths and science	n/a	n/a
3.1.5	University ranking	10.67	70
3.2	<b>Lifelong learning</b>	43.84	84
3.2.1	Quality of management schools	47.14	81
3.2.2	Prevalence of training in firms	41.29	48
3.2.3	Employee development	43.09	87
3.3	<b>Access to growth opportunities</b>	38.02	79
	Networks		
3.3.1	Use of virtual social networks	57.43	103
3.3.2	Use of virtual professional networks	2.52	92
	Empowerment		
3.3.3	Delegation of authority	35.72	100
3.3.4	Freedom of voice	56.42	23

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	24.77	102
4.1	<b>Sustainability</b>	26.04	101
4.1.1	Pension system	9.09	82
4.1.2	Taxation	43.00	54
4.2	<b>Lifestyle</b>	23.49	103
4.2.1	Environmental performance	29.97	97
4.2.2	Safety at night	38.89	87
4.2.3	Physician density	0.00	87
4.2.4	Sanitation	25.00	97
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	15.19	107
5.1	<b>Employable skills</b>	7.69	106
5.1.1	Secondary-educated workforce	n/a	n/a
5.1.2	Secondary-educated population	1.68	98
5.1.3	Technicians and associate professionals	13.71	83
5.2	<b>Labour productivity</b>	22.70	102
5.2.1	Labour productivity per employee	1.27	92
5.2.2	Relationship of pay to productivity	37.15	100
5.2.3	Mid-value exports	29.66	74
6	<b>Global Knowledge Skills</b>	12.30	100
6.1	<b>Higher skills and competencies</b>	12.51	101
6.1.1	Tertiary-educated workforce	n/a	n/a
6.1.2	Tertiary-educated population	1.91	95
6.1.3	Professionals	5.83	90
6.1.4	Researchers	0.41	83
6.1.5	Senior officials and managers	n/a	n/a
6.1.6	Quality of scientific institutions	43.49	72
6.1.7	Scientific journal articles	10.90	62
6.2	<b>Talent impact</b>	12.09	94
6.2.1	Innovation output	22.06	81
6.2.2	High-value exports	13.25	86
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	5.46	81
6.2.4	New business density	7.58	56

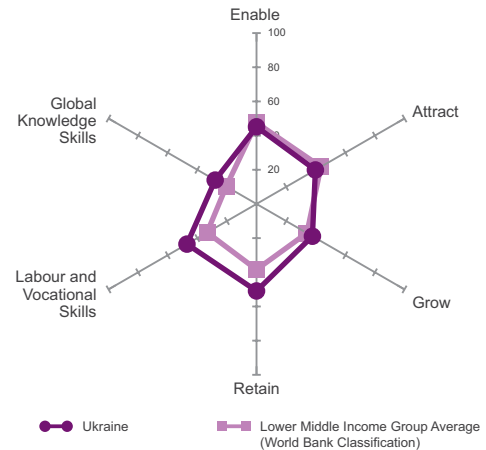
# UKRAINE

Lower Middle Income  
Europe

RANK  
(out of 109)

66

Population (millions) **45.49**  
GDP per capita (PPP\$) **8,789.98**  
GDP (US\$ billions) **177.43**  
GTCI Score **41.43**  
GTCI Score (Income Group Average) **36.22**



	VARIABLE	SCORE	RANK
1	<b>Enable</b>	45.15	91
1.1	<b>Regulatory landscape</b>	45.70	81
1.1.1	Government effectiveness	14.71	95
1.1.2	Business-government relations	39.70	97
1.1.3	Political stability	45.42	89
1.1.4	Starting a foreign business	82.96	12
1.2	<b>Market landscape</b>	44.52	78
1.2.1	Competition intensity	61.33	83
1.2.2	Ease of doing business	42.92	78
1.2.3	Cluster development	33.27	101
1.2.4	R&D expenditure	18.11	46
1.2.5	ICT infrastructure	57.58	56
1.2.6	Technology utilisation	53.91	83
1.3	<b>Business-labour landscape</b>	45.24	94
	Labour market flexibility		
1.3.1	Ease of hiring	55.67	66
1.3.2	Ease of redundancy	37.50	88
	Governance		
1.3.3	Labour-employer cooperation	46.21	94
1.3.4	Professional management	41.60	94
2	<b>Attract</b>	39.78	97
2.1	<b>External openness</b>	27.41	99
	Attract business		
2.1.1	FDI and technology transfer	44.88	102
2.1.2	Prevalence of foreign ownership	41.23	98
	Attract people		
2.1.3	Migrant stock	26.22	29
2.1.4	International students	9.32	52
2.1.5	Brain gain	21.40	97
2.1.6	Brain drain	21.42	99
2.2	<b>Internal openness</b>	52.15	83
	Social diversity		
2.2.1	Tolerance to minorities	52.05	79
2.2.2	Tolerance to immigrants	51.95	73
2.2.3	Social mobility	34.72	104
	Gender equality		
2.2.4	Female graduates	66.19	68
2.2.5	Gender earnings gap	55.81	31
3	<b>Grow</b>	37.78	72
3.1	<b>Formal education</b>	42.22	33
	Enrolment		
3.1.1	Vocational enrolment	19.51	64
3.1.2	Tertiary enrolment	66.95	12
	Quality		
3.1.3	Tertiary education expenditure	52.81	6
3.1.4	Reading, maths and science	n/a	n/a
3.1.5	University ranking	29.60	47
3.2	<b>Lifelong learning</b>	39.90	92
3.2.1	Quality of management schools	48.09	74
3.2.2	Prevalence of training in firms	25.33	64
3.2.3	Employee development	46.27	75
3.3	<b>Access to growth opportunities</b>	31.22	101
	Networks		
3.3.1	Use of virtual social networks	73.20	79
3.3.2	Use of virtual professional networks	7.74	78
	Empowerment		
3.3.3	Delegation of authority	35.84	99
3.3.4	Freedom of voice	8.10	96

	VARIABLE	SCORE	RANK
4	<b>Retain</b>	50.92	56
4.1	<b>Sustainability</b>	45.87	55
4.1.1	Pension system	64.65	39
4.1.2	Taxation	27.09	99
4.2	<b>Lifestyle</b>	55.96	59
4.2.1	Environmental performance	44.17	78
4.2.2	Safety at night	36.50	93
4.2.3	Physician density	50.00	4
4.2.4	Sanitation	93.18	44
4.2.5	Flexible employment	n/a	n/a
5	<b>Labour and Vocational Skills</b>	47.01	40
5.1	<b>Employable skills</b>	52.10	39
5.1.1	Secondary-educated workforce	n/a	n/a
5.1.2	Secondary-educated population	51.91	32
5.1.3	Technicians and associate professionals	52.28	38
5.2	<b>Labour productivity</b>	41.93	53
5.2.1	Labour productivity per employee	9.97	74
5.2.2	Relationship of pay to productivity	57.59	26
5.2.3	Mid-value exports	58.24	28
6	<b>Global Knowledge Skills</b>	27.94	61
6.1	<b>Higher skills and competencies</b>	34.08	45
6.1.1	Tertiary-educated workforce	n/a	n/a
6.1.2	Tertiary-educated population	36.76	30
6.1.3	Professionals	44.48	34
6.1.4	Researchers	16.68	42
6.1.5	Senior officials and managers	42.70	24
6.1.6	Quality of scientific institutions	46.16	63
6.1.7	Scientific journal articles	17.69	50
6.2	<b>Talent impact</b>	21.79	77
6.2.1	Innovation output	39.71	44
6.2.2	High-value exports	19.76	51
	Entrepreneurship		
6.2.3	New product entrepreneurial activity	n/a	n/a
6.2.4	New business density	5.92	61



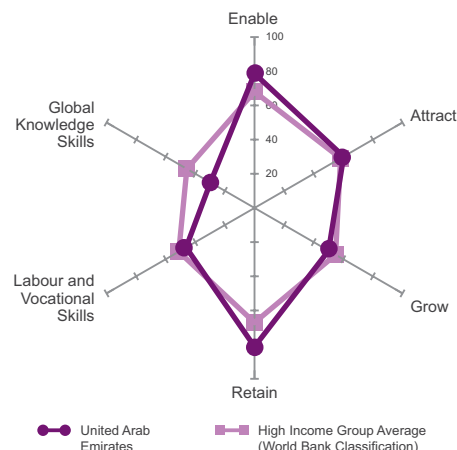
# UNITED ARAB EMIRATES

High Income  
Northern Africa and Western Asia

RANK  
(out of 109)

23

Population (millions) **9.35**  
GDP per capita (PPP\$) **58,041.88**  
GDP (US\$ billions) **402.34**  
GTCI Score **57.68**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	78.63	11
<b>1.1 Regulatory landscape</b> .....	80.94	13
1.1.1 Government effectiveness.....	69.72	27
1.1.2 Business-government relations.....	86.25	2
1.1.3 Political stability.....	86.86	25
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	67.65	25
1.2.1 Competition intensity.....	82.60	6
1.2.2 Ease of doing business.....	75.54	20
1.2.3 Cluster development.....	74.83	3
1.2.4 R&D expenditure.....	11.91	57
1.2.5 ICT infrastructure.....	76.99	29
1.2.6 Technology utilisation.....	84.05	7
<b>1.3 Business-labour landscape</b> .....	87.30	5
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	74.74	9
1.3.4 Professional management.....	74.45	20
<b>2 Attract</b> .....	60.22	24
<b>2.1 External openness</b> .....	85.89	1
Attract business		
2.1.1 FDI and technology transfer.....	80.65	3
2.1.2 Prevalence of foreign ownership.....	77.63	9
Attract people		
2.1.3 Migrant stock.....	100.00	1
2.1.4 International students.....	100.00	1
2.1.5 Brain gain.....	82.47	3
2.1.6 Brain drain.....	74.57	6
<b>2.2 Internal openness</b> .....	34.55	106
Social diversity		
2.2.1 Tolerance to minorities.....	0.00	105
2.2.2 Tolerance to immigrants.....	8.25	103
2.2.3 Social mobility.....	82.89	8
Gender equality		
2.2.4 Female graduates.....	67.67	64
2.2.5 Gender earnings gap.....	13.95	98
<b>3 Grow</b> .....	50.03	32
<b>3.1 Formal education</b> .....	22.95	72
Enrolment		
3.1.1 Vocational enrolment.....	2.87	96
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.....	31.19	42
3.1.5 University ranking.....	34.80	45
<b>3.2 Lifelong learning</b> .....	69.65	12
3.2.1 Quality of management schools.....	71.04	17
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	68.26	11
<b>3.3 Access to growth opportunities</b> .....	57.48	26
Networks		
3.3.1 Use of virtual social networks.....	91.57	7
3.3.2 Use of virtual professional networks.....	44.56	21
Empowerment		
3.3.3 Delegation of authority.....	66.72	13
3.3.4 Freedom of voice.....	27.09	60

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	81.18	3
<b>4.1 Sustainability</b> .....	87.01	1
4.1.1 Pension system.....	n/a	n/a
4.1.2 Taxation.....	87.01	2
<b>4.2 Lifestyle</b> .....	75.35	19
4.2.1 Environmental performance.....	78.68	25
4.2.2 Safety at night.....	100.00	1
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	97.73	36
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	46.24	42
<b>5.1 Employable skills</b> .....	44.13	52
5.1.1 Secondary-educated workforce.....	28.64	72
5.1.2 Secondary-educated population.....	35.22	53
5.1.3 Technicians and associate professionals.....	68.53	23
<b>5.2 Labour productivity</b> .....	48.36	26
5.2.1 Labour productivity per employee.....	74.70	2
5.2.2 Relationship of pay to productivity.....	70.39	5
5.2.3 Mid-value exports.....	0.00	109
<b>6 Global Knowledge Skills</b> .....	29.97	55
<b>6.1 Higher skills and competencies</b> .....	34.76	41
6.1.1 Tertiary-educated workforce.....	26.82	71
6.1.2 Tertiary-educated population.....	30.27	48
6.1.3 Professionals.....	42.02	37
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	42.13	25
6.1.6 Quality of scientific institutions.....	63.33	29
6.1.7 Scientific journal articles.....	3.99	87
<b>6.2 Talent impact</b> .....	24.81	68
6.2.1 Innovation output.....	31.09	63
6.2.2 High-value exports.....	0.00	109
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	59.18	16
6.2.4 New business density.....	8.98	53



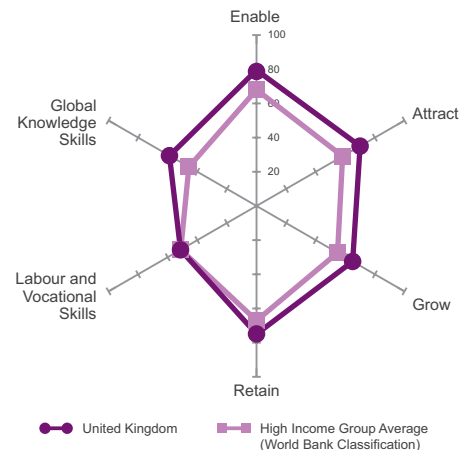
# UNITED KINGDOM

High Income  
Europe

RANK  
(out of 109)

7

Population (millions) **64.11**  
GDP per capita (PPP\$) **38,259.17**  
GDP (US\$ billions) **2,678.45**  
GTCI Score **66.60**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	79.47	8
<b>1.1 Regulatory landscape</b> .....	77.98	19
1.1.1 Government effectiveness.....	78.91	18
1.1.2 Business-government relations.....	66.90	19
1.1.3 Political stability.....	76.11	41
1.1.4 Starting a foreign business.....	90.00	3
<b>1.2 Market landscape</b> .....	76.12	10
1.2.1 Competition intensity.....	84.22	3
1.2.2 Ease of doing business.....	84.40	7
1.2.3 Cluster development.....	70.56	9
1.2.4 R&D expenditure.....	42.43	22
1.2.5 ICT infrastructure.....	96.40	5
1.2.6 Technology utilisation.....	78.70	14
<b>1.3 Business-labour landscape</b> .....	84.32	9
Labour market flexibility		
1.3.1 Ease of hiring.....	89.00	20
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	68.27	19
1.3.4 Professional management.....	80.03	10
<b>2 Attract</b> .....	70.00	9
<b>2.1 External openness</b> .....	67.36	7
Attract business		
2.1.1 FDI and technology transfer.....	69.62	16
2.1.2 Prevalence of foreign ownership.....	84.71	4
Attract people		
2.1.3 Migrant stock.....	28.55	25
2.1.4 International students.....	72.96	7
2.1.5 Brain gain.....	81.16	5
2.1.6 Brain drain.....	67.19	10
<b>2.2 Internal openness</b> .....	72.64	19
Social diversity		
2.2.1 Tolerance to minorities.....	92.74	10
2.2.2 Tolerance to immigrants.....	84.08	18
2.2.3 Social mobility.....	74.17	24
Gender equality		
2.2.4 Female graduates.....	70.35	56
2.2.5 Gender earnings gap.....	41.86	71
<b>3 Grow</b> .....	64.96	11
<b>3.1 Formal education</b> .....	52.47	19
Enrolment		
3.1.1 Vocational enrolment.....	19.56	63
3.1.2 Tertiary enrolment.....	51.91	34
Quality		
3.1.3 Tertiary education expenditure.....	30.91	34
3.1.4 Reading, maths and science.....	59.97	17
3.1.5 University ranking.....	100.00	1
<b>3.2 Lifelong learning</b> .....	70.84	9
3.2.1 Quality of management schools.....	80.47	5
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	61.21	22
<b>3.3 Access to growth opportunities</b> .....	71.57	8
Networks		
3.3.1 Use of virtual social networks.....	94.04	3
3.3.2 Use of virtual professional networks.....	76.19	10
Empowerment		
3.3.3 Delegation of authority.....	66.04	16
3.3.4 Freedom of voice.....	50.00	31

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	74.96	8
<b>4.1 Sustainability</b> .....	72.23	7
4.1.1 Pension system.....	92.93	8
4.1.2 Taxation.....	51.54	24
<b>4.2 Lifestyle</b> .....	77.68	12
4.2.1 Environmental performance.....	85.10	12
4.2.2 Safety at night.....	75.07	30
4.2.3 Physician density.....	37.50	19
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	90.74	9
<b>5 Labour and Vocational Skills</b> .....	51.36	31
<b>5.1 Employable skills</b> .....	49.07	49
5.1.1 Secondary-educated workforce.....	50.70	37
5.1.2 Secondary-educated population.....	43.22	45
5.1.3 Technicians and associate professionals.....	53.30	37
<b>5.2 Labour productivity</b> .....	53.65	12
5.2.1 Labour productivity per employee.....	51.36	15
5.2.2 Relationship of pay to productivity.....	61.05	14
5.2.3 Mid-value exports.....	48.55	44
<b>6 Global Knowledge Skills</b> .....	58.83	7
<b>6.1 Higher skills and competencies</b> .....	63.32	10
6.1.1 Tertiary-educated workforce.....	61.55	10
6.1.2 Tertiary-educated population.....	41.11	26
6.1.3 Professionals.....	71.78	4
6.1.4 Researchers.....	53.75	17
6.1.5 Senior officials and managers.....	57.30	10
6.1.6 Quality of scientific institutions.....	89.12	2
6.1.7 Scientific journal articles.....	68.60	11
<b>6.2 Talent impact</b> .....	54.34	7
6.2.1 Innovation output.....	86.13	4
6.2.2 High-value exports.....	31.56	31
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	26.47	64
6.2.4 New business density.....	73.20	9

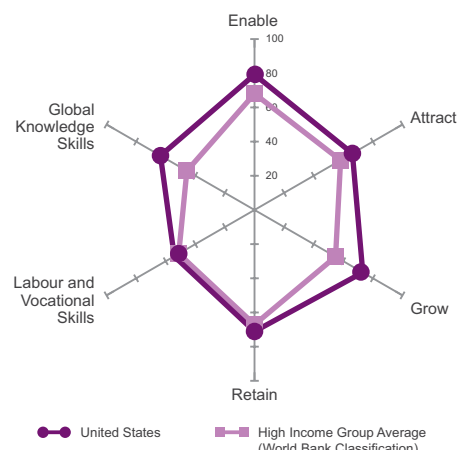
# UNITED STATES

High Income  
Northern America

RANK  
(out of 109)

4

Population (millions) **316.13**  
GDP per capita (PPP\$) **53,041.98**  
GDP (US\$ billions) **16,768.10**  
GTCI Score **67.90**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	79.20	9
<b>1.1 Regulatory landscape</b> .....	73.71	22
1.1.1 Government effectiveness.....	79.83	16
1.1.2 Business-government relations.....	52.85	63
1.1.3 Political stability.....	79.19	35
1.1.4 Starting a foreign business.....	82.96	12
<b>1.2 Market landscape</b> .....	79.05	6
1.2.1 Competition intensity.....	82.28	7
1.2.2 Ease of doing business.....	86.58	6
1.2.3 Cluster development.....	73.65	4
1.2.4 R&D expenditure.....	68.98	11
1.2.5 ICT infrastructure.....	78.41	27
1.2.6 Technology utilisation.....	84.43	3
<b>1.3 Business-labour landscape</b> .....	84.83	7
Labour market flexibility		
1.3.1 Ease of hiring.....	100.00	1
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	61.09	34
1.3.4 Professional management.....	78.21	12
<b>2 Attract</b> .....	66.16	14
<b>2.1 External openness</b> .....	56.45	15
Attract business		
2.1.1 FDI and technology transfer.....	64.45	38
2.1.2 Prevalence of foreign ownership.....	68.01	34
Attract people		
2.1.3 Migrant stock.....	32.99	21
2.1.4 International students.....	14.77	41
2.1.5 Brain gain.....	79.73	6
2.1.6 Brain drain.....	78.76	3
<b>2.2 Internal openness</b> .....	75.87	13
Social diversity		
2.2.1 Tolerance to minorities.....	86.30	19
2.2.2 Tolerance to immigrants.....	85.53	16
2.2.3 Social mobility.....	76.96	16
Gender equality		
2.2.4 Female graduates.....	74.77	43
2.2.5 Gender earnings gap.....	55.81	31
<b>3 Grow</b> .....	73.15	3
<b>3.1 Formal education</b> .....	66.77	4
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	80.37	3
Quality		
3.1.3 Tertiary education expenditure.....	31.74	32
3.1.4 Reading, maths and science.....	55.10	25
3.1.5 University ranking.....	99.87	2
<b>3.2 Lifelong learning</b> .....	71.54	8
3.2.1 Quality of management schools.....	76.34	11
3.2.2 Prevalence of training in firms.....	n/a	n/a
3.2.3 Employee development.....	66.74	14
<b>3.3 Access to growth opportunities</b> .....	81.14	2
Networks		
3.3.1 Use of virtual social networks.....	92.36	5
3.3.2 Use of virtual professional networks.....	100.00	1
Empowerment		
3.3.3 Delegation of authority.....	70.19	9
3.3.4 Freedom of voice.....	62.01	15

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	71.11	17
<b>4.1 Sustainability</b> .....	71.13	9
4.1.1 Pension system.....	91.92	12
4.1.2 Taxation.....	50.34	28
<b>4.2 Lifestyle</b> .....	71.10	31
4.2.1 Environmental performance.....	70.90	32
4.2.2 Safety at night.....	78.93	26
4.2.3 Physician density.....	25.00	47
4.2.4 Sanitation.....	100.00	1
4.2.5 Flexible employment.....	80.65	22
<b>5 Labour and Vocational Skills</b> .....	54.25	22
<b>5.1 Employable skills</b> .....	48.02	50
5.1.1 Secondary-educated workforce.....	28.79	71
5.1.2 Secondary-educated population.....	67.30	17
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	60.45	3
5.2.1 Labour productivity per employee.....	69.51	3
5.2.2 Relationship of pay to productivity.....	64.09	7
5.2.3 Mid-value exports.....	47.77	45
<b>6 Global Knowledge Skills</b> .....	63.54	3
<b>6.1 Higher skills and competencies</b> .....	72.98	1
6.1.1 Tertiary-educated workforce.....	100.00	1
6.1.2 Tertiary-educated population.....	50.66	15
6.1.3 Professionals.....	63.50	12
6.1.4 Researchers.....	53.14	19
6.1.5 Senior officials and managers.....	85.39	3
6.1.6 Quality of scientific institutions.....	85.21	4
6.1.7 Scientific journal articles.....	n/a	n/a
<b>6.2 Talent impact</b> .....	54.09	8
6.2.1 Innovation output.....	77.31	7
6.2.2 High-value exports.....	36.67	25
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	48.29	31
6.2.4 New business density.....	n/a	n/a

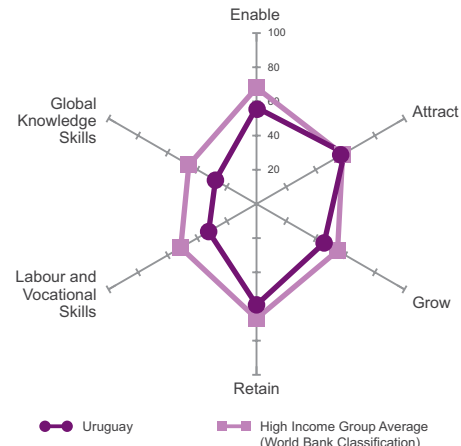
# URUGUAY

High Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

47

Population (millions) **3.41**  
GDP per capita (PPP\$) **19,594.37**  
GDP (US\$ billions) **55.71**  
GTCI Score **46.76**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	56.34	50
<b>1.1 Regulatory landscape</b> .....	60.43	44
1.1.1 Government effectiveness.....	46.65	46
1.1.2 Business-government relations.....	50.48	68
1.1.3 Political stability.....	84.15	29
1.1.4 Starting a foreign business.....	n/a	n/a
<b>1.2 Market landscape</b> .....	47.50	66
1.2.1 Competition intensity.....	61.05	84
1.2.2 Ease of doing business.....	47.97	68
1.2.3 Cluster development.....	41.12	76
1.2.4 R&D expenditure.....	10.42	61
1.2.5 ICT infrastructure.....	69.02	39
1.2.6 Technology utilisation.....	55.39	78
<b>1.3 Business-labour landscape</b> .....	61.34	59
Labour market flexibility		
1.3.1 Ease of hiring.....	55.67	66
1.3.2 Ease of redundancy.....	100.00	1
Governance		
1.3.3 Labour-employer cooperation.....	39.29	106
1.3.4 Professional management.....	50.40	66
<b>2 Attract</b> .....	59.34	26
<b>2.1 External openness</b> .....	42.74	39
Attract business		
2.1.1 FDI and technology transfer.....	68.98	19
2.1.2 Prevalence of foreign ownership.....	72.89	20
Attract people		
2.1.3 Migrant stock.....	4.86	73
2.1.4 International students.....	n/a	n/a
2.1.5 Brain gain.....	29.10	77
2.1.6 Brain drain.....	37.85	65
<b>2.2 Internal openness</b> .....	75.95	12
Social diversity		
2.2.1 Tolerance to minorities.....	88.22	14
2.2.2 Tolerance to immigrants.....	94.65	6
2.2.3 Social mobility.....	61.13	38
Gender equality		
2.2.4 Female graduates.....	89.24	10
2.2.5 Gender earnings gap.....	46.51	61
<b>3 Grow</b> .....	45.66	44
<b>3.1 Formal education</b> .....	29.96	56
Enrolment		
3.1.1 Vocational enrolment.....	31.24	47
3.1.2 Tertiary enrolment.....	53.03	30
Quality		
3.1.3 Tertiary education expenditure.....	27.02	39
3.1.4 Reading, maths and science.....	17.44	52
3.1.5 University ranking.....	21.09	59
<b>3.2 Lifelong learning</b> .....	54.34	46
3.2.1 Quality of management schools.....	54.91	54
3.2.2 Prevalence of training in firms.....	59.63	25
3.2.3 Employee development.....	48.49	64
<b>3.3 Access to growth opportunities</b> .....	52.66	34
Networks		
3.3.1 Use of virtual social networks.....	83.64	39
3.3.2 Use of virtual professional networks.....	34.20	27
Empowerment		
3.3.3 Delegation of authority.....	40.01	83
3.3.4 Freedom of voice.....	52.79	27

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	59.06	43
<b>4.1 Sustainability</b> .....	54.93	42
4.1.1 Pension system.....	77.78	33
4.1.2 Taxation.....	32.08	88
<b>4.2 Lifestyle</b> .....	63.18	45
4.2.1 Environmental performance.....	50.81	60
4.2.2 Safety at night.....	41.05	83
4.2.3 Physician density.....	50.00	4
4.2.4 Sanitation.....	95.45	42
4.2.5 Flexible employment.....	78.61	25
<b>5 Labour and Vocational Skills</b> .....	32.35	78
<b>5.1 Employable skills</b> .....	41.54	55
5.1.1 Secondary-educated workforce.....	72.61	20
5.1.2 Secondary-educated population.....	22.57	76
5.1.3 Technicians and associate professionals.....	29.44	66
<b>5.2 Labour productivity</b> .....	23.15	101
5.2.1 Labour productivity per employee.....	18.12	55
5.2.2 Relationship of pay to productivity.....	22.36	109
5.2.3 Mid-value exports.....	28.98	75
<b>6 Global Knowledge Skills</b> .....	27.77	64
<b>6.1 Higher skills and competencies</b> .....	26.39	66
6.1.1 Tertiary-educated workforce.....	31.83	59
6.1.2 Tertiary-educated population.....	17.38	74
6.1.3 Professionals.....	30.06	56
6.1.4 Researchers.....	7.12	55
6.1.5 Senior officials and managers.....	34.83	35
6.1.6 Quality of scientific institutions.....	44.28	69
6.1.7 Scientific journal articles.....	19.24	47
<b>6.2 Talent impact</b> .....	29.14	54
6.2.1 Innovation output.....	28.99	68
6.2.2 High-value exports.....	13.61	77
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	54.36	18
6.2.4 New business density.....	19.61	32

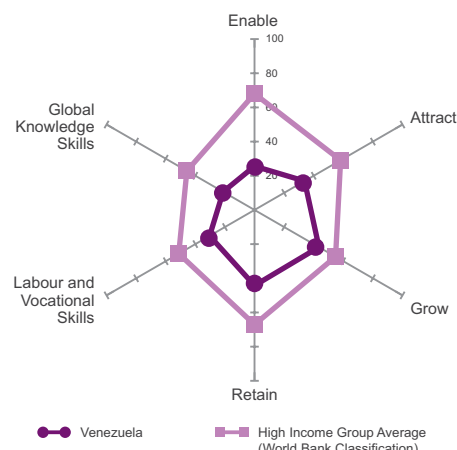
# VENEZUELA

High Income  
Latin, Central America and the Caribbean

RANK  
(out of 109)

95

Population (millions) **30.41**  
GDP per capita (PPP\$) **18,198.37**  
GDP (US\$ billions) **438.28**  
GTCI Score **33.13**  
GTCI Score (Income Group Average) **57.49**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	25.61	109
<b>1.1 Regulatory landscape</b> .....	20.03	109
1.1.1 Government effectiveness.....	0.00	109
1.1.2 Business-government relations.....	12.44	109
1.1.3 Political stability.....	37.52	95
1.1.4 Starting a foreign business.....	30.14	66
<b>1.2 Market landscape</b> .....	29.94	106
1.2.1 Competition intensity.....	31.15	109
1.2.2 Ease of doing business.....	0.00	109
1.2.3 Cluster development.....	23.32	107
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	47.30	68
1.2.6 Technology utilisation.....	47.90	99
<b>1.3 Business-labour landscape</b> .....	26.87	109
Labour market flexibility		
1.3.1 Ease of hiring.....	22.33	95
1.3.2 Ease of redundancy.....	0.00	107
Governance		
1.3.3 Labour-employer cooperation.....	30.96	108
1.3.4 Professional management.....	54.17	51
<b>2 Attract</b> .....	33.83	106
<b>2.1 External openness</b> .....	16.45	109
Attract business		
2.1.1 FDI and technology transfer.....	32.00	109
2.1.2 Prevalence of foreign ownership.....	37.41	103
Attract people		
2.1.3 Migrant stock.....	8.77	60
2.1.4 International students.....	0.08	89
2.1.5 Brain gain.....	6.91	107
2.1.6 Brain drain.....	13.53	107
<b>2.2 Internal openness</b> .....	51.22	85
Social diversity		
2.2.1 Tolerance to minorities.....	47.67	85
2.2.2 Tolerance to immigrants.....	71.06	36
2.2.3 Social mobility.....	32.65	107
Gender equality		
2.2.4 Female graduates.....	n/a	n/a
2.2.5 Gender earnings gap.....	53.49	42
<b>3 Grow</b> .....	43.54	52
<b>3.1 Formal education</b> .....	35.01	45
Enrolment		
3.1.1 Vocational enrolment.....	10.47	80
3.1.2 Tertiary enrolment.....	65.99	13
Quality		
3.1.3 Tertiary education expenditure.....	36.75	19
3.1.4 Reading, maths and science.....	n/a	n/a
3.1.5 University ranking.....	26.81	50
<b>3.2 Lifelong learning</b> .....	53.41	49
3.2.1 Quality of management schools.....	51.77	69
3.2.2 Prevalence of training in firms.....	69.39	14
3.2.3 Employee development.....	39.06	100
<b>3.3 Access to growth opportunities</b> .....	42.22	59
Networks		
3.3.1 Use of virtual social networks.....	84.46	34
3.3.2 Use of virtual professional networks.....	18.63	51
Empowerment		
3.3.3 Delegation of authority.....	37.57	95
3.3.4 Freedom of voice.....	28.21	59

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	44.23	72
<b>4.1 Sustainability</b> .....	33.86	82
4.1.1 Pension system.....	33.33	60
4.1.2 Taxation.....	34.38	82
<b>4.2 Lifestyle</b> .....	54.61	62
4.2.1 Environmental performance.....	56.86	51
4.2.2 Safety at night.....	0.00	105
4.2.3 Physician density.....	n/a	n/a
4.2.4 Sanitation.....	89.77	56
4.2.5 Flexible employment.....	71.80	40
<b>5 Labour and Vocational Skills</b> .....	30.34	87
<b>5.1 Employable skills</b> .....	41.38	56
5.1.1 Secondary-educated workforce.....	26.45	76
5.1.2 Secondary-educated population.....	56.31	26
5.1.3 Technicians and associate professionals.....	n/a	n/a
<b>5.2 Labour productivity</b> .....	19.30	107
5.2.1 Labour productivity per employee.....	16.77	56
5.2.2 Relationship of pay to productivity.....	27.06	106
5.2.3 Mid-value exports.....	14.07	104
<b>6 Global Knowledge Skills</b> .....	21.22	77
<b>6.1 Higher skills and competencies</b> .....	23.54	71
6.1.1 Tertiary-educated workforce.....	45.72	30
6.1.2 Tertiary-educated population.....	40.52	27
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	3.80	63
6.1.5 Senior officials and managers.....	n/a	n/a
6.1.6 Quality of scientific institutions.....	25.23	107
6.1.7 Scientific journal articles.....	2.44	94
<b>6.2 Talent impact</b> .....	18.90	83
6.2.1 Innovation output.....	19.96	84
6.2.2 High-value exports.....	11.98	105
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	24.76	67
6.2.4 New business density.....	n/a	n/a

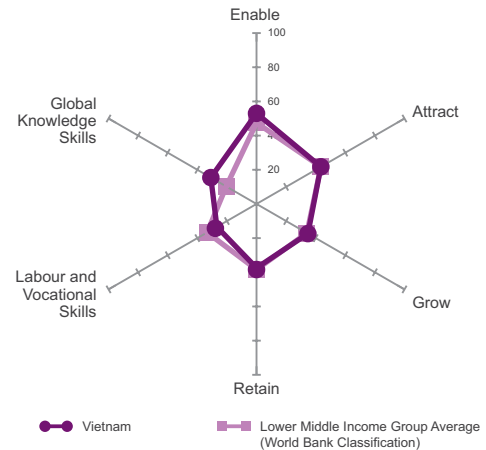
# VIETNAM

Lower Middle Income  
Eastern, Southeastern Asia and Oceania

RANK  
(out of 109)

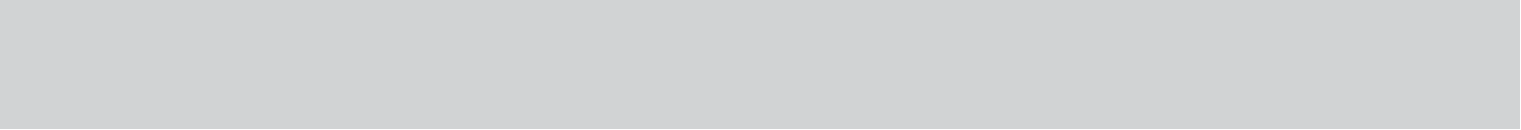
82

Population (millions) **89.71**  
GDP per capita (PPP\$) **5,294.44**  
GDP (US\$ billions) **171.39**  
GTCI Score **37.73**  
GTCI Score (Income Group Average) **36.22**



VARIABLE	SCORE	RANK
<b>1 Enable</b> .....	53.03	63
<b>1.1 Regulatory landscape</b> .....	50.76	61
1.1.1 Government effectiveness.....	25.33	76
1.1.2 Business-government relations.....	56.19	56
1.1.3 Political stability.....	69.70	46
1.1.4 Starting a foreign business.....	51.83	52
<b>1.2 Market landscape</b> .....	49.60	58
1.2.1 Competition intensity.....	68.73	56
1.2.2 Ease of doing business.....	49.10	66
1.2.3 Cluster development.....	45.97	64
1.2.4 R&D expenditure.....	n/a	n/a
1.2.5 ICT infrastructure.....	35.99	81
1.2.6 Technology utilisation.....	48.20	98
<b>1.3 Business-labour landscape</b> .....	58.72	63
Labour market flexibility		
1.3.1 Ease of hiring.....	77.67	42
1.3.2 Ease of redundancy.....	62.50	55
Governance		
1.3.3 Labour-employer cooperation.....	53.75	64
1.3.4 Professional management.....	40.97	95
<b>2 Attract</b> .....	43.50	82
<b>2.1 External openness</b> .....	30.30	87
Attract business		
2.1.1 FDI and technology transfer.....	53.91	78
2.1.2 Prevalence of foreign ownership.....	51.58	81
Attract people		
2.1.3 Migrant stock.....	0.02	108
2.1.4 International students.....	0.38	82
2.1.5 Brain gain.....	39.56	53
2.1.6 Brain drain.....	36.36	66
<b>2.2 Internal openness</b> .....	56.71	70
Social diversity		
2.2.1 Tolerance to minorities.....	71.37	51
2.2.2 Tolerance to immigrants.....	55.57	68
2.2.3 Social mobility.....	45.02	84
Gender equality		
2.2.4 Female graduates.....	35.99	81
2.2.5 Gender earnings gap.....	75.58	6
<b>3 Grow</b> .....	34.73	87
<b>3.1 Formal education</b> .....	27.23	61
Enrolment		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	19.15	80
Quality		
3.1.3 Tertiary education expenditure.....	23.41	52
3.1.4 Reading, maths and science.....	66.34	11
3.1.5 University ranking.....	0.00	72
<b>3.2 Lifelong learning</b> .....	47.10	76
3.2.1 Quality of management schools.....	40.41	98
3.2.2 Prevalence of training in firms.....	52.90	30
3.2.3 Employee development.....	47.99	68
<b>3.3 Access to growth opportunities</b> .....	29.86	104
Networks		
3.3.1 Use of virtual social networks.....	69.67	91
3.3.2 Use of virtual professional networks.....	1.70	96
Empowerment		
3.3.3 Delegation of authority.....	38.85	90
3.3.4 Freedom of voice.....	9.22	94

VARIABLE	SCORE	RANK
<b>4 Retain</b> .....	37.45	89
<b>4.1 Sustainability</b> .....	29.34	88
4.1.1 Pension system.....	18.18	78
4.1.2 Taxation.....	40.68	61
<b>4.2 Lifestyle</b> .....	45.47	86
4.2.1 Environmental performance.....	28.51	98
4.2.2 Safety at night.....	69.28	43
4.2.3 Physician density.....	12.50	69
4.2.4 Sanitation.....	71.59	76
4.2.5 Flexible employment.....	n/a	n/a
<b>5 Labour and Vocational Skills</b> .....	26.79	95
<b>5.1 Employable skills</b> .....	15.79	96
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	19.39	83
5.1.3 Technicians and associate professionals.....	12.18	84
<b>5.2 Labour productivity</b> .....	37.79	66
5.2.1 Labour productivity per employee.....	3.46	84
5.2.2 Relationship of pay to productivity.....	59.35	18
5.2.3 Mid-value exports.....	50.54	39
<b>6 Global Knowledge Skills</b> .....	30.87	52
<b>6.1 Higher skills and competencies</b> .....	14.96	92
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	11.11	78
6.1.3 Professionals.....	15.64	79
6.1.4 Researchers.....	n/a	n/a
6.1.5 Senior officials and managers.....	5.62	87
6.1.6 Quality of scientific institutions.....	37.84	83
6.1.7 Scientific journal articles.....	4.60	83
<b>6.2 Talent impact</b> .....	46.77	24
6.2.1 Innovation output.....	38.87	45
6.2.2 High-value exports.....	67.86	6
Entrepreneurship		
6.2.3 New product entrepreneurial activity.....	33.60	60
6.2.4 New business density.....	n/a	n/a







# 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 Cooperation and Development (OECD). For the third consecutive edition of the Global Talent Competitiveness Index (GTCI), the GTCI development team engaged JRC to conduct an audit.<sup>1</sup> This exercise has provided external validation and further improved the statistical analyses to ensure consistency and rigour of the GTCI model.

In June 2015, an earlier version of the index model for GTCI 2015–16 was submitted to the JRC team. The results from the preliminary audit were taken into account and reflected in the final version of the index model, as appropriate. The final audit was then completed at the end of August 2015 based on the latest model, the results of which can be found in Chapter 6.

## Composite indicators

The GTCI framework builds on six pillars: (1) Enable, (2) Attract, (3) Grow, (4) Retain, (5) Labour and Vocational Skills, and (6) Global Knowledge Skills. Each pillar consists of two to three sub-pillars. Each sub-pillar is composed of two to seven variables. Each sub-pillar score is derived as the simple arithmetic average of its individual indicators. The successive arithmetic aggregation continues at pillar level.

Overall, GTCI includes three indices:

1. The Talent Competitiveness Input sub-index is the simple average of the first four pillars.
2. The Talent Competitiveness Output sub-index is the simple average of the last two pillars.
3. The Global Talent Competitiveness Index is the simple average of the six pillars.<sup>2</sup>

In addition to the overall index scores, rankings are provided for each indicator, sub-pillar, pillar and sub-index in the Country Profiles.

## Individual indicators

The GTCI 2015–16 model includes 61 indicators, which fall within the following categories:

1. Hard/quantitative data (27 indicators)
2. Index/composite indicator data (10 indicators)
3. Survey/qualitative data (24 indicators)<sup>3</sup>

## Hard data

The 27 hard data series were drawn from a variety of public sources, such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO), United Nations Conference on Trade and Development (UNCTAD), International Labour Organisation (ILO), World Bank, OECD and The Conference Board. Most indicators were already scaled at source and therefore did not need to be scaled for this exercise.

## Indices

The 10 indices came from the World Bank, INSEAD and the World Intellectual Property Organisation (WIPO), the Fraser Institute, the QS Intelligence Unit, Yale University and Columbia University, and the International Telecommunication Union. 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 multidimensional index. To address these concerns, only indices that transparently indicate their methodology and are widely well-received were included in GTCI. Additionally, to avoid double-counting, only indices with a narrow focus were selected.

## Survey data

The 24 survey data series were extracted from the World Economic Forum's Executive Opinion Survey and the Legatum Institute's Legatum Prosperity Index, which draws on the Gallup World poll. 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 109 economies covered in GTCI 2015–16 were selected based on an aggregate data availability threshold of at least 80% (49 out of 61 indicators) 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 2005 as the cut-off year. Meanwhile, each indicator had to pass a country-based availability threshold of 50% (55 out of 109 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 'na' 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 two and kurtosis greater than 3.5.<sup>4</sup> In our data set, there were five indicators with outliers. As a general rule, for indicators with one to five outliers, the Winsorisation method should be applied. The values distorting the indicator distribution were assigned the next highest value until the reported skewness and/or kurtosis fell within the ranges specified above. For indicators with five outliers and above, transformation by natural logarithms, with the following formula, was used:<sup>5</sup>

$$\text{LN} (\text{max} \times \text{factor} - 1) \times \frac{(\text{value} - \text{min})}{(\text{max} - \text{min})} + 1$$

### Normalisation

To adjust for differences in units of measurement and ranges of variation, all 61 indicators 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 indicator respectively, except for the World Economic Forum's Executive Opinion Survey questions, where the original range of [1, 7] was kept as minimum and maximum values.

For indicators where higher values indicate higher outcomes, the following normalisation formula was applied:

$$100 \times \frac{(\text{value} - \text{min})}{(\text{max} - \text{min})}$$

For indicators where higher values indicate worse outcomes, the following reverse normalisation formula was applied:<sup>6</sup>

$$-100 \times \frac{(\text{value} - \text{min})}{(\text{max} - \text{min})}$$

### NOTES

- <sup>1</sup> JRC has audited various index projects. The most recent ones include the Global Innovation Index (WIPO and INSEAD), the Environment Performance Index (Yale and Columbia), and the Corruption Perceptions Index (Transparency International).
- <sup>2</sup> One factor emerged from principal component analysis (PCA) of the six pillars, which in addition to correlation analysis suggests that using the simple average of the six pillars instead of the simple average of Input and Output sub-indices lends GTCI a balanced structure.
- <sup>3</sup> To compare this to GTCI 2014, there were 65 variables in total with 31 hard/quantitative, 10 index/composite and 24 survey/qualitative variables.
- <sup>4</sup> Adopted from Groeneveld and Meeden (1984). This selection rule is also used by INSEAD-WIPO's The Global Innovation Index (GII).
- <sup>5</sup> The formula ensures that natural logarithms are positive and starting at zero. This approach is also used by INSEAD-WIPO's GII.
- <sup>6</sup> The reverse normalisation only affects two indicators, namely 1.3.1 Ease of hiring and 1.3.2 Ease of redundancy.

### REFERENCES

- Groeneveld, R. A., & Meeden, G. (1984). Measuring Skewness and Kurtosis. *The Statistician*, 33, 391–399.
- Paruolo, P., Saisana, M., & Saltelli, A. (2013). Ratings and Rankings: Voodoo or Science? *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 176(3), 609–634.
- OECD & EC JRC. (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Paris: OECD. Retrieved from <http://www.oecd.org/std/42495745.pdf>



# APPENDIX II

## SOURCES AND DEFINITIONS



# SOURCES AND DEFINITIONS

## 1. Enable

### 1.1 Regulatory landscape

#### 1.1.1 Government effectiveness

Government effectiveness index | 2013

The government effectiveness index 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, *The Worldwide Governance Indicators, 2014 Update*. ([www.govindicators.org](http://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 non-existent. 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*. ([wefsurvey.org](http://wefsurvey.org))

#### 1.1.3 Political stability

Political stability and absence of violence index | 2013

The political stability and absence of violence index 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, *The Worldwide Governance Indicators, 2014 Update*. ([www.govindicators.org](http://www.govindicators.org))

#### 1.1.4 Starting a foreign business

Ease of establishment index | 2014

The ease of establishment index evaluates the characteristics of regulatory regimes for business start-up. The index takes values from 0 to 100, where higher values denote a start-up regime with fewer to no legal and administrative restrictions on the establishment process. It is based on a case study setting out assumptions about a foreign company that is establishing a local subsidiary. It

focuses on the following areas: (1) Restrictions on the composition of the board of directors or appointment of managers; (2) Requirements forcing the use of a local third party during the establishment process; (3) Possibility of expediting establishment procedures through an official channel; (4) Requirement of an investment approval; (5) Business registration process; (6) Restrictions on holding a foreign currency bank account; (7) Minimum capital requirements; and (8) Availability of electronic services (online laws, regulations, documents, and registration).

Source: World Bank, *Investing Across Borders*. ([iab.worldbank.org/data/exploretopics/starting-a-foreign-business](http://iab.worldbank.org/data/exploretopics/starting-a-foreign-business))

### 1.2 Market landscape

#### 1.2.1 Competition intensity

Average answer to the question: How would you assess the intensity of competition in the local markets in your country? [1 = limited in most industries; 7 = intense in most industries] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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*. ([wefsurvey.org](http://wefsurvey.org))

#### 1.2.2 Ease of doing business

Ease of doing business index | 2015

The ease of doing business index aggregates a country's percentile rankings on 10 topics covered in the World Bank's Doing Business report, which are 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, *Ease of Doing Business Index 2015 Doing Business Report 2015*. ([data.worldbank.org/indicator/IC.BUS.EASE.XQ](http://data.worldbank.org/indicator/IC.BUS.EASE.XQ))

#### 1.2.3 Cluster development

Average answer to the question: In your country's economy, how prevalent are well-developed and deep clusters? [1 = nonexistent; 7 = widespread in many fields] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

#### 1.2.4 R&D expenditure

##### Gross expenditure on R&D (%) | 2012

R&D expenditure refers to the total domestic intramural expenditure on research and development 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 online database. ([stats.uis.unesco.org](http://stats.uis.unesco.org))

#### 1.2.5 ICT infrastructure

##### ICT access index | 2014

The ICT access index is a composite indicator that aggregates five ICT indicators (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 2014, ICT Development Index 2012–2013. ([www.itu.int/en/ITU-D/Statistics/Pages/publications/default.aspx](http://www.itu.int/en/ITU-D/Statistics/Pages/publications/default.aspx))

#### 1.2.6 Technology utilisation

##### Average answer to the question: To what extent do businesses in your country absorb new technology? [1 = not at all; 7 = aggressively absorb] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

### 1.3 Business–labour landscape

#### Labour market flexibility

#### 1.3.1 Ease of hiring

##### Ease of hiring index | 2015

The ease of hiring index measures (i) whether fixed-term contracts are prohibited for permanent tasks;

(ii) the maximum cumulative duration of fixed-term contracts; and (iii) 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 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 Report 2015. ([www.doingbusiness.org/data/exploretopics/labor-market-regulation](http://www.doingbusiness.org/data/exploretopics/labor-market-regulation))

#### 1.3.2 Ease of redundancy

##### Ease of redundancy index | 2015

The ease of redundancy index measures: (i) whether redundancy is disallowed as a basis for terminating workers; (ii) whether the employer needs to notify a third party (such as a government agency) to terminate one redundant worker; (iii) whether the employer needs to notify a third party to terminate a group of nine redundant workers; (iv) whether the employer needs approval from a third party to terminate one redundant worker; (v) whether the employer needs approval from a third party to terminate a group of nine redundant workers; (vi) whether the law requires the employer to reassign or retrain a worker before making the worker redundant; (vii) whether priority rules apply for redundancies; and (viii) whether priority rules apply for reemployment. The score is calculated based on 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 Report 2015. ([www.doingbusiness.org](http://www.doingbusiness.org))

#### Governance

#### 1.3.3 Labour–employer cooperation

##### Average answer to the question: In your country, how would you characterise labour–employer relations? [1 = generally confrontational; 7 = generally cooperative] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

### 1.3.4 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] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. (wefsurvey.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 – FDI is a key source of new technology] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. (wefsurvey.org)

#### 2.1.2 Prevalence of foreign ownership

Average answer to the question: How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. (wefsurvey.org)

Attract people

#### 2.1.3 Migrant stock

Adult migrant stock (%) | 2013

Adult migrant stock refers to the percentage of migrant stock (above 25 years old) out of its population

in the respective age group (males and females), based on 2013 estimations.

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex. (esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm)

#### 2.1.4 International students

Tertiary inbound mobility ratio (%) | 2014

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 online database. (stats.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 = attracts the best and brightest from around the world] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. (wefsurvey.org)

#### 2.1.6 Brain drain

Average answer to the question: Does your country retain talented people? [1 = the best and brightest leave to pursue opportunities in other countries; 7 = the best and brightest stay and pursue opportunities in the country] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. (wefsurvey.org)

### 2.2 Internal openness

Social diversity

#### 2.2.1 Tolerance to minorities

Percentage of respondents who answered yes for the question: Is the area where you live a good place or not a good place to live for racial and ethnic minorities? | 2013

The Legatum Institute adopted surveys from Gallup World Poll in their publication of the Legatum Prosperity Index, which offers a unique insight into how prosperity is forming and changing across the world.

Source: Legatum Institute, Legatum Prosperity Index 2014 based on Gallup World Poll. (www.prosperity.com)

### 2.2.2 Tolerance to immigrants

Percentage of respondents who answered yes for the question: Is the area where you live a good place or not a good place to live for immigrants? | 2013

The Legatum Institute adopted surveys from Gallup World Poll in their publication of the Legatum Prosperity Index, which offers a unique insight into how prosperity is forming and changing across the world.

Source: Legatum Institute, Legatum Prosperity Index 2014 based on Gallup World Poll. ([www.prosperity.com](http://www.prosperity.com))

### 2.2.3 Social mobility

Average answer to the question: To what extent do individuals in your country have the opportunity to improve their economic situation through their personal efforts regardless of the socioeconomic status of their parents? [1 = little opportunity exists to improve one's economic situation; 7 = significant opportunity exists to improve one's economic situation] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

### Gender equality

#### 2.2.4 Female graduates

Female tertiary graduates (%) | 2014

Female tertiary graduates refer to the percentage of female graduates whose highest educational attainment is the tertiary level. 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 online database. ([stats.uis.unesco.org](http://stats.uis.unesco.org))

#### 2.2.5 Gender earnings gap

Estimated earned income ratio | 2014

Female-to-male earnings ratio refers to the estimated income earned by females over its corresponding value for males.

Source: World Economic Forum, The Global Gender Gap Report 2014. ([www.weforum.org/reports](http://www.weforum.org/reports))

## 3. Grow

### 3.1 Formal education

#### Enrolment

#### 3.1.1 Vocational enrolment

Vocational enrolment (%) | 2014

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 ISCED 2 and 3.

Source: UNESCO Institute for Statistics, UIS online database. ([stats.uis.unesco.org](http://stats.uis.unesco.org))

#### 3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2014

Tertiary enrolment refers to the ratio of total tertiary enrolment, regardless of age, to the population of the age group that officially corresponds to 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 ISCED 5 and 6.

Source: UNESCO Institute for Statistics, UIS online database. ([stats.uis.unesco.org](http://stats.uis.unesco.org))

#### Quality

#### 3.1.3 Tertiary education expenditure

Government expenditure on tertiary education (%) | 2014

Government expenditure on tertiary education as percentage of GDP.

Source: UNESCO Institute for Statistics, UIS online database. ([stats.uis.unesco.org](http://stats.uis.unesco.org))

#### 3.1.4 Reading, maths and science scores

PISA average scales in reading, mathematics and science | 2014

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 Shanghai.

Source: OECD Programme for International Student Assessment (PISA). ([www.oecd.org/pisa](http://www.oecd.org/pisa))



### 3.1.5 University ranking

#### QS World university ranking | 2014

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 zero 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](http://www.topuniversities.com/university-rankings/world-university-rankings))

## 3.2 Lifelong learning

### 3.2.1 Quality of management schools

**Average answer to the question: How would you assess the quality of management or business schools in your country? [1 = poor; 7 = excellent – among the best in the world] | 2014**

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

### 3.2.2 Prevalence of training in firms

#### Proportion of firms offering formal training (%) | 2014

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 this 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](http://www.enterprisesurveys.org))

### 3.2.3 Employee development

**Average answer to the question: To what extent do companies in your country invest in training and employee development? [1 = hardly at all; 7 = to a great extent] | 2014**

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

## 3.3 Access to growth opportunities

### Networks

### 3.3.1 Use of virtual social networks

**Average answer to the question: How widely used are virtual social networks (e.g., Facebook, Twitter, LinkedIn) for professional and personal communication in your country? [1 = not used at all; 7 = used widely] | 2014**

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

### 3.3.2 Use of virtual professional networks

#### LinkedIn users (per 1,000 labour force) | 2015

LinkedIn users refer 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. ([www.linkedin.com/ads](http://www.linkedin.com/ads); [www.ilo.org/kilm](http://www.ilo.org/kilm))

### Empowerment

### 3.3.3 Delegation of authority

**Average answer to the question: In your country, how do you assess the willingness to delegate authority to subordinates? [1 = not willing at all – senior management takes all important decisions; 7 = very willing – authority is mostly delegated to business unit heads and other lower-level managers] | 2014**

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

### 3.3.4 Freedom of voice

Percentage of respondents who answered yes for the question: Have you voiced your opinion to a public official in the past month? | 2013

The Legatum Institute adopted surveys from Gallup World Poll in their publication of the Legatum Prosperity Index, which offers a unique insight into how prosperity is forming and changing across the world.

Source: Legatum Institute, Legatum Prosperity Index 2014 based on Gallup World Poll. ([www.prosperity.com](http://www.prosperity.com))

## 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 as 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: World Bank, International Patterns of Pension Provision II: A Worldwide Overview of Facts and Figures. ([www.worldbank.org/en/topic/socialprotectionlabor/brief/pensions-data](http://www.worldbank.org/en/topic/socialprotectionlabor/brief/pensions-data))

#### 4.1.2 Taxation

Average answer to the question: What impact does the level of taxes in your country have on incentives to work? [1 = significantly limits incentives to work; 7 = has no impact on incentives to work] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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. ([wefsurvey.org](http://wefsurvey.org))

## 4.2 Lifestyle

#### 4.2.1 Environmental performance

Environmental performance index | 2014

The Environmental Performance Index (EPI) ranks how well countries perform on high-priority environmental issues in two broad policy areas: protection of human health from environmental harm and protection of ecosystems. Within these two policy

objectives the EPI scores country performance in nine issue areas comprised of 20 indicators. Indicators in the EPI measure how close countries are to meeting internationally established targets or, in the absence of agreed-upon targets, how they compare relative to the best-performing countries.

Source: The 2014 Environmental Performance Index, Yale Center for Environmental Law and Policy. ([epi.yale.edu](http://epi.yale.edu))

#### 4.2.2 Safety at night

Percentage of respondents who answered yes for the question: Do you feel safe walking alone at night in the area where you live? | 2013

The Legatum Institute adopted surveys from Gallup World Poll in their publication of the Legatum Prosperity Index, which offers a unique insight into how prosperity is forming and changing across the world.

Source: Legatum Institute, Legatum Prosperity Index 2014 based on Gallup World Poll. ([www.prosperity.com](http://www.prosperity.com))

#### 4.2.3 Physician density

Physicians (per 1,000 people) | 2013

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. ([data.worldbank.org](http://data.worldbank.org))

#### 4.2.4 Sanitation

Population with access to improved sanitation facilities (%) | 2012

Access to improved sanitation facilities refers to the percentage of population using improved sanitation facilities. The improved sanitation facilities include flush/pour flush (to piped sewer system, septic tank, pit latrine), ventilated improved pit latrine, pit latrine with slab, and composting toilet.

Source: World Bank, World Development Indicators based on WHO/ UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation. ([data.worldbank.org](http://data.worldbank.org))

#### 4.2.5 Flexible employment

Female share of part-time employment (%) | 2012

Female part-time workers refer to the percentage of female part-time workers out of part-time employment.

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

## 5. Labour and Vocational Skills

### 5.1 Employable skills

#### 5.1.1 Secondary-educated workforce

Labour force with secondary education (%) | 2012

Secondary-educated workforce refers to the percentage of labour force (above 15 years old) whose highest educational attainment is secondary level. Secondary level includes both upper secondary and post-secondary non-tertiary education based on ISCED 3 or 4. The data for the US is from labour force aged above 25 years old.

Source: International Labour Organization, *Key Indicators of the Labour Market*, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

#### 5.1.2 Secondary-educated population

Population with secondary education (%) | 2013

Secondary-educated population refers to the percentage of population (above 25 years old) whose highest educational attainment is secondary level. This is based on ISCED 3 or 4.

Source: UNESCO Institute for Statistics, *UIS online database*. ([stats.uis.unesco.org](http://stats.uis.unesco.org))

#### 5.1.3 Technicians and associate professionals

Technicians and associate professionals (%) | 2013

Technicians and associate professionals refer to the percentage of technicians and associate professionals out of total employment. The employment by occupation is based on International Standard Classification of Occupation (ISCO) Revision 1988. 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, tax and related government associate professionals).

Source: International Labour Organization, *Key Indicators of the Labour Market*, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

### 5.2 Labour productivity

#### 5.2.1 Labour productivity per employee

Labour productivity per person employed (constant 2013 US\$) | 2013

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 2013 US\$.

Source: The Conference Board, *Total Economy Database*. ([www.conference-board.org/data/economydatabase](http://www.conference-board.org/data/economydatabase))

#### 5.2.2 Relationship of pay to productivity

Average answer to the question: To what extent is pay in your country related to productivity? [1 = not related to worker productivity; 7 = strongly related to worker productivity] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business leaders on topics for which hard data sources are scarce or non-existent. 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*. ([wefsurvey.org](http://wefsurvey.org))

#### 5.2.3 Mid-value exports

Low and medium technology manufactures (%) | 2013

Vocational skill-intensive exports refer to net exports (exports – re-exports) of low and medium technology manufactures over total net exports. The list of commodities is extracted from the World Integrated Trade Solutions database based on Lall (2000).

Sources: World Bank, *World Integrated Trade Solutions database* ([wits.worldbank.org](http://wits.worldbank.org)). See Lall, S. (2000), *The Technological Structure and Performance of Developing Country Manufactured Exports*, Oxford Development Studies, Vol. 28, No. 3, 1985–89.

## 6. Global Knowledge Skills

### 6.1 Higher skills and competencies

#### 6.1.1 Tertiary-educated workforce

Labour force with tertiary education (%) | 2012

Tertiary-educated workforce refers to the percentage of labour force (above 15 years old) whose highest educational attainment is tertiary level. Tertiary level includes both short-cycle tertiary and bachelors or equivalent level based on ISCED 5 or 6. The data for the US is from labour force aged above 25 years old.

Source: International Labour Organization, *Key Indicators of the Labour Market*, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

#### 6.1.2 Tertiary-educated population

Population with tertiary education (%) | 2013

Tertiary-educated population refers to the percentage of population (above 25 years old) whose highest educational attainment is tertiary level. This is based on ISCED 5 or 6.

Source: UNESCO Institute for Statistics, *UIS online database*. ([stats.uis.unesco.org](http://stats.uis.unesco.org))



### 6.1.3 Professionals

#### Professionals (%) | 2013

Professionals refer to the percentage of professionals out of total employment. The employment by occupation is based on ISCO Revision 1988. 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, *Key Indicators of the Labour Market*, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

### 6.1.4 Researchers

#### Full-time equivalent researchers (per million population) | 2012

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 is a measure of the actual volume of human resources devoted to R&D, and is 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 counseling) 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 is reported per million population.

Source: UNESCO Institute for Statistics, *UIS online database*. ([stats.uis.unesco.org](http://stats.uis.unesco.org))

### 6.1.5 Senior officials and managers

#### Legislators, senior officials and managers (%) | 2013

The actual variable is called 'Legislators, senior officials and managers' and is expressed as percentage of total employment. The employment by occupation is based on ISCO Revision 1988.

Source: International Labour Organization, *Key Indicators of the Labour Market*, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

### 6.1.6 Quality of scientific institutions

Average answer to the question: In your country, how would you assess the quality of scientific research institutions? [1 = extremely poor, among the worst in the world; 7 = extremely good, among the best in the world] | 2014

The World Economic Forum's EOS is conducted on an annual basis to gather information from business

leaders on topics for which hard data sources are scarce or non-existent. 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*. ([wefsurvey.org](http://wefsurvey.org))

### 6.1.7 Scientific journal articles

#### Number of scientific and technical journal articles (per million PPP\$ GDP) | 2011

Scientific and technical journal articles refer 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 is reported per million PPP\$ GDP.

Source: World Bank, *World Development Indicators based on National Science Foundation, Science and Engineering Indicators; International Monetary Fund World Economic Outlook 2013 database*. ([data.worldbank.org/indicator/IP.JRN.ARTC.SC](http://data.worldbank.org/indicator/IP.JRN.ARTC.SC); [www.imf.org/external/pubs/ft/weo/2013/01/weodata/download.aspx](http://www.imf.org/external/pubs/ft/weo/2013/01/weodata/download.aspx))

## 6.2 Talent impact

### 6.2.1 Innovation output

#### Innovation output sub-index | 2014

The Global Innovation Index (GII) developed jointly by INSEAD and the World Intellectual Property Organization, aims to capture the richness of innovation in society. Innovation output is one of the two sub-indices in the GI, which is derived by aggregating two output pillars: Knowledge and Technology 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 2014*. ([www.globalinnovationindex.org](http://www.globalinnovationindex.org))

### 6.2.2 High-value exports

#### High technology manufactures (%) | 2013

Sophisticated exports refer to net exports (exports – re-exports) of high technology manufactures over total net exports. The list of commodities is extracted from the World Integrated Trade Solutions database based on Lall (2000).

Sources: World Bank, *World Integrated Trade Solutions database* ([wits.worldbank.org](http://wits.worldbank.org)). See Lall, S. (2000), *The Technological Structure and Performance of Developing Country Manufactured Exports*, *Oxford Development Studies*, Vol. 28, No. 3, 1985–89.

## Entrepreneurship

### 6.2.3 New product entrepreneurial activity

New product entrepreneurial activity (%) | 2014

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.

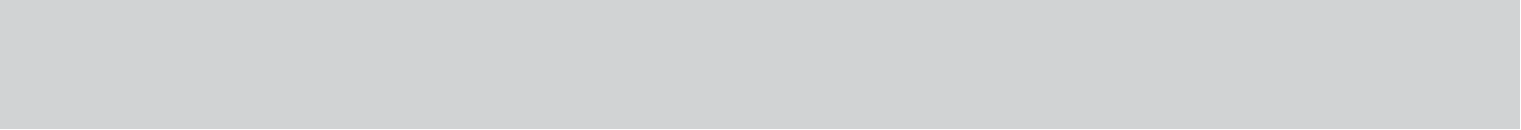
*Source: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor database. ([www.gemconsortium.org/data](http://www.gemconsortium.org/data))*

### 6.2.4 New business density

New corporate registrations (per 1,000 working-age population) | 2012

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. ([www.doingbusiness.org/data/exploretopics/entrepreneurship](http://www.doingbusiness.org/data/exploretopics/entrepreneurship))*





# APPENDIX III

## DATA TABLES

## How to read the data tables

### DATA TABLES

#### 1 1.2.3 Cluster development

#### 2 Average answer to the question: In your country's economy, how prevalent are well-developed and deep clusters? [1 = nonexistent; 7 = widespread in many fields] 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Italy	5.60	76.64	57	Bangladesh	3.85	47.47
2	Germany	5.49	74.86	58	Sri Lanka	3.84	47.25
3	United Arab Emirates	5.49	74.83	59	Namibia	3.81	46.81
4	United States	5.42	73.65	60	Slovakia	3.80	46.73
5	Switzerland	5.35	72.53	61	Romania	3.78	46.40
6	Netherlands	5.35	72.42	62	Morocco	3.78	46.27
7	Japan	5.28	71.39	63	Barbados	3.77	46.10
8	Malaysia	5.28	71.29	64	Vietnam	3.76	45.97
9	United Kingdom	5.23	70.56	65	Estonia	3.73	45.56
10	Qatar	5.21	70.21	66	Ghana	3.73	45.48
11	Singapore	5.13	68.81	67	Colombia	3.71	45.15
12	Finland	5.06	67.73	68	Dominican Republic	3.68	44.69
13	Norway	5.06	67.66	69	Kuwait	3.67	44.54
14	Austria	4.95	65.82	70	Uganda	3.53	42.08
15	Luxembourg	4.85	64.18	71	Tunisia	3.51	41.78
16	Ireland	4.80	63.33	72	Latvia	3.50	41.67
17	Canada	4.77	62.89	72	Lithuania	3.50	41.67
18	Sweden	4.74	62.32	74	Hungary	3.49	41.54
19	Belgium	4.70	61.61	75	Poland	3.48	41.40
20	Saudi Arabia	4.66	61.00	76	Uruguay	3.47	41.12
21	Brazil	4.63	60.44	77	Bolivia	3.46	40.97
22	China	4.56	59.30	78	Macedonia	3.46	40.96
23	Indonesia	4.53	58.81	79	Slovenia	3.43	40.43
24	India	4.50	58.38	80	Iran	3.42	40.37
25	Israel	4.50	58.31	81	Tanzania	3.42	40.28
26	Jordan	4.49	58.14	82	Azerbaijan	3.40	40.08
27	El Salvador	4.48	58.05	83	Senegal	3.33	38.85
28	South Korea	4.35	55.78	84	Botswana	3.32	38.71
29	France	4.34	55.65	85	Algeria	3.32	38.64
30	Denmark	4.31	55.15	86	Lebanon	3.28	37.93
31	Turkey	4.28	54.73	87	Peru	3.26	37.75
32	Egypt	4.27	54.53	88	Nicaragua	3.25	37.45
33	Costa Rica	4.24	53.93	89	Georgia	3.23	37.09
34	Thailand	4.20	53.28	90	Armenia	3.22	36.95
35	Kenya	4.20	53.26	91	Serbia	3.19	36.45
36	Portugal	4.19	53.20	92	Kazakhstan	3.17	36.22
37	Australia	4.18	53.05	93	Croatia	3.16	36.06
38	South Africa	4.16	52.71	94	Russia	3.13	35.56
39	Mexico	4.15	52.45	95	Argentina	3.12	35.34
40	Czech Republic	4.06	51.04	96	Paraguay	3.06	34.35
41	Honduras	4.06	50.92	97	Montenegro	3.03	33.85
42	Malta	4.04	50.72	98	Greece	3.01	33.44
43	Cyprus	4.04	50.72	99	Albania	3.00	33.40
44	Philippines	4.03	50.53	100	Ethiopia	3.00	33.30
45	Panama	4.02	50.29	101	Ukraine	3.00	33.27
46	New Zealand	4.01	50.09	102	Bulgaria	2.96	32.60
47	Spain	3.98	49.71	103	Kyrgyzstan	2.95	32.57
48	Mal	3.95	49.16	104	Burkina Faso	2.90	31.62
49	Guatemala	3.94	49.06	105	Madagascar	2.87	31.09
50	Pakistan	3.94	49.00	106	Mongolia	2.85	30.79
51	Rwanda	3.93	48.88	107	Venezuela	2.40	23.32
52	Iceland	3.92	48.69	108	Moldova	2.39	23.24
53	Chile	3.90	48.38	109	Bosnia and Herzegovina	1.98	16.00
54	Cambodia	3.86	47.74				
55	Lesotho	3.85	47.53				
56	Ecuador	3.85	47.52				

254 | THE GLOBAL TALENT COMPETITIVENESS INDEX 2015–16

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)  
Unless otherwise specified, the data used for computation were collected in 2014.

This appendix provides the ranking and scores for each of the 61 variables that make up GTCI 2015–16.

Each data table consists of four parts:

- 1 Variable name
- 2 Technical name and latest available year
- 3 Ranking and
- 4 Source

1 The first section provides the variable number that represents its position in the overall structure of GTCI. The first digit refers to the pillar, the second digit refers to the sub-pillar within the pillar and the third digit refers to the position of the variable in the 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 technical name of the variable, along with the latest year for which data on it is available. For qualitative variables derived from survey responses, the question asked in the survey is shown as the technical name. This applies to all variables taken from the World Economic Forum's Executive Opinion Survey and the Legatum Prosperity Index, 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. Due to the treatment of outliers, several countries have the same score in the variables 1.3.1 Ease of Hiring, 1.3.2 Ease of Redundancy, 2.1.3 Migrant Stock, 2.1.4 International Students, 3.1.3 Tertiary Education Expenditure, 4.2.4 Sanitation, 5.1.1 Secondary Educated Workforce and 6.2.4 New Business Density. If countries occupy the same rank in other variables, these countries have the same raw value and, hence, their normalised scores are the same. In cases of ties, the 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.

## Index of data tables

### 1 Enable

#### 1.1 Regulatory landscape

1.1.1 Government effectiveness .....	248
1.1.2 Business–government relations .....	249
1.1.3 Political stability .....	250
1.1.4 Starting a foreign business .....	251

#### 1.2 Market landscape

1.2.1 Competition intensity .....	252
1.2.2 Ease of doing business .....	253
1.2.3 Cluster development .....	254
1.2.4 R&D expenditure .....	255
1.2.5 ICT infrastructure .....	256
1.2.6 Technology utilisation .....	257

#### 1.3 Business–labour landscape

1.3.1 Ease of hiring .....	258
1.3.2 Ease of redundancy .....	259
1.3.3 Labour–employer cooperation .....	260
1.3.4 Professional management .....	261

### 2 Attract

#### 2.1 External openness

2.1.1 FDI and technology transfer .....	264
2.1.2 Prevalence of foreign ownership .....	265
2.1.3 Migrant stock .....	266
2.1.4 International students .....	267
2.1.5 Brain gain .....	268
2.1.6 Brain drain .....	269

#### 2.2 Internal openness

2.2.1 Tolerance to minorities .....	270
2.2.2 Tolerance to immigrants .....	271
2.2.3 Social mobility .....	272
2.2.4 Female graduates .....	273
2.2.5 Gender earnings gap .....	274

### 3 Grow

#### 3.1 Formal education

3.1.1 Vocational enrolment .....	276
3.1.2 Tertiary enrolment .....	277
3.1.3 Tertiary education expenditure .....	278
3.1.4 Reading, maths and science scores .....	279
3.1.5 University ranking .....	280

#### 3.2 Lifelong learning

3.2.1 Quality of management schools .....	281
3.2.2 Prevalence of training in firms .....	282
3.2.3 Employee development .....	283

### 3.3 Access to growth opportunities

3.3.1 Use of virtual social networks .....	284
3.3.2 Use of virtual professional networks .....	285
3.3.3 Delegation of authority .....	286
3.3.4 Freedom of voice .....	287

### 4 Retain

#### 4.1 Sustainability

4.1.1 Pension system .....	290
4.1.2 Taxation .....	291

#### 4.2 Lifestyle

4.2.1 Environmental performance .....	292
4.2.2 Safety at night .....	293
4.2.3 Physician density .....	294
4.2.4 Sanitation .....	295
4.2.5 Flexible employment .....	296

### 5 Labour and Vocational Skills

#### 5.1 Employable skills

5.1.1 Secondary–educated workforce .....	298
5.1.2 Secondary–educated population .....	299
5.1.3 Technicians and associate professionals .....	300

#### 5.2 Labour productivity

5.2.1 Labour productivity per employee .....	301
5.2.2 Relationship of pay to productivity .....	302
5.2.3 Mid-value exports .....	303

### 6 Global Knowledge Skills

#### 6.1 Higher skills and competencies

6.1.1 Tertiary–educated workforce .....	306
6.1.2 Tertiary–educated population .....	307
6.1.3 Professionals .....	308
6.1.4 Researchers .....	309
6.1.5 Senior officials and managers .....	310
6.1.6 Quality of scientific institutions .....	311
6.1.7 Scientific journal articles .....	312

#### 6.2 Talent impact

6.2.1 Innovation output .....	313
6.2.2 High-value exports .....	314
6.2.3 New product entrepreneurial activity .....	315
6.2.4 New business density .....	316





# PILLAR 1:

## ENABLE

## 1.1.1 Government effectiveness

### Government effectiveness index | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Finland.....	2.17	100.00	57	Philippines.....	0.06	36.18
2	Singapore.....	2.07	97.16	58	Colombia.....	0.04	35.68
3	Denmark.....	1.97	94.04	59	Rwanda.....	0.00	34.39
4	Sweden.....	1.89	91.60	60	Tunisia.....	0.00	34.38
5	Norway.....	1.86	90.82	61	China.....	-0.03	33.50
6	Switzerland.....	1.81	89.04	62	Macedonia.....	-0.06	32.53
7	Canada.....	1.77	87.99	63	Romania.....	-0.07	32.18
8	Netherlands.....	1.77	87.87	64	Kuwait.....	-0.07	32.17
9	New Zealand.....	1.75	87.22	65	Morocco.....	-0.07	32.16
10	Australia.....	1.62	83.55	66	Brazil.....	-0.08	32.00
11	Luxembourg.....	1.62	83.28	67	Ghana.....	-0.09	31.78
12	Japan.....	1.59	82.66	68	Serbia.....	-0.10	31.29
13	Belgium.....	1.59	82.51	69	Jordan.....	-0.11	30.99
14	Austria.....	1.57	81.79	70	El Salvador.....	-0.13	30.43
15	Germany.....	1.52	80.34	71	Peru.....	-0.14	30.08
16	United States.....	1.50	79.83	72	India.....	-0.19	28.64
17	Iceland.....	1.48	79.27	73	Sri Lanka.....	-0.23	27.35
18	United Kingdom.....	1.47	78.91	74	Indonesia.....	-0.24	27.19
19	France.....	1.47	78.86	75	Argentina.....	-0.29	25.61
20	Ireland.....	1.46	78.72	76	Vietnam.....	-0.30	25.33
21	Cyprus.....	1.35	75.28	77	Albania.....	-0.33	24.29
22	Barbados.....	1.35	75.09	78	Russia.....	-0.36	23.46
23	Malta.....	1.25	72.16	79	Lesotho.....	-0.38	22.83
24	Chile.....	1.25	72.07	80	Lebanon.....	-0.39	22.54
25	Portugal.....	1.23	71.53	81	Bolivia.....	-0.40	22.34
26	Israel.....	1.22	71.23	82	Moldova.....	-0.40	22.32
27	United Arab Emirates.....	1.17	69.72	83	Bosnia and Herzegovina.....	-0.45	20.69
28	Spain.....	1.15	69.08	84	Azerbaijan.....	-0.46	20.61
29	South Korea.....	1.12	68.34	85	Senegal.....	-0.48	19.90
30	Malaysia.....	1.10	67.69	86	Ecuador.....	-0.49	19.67
31	Qatar.....	1.07	66.79	87	Kenya.....	-0.49	19.67
32	Slovenia.....	1.00	64.67	88	Dominican Republic.....	-0.49	19.50
33	Estonia.....	0.98	64.17	89	Ethiopia.....	-0.52	18.67
34	Latvia.....	0.88	61.08	90	Kazakhstan.....	-0.54	18.14
35	Czech Republic.....	0.88	60.91	91	Mongolia.....	-0.54	18.01
36	Lithuania.....	0.82	59.34	92	Uganda.....	-0.58	16.83
37	Slovakia.....	0.78	57.90	93	Algeria.....	-0.60	16.19
38	Poland.....	0.71	55.82	94	Burkina Faso.....	-0.62	15.71
39	Croatia.....	0.69	55.24	95	Ukraine.....	-0.65	14.71
40	Hungary.....	0.64	53.89	96	Tanzania.....	-0.67	14.04
41	Georgia.....	0.53	50.50	97	Kyrgyzstan.....	-0.69	13.41
42	Costa Rica.....	0.47	48.62	98	Iran.....	-0.70	13.31
43	Italy.....	0.45	48.05	99	Guatemala.....	-0.71	12.83
44	Greece.....	0.45	47.98	100	Honduras.....	-0.74	11.88
45	South Africa.....	0.43	47.52	101	Pakistan.....	-0.80	10.17
46	Uruguay.....	0.41	46.65	102	Nicaragua.....	-0.82	9.68
47	Turkey.....	0.37	45.50	103	Bangladesh.....	-0.82	9.58
48	Panama.....	0.32	44.11	104	Mali.....	-0.84	9.00
49	Mexico.....	0.31	43.69	105	Paraguay.....	-0.88	7.74
50	Botswana.....	0.28	42.79	106	Egypt.....	-0.89	7.36
51	Thailand.....	0.21	40.82	107	Cambodia.....	-0.92	6.47
52	Namibia.....	0.19	40.24	108	Madagascar.....	-1.12	0.38
53	Montenegro.....	0.16	39.14	109	Venezuela.....	-1.14	0.00
54	Bulgaria.....	0.15	39.02				
55	Armenia.....	0.07	36.37				
56	Saudi Arabia.....	0.06	36.22				

Source: World Bank, The Worldwide Governance Indicators, 2014 Update. ([www.govindicators.org](http://www.govindicators.org))

Unless otherwise specified, the data used for computation were collected in 2013.

## 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	RANK	COUNTRY	VALUE	SCORE
1	Singapore	6.28	87.95	57	Thailand	4.33	55.50
2	United Arab Emirates	6.17	86.25	58	Lesotho	4.29	54.89
3	Qatar	6.12	85.41	59	Iceland	4.27	54.43
4	Luxembourg	6.01	83.58	60	Israel	4.25	54.25
5	Finland	5.90	81.67	61	Paraguay	4.24	53.96
6	Rwanda	5.89	81.49	62	Peru	4.22	53.66
7	Norway	5.85	80.79	63	United States	4.17	52.85
8	Ireland	5.80	80.02	64	Mali	4.07	51.12
9	New Zealand	5.74	79.06	65	Honduras	4.07	51.11
10	Switzerland	5.67	77.86	66	Lithuania	4.06	51.07
11	Malaysia	5.64	77.30	67	Armenia	4.05	50.82
12	Japan	5.37	72.78	68	Uruguay	4.03	50.48
13	Canada	5.34	72.27	69	Ethiopia	4.01	50.09
14	Netherlands	5.33	72.10	70	El Salvador	3.99	49.79
15	Sweden	5.30	71.74	71	Cambodia	3.98	49.73
16	Denmark	5.12	68.74	72	Bangladesh	3.98	49.60
17	Chile	5.09	68.18	73	Albania	3.96	49.31
18	Philippines	5.07	67.78	74	Belgium	3.92	48.60
19	United Kingdom	5.01	66.90	75	Latvia	3.90	48.30
20	Germany	5.00	66.69	76	India	3.89	48.18
21	Saudi Arabia	4.99	66.48	77	Russia	3.88	47.94
22	Botswana	4.93	65.47	78	Tunisia	3.86	47.59
23	Sri Lanka	4.93	65.45	79	Poland	3.83	47.24
24	Macedonia	4.92	65.40	80	Kyrgyzstan	3.83	47.21
25	Malta	4.90	64.94	81	Algeria	3.81	46.90
26	Austria	4.89	64.79	82	Brazil	3.79	46.56
27	China	4.88	64.63	83	Ecuador	3.79	46.55
28	Indonesia	4.84	63.98	84	Tanzania	3.77	46.21
29	Estonia	4.83	63.77	85	Czech Republic	3.77	46.14
30	Senegal	4.78	63.08	86	Romania	3.65	44.19
31	Barbados	4.78	62.92	87	Ghana	3.65	44.15
32	Mexico	4.75	62.55	88	Serbia	3.59	43.12
33	Australia	4.68	61.30	89	Moldova	3.56	42.67
34	Costa Rica	4.66	61.05	90	Egypt	3.56	42.60
35	Dominican Republic	4.65	60.78	91	Pakistan	3.54	42.41
36	Burkina Faso	4.63	60.55	92	Bolivia	3.45	40.89
37	Kazakhstan	4.62	60.26	93	South Africa	3.44	40.59
38	Portugal	4.61	60.09	94	Hungary	3.40	39.99
39	Panama	4.59	59.78	95	France	3.39	39.76
40	Namibia	4.58	59.61	96	Kuwait	3.38	39.72
41	Spain	4.57	59.53	97	Ukraine	3.38	39.70
42	Guatemala	4.57	59.49	98	Greece	3.38	39.65
43	South Korea	4.56	59.40	99	Madagascar	3.32	38.64
44	Cyprus	4.56	59.32	100	Iran	3.32	38.59
45	Bosnia and Herzegovina	4.55	59.23	101	Bulgaria	3.25	37.55
46	Morocco	4.55	59.13	102	Slovenia	3.20	36.63
47	Jordan	4.54	59.08	103	Lebanon	3.18	36.37
48	Montenegro	4.54	58.97	104	Croatia	3.12	35.38
49	Nicaragua	4.54	58.94	105	Mongolia	2.98	33.00
50	Kenya	4.52	58.66	106	Slovakia	2.88	31.31
51	Turkey	4.48	58.08	107	Italy	2.66	27.60
52	Colombia	4.48	58.06	108	Argentina	2.33	22.16
53	Azerbaijan	4.45	57.43	109	Venezuela	1.75	12.44
54	Uganda	4.44	57.27				
55	Georgia	4.43	57.09				
56	Vietnam	4.37	56.19				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 1.1.3 Political stability

#### Political stability and absence of violence index | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	New Zealand	1.45	100.00	57	Moldova	-0.03	63.32
2	Switzerland	1.37	98.09	58	El Salvador	-0.04	63.08
3	Finland	1.36	97.76	59	South Africa	-0.06	62.73
4	Austria	1.34	97.36	60	Rwanda	-0.08	62.07
5	Singapore	1.33	97.14	61	Senegal	-0.09	62.02
6	Luxembourg	1.33	97.09	62	Serbia	-0.10	61.80
7	Norway	1.33	97.08	63	Panama	-0.13	60.85
8	Barbados	1.29	96.12	64	Tanzania	-0.15	60.41
9	Iceland	1.26	95.32	65	Cambodia	-0.16	60.31
10	Qatar	1.22	94.26	66	Ecuador	-0.20	59.32
11	Sweden	1.13	92.02	67	Greece	-0.20	59.27
12	Netherlands	1.12	91.78	68	Nicaragua	-0.25	58.05
13	Slovakia	1.10	91.35	69	Brazil	-0.28	57.27
14	Botswana	1.06	90.27	70	Bolivia	-0.35	55.56
15	Czech Republic	1.05	90.18	71	Bosnia and Herzegovina	-0.37	55.11
16	Canada	1.03	89.64	72	Macedonia	-0.37	54.91
17	Australia	1.02	89.29	73	Kazakhstan	-0.38	54.73
18	Malta	1.01	89.05	74	Saudi Arabia	-0.41	54.05
19	Japan	0.98	88.43	75	Azerbaijan	-0.41	54.01
20	Poland	0.95	87.59	76	Georgia	-0.46	52.69
21	Denmark	0.95	87.56	77	Honduras	-0.47	52.63
22	Namibia	0.93	87.14	78	Morocco	-0.50	51.79
23	Germany	0.93	87.08	79	Indonesia	-0.50	51.78
24	Lithuania	0.92	86.96	80	China	-0.55	50.65
25	United Arab Emirates	0.92	86.86	81	Sri Lanka	-0.61	49.16
26	Belgium	0.92	86.84	82	Jordan	-0.62	48.92
27	Ireland	0.88	85.86	83	Paraguay	-0.67	47.59
28	Slovenia	0.87	85.56	84	Guatemala	-0.69	46.97
29	Uruguay	0.81	84.15	85	Madagascar	-0.71	46.49
30	Hungary	0.78	83.43	86	Mexico	-0.74	45.92
31	Portugal	0.74	82.47	87	Russia	-0.75	45.60
32	Estonia	0.73	82.09	88	Burkina Faso	-0.75	45.54
33	Costa Rica	0.67	80.63	89	Ukraine	-0.76	45.42
34	Croatia	0.61	79.34	90	Peru	-0.77	45.07
35	United States	0.61	79.19	91	Uganda	-0.84	43.37
36	Latvia	0.57	78.31	92	Kyrgyzstan	-0.91	41.64
37	Cyprus	0.52	76.97	93	Tunisia	-0.91	41.59
38	Italy	0.51	76.76	94	Philippines	-1.06	37.96
39	Mongolia	0.50	76.50	95	Venezuela	-1.08	37.52
40	Montenegro	0.49	76.15	96	Israel	-1.09	37.12
41	United Kingdom	0.48	76.11	97	Kenya	-1.15	35.76
42	France	0.42	74.63	98	Algeria	-1.17	35.22
43	Chile	0.37	73.39	99	India	-1.19	34.79
44	Lesotho	0.33	72.22	100	Turkey	-1.19	34.61
45	South Korea	0.24	70.00	101	Colombia	-1.27	32.79
46	Vietnam	0.22	69.70	102	Iran	-1.27	32.77
47	Dominican Republic	0.19	68.77	103	Thailand	-1.32	31.46
48	Bulgaria	0.18	68.50	104	Ethiopia	-1.39	29.68
49	Romania	0.15	67.94	105	Bangladesh	-1.61	24.28
50	Kuwait	0.14	67.67	106	Egypt	-1.62	24.10
51	Armenia	0.07	65.90	107	Mali	-1.69	22.48
52	Argentina	0.06	65.63	108	Lebanon	-1.69	22.25
53	Albania	0.06	65.59	109	Pakistan	-2.59	0.00
54	Malaysia	0.05	65.44				
55	Ghana	0.02	64.66				
56	Spain	0.01	64.52				

Source: World Bank, The Worldwide Governance Indicators, 2014 Update. ([www.govindicators.org](http://www.govindicators.org))

Unless otherwise specified, the data used for computation were collected in 2013.

## 1.1.4 Starting a foreign business

### Ease of establishment index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Slovakia	92.10	100.00	57	Bangladesh	55.30	48.17
2	Romania	89.50	96.34	57	Ecuador	55.30	48.17
3	United Kingdom	85.00	90.00	57	Morocco	55.30	48.17
3	Poland	85.00	90.00	60	Indonesia	52.60	44.37
5	Albania	84.20	88.87	61	Sri Lanka	47.90	37.75
5	Georgia	84.20	88.87	62	Uganda	47.40	37.04
5	Serbia	84.20	88.87	63	Senegal	45.00	33.66
8	Canada	81.60	85.21	64	Burkina Faso	44.70	33.24
8	Croatia	81.60	85.21	64	Cambodia	44.70	33.24
8	Czech Republic	81.60	85.21	66	Mali	42.50	30.14
8	Japan	81.60	85.21	66	Venezuela	42.50	30.14
12	Ukraine	80.00	82.96	68	Saudi Arabia	35.00	19.58
12	United States	80.00	82.96	69	Ghana	34.20	18.45
14	Armenia	78.90	81.41	70	Ethiopia	21.10	0.00
14	Bulgaria	78.90	81.41	n/a	Algeria	n/a	n/a
14	Montenegro	78.90	81.41	n/a	Australia	n/a	n/a
14	Singapore	78.90	81.41	n/a	Belgium	n/a	n/a
14	South Africa	78.90	81.41	n/a	Barbados	n/a	n/a
19	France	77.50	79.44	n/a	Botswana	n/a	n/a
20	India	76.30	77.75	n/a	Cyprus	n/a	n/a
20	Macedonia	76.30	77.75	n/a	Germany	n/a	n/a
22	Austria	73.70	74.08	n/a	Denmark	n/a	n/a
22	Costa Rica	73.70	74.08	n/a	Dominican Republic	n/a	n/a
22	Kyrgyzstan	73.70	74.08	n/a	El Salvador	n/a	n/a
25	Peru	72.50	72.39	n/a	Estonia	n/a	n/a
26	Azerbaijan	71.60	71.13	n/a	Finland	n/a	n/a
27	Spain	71.10	70.42	n/a	Hungary	n/a	n/a
27	South Korea	71.10	70.42	n/a	Iceland	n/a	n/a
27	Tunisia	71.10	70.42	n/a	Iran	n/a	n/a
30	Ireland	70.00	68.87	n/a	Israel	n/a	n/a
30	Moldova	70.00	68.87	n/a	Italy	n/a	n/a
32	Colombia	68.40	66.62	n/a	Jordan	n/a	n/a
32	Greece	68.40	66.62	n/a	Kuwait	n/a	n/a
32	Honduras	68.40	66.62	n/a	Latvia	n/a	n/a
32	Russia	68.40	66.62	n/a	Lebanon	n/a	n/a
36	Bosnia and Herzegovina	65.80	62.96	n/a	Lesotho	n/a	n/a
36	Kazakhstan	65.80	62.96	n/a	Lithuania	n/a	n/a
36	Mexico	65.80	62.96	n/a	Luxembourg	n/a	n/a
36	Turkey	65.80	62.96	n/a	Malta	n/a	n/a
40	Argentina	65.00	61.83	n/a	Mongolia	n/a	n/a
40	Madagascar	65.00	61.83	n/a	Namibia	n/a	n/a
42	Pakistan	64.70	61.41	n/a	Netherlands	n/a	n/a
43	China	63.70	60.00	n/a	New Zealand	n/a	n/a
44	Bolivia	63.20	59.30	n/a	Norway	n/a	n/a
44	Chile	63.20	59.30	n/a	Panama	n/a	n/a
44	Egypt	63.20	59.30	n/a	Paraguay	n/a	n/a
47	Brazil	62.50	58.31	n/a	Portugal	n/a	n/a
47	Tanzania	62.50	58.31	n/a	Qatar	n/a	n/a
49	Malaysia	60.50	55.49	n/a	Slovenia	n/a	n/a
49	Rwanda	60.50	55.49	n/a	Sweden	n/a	n/a
49	Thailand	60.50	55.49	n/a	Switzerland	n/a	n/a
52	Guatemala	57.90	51.83	n/a	United Arab Emirates	n/a	n/a
52	Kenya	57.90	51.83	n/a	Uruguay	n/a	n/a
52	Nicaragua	57.90	51.83				
52	Philippines	57.90	51.83				
52	Vietnam	57.90	51.83				

Source: World Bank, Investing Across Borders. ([iab.worldbank.org/data/exploretopics/starting-a-foreign-business](http://iab.worldbank.org/data/exploretopics/starting-a-foreign-business))

Unless otherwise specified, the data used for computation were collected in 2014.

## 1.2.1 Competition intensity

Average answer to the question: How would you assess the intensity of competition in the local markets in your country? [1 = limited in most industries; 7 = intense in most industries] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Japan.....	6.37	89.52	57	Slovenia.....	5.12	68.59
2	Malta.....	6.09	84.76	58	Panama.....	5.10	68.37
3	United Kingdom.....	6.05	84.22	59	Paraguay.....	5.08	67.94
4	Belgium.....	6.05	84.09	60	Peru.....	5.07	67.80
5	Australia.....	5.99	83.24	61	Greece.....	5.05	67.55
6	United Arab Emirates.....	5.96	82.60	62	Dominican Republic.....	5.00	66.65
7	United States.....	5.94	82.28	63	Russia.....	4.97	66.23
8	Turkey.....	5.93	82.16	64	Bulgaria.....	4.96	66.06
9	Germany.....	5.91	81.84	65	Rwanda.....	4.93	65.56
10	South Korea.....	5.89	81.52	66	Bangladesh.....	4.92	65.37
11	Netherlands.....	5.87	81.10	67	Iceland.....	4.90	64.92
12	Austria.....	5.82	80.29	68	Senegal.....	4.89	64.75
13	Sri Lanka.....	5.76	79.41	69	Mongolia.....	4.88	64.73
14	Czech Republic.....	5.73	78.88	70	Croatia.....	4.88	64.71
15	Qatar.....	5.73	78.75	71	Pakistan.....	4.87	64.53
16	Switzerland.....	5.71	78.48	72	Armenia.....	4.87	64.48
17	Singapore.....	5.67	77.75	73	Cambodia.....	4.86	64.30
18	Kenya.....	5.66	77.64	74	Honduras.....	4.81	63.45
19	Lithuania.....	5.62	77.07	75	El Salvador.....	4.80	63.39
20	Latvia.....	5.61	76.84	76	Madagascar.....	4.80	63.26
21	New Zealand.....	5.59	76.54	77	India.....	4.79	63.09
22	Chile.....	5.59	76.51	78	Tunisia.....	4.78	62.94
23	Barbados.....	5.58	76.41	79	Lesotho.....	4.77	62.86
24	Estonia.....	5.55	75.83	80	Botswana.....	4.75	62.44
25	Lebanon.....	5.52	75.27	81	Mali.....	4.70	61.73
26	France.....	5.51	75.11	82	Moldova.....	4.68	61.35
27	Slovakia.....	5.50	75.03	83	Ukraine.....	4.68	61.33
28	Canada.....	5.50	74.99	84	Uruguay.....	4.66	61.05
29	Malaysia.....	5.50	74.95	85	Namibia.....	4.64	60.67
30	Spain.....	5.48	74.60	86	Georgia.....	4.64	60.67
31	South Africa.....	5.46	74.36	87	Kyrgyzstan.....	4.61	60.12
32	Cyprus.....	5.43	73.76	88	Finland.....	4.60	60.04
33	Thailand.....	5.42	73.67	89	Burkina Faso.....	4.57	59.42
34	Saudi Arabia.....	5.41	73.48	90	Kazakhstan.....	4.56	59.27
35	Sweden.....	5.41	73.47	91	Ethiopia.....	4.53	58.77
36	Guatemala.....	5.40	73.40	92	Kuwait.....	4.51	58.48
37	Macedonia.....	5.39	73.21	93	Ecuador.....	4.49	58.17
38	China.....	5.36	72.64	94	Ghana.....	4.45	57.44
39	Denmark.....	5.36	72.63	95	Iran.....	4.40	56.59
40	Hungary.....	5.35	72.48	96	Romania.....	4.36	55.96
41	Morocco.....	5.34	72.37	97	Azerbaijan.....	4.35	55.81
42	Norway.....	5.34	72.28	98	Tanzania.....	4.32	55.30
43	Poland.....	5.27	71.20	99	Israel.....	4.24	54.04
44	Brazil.....	5.27	71.19	100	Serbia.....	4.20	53.33
45	Indonesia.....	5.26	71.04	101	Nicaragua.....	4.18	52.92
46	Luxembourg.....	5.25	70.77	102	Argentina.....	4.07	51.22
47	Uganda.....	5.24	70.68	103	Egypt.....	4.05	50.81
48	Colombia.....	5.22	70.35	104	Montenegro.....	3.88	48.00
49	Jordan.....	5.20	69.92	105	Algeria.....	3.80	46.74
50	Italy.....	5.19	69.84	106	Bolivia.....	3.76	46.00
51	Costa Rica.....	5.18	69.73	107	Albania.....	3.49	41.51
52	Ireland.....	5.17	69.56	108	Bosnia and Herzegovina.....	3.42	40.40
53	Philippines.....	5.15	69.25	109	Venezuela.....	2.87	31.15
54	Portugal.....	5.14	69.08				
55	Mexico.....	5.13	68.91				
56	Vietnam.....	5.12	68.73				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.



## 1.2.2 Ease of doing business

### Ease of doing business index | 2015

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Singapore	88.27	100.00	58	Croatia	66.53	53.61
2	New Zealand	86.91	97.10	59	Albania	66.06	52.60
3	Denmark	84.20	91.31	60	Ghana	65.24	50.85
4	South Korea	83.40	89.61	61	Morocco	65.06	50.47
5	Norway	82.40	87.47	62	Mongolia	65.02	50.38
6	United States	81.98	86.58	63	Guatemala	64.88	50.09
7	United Kingdom	80.96	84.40	64	Botswana	64.87	50.06
8	Finland	80.83	84.12	65	Kazakhstan	64.59	49.47
9	Australia	80.66	83.76	66	Vietnam	64.42	49.10
10	Sweden	80.60	83.63	67	Azerbaijan	64.08	48.38
11	Iceland	80.27	82.93	68	Uruguay	63.89	47.97
12	Ireland	80.07	82.50	69	Costa Rica	63.67	47.50
13	Germany	79.73	81.78	70	Dominican Republic	63.43	46.99
14	Georgia	79.46	81.20	71	Kuwait	63.11	46.31
15	Canada	79.09	80.41	72	Namibia	62.81	45.67
16	Estonia	78.84	79.88	73	China	62.58	45.18
17	Malaysia	78.83	79.85	74	Serbia	62.57	45.16
18	Switzerland	77.78	77.61	75	Paraguay	62.50	45.01
19	Austria	77.42	76.85	76	Malta	62.11	44.17
20	United Arab Emirates	76.81	75.54	77	Philippines	62.08	44.11
21	Latvia	76.73	75.37	78	Ukraine	61.52	42.92
22	Lithuania	76.31	74.48	79	Sri Lanka	61.36	42.57
23	Portugal	76.03	73.88	80	Kyrgyzstan	60.74	41.25
24	Thailand	75.27	72.26	81	Honduras	60.61	40.97
25	Netherlands	75.01	71.70	81	Lebanon	60.61	40.97
26	Japan	74.80	71.25	83	Barbados	60.57	40.89
27	Macedonia	74.11	69.78	84	Bosnia and Herzegovina	60.55	40.85
28	France	73.88	69.29	85	El Salvador	59.93	39.52
29	Poland	73.56	68.61	86	Egypt	59.54	38.69
30	Spain	73.17	67.78	87	Indonesia	59.15	37.86
31	Colombia	72.29	65.90	88	Ecuador	58.88	37.28
32	Peru	72.11	65.51	89	Jordan	58.40	36.26
33	Montenegro	72.02	65.32	90	Nicaragua	58.09	35.60
34	Slovakia	71.83	64.92	91	Brazil	58.01	35.42
35	Bulgaria	71.80	64.85	92	Argentina	57.48	34.29
36	Mexico	71.53	64.28	93	Lesotho	56.64	32.50
37	Israel	71.25	63.68	93	Pakistan	56.64	32.50
38	Chile	71.24	63.66	95	Iran	56.51	32.22
39	Belgium	71.11	63.38	96	Tanzania	56.38	31.95
40	South Africa	71.08	63.32	97	Ethiopia	56.31	31.80
41	Czech Republic	70.95	63.04	98	Cambodia	55.33	29.71
42	Armenia	70.60	62.29	99	Kenya	54.98	28.96
43	Rwanda	70.47	62.01	100	India	53.97	26.80
44	Romania	70.22	61.48	101	Mali	52.59	23.86
45	Saudi Arabia	69.99	60.99	102	Uganda	51.11	20.70
46	Qatar	69.96	60.93	103	Algeria	50.69	19.80
47	Slovenia	69.87	60.73	104	Bolivia	49.95	18.22
48	Panama	69.22	59.35	105	Senegal	49.37	16.99
49	Hungary	68.79	58.43	106	Madagascar	49.25	16.73
50	Turkey	68.66	58.15	107	Burkina Faso	48.36	14.83
51	Italy	68.48	57.77	108	Bangladesh	46.84	11.59
52	Luxembourg	67.60	55.89	109	Venezuela	41.41	0.00
53	Tunisia	67.35	55.36				
54	Greece	66.70	53.97				
55	Russia	66.66	53.88				
56	Moldova	66.60	53.76				
57	Cyprus	66.55	53.65				

Source: World Bank, Ease of Doing Business Index 2015, Doing Business Report 2015. (data.worldbank.org/indicator/IC.BUS.EASE.XQ)

Unless otherwise specified, the data used for computation were collected in 2015.

## 1.2.3 Cluster development

Average answer to the question: In your country's economy, how prevalent are well-developed and deep clusters? [1 = nonexistent; 7 = widespread in many fields] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Italy	5.60	76.64	57	Bangladesh	3.85	47.47
2	Germany	5.49	74.86	58	Sri Lanka	3.84	47.25
3	United Arab Emirates	5.49	74.83	59	Namibia	3.81	46.81
4	United States	5.42	73.65	60	Slovakia	3.80	46.73
5	Switzerland	5.35	72.53	61	Romania	3.78	46.40
6	Netherlands	5.35	72.42	62	Morocco	3.78	46.27
7	Japan	5.28	71.39	63	Barbados	3.77	46.10
8	Malaysia	5.28	71.29	64	Vietnam	3.76	45.97
9	United Kingdom	5.23	70.56	65	Estonia	3.73	45.56
10	Qatar	5.21	70.21	66	Ghana	3.73	45.48
11	Singapore	5.13	68.81	67	Colombia	3.71	45.15
12	Finland	5.06	67.73	68	Dominican Republic	3.68	44.69
13	Norway	5.06	67.66	69	Kuwait	3.67	44.54
14	Austria	4.95	65.82	70	Uganda	3.53	42.08
15	Luxembourg	4.85	64.18	71	Tunisia	3.51	41.78
16	Ireland	4.80	63.33	72	Latvia	3.50	41.67
17	Canada	4.77	62.89	72	Lithuania	3.50	41.67
18	Sweden	4.74	62.32	74	Hungary	3.49	41.54
19	Belgium	4.70	61.61	75	Poland	3.48	41.40
20	Saudi Arabia	4.66	61.00	76	Uruguay	3.47	41.12
21	Brazil	4.63	60.44	77	Bolivia	3.46	40.97
22	China	4.56	59.30	78	Macedonia	3.46	40.96
23	Indonesia	4.53	58.81	79	Slovenia	3.43	40.43
24	India	4.50	58.38	80	Iran	3.42	40.37
25	Israel	4.50	58.31	81	Tanzania	3.42	40.28
26	Jordan	4.49	58.14	82	Azerbaijan	3.40	40.08
27	El Salvador	4.48	58.05	83	Senegal	3.33	38.85
28	South Korea	4.35	55.78	84	Botswana	3.32	38.71
29	France	4.34	55.65	85	Algeria	3.32	38.64
30	Denmark	4.31	55.15	86	Lebanon	3.28	37.93
31	Turkey	4.28	54.73	87	Peru	3.26	37.75
32	Egypt	4.27	54.53	88	Nicaragua	3.25	37.45
33	Costa Rica	4.24	53.93	89	Georgia	3.23	37.09
34	Thailand	4.20	53.28	90	Armenia	3.22	36.95
35	Kenya	4.20	53.26	91	Serbia	3.19	36.45
36	Portugal	4.19	53.20	92	Kazakhstan	3.17	36.22
37	Australia	4.18	53.05	93	Croatia	3.16	36.06
38	South Africa	4.16	52.71	94	Russia	3.13	35.56
39	Mexico	4.15	52.45	95	Argentina	3.12	35.34
40	Czech Republic	4.06	51.04	96	Paraguay	3.06	34.35
41	Honduras	4.06	50.92	97	Montenegro	3.03	33.85
42	Malta	4.04	50.72	98	Greece	3.01	33.44
43	Cyprus	4.04	50.72	99	Albania	3.00	33.40
44	Philippines	4.03	50.53	100	Ethiopia	3.00	33.30
45	Panama	4.02	50.29	101	Ukraine	3.00	33.27
46	New Zealand	4.01	50.09	102	Bulgaria	2.96	32.60
47	Spain	3.98	49.71	103	Kyrgyzstan	2.95	32.57
48	Mali	3.95	49.16	104	Burkina Faso	2.90	31.62
49	Guatemala	3.94	49.06	105	Madagascar	2.87	31.09
50	Pakistan	3.94	49.00	106	Mongolia	2.85	30.79
51	Rwanda	3.93	48.88	107	Venezuela	2.40	23.32
52	Iceland	3.92	48.69	108	Moldova	2.39	23.24
53	Chile	3.90	48.38	109	Bosnia and Herzegovina	1.96	16.00
54	Cambodia	3.86	47.74				
55	Lesotho	3.85	47.53				
56	Ecuador	3.85	47.52				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 1.2.4 R&D expenditure

### R&D expenditure as percentage of GDP | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	South Korea (2011)	4.04	100.00	57	Romania	0.49	11.91
2	Israel	3.93	97.27	57	United Arab Emirates (2011)	0.49	11.91
3	Finland	3.55	87.84	59	Costa Rica (2011)	0.48	11.66
4	Sweden	3.41	84.37	60	Cyprus	0.47	11.41
5	Japan (2011)	3.39	83.87	61	Egypt (2011)	0.43	10.42
6	Denmark	2.98	73.70	61	Jordan (2008)	0.43	10.42
7	Germany	2.92	72.21	61	Mexico (2011)	0.43	10.42
8	Switzerland (2008)	2.87	70.97	61	Uruguay (2011)	0.43	10.42
9	Austria	2.84	70.22	65	Chile (2010)	0.42	10.17
10	Slovenia	2.80	69.23	66	Montenegro (2011)	0.41	9.93
11	United States	2.79	68.98	67	Moldova (2011)	0.40	9.68
12	Iceland (2011)	2.60	64.27	68	Ghana (2010)	0.38	9.18
13	Australia (2010)	2.39	59.06	69	Pakistan (2011)	0.33	7.94
14	France	2.26	55.83	70	Armenia (2011)	0.27	6.45
15	Belgium	2.24	55.33	70	Mongolia (2011)	0.27	6.45
16	Estonia	2.18	53.85	72	Ethiopia (2010)	0.25	5.96
17	Netherlands	2.16	53.35	73	Ecuador (2008)	0.23	5.46
18	Singapore	2.10	51.86	74	Macedonia (2010)	0.22	5.21
19	China	1.98	48.88	75	Azerbaijan (2011)	0.21	4.96
20	Czech Republic	1.88	46.40	75	Thailand (2009)	0.21	4.96
21	Canada	1.73	42.68	77	Burkina Faso (2009)	0.20	4.71
22	Ireland	1.72	42.43	77	Panama (2010)	0.20	4.71
22	United Kingdom	1.72	42.43	79	Georgia (2005)	0.18	4.22
24	Norway	1.65	40.69	80	Colombia	0.17	3.97
25	Portugal	1.50	36.97	81	Bolivia (2009)	0.16	3.72
26	Luxembourg	1.44	35.48	81	Kazakhstan (2011)	0.16	3.72
27	Hungary	1.30	32.01	81	Kyrgyzstan (2011)	0.16	3.72
27	Spain	1.30	32.01	81	Sri Lanka (2010)	0.16	3.72
29	Italy	1.27	31.27	85	Albania (2008)	0.15	3.47
29	New Zealand (2011)	1.27	31.27	86	Namibia (2010)	0.14	3.23
31	Brazil (2011)	1.21	29.78	87	Madagascar (2011)	0.11	2.48
32	Russia	1.12	27.54	87	Philippines (2007)	0.11	2.48
33	Tunisia (2009)	1.10	27.05	89	Kuwait (2011)	0.09	1.99
34	Malaysia (2011)	1.07	26.30	90	Indonesia (2009)	0.08	1.74
35	Serbia	0.99	24.32	91	Algeria (2005)	0.07	1.49
36	Kenya (2010)	0.98	24.07	91	Saudi Arabia (2009)	0.07	1.49
37	Lithuania	0.90	22.08	93	Guatemala (2011)	0.05	0.99
37	Poland	0.90	22.08	93	Paraguay (2011)	0.05	0.99
39	Turkey (2011)	0.86	21.09	95	El Salvador (2011)	0.03	0.50
40	Malta	0.84	20.60	96	Bosnia and Herzegovina (2009)	0.02	0.25
41	Slovakia	0.82	20.10	97	Lesotho (2011)	0.01	0.00
42	India (2011)	0.81	19.85	n/a	Bangladesh	n/a	n/a
43	South Africa (2010)	0.76	18.61	n/a	Barbados	n/a	n/a
44	Croatia	0.75	18.36	n/a	Cambodia	n/a	n/a
44	Iran (2008)	0.75	18.36	n/a	Dominican Republic	n/a	n/a
46	Ukraine (2011)	0.74	18.11	n/a	Honduras	n/a	n/a
47	Morocco (2010)	0.73	17.87	n/a	Lebanon	n/a	n/a
48	Greece	0.69	16.87	n/a	Nicaragua	n/a	n/a
49	Latvia	0.66	16.13	n/a	Peru	n/a	n/a
49	Mali (2010)	0.66	16.13	n/a	Qatar	n/a	n/a
51	Argentina (2011)	0.65	15.88	n/a	Rwanda	n/a	n/a
52	Bulgaria	0.64	15.63	n/a	Venezuela	n/a	n/a
53	Uganda (2010)	0.56	13.65	n/a	Vietnam	n/a	n/a
54	Senegal (2010)	0.54	13.15				
55	Botswana (2005)	0.53	12.90				
56	Tanzania (2010)	0.52	12.66				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2012.

## 1.2.5 ICT infrastructure

### ICT access index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg	9.46	100.00	57	Brazil	6.14	57.33
2	Switzerland	9.36	98.71	58	Azerbaijan	6.07	56.43
3	Iceland	9.28	97.69	59	Georgia	5.99	55.40
4	Germany	9.19	96.53	60	Turkey	5.83	53.34
5	United Kingdom	9.18	96.40	61	Armenia	5.64	50.90
6	Malta	8.98	93.83	62	Bosnia and Herzegovina	5.63	50.77
7	South Korea	8.94	93.32	62	Morocco	5.63	50.77
8	Netherlands	8.93	93.19	64	Iran	5.53	49.49
8	Sweden	8.93	93.19	64	Panama	5.53	49.49
10	Denmark	8.80	91.52	66	Jordan	5.47	48.71
11	France	8.65	89.59	67	Colombia	5.44	48.33
12	Singapore	8.61	89.07	68	Venezuela	5.36	47.30
13	Japan	8.40	86.38	69	Ecuador	5.16	44.73
14	Norway	8.36	85.86	70	China	5.10	43.96
15	Israel	8.31	85.22	71	Egypt	5.09	43.83
16	Austria	8.28	84.83	72	Thailand	4.88	41.13
17	Belgium	8.26	84.58	73	South Africa	4.82	40.36
18	Ireland	8.24	84.32	74	Mexico	4.80	40.10
19	Australia	8.23	84.19	75	Mongolia	4.79	39.97
20	Qatar	8.09	82.39	76	El Salvador	4.76	39.59
21	Canada	8.01	81.36	77	Albania	4.62	37.79
22	Slovenia	7.91	80.08	78	Tunisia	4.56	37.02
23	Barbados	7.86	79.43	79	Peru	4.54	36.76
24	Estonia	7.82	78.92	80	Paraguay	4.49	36.12
25	Finland	7.80	78.66	81	Vietnam	4.48	35.99
26	New Zealand	7.79	78.53	82	Ghana	4.47	35.86
27	United States	7.78	78.41	83	Algeria	4.46	35.73
28	Spain	7.70	77.38	84	Guatemala	4.35	34.32
29	Portugal	7.67	76.99	85	Indonesia	4.32	33.93
29	United Arab Emirates	7.67	76.99	86	Philippines	4.30	33.68
31	Italy	7.62	76.35	87	Dominican Republic	4.15	31.75
32	Greece	7.53	75.19	88	Bolivia	4.11	31.23
33	Hungary	7.32	72.49	89	Botswana	4.06	30.59
34	Croatia	7.31	72.37	90	Kyrgyzstan	4.05	30.46
35	Latvia	7.29	72.11	91	Nicaragua	3.98	29.56
36	Czech Republic	7.26	71.72	92	Honduras	3.94	29.05
37	Russia	7.25	71.59	93	Namibia	3.93	28.92
38	Serbia	7.22	71.21	94	Sri Lanka	3.85	27.89
39	Uruguay	7.05	69.02	95	Cambodia	3.73	26.35
40	Poland	7.04	68.89	96	Mali	3.55	24.04
40	Saudi Arabia	7.04	68.89	97	Kenya	3.29	20.69
42	Slovakia	7.03	68.77	98	Senegal	3.23	19.92
43	Lithuania	7.00	68.38	99	India	3.05	17.61
44	Cyprus	6.93	67.48	100	Pakistan	3.03	17.35
45	Kazakhstan	6.84	66.32	101	Lesotho	3.02	17.22
46	Bulgaria	6.77	65.42	102	Bangladesh	2.57	11.44
47	Montenegro	6.74	65.04	103	Burkina Faso	2.46	10.03
48	Argentina	6.62	63.50	104	Rwanda	2.43	9.64
48	Romania	6.62	63.50	105	Tanzania	2.37	8.87
50	Malaysia	6.58	62.98	106	Uganda	2.18	6.43
51	Moldova	6.56	62.72	107	Ethiopia	1.87	2.44
52	Macedonia	6.55	62.60	108	Madagascar	1.68	0.00
53	Lebanon	6.45	61.31	n/a	Kuwait	n/a	n/a
54	Chile	6.35	60.03				
55	Costa Rica	6.27	59.00				
56	Ukraine	6.16	57.58				

Source: International Telecommunication Union, Measuring the Information Society 2014, ICT Development Index 2012–2013. ([www.itu.int/en/ITU-D/Statistics/Pages/publications/default.aspx](http://www.itu.int/en/ITU-D/Statistics/Pages/publications/default.aspx)) Unless otherwise specified, the data used for computation were collected in 2014.

## 1.2.6 Technology utilisation

Average answer to the question: To what extent do businesses in your country absorb new technology? [1 = not at all; 7 = aggressively absorb] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Iceland.....	6.17	86.21	57	Hungary.....	4.69	61.56
2	Japan.....	6.08	84.71	58	Mongolia.....	4.68	61.39
3	United States.....	6.07	84.43	59	China.....	4.66	60.97
4	Norway.....	6.05	84.21	60	Mexico.....	4.60	60.05
5	Israel.....	6.05	84.16	61	Croatia.....	4.55	59.21
6	Switzerland.....	6.05	84.13	62	Greece.....	4.53	58.89
7	United Arab Emirates.....	6.04	84.05	63	Morocco.....	4.53	58.81
8	Luxembourg.....	5.98	82.97	64	Dominican Republic.....	4.52	58.61
9	Sweden.....	5.96	82.73	65	Ecuador.....	4.49	58.18
10	Finland.....	5.84	80.63	66	Peru.....	4.48	57.98
11	New Zealand.....	5.80	80.01	67	Tunisia.....	4.45	57.58
12	Qatar.....	5.76	79.33	68	Romania.....	4.44	57.31
13	Germany.....	5.74	79.03	69	El Salvador.....	4.44	57.28
14	United Kingdom.....	5.72	78.70	70	Pakistan.....	4.42	57.00
15	Denmark.....	5.71	78.55	71	Bosnia and Herzegovina.....	4.42	56.96
16	Singapore.....	5.71	78.54	72	Bulgaria.....	4.39	56.46
17	Austria.....	5.68	78.02	73	Madagascar.....	4.37	56.10
18	Belgium.....	5.64	77.25	74	Montenegro.....	4.36	56.08
19	Netherlands.....	5.63	77.18	75	Colombia.....	4.36	56.07
20	Portugal.....	5.62	76.94	76	Kazakhstan.....	4.36	56.04
21	Australia.....	5.61	76.85	77	Botswana.....	4.32	55.41
22	Malaysia.....	5.58	76.31	78	Uruguay.....	4.32	55.39
23	Ireland.....	5.56	76.04	79	Lebanon.....	4.31	55.15
24	France.....	5.45	74.18	80	Ghana.....	4.31	55.11
25	South Korea.....	5.45	74.09	81	Cambodia.....	4.27	54.57
26	South Africa.....	5.43	73.91	82	Russia.....	4.25	54.11
27	Canada.....	5.43	73.89	83	Ukraine.....	4.23	53.91
28	Saudi Arabia.....	5.43	73.82	84	Poland.....	4.20	53.29
29	Estonia.....	5.39	73.11	85	India.....	4.19	53.22
30	Lithuania.....	5.36	72.60	86	Georgia.....	4.19	53.12
31	Panama.....	5.34	72.34	87	Macedonia.....	4.17	52.87
32	Jordan.....	5.32	71.92	88	Italy.....	4.15	52.54
33	Turkey.....	5.23	70.54	89	Mali.....	4.13	52.23
34	Malta.....	5.20	70.06	90	Bangladesh.....	4.12	52.08
35	Chile.....	5.20	69.94	91	Moldova.....	4.11	51.84
36	Cyprus.....	5.14	68.99	92	Uganda.....	4.09	51.50
37	Philippines.....	5.07	67.89	93	Albania.....	4.07	51.22
38	Indonesia.....	5.06	67.62	94	Armenia.....	4.05	50.91
39	Senegal.....	5.04	67.38	95	Paraguay.....	4.05	50.84
40	Costa Rica.....	5.03	67.10	96	Argentina.....	4.03	50.47
41	Barbados.....	5.01	66.86	97	Kyrgyzstan.....	3.95	49.11
42	Guatemala.....	5.01	66.78	98	Vietnam.....	3.89	48.20
43	Latvia.....	4.99	66.52	99	Venezuela.....	3.87	47.90
44	Rwanda.....	4.97	66.12	100	Nicaragua.....	3.85	47.49
45	Czech Republic.....	4.95	65.89	101	Egypt.....	3.84	47.37
46	Slovenia.....	4.94	65.72	102	Serbia.....	3.83	47.25
47	Spain.....	4.90	65.00	103	Ethiopia.....	3.81	46.89
48	Sri Lanka.....	4.89	64.80	104	Tanzania.....	3.80	46.59
49	Namibia.....	4.87	64.48	105	Bolivia.....	3.73	45.56
50	Thailand.....	4.86	64.36	106	Iran.....	3.73	45.52
51	Kenya.....	4.84	64.00	107	Burkina Faso.....	3.71	45.12
52	Slovakia.....	4.81	63.44	108	Lesotho.....	3.54	42.27
53	Brazil.....	4.77	62.84	109	Algeria.....	3.35	39.17
54	Honduras.....	4.77	62.80				
55	Kuwait.....	4.74	62.34				
56	Azerbaijan.....	4.73	62.21				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 1.3.1 Ease of hiring

#### Ease of hiring index | 2015

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Azerbaijan	0.00	100.00	48	Lesotho	33.33	66.67
1	Bangladesh	0.00	100.00	48	Mexico	33.33	66.67
1	Botswana	0.00	100.00	48	Montenegro	33.33	66.67
1	Denmark	0.00	100.00	48	Philippines	33.33	66.67
1	Egypt	0.00	100.00	48	Romania	33.33	66.67
1	Kazakhstan	0.00	100.00	48	Russia	33.33	66.67
1	Kuwait	0.00	100.00	48	Slovakia	33.33	66.67
1	Lithuania	0.00	100.00	48	Sweden	33.33	66.67
1	Malaysia	0.00	100.00	65	Tunisia	39.00	61.00
1	Namibia	0.00	100.00	66	Albania	44.33	55.67
1	Qatar	0.00	100.00	66	Algeria	44.33	55.67
1	Rwanda	0.00	100.00	66	Armenia	44.33	55.67
1	Saudi Arabia	0.00	100.00	66	Croatia	44.33	55.67
1	Singapore	0.00	100.00	66	Cyprus	44.33	55.67
1	Sri Lanka	0.00	100.00	66	Dominican Republic	44.33	55.67
1	Switzerland	0.00	100.00	66	El Salvador	44.33	55.67
1	United Arab Emirates	0.00	100.00	66	Finland	44.33	55.67
1	Uganda	0.00	100.00	66	Iceland	44.33	55.67
1	United States	0.00	100.00	66	Lebanon	44.33	55.67
20	Australia	11.00	89.00	66	Moldova	44.33	55.67
20	Austria	11.00	89.00	66	Peru	44.33	55.67
20	Barbados	11.00	89.00	66	Portugal	44.33	55.67
20	Belgium	11.00	89.00	66	South Africa	44.33	55.67
20	Canada	11.00	89.00	66	South Korea	44.33	55.67
20	China	11.00	89.00	66	Thailand	44.33	55.67
20	Colombia	11.00	89.00	66	Turkey	44.33	55.67
20	Czech Republic	11.00	89.00	66	Ukraine	44.33	55.67
20	Ghana	11.00	89.00	66	Uruguay	44.33	55.67
20	Hungary	11.00	89.00	85	Latvia	50.00	50.00
20	Iran	11.00	89.00	86	Bosnia and Herzegovina	55.67	44.33
20	Ireland	11.00	89.00	86	Ecuador	55.67	44.33
20	Israel	11.00	89.00	86	Guatemala	55.67	44.33
20	Jordan	11.00	89.00	86	Mali	55.67	44.33
20	Japan	11.00	89.00	86	Tanzania	55.67	44.33
20	Macedonia	11.00	89.00	91	Norway	61.00	39.00
20	Mongolia	11.00	89.00	92	Argentina	66.67	33.33
20	New Zealand	11.00	89.00	92	Paraguay	66.67	33.33
20	Poland	11.00	89.00	94	Indonesia	72.33	27.67
20	United Kingdom	11.00	89.00	95	Bolivia	77.67	22.33
40	Bulgaria	16.67	83.33	95	Brazil	77.67	22.33
40	Netherlands	16.67	83.33	95	Costa Rica	77.67	22.33
42	Burkina Faso	22.33	77.67	95	France	77.67	22.33
42	Nicaragua	22.33	77.67	95	Luxembourg	77.67	22.33
42	Vietnam	22.33	77.67	95	Panama	77.67	22.33
45	Italy	27.67	72.33	95	Spain	77.67	22.33
45	Malta	27.67	72.33	95	Serbia	77.67	22.33
47	India	27.83	72.17	95	Slovenia	77.67	22.33
48	Cambodia	33.33	66.67	95	Venezuela	77.67	22.33
48	Chile	33.33	66.67	105	Pakistan	83.33	16.67
48	Estonia	33.33	66.67	106	Honduras	100.00	0.00
48	Ethiopia	33.33	66.67	106	Madagascar	100.00	0.00
48	Georgia	33.33	66.67	106	Morocco	100.00	0.00
48	Germany	33.33	66.67	106	Senegal	100.00	0.00
48	Greece	33.33	66.67				
48	Kenya	33.33	66.67				
48	Kyrgyzstan	33.33	66.67				

Source: World Bank, Doing Business Report 2015. ([www.doingbusiness.org/data/exploretopics/labor-market-regulation](http://www.doingbusiness.org/data/exploretopics/labor-market-regulation))  
Unless otherwise specified, the data used for computation were collected in 2015.



## 1.3.2 Ease of redundancy

### Ease of redundancy index | 2015

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Argentina	0.00	100.00	55	Cambodia	37.50	62.50
1	Belgium	0.00	100.00	55	Ethiopia	37.50	62.50
1	Brazil	0.00	100.00	55	Greece	37.50	62.50
1	Bulgaria	0.00	100.00	55	Kazakhstan	37.50	62.50
1	Canada	0.00	100.00	55	Kenya	37.50	62.50
1	Colombia	0.00	100.00	55	Lebanon	37.50	62.50
1	Costa Rica	0.00	100.00	55	Luxembourg	37.50	62.50
1	Czech Republic	0.00	100.00	55	Norway	37.50	62.50
1	Denmark	0.00	100.00	55	Pakistan	37.50	62.50
1	Dominican Republic	0.00	100.00	55	Philippines	37.50	62.50
1	El Salvador	0.00	100.00	55	Poland	37.50	62.50
1	Georgia	0.00	100.00	55	Romania	37.50	62.50
1	Guatemala	0.00	100.00	55	Rwanda	37.50	62.50
1	Hungary	0.00	100.00	55	Slovakia	37.50	62.50
1	Iceland	0.00	100.00	55	South Africa	37.50	62.50
1	Israel	0.00	100.00	55	South Korea	37.50	62.50
1	Kuwait	0.00	100.00	55	Vietnam	37.50	62.50
1	Kyrgyzstan	0.00	100.00	74	Algeria	50.00	50.00
1	Lesotho	0.00	100.00	74	Austria	50.00	50.00
1	Macedonia	0.00	100.00	74	Bangladesh	50.00	50.00
1	Mongolia	0.00	100.00	74	Botswana	50.00	50.00
1	Nicaragua	0.00	100.00	74	Cyprus	50.00	50.00
1	Qatar	0.00	100.00	74	France	50.00	50.00
1	Saudi Arabia	0.00	100.00	74	Germany	50.00	50.00
1	Singapore	0.00	100.00	74	India	50.00	50.00
1	Switzerland	0.00	100.00	74	Madagascar	50.00	50.00
1	Thailand	0.00	100.00	74	Mali	50.00	50.00
1	Uganda	0.00	100.00	74	Moldova	50.00	50.00
1	United Arab Emirates	0.00	100.00	74	Russia	50.00	50.00
1	United Kingdom	0.00	100.00	74	Senegal	50.00	50.00
1	United States	0.00	100.00	74	Sweden	50.00	50.00
1	Uruguay	0.00	100.00	88	China	62.50	37.50
33	Albania	12.50	87.50	88	Croatia	62.50	37.50
33	Armenia	12.50	87.50	88	Ghana	62.50	37.50
33	Australia	12.50	87.50	88	Iran	62.50	37.50
33	Azerbaijan	12.50	87.50	88	Italy	62.50	37.50
33	Barbados	12.50	87.50	88	Morocco	62.50	37.50
33	Ireland	12.50	87.50	88	Portugal	62.50	37.50
33	Japan	12.50	87.50	88	Tanzania	62.50	37.50
33	Malaysia	12.50	87.50	88	Ukraine	62.50	37.50
33	New Zealand	12.50	87.50	97	Egypt	75.00	25.00
33	Turkey	12.50	87.50	97	Honduras	75.00	25.00
43	Chile	25.00	75.00	97	Indonesia	75.00	25.00
43	Ecuador	25.00	75.00	97	Jordan	75.00	25.00
43	Estonia	25.00	75.00	97	Panama	75.00	25.00
43	Finland	25.00	75.00	97	Paraguay	75.00	25.00
43	Latvia	25.00	75.00	97	Peru	75.00	25.00
43	Lithuania	25.00	75.00	97	Sri Lanka	75.00	25.00
43	Malta	25.00	75.00	105	Mexico	87.50	12.50
43	Montenegro	25.00	75.00	105	Netherlands	87.50	12.50
43	Namibia	25.00	75.00	107	Bolivia	100.00	0.00
43	Serbia	25.00	75.00	107	Tunisia	100.00	0.00
43	Spain	25.00	75.00	107	Venezuela	100.00	0.00
43	Slovenia	25.00	75.00				
55	Burkina Faso	37.50	62.50				
55	Bosnia and Herzegovina	37.50	62.50				

Source: Source: World Bank, Doing Business Report 2015.  
(www.doingbusiness.org)

Unless otherwise specified, the data used for computation were collected in 2015.



### 1.3.3 Labour–employer cooperation

Average answer to the question: In your country, how would you characterise labour–employer relations?  
[1 = generally confrontational; 7 = generally cooperative] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland.....	6.18	86.28	57	Botswana.....	4.30	54.98
2	Singapore.....	6.05	84.18	58	Kenya.....	4.29	54.85
3	Denmark.....	5.96	82.68	59	Hungary.....	4.29	54.75
4	Norway.....	5.83	80.47	60	Cambodia.....	4.25	54.13
5	Qatar.....	5.67	77.88	61	Israel.....	4.23	53.88
6	Japan.....	5.58	76.31	62	Madagascar.....	4.23	53.84
7	Netherlands.....	5.54	75.73	63	Belgium.....	4.23	53.77
8	New Zealand.....	5.51	75.14	64	Vietnam.....	4.22	53.75
9	United Arab Emirates.....	5.48	74.74	65	Georgia.....	4.22	53.69
10	Iceland.....	5.43	73.89	66	El Salvador.....	4.19	53.15
11	Austria.....	5.43	73.86	67	Lebanon.....	4.18	52.99
12	Costa Rica.....	5.42	73.71	68	Morocco.....	4.16	52.68
13	Malaysia.....	5.42	73.63	69	Ghana.....	4.12	51.99
14	Luxembourg.....	5.39	73.22	70	Moldova.....	4.12	51.98
15	Ireland.....	5.39	73.16	71	Lithuania.....	4.12	51.92
16	Sweden.....	5.37	72.81	72	Kyrgyzstan.....	4.11	51.75
17	Guatemala.....	5.23	70.48	73	Russia.....	4.10	51.64
18	Germany.....	5.22	70.41	74	India.....	4.08	51.39
19	United Kingdom.....	5.10	68.27	75	Uganda.....	4.07	51.18
20	Rwanda.....	5.00	66.74	76	Mongolia.....	4.07	51.14
21	Canada.....	4.96	65.93	77	Spain.....	4.06	51.08
22	Finland.....	4.95	65.88	78	Burkina Faso.....	4.06	51.06
23	Estonia.....	4.92	65.39	79	Egypt.....	4.04	50.61
24	Philippines.....	4.91	65.15	80	Turkey.....	4.03	50.42
25	Thailand.....	4.86	64.33	81	Ethiopia.....	4.02	50.38
26	Barbados.....	4.86	64.28	82	Poland.....	4.01	50.18
27	Malta.....	4.83	63.85	83	Namibia.....	4.00	50.02
28	Latvia.....	4.82	63.72	84	Lesotho.....	3.99	49.85
29	Cyprus.....	4.78	63.05	85	Bangladesh.....	3.98	49.73
30	Albania.....	4.74	62.37	86	Slovakia.....	3.96	49.34
31	Sri Lanka.....	4.72	62.03	87	Montenegro.....	3.96	49.28
32	Honduras.....	4.67	61.20	88	Pakistan.....	3.93	48.89
33	Armenia.....	4.67	61.16	89	Greece.....	3.93	48.75
34	United States.....	4.67	61.09	90	Australia.....	3.92	48.59
35	Bosnia and Herzegovina.....	4.62	60.31	91	Bulgaria.....	3.90	48.32
36	Jordan.....	4.59	59.88	92	Tanzania.....	3.80	46.73
37	Mexico.....	4.59	59.77	93	Tunisia.....	3.80	46.60
38	Indonesia.....	4.58	59.61	94	Ukraine.....	3.77	46.21
39	Colombia.....	4.56	59.32	95	Bolivia.....	3.75	45.80
40	Chile.....	4.56	59.27	96	Slovenia.....	3.74	45.72
41	Kazakhstan.....	4.55	59.13	97	Brazil.....	3.74	45.69
42	Saudi Arabia.....	4.54	59.02	98	Romania.....	3.73	45.54
43	Panama.....	4.53	58.76	99	Croatia.....	3.69	44.81
44	Czech Republic.....	4.52	58.74	100	France.....	3.60	43.39
45	Mali.....	4.51	58.42	101	Algeria.....	3.60	43.29
46	Dominican Republic.....	4.47	57.92	102	South Korea.....	3.58	42.94
47	Kuwait.....	4.45	57.51	103	Iran.....	3.51	41.89
48	Senegal.....	4.44	57.39	104	Argentina.....	3.46	41.05
49	China.....	4.42	56.98	105	Italy.....	3.38	39.67
50	Paraguay.....	4.41	56.79	106	Uruguay.....	3.36	39.29
51	Macedonia.....	4.35	55.80	107	Serbia.....	3.26	37.66
52	Peru.....	4.32	55.30	108	Venezuela.....	2.86	30.96
53	Portugal.....	4.32	55.28	109	South Africa.....	2.52	25.29
54	Azerbaijan.....	4.31	55.18				
55	Ecuador.....	4.30	55.07				
55	Nicaragua.....	4.30	55.07				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 1.3.4 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] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	New Zealand	6.47	91.14	57	Slovakia	4.21	53.48
2	Norway	6.25	87.50	58	Kazakhstan	4.20	53.41
3	Finland	6.15	85.90	59	Israel	4.19	53.19
4	Netherlands	6.07	84.51	60	India	4.17	52.87
5	Denmark	6.04	83.96	61	Georgia	4.15	52.49
6	Singapore	5.98	83.02	62	Mexico	4.14	52.30
7	Switzerland	5.93	82.17	63	Honduras	4.09	51.47
8	Canada	5.93	82.09	64	Senegal	4.08	51.30
9	Sweden	5.91	81.80	65	Ecuador	4.03	50.52
10	United Kingdom	5.80	80.03	66	Uruguay	4.02	50.40
11	Belgium	5.72	78.67	67	Malta	3.98	49.75
12	United States	5.69	78.21	68	Russia	3.97	49.49
13	Australia	5.65	77.45	69	Cyprus	3.94	49.07
14	Ireland	5.62	77.03	70	Pakistan	3.93	48.91
15	Malaysia	5.62	77.00	71	Uganda	3.92	48.64
16	Qatar	5.61	76.82	72	Cambodia	3.90	48.37
17	Luxembourg	5.54	75.72	73	El Salvador	3.90	48.29
18	Japan	5.54	75.64	74	Madagascar	3.85	47.52
19	Germany	5.49	74.82	75	Slovenia	3.85	47.50
20	United Arab Emirates	5.47	74.45	76	Albania	3.85	47.46
21	South Africa	5.46	74.34	77	Tunisia	3.85	47.43
22	Estonia	5.39	73.17	78	Armenia	3.84	47.28
23	Iceland	5.27	71.11	79	Azerbaijan	3.81	46.88
24	Austria	5.25	70.88	80	Bolivia	3.80	46.73
25	Indonesia	5.01	66.86	81	Greece	3.80	46.63
26	Philippines	5.01	66.76	82	Croatia	3.80	46.62
27	Sri Lanka	4.85	64.12	83	Panama	3.79	46.54
28	Latvia	4.82	63.72	84	Montenegro	3.77	46.24
29	Kenya	4.82	63.65	85	Dominican Republic	3.74	45.65
30	Rwanda	4.77	62.90	86	Mongolia	3.71	45.18
31	Botswana	4.76	62.73	87	Tanzania	3.71	45.10
32	Barbados	4.75	62.52	88	Macedonia	3.68	44.61
33	Chile	4.72	61.93	89	Bangladesh	3.62	43.69
34	Costa Rica	4.68	61.30	90	Moldova	3.60	43.27
35	China	4.61	60.20	91	Kuwait	3.58	42.97
36	Brazil	4.60	60.01	92	Bulgaria	3.55	42.57
37	Saudi Arabia	4.57	59.53	93	Hungary	3.55	42.48
38	Czech Republic	4.54	58.96	94	Ukraine	3.50	41.60
39	France	4.53	58.88	95	Vietnam	3.46	40.97
40	South Korea	4.49	58.12	96	Lesotho	3.44	40.73
41	Lithuania	4.48	58.06	97	Italy	3.41	40.11
42	Thailand	4.48	58.00	98	Nicaragua	3.40	40.07
43	Peru	4.45	57.56	99	Ethiopia	3.37	39.46
44	Colombia	4.39	56.48	100	Lebanon	3.30	38.40
45	Ghana	4.38	56.31	101	Romania	3.30	38.28
46	Bosnia and Herzegovina	4.36	55.99	102	Kyrgyzstan	3.28	37.98
47	Spain	4.35	55.83	103	Serbia	3.21	36.87
48	Guatemala	4.33	55.44	104	Paraguay	3.20	36.72
49	Turkey	4.28	54.69	105	Iran	3.15	35.75
50	Morocco	4.28	54.67	106	Egypt	3.06	34.26
51	Venezuela	4.25	54.17	107	Mali	2.93	32.18
52	Argentina	4.24	54.08	108	Burkina Faso	2.92	32.03
53	Namibia	4.24	54.03	109	Algeria	2.63	27.15
54	Poland	4.22	53.60				
55	Jordan	4.21	53.56				
56	Portugal	4.21	53.50				

Source: World Economic Forum, Executive Opinion Survey 2013-2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.



# 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 – FDI is a key source of new technology] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Ireland	6.37	89.49	57	Spain	4.67	61.25
2	Singapore	5.94	82.40	58	Norway	4.65	60.89
3	United Arab Emirates	5.84	80.65	59	Austria	4.63	60.56
4	Panama	5.68	77.97	60	Poland	4.63	60.47
5	Costa Rica	5.60	76.71	61	Canada	4.60	60.04
6	Qatar	5.60	76.64	62	South Korea	4.58	59.68
7	Lithuania	5.55	75.79	63	Senegal	4.57	59.51
8	Malaysia	5.52	75.32	64	Macedonia	4.56	59.27
9	Luxembourg	5.39	73.11	65	Cyprus	4.53	58.86
10	Saudi Arabia	5.37	72.87	66	Bosnia and Herzegovina	4.51	58.49
11	Israel	5.37	72.79	67	Armenia	4.50	58.26
12	Chile	5.30	71.63	68	China	4.47	57.81
13	Malta	5.25	70.80	69	Montenegro	4.47	57.75
14	Portugal	5.24	70.75	70	Tunisia	4.40	56.64
15	Thailand	5.18	69.67	71	Egypt	4.37	56.17
16	United Kingdom	5.18	69.62	72	Finland	4.34	55.65
17	Slovakia	5.15	69.12	73	Mali	4.31	55.23
18	Hungary	5.14	69.05	74	Albania	4.30	54.97
19	Uruguay	5.14	68.98	75	Pakistan	4.28	54.72
20	Australia	5.12	68.75	76	Bulgaria	4.28	54.60
21	New Zealand	5.12	68.74	77	Burkina Faso	4.25	54.09
22	Barbados	5.11	68.58	78	Vietnam	4.23	53.91
23	Rwanda	5.11	68.54	79	Botswana	4.23	53.87
24	Mexico	5.11	68.47	80	India	4.22	53.71
25	Peru	5.08	67.99	81	Paraguay	4.21	53.54
26	Turkey	5.07	67.75	82	Moldova	4.20	53.27
27	Dominican Republic	5.06	67.70	83	Tanzania	4.19	53.23
28	Philippines	5.02	66.95	84	Ghana	4.19	53.18
29	Belgium	5.02	66.94	85	Madagascar	4.15	52.52
30	Jordan	5.01	66.83	86	Greece	4.13	52.20
31	Estonia	5.00	66.63	87	El Salvador	4.11	51.90
32	Switzerland	4.99	66.58	88	Kazakhstan	4.07	51.19
33	Czech Republic	4.98	66.40	89	Serbia	4.05	50.78
34	Netherlands	4.97	66.13	90	Nicaragua	4.03	50.52
35	Guatemala	4.96	66.02	91	Croatia	4.00	50.08
36	Brazil	4.94	65.64	92	Ecuador	3.99	49.77
37	Indonesia	4.91	65.19	93	Ethiopia	3.98	49.69
38	United States	4.87	64.45	94	Bangladesh	3.94	48.99
39	Honduras	4.86	64.36	95	Georgia	3.94	48.94
40	Germany	4.85	64.17	96	Slovenia	3.93	48.75
41	Latvia	4.85	64.16	97	Algeria	3.88	47.97
42	Morocco	4.84	64.06	98	Kyrgyzstan	3.87	47.89
43	Denmark	4.84	64.03	99	Russia	3.77	46.18
44	France	4.81	63.58	100	Iran	3.76	46.05
45	Romania	4.78	63.00	101	Iceland	3.74	45.73
46	South Africa	4.78	62.94	102	Ukraine	3.69	44.88
47	Cambodia	4.77	62.89	103	Italy	3.65	44.20
48	Sri Lanka	4.76	62.72	104	Bolivia	3.61	43.47
49	Colombia	4.76	62.69	105	Lesotho	3.46	40.93
50	Japan	4.73	62.22	106	Lebanon	3.36	39.34
51	Uganda	4.73	62.10	107	Kuwait	3.22	37.06
52	Namibia	4.72	61.97	108	Argentina	3.09	34.89
53	Kenya	4.71	61.83	109	Venezuela	2.92	32.00
54	Sweden	4.69	61.54				
55	Azerbaijan	4.69	61.48				
55	Mongolia	4.69	61.48				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 2.1.2 Prevalence of foreign ownership

Average answer to the question: How prevalent is foreign ownership of companies in your country?  
[1 = very rare; 7 = highly prevalent] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg	6.26	87.67	57	Montenegro	4.49	58.14
2	Singapore	6.13	85.49	58	Colombia	4.47	57.82
3	Ireland	6.09	84.76	59	Greece	4.47	57.79
4	United Kingdom	6.08	84.71	60	Kenya	4.47	57.78
5	Slovakia	5.96	82.73	61	Argentina	4.43	57.15
6	Czech Republic	5.96	82.69	62	Tunisia	4.43	57.08
7	Estonia	5.77	79.52	63	Portugal	4.42	56.98
8	New Zealand	5.67	77.81	64	Rwanda	4.41	56.87
9	United Arab Emirates	5.66	77.63	65	Cyprus	4.41	56.85
10	Australia	5.65	77.58	66	Paraguay	4.40	56.69
11	Canada	5.54	75.63	67	Bosnia and Herzegovina	4.40	56.61
12	Chile	5.50	74.98	68	Lithuania	4.36	56.02
13	Hungary	5.50	74.95	69	Romania	4.34	55.67
14	Botswana	5.47	74.51	70	Nicaragua	4.32	55.31
15	Barbados	5.46	74.41	71	Brazil	4.30	54.99
16	Netherlands	5.46	74.36	72	Croatia	4.28	54.71
17	Panama	5.45	74.18	73	Armenia	4.25	54.24
18	Belgium	5.41	73.42	74	Madagascar	4.25	54.23
19	France	5.39	73.21	75	India	4.24	54.01
20	Uruguay	5.37	72.89	76	South Korea	4.17	52.77
21	Denmark	5.36	72.63	77	Georgia	4.15	52.55
22	Costa Rica	5.31	71.78	78	Kyrgyzstan	4.14	52.26
22	Japan	5.31	71.78	79	Turkey	4.12	51.95
24	Latvia	5.28	71.28	80	Ecuador	4.10	51.65
25	Malaysia	5.26	71.01	81	Vietnam	4.09	51.58
26	Norway	5.26	71.00	82	Tanzania	4.08	51.41
27	Uganda	5.21	70.09	83	Burkina Faso	4.06	51.06
28	Sweden	5.16	69.41	84	Saudi Arabia	4.05	50.84
29	Switzerland	5.16	69.39	85	Lesotho	4.05	50.82
30	Namibia	5.15	69.15	86	Bulgaria	4.03	50.50
31	Mexico	5.10	68.42	87	Serbia	4.02	50.30
32	Dominican Republic	5.10	68.40	88	El Salvador	4.01	50.20
33	Morocco	5.10	68.39	89	Kazakhstan	3.96	49.32
34	United States	5.08	68.01	90	Macedonia	3.91	48.57
35	South Africa	5.06	67.74	91	Lebanon	3.88	47.94
36	Finland	5.05	67.50	92	Pakistan	3.82	47.07
37	Peru	5.02	66.95	93	Azerbaijan	3.78	46.31
38	Germany	5.01	66.75	94	Moldova	3.75	45.82
39	Spain	4.95	65.79	95	Bangladesh	3.74	45.66
40	Austria	4.93	65.48	96	Mali	3.51	41.80
41	Philippines	4.91	65.16	97	Bolivia	3.49	41.58
42	Israel	4.89	64.76	98	Ukraine	3.47	41.23
43	Guatemala	4.87	64.42	99	Italy	3.46	41.00
44	Poland	4.86	64.31	100	Russia	3.39	39.86
45	Sri Lanka	4.81	63.48	101	Egypt	3.33	38.85
46	Qatar	4.78	63.01	102	Iceland	3.27	37.78
47	Malta	4.78	62.97	103	Venezuela	3.24	37.41
48	Honduras	4.72	61.98	104	Algeria	3.22	37.05
49	Mongolia	4.71	61.83	105	Ethiopia	3.20	36.67
50	Cambodia	4.70	61.64	106	Albania	3.19	36.55
51	Jordan	4.65	60.81	107	Slovenia	3.16	35.99
52	Indonesia	4.57	59.51	108	Kuwait	3.01	33.50
53	Thailand	4.55	59.10	109	Iran	2.19	19.90
54	China	4.53	58.87				
55	Ghana	4.53	58.84				
56	Senegal	4.50	58.28				

Source: World Economic Forum, Executive Opinion Survey  
2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 2.1.3 Migrant stock

### Adult migrant stock (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United Arab Emirates .....	83.75	100.00	58	Czech Republic .....	4.04	9.22
1	Kuwait .....	60.21	100.00	59	Dominican Republic .....	3.87	8.82
1	Luxembourg .....	43.25	100.00	60	Venezuela .....	3.85	8.77
1	Qatar .....	73.82	100.00	61	Rwanda .....	3.84	8.75
5	Singapore .....	42.93	99.25	62	Azerbaijan .....	3.44	7.83
6	Jordan .....	40.22	92.98	63	Iran .....	3.42	7.78
7	Saudi Arabia .....	31.43	72.62	64	Albania .....	3.05	6.92
8	Switzerland .....	28.91	66.79	65	Slovakia .....	2.75	6.22
9	Australia .....	27.71	64.02	66	Paraguay .....	2.73	6.18
10	Israel .....	26.47	61.14	67	South Korea .....	2.50	5.65
11	New Zealand .....	25.14	58.07	68	Turkey .....	2.49	5.62
12	Kazakhstan .....	21.14	48.81	69	Ecuador .....	2.28	5.15
13	Canada .....	20.70	47.79	70	Chile .....	2.26	5.09
14	Cyprus .....	18.17	41.92	71	Pakistan .....	2.24	5.05
15	Croatia .....	17.65	40.71	72	Namibia .....	2.23	5.03
16	Lebanon .....	17.62	40.66	73	Uruguay .....	2.16	4.86
17	Estonia .....	16.31	37.63	74	Kenya .....	2.15	4.85
18	Ireland .....	15.90	36.66	75	Japan .....	1.92	4.30
19	Sweden .....	15.88	36.62	76	Poland .....	1.74	3.88
20	Austria .....	15.70	36.21	77	Sri Lanka .....	1.53	3.40
21	United States .....	14.31	32.99	78	Senegal .....	1.48	3.29
22	Latvia .....	13.80	31.80	79	Bolivia .....	1.45	3.22
23	Spain .....	13.78	31.76	80	Uganda .....	1.41	3.13
24	Norway .....	13.77	31.75	81	Ghana .....	1.39	3.07
25	United Kingdom .....	12.39	28.55	82	Mali .....	1.28	2.82
26	Germany .....	11.90	27.41	83	Bulgaria .....	1.16	2.56
27	Netherlands .....	11.72	27.00	84	Romania .....	0.92	1.98
28	France .....	11.57	26.65	85	Mexico .....	0.90	1.95
29	Ukraine .....	11.39	26.22	86	Bangladesh .....	0.89	1.93
30	Barbados .....	11.34	26.12	87	Ethiopia .....	0.76	1.63
31	Slovenia .....	11.26	25.93	88	Algeria .....	0.69	1.46
32	Moldova .....	11.23	25.86	89	Nicaragua .....	0.68	1.44
33	Armenia .....	10.65	24.52	90	El Salvador .....	0.66	1.38
34	Belgium .....	10.44	24.04	91	Tanzania .....	0.64	1.34
35	Iceland .....	10.43	24.01	92	Mongolia .....	0.61	1.27
36	Denmark .....	9.91	22.80	93	Bosnia and Herzegovina .....	0.61	1.26
37	Italy .....	9.38	21.58	94	Cambodia .....	0.50	1.02
38	Greece .....	8.88	20.42	95	Guatemala .....	0.47	0.95
39	Costa Rica .....	8.61	19.80	96	India .....	0.43	0.85
40	Portugal .....	8.43	19.37	97	Egypt .....	0.36	0.70
41	Malaysia .....	8.31	19.10	98	Peru .....	0.35	0.66
42	Montenegro .....	8.16	18.75	99	Honduras .....	0.34	0.65
43	Malta .....	8.03	18.45	100	Tunisia .....	0.33	0.63
44	Russia .....	7.73	17.76	101	Brazil .....	0.30	0.55
45	Botswana .....	7.25	16.64	102	Colombia .....	0.27	0.48
46	Macedonia .....	6.63	15.21	103	Philippines .....	0.22	0.36
47	Serbia .....	5.60	12.82	104	Morocco .....	0.15	0.22
48	Thailand .....	5.55	12.72	105	Madagascar .....	0.15	0.21
49	Finland .....	5.40	12.37	106	Lesotho .....	0.15	0.21
50	Lithuania .....	4.90	11.20	107	Indonesia .....	0.12	0.13
51	Hungary .....	4.75	10.86	108	Vietnam .....	0.07	0.02
52	Argentina .....	4.55	10.39	109	China .....	0.06	0.00
53	South Africa .....	4.55	10.39				
54	Georgia .....	4.37	9.99				
55	Burkina Faso .....	4.12	9.39				
56	Panama .....	4.10	9.35				
57	Kyrgyzstan .....	4.09	9.33				

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex. ([esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm](http://esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm))  
Unless otherwise specified, the data used for computation were collected in 2013.



## 2.1.4 International students

### Tertiary inbound mobility ratio (%) | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United Arab Emirates	44.63	100.00	57	Egypt (2010)	1.85	7.61
1	Qatar	40.71	100.00	58	Romania (2011)	1.84	7.58
1	Luxembourg	40.56	100.00	59	Lithuania (2012)	1.79	7.36
1	Cyprus	23.46	100.00	60	South Korea (2012)	1.77	7.27
5	Singapore	19.17	81.63	61	Madagascar (2012)	1.74	7.12
6	Australia (2012)	18.30	77.92	62	Kazakhstan (2012)	1.38	5.58
7	United Kingdom (2012)	17.14	72.96	63	Albania (2012)	1.30	5.25
8	Switzerland (2012)	16.50	70.22	64	Israel (2012)	1.19	4.77
9	New Zealand (2012)	15.79	67.21	65	Poland (2012)	1.17	4.70
10	Austria (2012)	15.42	65.62	66	Honduras	0.89	3.50
11	Barbados (2011)	13.80	58.69	67	Turkey (2012)	0.89	3.48
12	Lebanon (2012)	12.82	54.49	68	Thailand (2012)	0.84	3.27
13	France (2012)	11.82	50.22	69	Rwanda (2012)	0.76	2.96
14	Uganda (2011)	10.73	45.58	70	Mongolia	0.62	2.35
15	Namibia (2008)	10.17	43.17	71	Ecuador (2012)	0.59	2.21
16	Jordan (2012)	9.11	38.64	72	Algeria (2011)	0.55	2.04
17	Belgium (2012)	8.98	38.10	73	Croatia (2012)	0.54	1.98
18	Czech Republic (2012)	8.96	38.01	74	Tunisia (2012)	0.53	1.97
19	Denmark (2012)	8.13	34.46	75	Mali (2011)	0.53	1.95
20	Norway (2012)	7.75	32.81	76	Lesotho (2012)	0.50	1.82
21	Netherlands (2012)	7.25	30.67	77	El Salvador (2012)	0.41	1.42
22	Germany (2012)	7.04	29.80	78	Botswana (2011)	0.35	1.20
23	Bosnia and Herzegovina	6.48	27.41	79	Chile (2012)	0.31	1.02
24	Sweden (2012)	6.32	26.69	80	China (2012)	0.27	0.86
25	Iceland (2012)	6.21	26.24	81	Brazil (2012)	0.21	0.59
26	Ireland (2012)	5.76	24.33	82	Vietnam	0.16	0.38
27	Finland (2012)	5.71	24.10	83	Sri Lanka (2012)	0.14	0.28
28	Malaysia (2012)	5.22	22.01	84	Indonesia (2012)	0.12	0.19
29	Malta (2012)	4.84	20.40	85	Iran (2012)	0.10	0.13
30	Portugal (2012)	4.75	19.99	86	Bangladesh (2009)	0.10	0.12
31	Hungary (2012)	4.60	19.37	86	India (2012)	0.10	0.12
32	Saudi Arabia	4.58	19.27	86	Philippines (2008)	0.10	0.12
33	Greece (2012)	4.37	18.38	89	Venezuela (2008)	0.09	0.08
34	South Africa (2012)	4.19	17.62	90	Cambodia (2006)	0.07	0.00
35	Slovakia (2012)	4.09	17.20	n/a	Argentina	n/a	n/a
36	Italy (2012)	4.04	16.95	n/a	Bolivia	n/a	n/a
37	Kyrgyzstan	3.96	16.61	n/a	Canada	n/a	n/a
38	Bulgaria (2012)	3.93	16.52	n/a	Colombia	n/a	n/a
39	Japan (2012)	3.88	16.27	n/a	Costa Rica	n/a	n/a
40	Serbia	3.74	15.67	n/a	Ethiopia	n/a	n/a
41	United States (2012)	3.53	14.77	n/a	Guatemala	n/a	n/a
42	Dominican Republic (2012)	3.48	14.59	n/a	Kenya	n/a	n/a
43	Ghana (2012)	3.09	12.91	n/a	Kuwait	n/a	n/a
44	Georgia	3.03	12.66	n/a	Mexico	n/a	n/a
45	Armenia	3.02	12.59	n/a	Montenegro	n/a	n/a
46	Burkina Faso	2.90	12.09	n/a	Nicaragua	n/a	n/a
47	Spain (2012)	2.84	11.82	n/a	Pakistan	n/a	n/a
48	Latvia (2012)	2.80	11.66	n/a	Panama	n/a	n/a
49	Azerbaijan (2012)	2.50	10.40	n/a	Paraguay	n/a	n/a
50	Estonia (2012)	2.33	9.64	n/a	Peru	n/a	n/a
51	Slovenia (2012)	2.27	9.38	n/a	Senegal	n/a	n/a
52	Ukraine	2.25	9.32	n/a	Tanzania	n/a	n/a
53	Russia (2012)	2.17	8.99	n/a	Uruguay	n/a	n/a
54	Macedonia (2012)	2.17	8.96				
55	Morocco (2010)	1.93	7.94				
56	Moldova	1.88	7.74				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 2.1.5 Brain gain

Average answer to the question: Does your country attract talented people from abroad? [1 = not at all; 7 = attracts the best and brightest from around the world] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland.....	6.07	84.56	57	Japan.....	3.31	38.52
2	Singapore.....	6.01	83.46	58	Mexico.....	3.30	38.36
3	United Arab Emirates .....	5.95	82.47	59	Philippines.....	3.28	37.97
4	Qatar .....	5.90	81.68	60	Israel.....	3.27	37.85
5	United Kingdom.....	5.87	81.16	61	Tanzania .....	3.27	37.80
6	United States.....	5.78	79.73	62	Guatemala.....	3.26	37.67
7	Luxembourg .....	5.48	74.69	63	Colombia.....	3.14	35.74
8	Canada.....	5.24	70.61	64	Honduras.....	3.13	35.53
9	Ireland .....	5.12	68.69	65	Nicaragua .....	3.12	35.38
10	Malaysia .....	5.03	67.12	66	Russia .....	3.10	35.05
11	Panama .....	4.92	65.37	67	Czech Republic .....	3.07	34.53
12	Norway .....	4.84	64.06	68	Estonia .....	3.06	34.33
13	Netherlands.....	4.83	63.91	69	Uganda.....	3.01	33.57
14	Australia .....	4.79	63.19	70	Madagascar.....	3.01	33.47
15	Saudi Arabia .....	4.74	62.28	71	Montenegro .....	2.95	32.49
16	Germany.....	4.70	61.62	72	Albania .....	2.94	32.38
17	New Zealand .....	4.64	60.69	73	Turkey .....	2.91	31.88
18	Rwanda .....	4.61	60.17	74	Spain .....	2.81	30.23
19	Barbados.....	4.47	57.78	75	Tunisia .....	2.81	30.18
20	Chile .....	4.34	55.63	76	Ethiopia .....	2.77	29.54
21	Malta.....	4.32	55.37	77	Uruguay.....	2.75	29.10
22	Indonesia.....	4.31	55.09	78	Latvia.....	2.73	28.92
23	Sweden .....	4.29	54.81	79	Egypt .....	2.72	28.73
24	China .....	4.24	54.04	80	Pakistan.....	2.71	28.50
25	South Korea .....	4.24	53.99	81	Paraguay.....	2.71	28.48
26	Austria .....	4.12	52.04	82	Mongolia.....	2.66	27.62
27	Belgium .....	4.03	50.43	83	Romania.....	2.62	26.97
28	Costa Rica.....	4.01	50.11	84	Georgia.....	2.61	26.87
29	Azerbaijan .....	3.99	49.90	85	Slovakia.....	2.60	26.67
30	Jordan .....	3.99	49.86	86	Hungary.....	2.59	26.53
31	Thailand.....	3.95	49.11	87	Armenia.....	2.52	25.35
32	Kazakhstan.....	3.92	48.62	88	Slovenia.....	2.51	25.14
33	South Africa.....	3.90	48.34	89	Argentina.....	2.50	24.96
34	Morocco.....	3.90	48.28	90	Sri Lanka .....	2.50	24.94
35	France .....	3.84	47.38	91	Poland .....	2.45	24.19
36	Peru.....	3.83	47.25	92	Burkina Faso.....	2.43	23.90
37	India.....	3.82	46.99	93	Bangladesh .....	2.40	23.39
38	Denmark.....	3.76	46.06	94	Greece.....	2.35	22.46
39	Botswana.....	3.72	45.25	95	Italy.....	2.34	22.33
40	Finland.....	3.67	44.56	96	Lithuania.....	2.31	21.87
41	Kuwait.....	3.66	44.37	97	Ukraine.....	2.28	21.40
42	Senegal .....	3.66	44.33	98	Algeria .....	2.26	20.98
43	Kenya .....	3.65	44.18	99	Macedonia.....	2.17	19.43
44	Cambodia.....	3.65	44.10	100	Lebanon.....	2.16	19.25
45	Brazil .....	3.58	42.94	101	Kyrgyzstan.....	2.06	17.70
46	Lesotho.....	3.55	42.55	102	Moldova.....	1.82	13.72
47	Cyprus.....	3.52	41.97	103	Iran .....	1.82	13.70
48	El Salvador .....	3.50	41.60	104	Bulgaria .....	1.81	13.54
49	Ghana.....	3.44	40.60	104	Croatia .....	1.81	13.54
50	Iceland.....	3.42	40.29	106	Serbia.....	1.60	10.03
51	Namibia .....	3.41	40.22	107	Venezuela.....	1.41	6.91
52	Portugal.....	3.41	40.15	n/a	Bosnia and Herzegovina .....	n/a	n/a
53	Vietnam .....	3.37	39.56	n/a	Ecuador.....	n/a	n/a
54	Bolivia.....	3.36	39.37				
55	Dominican Republic .....	3.35	39.10				
56	Mali.....	3.33	38.87				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 2.1.6 Brain drain

Average answer to the question: Does your country retain talented people? [1 = the best and brightest leave to pursue opportunities in other countries; 7 = the best and brightest stay and pursue opportunities in the country] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	5.78	79.74	57	Namibia	3.40	40.00
2	Qatar	5.78	79.63	58	Colombia	3.39	39.87
3	United States	5.73	78.76	59	Honduras	3.36	39.30
4	Finland	5.58	76.36	60	Senegal	3.35	39.20
5	Norway	5.58	76.28	61	Argentina	3.32	38.66
6	United Arab Emirates	5.47	74.57	62	Czech Republic	3.31	38.45
7	Singapore	5.22	70.40	62	Montenegro	3.31	38.45
8	Malaysia	5.07	67.91	64	Dominican Republic	3.29	38.25
9	Germany	5.06	67.66	65	Uruguay	3.27	37.85
10	United Kingdom	5.03	67.19	66	Vietnam	3.18	36.36
11	Luxembourg	4.99	66.51	67	Turkey	3.18	36.32
12	Netherlands	4.85	64.15	68	Pakistan	3.18	36.26
13	Canada	4.80	63.35	69	Ethiopia	3.14	35.73
14	Chile	4.80	63.30	70	Nicaragua	3.14	35.61
15	Costa Rica	4.75	62.52	71	Portugal	3.12	35.27
16	Sweden	4.75	62.51	72	Albania	3.08	34.73
17	Panama	4.58	59.64	73	Latvia	3.07	34.54
18	Belgium	4.50	58.38	74	Tunisia	3.03	33.82
19	Saudi Arabia	4.45	57.46	75	Greece	3.03	33.79
20	South Korea	4.44	57.32	76	Estonia	3.02	33.63
21	Japan	4.41	56.77	77	Tanzania	3.02	33.60
22	Austria	4.36	55.96	78	Burkina Faso	3.01	33.49
23	Iceland	4.35	55.90	79	Paraguay	2.99	33.23
24	Rwanda	4.32	55.33	80	Georgia	2.99	33.12
25	Australia	4.24	54.07	81	Russia	2.95	32.42
26	Barbados	4.24	54.01	82	Madagascar	2.94	32.38
27	Ireland	4.21	53.47	83	Spain	2.90	31.66
28	China	4.17	52.76	84	Sri Lanka	2.89	31.46
29	Indonesia	4.15	52.54	85	Slovenia	2.88	31.34
30	Thailand	4.15	52.43	86	Egypt	2.87	31.13
31	Guatemala	4.06	50.95	87	Mongolia	2.84	30.71
32	Malta	4.05	50.84	88	Uganda	2.82	30.30
33	Cyprus	4.05	50.80	89	Bangladesh	2.71	28.44
34	Denmark	3.95	49.16	90	Poland	2.70	28.27
35	India	3.93	48.77	91	Lithuania	2.66	27.74
35	Peru	3.93	48.77	92	Italy	2.60	26.59
37	Jordan	3.92	48.71	93	Hungary	2.58	26.30
38	Brazil	3.87	47.80	94	Armenia	2.57	26.17
39	Morocco	3.78	46.37	95	Iran	2.51	25.24
40	Kenya	3.77	46.22	96	Macedonia	2.48	24.67
41	Bolivia	3.77	46.16	97	Romania	2.47	24.45
42	South Africa	3.72	45.36	98	Slovakia	2.40	23.39
43	Cambodia	3.72	45.27	99	Ukraine	2.29	21.42
44	New Zealand	3.69	44.89	100	Algeria	2.26	21.08
45	Israel	3.63	43.75	101	Lebanon	2.26	20.98
46	France	3.61	43.53	102	Kyrgyzstan	2.15	19.21
47	Ghana	3.58	42.99	103	Croatia	2.11	18.56
48	Botswana	3.54	42.29	104	Moldova	1.88	14.73
49	Philippines	3.52	42.05	105	Serbia	1.82	13.60
50	Azerbaijan	3.52	42.02	106	Bulgaria	1.81	13.55
51	Mexico	3.49	41.49	107	Venezuela	1.81	13.53
52	El Salvador	3.47	41.20	n/a	Bosnia and Herzegovina	n/a	n/a
53	Mali	3.44	40.72	n/a	Ecuador	n/a	n/a
54	Lesotho	3.43	40.56				
55	Kuwait	3.43	40.52				
56	Kazakhstan	3.41	40.11				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 2.2.1 Tolerance to minorities

Percentage of respondents who answered yes to the question: Is the area where you live a good place or not a good place to live for racial and ethnic minorities? | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	New Zealand	92.70	100.00	57	Romania	70.00	68.90
2	Burkina Faso	92.00	99.04	58	Macedonia	69.20	67.81
3	Canada	90.80	97.40	59	Bolivia	68.80	67.26
4	Norway	90.20	96.58	60	Malaysia	68.40	66.71
5	Iceland	89.90	96.16	61	Montenegro	67.70	65.75
6	Singapore	89.70	95.89	62	Kazakhstan	67.60	65.62
7	Bangladesh	89.20	95.21	63	Pakistan	67.30	65.21
8	Mali	88.90	94.79	64	Latvia	66.70	64.38
9	Australia	88.30	93.97	65	Slovakia	66.30	63.84
10	United Kingdom	87.40	92.74	66	India	65.60	62.88
11	Senegal	86.90	92.05	67	Botswana	64.90	61.92
12	Sweden	85.90	90.68	68	Cambodia	64.40	61.23
13	Ireland	85.40	90.00	69	Iran	63.40	59.86
14	Sri Lanka	84.10	88.22	70	Croatia	63.00	59.32
14	Uruguay	84.10	88.22	70	Peru	63.00	59.32
16	Brazil	83.20	86.99	72	Mexico	62.80	59.04
17	Netherlands	83.00	86.71	73	China	62.40	58.49
18	Denmark	82.80	86.44	74	El Salvador	59.60	54.66
19	United States	82.70	86.30	74	Morocco	59.60	54.66
20	Belgium	81.80	85.07	76	Mongolia	59.50	54.52
20	Ecuador	81.80	85.07	77	South Africa	58.60	53.29
20	France	81.80	85.07	78	Dominican Republic	58.40	53.01
23	Portugal	80.90	83.84	79	Ukraine	57.70	52.05
23	Spain	80.90	83.84	80	Armenia	57.50	51.78
25	Germany	80.40	83.15	81	Bosnia and Herzegovina	57.10	51.23
27	Argentina	78.70	80.82	82	Philippines	56.10	49.86
28	Costa Rica	77.80	79.59	83	Paraguay	55.40	48.90
29	Kenya	77.60	79.32	84	Estonia	55.10	48.49
30	Finland	76.70	78.08	85	Albania	54.50	47.67
30	Hungary	76.70	78.08	85	Lithuania	54.50	47.67
32	Georgia	76.20	77.40	85	Venezuela	54.50	47.67
33	Namibia	76.00	77.12	88	Tanzania	53.50	46.30
34	Nicaragua	75.50	76.44	89	Honduras	52.90	45.48
35	Slovenia	74.70	75.34	90	Poland	51.90	44.11
36	Guatemala	74.50	75.07	91	Czech Republic	50.60	42.33
37	Panama	74.40	74.93	92	Ghana	50.00	41.51
38	Kuwait	74.00	74.38	92	Greece	50.00	41.51
39	Austria	73.90	74.25	92	Russia	50.00	41.51
40	Japan	73.80	74.11	95	Moldova	49.40	40.68
41	Malta	73.60	73.84	96	Lebanon	44.70	34.25
42	Colombia	73.10	73.15	97	Turkey	42.00	30.55
43	South Korea	73.00	73.01	98	Israel	41.80	30.27
44	Ethiopia	72.90	72.88	99	Saudi Arabia	37.50	24.38
45	Chile	72.80	72.74	100	Algeria	31.60	16.30
46	Kyrgyzstan	72.70	72.60	101	Thailand	31.20	15.75
47	Rwanda	72.60	72.47	102	Jordan	29.30	13.15
48	Azerbaijan	72.50	72.33	103	Tunisia	23.50	5.21
49	Indonesia	72.30	72.05	104	Egypt	21.70	2.74
50	Serbia	71.90	71.51	105	United Arab Emirates	19.70	0.00
51	Bulgaria	71.80	71.37	n/a	Barbados	n/a	n/a
51	Vietnam	71.80	71.37	n/a	Lesotho	n/a	n/a
53	Italy	71.40	70.82	n/a	Madagascar	n/a	n/a
54	Cyprus	71.30	70.68	n/a	Qatar	n/a	n/a
55	Luxembourg	70.50	69.59				
56	Uganda	70.40	69.45				

Source: Legatum Institute, Legatum Prosperity Index 2014 based on Gallup World Poll. ([www.prosperity.com](http://www.prosperity.com))

Unless otherwise specified, the data used for computation were collected in 2013.

## 2.2.2 Tolerance to immigrants

Percentage of respondents who answered yes to the question: Is the area where you live a good place or not a good place to live for immigrants? | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	New Zealand	91.60	100.00	57	Georgia	65.40	62.08
2	Australia	90.60	98.55	58	Bolivia	64.90	61.36
3	Norway	90.20	97.97	59	South Korea	64.70	61.07
4	Iceland	89.70	97.25	60	Bulgaria	62.70	58.18
5	Canada	88.80	95.95	61	Dominican Republic	62.50	57.89
6	Uruguay	87.90	94.65	62	Kyrgyzstan	62.20	57.45
7	Burkina Faso	86.90	93.20	63	El Salvador	62.10	57.31
7	Mali	86.90	93.20	64	Slovenia	62.00	57.16
9	Netherlands	85.30	90.88	65	Bosnia and Herzegovina	61.90	57.02
10	Ireland	84.40	89.58	66	Mexico	61.20	56.01
11	Denmark	84.30	89.44	67	Ghana	61.10	55.86
12	Portugal	84.00	89.00	68	Vietnam	60.90	55.57
13	Sweden	83.90	88.86	69	Slovakia	60.80	55.43
14	Spain	83.30	87.99	70	Cyprus	60.00	54.27
15	Argentina	82.30	86.54	71	Morocco	59.80	53.98
16	United States	81.60	85.53	72	Rwanda	59.60	53.69
17	Belgium	81.10	84.80	73	Ukraine	58.40	51.95
18	United Kingdom	80.60	84.08	74	Namibia	57.70	50.94
19	Paraguay	79.40	82.34	75	Armenia	57.60	50.80
20	Germany	78.70	81.33	76	Romania	57.50	50.65
21	Costa Rica	78.60	81.19	77	Russia	57.30	50.36
22	Switzerland	76.10	77.57	78	Croatia	56.10	48.63
23	Finland	75.80	77.13	79	Czech Republic	54.40	46.16
24	France	75.60	76.85	80	Greece	54.20	45.88
25	Brazil	75.50	76.70	81	Algeria	53.80	45.30
26	Malta	75.30	76.41	81	Iran	53.80	45.30
27	Senegal	75.00	75.98	83	South Africa	53.00	44.14
28	Hungary	74.00	74.53	84	Latvia	52.60	43.56
29	Austria	73.40	73.66	85	Guatemala	52.10	42.84
30	Uganda	73.20	73.37	86	China	51.90	42.55
31	Bangladesh	73.10	73.23	86	Poland	51.90	42.55
32	Colombia	72.90	72.94	88	India	51.30	41.68
33	Tunisia	72.70	72.65	89	Moldova	51.20	41.53
34	Ecuador	71.90	71.49	90	Lithuania	50.00	39.80
35	Sri Lanka	71.80	71.35	91	Albania	48.70	37.92
36	Kenya	71.60	71.06	92	Jordan	48.50	37.63
36	Venezuela	71.60	71.06	93	Israel	45.10	32.71
38	Singapore	70.80	69.90	94	Honduras	44.40	31.69
39	Botswana	70.70	69.75	95	Estonia	43.60	30.54
40	Kuwait	70.40	69.32	96	Pakistan	42.70	29.23
41	Chile	70.20	69.03	97	Turkey	42.50	28.94
41	Panama	70.20	69.03	98	Tanzania	42.40	28.80
41	Peru	70.20	69.03	99	Mongolia	41.70	27.79
44	Italy	70.10	68.89	100	Egypt	39.80	25.04
44	Saudi Arabia	70.10	68.89	101	Indonesia	29.90	10.71
46	Serbia	69.40	67.87	102	Malaysia	28.60	8.83
47	Azerbaijan	68.90	67.15	103	United Arab Emirates	28.20	8.25
48	Ethiopia	68.80	67.00	104	Thailand	27.30	6.95
48	Nicaragua	68.80	67.00	105	Cambodia	22.50	0.00
50	Montenegro	68.10	65.99	n/a	Barbados	n/a	n/a
51	Kazakhstan	67.10	64.54	n/a	Lesotho	n/a	n/a
52	Luxembourg	66.70	63.97	n/a	Madagascar	n/a	n/a
53	Japan	66.30	63.39	n/a	Qatar	n/a	n/a
54	Philippines	66.00	62.95				
55	Macedonia	65.90	62.81				
56	Lebanon	65.60	62.37				

Source: Legatum Institute, Legatum Prosperity Index 2014 based on Gallup World Poll. ([www.prosperity.com](http://www.prosperity.com))

Unless otherwise specified, the data used for computation were collected in 2013.

## 2.2.3 Social mobility

Average answer to the question: To what extent do individuals in your country have the opportunity to improve their economic situation through their personal efforts regardless of the socioeconomic status of their parents? [1 = little opportunity exists to improve one's economic situation; 7 = significant opportunity exists to improve one's economic situation] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Finland.....	6.39	89.89	57	Senegal.....	4.19	53.16
2	Switzerland.....	6.35	89.24	58	Lesotho.....	4.18	53.05
3	New Zealand.....	6.33	88.82	59	Montenegro.....	4.16	52.69
4	Norway.....	6.26	87.63	60	Uganda.....	4.15	52.55
5	Denmark.....	6.06	84.36	61	India.....	4.14	52.35
6	Singapore.....	6.02	83.64	62	Macedonia.....	4.14	52.28
7	Canada.....	6.00	83.30	63	Honduras.....	4.14	52.27
8	United Arab Emirates.....	5.97	82.89	64	Kazakhstan.....	4.10	51.75
9	Australia.....	5.96	82.72	65	Poland.....	4.09	51.45
10	Qatar.....	5.93	82.21	66	Ecuador.....	4.08	51.39
11	Netherlands.....	5.90	81.67	67	Israel.....	4.07	51.14
12	Luxembourg.....	5.87	81.20	68	Paraguay.....	4.06	51.02
13	Iceland.....	5.86	81.04	69	Mexico.....	4.02	50.39
14	Belgium.....	5.81	80.19	70	Turkey.....	4.00	49.94
15	Japan.....	5.68	77.97	71	Ghana.....	3.99	49.87
16	United States.....	5.62	76.96	72	Bangladesh.....	3.98	49.69
17	Ireland.....	5.61	76.82	73	Kenya.....	3.98	49.61
18	Austria.....	5.59	76.43	74	Russia.....	3.97	49.48
19	Malaysia.....	5.56	75.97	75	Tunisia.....	3.94	49.06
20	Germany.....	5.54	75.59	76	Greece.....	3.89	48.23
21	Sweden.....	5.51	75.08	77	Mali.....	3.86	47.63
22	Estonia.....	5.50	75.02	78	Armenia.....	3.80	46.72
23	Barbados.....	5.49	74.85	79	Kyrgyzstan.....	3.80	46.68
24	United Kingdom.....	5.45	74.17	80	Nicaragua.....	3.75	45.84
25	Sri Lanka.....	5.25	70.84	81	Colombia.....	3.74	45.65
26	Latvia.....	5.20	70.04	82	Azerbaijan.....	3.73	45.57
27	Saudi Arabia.....	5.20	69.96	83	South Korea.....	3.71	45.11
28	Costa Rica.....	5.15	69.15	84	Vietnam.....	3.70	45.02
29	Czech Republic.....	4.94	65.74	85	Cambodia.....	3.69	44.82
30	Malta.....	4.91	65.09	86	Lebanon.....	3.69	44.76
31	Rwanda.....	4.85	64.16	87	Argentina.....	3.67	44.49
32	Botswana.....	4.76	62.74	88	Croatia.....	3.67	44.47
33	South Africa.....	4.76	62.59	89	Ethiopia.....	3.66	44.34
34	Chile.....	4.75	62.55	90	Italy.....	3.66	44.29
35	France.....	4.72	62.04	91	Pakistan.....	3.63	43.80
36	Philippines.....	4.71	61.78	92	El Salvador.....	3.61	43.47
37	Panama.....	4.71	61.77	93	Tanzania.....	3.57	42.80
38	Uruguay.....	4.67	61.13	94	Madagascar.....	3.56	42.72
39	Guatemala.....	4.63	60.43	95	Hungary.....	3.56	42.60
40	Lithuania.....	4.62	60.32	96	Burkina Faso.....	3.54	42.26
41	Mongolia.....	4.58	59.59	97	Bolivia.....	3.51	41.86
42	Morocco.....	4.55	59.09	98	Iran.....	3.47	41.15
43	Indonesia.....	4.54	59.07	99	Dominican Republic.....	3.46	41.04
44	Georgia.....	4.49	58.21	100	Romania.....	3.43	40.57
45	Namibia.....	4.49	58.10	101	Algeria.....	3.41	40.12
46	Peru.....	4.48	57.95	102	Moldova.....	3.39	39.79
47	Spain.....	4.47	57.79	103	Bulgaria.....	3.34	39.02
48	Thailand.....	4.45	57.49	104	Ukraine.....	3.08	34.72
49	Jordan.....	4.45	57.46	105	Albania.....	3.06	34.41
50	Brazil.....	4.44	57.36	106	Serbia.....	3.04	33.98
51	Portugal.....	4.33	55.52	107	Venezuela.....	2.96	32.65
52	China.....	4.30	55.04	108	Egypt.....	2.94	32.28
53	Cyprus.....	4.29	54.88	109	Bosnia and Herzegovina.....	1.99	16.58
54	Slovenia.....	4.29	54.78				
55	Slovakia.....	4.29	54.76				
56	Kuwait.....	4.27	54.58				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.



## 2.2.4 Female graduates

### Female tertiary graduates (%) | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Barbados (2011)	68.40	100.00	57	Malaysia (2012)	56.60	70.28
2	Latvia (2012)	67.50	97.73	58	Sri Lanka (2012)	56.55	70.17
3	Estonia (2012)	67.47	97.65	59	Netherlands (2012)	56.53	70.11
4	Poland (2012)	65.98	93.91	60	France (2012)	56.25	69.40
5	Panama (2012)	65.38	92.41	61	Spain (2012)	56.15	69.16
6	Mongolia	64.48	90.12	62	Chile (2012)	56.04	68.88
7	Iceland (2012)	64.45	90.07	63	Lebanon	55.83	68.33
8	Tunisia (2012)	64.32	89.74	64	United Arab Emirates	55.56	67.67
9	Dominican Republic (2012)	64.13	89.25	65	Macedonia (2012)	55.42	67.32
10	Uruguay (2010)	64.12	89.24	66	Colombia	55.30	67.02
11	Slovakia (2012)	64.00	88.92	67	Austria (2012)	54.99	66.22
12	Algeria (2012)	63.99	88.91	68	Ukraine	54.98	66.19
13	Hungary (2012)	63.95	88.80	69	Ireland (2012)	54.55	65.11
14	Lithuania (2012)	63.87	88.61	70	Mexico (2012)	53.47	62.39
15	Albania (2011)	63.35	87.28	71	Azerbaijan (2012)	52.10	58.95
16	Costa Rica	63.19	86.89	72	Saudi Arabia	51.05	56.31
17	Honduras	63.08	86.62	73	South Korea (2012)	50.54	55.02
18	Italy (2012)	62.26	84.54	74	China (2012)	50.40	54.67
19	Czech Republic (2012)	62.19	84.36	75	Japan (2012)	48.30	49.38
20	Romania (2011)	61.59	82.86	76	Switzerland (2011)	47.78	48.05
21	Sweden (2012)	61.58	82.83	77	Morocco (2010)	47.31	46.88
22	Lesotho (2012)	61.41	82.41	78	Madagascar (2012)	47.31	46.87
23	Armenia (2012)	61.12	81.67	79	Jordan (2012)	46.80	45.58
24	Finland (2012)	60.98	81.32	80	Turkey (2012)	45.73	42.90
25	Norway (2012)	60.97	81.29	81	Vietnam	42.99	35.99
26	Argentina (2012)	60.84	80.96	82	Rwanda (2012)	42.70	35.27
27	Bulgaria (2012)	60.83	80.94	83	Bangladesh (2012)	41.76	32.90
28	Brazil (2012)	60.82	80.92	84	Cambodia (2011)	41.50	32.25
29	Qatar	60.77	80.79	85	Ghana (2012)	39.37	26.88
30	Portugal (2012)	60.50	80.12	86	Iran (2012)	38.48	24.64
31	Cyprus (2012)	60.34	79.71	87	Burkina Faso	31.77	7.73
32	Slovenia (2012)	60.27	79.52	88	Ethiopia (2012)	28.70	0.00
33	Kyrgyzstan	60.13	79.18	n/a	Bolivia	n/a	n/a
34	Bosnia and Herzegovina	60.02	78.88	n/a	Botswana	n/a	n/a
35	South Africa (2012)	59.84	78.44	n/a	Canada	n/a	n/a
36	Moldova	59.62	77.88	n/a	Egypt	n/a	n/a
37	New Zealand (2012)	59.38	77.28	n/a	India	n/a	n/a
38	Belgium (2012)	59.31	77.10	n/a	Indonesia	n/a	n/a
39	Croatia (2012)	59.28	77.02	n/a	Israel	n/a	n/a
40	Greece (2012)	59.06	76.47	n/a	Kazakhstan	n/a	n/a
41	Ecuador (2012)	58.51	75.09	n/a	Kenya	n/a	n/a
42	Serbia	58.43	74.90	n/a	Mali	n/a	n/a
43	United States (2012)	58.38	74.77	n/a	Montenegro	n/a	n/a
44	Namibia (2008)	58.35	74.70	n/a	Nicaragua	n/a	n/a
45	Guatemala	58.32	74.61	n/a	Pakistan	n/a	n/a
46	Kuwait	58.28	74.52	n/a	Paraguay	n/a	n/a
47	El Salvador (2012)	58.22	74.37	n/a	Peru	n/a	n/a
48	Luxembourg (2012)	57.95	73.69	n/a	Russia	n/a	n/a
49	Denmark (2012)	57.65	72.92	n/a	Senegal	n/a	n/a
50	Malta (2012)	57.44	72.39	n/a	Singapore	n/a	n/a
50	Philippines (2009)	57.44	72.39	n/a	Tanzania	n/a	n/a
52	Germany (2012)	57.34	72.14	n/a	Uganda	n/a	n/a
53	Australia (2011)	57.28	72.00	n/a	Venezuela	n/a	n/a
54	Thailand (2012)	56.85	70.92				
55	Georgia	56.83	70.87				
56	United Kingdom (2012)	56.63	70.35				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2014.



## 2.2.5 Gender earnings gap

### Estimated earned income ratio | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Denmark	1.03	100.00	57	El Salvador	0.58	47.67
2	Australia	0.96	91.86	57	Guatemala	0.58	47.67
3	Tanzania	0.93	88.37	57	Kazakhstan	0.58	47.67
4	Kenya	0.92	87.21	57	Paraguay	0.58	47.67
5	Botswana	0.84	77.91	61	Costa Rica	0.57	46.51
6	Vietnam	0.82	75.58	61	Ireland	0.57	46.51
7	Slovenia	0.81	74.42	61	Israel	0.57	46.51
8	Sweden	0.79	72.09	61	Senegal	0.57	46.51
9	Norway	0.78	70.93	61	Uruguay	0.57	46.51
9	Thailand	0.78	70.93	66	Albania	0.54	43.02
11	Moldova	0.77	69.77	66	Colombia	0.56	45.35
12	Rwanda	0.76	68.60	66	Russia	0.56	45.35
13	Mongolia	0.73	65.12	68	Greece	0.54	43.02
14	Croatia	0.71	62.79	68	Kyrgyzstan	0.54	43.02
14	Ecuador	0.71	62.79	71	United Kingdom	0.53	41.86
14	Portugal	0.71	62.79	72	Bangladesh	0.52	40.70
14	Romania	0.71	62.79	72	South Africa	0.52	40.70
18	Cambodia	0.70	61.63	74	Ethiopia	0.51	39.53
18	Madagascar	0.70	61.63	74	Malaysia	0.51	39.53
20	Bulgaria	0.69	60.47	76	Austria	0.50	38.37
20	Finland	0.69	60.47	76	Indonesia	0.50	38.37
20	Iceland	0.69	60.47	76	Japan	0.50	38.37
20	Latvia	0.69	60.47	76	Luxembourg	0.50	38.37
24	France	0.68	59.30	80	Argentina	0.49	37.21
24	Philippines	0.68	59.30	80	Chile	0.49	37.21
26	Burkina Faso	0.67	58.14	82	Italy	0.48	36.05
27	Canada	0.66	56.98	82	South Korea	0.48	36.05
27	Ghana	0.66	56.98	82	Netherlands	0.48	36.05
27	Peru	0.66	56.98	85	Nicaragua	0.46	33.72
27	Serbia	0.66	56.98	85	Mexico	0.46	33.72
31	Barbados	0.65	55.81	87	Georgia	0.45	32.56
31	Estonia	0.65	55.81	88	Azerbaijan	0.44	31.40
31	Poland	0.65	55.81	89	Malta	0.42	29.07
31	Ukraine	0.65	55.81	90	Mali	0.41	27.91
31	United States	0.65	55.81	91	Honduras	0.40	26.74
36	China	0.64	54.65	91	Uganda	0.40	26.74
36	Dominican Republic	0.64	54.65	93	Turkey	0.39	25.58
36	Germany	0.64	54.65	94	Sri Lanka	0.38	24.42
36	Lithuania	0.64	54.65	95	Qatar	0.37	23.26
36	Singapore	0.64	54.65	96	Kuwait	0.35	20.93
36	Switzerland	0.64	54.65	97	Egypt	0.31	16.28
42	Belgium	0.63	53.49	98	United Arab Emirates	0.29	13.95
42	Venezuela	0.63	53.49	99	Morocco	0.28	12.79
44	Bolivia	0.61	51.16	99	Tunisia	0.28	12.79
44	Hungary	0.61	51.16	101	Lebanon	0.27	11.63
44	Lesotho	0.61	51.16	102	Saudi Arabia	0.26	10.47
44	Namibia	0.61	51.16	103	India	0.24	8.14
44	Panama	0.61	51.16	104	Jordan	0.18	1.16
49	Spain	0.60	50.00	104	Pakistan	0.18	1.16
49	Macedonia	0.60	50.00	106	Algeria	0.17	0.00
51	Armenia	0.59	48.84	106	Iran	0.17	0.00
51	Brazil	0.59	48.84	n/a	Bosnia and Herzegovina	n/a	n/a
51	Cyprus	0.59	48.84	n/a	Montenegro	n/a	n/a
51	Czech Republic	0.59	48.84				
51	New Zealand	0.59	48.84				
51	Slovakia	0.59	48.84				

Source: World Economic Forum, The Global Gender Gap Report 2014. ([www.weforum.org/reports](http://www.weforum.org/reports))

Unless otherwise specified, the data used for computation were collected in 2014.

# PILLAR 3:

## GROW

### 3.1.1 Vocational enrolment

#### Vocational enrolment (%) | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Netherlands (2012)	48.20	100.00	57	Singapore (2009)	11.57	23.46
2	Bosnia and Herzegovina (2013)	39.57	81.97	58	Iran (2012)	11.42	23.16
3	Austria (2012)	39.34	81.49	59	Lithuania (2012)	11.04	22.36
4	Belgium (2012)	38.91	80.60	60	Paraguay (2011)	10.43	21.09
5	Czech Republic (2012)	38.59	79.92	61	Mongolia (2010)	10.10	20.40
6	Serbia (2013)	38.07	78.85	62	South Korea (2012)	9.90	19.99
7	Croatia (2012)	38.07	78.83	63	United Kingdom (2012)	9.70	19.56
8	Italy (2012)	36.02	74.55	64	Ukraine (2013)	9.68	19.51
9	Slovenia (2012)	35.94	74.38	65	Armenia (2013)	9.65	19.45
10	Australia (2012)	34.71	71.82	66	Malaysia (2012)	9.45	19.04
11	Switzerland (2012)	34.65	71.70	67	Tunisia (2013)	9.27	18.66
12	Slovakia (2012)	34.19	70.74	68	Kyrgyzstan (2011)	8.86	17.80
13	Montenegro (2012)	34.07	70.49	69	Algeria (2011)	8.33	16.69
14	Romania (2012)	32.55	67.31	70	Georgia (2013)	7.30	14.54
15	Finland (2012)	32.30	66.77	71	Colombia (2013)	7.10	14.13
16	Luxembourg (2012)	30.57	63.18	72	Albania (2013)	7.01	13.94
17	Macedonia (2012)	30.05	62.09	73	South Africa (2013)	6.91	13.72
18	Poland (2012)	29.34	60.59	74	Cyprus (2012)	6.75	13.38
19	Norway (2012)	29.03	59.95	75	Kazakhstan (2012)	6.70	13.28
20	Guatemala (2012)	28.93	59.74	76	Malta (2012)	6.66	13.20
21	Bulgaria (2012)	28.37	58.57	77	Brazil (2012)	6.47	12.81
22	Honduras (2013)	28.04	57.88	78	Morocco (2012)	6.09	12.00
23	Sweden (2012)	26.95	55.61	79	Sri Lanka (2012)	5.72	11.24
24	Denmark (2012)	26.91	55.51	80	Venezuela (2012)	5.35	10.47
25	Latvia (2012)	25.30	52.15	81	Lesotho (2012)	4.97	9.68
26	Portugal (2012)	25.20	51.94	82	Botswana (2008)	4.88	9.49
27	Turkey (2012)	23.59	48.58	83	Dominican Republic (2012)	4.60	8.90
28	Chile (2012)	22.49	46.28	84	Senegal (2011)	4.50	8.69
29	Iceland (2012)	22.03	45.32	85	Ethiopia (2012)	4.25	8.16
30	Ecuador (2013)	21.88	45.02	86	Uganda (2013)	4.14	7.93
31	China (2012)	20.73	42.61	87	Burkina Faso (2013)	3.90	7.44
32	Costa Rica (2013)	20.58	42.29	88	Saudi Arabia (2008)	3.58	6.77
33	Egypt (2012)	19.88	40.83	89	Bangladesh (2012)	3.52	6.63
34	France (2012)	19.70	40.45	90	Jordan (2011)	3.49	6.57
35	Estonia (2012)	19.31	39.64	90	Madagascar (2013)	3.48	6.57
36	Israel (2012)	19.25	39.50	92	Pakistan (2013)	3.47	6.53
37	Germany (2012)	18.89	38.76	93	Ghana	2.61	4.74
38	Indonesia (2012)	18.74	38.45	94	Cambodia (2008)	2.28	4.04
39	El Salvador (2013)	18.73	38.42	95	Kuwait (2013)	2.23	3.94
40	Azerbaijan (2012)	18.28	37.49	96	United Arab Emirates (2013)	1.71	2.87
41	Spain (2012)	17.69	36.25	97	Peru (2013)	1.62	2.67
42	Greece (2012)	17.67	36.22	98	Nicaragua (2010)	1.48	2.38
43	Mexico (2012)	16.63	34.05	99	India (2008)	0.81	0.99
44	Ireland (2012)	16.18	33.09	100	Qatar (2013)	0.72	0.80
45	Hungary (2012)	16.10	32.92	101	Kenya (2009)	0.49	0.31
46	Thailand (2012)	15.44	31.56	102	Barbados (2005)	0.34	0.00
47	Uruguay (2010)	15.29	31.24	n/a	Bolivia	n/a	n/a
48	Lebanon (2013)	14.82	30.25	n/a	Canada	n/a	n/a
49	Panama (2012)	14.01	28.57	n/a	Namibia	n/a	n/a
50	New Zealand (2012)	13.97	28.48	n/a	Philippines	n/a	n/a
51	Rwanda (2013)	13.83	28.18	n/a	Russia	n/a	n/a
52	Argentina (2012)	13.70	27.92	n/a	United States	n/a	n/a
53	Moldova (2013)	12.60	25.62	n/a	Vietnam	n/a	n/a
54	Mali (2013)	12.45	25.31				
55	Tanzania (2013)	12.10	24.56				
56	Japan (2012)	11.64	23.61				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.1.2 Tertiary enrolment

#### Tertiary enrolment (%) | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Greece (2012)	116.62	100.00	57	Cyprus (2012)	45.86	37.84
2	South Korea (2012)	98.38	83.97	58	Kazakhstan (2012)	44.53	36.67
3	United States (2012)	94.28	80.37	59	Panama (2012)	43.46	35.73
4	Finland (2012)	93.72	79.88	60	Moldova	41.28	33.81
5	Australia (2012)	86.33	73.39	61	Malta (2012)	41.21	33.76
6	Slovenia (2012)	86.02	73.12	62	Peru (2010)	40.65	33.26
7	Spain (2012)	84.57	71.84	63	Ecuador (2012)	40.51	33.14
8	Iceland (2012)	81.36	69.02	64	Macedonia (2012)	38.46	31.34
9	Argentina (2012)	80.31	68.10	65	Bolivia (2007)	37.69	30.66
10	New Zealand (2012)	79.78	67.63	66	Malaysia (2012)	37.20	30.23
11	Denmark (2012)	79.60	67.48	67	Tunisia (2012)	35.20	28.47
12	Ukraine	79.00	66.95	68	Paraguay (2010)	34.51	27.87
13	Venezuela (2009)	77.91	65.99	69	Georgia	33.05	26.59
14	Netherlands (2012)	77.34	65.50	70	Indonesia (2012)	31.51	25.24
15	Estonia (2012)	76.68	64.92	71	Algeria (2012)	31.46	25.19
16	Russia (2012)	76.14	64.44	72	Egypt (2012)	30.06	23.96
17	Chile (2012)	74.39	62.90	73	Mexico (2012)	28.99	23.02
18	Norway (2012)	74.10	62.65	74	Kuwait	28.45	22.55
19	Lithuania (2012)	73.95	62.51	75	Philippines (2009)	28.20	22.33
20	Poland (2012)	73.19	61.85	76	China (2012)	26.70	21.01
21	Austria (2012)	72.44	61.19	77	Brazil (2005)	25.53	19.98
22	Ireland (2012)	71.24	60.14	78	El Salvador (2012)	25.45	19.91
23	Belgium (2012)	70.83	59.77	79	India (2012)	24.80	19.34
24	Sweden (2012)	70.03	59.07	80	Vietnam	24.58	19.15
25	Turkey (2012)	69.39	58.51	81	Honduras	21.14	16.12
26	Portugal (2012)	68.86	58.05	82	Azerbaijan (2012)	20.44	15.51
27	Israel (2012)	67.89	57.19	83	Luxembourg (2012)	19.74	14.90
28	Latvia (2012)	65.13	54.77	84	South Africa (2012)	19.70	14.86
29	Czech Republic (2012)	64.17	53.93	85	Guatemala	18.74	14.01
30	Uruguay (2010)	63.15	53.03	86	Botswana (2011)	17.91	13.28
31	Bulgaria (2012)	62.70	52.63	87	Sri Lanka (2012)	16.97	12.46
32	Italy (2012)	62.47	52.43	88	Morocco (2011)	16.16	11.75
33	Mongolia	62.27	52.25	89	Cambodia (2011)	15.83	11.46
34	United Kingdom (2012)	61.88	51.91	90	Qatar	14.26	10.08
35	Germany (2012)	61.65	51.71	91	Bangladesh (2012)	13.23	9.17
36	Croatia (2012)	61.63	51.69	92	Ghana (2012)	12.20	8.27
37	Japan (2012)	61.46	51.54	93	Lesotho (2012)	10.83	7.06
38	Barbados (2011)	60.84	51.00	94	Pakistan	9.82	6.18
39	Hungary (2012)	59.63	49.94	95	Namibia (2008)	9.33	5.75
40	France (2012)	58.30	48.77	96	Senegal (2010)	7.63	4.26
41	Saudi Arabia	57.52	48.08	97	Mali (2012)	7.47	4.12
42	Serbia	56.38	47.08	98	Rwanda (2012)	6.90	3.62
43	Switzerland (2012)	55.56	46.36	99	Burkina Faso	4.78	1.75
44	Montenegro (2010)	55.53	46.34	100	Uganda (2011)	4.38	1.40
45	Albania (2012)	55.50	46.31	101	Madagascar (2012)	4.09	1.14
46	Iran (2012)	55.16	46.01	102	Kenya (2009)	4.05	1.11
47	Slovakia (2012)	55.11	45.96	103	Tanzania (2012)	3.92	1.00
48	Romania (2011)	51.60	42.88	104	Ethiopia (2005)	2.79	0.00
49	Thailand	51.23	42.56	n/a	Bosnia and Herzegovina	n/a	n/a
50	Colombia	48.33	40.01	n/a	Canada	n/a	n/a
51	Lebanon	47.93	39.66	n/a	Nicaragua	n/a	n/a
52	Kyrgyzstan	47.64	39.40	n/a	Singapore	n/a	n/a
53	Costa Rica	47.60	39.36	n/a	United Arab Emirates	n/a	n/a
54	Jordan (2012)	46.61	38.50				
55	Dominican Republic (2012)	46.38	38.29				
56	Armenia	46.11	38.06				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.1.3 Tertiary education expenditure

#### Government expenditure on tertiary education (%) | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Botswana.....	3.94	100.00	57	Latvia.....	1.01	22.34
1	Lesotho.....	4.72	100.00	58	Honduras.....	0.97	21.34
3	Denmark.....	2.44	60.28	59	Chile.....	0.96	21.05
4	Malaysia.....	2.20	53.80	60	Brazil.....	0.95	20.87
5	Finland.....	2.17	52.97	61	Slovakia.....	0.95	20.70
6	Ukraine.....	2.16	52.81	62	Russia.....	0.95	20.69
7	Barbados.....	2.08	50.72	63	Mexico.....	0.93	20.29
8	Sweden.....	1.98	48.14	64	Croatia.....	0.93	20.27
9	Namibia.....	1.96	47.56	65	Israel.....	0.91	19.81
10	Norway.....	1.96	47.50	66	Turkey.....	0.91	19.76
11	Canada.....	1.88	45.33	67	Kyrgyzstan.....	0.90	19.49
12	New Zealand.....	1.86	44.95	68	Colombia.....	0.87	18.72
13	Tunisia.....	1.75	41.98	69	Romania.....	0.85	18.11
14	Tanzania.....	1.75	41.94	70	Iran.....	0.84	17.94
15	Netherlands.....	1.72	41.25	71	Italy.....	0.83	17.60
16	Paraguay.....	1.66	39.65	72	Pakistan.....	0.80	16.82
17	Bolivia.....	1.61	38.22	73	Burkina Faso.....	0.78	16.15
18	Austria.....	1.56	36.83	74	Japan.....	0.78	16.11
19	Venezuela.....	1.55	36.75	75	South Africa.....	0.77	16.06
20	Cyprus.....	1.48	34.82	76	South Korea.....	0.76	15.69
21	Greece.....	1.48	34.71	77	Panama.....	0.74	15.23
22	Lithuania.....	1.47	34.59	78	Lebanon.....	0.74	15.16
23	Moldova.....	1.47	34.44	79	Rwanda.....	0.71	14.47
24	Belgium.....	1.44	33.76	80	Thailand.....	0.71	14.36
25	Iceland.....	1.43	33.46	81	Bulgaria.....	0.65	12.75
26	Costa Rica.....	1.43	33.35	82	Indonesia.....	0.61	11.80
27	Germany.....	1.40	32.70	83	Peru.....	0.55	10.17
28	Serbia.....	1.39	32.49	84	Madagascar.....	0.42	6.61
29	Senegal.....	1.38	32.04	85	Kazakhstan.....	0.40	6.21
30	Slovenia.....	1.37	32.01	86	Georgia.....	0.38	5.63
31	Switzerland.....	1.37	31.93	87	Cambodia.....	0.38	5.59
32	United States.....	1.36	31.74	88	Uganda.....	0.38	5.51
33	Ireland.....	1.34	31.02	89	Azerbaijan.....	0.36	5.00
34	United Kingdom.....	1.33	30.91	90	Guatemala.....	0.35	4.83
35	Estonia.....	1.29	29.86	91	Sri Lanka.....	0.32	4.11
36	France.....	1.29	29.85	92	Dominican Republic.....	0.32	3.98
37	India.....	1.26	28.93	93	Philippines.....	0.32	3.96
38	Kuwait.....	1.23	28.06	94	El Salvador.....	0.29	3.15
39	Uruguay.....	1.19	27.02	95	Bangladesh.....	0.27	2.61
40	Australia.....	1.19	27.00	96	Mongolia.....	0.21	1.11
41	Algeria.....	1.17	26.57	97	Armenia.....	0.20	0.75
42	Morocco.....	1.17	26.49	98	Ethiopia.....	0.17	0.00
42	Spain.....	1.17	26.49	n/a	Albania.....	n/a	n/a
44	Czech Republic.....	1.16	26.38	n/a	Bosnia and Herzegovina.....	n/a	n/a
45	Ecuador.....	1.16	26.37	n/a	China.....	n/a	n/a
46	Nicaragua.....	1.14	25.91	n/a	Egypt.....	n/a	n/a
47	Poland.....	1.13	25.46	n/a	Jordan.....	n/a	n/a
48	Malta.....	1.11	24.92	n/a	Luxembourg.....	n/a	n/a
49	Hungary.....	1.10	24.78	n/a	Macedonia.....	n/a	n/a
50	Kenya.....	1.09	24.38	n/a	Montenegro.....	n/a	n/a
51	Ghana.....	1.07	23.89	n/a	Qatar.....	n/a	n/a
52	Vietnam.....	1.05	23.41	n/a	Saudi Arabia.....	n/a	n/a
53	Portugal.....	1.04	23.09	n/a	United Arab Emirates.....	n/a	n/a
54	Singapore.....	1.04	23.02				
55	Mali.....	1.02	22.73				
56	Argentina.....	1.02	22.72				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.1.4 Reading, maths and science scores

#### PISA average scales in reading, mathematics and science | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	China	587.46	100.00	57	Albania	395.22	9.47
2	Singapore	555.73	85.05	58	Colombia	392.86	8.35
3	South Korea	542.45	78.80	59	Indonesia	384.38	4.36
4	Japan	540.40	77.84	60	Qatar	382.53	3.49
5	Finland	529.40	72.66	61	Peru	375.12	0.00
6	Estonia	526.08	71.09	n/a	Algeria	n/a	n/a
7	Canada	522.21	69.27	n/a	Armenia	n/a	n/a
8	Poland	520.50	68.47	n/a	Azerbaijan	n/a	n/a
9	Netherlands	518.75	67.64	n/a	Bangladesh	n/a	n/a
10	Switzerland	518.42	67.49	n/a	Barbados	n/a	n/a
11	Vietnam	515.99	66.34	n/a	Bolivia	n/a	n/a
12	Ireland	515.56	66.14	n/a	Bosnia and Herzegovina	n/a	n/a
13	Germany	515.11	65.93	n/a	Botswana	n/a	n/a
14	Australia	512.48	64.69	n/a	Burkina Faso	n/a	n/a
15	Belgium	509.34	63.21	n/a	Cambodia	n/a	n/a
16	New Zealand	509.19	63.14	n/a	Dominican Republic	n/a	n/a
17	United Kingdom	502.46	59.97	n/a	Ecuador	n/a	n/a
18	Austria	500.31	58.96	n/a	Egypt	n/a	n/a
19	Czech Republic	500.05	58.83	n/a	El Salvador	n/a	n/a
20	France	499.81	58.72	n/a	Ethiopia	n/a	n/a
21	Slovenia	498.86	58.27	n/a	Georgia	n/a	n/a
22	Denmark	498.21	57.97	n/a	Ghana	n/a	n/a
23	Norway	495.94	56.90	n/a	Guatemala	n/a	n/a
24	Latvia	493.82	55.90	n/a	Honduras	n/a	n/a
25	United States	492.12	55.10	n/a	India	n/a	n/a
26	Luxembourg	489.62	53.92	n/a	Iran	n/a	n/a
27	Spain	489.57	53.90	n/a	Kenya	n/a	n/a
28	Italy	489.54	53.88	n/a	Kuwait	n/a	n/a
29	Portugal	488.03	53.17	n/a	Kyrgyzstan	n/a	n/a
30	Hungary	486.60	52.50	n/a	Lebanon	n/a	n/a
31	Iceland	484.49	51.51	n/a	Lesotho	n/a	n/a
32	Lithuania	483.94	51.25	n/a	Macedonia	n/a	n/a
33	Croatia	482.35	50.50	n/a	Madagascar	n/a	n/a
34	Sweden	482.13	50.40	n/a	Mali	n/a	n/a
35	Russia	481.20	49.96	n/a	Malta	n/a	n/a
36	Israel	474.12	46.62	n/a	Moldova	n/a	n/a
37	Slovakia	471.87	45.56	n/a	Mongolia	n/a	n/a
38	Greece	465.63	42.62	n/a	Morocco	n/a	n/a
39	Turkey	462.30	41.05	n/a	Namibia	n/a	n/a
40	Serbia	446.60	33.66	n/a	Nicaragua	n/a	n/a
41	Cyprus	442.11	31.55	n/a	Pakistan	n/a	n/a
42	United Arab Emirates	441.36	31.19	n/a	Panama	n/a	n/a
43	Bulgaria	440.44	30.76	n/a	Philippines	n/a	n/a
44	Romania	440.31	30.70	n/a	Paraguay	n/a	n/a
45	Thailand	437.32	29.29	n/a	Rwanda	n/a	n/a
46	Chile	436.32	28.82	n/a	Saudi Arabia	n/a	n/a
47	Costa Rica	425.63	23.79	n/a	Senegal	n/a	n/a
48	Mexico	417.25	19.84	n/a	South Africa	n/a	n/a
49	Kazakhstan	416.41	19.45	n/a	Sri Lanka	n/a	n/a
50	Montenegro	413.95	18.28	n/a	Tanzania	n/a	n/a
51	Malaysia	412.74	17.71	n/a	Uganda	n/a	n/a
52	Uruguay	412.16	17.44	n/a	Ukraine	n/a	n/a
53	Brazil	402.10	12.70	n/a	Venezuela	n/a	n/a
54	Jordan	398.00	10.77				
55	Argentina	396.68	10.15				
56	Tunisia	396.65	10.14				

Source: OECD Programme for International Student Assessment (PISA). ([www.oecd.org/pisa](http://www.oecd.org/pisa))

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.1.5 University ranking

#### QS World university ranking | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United Kingdom	99.33	100.00	57	Jordan	22.05	22.20
2	United States	99.20	99.87	58	Bulgaria	22.00	22.15
3	Switzerland	88.97	89.56	59	Uruguay	20.95	21.09
4	Canada	88.77	89.36	60	Lithuania	19.90	20.03
5	Singapore	87.55	88.14	61	Azerbaijan	19.77	19.90
6	Australia	86.83	87.42	62	Latvia	19.20	19.33
7	Japan	83.67	84.23	63	Sri Lanka	17.80	17.92
8	France	80.47	81.01	64	Romania	17.07	17.18
9	Germany	80.20	80.74	65	Bangladesh	16.80	16.91
10	South Korea	79.83	80.37	66	Kuwait	15.10	15.20
11	China	78.47	78.99	67	Kenya	14.80	14.90
12	Netherlands	76.73	77.25	68	Ecuador	14.70	14.80
13	Sweden	73.47	73.96	69	Serbia	13.40	13.49
14	Denmark	72.70	73.19	70	Uganda	10.60	10.67
15	Belgium	66.33	66.78	71	Tanzania	8.40	8.46
16	Ireland	62.47	62.89	72	Albania	0.00	0.00
17	Finland	61.77	62.18	72	Algeria	0.00	0.00
18	New Zealand	59.70	60.10	72	Armenia	0.00	0.00
19	Norway	58.93	59.33	72	Barbados	0.00	0.00
20	Spain	57.57	57.95	72	Bolivia	0.00	0.00
21	Israel	57.53	57.92	72	Bosnia and Herzegovina	0.00	0.00
22	Chile	54.60	54.97	72	Botswana	0.00	0.00
23	Brazil	53.97	54.33	72	Burkina Faso	0.00	0.00
24	Italy	53.17	53.52	72	Cambodia	0.00	0.00
25	Russia	52.07	52.42	72	Cyprus	0.00	0.00
26	Mexico	51.50	51.85	72	Dominican Republic	0.00	0.00
27	Austria	49.77	50.10	72	El Salvador	0.00	0.00
28	Malaysia	49.43	49.77	72	Ethiopia	0.00	0.00
29	Argentina	48.70	49.03	72	Georgia	0.00	0.00
30	Czech Republic	47.00	47.32	72	Ghana	0.00	0.00
31	India	46.97	47.28	72	Guatemala	0.00	0.00
32	Thailand	46.30	46.61	72	Honduras	0.00	0.00
33	Lebanon	46.20	46.51	72	Iceland	0.00	0.00
34	South Africa	45.97	46.28	72	Kyrgyzstan	0.00	0.00
35	Saudi Arabia	45.43	45.74	72	Lesotho	0.00	0.00
36	Colombia	41.43	41.71	72	Luxembourg	0.00	0.00
37	Indonesia	40.90	41.17	72	Macedonia	0.00	0.00
38	Kazakhstan	40.65	40.92	72	Madagascar	0.00	0.00
39	Portugal	40.37	40.64	72	Mali	0.00	0.00
40	Poland	38.05	38.31	72	Malta	0.00	0.00
41	Egypt	37.50	37.75	72	Moldova	0.00	0.00
42	Philippines	36.90	37.15	72	Mongolia	0.00	0.00
43	Estonia	36.10	36.34	72	Montenegro	0.00	0.00
44	Turkey	34.70	34.93	72	Morocco	0.00	0.00
45	United Arab Emirates	34.57	34.80	72	Namibia	0.00	0.00
46	Greece	31.70	31.91	72	Nicaragua	0.00	0.00
47	Ukraine	29.40	29.60	72	Panama	0.00	0.00
48	Slovenia	27.60	27.79	72	Paraguay	0.00	0.00
49	Hungary	27.00	27.18	72	Rwanda	0.00	0.00
50	Venezuela	26.63	26.81	72	Senegal	0.00	0.00
51	Qatar	25.80	25.97	72	Slovakia	0.00	0.00
52	Costa Rica	24.45	24.61	72	Tunisia	0.00	0.00
53	Peru	24.10	24.26	72	Vietnam	0.00	0.00
54	Croatia	23.80	23.96				
55	Iran	23.45	23.61				
56	Pakistan	22.10	22.25				

Source: Quacquarelli Symonds Ltd (QS), QS World University Ranking 2014/2015, Top Universities. ([www.topuniversities.com/university-rankings/world-university-rankings](http://www.topuniversities.com/university-rankings/world-university-rankings))

Unless otherwise specified, the data used for computation were collected in 2014.



### 3.2.1 Quality of management schools

Average answer to the question: How would you assess the quality of management or business schools in your country? [1 = poor; 7 = excellent – among the best in the world] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland.....	6.16	86.02	57	Czech Republic.....	4.27	54.52
2	Belgium.....	6.01	83.49	58	Colombia.....	4.26	54.25
3	Spain.....	5.93	82.17	59	Mexico.....	4.24	54.01
4	Portugal.....	5.92	81.94	60	Panama.....	4.23	53.86
5	United Kingdom.....	5.83	80.47	61	Japan.....	4.23	53.80
6	Singapore.....	5.83	80.42	62	Ecuador.....	4.22	53.59
7	Canada.....	5.77	79.47	63	South Korea.....	4.21	53.55
8	France.....	5.73	78.85	64	Romania.....	4.21	53.48
9	Netherlands.....	5.70	78.34	65	Croatia.....	4.20	53.33
10	Qatar.....	5.59	76.57	66	Peru.....	4.19	53.24
11	United States.....	5.58	76.34	67	Saudi Arabia.....	4.16	52.63
12	Finland.....	5.58	76.30	68	Thailand.....	4.13	52.19
13	Chile.....	5.41	73.50	69	Venezuela.....	4.11	51.77
14	Ireland.....	5.32	71.95	70	Poland.....	4.00	49.93
15	Costa Rica.....	5.31	71.87	71	China.....	3.93	48.78
16	Lebanon.....	5.28	71.25	72	Albania.....	3.91	48.55
17	United Arab Emirates.....	5.26	71.04	73	Kuwait.....	3.91	48.54
18	Norway.....	5.26	70.95	74	Ukraine.....	3.89	48.09
19	Iceland.....	5.23	70.57	75	Greece.....	3.88	47.95
20	Denmark.....	5.21	70.22	76	Macedonia.....	3.87	47.80
21	New Zealand.....	5.18	69.60	77	Lesotho.....	3.87	47.78
22	Sweden.....	5.16	69.36	78	Kazakhstan.....	3.86	47.65
23	South Africa.....	5.16	69.35	79	Madagascar.....	3.85	47.49
24	Malaysia.....	5.13	68.75	80	Ethiopia.....	3.83	47.22
25	Italy.....	5.08	68.00	81	Uganda.....	3.83	47.14
26	Australia.....	5.05	67.54	82	Burkina Faso.....	3.81	46.90
27	Barbados.....	5.02	66.97	83	Georgia.....	3.81	46.75
28	Germany.....	4.98	66.37	84	Rwanda.....	3.80	46.63
29	Cyprus.....	4.98	66.33	85	Turkey.....	3.79	46.55
30	Malta.....	4.93	65.48	86	Slovakia.....	3.78	46.34
31	Israel.....	4.86	64.25	87	Iran.....	3.75	45.86
32	Argentina.....	4.82	63.68	88	Russia.....	3.75	45.78
33	Sri Lanka.....	4.81	63.53	89	Bangladesh.....	3.72	45.35
34	Montenegro.....	4.75	62.55	90	Nicaragua.....	3.72	45.34
35	Luxembourg.....	4.74	62.40	91	Dominican Republic.....	3.63	43.81
36	Philippines.....	4.74	62.35	92	Honduras.....	3.59	43.19
37	Guatemala.....	4.71	61.80	93	Botswana.....	3.57	42.79
38	Jordan.....	4.70	61.69	94	Serbia.....	3.55	42.53
39	Bosnia and Herzegovina.....	4.69	61.55	95	Algeria.....	3.48	41.31
40	Kenya.....	4.69	61.53	96	Armenia.....	3.47	41.19
41	Austria.....	4.63	60.48	97	Namibia.....	3.43	40.52
42	Estonia.....	4.63	60.46	98	Vietnam.....	3.42	40.41
43	Indonesia.....	4.61	60.12	99	Mali.....	3.41	40.11
44	Ghana.....	4.57	59.56	100	Bulgaria.....	3.39	39.84
45	Senegal.....	4.57	59.53	101	Cambodia.....	3.34	39.03
46	Latvia.....	4.56	59.32	102	Azerbaijan.....	3.27	37.89
47	Brazil.....	4.53	58.84	103	Moldova.....	3.23	37.22
48	Morocco.....	4.46	57.61	104	Tanzania.....	3.22	36.97
49	India.....	4.43	57.19	105	Paraguay.....	3.09	34.91
50	Lithuania.....	4.39	56.51	106	Bolivia.....	2.95	32.52
51	Tunisia.....	4.38	56.35	107	Mongolia.....	2.91	31.76
52	Slovenia.....	4.37	56.15	108	Kyrgyzstan.....	2.90	31.67
53	El Salvador.....	4.31	55.17	109	Egypt.....	2.03	17.14
54	Uruguay.....	4.29	54.91				
55	Hungary.....	4.29	54.78				
56	Pakistan.....	4.28	54.74				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.2.2 Prevalence of training in firms

#### Proportion of firms offering formal training (%) | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	China (2012)	79.20	100.00	56	Turkey (2013)	28.40	32.98
2	Thailand (2006)	75.30	94.85	58	Lebanon (2013)	26.60	30.61
3	Ireland (2005)	73.20	92.08	59	Latvia (2013)	25.20	28.76
4	Cambodia (2013)	67.90	85.09	60	Burkina Faso (2009)	24.80	28.23
5	Colombia (2010)	65.20	81.53	61	Morocco (2007)	24.70	28.10
6	Argentina (2010)	63.60	79.42	62	Albania (2013)	23.80	26.91
7	Kyrgyzstan (2013)	62.70	78.23	63	Montenegro (2013)	23.70	26.78
8	El Salvador (2010)	61.00	75.99	64	Ukraine (2013)	22.60	25.33
9	Mongolia (2013)	60.90	75.86	65	Bangladesh (2013)	21.90	24.41
10	Peru (2010)	60.10	74.80	66	Egypt (2008)	21.70	24.14
11	Chile (2010)	57.50	71.37	67	Azerbaijan (2013)	20.10	22.03
12	Bolivia (2010)	57.10	70.84	68	Greece (2005)	20.00	21.90
13	Dominican Republic (2010)	57.00	70.71	69	Israel (2013)	18.60	20.05
14	Venezuela (2010)	56.00	69.39	70	Sri Lanka (2011)	18.40	19.79
15	Rwanda (2011)	55.40	68.60	71	Algeria (2007)	17.30	18.34
16	Czech Republic (2013)	55.10	68.21	72	Senegal (2007)	16.30	17.02
17	Paraguay (2010)	54.90	67.94	73	Armenia (2013)	16.20	16.89
18	Costa Rica (2010)	54.70	67.68	74	Hungary (2013)	15.80	16.36
19	Bosnia and Herzegovina (2013)	52.40	64.64	75	Madagascar (2013)	12.70	12.27
20	Botswana (2010)	51.90	63.98	76	Panama (2010)	11.00	10.03
21	Spain (2005)	51.30	63.19	77	Georgia (2013)	10.50	9.37
22	Mexico (2010)	50.80	62.53	78	Pakistan (2007)	6.70	4.35
23	Malaysia (2007)	50.10	61.61	79	Indonesia (2009)	4.70	1.72
24	Croatia (2013)	49.30	60.55	80	Jordan (2013)	3.40	0.00
25	Uruguay (2010)	48.60	59.63	n/a	Australia	n/a	n/a
26	Nicaragua (2010)	47.20	57.78	n/a	Austria	n/a	n/a
27	Macedonia (2013)	46.90	57.39	n/a	Belgium	n/a	n/a
28	Russia (2012)	46.10	56.33	n/a	Canada	n/a	n/a
29	Namibia (2006)	44.50	54.22	n/a	Cyprus	n/a	n/a
30	Slovakia (2013)	43.50	52.90	n/a	Denmark	n/a	n/a
30	Vietnam (2009)	43.50	52.90	n/a	Ecuador	n/a	n/a
32	Bulgaria (2013)	42.70	51.85	n/a	Finland	n/a	n/a
33	Lesotho (2009)	42.50	51.58	n/a	France	n/a	n/a
34	Brazil (2009)	42.20	51.19	n/a	Guatemala	n/a	n/a
35	Lithuania (2013)	42.00	50.92	n/a	Iceland	n/a	n/a
36	Slovenia (2013)	41.50	50.26	n/a	Iran	n/a	n/a
37	Kenya (2013)	40.90	49.47	n/a	Italy	n/a	n/a
38	Romania (2013)	40.70	49.21	n/a	Japan	n/a	n/a
39	Ghana (2013)	40.10	48.42	n/a	Kuwait	n/a	n/a
40	South Korea (2005)	39.50	47.63	n/a	Luxembourg	n/a	n/a
41	Serbia (2013)	37.80	45.38	n/a	Malta	n/a	n/a
42	South Africa (2007)	36.80	44.06	n/a	Netherlands	n/a	n/a
43	India	35.90	42.88	n/a	New Zealand	n/a	n/a
44	Honduras (2010)	35.80	42.74	n/a	Norway	n/a	n/a
45	Barbados (2010)	35.50	42.35	n/a	Qatar	n/a	n/a
46	Germany (2005)	35.40	42.22	n/a	Saudi Arabia	n/a	n/a
47	Estonia (2013)	35.20	41.95	n/a	Singapore	n/a	n/a
48	Uganda (2013)	34.70	41.29	n/a	Sweden	n/a	n/a
49	Poland (2013)	34.60	41.16	n/a	Switzerland	n/a	n/a
50	Moldova (2013)	32.40	38.26	n/a	Tunisia	n/a	n/a
51	Mali (2010)	32.10	37.86	n/a	United Arab Emirates	n/a	n/a
52	Portugal (2005)	31.90	37.60	n/a	United Kingdom	n/a	n/a
53	Philippines (2009)	31.10	36.54	n/a	United States	n/a	n/a
54	Tanzania (2013)	30.70	36.02				
55	Ethiopia (2011)	30.00	35.09				
56	Kazakhstan (2013)	28.40	32.98				

Source: World Bank, Enterprise Surveys.  
([www.enterprisesurveys.org](http://www.enterprisesurveys.org))

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.2.3 Employee development

Average answer to the question: To what extent do companies in your country invest in training and employee development? [1 = hardly at all; 7 = to a great extent] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland.....	5.69	78.12	57	Poland.....	3.97	49.46
2	Japan.....	5.41	73.53	58	Mongolia.....	3.96	49.30
3	Luxembourg.....	5.40	73.28	59	Mexico.....	3.95	49.25
4	Malaysia.....	5.35	72.46	60	Israel.....	3.95	49.23
5	Finland.....	5.32	71.97	60	Lesotho.....	3.95	49.23
6	Qatar.....	5.26	71.07	62	India.....	3.94	49.06
7	Singapore.....	5.25	70.90	63	Senegal.....	3.94	49.01
8	Norway.....	5.16	69.39	64	Uruguay.....	3.91	48.49
9	Belgium.....	5.11	68.52	65	Macedonia.....	3.91	48.48
10	Sweden.....	5.10	68.30	66	Cambodia.....	3.90	48.27
11	United Arab Emirates.....	5.10	68.26	67	Colombia.....	3.89	48.14
12	Netherlands.....	5.03	67.24	68	Vietnam.....	3.88	47.99
13	Germany.....	5.02	66.92	69	Dominican Republic.....	3.86	47.67
14	United States.....	5.00	66.74	70	Montenegro.....	3.86	47.61
15	Denmark.....	4.94	65.71	71	Nicaragua.....	3.85	47.47
16	New Zealand.....	4.93	65.49	72	Russia.....	3.84	47.29
17	South Africa.....	4.91	65.13	73	Slovakia.....	3.83	47.21
18	Austria.....	4.82	63.60	74	Turkey.....	3.81	46.82
19	Ireland.....	4.78	63.08	75	Ukraine.....	3.78	46.27
20	Costa Rica.....	4.73	62.11	76	Peru.....	3.76	46.08
21	Canada.....	4.70	61.70	77	Azerbaijan.....	3.73	45.56
22	United Kingdom.....	4.67	61.21	78	Argentina.....	3.73	45.51
23	Indonesia.....	4.66	61.07	79	Spain.....	3.72	45.25
24	Iceland.....	4.65	60.85	80	Kuwait.....	3.71	45.12
25	Philippines.....	4.61	60.16	81	Slovenia.....	3.70	45.02
26	Guatemala.....	4.56	59.29	82	Tunisia.....	3.70	44.98
27	Australia.....	4.52	58.72	83	Madagascar.....	3.67	44.49
28	France.....	4.47	57.80	84	Paraguay.....	3.65	44.24
29	Albania.....	4.43	57.21	85	Morocco.....	3.64	44.04
30	Latvia.....	4.43	57.20	86	Hungary.....	3.63	43.83
31	Kenya.....	4.43	57.18	87	Uganda.....	3.59	43.09
32	Estonia.....	4.42	56.94	88	Romania.....	3.56	42.59
33	Thailand.....	4.41	56.75	89	Greece.....	3.55	42.51
34	Honduras.....	4.40	56.68	90	Kyrgyzstan.....	3.52	42.06
35	Barbados.....	4.39	56.44	91	Georgia.....	3.52	42.05
36	Malta.....	4.38	56.29	92	Bolivia.....	3.52	42.02
37	Cyprus.....	4.31	55.15	93	Tanzania.....	3.51	41.79
38	Brazil.....	4.31	55.10	94	Lebanon.....	3.46	41.07
39	China.....	4.29	54.85	95	Algeria.....	3.41	40.13
40	Panama.....	4.27	54.52	96	Armenia.....	3.40	39.98
41	Lithuania.....	4.25	54.09	97	Moldova.....	3.40	39.96
42	Chile.....	4.22	53.75	98	Pakistan.....	3.38	39.58
43	South Korea.....	4.22	53.63	99	Ethiopia.....	3.36	39.32
44	Portugal.....	4.18	52.96	100	Venezuela.....	3.34	39.06
45	Czech Republic.....	4.14	52.42	101	Bulgaria.....	3.30	38.29
46	Bosnia and Herzegovina.....	4.14	52.29	101	Mali.....	3.30	38.29
47	Sri Lanka.....	4.14	52.25	103	Croatia.....	3.22	37.02
48	Namibia.....	4.12	51.98	104	Bangladesh.....	3.21	36.76
49	Jordan.....	4.11	51.85	105	Italy.....	3.19	36.42
50	Saudi Arabia.....	4.09	51.44	106	Serbia.....	3.09	34.82
51	Ghana.....	4.08	51.38	107	Iran.....	3.03	33.82
52	Ecuador.....	4.07	51.12	108	Burkina Faso.....	2.82	30.26
53	Kazakhstan.....	4.06	51.03	109	Egypt.....	2.75	29.17
54	Rwanda.....	4.03	50.57				
55	Botswana.....	4.02	50.35				
56	El Salvador.....	3.99	49.88				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.3.1 Use of virtual social networks

Average answer to the question: How widely used are virtual social networks (e.g., Facebook, Twitter, LinkedIn) for professional and personal communication in your country? [1 = not used at all; 7 = used widely] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Iceland.....	6.79	96.51	57	Japan.....	5.89	81.42
2	Norway.....	6.68	94.70	58	Kenya.....	5.86	80.98
3	United Kingdom.....	6.64	94.04	59	Kuwait.....	5.82	80.34
4	Netherlands.....	6.60	93.41	60	Tunisia.....	5.81	80.18
5	United States.....	6.54	92.36	61	Lebanon.....	5.80	80.00
6	Estonia.....	6.50	91.59	62	Serbia.....	5.80	79.92
7	United Arab Emirates.....	6.49	91.57	63	France.....	5.78	79.60
8	Sweden.....	6.48	91.35	64	Hungary.....	5.75	79.22
9	Singapore.....	6.46	91.06	65	Armenia.....	5.73	78.83
10	Macedonia.....	6.44	90.74	66	Egypt.....	5.66	77.66
11	Lithuania.....	6.44	90.65	67	Dominican Republic.....	5.65	77.58
12	Malta.....	6.41	90.10	68	Moldova.....	5.65	77.43
13	Canada.....	6.40	90.02	69	Russia.....	5.63	77.18
14	Australia.....	6.40	89.94	70	Guatemala.....	5.63	77.15
15	Finland.....	6.36	89.28	71	South Africa.....	5.62	77.02
16	New Zealand.....	6.35	89.19	72	Romania.....	5.62	76.97
17	Barbados.....	6.30	88.40	73	Honduras.....	5.61	76.76
18	Qatar.....	6.28	87.95	74	Colombia.....	5.50	74.95
19	Ireland.....	6.25	87.48	75	Namibia.....	5.48	74.66
20	Austria.....	6.24	87.28	76	Greece.....	5.46	74.38
21	Philippines.....	6.23	87.24	77	Senegal.....	5.44	73.93
22	Belgium.....	6.23	87.18	78	Kazakhstan.....	5.41	73.44
23	Switzerland.....	6.22	87.05	79	Ukraine.....	5.39	73.20
24	Israel.....	6.18	86.29	80	Botswana.....	5.38	73.06
25	Thailand.....	6.17	86.23	81	Morocco.....	5.36	72.61
26	Chile.....	6.14	85.74	82	Albania.....	5.35	72.54
27	Montenegro.....	6.14	85.67	83	El Salvador.....	5.34	72.39
28	Latvia.....	6.13	85.57	84	Poland.....	5.34	72.25
29	Luxembourg.....	6.13	85.49	85	Mexico.....	5.32	72.03
30	Azerbaijan.....	6.13	85.43	86	Sri Lanka.....	5.28	71.31
31	Saudi Arabia.....	6.12	85.31	87	Paraguay.....	5.23	70.57
32	Denmark.....	6.12	85.25	88	Peru.....	5.21	70.25
33	Malaysia.....	6.09	84.78	89	Cambodia.....	5.21	70.11
34	Venezuela.....	6.07	84.46	90	Rwanda.....	5.19	69.84
35	Cyprus.....	6.07	84.45	91	Vietnam.....	5.18	69.67
36	Panama.....	6.04	84.07	92	Kyrgyzstan.....	5.16	69.38
37	Italy.....	6.04	83.96	93	Ecuador.....	5.12	68.64
38	Slovenia.....	6.03	83.87	94	Madagascar.....	5.08	67.98
39	Uruguay.....	6.02	83.64	95	Algeria.....	4.81	63.57
40	Mongolia.....	6.02	83.62	96	Pakistan.....	4.76	62.69
41	Turkey.....	6.01	83.50	97	Mali.....	4.71	61.76
42	Georgia.....	6.00	83.29	98	Nicaragua.....	4.68	61.40
43	Brazil.....	6.00	83.26	99	China.....	4.68	61.35
44	Portugal.....	6.00	83.25	100	Bangladesh.....	4.61	60.23
45	Costa Rica.....	5.98	82.92	101	Ghana.....	4.53	58.89
46	Bosnia and Herzegovina.....	5.97	82.88	102	Ethiopia.....	4.50	58.32
47	Bulgaria.....	5.97	82.82	103	Uganda.....	4.45	57.43
48	Argentina.....	5.97	82.82	104	India.....	4.36	56.06
49	Czech Republic.....	5.97	82.81	105	Burkina Faso.....	4.21	53.50
50	South Korea.....	5.97	82.79	106	Tanzania.....	4.16	52.66
51	Indonesia.....	5.96	82.71	107	Lesotho.....	4.01	50.15
52	Slovakia.....	5.91	81.90	108	Bolivia.....	3.83	47.09
53	Croatia.....	5.91	81.80	109	Iran.....	3.74	45.58
53	Jordan.....	5.91	81.80				
55	Germany.....	5.89	81.57				
56	Spain.....	5.89	81.43				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

### 3.3.2 Use of virtual professional networks

#### LinkedIn users (per 1,000 labour force) | 2015

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United States.....	693.18	100.00	58	Tunisia.....	110.90	15.47
2	Iceland.....	642.66	92.67	59	Slovakia.....	109.86	15.32
3	Netherlands.....	610.45	87.99	60	Albania.....	107.81	15.02
4	Denmark.....	594.96	85.74	61	Serbia.....	99.39	13.80
5	Malta.....	568.69	81.93	62	Germany.....	95.47	13.23
6	Ireland.....	560.75	80.78	63	Dominican Republic.....	91.98	12.73
7	Canada.....	553.15	79.67	64	El Salvador.....	89.06	12.30
8	Luxembourg.....	532.06	76.61	65	Poland.....	83.13	11.44
9	Australia.....	530.70	76.41	66	Bosnia and Herzegovina.....	75.22	10.29
10	United Kingdom.....	529.16	76.19	67	Morocco.....	73.55	10.05
11	New Zealand.....	521.20	75.04	68	Nicaragua.....	68.73	9.35
12	Singapore.....	472.48	67.96	69	Guatemala.....	68.63	9.34
13	Norway.....	461.27	66.33	70	Georgia.....	64.20	8.69
14	Belgium.....	459.02	66.01	71	Bolivia.....	62.48	8.44
15	Sweden.....	421.78	60.60	72	Russia.....	61.90	8.36
16	Barbados.....	358.76	51.45	73	Philippines.....	59.95	8.08
17	Portugal.....	353.67	50.71	74	Sri Lanka.....	59.83	8.06
18	Chile.....	329.40	47.19	75	Paraguay.....	59.09	7.95
19	Israel.....	328.19	47.02	76	Honduras.....	59.04	7.94
20	Switzerland.....	325.83	46.67	77	Armenia.....	58.29	7.84
21	United Arab Emirates.....	311.24	44.56	78	Ukraine.....	57.65	7.74
22	France.....	307.29	43.98	79	India.....	57.22	7.68
23	Italy.....	301.16	43.09	80	Kenya.....	56.10	7.52
24	Spain.....	290.48	41.54	81	Algeria.....	52.63	7.01
25	Cyprus.....	259.67	37.07	82	Mongolia.....	51.85	6.90
26	Finland.....	256.77	36.65	83	Ghana.....	50.07	6.64
27	Uruguay.....	239.88	34.20	84	Egypt.....	49.35	6.54
28	Qatar.....	230.78	32.88	85	Kazakhstan.....	45.81	6.02
29	Argentina.....	216.56	30.81	86	Senegal.....	37.68	4.84
30	Costa Rica.....	215.02	30.59	87	Pakistan.....	35.04	4.46
31	Slovenia.....	198.42	28.18	88	Indonesia.....	32.02	4.02
32	Brazil.....	189.47	26.88	89	Azerbaijan.....	28.56	3.52
33	Croatia.....	188.98	26.81	90	Lesotho.....	28.46	3.51
34	South Africa.....	187.34	26.57	91	Thailand.....	24.80	2.97
35	Lebanon.....	186.09	26.39	92	Uganda.....	21.64	2.52
36	Latvia.....	184.67	26.18	93	Japan.....	20.91	2.41
37	Estonia.....	184.08	26.10	94	Cambodia.....	17.96	1.98
38	Panama.....	180.82	25.62	95	Kyrgyzstan.....	17.23	1.87
39	Greece.....	180.18	25.53	96	Vietnam.....	16.03	1.70
40	Colombia.....	171.63	24.29	97	Rwanda.....	15.48	1.62
41	Jordan.....	167.37	23.67	98	Peru.....	14.78	1.52
42	Kuwait.....	161.09	22.76	99	Mali.....	13.05	1.27
43	Czech Republic.....	155.29	21.92	100	Burkina Faso.....	11.15	0.99
44	Malaysia.....	149.17	21.03	101	Bangladesh.....	10.40	0.88
45	Romania.....	147.51	20.79	102	China.....	9.05	0.69
46	Ecuador.....	144.61	20.37	103	Madagascar.....	6.56	0.33
47	Lithuania.....	139.38	19.61	104	Ethiopia.....	4.31	0.00
48	Austria.....	137.01	19.26	n/a	Iran.....	n/a	n/a
49	Montenegro.....	134.99	18.97	n/a	Macedonia.....	n/a	n/a
50	Turkey.....	133.88	18.81	n/a	Moldova.....	n/a	n/a
51	Venezuela.....	132.67	18.63	n/a	South Korea.....	n/a	n/a
52	Mexico.....	128.64	18.05	n/a	Tanzania.....	n/a	n/a
53	Bulgaria.....	127.62	17.90				
54	Saudi Arabia.....	127.40	17.87				
55	Botswana.....	122.14	17.11				
56	Hungary.....	119.99	16.79				
57	Namibia.....	117.25	16.40				

Source: LinkedIn, LinkedIn Campaign Manager and International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.linkedin.com/ads](http://www.linkedin.com/ads); [www.ilo.org/kilm](http://www.ilo.org/kilm))

Unless otherwise specified, the data used for computation were collected in 2015.

### 3.3.3 Delegation of authority

Average answer to the question: In your country, how do you assess the willingness to delegate authority to subordinates? [1 = not willing at all – senior management takes all important decisions; 7 = very willing – authority is mostly delegated to business unit heads and other lower-level managers] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Denmark	6.10	84.94	57	Mexico	3.76	46.04
2	Norway	5.96	82.71	58	Albania	3.75	45.86
3	Netherlands	5.66	77.70	59	Honduras	3.72	45.33
4	Sweden	5.63	77.15	60	Chile	3.71	45.23
5	Finland	5.62	76.99	61	Panama	3.69	44.89
6	New Zealand	5.52	75.32	62	Montenegro	3.68	44.70
7	Qatar	5.35	72.45	63	Dominican Republic	3.67	44.49
8	Switzerland	5.33	72.23	64	Azerbaijan	3.65	44.12
9	United States	5.21	70.19	64	Namibia	3.65	44.12
10	Malaysia	5.19	69.81	66	Portugal	3.63	43.77
11	Canada	5.06	67.75	67	Russia	3.62	43.67
12	Belgium	5.06	67.68	68	Romania	3.61	43.56
13	United Arab Emirates	5.00	66.72	69	Madagascar	3.61	43.42
14	Iceland	5.00	66.60	70	Morocco	3.60	43.37
14	Luxembourg	5.00	66.60	71	Bosnia and Herzegovina	3.58	43.08
16	United Kingdom	4.96	66.04	72	Turkey	3.58	43.04
17	Australia	4.92	65.37	73	Senegal	3.58	42.94
18	Ireland	4.89	64.90	74	Greece	3.55	42.56
19	Germany	4.89	64.80	75	Bolivia	3.54	42.40
20	Japan	4.73	62.09	76	Slovakia	3.54	42.31
21	Singapore	4.70	61.71	77	Argentina	3.51	41.89
22	Austria	4.66	61.06	78	Spain	3.50	41.69
23	Philippines	4.65	60.89	79	Croatia	3.44	40.67
24	Estonia	4.55	59.13	80	Botswana	3.42	40.40
25	South Africa	4.46	57.74	81	Moldova	3.41	40.22
26	Indonesia	4.45	57.51	82	Nicaragua	3.40	40.05
27	Costa Rica	4.40	56.65	83	Uruguay	3.40	40.01
28	Saudi Arabia	4.39	56.54	84	Tunisia	3.39	39.87
29	Jordan	4.35	55.90	85	Cambodia	3.39	39.75
30	Israel	4.20	53.40	86	Tanzania	3.38	39.62
31	Egypt	4.17	52.77	87	Armenia	3.37	39.55
32	Thailand	4.16	52.68	88	Kyrgyzstan	3.37	39.53
33	Kenya	4.14	52.37	89	Ethiopia	3.36	39.36
34	Kuwait	4.14	52.26	90	Vietnam	3.33	38.85
35	Brazil	4.13	52.12	91	Macedonia	3.32	38.70
36	El Salvador	4.12	51.93	92	Mali	3.27	37.89
37	Czech Republic	4.06	51.02	93	Pakistan	3.27	37.85
38	Guatemala	4.03	50.55	94	Mongolia	3.26	37.75
39	Latvia	4.01	50.15	95	Venezuela	3.25	37.57
40	Cyprus	3.99	49.78	96	Georgia	3.22	37.02
41	China	3.93	48.89	97	Bulgaria	3.19	36.44
42	France	3.91	48.44	98	Lebanon	3.18	36.39
43	Slovenia	3.90	48.36	99	Ukraine	3.15	35.84
44	Colombia	3.90	48.32	100	Uganda	3.14	35.72
45	Kazakhstan	3.89	48.18	101	Algeria	3.13	35.48
46	Malta	3.88	48.02	102	Italy	3.07	34.44
47	India	3.88	47.94	103	Lesotho	3.04	34.02
48	Ghana	3.87	47.77	104	Hungary	2.96	32.70
49	Barbados	3.85	47.42	104	Paraguay	2.96	32.70
50	Sri Lanka	3.83	47.22	106	Iran	2.95	32.44
51	Poland	3.83	47.18	107	Serbia	2.88	31.27
52	Ecuador	3.82	47.04	108	Bangladesh	2.64	27.39
53	South Korea	3.80	46.60	109	Burkina Faso	2.12	18.70
54	Rwanda	3.78	46.35				
55	Peru	3.77	46.18				
56	Lithuania	3.76	46.07				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.



### 3.3.4 Freedom of voice

Percentage of respondents who answered yes for the question: Have you voiced your opinion to a public official in the past month? | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Denmark	42.90	100.00	57	France	18.00	30.45
2	Costa Rica	38.40	87.43	58	Mexico	17.90	30.17
3	Philippines	36.00	80.73	59	Venezuela	17.20	28.21
4	South Africa	35.00	77.93	60	United Arab Emirates	16.80	27.09
5	Portugal	34.30	75.98	61	Azerbaijan	16.50	26.26
6	Colombia	34.00	75.14	61	Moldova	16.50	26.26
7	Austria	32.00	69.55	63	Ethiopia	16.20	25.42
7	Germany	32.00	69.55	64	Burkina Faso	16.00	24.86
9	Kenya	31.30	67.60	64	Montenegro	16.00	24.86
9	Panama	31.30	67.60	66	Kyrgyzstan	15.80	24.30
9	Switzerland	31.30	67.60	67	Greece	15.20	22.63
12	Malaysia	31.00	66.76	68	Slovakia	15.13	22.43
13	Bolivia	30.30	64.80	69	Romania	15.00	22.07
13	Norway	30.30	64.80	70	Kazakhstan	14.70	21.23
15	Guatemala	29.30	62.01	71	Paraguay	14.10	19.55
15	Mongolia	29.30	62.01	71	Serbia	14.10	19.55
15	United States	29.30	62.01	73	Dominican Republic	14.00	19.27
18	Chile	29.00	61.17	73	El Salvador	14.00	19.27
18	Iceland	29.00	61.17	73	Estonia	14.00	19.27
20	Netherlands	28.30	59.22	73	Tunisia	14.00	19.27
21	Canada	28.00	58.38	77	Croatia	13.00	16.48
22	Iran	27.60	57.26	78	Bosnia and Herzegovina	12.50	15.08
23	Uganda	27.30	56.42	79	Argentina	12.10	13.97
24	Ireland	27.00	55.59	79	Bulgaria	12.10	13.97
24	Slovenia	27.00	55.59	79	Cambodia	12.10	13.97
24	Thailand	27.00	55.59	79	Israel	12.10	13.97
27	Hungary	26.00	52.79	79	Latvia	12.10	13.97
27	Uruguay	26.00	52.79	84	Indonesia	11.50	12.29
29	Albania	25.50	51.40	85	Bangladesh	11.20	11.45
30	Sweden	25.30	50.84	85	Poland	11.20	11.45
31	United Kingdom	25.00	50.00	85	Russia	11.20	11.45
32	Finland	24.50	48.60	88	Armenia	11.10	11.17
33	Malta	24.20	47.77	88	Ecuador	11.10	11.17
34	Botswana	24.00	47.21	88	Morocco	11.10	11.17
34	Cyprus	24.00	47.21	88	Pakistan	11.10	11.17
36	Luxembourg	23.50	45.81	92	Brazil	11.00	10.89
37	Kuwait	23.20	44.97	92	South Korea	11.00	10.89
38	Namibia	23.00	44.41	94	Vietnam	10.40	9.22
39	Saudi Arabia	22.70	43.58	95	China	10.20	8.66
40	Spain	22.20	42.18	96	Lebanon	10.00	8.10
41	Tanzania	22.00	41.62	96	Ukraine	10.00	8.10
42	India	21.60	40.50	98	Lithuania	9.20	5.87
43	New Zealand	21.20	39.39	99	Egypt	9.00	5.31
43	Sri Lanka	21.20	39.39	99	Italy	9.00	5.31
45	Senegal	21.00	38.83	101	Singapore	8.20	3.07
46	Macedonia	20.60	37.71	102	Turkey	8.10	2.79
47	Belgium	20.40	37.15	103	Georgia	7.20	0.28
48	Czech Republic	20.20	36.59	104	Algeria	7.10	0.00
48	Ghana	20.20	36.59	104	Jordan	7.10	0.00
48	Rwanda	20.20	36.59	n/a	Barbados	n/a	n/a
51	Nicaragua	20.00	36.03	n/a	Lesotho	n/a	n/a
52	Honduras	19.60	34.92	n/a	Madagascar	n/a	n/a
53	Japan	19.20	33.80	n/a	Qatar	n/a	n/a
54	Mali	19.00	33.24				
54	Peru	19.00	33.24				
56	Australia	18.20	31.01				

Source: Legatum Institute, Legatum Prosperity Index 2014  
based on Gallup World Poll. ([www.prosperity.com](http://www.prosperity.com))

Unless otherwise specified, the data used for computation were collected in 2013.





# PILLAR 4:

RETAIN

## 4.1.1 Pension system

### Workforce contributing to pension system (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg (2008)	100.00	100.00	80	Bolivia (2005)	12.00	11.11
2	Lithuania (2008)	99.00	98.99	82	India (2005)	10.00	9.09
3	Czech Republic (2005)	95.00	94.95	82	Namibia	10.00	9.09
3	Japan (2005)	95.00	94.95	85	Botswana (2002)	9.00	8.08
3	Switzerland (2009)	95.00	94.95	86	Ghana (2006)	8.00	7.07
6	Austria (2004)	94.00	93.94	86	Kenya (2008)	8.00	7.07
6	Estonia (2005)	94.00	93.94	88	Indonesia (2009)	7.00	6.06
8	Denmark (2005)	93.00	92.93	88	Mali (2003)	7.00	6.06
8	Latvia (2007)	93.00	92.93	91	Madagascar (2003)	5.30	4.34
8	Norway (2008)	93.00	92.93	95	Lesotho (2004)	4.00	3.03
8	United Kingdom (2005)	93.00	92.93	99	Burkina Faso (2005)	1.00	0.00
12	Hungary (2005)	92.00	91.92	n/a	Bangladesh	n/a	n/a
15	Australia (2005)	91.00	90.91	n/a	Bulgaria	n/a	n/a
15	Belgium (2006)	91.00	90.91	n/a	Cambodia	n/a	n/a
15	Netherlands (2009)	91.00	90.91	n/a	Cyprus	n/a	n/a
18	Finland (2005)	90.00	89.90	n/a	El Salvador	n/a	n/a
18	Italy (2004)	90.00	89.90	n/a	Ethiopia	n/a	n/a
20	Israel (2009)	89.10	88.99	n/a	Kuwait	n/a	n/a
21	Ireland (2009)	89.00	88.89	n/a	Malta	n/a	n/a
23	France (2008)	87.00	86.87	n/a	Moldova	n/a	n/a
23	Germany (2004)	87.00	86.87	n/a	Montenegro	n/a	n/a
23	Iceland (2009)	87.00	86.87	n/a	New Zealand	n/a	n/a
27	Greece (2005)	86.00	85.86	n/a	Pakistan	n/a	n/a
28	Barbados	84.00	83.84	n/a	Panama	n/a	n/a
29	Croatia (2006)	83.00	82.83	n/a	Paraguay	n/a	n/a
34	Bosnia and Herzegovina (2007)	71.00	70.71	n/a	Peru	n/a	n/a
35	Spain (2006)	69.00	68.69	n/a	Philippines	n/a	n/a
37	Canada (2007)	67.00	66.67	n/a	Poland	n/a	n/a
40	Kazakhstan (2008)	63.00	62.63	n/a	Portugal	n/a	n/a
42	Chile (2005)	60.00	59.60	n/a	Qatar	n/a	n/a
45	Costa Rica (2005)	56.00	55.56	n/a	Romania	n/a	n/a
46	Brazil (2007)	55.00	54.55	n/a	Russia	n/a	n/a
46	Egypt (2008)	55.00	54.55	n/a	Rwanda	n/a	n/a
48	Macedonia	53.00	52.53	n/a	Saudi Arabia	n/a	n/a
49	Malaysia (2004)	49.00	48.48	n/a	Senegal	n/a	n/a
49	South Korea (2008)	49.00	48.48	n/a	Serbia	n/a	n/a
53	Argentina (2005)	42.00	41.41	n/a	Singapore	n/a	n/a
54	Kyrgyzstan (2005)	40.00	39.39	n/a	Slovakia	n/a	n/a
55	Albania (2008)	38.00	37.37	n/a	Slovenia	n/a	n/a
55	Jordan (2007)	38.00	37.37	n/a	South Africa	n/a	n/a
57	Algeria (2009)	37.00	36.36	n/a	Sweden	n/a	n/a
58	Azerbaijan (2009)	35.00	34.34	n/a	Tanzania	n/a	n/a
58	Lebanon (2007)	35.00	34.34	n/a	Thailand	n/a	n/a
60	Iran (2009)	34.00	33.33	n/a	Tunisia	n/a	n/a
62	Mongolia (2008)	33.00	32.32	n/a	Turkey	n/a	n/a
63	Armenia (2005)	32.00	31.31	n/a	Uganda	n/a	n/a
64	Colombia	31.00	30.30	n/a	Ukraine	n/a	n/a
65	Georgia (2005)	29.00	28.28	n/a	Uruguay	n/a	n/a
66	China (2004)	27.00	26.26	n/a	United Arab Emirates	n/a	n/a
66	Mexico (2009)	27.00	26.26	n/a	United States	n/a	n/a
68	Dominican Republic (2008)	26.00	25.25	n/a	Venezuela	n/a	n/a
68	Ecuador	26.00	25.25	n/a	Vietnam	n/a	n/a
71	Morocco (2004)	24.00	23.23				
71	Sri Lanka (2005)	24.00	23.23				
75	Nicaragua (2005)	22.00	21.21				
77	Guatemala	20.00	19.19				
79	Honduras (2003)	17.00	16.16				

Source: World Bank, International Patterns of Pension Provision II: A Worldwide Overview of Facts and Figures. ([www.worldbank.org/en/topic/socialprotectionlabor/brief/pensions-data](http://www.worldbank.org/en/topic/socialprotectionlabor/brief/pensions-data))

Unless otherwise specified, the data used for computation were collected in 2012.

## 4.1.2 Taxation

Average answer to the question: What impact does the level of taxes in your country have on incentives to work? [1 = significantly limits incentives to work; 7 = has no impact on incentives to work] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Qatar .....	6.26	87.70	57	Bangladesh .....	3.55	42.56
2	United Arab Emirates .....	6.22	87.01	58	Australia .....	3.55	42.45
3	Singapore .....	5.99	83.18	59	Iran .....	3.53	42.08
4	Kuwait .....	5.32	71.97	60	Pakistan .....	3.52	42.04
5	Malaysia .....	5.15	69.16	61	Vietnam .....	3.44	40.68
6	Luxembourg .....	5.11	68.50	62	Azerbaijan .....	3.44	40.63
7	Switzerland .....	5.09	68.19	63	Poland .....	3.43	40.44
8	New Zealand .....	5.01	66.83	64	Bulgaria .....	3.38	39.75
9	Saudi Arabia .....	4.95	65.82	65	Kyrgyzstan .....	3.37	39.47
10	Botswana .....	4.61	60.18	66	Ireland .....	3.36	39.37
11	South Africa .....	4.55	59.16	67	Armenia .....	3.36	39.29
12	Rwanda .....	4.47	57.84	68	Jordan .....	3.35	39.13
13	Paraguay .....	4.42	56.97	69	Mali .....	3.32	38.72
14	Cyprus .....	4.38	56.39	70	Algeria .....	3.31	38.42
15	Macedonia .....	4.38	56.32	71	Turkey .....	3.30	38.41
16	Georgia .....	4.37	56.16	72	Iceland .....	3.30	38.31
17	Canada .....	4.29	54.82	73	Latvia .....	3.27	37.90
18	Estonia .....	4.28	54.67	74	Peru .....	3.25	37.46
19	Malta .....	4.24	53.94	75	Tanzania .....	3.22	36.92
20	Chile .....	4.23	53.83	76	Ethiopia .....	3.19	36.44
21	Norway .....	4.21	53.44	77	Nicaragua .....	3.18	36.35
22	Sweden .....	4.19	53.18	78	El Salvador .....	3.18	36.32
23	Indonesia .....	4.11	51.87	79	Czech Republic .....	3.15	35.77
24	United Kingdom .....	4.09	51.54	80	Madagascar .....	3.14	35.73
25	Cambodia .....	4.06	50.96	81	South Korea .....	3.12	35.38
26	Panama .....	4.03	50.55	82	Venezuela .....	3.06	34.38
27	China .....	4.02	50.38	83	Russia .....	3.05	34.14
28	United States .....	4.02	50.34	84	Mexico .....	3.03	33.76
29	Ghana .....	3.98	49.69	85	Egypt .....	2.99	33.23
30	Namibia .....	3.96	49.31	86	Dominican Republic .....	2.95	32.43
31	Lesotho .....	3.96	49.27	87	Slovakia .....	2.93	32.23
32	Morocco .....	3.93	48.90	88	Uruguay .....	2.92	32.08
33	Kazakhstan .....	3.93	48.84	89	Austria .....	2.92	32.06
34	Senegal .....	3.93	48.77	90	Colombia .....	2.92	32.03
35	India .....	3.92	48.62	91	Moldova .....	2.90	31.62
36	Philippines .....	3.90	48.40	92	Lithuania .....	2.87	31.20
37	Sri Lanka .....	3.86	47.68	93	Hungary .....	2.86	30.96
38	Lebanon .....	3.85	47.48	94	Hungary .....	2.79	29.86
39	Ecuador .....	3.84	47.32	95	Honduras .....	2.78	29.63
40	Albania .....	3.83	47.14	96	Spain .....	2.76	29.33
41	Guatemala .....	3.81	46.89	97	Portugal .....	2.75	29.21
42	Barbados .....	3.78	46.41	98	Denmark .....	2.73	28.89
43	Thailand .....	3.78	46.29	99	Ukraine .....	2.63	27.09
44	Japan .....	3.76	45.99	100	Serbia .....	2.58	26.35
45	Netherlands .....	3.75	45.77	101	Slovenia .....	2.54	25.69
46	Burkina Faso .....	3.73	45.53	102	Greece .....	2.53	25.57
47	Costa Rica .....	3.72	45.38	103	Brazil .....	2.53	25.54
48	Montenegro .....	3.72	45.26	104	Romania .....	2.51	25.15
49	Germany .....	3.70	45.01	105	Belgium .....	2.32	21.94
50	Mongolia .....	3.64	43.95	106	Croatia .....	2.20	19.99
51	Israel .....	3.63	43.89	107	Italy .....	1.95	15.76
52	Tunisia .....	3.63	43.84	108	Argentina .....	1.88	14.59
53	Finland .....	3.60	43.40	n/a	Bosnia and Herzegovina .....	n/a	n/a
54	Uganda .....	3.58	43.00				
55	Kenya .....	3.58	42.95				
56	Bolivia .....	3.57	42.87				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 4.2.1 Environmental performance

### Environmental performance index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	87.67	100.00	57	Turkey	54.91	52.69
2	Luxembourg	83.29	93.67	58	Albania	54.73	52.43
3	Australia	82.40	92.39	59	Sri Lanka	53.88	51.20
4	Singapore	81.78	91.49	60	Uruguay	53.61	50.81
5	Czech Republic	81.47	91.05	61	South Africa	53.51	50.66
6	Germany	80.47	89.60	62	Russia	53.45	50.58
7	Spain	79.79	88.62	63	Moldova	53.36	50.45
8	Austria	78.32	86.50	64	Dominican Republic	53.24	50.27
9	Sweden	78.09	86.16	65	Brazil	52.97	49.88
10	Norway	78.04	86.09	66	Thailand	52.83	49.68
11	Netherlands	77.75	85.67	67	Morocco	51.89	48.32
12	United Kingdom	77.35	85.10	68	Iran	51.08	47.15
13	Denmark	76.92	84.47	69	Kazakhstan	51.07	47.14
14	Iceland	76.50	83.87	70	Colombia	50.77	46.71
15	Slovenia	76.43	83.77	71	Romania	50.52	46.35
16	New Zealand	76.41	83.74	72	Bolivia	50.48	46.29
17	Portugal	75.80	82.86	73	Macedonia	50.41	46.19
18	Finland	75.72	82.74	74	Nicaragua	50.32	46.06
19	Ireland	74.67	81.22	75	Lebanon	50.15	45.81
20	Estonia	74.66	81.21	76	Algeria	50.08	45.71
21	Slovakia	74.45	80.91	77	Argentina	49.55	44.95
22	Italy	74.36	80.78	78	Ukraine	49.01	44.17
23	Greece	73.28	79.22	79	Honduras	48.87	43.96
24	Canada	73.14	79.02	80	Guatemala	48.06	42.79
25	United Arab Emirates	72.91	78.68	81	Botswana	47.60	42.13
26	Japan	72.35	77.87	82	Georgia	47.23	41.59
27	France	71.05	76.00	83	Bosnia and Herzegovina	45.79	39.51
28	Hungary	70.28	74.88	84	Barbados	45.50	39.10
29	Chile	69.93	74.38	85	Peru	45.05	38.45
30	Poland	69.53	73.80	86	Mongolia	44.67	37.90
31	Serbia	69.13	73.22	87	Indonesia	44.36	37.45
32	United States	67.52	70.90	88	Philippines	44.02	36.96
33	Malta	67.42	70.75	89	El Salvador	43.79	36.63
34	Saudi Arabia	66.66	69.66	90	Namibia	43.71	36.51
35	Belgium	66.61	69.58	91	China	43.00	35.49
36	Cyprus	66.23	69.04	92	Senegal	40.83	32.35
37	Israel	65.78	68.39	93	Kyrgyzstan	40.63	32.06
38	Latvia	64.05	65.89	94	Burkina Faso	40.52	31.90
39	Bulgaria	64.01	65.83	95	Ethiopia	39.43	30.33
40	Kuwait	63.94	65.73	96	Paraguay	39.25	30.07
41	South Korea	63.79	65.51	97	Uganda	39.18	29.97
42	Qatar	63.03	64.41	98	Vietnam	38.17	28.51
43	Croatia	62.23	63.26	99	Kenya	36.99	26.81
44	Armenia	61.67	62.45	100	Tanzania	36.19	25.65
45	Lithuania	61.26	61.86	101	Cambodia	35.44	24.57
46	Egypt	61.11	61.64	102	Rwanda	35.41	24.52
47	Malaysia	59.31	59.04	103	Pakistan	34.58	23.32
48	Tunisia	58.99	58.58	104	Ghana	32.07	19.70
49	Ecuador	58.54	57.93	105	India	31.23	18.49
50	Costa Rica	58.53	57.91	106	Madagascar	26.70	11.94
51	Venezuela	57.80	56.86	107	Bangladesh	25.61	10.37
52	Panama	56.84	55.47	108	Lesotho	20.81	3.44
53	Jordan	55.78	53.94	109	Mali	18.43	0.00
54	Montenegro	55.52	53.57				
55	Azerbaijan	55.47	53.50				
56	Mexico	55.03	52.86				

Source: The 2014 Environmental Performance Index, Yale Center for Environmental Law and Policy. ([epi.yale.edu](http://epi.yale.edu))

Unless otherwise specified, the data used for computation were collected in 2014.

## 4.2.2 Safety at night

Percentage of respondents who answered yes to the question: Do you feel safe walking alone at night in the area where you live? | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United Arab Emirates	91.80	100.00	57	Slovakia	62.40	59.50
2	Singapore	90.90	98.76	58	South Korea	60.60	57.02
3	Norway	88.80	95.87	59	Bulgaria	60.00	56.20
4	Kuwait	88.70	95.73	60	Latvia	59.60	55.65
5	Indonesia	86.90	93.25	60	Nicaragua	59.60	55.65
6	Austria	85.90	91.87	62	Burkina Faso	59.00	54.82
7	Georgia	84.70	90.22	63	Kyrgyzstan	57.70	53.03
8	Bangladesh	84.00	89.26	64	Mali	57.60	52.89
9	Finland	83.50	88.57	65	Mexico	57.30	52.48
10	Montenegro	83.20	88.15	66	Pakistan	56.60	51.52
11	Iceland	83.00	87.88	66	Tunisia	56.60	51.52
11	Rwanda	83.00	87.88	68	Iran	56.10	50.83
13	Armenia	82.50	87.19	69	Cambodia	55.60	50.14
13	Denmark	82.50	87.19	70	Hungary	54.90	49.17
13	Netherlands	82.50	87.19	71	Tanzania	54.50	48.62
16	Jordan	81.80	86.23	72	Algeria	53.50	47.25
16	Slovenia	81.80	86.23	73	Mongolia	53.20	46.83
18	Sweden	81.30	85.54	74	Greece	53.00	46.56
19	Switzerland	80.40	84.30	75	Albania	52.60	46.01
20	Saudi Arabia	78.60	81.82	76	Chile	51.00	43.80
21	China	77.30	80.03	77	El Salvador	50.50	43.11
22	Malta	77.10	79.75	77	Senegal	50.50	43.11
23	Canada	76.80	79.34	79	Ecuador	50.00	42.42
23	Croatia	76.80	79.34	79	Lithuania	50.00	42.42
23	Germany	76.80	79.34	79	Panama	50.00	42.42
26	Spain	76.50	78.93	82	Costa Rica	49.50	41.74
26	United States	76.50	78.93	83	Uruguay	49.00	41.05
28	Ghana	75.80	77.96	84	Guatemala	48.50	40.36
29	Sri Lanka	74.70	76.45	85	Kazakhstan	48.40	40.22
30	United Kingdom	73.70	75.07	86	Kenya	48.00	39.67
31	Azerbaijan	73.10	74.24	87	Colombia	47.50	38.98
31	Poland	73.10	74.24	87	Honduras	47.50	38.98
33	Ireland	72.70	73.69	87	Lebanon	47.50	38.98
34	Japan	72.60	73.55	87	Uganda	47.50	38.98
35	Morocco	72.20	73.00	91	Russia	46.70	37.88
36	France	72.00	72.73	92	Moldova	46.30	37.33
37	Macedonia	71.10	71.49	93	Ukraine	45.70	36.50
38	Bosnia and Herzegovina	70.80	71.07	94	Egypt	45.00	35.54
39	Israel	70.70	70.94	95	Argentina	44.40	34.71
40	Thailand	70.40	70.52	96	Malaysia	42.40	31.96
41	Estonia	70.30	70.39	96	Peru	42.40	31.96
42	Portugal	69.80	69.70	98	Dominican Republic	38.80	27.00
43	Vietnam	69.50	69.28	99	Bolivia	38.40	26.45
44	Australia	68.40	67.77	100	Paraguay	35.40	22.31
45	New Zealand	67.70	66.80	101	Brazil	34.30	20.80
45	Philippines	67.70	66.80	102	Namibia	33.00	19.01
47	Czech Republic	67.40	66.39	103	Botswana	32.30	18.04
48	Cyprus	66.70	65.43	104	South Africa	30.00	14.88
49	Belgium	66.30	64.88	105	Venezuela	19.20	0.00
50	Serbia	66.00	64.46	n/a	Barbados	n/a	n/a
51	Ethiopia	64.60	62.53	n/a	Lesotho	n/a	n/a
52	India	63.90	61.57	n/a	Madagascar	n/a	n/a
52	Italy	63.90	61.57	n/a	Qatar	n/a	n/a
52	Turkey	63.90	61.57				
55	Romania	63.80	61.43				
56	Luxembourg	63.40	60.88				

Source: Legatum Institute, Legatum Prosperity Index 2014 based on Gallup World Poll. ([www.prosperity.com](http://www.prosperity.com))

Unless otherwise specified, the data used for computation were collected in 2013.

## 4.2.3 Physician density

### Physicians (per 1,000 people) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Qatar (2012)	8.00	100.00	47	Mexico (2012)	2.00	25.00
2	Greece (2012)	6.00	75.00	47	Montenegro (2012)	2.00	25.00
3	Austria (2012)	5.00	62.50	47	Panama (2012)	2.00	25.00
4	Bulgaria (2012)	4.00	50.00	47	Poland (2012)	2.00	25.00
4	Czech Republic (2012)	4.00	50.00	47	Romania (2012)	2.00	25.00
4	Georgia (2012)	4.00	50.00	47	Serbia (2012)	2.00	25.00
4	Germany (2012)	4.00	50.00	47	Singapore (2012)	2.00	25.00
4	Italy (2012)	4.00	50.00	47	South Korea (2012)	2.00	25.00
4	Kazakhstan (2012)	4.00	50.00	47	Turkey (2012)	2.00	25.00
4	Lithuania (2012)	4.00	50.00	47	United Arab Emirates (2012)	2.00	25.00
4	Norway (2012)	4.00	50.00	47	United States (2012)	2.00	25.00
4	Portugal (2012)	4.00	50.00	69	Albania (2012)	1.00	12.50
4	Russia (2012)	4.00	50.00	69	Algeria (2012)	1.00	12.50
4	Spain (2012)	4.00	50.00	69	Chile (2012)	1.00	12.50
4	Sweden (2012)	4.00	50.00	69	Colombia (2012)	1.00	12.50
4	Switzerland (2012)	4.00	50.00	69	Costa Rica (2012)	1.00	12.50
4	Ukraine (2012)	4.00	50.00	69	Dominican Republic (2012)	1.00	12.50
4	Uruguay (2012)	4.00	50.00	69	Guatemala (2012)	1.00	12.50
19	Argentina (2012)	3.00	37.50	69	India (2012)	1.00	12.50
19	Armenia (2012)	3.00	37.50	69	Iran (2012)	1.00	12.50
19	Australia (2012)	3.00	37.50	69	Malaysia (2012)	1.00	12.50
19	Azerbaijan (2012)	3.00	37.50	69	Morocco (2012)	1.00	12.50
19	Belgium (2012)	3.00	37.50	69	Pakistan (2012)	1.00	12.50
19	Croatia (2012)	3.00	37.50	69	Peru (2012)	1.00	12.50
19	Denmark (2012)	3.00	37.50	69	Saudi Arabia (2012)	1.00	12.50
19	Egypt (2012)	3.00	37.50	69	South Africa	1.00	12.50
19	Estonia (2012)	3.00	37.50	69	Sri Lanka (2012)	1.00	12.50
19	Finland (2012)	3.00	37.50	69	Tunisia (2012)	1.00	12.50
19	France (2012)	3.00	37.50	69	Vietnam (2012)	1.00	12.50
19	Hungary (2012)	3.00	37.50	87	Bangladesh (2012)	0.00	0.00
19	Iceland (2012)	3.00	37.50	87	Bolivia (2012)	0.00	0.00
19	Ireland (2012)	3.00	37.50	87	Botswana (2012)	0.00	0.00
19	Israel (2012)	3.00	37.50	87	Burkina Faso (2012)	0.00	0.00
19	Jordan (2012)	3.00	37.50	87	Cambodia (2012)	0.00	0.00
19	Latvia (2012)	3.00	37.50	87	Ethiopia (2012)	0.00	0.00
19	Lebanon (2012)	3.00	37.50	87	Ghana (2012)	0.00	0.00
19	Luxembourg (2012)	3.00	37.50	87	Honduras (2012)	0.00	0.00
19	Macedonia (2012)	3.00	37.50	87	Indonesia (2012)	0.00	0.00
19	Malta (2012)	3.00	37.50	87	Kenya (2012)	0.00	0.00
19	Moldova (2012)	3.00	37.50	87	Madagascar (2012)	0.00	0.00
19	Mongolia (2012)	3.00	37.50	87	Mali (2012)	0.00	0.00
19	Netherlands (2012)	3.00	37.50	87	Namibia (2012)	0.00	0.00
19	New Zealand (2012)	3.00	37.50	87	Rwanda (2012)	0.00	0.00
19	Slovakia (2012)	3.00	37.50	87	Senegal (2012)	0.00	0.00
19	Slovenia (2012)	3.00	37.50	87	Tanzania (2012)	0.00	0.00
19	United Kingdom (2012)	3.00	37.50	87	Thailand (2012)	0.00	0.00
47	Barbados (2012)	2.00	25.00	87	Uganda (2012)	0.00	0.00
47	Bosnia and Herzegovina (2012)	2.00	25.00	n/a	Lesotho	n/a	n/a
47	Brazil	2.00	25.00	n/a	Nicaragua	n/a	n/a
47	Canada (2012)	2.00	25.00	n/a	Paraguay	n/a	n/a
47	China (2012)	2.00	25.00	n/a	Philippines	n/a	n/a
47	Cyprus (2012)	2.00	25.00	n/a	Venezuela	n/a	n/a
47	Ecuador (2012)	2.00	25.00				
47	El Salvador (2012)	2.00	25.00				
47	Japan (2012)	2.00	25.00				
47	Kyrgyzstan (2012)	2.00	25.00				
47	Kuwait (2012)	2.00	25.00				

Source: World Bank, World Development Indicators based on World Health Organization, Global Atlas of the Health Workforce. (data.worldbank.org)

Unless otherwise specified, the data used for computation were collected in 2013.



## 4.2.4 Sanitation

### Population with access to improved sanitation facilities (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Australia .....	100.00	100.00	56	Macedonia .....	91.00	89.77
1	Austria .....	100.00	100.00	56	Turkey .....	91.00	89.77
1	Belgium .....	100.00	100.00	56	Venezuela .....	91.00	89.77
1	Bulgaria .....	100.00	100.00	61	Montenegro .....	90.00	88.64
1	Canada .....	100.00	100.00	61	Poland .....	90.00	88.64
1	Cyprus .....	100.00	100.00	61	Tunisia .....	90.00	88.64
1	Czech Republic .....	100.00	100.00	64	Iran .....	89.00	87.50
1	Denmark .....	100.00	100.00	65	Moldova .....	87.00	85.23
1	Finland .....	100.00	100.00	66	Mexico .....	85.00	82.95
1	France .....	100.00	100.00	67	Ecuador .....	83.00	80.68
1	Germany .....	100.00	100.00	68	Azerbaijan .....	82.00	79.55
1	Hungary .....	100.00	100.00	68	Dominican Republic .....	82.00	79.55
1	Iceland .....	100.00	100.00	70	Brazil .....	81.00	78.41
1	Israel .....	100.00	100.00	71	Colombia .....	80.00	77.27
1	Japan .....	100.00	100.00	71	Guatemala .....	80.00	77.27
1	Kuwait .....	100.00	100.00	71	Honduras .....	80.00	77.27
1	Luxembourg .....	100.00	100.00	71	Paraguay .....	80.00	77.27
1	Malta .....	100.00	100.00	75	Latvia .....	79.00	76.14
1	Netherlands .....	100.00	100.00	76	Morocco .....	75.00	71.59
1	Norway .....	100.00	100.00	76	Vietnam .....	75.00	71.59
1	Portugal .....	100.00	100.00	78	Philippines .....	74.00	70.45
1	Qatar .....	100.00	100.00	78	South Africa .....	74.00	70.45
1	Saudi Arabia .....	100.00	100.00	80	Panama .....	73.00	69.32
1	Singapore .....	100.00	100.00	80	Peru .....	73.00	69.32
1	Slovakia .....	100.00	100.00	82	Romania .....	72.00	68.18
1	Slovenia .....	100.00	100.00	83	El Salvador .....	71.00	67.05
1	South Korea .....	100.00	100.00	83	Russia .....	71.00	67.05
1	Spain .....	100.00	100.00	85	China .....	65.00	60.23
1	Sweden .....	100.00	100.00	86	Botswana .....	64.00	59.09
1	Switzerland .....	100.00	100.00	86	Rwanda .....	64.00	59.09
1	United Kingdom .....	100.00	100.00	88	Indonesia .....	59.00	53.41
1	United States .....	100.00	100.00	89	Bangladesh .....	57.00	51.14
33	Chile .....	99.00	98.86	90	Mongolia .....	56.00	50.00
33	Greece .....	99.00	98.86	91	Nicaragua .....	52.00	45.45
33	Ireland .....	99.00	98.86	91	Senegal .....	52.00	45.45
36	Croatia .....	98.00	97.73	93	Pakistan .....	48.00	40.91
36	Jordan .....	98.00	97.73	94	Bolivia .....	46.00	38.64
36	Kazakhstan .....	98.00	97.73	95	Cambodia .....	37.00	28.41
36	United Arab Emirates .....	98.00	97.73	96	India .....	36.00	27.27
40	Argentina .....	97.00	96.59	97	Uganda .....	34.00	25.00
40	Serbia .....	97.00	96.59	98	Namibia .....	32.00	22.73
42	Egypt .....	96.00	95.45	99	Kenya .....	30.00	20.45
42	Malaysia .....	96.00	95.45	99	Lesotho .....	30.00	20.45
42	Uruguay .....	96.00	95.45	101	Ethiopia .....	24.00	13.64
45	Algeria .....	95.00	94.32	102	Mali .....	22.00	11.36
45	Bosnia and Herzegovina .....	95.00	94.32	103	Burkina Faso .....	19.00	7.95
45	Estonia .....	95.00	94.32	104	Ghana .....	14.00	2.27
48	Costa Rica .....	94.00	93.18	104	Madagascar .....	14.00	2.27
48	Lithuania .....	94.00	93.18	106	Tanzania .....	12.00	0.00
48	Ukraine .....	94.00	93.18	n/a	Italy .....	n/a	n/a
51	Georgia .....	93.00	92.05	n/a	Lebanon .....	n/a	n/a
51	Thailand .....	93.00	92.05	n/a	New Zealand .....	n/a	n/a
53	Barbados .....	92.00	90.91				
53	Kyrgyzstan .....	92.00	90.91				
53	Sri Lanka .....	92.00	90.91				
56	Albania .....	91.00	89.77				
56	Armenia .....	91.00	89.77				

Source: World Bank, World Development Indicators based on WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation. (data.worldbank.org)  
Unless otherwise specified, the data used for computation were collected in 2012.

## 4.2.5 Flexible employment

### Female share of part-time employment (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Austria	80.60	100.00	57	Romania	48.60	56.40
2	Luxembourg	80.50	99.86	58	Panama	48.00	55.59
3	France	80.10	99.32	59	Montenegro	44.00	50.14
4	Switzerland	80.00	99.18	60	Bosnia and Herzegovina	40.60	45.50
5	Belgium	79.80	98.91	61	South Korea	14.70	10.22
6	Germany	78.70	97.41	62	Macedonia	7.20	0.00
7	Spain	76.20	94.01	n/a	Albania	n/a	n/a
8	Italy	75.60	93.19	n/a	Algeria	n/a	n/a
9	United Kingdom	73.80	90.74	n/a	Azerbaijan	n/a	n/a
10	New Zealand	73.70	90.60	n/a	Bangladesh	n/a	n/a
11	Estonia	72.20	88.56	n/a	Barbados	n/a	n/a
12	Australia	71.10	87.06	n/a	Burkina Faso	n/a	n/a
13	Japan	70.80	86.65	n/a	Cambodia	n/a	n/a
14	Czech Republic	69.70	85.15	n/a	China	n/a	n/a
15	Norway	69.40	84.74	n/a	Egypt	n/a	n/a
16	Israel	69.20	84.47	n/a	Ethiopia	n/a	n/a
17	Ireland	69.00	84.20	n/a	Georgia	n/a	n/a
18	Malta	68.80	83.92	n/a	Ghana	n/a	n/a
19	Poland	67.60	82.29	n/a	Guatemala	n/a	n/a
20	Brazil (2009)	67.50	82.15	n/a	Honduras	n/a	n/a
21	Canada	67.00	81.47	n/a	Indonesia	n/a	n/a
22	United States	66.40	80.65	n/a	India	n/a	n/a
23	Iceland	65.80	79.84	n/a	Iran	n/a	n/a
24	South Africa	65.40	79.29	n/a	Jordan	n/a	n/a
25	Uruguay (2010)	64.90	78.61	n/a	Kazakhstan	n/a	n/a
26	Hungary	64.60	78.20	n/a	Kenya	n/a	n/a
27	Russia	64.50	78.07	n/a	Kyrgyzstan	n/a	n/a
28	Greece	63.00	76.02	n/a	Kuwait	n/a	n/a
28	Latvia	63.00	76.02	n/a	Lebanon	n/a	n/a
30	Argentina	62.80	75.75	n/a	Lesotho	n/a	n/a
31	Cyprus	62.20	74.93	n/a	Madagascar	n/a	n/a
32	Sweden	62.00	74.66	n/a	Mali	n/a	n/a
33	Lithuania	61.80	74.39	n/a	Mongolia	n/a	n/a
34	Finland	61.70	74.25	n/a	Morocco	n/a	n/a
35	Colombia	61.30	73.71	n/a	Malaysia	n/a	n/a
36	Denmark	60.90	73.16	n/a	Namibia	n/a	n/a
37	Peru (2009)	60.50	72.62	n/a	Netherlands	n/a	n/a
38	El Salvador	60.30	72.34	n/a	Pakistan	n/a	n/a
39	Turkey	60.00	71.93	n/a	Philippines	n/a	n/a
40	Venezuela (2011)	59.90	71.80	n/a	Qatar	n/a	n/a
41	Slovenia	59.50	71.25	n/a	Rwanda	n/a	n/a
42	Slovakia	59.40	71.12	n/a	Saudi Arabia	n/a	n/a
43	Chile	59.20	70.84	n/a	Senegal	n/a	n/a
44	Nicaragua (2010)	59.10	70.71	n/a	Serbia	n/a	n/a
45	Bolivia (2009)	58.90	70.44	n/a	Singapore	n/a	n/a
46	Moldova	58.40	69.75	n/a	Sri Lanka	n/a	n/a
47	Portugal	58.30	69.62	n/a	Tanzania	n/a	n/a
48	Paraguay	57.70	68.80	n/a	Thailand	n/a	n/a
49	Mexico	56.70	67.44	n/a	Tunisia	n/a	n/a
50	Ecuador	56.40	67.03	n/a	Uganda	n/a	n/a
51	Armenia (2008)	56.20	66.76	n/a	Ukraine	n/a	n/a
52	Costa Rica	54.90	64.99	n/a	United Arab Emirates	n/a	n/a
53	Botswana (2006)	54.70	64.71	n/a	Vietnam	n/a	n/a
54	Croatia	54.30	64.17				
55	Bulgaria	53.20	62.67				
56	Dominican Republic (2010)	50.50	58.99				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

Unless otherwise specified, the data used for computation were collected in 2012.

# PILLAR 5:

## LABOUR AND VOCATIONAL SKILLS

## 5.1.1 Secondary-educated workforce

### Labour force with secondary education (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Czech Republic	74.40	100.00	57	Egypt (2011)	37.20	41.78
1	Slovakia	74.40	100.00	58	Ireland	37.10	41.63
3	Azerbaijan	71.00	94.68	59	Costa Rica (2011)	37.00	41.47
4	Armenia (2011)	66.80	88.11	60	Brazil (2011)	36.40	40.53
5	Bosnia and Herzegovina	65.20	85.60	61	Ecuador (2011)	36.30	40.38
6	Poland	64.30	84.19	62	Iceland	35.70	39.44
7	Austria	64.00	83.72	63	India (2010)	35.50	39.12
8	Croatia	63.50	82.94	64	Nicaragua (2010)	34.80	38.03
9	Hungary	62.70	81.69	65	Dominican Republic (2011)	34.10	36.93
10	Georgia (2010)	60.20	77.78	66	Malta	31.00	32.08
11	Bulgaria	60.10	77.62	66	South Africa (2011)	31.00	32.08
12	Romania	59.60	76.84	68	Kenya	29.72	30.08
13	Slovenia	59.30	76.37	69	China	29.46	29.67
14	Serbia	59.10	76.06	70	Bangladesh	29.04	29.01
15	Latvia	58.70	75.43	71	United States (2008)	28.90	28.79
16	Germany	57.80	74.02	72	United Arab Emirates (2005)	28.80	28.64
17	Lithuania	57.70	73.87	72	Paraguay (2011)	28.80	28.64
18	Chile (2011)	57.00	72.77	74	Saudi Arabia (2009)	28.40	28.01
18	Peru (2011)	57.00	72.77	75	Guatemala (2011)	28.10	27.54
20	Uruguay (2011)	56.90	72.61	76	Venezuela (2011)	27.40	26.45
21	Malaysia	55.80	70.89	77	Botswana (2006)	26.40	24.88
22	Kyrgyzstan (2006)	55.10	69.80	78	Iran (2008)	25.30	23.16
23	Moldova	54.50	68.86	79	Honduras (2011)	23.90	20.97
24	Macedonia	54.00	68.08	80	Spain	23.60	20.50
25	Namibia (2010)	53.90	67.92	81	Mali	23.07	19.67
26	Montenegro	53.80	67.76	82	Rwanda	23.01	19.58
27	Estonia	53.00	66.51	83	Jordan	22.40	18.62
28	Singapore	49.90	61.66	84	Indonesia (2008)	22.30	18.47
29	Switzerland	49.30	60.72	85	Portugal	22.00	18.00
30	Sweden	48.90	60.09	86	Senegal	21.52	17.25
31	Japan (2008)	48.73	59.83	87	Algeria (2011)	21.50	17.21
32	Finland	47.20	57.43	88	Kuwait (2011)	20.70	15.96
33	Italy	46.70	56.65	89	Cambodia	20.50	15.65
34	Mexico (2011)	45.00	53.99	90	Turkey	20.30	15.34
35	Colombia (2011)	44.00	52.43	91	Lebanon (2007)	18.20	12.05
36	France	43.60	51.80	92	Sri Lanka (2008)	16.20	8.92
37	Norway	42.90	50.70	93	Madagascar (2005)	14.90	6.89
37	United Kingdom	42.90	50.70	94	Thailand	14.50	6.26
39	Mongolia (2011)	42.30	49.77	95	Morocco	11.60	1.72
40	Denmark	42.10	49.45	95	Pakistan (2008)	11.60	1.72
41	South Korea (2007)	42.00	49.30	97	El Salvador (2011)	10.50	0.00
42	Greece	41.20	48.04	n/a	Albania	n/a	n/a
42	Netherlands	41.20	48.04	n/a	Barbados	n/a	n/a
42	New Zealand (2008)	41.20	48.04	n/a	Burkina Faso	n/a	n/a
45	Israel (2008)	40.80	47.42	n/a	Ethiopia	n/a	n/a
46	Russia (2008)	40.40	46.79	n/a	Ghana	n/a	n/a
47	Canada (2008)	40.00	46.17	n/a	Kazakhstan	n/a	n/a
48	Argentina	39.70	45.70	n/a	Lesotho	n/a	n/a
49	Cyprus	39.40	45.23	n/a	Qatar	n/a	n/a
50	Belgium	39.30	45.07	n/a	Tanzania	n/a	n/a
51	Philippines (2008)	39.20	44.91	n/a	Uganda	n/a	n/a
52	Australia (2008)	38.90	44.44	n/a	Ukraine	n/a	n/a
53	Panama (2011)	38.60	43.97	n/a	Vietnam	n/a	n/a
54	Bolivia (2009)	38.10	43.19				
55	Tunisia (2011)	37.90	42.88				
56	Luxembourg	37.70	42.57				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

Unless otherwise specified, the data used for computation were collected in 2012.

## 5.1.2 Secondary-educated population

### Population with secondary education (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Czech Republic	69.20	100.00	57	Saudi Arabia	23.00	33.02
2	Slovakia	68.08	98.38	58	Bosnia and Herzegovina (2011)	22.89	32.87
3	Kyrgyzstan (2009)	61.52	88.87	59	Dominican Republic	22.63	32.48
4	Azerbaijan	59.35	85.73	60	Russia (2010)	21.93	31.46
5	Poland	56.85	82.10	61	Colombia	21.54	30.90
6	Slovenia	54.96	79.36	62	Indonesia (2011)	21.05	30.20
7	Montenegro (2011)	52.86	76.32	63	Qatar	21.05	30.19
8	Croatia (2011)	52.32	75.53	64	New Zealand (2011)	20.59	29.53
9	Bulgaria	51.02	73.64	65	Panama (2010)	20.15	28.88
10	Germany	49.92	72.04	66	Singapore	18.78	26.90
11	Austria	49.48	71.41	67	Spain (2012)	18.63	26.68
12	Hungary	49.46	71.39	68	Bolivia (2012)	18.52	26.52
13	Latvia	49.09	70.85	69	Turkey	18.24	26.11
14	Romania	49.09	70.84	70	Paraguay (2008)	18.19	26.04
15	Serbia	48.35	69.77	71	Pakistan (2012)	18.11	25.92
16	South Africa (2012)	47.23	68.16	72	Lebanon (2007)	17.52	25.07
17	United States	46.65	67.30	73	Mexico	16.84	24.09
18	Denmark	43.58	62.86	74	Costa Rica (2012)	16.33	23.34
19	Armenia (2011)	43.27	62.41	75	Guatemala	15.99	22.86
20	Switzerland (2012)	42.85	61.80	76	Uruguay	15.79	22.57
21	Georgia (2012)	41.25	59.49	77	El Salvador (2012)	15.36	21.93
22	Moldova	41.03	59.16	78	Portugal (2012)	14.78	21.10
23	Japan (2010)	39.91	57.53	79	Kuwait	14.57	20.79
24	Norway (2011)	39.75	57.30	80	Jordan (2010)	14.24	20.32
25	Kazakhstan (2007)	39.73	57.27	80	Thailand (2010)	14.24	20.32
26	Venezuela (2011)	39.06	56.31	82	Kenya (2010)	13.86	19.76
27	Finland (2012)	38.89	56.05	83	Vietnam (2009)	13.60	19.39
28	Netherlands	38.52	55.51	84	China (2010)	13.50	19.25
29	France (2012)	37.68	54.30	85	Bangladesh (2001)	12.92	18.40
30	South Korea (2010)	37.40	53.90	86	Namibia (2001)	11.70	16.64
31	Sweden	37.37	53.85	87	Honduras (2012)	11.43	16.24
32	Ukraine (2001)	36.03	51.91	88	Malta	11.04	15.68
33	Macedonia (2002)	35.57	51.24	89	Ghana (2010)	9.22	13.04
34	Israel (2012)	35.46	51.08	90	Barbados (2000)	8.51	12.01
35	Chile (2011)	35.25	50.78	91	Lesotho (2008)	8.46	11.94
36	Malaysia (2010)	34.53	49.74	92	Algeria (2006)	7.64	10.75
37	Peru	34.45	49.62	93	Mali (2011)	4.74	6.54
38	Cyprus	34.14	49.17	94	Rwanda (2012)	4.66	6.42
39	Italy (2012)	33.74	48.60	95	Cambodia (2009)	4.22	5.78
40	Lithuania	32.72	47.11	96	Ethiopia (2011)	2.94	3.93
41	Albania (2012)	32.38	46.62	97	Senegal (2011)	2.62	3.47
42	Mongolia (2010)	32.05	46.14	98	Uganda	1.39	1.68
43	Belgium	31.29	45.04	99	Tanzania (2012)	0.84	0.89
44	Australia	30.40	43.74	100	Burkina Faso (2007)	0.23	0.00
45	United Kingdom	30.03	43.22	n/a	Botswana	n/a	n/a
46	Brazil (2012)	28.65	41.21	n/a	Egypt	n/a	n/a
47	Argentina (2003)	28.42	40.87	n/a	Estonia	n/a	n/a
48	Iceland (2005)	28.33	40.74	n/a	India	n/a	n/a
49	Ireland (2011)	27.24	39.16	n/a	Luxembourg	n/a	n/a
50	Tunisia (2011)	27.20	39.11	n/a	Madagascar	n/a	n/a
51	Greece (2010)	26.82	38.56	n/a	Morocco	n/a	n/a
52	Philippines (2010)	24.66	35.43	n/a	Nicaragua	n/a	n/a
53	United Arab Emirates (2005)	24.52	35.22	n/a	Sri Lanka	n/a	n/a
54	Iran (2012)	24.44	35.10				
55	Ecuador	24.32	34.93				
56	Canada (2011)	23.11	33.18				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2013.

### 5.1.3 Technicians and associate professionals

#### Technicians and associate professionals (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Singapore (2011)	20.70	100.00	57	Bulgaria (2011)	7.90	35.03
2	Germany	20.20	97.46	58	Botswana (2010)	7.80	34.52
3	France (2011)	20.10	96.95	58	Greece (2011)	7.80	34.52
4	Czech Republic	19.30	92.89	60	Brazil (2007)	7.70	34.01
5	Slovakia (2011)	19.00	91.37	61	Bolivia (2009)	7.20	31.47
6	Austria (2011)	18.60	89.34	62	Lesotho (2008)	7.10	30.96
7	Luxembourg (2011)	18.30	87.82	63	Dominican Republic	7.00	30.46
8	Switzerland (2011)	18.20	87.31	64	Paraguay	6.90	29.95
9	Israel (2008)	17.60	84.26	64	Peru	6.90	29.95
10	Italy (2011)	17.30	82.74	66	Romania (2011)	6.80	29.44
11	Montenegro (2012)	17.00	81.22	66	Uruguay (2011)	6.80	29.44
12	Finland (2011)	16.80	80.20	68	El Salvador (2012)	6.70	28.93
13	Denmark (2011)	16.50	78.68	69	Kyrgyzstan	6.60	28.43
14	Iceland (2011)	16.40	78.17	70	Ethiopia (2012)	6.30	26.90
14	Norway (2011)	16.40	78.17	71	Georgia (2007)	5.90	24.87
14	Sweden	16.40	78.17	71	Turkey (2010)	5.90	24.87
17	Netherlands (2011)	16.20	77.16	73	Qatar	5.70	23.86
18	Belgium (2011)	15.90	75.63	73	Sri Lanka (2012)	5.70	23.86
19	Canada (2008)	15.50	73.60	75	Ecuador (2012)	5.30	21.83
20	Russia (2008)	15.20	72.08	75	Pakistan (2008)	5.30	21.83
21	Malaysia (2010)	14.80	70.05	77	Iran (2008)	4.80	19.29
22	Serbia (2010)	14.60	69.04	78	Mongolia (2008)	4.60	18.27
23	United Arab Emirates (2008)	14.50	68.53	78	Namibia	4.60	18.27
24	Hungary (2011)	14.10	66.50	80	Morocco (2011)	4.40	17.26
24	Malta (2011)	14.10	66.50	81	Algeria	4.10	15.74
26	Slovenia (2011)	14.00	65.99	82	Azerbaijan (2008)	3.90	14.72
27	Australia (2008)	13.70	64.47	83	Uganda (2009)	3.70	13.71
28	Argentina (2006)	13.50	63.45	84	Thailand (2011)	3.40	12.18
28	Costa Rica (2011)	13.50	63.45	84	Vietnam (2012)	3.40	12.18
30	Cyprus (2011)	12.90	60.41	86	India (2010)	3.00	10.15
30	Estonia (2011)	12.90	60.41	87	Philippines	2.60	8.12
32	Croatia (2011)	12.50	58.38	88	Indonesia	2.40	7.11
33	New Zealand (2008)	12.40	57.87	89	Cambodia (2008)	2.30	6.60
34	Latvia (2011)	12.00	55.84	90	Tanzania (2007)	2.20	6.09
35	Lithuania (2011)	11.60	53.81	91	Albania (2009)	2.10	5.58
35	Saudi Arabia	11.60	53.81	92	Ghana (2006)	2.00	5.08
37	United Kingdom (2011)	11.50	53.30	93	Burkina Faso	1.10	0.51
38	Ukraine	11.30	52.28	94	Madagascar (2012)	1.00	0.00
39	Poland (2011)	11.10	51.27	n/a	Bangladesh	n/a	n/a
39	South Africa (2011)	11.10	51.27	n/a	Bosnia and Herzegovina	n/a	n/a
41	Spain (2011)	10.90	50.25	n/a	Chile	n/a	n/a
42	South Korea (2008)	10.80	49.75	n/a	China	n/a	n/a
43	Barbados	10.50	48.22	n/a	Guatemala	n/a	n/a
43	Ireland (2011)	10.50	48.22	n/a	Honduras	n/a	n/a
45	Macedonia (2011)	10.20	46.70	n/a	Jordan	n/a	n/a
46	Lebanon (2007)	9.70	44.16	n/a	Japan	n/a	n/a
46	Mexico (2008)	9.70	44.16	n/a	Kenya	n/a	n/a
48	Armenia (2008)	9.30	42.13	n/a	Mali	n/a	n/a
49	Kazakhstan (2008)	9.10	41.12	n/a	Rwanda	n/a	n/a
50	Nicaragua (2006)	8.80	39.59	n/a	Senegal	n/a	n/a
50	Portugal (2011)	8.80	39.59	n/a	Tunisia	n/a	n/a
52	Moldova (2012)	8.70	39.09	n/a	United States	n/a	n/a
53	Egypt	8.50	38.07	n/a	Venezuela	n/a	n/a
54	Colombia (2010)	8.40	37.56				
55	Kuwait (2005)	8.10	36.04				
55	Panama (2011)	8.10	36.04				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

Unless otherwise specified, the data used for computation were collected in 2013.

## 5.2.1 Labour productivity per employee

### Labour productivity per person employed (constant 2013 US\$) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Qatar .....	164543.86	100.00	57	Kazakhstan.....	28919.68	16.67
2	United Arab Emirates .....	123362.27	74.70	58	Jordan .....	27628.55	15.87
3	United States.....	114914.14	69.51	59	Romania .....	27628.27	15.87
4	Luxembourg .....	111424.92	67.36	60	Bulgaria .....	27123.79	15.56
5	Norway .....	106450.22	64.31	61	Tunisia .....	26168.92	14.98
6	Ireland .....	100983.97	60.95	62	Algeria .....	26166.54	14.98
7	Singapore .....	99939.44	60.30	63	Albania .....	24868.63	14.18
8	Saudi Arabia .....	95773.52	57.74	64	Ecuador .....	24156.09	13.74
9	Belgium .....	95646.52	57.67	65	Peru.....	22241.53	12.56
10	Kuwait.....	93295.66	56.22	66	Azerbaijan .....	21401.44	12.05
11	Australia .....	91943.19	55.39	67	Guatemala.....	20250.89	11.34
12	Austria .....	89344.14	53.79	68	Colombia .....	20104.81	11.25
13	Sweden .....	89155.12	53.68	69	Brazil .....	19832.91	11.08
14	France .....	87560.93	52.70	70	China .....	19665.81	10.98
15	United Kingdom.....	85374.15	51.36	71	Thailand.....	19062.92	10.61
16	Canada.....	85273.71	51.29	72	Egypt.....	19058.60	10.61
17	Iceland.....	84876.34	51.05	73	Armenia .....	18499.86	10.27
18	Netherlands.....	83945.82	50.48	74	Ukraine.....	18013.49	9.97
19	Spain .....	82815.15	49.78	75	Georgia.....	17987.18	9.95
20	Barbados.....	81559.36	49.01	76	Sri Lanka .....	15913.03	8.68
21	Finland.....	81205.41	48.79	77	Morocco.....	13669.47	7.30
22	Switzerland.....	80529.59	48.38	78	Moldova.....	12768.99	6.74
23	Germany.....	79895.77	47.99	79	Indonesia.....	12361.86	6.49
24	Denmark.....	79569.49	47.79	80	Philippines.....	11741.07	6.11
25	Italy .....	78851.62	47.35	81	Bolivia.....	10786.28	5.53
26	Japan.....	75233.83	45.12	82	India.....	10651.17	5.44
27	Israel.....	68496.88	40.99	83	Pakistan.....	9792.24	4.91
28	Greece.....	66699.44	39.88	84	Vietnam .....	7423.87	3.46
29	South Korea .....	66437.67	39.72	85	Ghana.....	7015.40	3.21
30	New Zealand .....	65155.95	38.93	86	Kyrgyzstan.....	6967.20	3.18
31	Malta.....	64993.70	38.83	87	Cambodia.....	5478.83	2.26
32	Slovenia.....	60877.36	36.30	88	Bangladesh .....	5303.55	2.16
33	Slovakia.....	59099.06	35.21	89	Senegal .....	5128.39	2.05
34	Cyprus.....	57974.04	34.52	90	Kenya .....	4081.33	1.41
35	Czech Republic .....	55052.25	32.72	91	Mali.....	3952.40	1.33
36	Poland .....	52581.71	31.21	92	Uganda.....	3858.70	1.27
37	Portugal.....	52044.79	30.88	93	Tanzania.....	3600.45	1.11
38	Croatia.....	51859.52	30.76	94	Burkina Faso .....	2592.27	0.49
39	Lithuania.....	51161.59	30.33	95	Ethiopia .....	2074.72	0.17
40	Hungary.....	46522.05	27.48	96	Madagascar.....	1793.22	0.00
41	Estonia .....	43967.83	25.91	n/a	Botswana.....	n/a	n/a
42	Iran .....	42882.07	25.25	n/a	El Salvador.....	n/a	n/a
43	Turkey .....	42383.28	24.94	n/a	Honduras.....	n/a	n/a
44	Chile .....	42112.61	24.77	n/a	Lebanon .....	n/a	n/a
45	Latvia.....	40860.31	24.00	n/a	Lesotho.....	n/a	n/a
46	Russia .....	37410.24	21.88	n/a	Mongolia.....	n/a	n/a
47	Mexico .....	37271.24	21.80	n/a	Montenegro .....	n/a	n/a
48	Malaysia .....	37264.17	21.79	n/a	Namibia .....	n/a	n/a
49	Macedonia.....	34393.99	20.03	n/a	Nicaragua .....	n/a	n/a
50	Bosnia and Herzegovina .....	34256.08	19.95	n/a	Panama .....	n/a	n/a
51	Argentina.....	33663.65	19.58	n/a	Paraguay.....	n/a	n/a
52	Costa Rica.....	32564.14	18.91	n/a	Rwanda .....	n/a	n/a
53	South Africa.....	32422.84	18.82	n/a	Serbia.....	n/a	n/a
54	Dominican Republic .....	32282.07	18.73				
55	Uruguay.....	31284.47	18.12				
56	Venezuela.....	29087.71	16.77				

Source: The Conference Board, Total Economy Database.  
([www.conference-board.org/data/economydatabase](http://www.conference-board.org/data/economydatabase))

Unless otherwise specified, the data used for computation were collected in 2013.



## 5.2.2 Relationship of pay to productivity

Average answer to the question: To what extent is pay in your country related to productivity? [1 = not related to worker productivity; 7 = strongly related to worker productivity] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Malaysia	5.42	73.67	57	India	3.96	49.29
2	Qatar	5.37	72.83	58	Bosnia and Herzegovina	3.94	49.02
3	Singapore	5.34	72.33	59	Madagascar	3.93	48.89
4	Switzerland	5.25	70.85	60	Austria	3.91	48.44
5	United Arab Emirates	5.22	70.39	61	Finland	3.90	48.38
6	Estonia	4.90	65.03	62	Montenegro	3.90	48.31
7	United States	4.85	64.09	63	Peru	3.89	48.21
8	Japan	4.81	63.49	64	Israel	3.89	48.09
9	Lithuania	4.80	63.29	65	France	3.88	48.05
10	Latvia	4.77	62.76	66	Croatia	3.88	47.93
11	Mongolia	4.76	62.62	67	Honduras	3.85	47.44
12	China	4.75	62.51	68	Turkey	3.83	47.15
13	Kazakhstan	4.67	61.20	69	Botswana	3.83	47.13
14	Macedonia	4.66	61.05	70	Dominican Republic	3.81	46.87
14	United Kingdom	4.66	61.05	71	Ecuador	3.81	46.85
16	Czech Republic	4.63	60.51	72	Lesotho	3.81	46.77
17	New Zealand	4.59	59.85	73	Pakistan	3.80	46.71
18	Vietnam	4.56	59.35	74	Mexico	3.80	46.66
19	Russia	4.56	59.34	75	Sweden	3.79	46.45
20	Saudi Arabia	4.54	59.08	76	Bolivia	3.77	46.13
21	Kyrgyzstan	4.52	58.72	77	Senegal	3.75	45.86
22	Philippines	4.51	58.44	78	Norway	3.73	45.53
23	Ireland	4.50	58.33	79	Netherlands	3.66	44.31
24	Canada	4.49	58.24	80	Colombia	3.65	44.22
25	Indonesia	4.49	58.15	81	Tunisia	3.62	43.70
26	Ukraine	4.46	57.59	82	Ethiopia	3.57	42.89
27	Slovakia	4.44	57.29	83	Belgium	3.56	42.60
28	Albania	4.43	57.10	84	Panama	3.55	42.42
29	Azerbaijan	4.41	56.91	85	Bangladesh	3.52	42.06
30	Moldova	4.41	56.86	86	Kuwait	3.51	41.84
31	South Korea	4.39	56.53	87	Mali	3.49	41.57
32	Sri Lanka	4.38	56.34	88	Namibia	3.49	41.50
33	Cambodia	4.34	55.68	89	Slovenia	3.49	41.43
34	Germany	4.33	55.42	90	Paraguay	3.49	41.42
35	Chile	4.31	55.23	91	El Salvador	3.46	40.98
36	Luxembourg	4.30	55.03	92	Barbados	3.46	40.95
37	Jordan	4.28	54.65	93	Portugal	3.42	40.32
38	Guatemala	4.26	54.29	94	Serbia	3.40	40.02
39	Armenia	4.23	53.80	95	Brazil	3.33	38.84
40	Iceland	4.19	53.25	96	Greece	3.30	38.29
40	Thailand	4.19	53.25	97	Tanzania	3.29	38.24
42	Costa Rica	4.15	52.54	98	Algeria	3.29	38.11
43	Poland	4.14	52.33	99	Australia	3.24	37.25
44	Bulgaria	4.12	51.94	100	Uganda	3.23	37.15
44	Kenya	4.12	51.94	101	Spain	3.19	36.43
46	Georgia	4.09	51.47	102	Iran	3.10	34.92
47	Malta	4.06	50.99	103	Burkina Faso	3.09	34.88
48	Cyprus	4.02	50.28	104	Egypt	3.04	34.02
49	Lebanon	4.01	50.16	105	South Africa	2.68	28.05
50	Denmark	4.00	50.02	106	Venezuela	2.62	27.06
51	Ghana	3.98	49.71	107	Italy	2.61	26.86
52	Hungary	3.98	49.64	108	Argentina	2.50	25.01
53	Morocco	3.98	49.63	109	Uruguay	2.34	22.36
54	Romania	3.98	49.62				
55	Nicaragua	3.97	49.52				
56	Rwanda	3.97	49.48				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 5.2.3 Mid-value exports

### Low and medium technology manufactures (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Cambodia	89.56	100.00	59	Latvia	29.26	41.14
2	Macedonia	64.64	75.68	60	Honduras	26.56	38.51
3	Pakistan	64.04	75.09	61	Israel	26.43	38.38
4	Turkey	62.56	73.64	62	Kenya	25.82	37.78
5	Bangladesh	62.31	73.40	63	Madagascar	25.46	37.43
6	El Salvador	62.23	73.32	64	Philippines	24.91	36.90
7	Lesotho	60.98	72.11	65	Argentina	24.63	36.62
8	Italy	58.80	69.97	66	Brazil	24.27	36.27
9	Czech Republic	58.04	69.23	67	Indonesia	24.22	36.22
10	Japan	57.00	68.21	68	Malaysia	23.23	35.25
11	Luxembourg	56.75	67.97	69	Singapore	22.31	34.35
12	Slovakia	55.86	67.11	70	Ireland	21.96	34.01
13	Romania	55.27	66.53	71	Greece	19.94	32.05
14	Poland	53.30	64.61	72	Malta	18.90	31.03
15	Jordan	52.65	63.97	73	Namibia	18.68	30.82
16	Austria	52.59	63.92	74	Uganda	17.50	29.66
17	Germany	52.01	63.35	75	Uruguay	16.80	28.98
18	Tunisia	51.06	62.42	76	Senegal	15.20	27.42
19	China	50.94	62.30	77	Armenia	14.45	26.68
20	Portugal	50.69	62.06	78	Tanzania	12.85	25.12
21	Sri Lanka	49.85	61.24	79	Kyrgyzstan	12.55	24.83
22	Slovenia	49.61	61.01	80	Colombia	11.66	23.96
23	Serbia	48.72	60.14	81	Norway	10.59	22.92
24	Mexico	48.62	60.03	82	Russia	10.44	22.77
25	Morocco	47.50	58.94	83	New Zealand	10.04	22.38
26	South Korea	47.48	58.92	84	Montenegro	9.60	21.95
27	Bosnia and Herzegovina	47.13	58.59	85	Peru	9.17	21.54
28	Ukraine	46.78	58.24	86	Panama	9.17	21.53
29	Hungary	46.75	58.21	87	Iceland	8.41	20.79
30	Spain	45.90	57.38	88	Rwanda	7.95	20.34
31	Dominican Republic	45.42	56.91	89	Cyprus	7.10	19.52
32	France	42.31	53.88	90	Chile	7.01	19.42
33	Sweden	42.24	53.81	91	Ethiopia	6.96	19.37
34	Thailand	41.28	52.87	92	Iran	6.80	19.21
35	Croatia	40.84	52.44	93	Ghana	6.57	18.99
36	Switzerland	40.72	52.32	94	Australia	6.37	18.79
37	Albania	40.15	51.77	95	Paraguay	5.71	18.15
38	Nicaragua	39.37	51.00	96	Kazakhstan	5.15	17.60
39	Vietnam	38.89	50.54	97	Ecuador	4.01	16.50
40	Estonia	38.65	50.30	98	Saudi Arabia	3.42	15.92
41	Georgia	37.47	49.16	99	Botswana	3.30	15.80
42	Lithuania	37.25	48.94	100	Kuwait	3.22	15.72
43	Belgium	36.99	48.69	101	Burkina Faso	3.21	15.71
44	United Kingdom	36.85	48.55	102	Bolivia	2.72	15.23
45	United States	36.05	47.77	103	Mongolia	2.37	14.89
46	Finland	35.08	46.82	104	Venezuela	1.53	14.07
47	Guatemala	34.72	46.47	105	Mali	1.36	13.91
48	India	34.63	46.38	106	Azerbaijan	1.26	13.81
49	Egypt	34.46	46.22	107	Algeria	0.25	12.82
50	Denmark	34.25	46.01	108	Qatar	0.13	12.70
51	Lebanon	33.25	45.04	109	United Arab Emirates	-12.89	0.00
52	Moldova	32.67	44.47				
53	Barbados	32.61	44.41				
54	Bulgaria	31.49	43.32				
55	South Africa	31.08	42.91				
56	Costa Rica	30.82	42.67				
57	Netherlands	30.06	41.92				
58	Canada	29.50	41.37				

Sources: World Bank, World Integrated Trade Solutions database (wits.worldbank.org). See Lall, S. (2000) The Technological Structure and Performance of Developing Country Manufactured Exports, Oxford Development Studies, Vol. 28, No. 3, 1985–89.

Unless otherwise specified, the data used for computation were collected in 2013.



# PILLAR 6:

## GLOBAL KNOWLEDGE SKILLS

## 6.1.1 Tertiary-educated workforce

### Labour force with tertiary education (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United States (2008)	61.90	100.00	57	Portugal	19.80	31.99
2	Canada (2008)	46.50	75.12	57	Slovakia	19.80	31.99
3	Israel (2008)	45.10	72.86	59	Chile (2011)	19.70	31.83
4	Cyprus	41.50	67.04	59	Uruguay (2011)	19.70	31.83
4	Ireland	41.50	67.04	61	Tunisia (2011)	19.40	31.34
6	Japan (2008)	41.40	66.88	62	Egypt (2011)	19.20	31.02
7	Luxembourg	41.20	66.56	63	Kuwait (2011)	19.10	30.86
8	Belgium	39.80	64.30	64	Iran (2008)	18.80	30.37
9	Finland	38.20	61.71	65	Turkey	18.30	29.56
10	United Kingdom	38.10	61.55	66	Italy	17.90	28.92
11	Norway	37.40	60.42	67	Romania	17.60	28.43
12	Estonia	37.20	60.10	68	Brazil (2011)	17.20	27.79
13	Lithuania	37.10	59.94	69	Thailand	17.10	27.63
14	Panama (2011)	36.90	59.61	70	Sri Lanka (2008)	16.80	27.14
15	New Zealand (2008)	36.20	58.48	71	United Arab Emirates (2005)	16.60	26.82
16	South Korea (2007)	35.00	56.54	72	Paraguay (2011)	16.50	26.66
17	Spain	34.80	56.22	72	South Africa (2011)	16.50	26.66
18	Switzerland	34.30	55.41	74	Azerbaijan	16.30	26.33
19	Sweden	34.00	54.93	75	Algeria (2011)	15.20	24.56
20	Australia (2008)	33.80	54.60	76	Peru (2011)	15.10	24.39
21	France	33.70	54.44	77	Bolivia (2009)	14.50	23.42
22	Netherlands	32.10	51.86	77	Bosnia and Herzegovina	14.50	23.42
23	Denmark	31.60	51.05	79	Nicaragua (2010)	12.90	20.84
24	Georgia (2010)	31.20	50.40	80	El Salvador (2011)	11.80	19.06
25	Latvia	31.10	50.24	81	India (2010)	9.80	15.83
26	Iceland	31.00	50.08	82	Morocco	9.20	14.86
27	Singapore	29.40	47.50	83	Indonesia (2008)	7.10	11.47
28	Greece	29.10	47.01	84	Namibia	6.70	10.82
28	Slovenia	29.10	47.01	85	Guatemala (2011)	6.30	10.18
30	Jordan	28.30	45.72	86	Honduras (2011)	6.10	9.85
30	Venezuela (2011)	28.30	45.72	87	Madagascar (2005)	3.40	5.49
32	Poland	28.20	45.56	88	Cambodia	2.80	4.52
33	Germany	28.10	45.40	89	Kyrgyzstan (2006)	2.50	4.04
34	Philippines (2008)	28.00	45.23	90	Botswana (2006)	0.00	0.00
35	Bulgaria	26.60	42.97	n/a	Albania	n/a	n/a
36	Mongolia (2011)	26.20	42.33	n/a	Bangladesh	n/a	n/a
37	Montenegro	25.50	41.20	n/a	Barbados	n/a	n/a
38	Armenia (2011)	25.40	41.03	n/a	Burkina Faso	n/a	n/a
39	Pakistan (2008)	25.10	40.55	n/a	China	n/a	n/a
40	Moldova	24.80	40.06	n/a	Ethiopia	n/a	n/a
41	Hungary	24.50	39.58	n/a	Ghana	n/a	n/a
42	Malaysia	24.40	39.42	n/a	Kazakhstan	n/a	n/a
43	Lebanon (2007)	24.20	39.10	n/a	Kenya	n/a	n/a
44	Costa Rica (2011)	23.30	37.64	n/a	Lesotho	n/a	n/a
44	Mexico (2011)	23.30	37.64	n/a	Mali	n/a	n/a
46	Colombia (2011)	22.60	36.51	n/a	Qatar	n/a	n/a
47	Croatia	21.60	34.89	n/a	Russia	n/a	n/a
48	Macedonia	21.50	34.73	n/a	Rwanda	n/a	n/a
49	Malta	20.90	33.76	n/a	Senegal	n/a	n/a
50	Ecuador (2011)	20.80	33.60	n/a	Tanzania	n/a	n/a
51	Saudi Arabia (2009)	20.70	33.44	n/a	Uganda	n/a	n/a
52	Argentina	20.60	33.28	n/a	Ukraine	n/a	n/a
52	Serbia	20.60	33.28	n/a	Vietnam	n/a	n/a
54	Dominican Republic (2011)	20.20	32.63				
55	Austria	20.00	32.31				
55	Czech Republic	20.00	32.31				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

Unless otherwise specified, the data used for computation were collected in 2012.

## 6.1.2 Tertiary-educated population

### Population with tertiary education (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Russia (2010)	58.93	100.00	57	Sri Lanka (2009)	14.11	23.73
2	Canada (2011)	47.67	80.84	58	Hungary	13.91	23.39
3	Israel (2012)	44.46	75.38	59	Argentina (2003)	13.66	22.96
4	Singapore	41.29	69.98	60	Ecuador	13.54	22.76
5	Luxembourg	38.93	65.96	61	Romania	13.53	22.74
6	Estonia	37.16	62.95	62	Mexico	13.49	22.67
7	Switzerland (2012)	34.82	58.97	63	Kuwait	13.38	22.48
8	New Zealand (2011)	34.76	58.86	64	Tunisia (2011)	13.25	22.26
9	Cyprus	33.70	57.06	65	Turkey	12.88	21.63
10	Denmark	32.97	55.82	66	Italy (2012)	12.75	21.42
11	Moldova	32.51	55.04	67	Macedonia (2002)	12.23	20.53
12	South Korea (2010)	31.78	53.79	68	Brazil (2012)	11.96	20.07
13	Australia	31.45	53.23	69	Malta	11.90	19.97
14	Norway (2011)	31.41	53.17	70	Thailand (2010)	11.79	19.78
15	United States	29.94	50.66	71	El Salvador (2012)	11.22	18.81
16	Japan (2010)	29.88	50.56	72	Dominican Republic	10.86	18.20
17	Lithuania	29.44	49.82	73	Paraguay (2008)	10.42	17.44
18	Latvia	28.77	48.68	74	Uruguay	10.38	17.38
19	Iceland (2005)	27.55	46.60	75	Azerbaijan	9.72	16.26
20	Spain (2012)	26.94	45.56	76	China (2010)	8.43	14.07
21	Philippines (2010)	26.21	44.31	77	Indonesia (2011)	7.88	13.13
22	Germany	25.98	43.93	78	Vietnam (2009)	6.70	11.11
23	France (2012)	25.95	43.87	79	South Africa (2012)	6.36	10.54
24	Kazakhstan (2007)	25.48	43.08	80	Bosnia and Herzegovina (2011)	6.17	10.22
25	Slovenia	24.82	41.96	81	Pakistan (2012)	5.91	9.77
26	United Kingdom	24.33	41.11	82	Poland	4.88	8.02
27	Venezuela (2011)	23.98	40.52	83	Honduras (2012)	4.24	6.93
28	Finland (2012)	22.64	38.25	84	Bangladesh (2001)	4.21	6.88
29	Colombia	21.88	36.95	85	Rwanda (2012)	3.29	5.31
30	Ukraine (2001)	21.77	36.76	86	Mali (2011)	3.22	5.20
31	Bolivia (2012)	21.55	36.38	87	Ghana (2010)	3.13	5.04
32	Ireland (2011)	21.54	36.37	88	Georgia (2012)	2.87	4.60
33	Peru	21.33	36.01	89	Guatemala	2.68	4.27
34	Mongolia (2010)	21.23	35.84	90	Namibia (2001)	2.23	3.51
35	Costa Rica (2012)	20.90	35.28	91	Kyrgyzstan (2009)	2.18	3.42
36	Qatar	20.51	34.63	92	Tanzania (2012)	1.93	3.00
37	Saudi Arabia	20.43	34.48	93	Lesotho (2008)	1.89	2.93
38	Greece (2010)	20.03	33.81	94	Senegal (2011)	1.82	2.81
39	Sweden	19.80	33.40	95	Uganda	1.29	1.91
40	Montenegro (2011)	19.53	32.94	96	Ethiopia (2011)	1.09	1.58
41	Netherlands	19.45	32.81	97	Barbados (2000)	1.06	1.52
42	Armenia (2011)	19.27	32.51	98	Albania (2012)	0.57	0.69
43	Panama (2010)	18.88	31.84	99	Burkina Faso (2007)	0.17	0.00
44	Austria	18.61	31.38	n/a	Algeria	n/a	n/a
45	Czech Republic	18.28	30.82	n/a	Botswana	n/a	n/a
46	Croatia (2011)	18.26	30.79	n/a	Bulgaria	n/a	n/a
47	Belgium	18.15	30.60	n/a	Cambodia	n/a	n/a
48	United Arab Emirates (2005)	17.95	30.27	n/a	Egypt	n/a	n/a
49	Slovakia	17.88	30.15	n/a	India	n/a	n/a
50	Serbia	17.45	29.42	n/a	Kenya	n/a	n/a
51	Iran (2012)	17.02	28.68	n/a	Madagascar	n/a	n/a
52	Malaysia (2010)	16.37	27.57	n/a	Morocco	n/a	n/a
53	Jordan (2010)	16.18	27.25	n/a	Nicaragua	n/a	n/a
54	Portugal (2012)	15.38	25.90				
55	Lebanon (2007)	15.32	25.79				
56	Chile (2011)	14.95	25.16				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2013.

## 6.1.3 Professionals

### Professionals (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg (2011)	33.00	100.00	57	Qatar	9.90	29.14
2	Sweden (2011)	25.20	76.07	58	Panama (2011)	9.80	28.83
3	Denmark (2011)	24.90	75.15	59	Albania (2009)	9.70	28.53
4	United Kingdom (2011)	23.80	71.78	60	Kyrgyzstan (2006)	9.40	27.61
5	Switzerland (2011)	22.90	69.02	60	South Korea (2008)	9.40	27.61
5	Iceland (2011)	22.90	69.02	62	Kuwait (2005)	8.50	24.85
7	Netherlands (2011)	22.50	67.79	63	Ecuador (2012)	8.10	23.62
8	Lithuania (2011)	22.10	66.56	64	Iran (2008)	7.80	22.70
8	Norway (2011)	22.10	66.56	65	Peru	7.60	22.09
10	Ireland (2011)	21.70	65.34	66	Bolivia (2009)	7.20	20.86
11	Finland (2011)	21.30	64.11	66	Dominican Republic	7.20	20.86
12	United States (2008)	21.10	63.50	68	Namibia	7.10	20.55
13	Belgium (2011)	20.40	61.35	68	Turkey (2010)	7.10	20.55
14	Estonia (2011)	19.50	58.59	70	Botswana (2010)	6.80	19.63
14	Slovenia (2011)	19.50	58.59	70	Mexico (2008)	6.80	19.63
16	Russia (2008)	18.50	55.52	72	Brazil (2007)	6.70	19.33
17	Australia (2008)	18.10	54.29	73	Ethiopia (2012)	6.60	19.02
18	Greece (2011)	17.70	53.07	74	Sri Lanka (2012)	6.40	18.40
19	Canada (2008)	17.60	52.76	75	Malaysia (2010)	6.30	18.10
20	Germany (2011)	17.30	51.84	76	Bangladesh (2011)	5.70	16.26
20	Poland (2011)	17.30	51.84	76	China (2005)	5.70	16.26
22	Cyprus (2011)	17.00	50.92	76	South Africa (2011)	5.70	16.26
23	New Zealand (2008)	16.80	50.31	79	Vietnam (2012)	5.50	15.64
24	France (2011)	16.70	50.00	80	Paraguay (2012)	5.30	15.03
25	Latvia (2011)	16.60	49.69	81	Indonesia	4.90	13.80
26	Spain (2011)	16.00	47.85	81	Philippines	4.90	13.80
27	Hungary (2011)	15.80	47.24	83	Thailand (2011)	4.80	13.50
27	Israel (2008)	15.80	47.24	84	Argentina (2006)	4.00	11.04
29	Bulgaria (2011)	15.40	46.01	85	El Salvador (2012)	3.90	10.74
30	Malta (2011)	15.20	45.40	86	India (2010)	3.80	10.43
30	Montenegro (2012)	15.20	45.40	87	Nicaragua (2006)	3.50	9.51
32	Armenia (2008)	15.10	45.09	88	Ghana (2006)	2.80	7.36
32	Azerbaijan (2008)	15.10	45.09	89	Colombia (2010)	2.40	6.13
34	Ukraine	14.90	44.48	90	Uganda (2009)	2.30	5.83
35	Moldova (2012)	14.70	43.87	91	Lesotho (2008)	2.00	4.91
36	Portugal (2011)	14.20	42.33	91	Madagascar (2012)	2.00	4.91
37	United Arab Emirates (2008)	14.10	42.02	91	Rwanda (2005)	2.00	4.91
37	Austria (2011)	14.10	42.02	94	Morocco (2011)	1.80	4.29
39	Romania (2011)	14.00	41.72	95	Cambodia (2008)	1.70	3.99
40	Singapore (2011)	13.70	40.80	96	Pakistan (2008)	1.50	3.37
41	Croatia (2011)	13.40	39.88	97	Burkina Faso (2006)	0.50	0.31
42	Italy (2011)	13.20	39.26	98	Tanzania (2007)	0.40	0.00
43	Macedonia (2011)	12.90	38.34	n/a	Bosnia and Herzegovina	n/a	n/a
44	Georgia (2007)	12.80	38.04	n/a	Chile	n/a	n/a
44	Kazakhstan (2008)	12.80	38.04	n/a	Guatemala	n/a	n/a
46	Czech Republic (2011)	12.70	37.73	n/a	Honduras	n/a	n/a
46	Egypt	12.70	37.73	n/a	Japan	n/a	n/a
48	Serbia (2010)	11.80	34.97	n/a	Jordan	n/a	n/a
49	Saudi Arabia	11.70	34.66	n/a	Kenya	n/a	n/a
50	Slovakia (2011)	11.60	34.36	n/a	Mali	n/a	n/a
51	Mongolia (2008)	11.50	34.05	n/a	Senegal	n/a	n/a
52	Barbados	11.40	33.74	n/a	Tunisia	n/a	n/a
53	Algeria	11.00	32.52	n/a	Venezuela	n/a	n/a
54	Costa Rica (2011)	10.30	30.37				
54	Lebanon (2007)	10.30	30.37				
56	Uruguay (2011)	10.20	30.06				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

Unless otherwise specified, the data used for computation were collected in 2013.



## 6.1.4 Researchers

### Full-time equivalent researchers (per million population) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Finland (2011)	7482.00	100.00	57	Macedonia (2011)	425.00	5.60
2	Iceland (2011)	7012.00	93.71	58	Mexico (2008)	386.00	5.08
3	Denmark (2011)	6730.00	89.94	59	South Africa (2011)	364.00	4.79
4	Israel (2008)	6602.00	88.23	60	Senegal	361.00	4.75
5	Singapore (2011)	6438.00	86.04	61	Thailand (2011)	332.00	4.36
6	Luxembourg (2011)	6194.00	82.77	62	Chile	317.00	4.16
7	South Korea (2008)	5928.00	79.21	63	Venezuela	290.00	3.80
8	Norway (2011)	5588.00	74.67	64	Kenya	227.00	2.96
9	Sweden (2011)	5181.00	69.22	65	Bosnia and Herzegovina	193.00	2.50
10	Japan	5158.00	68.91	66	Colombia (2010)	184.00	2.38
11	Portugal (2011)	4781.00	63.87	67	Algeria	165.00	2.13
12	Austria (2011)	4565.00	60.98	68	Bolivia (2009)	162.00	2.09
13	Canada (2008)	4563.00	60.96	69	India (2010)	160.00	2.06
14	Slovenia (2011)	4398.00	58.75	70	Pakistan (2008)	149.00	1.91
15	Australia (2008)	4280.00	57.17	71	Albania (2009)	148.00	1.90
16	Germany (2011)	4139.00	55.28	72	Kuwait (2005)	132.00	1.69
17	United Kingdom (2011)	4024.00	53.75	73	Panama (2011)	111.00	1.40
18	Belgium (2011)	3983.00	53.20	74	Ecuador (2012)	103.00	1.30
19	United States (2008)	3979.00	53.14	74	Sri Lanka (2012)	103.00	1.30
20	France (2011)	3918.00	52.33	76	Indonesia	90.00	1.12
21	New Zealand (2008)	3693.00	49.32	77	Philippines	78.00	0.96
22	Estonia (2011)	3541.00	47.28	78	Madagascar (2012)	51.00	0.60
23	Ireland (2011)	3513.00	46.91	79	Burkina Faso (2006)	48.00	0.56
24	Netherlands (2011)	3506.00	46.82	79	Paraguay (2012)	48.00	0.56
25	Switzerland (2011)	3285.00	43.86	81	Ethiopia (2012)	42.00	0.48
26	Czech Republic (2011)	3111.00	41.53	82	Ghana (2006)	39.00	0.44
27	Russia (2008)	3096.00	41.33	83	Uganda (2009)	37.00	0.41
28	Slovakia (2011)	2804.00	37.43	84	Tanzania (2007)	36.00	0.40
29	Spain (2011)	2719.00	36.29	85	Mali	32.00	0.35
30	Lithuania (2011)	2650.00	35.37	86	Guatemala	25.00	0.25
31	Hungary (2011)	2389.00	31.88	87	Rwanda (2005)	12.00	0.08
32	Greece (2011)	2168.00	28.92	88	Lesotho (2008)	6.00	0.00
33	Latvia (2011)	1895.00	25.27	n/a	Armenia	n/a	n/a
34	Malta (2011)	1854.00	24.72	n/a	Azerbaijan	n/a	n/a
35	Tunisia	1837.00	24.49	n/a	Bangladesh	n/a	n/a
36	Italy (2011)	1820.00	24.26	n/a	Barbados	n/a	n/a
37	Poland (2011)	1753.00	23.37	n/a	Botswana	n/a	n/a
38	Malaysia (2010)	1643.00	21.90	n/a	Cambodia	n/a	n/a
39	Croatia (2011)	1553.00	20.69	n/a	Dominican Republic	n/a	n/a
40	Bulgaria (2011)	1552.00	20.68	n/a	El Salvador	n/a	n/a
41	Costa Rica (2011)	1289.00	17.16	n/a	Georgia	n/a	n/a
42	Ukraine	1253.00	16.68	n/a	Honduras	n/a	n/a
43	Argentina (2006)	1236.00	16.45	n/a	Jordan	n/a	n/a
44	Serbia (2010)	1235.00	16.44	n/a	Kyrgyzstan	n/a	n/a
45	China (2005)	1020.00	13.56	n/a	Lebanon	n/a	n/a
46	Turkey (2010)	987.00	13.12	n/a	Mongolia	n/a	n/a
47	Morocco (2011)	864.00	11.48	n/a	Namibia	n/a	n/a
48	Romania (2011)	828.00	11.00	n/a	Nicaragua	n/a	n/a
49	Cyprus (2011)	793.00	10.53	n/a	Peru	n/a	n/a
50	Moldova (2012)	781.00	10.37	n/a	Qatar	n/a	n/a
51	Montenegro (2012)	763.00	10.13	n/a	Saudi Arabia	n/a	n/a
52	Iran (2008)	747.00	9.91	n/a	United Arab Emirates	n/a	n/a
53	Brazil (2007)	710.00	9.42	n/a	Vietnam	n/a	n/a
54	Kazakhstan (2008)	652.00	8.64				
55	Uruguay (2011)	538.00	7.12				
56	Egypt	524.00	6.93				

Source: UNESCO Institute for Statistics, UIS online database.  
(stats.uis.unesco.org)

Unless otherwise specified, the data used for computation were collected in 2012.

## 6.1.5 Senior officials and managers

### Legislators, senior officials and managers (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Singapore (2011)	17.80	100.00	56	Luxembourg (2011)	4.20	23.60
2	Philippines	16.20	91.01	56	Mongolia (2008)	4.20	23.60
3	United States (2008)	15.20	85.39	59	Cyprus (2011)	4.10	23.03
4	Egypt	15.00	84.27	60	Italy (2011)	3.90	21.91
5	New Zealand (2008)	13.70	76.97	61	Georgia (2007)	3.60	20.22
6	Pakistan (2008)	12.70	71.35	62	Botswana (2010)	3.40	19.10
7	Bangladesh (2011)	12.50	70.22	63	Paraguay (2012)	3.30	18.54
8	Lebanon (2007)	11.90	66.85	63	Saudi Arabia	3.30	18.54
9	Australia (2008)	11.10	62.36	65	Dominican Republic	3.00	16.85
10	United Kingdom (2011)	10.20	57.30	66	Namibia	2.90	16.29
11	Latvia (2011)	10.00	56.18	67	Costa Rica (2011)	2.80	15.73
12	Canada (2008)	9.30	52.25	67	Ethiopia (2012)	2.80	15.73
13	Lithuania (2011)	9.10	51.12	69	Denmark (2011)	2.70	15.17
14	Barbados	9.00	50.56	69	Qatar	2.70	15.17
14	Estonia (2011)	9.00	50.56	71	Nicaragua (2006)	2.60	14.61
14	Iceland (2011)	9.00	50.56	71	Thailand (2011)	2.60	14.61
17	Malta (2011)	8.60	48.31	73	Algeria	2.40	13.48
18	South Africa (2011)	8.50	47.75	73	Iran (2008)	2.40	13.48
19	Slovenia (2011)	8.30	46.63	75	Kyrgyzstan (2006)	2.30	12.92
19	Turkey (2010)	8.30	46.63	75	Lesotho (2008)	2.30	12.92
21	Moldova (2012)	7.90	44.38	75	South Korea (2008)	2.30	12.92
22	Israel (2008)	7.80	43.82	78	Romania (2011)	2.10	11.80
22	Switzerland (2011)	7.80	43.82	79	Kuwait (2005)	2.00	11.24
24	Ukraine	7.60	42.70	79	Mexico (2008)	2.00	11.24
25	Ireland (2011)	7.50	42.13	81	Sri Lanka (2012)	1.80	10.11
25	Malaysia (2010)	7.50	42.13	82	China (2005)	1.70	9.55
25	United Arab Emirates (2008)	7.50	42.13	82	Indonesia	1.70	9.55
28	France (2011)	7.40	41.57	84	El Salvador (2012)	1.30	7.30
29	Netherlands (2011)	7.30	41.01	85	Azerbaijan (2008)	1.20	6.74
30	Belgium (2011)	7.20	40.45	85	Ecuador (2012)	1.20	6.74
31	Russia (2008)	7.00	39.33	87	Vietnam (2012)	1.00	5.62
32	Norway (2011)	6.50	36.52	88	Bolivia (2009)	0.90	5.06
33	Bulgaria (2011)	6.40	35.96	89	Morocco (2011)	0.70	3.93
33	Kazakhstan (2008)	6.40	35.96	90	Cambodia (2008)	0.60	3.37
35	Portugal (2011)	6.20	34.83	91	Madagascar (2012)	0.50	2.81
35	Uruguay (2011)	6.20	34.83	91	Peru	0.50	2.81
37	Poland (2011)	6.10	34.27	93	Ghana (2006)	0.40	2.25
38	Colombia (2010)	6.00	33.71	94	Tanzania (2007)	0.30	1.69
39	Macedonia (2011)	5.80	32.58	95	Argentina (2006)	0.20	1.12
39	Panama (2011)	5.80	32.58	96	Rwanda (2005)	0.10	0.56
41	Hungary (2011)	5.70	32.02	97	Burkina Faso (2006)	0.00	0.00
42	India (2010)	5.60	31.46	n/a	Bosnia and Herzegovina	n/a	n/a
43	Sweden (2011)	5.50	30.90	n/a	Chile	n/a	n/a
44	Montenegro (2012)	5.40	30.34	n/a	Guatemala	n/a	n/a
45	Slovakia (2011)	5.30	29.78	n/a	Honduras	n/a	n/a
46	Finland (2011)	5.20	29.21	n/a	Japan	n/a	n/a
47	Serbia (2010)	5.10	28.65	n/a	Jordan	n/a	n/a
48	Austria (2011)	5.00	28.09	n/a	Kenya	n/a	n/a
48	Spain (2011)	5.00	28.09	n/a	Mali	n/a	n/a
50	Brazil (2007)	4.90	27.53	n/a	Senegal	n/a	n/a
50	Germany (2011)	4.90	27.53	n/a	Tunisia	n/a	n/a
52	Czech Republic (2011)	4.70	26.40	n/a	Uganda	n/a	n/a
53	Armenia (2008)	4.50	25.28	n/a	Venezuela	n/a	n/a
54	Albania (2009)	4.30	24.16				
54	Croatia (2011)	4.30	24.16				
56	Greece (2011)	4.20	23.60				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. ([www.ilo.org/kilm](http://www.ilo.org/kilm))

Unless otherwise specified, the data used for computation were collected in 2013.

## 6.1.6 Quality of scientific institutions

Average answer to the question: In your country, how would you assess the quality of scientific research institutions? [1 = extremely poor, among the worst in the world; 7 = extremely good, among the best in the world] | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland.....	6.35	89.23	57	Thailand.....	3.91	48.51
2	United Kingdom.....	6.35	89.12	58	Poland.....	3.88	47.94
3	Israel.....	6.27	87.76	59	Turkey.....	3.87	47.90
4	United States.....	6.11	85.21	60	Slovakia.....	3.86	47.68
5	Belgium.....	6.08	84.70	61	Senegal.....	3.86	47.67
6	Netherlands.....	5.87	81.10	62	Bosnia and Herzegovina.....	3.86	47.63
7	Japan.....	5.81	80.11	63	Ukraine.....	3.77	46.16
8	Germany.....	5.78	79.69	64	Serbia.....	3.74	45.71
9	Australia.....	5.78	79.64	65	Greece.....	3.74	45.64
10	Finland.....	5.72	78.70	66	Macedonia.....	3.72	45.35
11	Singapore.....	5.61	76.76	67	Rwanda.....	3.71	45.16
12	France.....	5.56	76.01	68	Ghana.....	3.71	45.15
13	Ireland.....	5.50	74.96	69	Uruguay.....	3.66	44.28
14	Sweden.....	5.48	74.60	70	Philippines.....	3.65	44.13
15	Canada.....	5.47	74.51	71	El Salvador.....	3.61	43.54
16	Qatar.....	5.44	73.92	72	Uganda.....	3.61	43.49
17	Denmark.....	5.38	73.07	73	Mali.....	3.60	43.30
18	Portugal.....	5.38	73.04	74	Tanzania.....	3.56	42.61
19	New Zealand.....	5.26	70.94	75	Bulgaria.....	3.51	41.76
20	Malaysia.....	5.21	70.10	76	Colombia.....	3.48	41.27
21	Norway.....	5.20	70.00	77	Namibia.....	3.46	41.06
22	Hungary.....	5.08	67.97	78	Morocco.....	3.46	40.94
23	Austria.....	5.01	66.75	79	Ecuador.....	3.44	40.69
24	Estonia.....	5.01	66.75	80	Azerbaijan.....	3.43	40.48
25	Luxembourg.....	4.99	66.53	81	Burkina Faso.....	3.39	39.79
26	South Korea.....	4.98	66.29	82	Pakistan.....	3.35	39.23
27	Lithuania.....	4.83	63.82	83	Vietnam.....	3.27	37.84
28	Iceland.....	4.82	63.73	84	Honduras.....	3.26	37.68
29	United Arab Emirates.....	4.80	63.33	85	Kazakhstan.....	3.22	37.08
30	Costa Rica.....	4.79	63.15	86	Botswana.....	3.22	37.02
31	Slovenia.....	4.74	62.32	87	Bolivia.....	3.21	36.89
32	South Africa.....	4.72	61.96	88	Kuwait.....	3.18	36.26
33	Czech Republic.....	4.55	59.14	89	Madagascar.....	3.16	35.97
34	Spain.....	4.52	58.62	90	Armenia.....	3.15	35.79
35	Italy.....	4.50	58.36	91	Ethiopia.....	3.12	35.33
36	China.....	4.34	55.65	92	Mongolia.....	3.12	35.31
37	Cyprus.....	4.31	55.12	93	Tunisia.....	3.10	34.97
38	Indonesia.....	4.26	54.34	94	Guatemala.....	3.04	34.06
39	Kenya.....	4.21	53.57	95	Dominican Republic.....	2.95	32.46
40	Latvia.....	4.17	52.90	96	Lesotho.....	2.93	32.15
41	Saudi Arabia.....	4.17	52.78	97	Peru.....	2.87	31.22
42	Iran.....	4.15	52.50	98	Cambodia.....	2.86	30.96
43	Panama.....	4.12	51.99	99	Georgia.....	2.84	30.70
44	Sri Lanka.....	4.10	51.74	100	Moldova.....	2.72	28.69
45	Argentina.....	4.10	51.72	101	Bangladesh.....	2.72	28.65
46	Brazil.....	4.03	50.52	102	Nicaragua.....	2.71	28.45
47	Chile.....	4.03	50.44	103	Algeria.....	2.63	27.15
48	India.....	4.01	50.11	104	Lebanon.....	2.62	27.01
49	Croatia.....	4.00	50.05	105	Kyrgyzstan.....	2.61	26.88
50	Barbados.....	3.99	49.84	106	Albania.....	2.58	26.34
51	Romania.....	3.98	49.60	107	Venezuela.....	2.51	25.23
52	Russia.....	3.96	49.30	108	Egypt.....	2.37	22.78
53	Jordan.....	3.95	49.09	109	Paraguay.....	2.16	19.33
54	Mexico.....	3.94	49.00				
55	Malta.....	3.93	48.79				
56	Montenegro.....	3.93	48.76				

Source: World Economic Forum, Executive Opinion Survey 2013–2014. (wefsurvey.org)

Unless otherwise specified, the data used for computation were collected in 2014.

## 6.1.7 Scientific journal articles

### Number of scientific and technical journal articles (per million PPP\$ GDP) | 2011

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Denmark	29239.97	100.00	58	Kenya	4065.61	13.62
2	Switzerland	28335.71	96.90	59	Montenegro	3856.83	12.90
3	New Zealand	27454.83	93.87	60	Thailand	3829.27	12.81
4	Israel	25722.39	87.93	61	Macedonia	3589.67	11.98
5	Finland	25088.99	85.76	62	Uganda	3274.55	10.90
6	Sweden	24831.64	84.87	63	Senegal	3144.95	10.46
7	Australia	22375.86	76.45	64	Pakistan	2596.18	8.57
8	Netherlands	22131.86	75.61	65	Burkina Faso	2375.89	7.82
9	Slovenia	21257.65	72.61	66	Morocco	2361.97	7.77
10	Iceland	20827.29	71.13	67	Barbados	2352.43	7.74
11	United Kingdom	20090.24	68.60	68	Algeria	2292.17	7.53
12	Estonia	18573.91	63.40	69	Costa Rica	1933.28	6.30
13	Portugal	18475.97	63.06	70	Mongolia	1865.78	6.07
14	Belgium	18088.15	61.73	71	Ethiopia	1792.34	5.82
15	Norway	18070.78	61.67	72	Saudi Arabia	1787.80	5.80
16	Ireland	17031.38	58.11	73	Tanzania	1783.40	5.79
17	South Korea	16467.60	56.17	74	Bosnia and Herzegovina	1713.71	5.55
18	Croatia	16399.62	55.94	75	Botswana	1665.16	5.38
19	Spain	16297.13	55.59	76	Ghana	1600.67	5.16
20	Serbia	16121.70	54.99	77	Mali	1599.55	5.15
21	Greece	15604.75	53.21	78	Azerbaijan	1598.00	5.15
22	Germany	14855.45	50.64	79	Rwanda	1585.50	5.11
23	Austria	14581.07	49.70	80	Madagascar	1584.53	5.10
24	Czech Republic	14454.86	49.27	81	Colombia	1529.64	4.91
25	Italy	14369.72	48.97	82	Lesotho	1484.76	4.76
26	Singapore	14349.11	48.90	83	Vietnam	1438.43	4.60
27	France	14312.85	48.78	84	Kuwait	1431.95	4.58
28	Hungary	11713.99	39.86	85	Panama	1320.33	4.20
29	Japan	10567.61	35.93	86	Kyrgyzstan	1306.59	4.15
30	Armenia	10249.86	34.84	87	United Arab Emirates	1261.12	3.99
31	Tunisia	10165.27	34.55	88	Sri Lanka	1117.53	3.50
32	Poland	9809.78	33.33	89	Albania	1062.32	3.31
33	Jordan	9253.09	31.42	90	Bangladesh	1025.86	3.19
34	Cyprus	8892.07	30.18	91	Cambodia	961.00	2.96
35	Slovakia	8651.90	29.35	92	Bolivia	909.67	2.79
36	Iran	8172.26	27.71	93	Namibia	821.74	2.49
37	China	7951.20	26.95	94	Venezuela	807.53	2.44
38	Turkey	7743.98	26.24	95	Nicaragua	686.72	2.02
39	Lithuania	7420.39	25.13	96	Qatar	642.46	1.87
40	Chile	6628.98	22.41	97	Philippines	616.95	1.78
41	Bulgaria	6425.51	21.71	98	Peru	535.50	1.50
42	Moldova	6328.38	21.38	99	Ecuador	419.07	1.10
43	Romania	6072.93	20.50	100	Kazakhstan	403.17	1.05
44	Russia	5926.00	20.00	101	Guatemala	295.82	0.68
45	Latvia	5867.60	19.80	102	Honduras	269.80	0.59
46	Brazil	5731.07	19.33	103	Indonesia	239.85	0.49
47	Uruguay	5704.52	19.24	104	Paraguay	226.36	0.44
48	South Africa	5600.28	18.88	105	El Salvador	191.97	0.32
49	Argentina	5391.58	18.17	106	Dominican Republic	97.45	0.00
50	Ukraine	5252.40	17.69	n/a	Canada	n/a	n/a
51	India	5079.60	17.10	n/a	Mexico	n/a	n/a
52	Luxembourg	4925.55	16.57	n/a	United States	n/a	n/a
53	Egypt	4845.96	16.29				
54	Georgia	4782.24	16.08				
55	Malaysia	4512.08	15.15				
56	Malta	4173.88	13.99				
57	Lebanon	4099.49	13.73				

Source: World Bank, World Development Indicators based on National Science Foundation, Science and Engineering Indicators; (data.worldbank.org/indicator/IP.JRN.ARTC.SC)

Unless otherwise specified, the data used for computation were collected in 2011.

## 6.2.1 Innovation output

### Innovation output sub-index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland.....	63.10	100.00	58	Kuwait.....	30.90	32.35
2	Netherlands.....	57.70	88.66	58	South Africa.....	30.90	32.35
3	Sweden.....	57.10	87.39	60	Brazil.....	30.80	32.14
4	United Kingdom.....	56.50	86.13	61	India.....	30.40	31.30
5	Luxembourg.....	54.90	82.77	61	Macedonia.....	30.40	31.30
6	Finland.....	53.80	80.46	63	United Arab Emirates.....	30.30	31.09
7	United States.....	52.30	77.31	63	Mongolia.....	30.30	31.09
8	Germany.....	51.70	76.05	65	Qatar.....	30.20	30.88
9	Iceland.....	51.30	75.21	66	Mexico.....	29.90	30.25
10	Malta.....	50.30	73.11	67	Dominican Republic.....	29.60	29.62
11	Ireland.....	50.00	72.48	68	Uruguay.....	29.30	28.99
12	Denmark.....	49.50	71.43	69	Kenya.....	29.00	28.36
13	Israel.....	49.10	70.59	70	Montenegro.....	28.40	27.10
14	Norway.....	48.80	69.96	71	Georgia.....	28.00	26.26
15	South Korea.....	48.40	69.12	72	Colombia.....	27.60	25.42
16	China.....	47.30	66.81	72	Senegal.....	27.60	25.42
17	Czech Republic.....	46.80	65.76	74	Paraguay.....	27.20	24.58
18	New Zealand.....	46.60	65.34	75	Ghana.....	27.00	24.16
19	Estonia.....	46.30	64.71	75	Sri Lanka.....	27.00	24.16
20	Canada.....	46.00	64.08	77	Philippines.....	26.80	23.74
21	Australia.....	45.50	63.03	78	Peru.....	26.60	23.32
21	Austria.....	45.50	63.03	79	Morocco.....	26.50	23.11
23	Belgium.....	45.20	62.39	80	Tunisia.....	26.10	22.27
24	Singapore.....	44.90	61.76	81	Egypt.....	26.00	22.06
25	France.....	44.80	61.55	81	Uganda.....	26.00	22.06
26	Spain.....	42.60	56.93	83	Bosnia and Herzegovina.....	25.50	21.01
26	Japan.....	42.60	56.93	84	Lebanon.....	25.00	19.96
28	Hungary.....	42.20	56.09	84	Venezuela.....	25.00	19.96
29	Moldova.....	42.10	55.88	86	Guatemala.....	24.80	19.54
30	Slovenia.....	41.40	54.41	87	Cambodia.....	24.50	18.91
31	Latvia.....	40.40	52.31	88	Kazakhstan.....	24.40	18.70
32	Italy.....	40.10	51.68	89	Mali.....	23.70	17.23
33	Cyprus.....	39.90	51.26	90	Burkina Faso.....	23.50	16.81
34	Malaysia.....	38.70	48.74	91	Bolivia.....	22.80	15.34
34	Portugal.....	38.70	48.74	92	Pakistan.....	22.60	14.92
36	Bulgaria.....	37.10	45.38	93	Azerbaijan.....	21.80	13.24
37	Slovakia.....	37.00	45.17	94	El Salvador.....	21.70	13.03
38	Turkey.....	36.70	44.54	95	Ecuador.....	21.30	12.18
39	Croatia.....	36.40	43.91	96	Botswana.....	20.50	10.50
40	Saudi Arabia.....	35.40	41.81	97	Albania.....	20.40	10.29
41	Panama.....	35.20	41.39	97	Ethiopia.....	20.40	10.29
42	Romania.....	34.80	40.55	99	Namibia.....	20.30	10.08
43	Russia.....	34.50	39.92	100	Bangladesh.....	19.70	8.82
44	Ukraine.....	34.40	39.71	101	Madagascar.....	19.60	8.61
45	Poland.....	34.00	38.87	102	Tanzania.....	19.20	7.77
45	Vietnam.....	34.00	38.87	103	Iran.....	19.00	7.35
47	Thailand.....	33.80	38.45	104	Honduras.....	18.60	6.51
48	Costa Rica.....	33.30	37.39	105	Rwanda.....	18.40	6.09
48	Lithuania.....	33.30	37.39	106	Nicaragua.....	17.70	4.62
50	Barbados.....	33.20	37.18	107	Kyrgyzstan.....	17.60	4.41
51	Chile.....	32.80	36.34	108	Algeria.....	16.70	2.52
52	Armenia.....	32.70	36.13	109	Lesotho.....	15.50	0.00
53	Jordan.....	32.10	34.87				
54	Greece.....	32.00	34.66				
55	Serbia.....	31.70	34.03				
56	Indonesia.....	31.20	32.98				
57	Argentina.....	31.10	32.77				

Source: INSEAD, Cornell University and World Intellectual Property Organization, The Global Innovation Index 2014.  
([www.globalinnovationindex.org](http://www.globalinnovationindex.org))

Unless otherwise specified, the data used for computation were collected in 2014.

## 6.2.2 High-value exports

### High technology manufactures (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Philippines	43.56	100.00	58	Argentina	2.43	16.83
2	Singapore	37.52	87.78	59	New Zealand	2.40	16.76
3	China	33.38	79.42	60	Australia	2.35	16.67
4	Malaysia	31.20	75.00	61	Russia	1.91	15.78
5	South Korea	28.25	69.04	62	Albania	1.90	15.77
6	Vietnam	27.67	67.86	63	Cambodia	1.80	15.55
7	Costa Rica	24.56	61.58	64	Kenya	1.78	15.51
8	Hungary	22.15	56.71	65	Tanzania	1.70	15.35
9	Israel	21.80	55.99	66	Bosnia and Herzegovina	1.64	15.23
10	Mexico	21.59	55.58	67	Barbados	1.59	15.13
11	Malta	21.41	55.21	68	Namibia	1.53	15.01
12	Switzerland	20.14	52.63	69	Iceland	1.49	14.93
13	Slovakia	19.96	52.28	70	Georgia	1.41	14.78
14	France	19.57	51.49	71	Montenegro	1.32	14.59
15	Czech Republic	19.19	50.71	72	Senegal	1.29	14.52
16	Japan	18.35	49.03	73	Moldova	1.21	14.37
17	Thailand	18.26	48.83	74	Sri Lanka	1.15	14.24
18	Ireland	17.13	46.56	75	Macedonia	1.03	14.01
19	Estonia	15.90	44.08	76	Bangladesh	0.98	13.91
20	Netherlands	15.72	43.71	77	Uruguay	0.83	13.61
21	Germany	15.56	43.39	78	Kazakhstan	0.82	13.57
22	Denmark	14.27	40.76	79	Armenia	0.80	13.54
23	Austria	13.56	39.33	80	Guatemala	0.79	13.53
24	Sweden	13.37	38.95	81	Egypt	0.75	13.43
25	United States	12.24	36.67	82	Ethiopia	0.74	13.42
26	Tunisia	11.68	35.54	82	Rwanda	0.74	13.42
27	Poland	10.79	33.75	84	Mongolia	0.73	13.40
28	Finland	10.50	33.15	85	Colombia	0.72	13.38
29	Slovenia	10.27	32.68	86	Uganda	0.66	13.25
30	Latvia	9.92	31.98	87	Chile	0.65	13.23
31	United Kingdom	9.71	31.56	88	Botswana	0.62	13.18
32	Croatia	8.15	28.41	89	Burkina Faso	0.59	13.12
33	Belgium	7.92	27.94	90	Ecuador	0.50	12.93
34	Spain	7.69	27.46	91	Pakistan	0.46	12.86
35	Romania	7.29	26.66	92	Ghana	0.46	12.85
36	Italy	6.66	25.38	93	Honduras	0.43	12.80
37	Canada	6.59	25.24	94	Madagascar	0.40	12.73
38	Luxembourg	6.04	24.14	95	Jordan	0.38	12.70
39	Lesotho	5.89	23.84	96	Peru	0.34	12.62
40	Bulgaria	5.75	23.54	97	Azerbaijan	0.31	12.55
41	Morocco	5.41	22.86	98	Paraguay	0.25	12.42
42	Lebanon	5.34	22.71	99	Bolivia	0.16	12.25
43	Portugal	5.03	22.09	100	Iran	0.13	12.18
44	India	4.92	21.87	101	Mali	0.12	12.16
45	Indonesia	4.88	21.78	102	Kuwait	0.12	12.15
46	Serbia	4.70	21.43	103	Nicaragua	0.09	12.10
47	Lithuania	4.53	21.07	104	Saudi Arabia	0.07	12.06
48	Dominican Republic	4.47	20.95	105	Venezuela	0.03	11.98
49	El Salvador	4.07	20.15	106	Algeria	0.01	11.95
50	Brazil	3.89	19.79	107	Qatar	0.00	11.92
51	Ukraine	3.88	19.76	108	Panama	0.00	11.92
52	Turkey	3.68	19.35	109	United Arab Emirates	-5.90	0.00
53	Norway	3.11	18.21				
54	South Africa	2.99	17.96				
55	Kyrgyzstan	2.82	17.62				
56	Greece	2.78	17.54				
57	Cyprus	2.72	17.42				

Sources: World Bank, World Integrated Trade Solutions database (wits.worldbank.org). See Lall, S. (2000). The Technological Structure and Performance of Developing Country Manufactured Exports, Oxford Development Studies, Vol. 28, No. 3, 1985–89.

Unless otherwise specified, the data used for computation were collected in 2013.



## 6.2.3 New product entrepreneurial activity

### New product entrepreneurial activity (%) | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Chile	89.03	100.00	57	Greece	37.13	33.85
2	Turkey (2012)	77.00	84.67	58	Romania	37.02	33.71
3	Saudi Arabia	72.00	78.29	59	Lebanon	37.00	33.69
4	Luxembourg (2011)	71.27	77.36	60	Vietnam (2011)	36.93	33.60
5	Namibia (2011)	69.00	74.47	61	Montenegro (2010)	35.00	31.14
6	Italy (2013)	68.92	74.37	62	Portugal	33.95	29.80
7	Bolivia (2011)	67.90	73.07	63	Algeria (2012)	32.00	27.31
8	Guatemala (2012)	66.84	71.72	64	United Kingdom	31.34	26.47
9	Poland (2013)	63.51	67.47	65	Russia	30.74	25.71
10	Philippines (2011)	60.97	64.24	66	Malaysia	30.04	24.82
11	China (2011)	60.66	63.84	67	Venezuela (2010)	30.00	24.76
12	Colombia	59.11	61.87	68	Georgia (2010)	28.95	23.43
13	Slovenia	57.75	60.13	69	Egypt (2010)	28.00	22.22
14	India (2011)	57.48	59.79	70	Peru	27.35	21.39
15	Denmark (2013)	57.24	59.48	71	Croatia	27.29	21.31
16	Israel (2012)	57.00	59.18	72	Norway (2013)	26.55	20.37
16	United Arab Emirates (2010)	57.00	59.18	73	Macedonia (2012)	26.00	19.67
18	Uruguay (2012)	53.22	54.36	74	Bosnia and Herzegovina	24.45	17.69
19	Czech Republic (2011)	52.00	52.80	75	Ethiopia (2010)	23.00	15.84
19	Latvia (2013)	52.00	52.80	76	Burkina Faso (2010)	22.85	15.65
19	Tunisia (2011)	52.00	52.80	77	Ghana (2012)	22.00	14.57
22	France	51.47	52.13	78	Brazil (2012)	21.88	14.41
23	South Africa	51.37	52.00	79	Iran	19.43	11.29
24	Ireland (2012)	50.13	50.42	80	Morocco	17.00	8.20
25	Iceland (2010)	50.00	50.25	81	Uganda (2013)	14.85	5.46
25	South Korea (2013)	50.00	50.25	82	Panama (2013)	12.28	2.18
27	Thailand (2013)	49.62	49.77	83	Bangladesh (2010)	11.00	0.55
28	Lithuania (2013)	49.13	49.15	84	El Salvador (2011)	10.57	0.00
29	Canada (2011)	48.81	48.74	n/a	Albania	n/a	n/a
30	Singapore (2011)	48.76	48.67	n/a	Armenia	n/a	n/a
31	United States	48.46	48.29	n/a	Azerbaijan	n/a	n/a
32	Qatar (2010)	48.11	47.85	n/a	Bulgaria	n/a	n/a
33	Belgium	47.63	47.23	n/a	Cambodia	n/a	n/a
34	Japan	47.40	46.94	n/a	Cyprus	n/a	n/a
35	Indonesia (2011)	47.16	46.64	n/a	Honduras	n/a	n/a
36	Austria (2011)	47.14	46.61	n/a	Kenya	n/a	n/a
37	Estonia (2012)	46.88	46.28	n/a	Kuwait	n/a	n/a
38	Argentina	46.41	45.68	n/a	Kyrgyzstan	n/a	n/a
39	Mexico	46.31	45.55	n/a	Lesotho	n/a	n/a
40	Sweden	45.38	44.37	n/a	Madagascar	n/a	n/a
41	Jordan	45.00	43.88	n/a	Mali	n/a	n/a
42	Australia (2012)	44.47	43.21	n/a	Malta	n/a	n/a
43	Ecuador (2013)	43.98	42.58	n/a	Moldova	n/a	n/a
44	Switzerland	43.51	41.98	n/a	Mongolia	n/a	n/a
45	Pakistan (2010)	43.00	41.33	n/a	New Zealand	n/a	n/a
45	Serbia	43.00	41.33	n/a	Nicaragua	n/a	n/a
47	Finland	42.97	41.29	n/a	Paraguay	n/a	n/a
48	Costa Rica (2011)	41.20	39.04	n/a	Rwanda	n/a	n/a
49	Hungary	41.08	38.89	n/a	Senegal	n/a	n/a
50	Netherlands	39.88	37.36	n/a	Slovakia	n/a	n/a
51	Botswana (2012)	39.71	37.14	n/a	Sri Lanka	n/a	n/a
52	Spain	39.27	36.58	n/a	Tanzania	n/a	n/a
53	Dominican Republic	39.00	36.24	n/a	Ukraine	n/a	n/a
54	Barbados (2013)	38.70	35.85				
55	Germany (2012)	37.28	34.04				
56	Kazakhstan (2010)	37.15	33.88				

Source: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor database. ([www.gemconsortium.org/data](http://www.gemconsortium.org/data))  
Unless otherwise specified, the data used for computation were collected in 2014.



## 6.2.4 New business density

### New corporate registrations (per 1,000 working-age population) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Cyprus	22.51	100.00	57	Canada	1.07	6.91
1	Luxembourg	20.98	100.00	57	Rwanda	1.07	6.91
1	New Zealand	15.07	100.00	59	Dominican Republic	1.05	6.78
4	Panama	14.10	93.55	60	Jordan	0.98	6.32
5	Malta	13.61	90.29	61	Kyrgyzstan	0.92	5.92
6	Botswana	12.30	81.58	61	Ukraine	0.92	5.92
7	Australia	12.16	80.65	63	Albania	0.88	5.65
8	Latvia	11.63	77.13	63	Mexico	0.88	5.65
9	United Kingdom	11.04	73.20	65	Thailand	0.86	5.52
10	Montenegro (2011)	10.66	70.68	66	Namibia	0.85	5.45
11	Bulgaria	9.03	59.84	67	Kenya (2008)	0.84	5.39
12	Iceland	8.17	54.12	68	Turkey	0.79	5.05
13	Singapore	8.04	53.26	69	Azerbaijan	0.70	4.45
14	Estonia (2007)	7.92	52.46	69	Bosnia and Herzegovina	0.70	4.45
15	Norway	7.83	51.86	71	Bolivia	0.56	3.52
16	South Africa	6.54	43.28	72	Algeria	0.53	3.32
17	Sweden	6.41	42.42	72	Poland (2009)	0.53	3.32
18	Chile	5.69	37.63	74	Guatemala	0.52	3.26
19	Georgia	4.86	32.11	75	Sri Lanka	0.51	3.19
20	Hungary	4.75	31.38	76	Austria	0.50	3.13
21	Lithuania	4.71	31.12	77	El Salvador	0.48	2.99
22	Ireland	4.50	29.72	78	Argentina	0.47	2.93
23	Netherlands	4.44	29.32	79	Indonesia	0.29	1.73
24	Denmark	4.36	28.79	80	Philippines	0.27	1.60
24	Slovenia	4.36	28.79	80	Senegal	0.27	1.60
26	Russia	4.30	28.39	82	Burkina Faso	0.15	0.80
27	Romania	4.12	27.19	83	India	0.12	0.60
28	Peru	3.83	25.27	83	Japan	0.12	0.60
29	Portugal (2010)	3.62	23.87	85	Bangladesh	0.09	0.40
30	Macedonia	3.60	23.74	86	Madagascar	0.05	0.13
31	Costa Rica	3.55	23.40	87	Pakistan	0.04	0.07
32	Uruguay	2.98	19.61	88	Ethiopia (2009)	0.03	0.00
33	Czech Republic	2.96	19.48	n/a	Barbados	n/a	n/a
33	Israel	2.96	19.48	n/a	Cambodia	n/a	n/a
35	France	2.88	18.95	n/a	China	n/a	n/a
36	Croatia	2.82	18.55	n/a	Ecuador	n/a	n/a
37	Spain	2.71	17.82	n/a	Egypt	n/a	n/a
38	Switzerland	2.53	16.62	n/a	Ghana	n/a	n/a
39	Belgium	2.48	16.29	n/a	Greece	n/a	n/a
40	Finland	2.32	15.23	n/a	Honduras	n/a	n/a
41	Malaysia	2.28	14.96	n/a	Iran	n/a	n/a
42	Brazil	2.17	14.23	n/a	Kuwait	n/a	n/a
43	South Korea	2.03	13.30	n/a	Lebanon	n/a	n/a
44	Colombia	2.00	13.10	n/a	Mali	n/a	n/a
45	Italy	1.91	12.50	n/a	Mongolia	n/a	n/a
46	Qatar	1.74	11.37	n/a	Nicaragua	n/a	n/a
47	Kazakhstan	1.71	11.17	n/a	Paraguay	n/a	n/a
48	Serbia	1.68	10.97	n/a	Saudi Arabia	n/a	n/a
49	Moldova (2009)	1.63	10.64	n/a	Slovakia	n/a	n/a
50	Armenia	1.55	10.11	n/a	Tanzania	n/a	n/a
51	Tunisia (2011)	1.52	9.91	n/a	United States	n/a	n/a
52	Lesotho	1.49	9.71	n/a	Venezuela	n/a	n/a
53	United Arab Emirates	1.38	8.98	n/a	Vietnam	n/a	n/a
54	Germany	1.29	8.38				
55	Morocco (2009)	1.26	8.18				
56	Uganda	1.17	7.58				

Source: World Bank, Doing Business. ([www.doingbusiness.org/data/exploretopics/entrepreneurship](http://www.doingbusiness.org/data/exploretopics/entrepreneurship))

Unless otherwise specified, the data used for computation were collected in 2012.





# APPENDIX IV

## ABOUT THE CONTRIBUTORS AND PARTNERS



## ABOUT THE CONTRIBUTORS

### Don J.Q. Chen

Dr Don J.Q. Chen (PhD) is a senior researcher with Research and Insights at the Human Capital Leadership Institute (HCLI). He has published in top-tier academic journals such as the *Journal of Organisational Behaviour* and *Academy of Management Learning and Education*. His studies on work stress and work-life intersections have been featured in publications such as *Harvard Business Review*, *Forbes*, *Wall Street Journal*, and *The Globe and Mail*. Prior to joining HCLI, Dr Chen was a research scholar at the National University of Singapore and has worked closely with various governmental agencies on issues related to employment and employability. Dr Chen received his PhD in Organisational Behaviour from NUS Business School, Singapore.

### Alain Dehaze

Alain Dehaze is the Chief Executive Officer (CEO) of the Adecco Group. A Belgian national, Mr Dehaze trained as a commercial engineer at the ICHEC Brussels Management School, Belgium.

From 1987 until 2000, Mr Dehaze held senior positions in a number of European countries at Henkel and ISS. In 2000, he became Managing Director of Creyf's Interim in Belgium (now Start People). From 2002 to 2005, he was Chief Executive Officer of Solvus. Following the acquisition of Solvus by USG People, the Netherlands, in 2005, he became the Chief Operating Officer of USG People, with overall responsibility for operations, including the integration of Solvus. From September 2007 until 2009, he was CEO of the staffing services company Humares, the Netherlands.

Mr Dehaze joined the Adecco Group in September 2009 as Regional Head of Northern Europe and member of the Group's Executive Committee. He was appointed Regional Head of France in July 2011 leading the region until September 2015 when he took up the role of Adecco Group CEO.

Mr Dehaze is Vice President of the Board of the European Confederation of Private Employment Agencies (Eurociett). He is a member of the Board of the International Confederation of Private Employment Agencies (Ciett).

### Marcos Domínguez-Torreiro

Dr Marcos Domínguez-Torreiro is a post-doctoral researcher at the Composite Indicators Research Group of the European Commission Joint Research Centre (JRC, Italy). He conducts research and policy support tasks in the field of econometrics and applied statistics, with a focus on the statistical assessment of composite indicators. His professional experience includes working for the private sector, universities and public administration. Dr Domínguez-Torreiro has co-authored books and research articles dealing with finance, institutional economics and environmental and natural resource economics. He holds an MSc in Applied Economics and a PhD in Economics.

### Paul Evans

Dr 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 HR in Europe. He has a PhD in Management and Organisational Psychology from MIT, an MBA from INSEAD, and he 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 150 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.

### Ivan Jimenez

Ivan Jimenez is Managing Director at bizkaia:talent, a model regarding mobility, career development as well as professional and personal support of talent. This internationally-oriented organisation has close relationship with the Basque Network of Science and Technology. Mr Jimenez is committed to include the Basque Country into the international circuit of talent mobility. He promotes collaboration and partnerships to achieve superior performance and efficiency aligned with corporate growth and profitability objectives. As a result, bizkaia:talent co-founded the European Regional Talent Mobility Network (EuReTalent Network) and is also building connections with other European organisations focused on talent attraction.

Previously, Mr Jimenez was a manager in Mapfre S.A.S., Spain's number one insurance company, and was in charge of new business development, policy renewals and claims management for a multimillion-euro portfolio of medium- to large-sized companies. Mr Jimenez was also a member of a local municipal corporation and has entrepreneurial expertise, having co-founded Suministros Textiles Etxetik, SL. He holds a Law degree (with specialisation in economics), an MBA from Deusto University and he received training in organisational and regional competitiveness transformation through the MOC course of Harvard Business School and Orkestra.

### Leire Lagunilla

Leire Lagunilla is Head of International Relations and Innovation Manager at bizkaia:talent, working in strategic fields for the creation of an appropriate regional ecosystem to attract, retain and build stable links with talent, while fostering innovation and advanced knowledge in Basque organisations. Ms Lagunilla periodically organises international professional networking meetings which bring together a number of Basque players coming from industry, academia and public administration with highly qualified professionals working abroad. She coordinates the Be Basque Talent Network, a network of top international professionals from over 75 countries that are linked to the Basque Country, and is also participating in various international projects.

Before joining bizkaia:talent, she developed professionally at PwC providing advice to a public sector entity and within the Human Resources area at Airbus Operations GmbH in Germany. Ms Lagunilla holds a Business Administration and Management degree and an MBA in managerial development from Deusto University.

### Bruno Lanvin

Dr Bruno Lanvin is the Executive Director for Global Indices at INSEAD (the Global Information Technology Index, Global Innovation Index, and Global Talent Competitiveness Index).

He is a Director on the Board of ICANN, and a member of the Board of Directors of IDA Infocomm in Singapore. From 2009 to 2010, he was Chair of the Global Advisory Council on the Future of Government (World Economic Forum). From 2000 to 2007, Dr Lanvin 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. From June 2001 to December 2003, he was the Manager of the Information for Development Program (infoDev). In 2000, he was appointed Executive Secretary of the G-8 DOT Force. Before that, he worked for some 20 years in senior positions in the United Nations. The author of numerous books and articles on international economics, information technology and development, Dr Lanvin holds a BA in Mathematics and Physics, an MBA from Ecole des Hautes Etudes Commerciales in Paris, and a PhD in Economics from the University of Paris I – La Sorbonne.

### Béatrice Melin

Béatrice Melin is a Research Associate at INSEAD, and was in charge of managing the publication of *GTCI 2015–16* from September 2015 to January 2016. She oversaw project delivery, stakeholder collaboration and team leadership, and participated in data management and analysis.

Before joining the GTCI team, Ms Melin focused on the impact of ICT on business and learning, participating in several European projects. She also has extensive experience working on development topics, with a special focus on Latin America, including at the OECD Development Centre and as a consultant for the French Ministry of Foreign Affairs.

Ms Melin holds a Master's Degree in Co-operation, a Bachelor's Degree in Latin American Studies from the Institute of Advanced Studies on Latin America – University of La Sorbonne and a Bachelor's Degree in Political Science obtained jointly through studies at the Institute of Political Science in Grenoble and Berkeley University.



### Karessa Ramos Aguinot

Karessa Ramos Aguinot is a Research Associate at INSEAD, and was in charge of managing the publication of *GTCI 2015–16* from March to September 2015. She oversaw project delivery, stakeholder collaboration and team leadership, and participated in data management, collection, and analysis.

Prior to INSEAD, Ms Ramos worked as an Economist-Researcher for Social Performance at the BBVA Microfinance Foundation in Spain. She was in charge of developing the Foundation's Annual Social Performance Report.

Ms Ramos holds a Master's Degree in International Economics and Development, with a specialisation in micro-finance, from the Universidad Complutense de Madrid.

### Eduardo Rodriguez-Montemayor

Eduardo Rodriguez-Montemayor is part of the Economics Department at INSEAD and a Senior Research Fellow of INSEAD's European Competitiveness Initiative. 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 D.C.) 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.

Dr Rodriguez-Montemayor holds a PhD in Economics from the University of York in the United Kingdom and also obtained a 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

Dr Michaela Saisana is Senior Scientific Officer and leads the Composite Indicators Research Group (COIN) at the European Commission, Joint Research Centre (JRC, 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, World Economic Forum, INSEAD, World Intellectual Property Organisation, International Telecommunication Union, Yale University, Columbia University, Berkeley 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, 60 working papers). She is a principal author of the *OECD Handbook on Composite Indicators* and co-author of the book *Global Sensitivity Analysis: The Primer*. Dr Saisana offers 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.

### Wong Su-Yen

Wong Su-Yen is Chief Executive Officer of the Human Capital Leadership Institute (HCLI). She is Non-Executive Chairman of Nera Telecommunications, a global telecom and IT solutions provider that is listed on the Singapore Exchange Mainboard. Concurrently, she is an Independent Director at MediaCorp, Singapore's leading media company, and at NTUC First Campus which is the largest provider of childcare services in Singapore.

Previously, Ms Wong was Chairman for Marsh and McLennan Companies (Singapore), and Managing Director for Southeast Asia at Mercer. She brings over 20 years' experience in business strategy, organisation transformation, human capital and leadership development. She has been based in various cities across Asia since 1997, and has worked with leading organisations across North America and Asia in a broad range of industries including high-tech, financial services, oil and gas, retail, consumer goods, and the public sector.

Ms Wong is an active member of the Singapore Institute of Directors, Women Corporate Directors, and the Young Presidents' Organisation. She holds a BA (summa cum laude) in music and computer science from Linfield College and an MBA from the University of North Carolina at Chapel Hill.



## ABOUT THE PARTNERS

### INSEAD – The Business School for the World – [insead.edu](http://insead.edu)

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 our research and teaching.

With campuses in Europe (France), Asia (Singapore) and Abu Dhabi, INSEAD's business education and research spans three continents. Our 148 renowned faculty members from 40 countries inspire more than 1,300 degree participants annually in our MBA, Executive MBA, specialised master's degrees (Master in Finance, Executive Master in Consulting and Coaching for Change) and PhD programmes. In addition, more than 9,500 executives participate in INSEAD's executive education programmes each year.

In addition to INSEAD's programmes on our three campuses, INSEAD participates in academic partnerships with the Wharton School of the University of Pennsylvania (Philadelphia and San Francisco); the Kellogg School of Management at Northwestern University near Chicago; the Johns Hopkins University/SAIS in Washington DC and the Teachers College at Columbia University in New York. In Asia, INSEAD partners with School of Economics and Management at Tsinghua University in Beijing and 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 our programmes to provide business leaders with the knowledge and sensitivity to operate anywhere. These core values have enabled us to become truly "The Business School for the World."

### Adecco Group – [adecco.com](http://adecco.com)

The Adecco Group, based in Zurich, Switzerland, is the world's leading provider of HR solutions. With more than 32,000 FTE employees and around 5,100 branches in over 60 countries and territories around the world, Adecco Group offers a wide variety of services, connecting around 700,000 associates with our clients every day. The services offered fall into the broad categories of temporary staffing, permanent placement, career transition and talent development, as well as outsourcing and consulting. The Adecco Group is a Fortune Global 500 company.

Adecco S.A. is registered in Switzerland (ISIN: CH0012138605) and listed on the SIX Swiss Exchange (ADEN).

### Human Capital Leadership Institute – [hcli.org](http://hcli.org)

The Human Capital Leadership Institute (HCLI) is an aggregator and neutral player in the human capital ecosystem. HCLI offers the unique ability to bring together multiple perspectives and voices from business, government and academia, offering thought leadership and insights on understanding Asia, successfully doing business in Asia and its implications on leadership and human capital strategies for Asia. Through its efforts, the Institute aims to develop global leaders with a strong understanding of leading in Asia, as well as to build Asian leaders with the ability to lead on the global stage.

HCLI is a strategic alliance between the Singapore Ministry of Manpower (MOM), Singapore Economic Development Board (EDB) and Singapore Management University (SMU).





ISBN: 978-2-9522210-9-2

