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The Global Talent Competitiveness Index

Growing talent for today and tomorrow

2014



Bruno Lanvin and Paul Evans, Editors

The Global Talent Competitiveness Index 2014

Bruno Lanvin and Paul Evans, Editors

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PREFACE

Following the successful launch of the first edition of the Global Talent Competitiveness Index (GTCI) in Singapore last year, many reactions, suggestions, encouragements and constructive criticisms have poured in from different parts of the world and avenues of activity. Governments, businesses and academia have shared with us their hopes and expectations about what future editions of this report should focus on. Based on this rich feedback, a number of improvements have been made to the report and the GTCI's underlying model.

One of the most visible among these changes has been the choice of theme for this second edition, *“Growing talent for today and tomorrow”*. Focusing on how economies can develop talent, the GTCI 2014 addresses one of the key elements of talent policy. By stressing that talent growth must occur over differing time horizons, it indicates that relevant policies must address both immediate issues (e.g., youth unemployment) and longer-term concerns (e.g., reshaping education systems).

The second implication for this year relates to the variables that compose the GTCI's underlying model. With its six pillars (four on the Input side and two on the Output side), the framework proved remarkably robust.¹ Hence, it is no surprise that this framework has remained virtually unchanged from last year. Some improvements were undertaken to improve the policy relevance of the approach: an increase in the number of variables, including new data sources, to reinforce the accuracy of the model and to rebalance the sub-pillars. In spite of the significant increase in the number of variables used (from 48 to 65 – a 35% increase), country coverage has changed little (93 versus 103) from the GTCI 2013.

Last year, the GTCI underscored how the world was becoming both more global and more mobile, and how this trend contributed to place talent at the heart of a number of crucial debates all over the world. By focusing on ‘growing’ talent, the GTCI 2014 naturally emphasises education. It recognises that the all-too-frequent mismatch between education systems and the needs of labour markets call for innovative attitudes and policies. But education can no longer be restricted solely to formal education at school and university. In today's world education has to be regarded as a continuous, lifelong process through which skills are constantly upgraded in order to adapt to fast-changing environments and labour markets. The foundations for advanced knowledge skills that we require today and in the future need to be built at an early age – writing, reading and mathematics now need to be combined with skills in communicating, sharing and even coding. It is also a world in which vocational skills are an important and sometimes underestimated element of developing ‘employable’ skills. Furthermore, leadership and entrepreneurship abilities need to be redefined, since collaborative work increasingly mobilises talents over interconnected information networks that span national and sectorial boundaries.

Since its inception, the GTCI has been built on strong partnerships, illustrating how talent issues require joint approaches from businesses, governments and academia. This year, the Adecco Group, Singapore's Human Capital Leadership Institute and INSEAD have pursued the partnership initiated last year, a cooperation that has grown stronger and closer over the course of producing the report's second iteration. We at INSEAD are proud and grateful to both the Adecco Group and HCLI for showing their continuing faith in this project and commitment to its yearly publication. We are also grateful to all the individuals and organisations who have contributed chapters to this edition and have helped enhance our understanding and analysis of talent-related issues. This includes a special thank you to the team at the European Commission's Joint Research Centre (JRC) for their in-depth evaluation of the GTCI model and their valuable suggestions on some of the most critical improvements introduced in this second edition.

We also express deep gratitude to our Advisory Board, comprised of high-level representatives from governments, businesses and academia. They have always remained extremely supportive of the GTCI, and ever ready to help improve its quality, impact and dissemination.

As was the case last year (and will continue to be in the years to come), this year's GTCI has one key purpose and ambition: to be of practical and operational value to those who are trying to improve their ability – as well as that of their respective organisations, companies or countries – to be ‘talent competitive’. To achieve this objective, we count on the continuous support and feedback of our readership. We therefore hope that you enjoy this report, and look forward to hearing from you.

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NOTES

¹ The JRC analysis suggests that the conceptualised multi-level structure of the GTCI 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 the overall GTCI). Furthermore, the analysis offers statistical justification for the use of equal weights and arithmetic averaging at various levels of aggregation, and shows that the GTCI is statistically more reliable in its current form, namely, the simple arithmetic average of the six pillars, instead of the simple arithmetic average of the Input and Output sub-indices. Please refer to Chapter 7, JRC Statistical Audit on the Global Talent Competitiveness Index 2014 for more details.

HUMAN CAPITAL LEADERSHIP INSTITUTE | FOREWORD

Once again, the Human Capital Leadership Institute (HCLI) is delighted to be partnering with INSEAD and the Adecco Group in this second edition of the Global Talent Competitiveness Index (GTCI). With our mandate of developing leaders for Asia, from Asia, the theme for this edition, “Growing talent for today and tomorrow” is absolutely core to our agenda.

Through HCLI’s executive development programmes, networking platforms and research initiatives, the Institute works with many European/US-headquartered multinational corporations (MNCs). These Western MNCs see the tremendous growth opportunities in Asia, and to seize these opportunities quickly, their typical approach has been to ‘parachute in’ expatriate leaders.

Looking into the future – or even at the immediate present, this is a way of operating that cannot continue for various reasons. For one, expatriation is an extremely costly proposition – in fact, almost a luxury in today’s cost-competitive global environment. Moreover, local talents have a better understanding of the local business and cultural landscapes, as well as customer needs. Top business leaders know this. As Bernard Fontana, CEO of Holcim, a Switzerland-based MNC, shared with HCLI in an interview, “Asia needs Asian leaders.” Global organisations have also realised that a company’s employer value proposition grows when local talents see a career path to the top. Moreover, Western MNCs should appreciate that fast-globalising Asian corporations are now able to offer global careers and competitive pay and benefits. Hence, as Asia’s war for talent rages and corporations reassess their licence to operate in local markets, the importance of growing Asia’s talent for regional/global careers in Western MNCs cannot be underestimated.

The obvious challenge however, is a dearth of local talent to be hired. An overwhelming 85% of the leaders from the Asia-Pacific Economic Cooperation (APEC) countries cited a shortage in leadership talent as a major problem for their organisation in the region.

As there are limitations to the ‘buy’ option, the remaining alternative is to ‘build’ talent. To this, there is no quick and easy solution. Yet, HCLI has witnessed some western MNCs putting in much effort to grow local leadership talent in Asia to take on regional and global roles. These include Mars, Unilever, Standard Chartered, MasterCard, and Shell. To cite another example, Gemalto, a Netherlands-based global digital security company invests in mentoring for high-potential employees (with the mentor often from a different domain to provide alternative views on business matters), and elevates them to lead departments or business verticals that are not directly linked to their current portfolio (but supported through training and coaching, and assurances not to worry about failure).

Encouraged by this positive trend, HCLI is now developing research and programmes to help grow Asia’s emerging leaders. Our chapter, “Can Southeast Asia develop its global leaders?” shares some of our ideas, with the focus on emerging leaders in Singapore and Indonesia. In concert with the GTCI, we see possibilities for Asian countries to learn from one another, leveraging on the unique strengths of countries and the potential to harness country complementarities. This is possible even if some countries like Singapore and Indonesia are notches apart on the GTCI!

It is our sincere hope that this second edition of the GTCI will continue to stimulate new learnings and solutions, as countries and organisations seek to grow their talent for today and tomorrow.

Kwan Chee Wei

Chief Executive Officer, Human Capital Leadership Institute

THE ADECCO GROUP | FOREWORD

In this, the second Global Talent Competitiveness Index (GTCI), produced jointly by INSEAD, Singapore's Human Capital Leadership Institute and the Adecco Group, the top rankings have not changed radically. Switzerland and Singapore lead the pack, while Luxembourg has climbed up the ladder. North America and Northern Europe remain highly prominent, while Australia heads a sextet of non-European states that are also among the top 25 ranked countries.

But while parts of the list may be similar to that of 2013, the broader macroeconomic backdrop has changed dramatically. Hopes for a slow but steady end to the global upheavals caused by the financial crisis have given way to greater caution. While the US, boosted by low energy costs thanks to the shale gas revolution, has performed well, much of Europe remains mired in difficulties and is overshadowed by deep structural challenges. As if these were not enough, new issues – from geopolitical concerns in Eastern Europe and the Middle East, to worries about the outlook for China's massive economy, and even a potential global health scare – have cast a troubling cloud over formerly brighter expectations.

Against this background, growth has come into ever-sharper focus – a development reflected in the emphasis of this year's GTCI on growing and developing talent. In the broadest sense, growth is macroeconomic, involving individual economies. But more narrowly, it is micro-focused, in terms of developing individual underused human capital. Either way, growth has become crucial.

As in 2013, the study demonstrates that countries which rank higher are those that invest more in lifelong learning through valuable formal and vocational training programmes, offer higher flexibility and mobility within the labour market, and enjoy a recognised tradition of being open to immigration. Having open societies and sustainable lifestyles are additional boosters. But what has shifted into the strongest focus this time is the urgency of growing and developing talent to help overcome some of the harrowing problems ahead.

The figures are familiar enough. Companies cannot find adequate numbers of people with the required talent, and firms are reluctant to recruit because of labour market rigidities, including barriers to immigration, and to invest in training. Simultaneously, there is serious unemployment, especially of young people, posing a fundamental challenge to policymakers, companies and society. Millions of jobs are not being filled because of mismatches in skills and geography. Yet alongside these millions of vacancies, there are millions of people, especially youngsters, looking for work.

Although much is up to governments, companies like Adecco also have a significant role to play. Amid massive shifts in the labour market – towards ever-greater flexibility,

mobility and even self-employment – private sector employment services providers such as Adecco can contribute meaningfully to the growth and development of talent.

Our potential may be most valuable in helping young people, new to the labour market, and groups that have traditionally found access to jobs more difficult, gain a start. Common sense alone, now supported by copious data, pinpoints the importance of experience for both job seekers and even those further into their careers. By opening the door to the world of work, private sector employment services providers can help young people take their first step on the employment ladder, and thus facilitate the transition from education to work. And, by working with governments in public-private partnerships, companies like Adecco can also help in stimulating lifelong learning through apprenticeships and vocational training schemes.

Already, Adecco has taken some important initiatives to support growth. Group-wide, in 2013 we launched the Adecco Way to Work™ programme, an international initiative involving Adecco employees in more than 50 countries. Adecco France made a further commitment to find work for 270,000 people over three years. One of the pillars of this initiative is *La Chaîne du Oui*. More than 500 companies in France have joined this movement to get young people into the workforce. Similarly, in Italy, our *Diamo Lavoro alle Ambizioni* (We Turn Ambitions into Reality) scheme, backed by a €10 million investment in training, involves a memorandum of understanding for measures to support job creation, particularly for youngsters. It targets ambitious companies that invest and believe in the future, and ambitious individuals wanting to launch their careers.

Clearly, these are individual initiatives in single markets – albeit ones suffering significant structural problems. The real onus lies with governments to create more flexible and liberalised labour markets, to look again at their education systems, including greater use of apprenticeships, and to think harder about fostering a more inclusive employment environment.

But Adecco's French and Italian schemes also highlight how agency work can offer an entry point into the labour market and boost participation and diversity. They underline how private sector employment agencies can leverage their expertise to alleviate mismatches, help people find jobs and stimulate growth. Given their direct contacts with big employers, the impact could be all the greater.

Patrick De Maeseneire

Chief Executive Officer, The Adecco Group

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CHAPTERS

CHAPTER 1

GROWING TALENT FOR TODAY AND TOMORROW

Bruno Lanvin, Paul Evans and Nabil Rasheed
INSEAD

On 3 May 2014, Gary Becker passed away. In 1992, he was awarded the Nobel Prize in Economic Sciences. In collaboration with another Nobel laureate, Theodore Schultz, Becker created the notion of 'human capital'. It is quite remarkable that what is now regarded as such a fundamental concept not only in economics, but also public policy and management, has been with us for such a relatively short time.

One of Becker's major policy conclusions is that governments cannot successfully fight unemployment through macroeconomic measures alone. In his view, such approaches can only lead to more inflation. What he recommended was a disaggregated view of human capital, considering the specific characteristics, needs and constraints of various categories of workers, jobs and skills. Becker's insights, which started with the study of discrimination, spurred economists to take into account all sorts of different motivations observed in real life. Others,

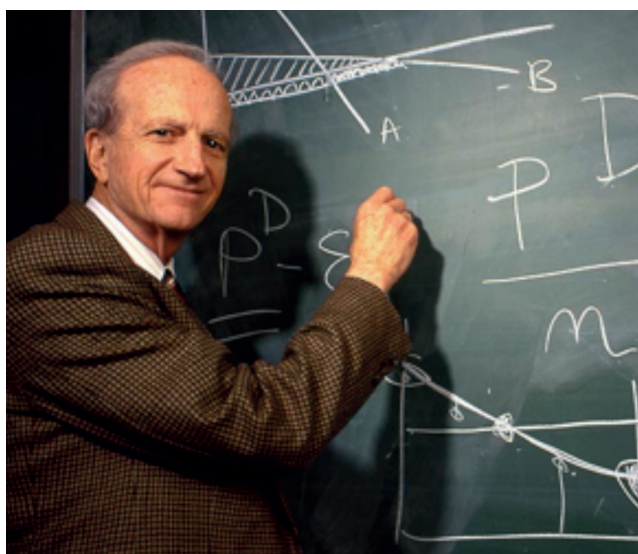


Photo credit: University of Chicago

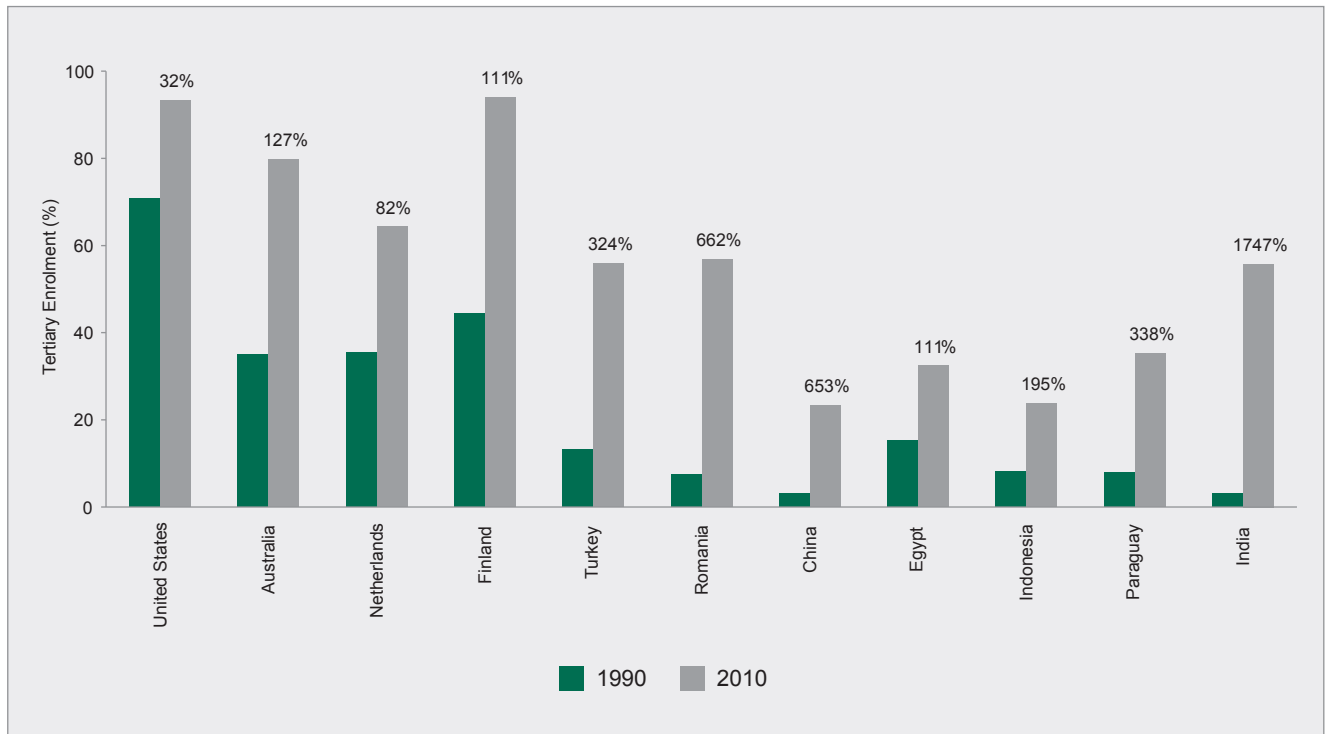
including George Akerlof (a more recent Nobel Prize winner), have gone further towards bringing social context into the calculus through the new field of identity economics.¹

The socioeconomic context of the world is indeed changing. While it is apparent that a third ‘digital’ industrial revolution is gaining momentum, many regions of the world are still struggling to cope with the consequences of the global financial crisis. Becker’s intuitions and reasoning are increasingly relevant, since human capital is at the heart of the process of global transformation today. As described vividly in *The Economist*, work automation has started to affect many intermediate-skills jobs in manufacturing, banking and other services, causing the so-called ‘hollowing out effect’.² Many current jobs may not survive in the absence of significant productivity increases, which in turn raises the question of education and training of workers. In the coming years and decades, growing talent will remain the foremost barrier to the substitution of human capital by mechanical and digital assets.

As underlined in last year’s Global Talent Competitiveness Index (GTCI) report, these rapid technological changes are redefining mobility and

competition. The computerisation of an ever larger array of jobs (now including many knowledge-intensive tasks) also raises new challenges in this regard, including those relating to how we can capture the relative productivities of capital and labour. Defining knowledge work automation as “the use of computers to perform tasks that rely on complex analyses, subtle judgments and creative problem solving”, Manyika and colleagues note, “These capabilities not only extend computing into new realms (for example, the ability to ‘learn’ and make basic judgments), but also create new relationships between knowledge workers and machines. It is increasingly possible to interact with a machine the way one would with a co-worker. So, instead of assigning a team member to pull all the information on the performance of a certain product in a specific market, or waiting for such a request to be turned into a job for the IT department, a manager or executive could simply ask a computer to provide the information. This has the potential to provide more timely access to information and raise the quality and pace of decision-making, and consequently, performance.”³ Large segments of the 250 million or so knowledge workers could be affected by automation in the coming years, causing massive readjustments in a number of sectors.

Figure 1: Growth in tertiary enrolment for 11 countries across different income groups, % (1990–2010)



Notes: Tertiary enrolment is the ratio of total tertiary enrolment, regardless of age, to the population of the age group that officially corresponds to the tertiary level of education in each country. The 11 countries are shown left-to-right in decreasing order of GDP per capita, with the US having the highest, and India the lowest. All countries selected, except for the US, are among the highest performers in their respective income groups on the Formal Education sub-pillar, scoring better on this sub-pillar than they do on the overall GTCI Index.
Source: UNESCO (for more details, please refer to the Sources and Definitions section in the Appendices)

During recent years, inequities in the distribution of wealth and access to educational opportunities have captured worldwide attention. These disparities have been widening, not just in developed countries such as the US, but also emerging countries such as China.⁴ Information technologies, global networks and the Internet, combined with the democratisation of travel and the emergence of new production processes and innovative business models, are seen by many as the best tools we have ever had on our hands to reduce inequalities. But it is striking that access to jobs – especially high-quality, high-value jobs – still remains a major dimension of how unequal the world is. This paradox suggests that efforts and resources to develop the talent base that is best suited to a sustainable model of growth need to be reconsidered and realigned, perhaps even redesigned, involving stakeholders at all levels (government, business and academia). This is the primary reason why this year's GTCI report focuses on the Grow pillar of its underlying model.

GROWING TALENT FOR TODAY AND TOMORROW

As the UN Special Envoy for Global Education and the former Prime Minister of the UK, Right Honourable Gordon Brown comments, "At no point in history has education been so essential to the well-being of society. The majority of employees in the global workforce, who were once manual workers, will soon depend on other skills for the first time. More than ever, the labour market now demands workers who have technical attributes, knowledge and the ability to innovate and adapt to a fast-changing world where workforces compete internationally."⁵ Our focus in this second year of the GTCI is on growing and developing talent. The Global Risks report of the World Economic Forum sees underemployment and unemployment as the second-biggest risk (after that of fiscal crises) in the eyes of leaders from government, business and civil society in key economies.⁶ Education and re-skilling are the means to alleviate this in today's world, but the challenges of growing talent for tomorrow run deeper than this.

Formal Education: New Challenges

Formal education is the basis for growing talent that understandably attracts the most attention. The explosion in tertiary enrolment during the 20 years from 1990 to 2009 (see Figure 1) testifies to the demand for education as students

Nearly 80% of students are enrolled in some form of tertiary education in Singapore. This statistic varies from 60% in the US and 50% in Europe (with big differences between the north and south), to only 16% of students in Sub-Saharan Africa. Despite this, McKinsey forecasts a global shortfall of 40 million high-skilled workers and a surplus of 95 million low-skilled workers by 2030.⁷

However, the quality of basic education leaves much to be desired. The Organisation for Economic Cooperation and Development's (OECD) Programme for International Student Assessment (PISA) is an internationally recognised test of the

performance of 15-year-olds in maths, reading and science. Sixty-five countries participated in the 2012 evaluation, and the US scored below average. The top-performing countries – which include South Korea, Singapore, Japan, Switzerland, the Netherlands and notably, the Chinese regions of Shanghai and Hong Kong – all do certain things similarly that are quite different from the practices followed in the US. They choose teachers from their most talented graduates, train them extensively, create opportunities for peer collaboration within and across schools in order to encourage best practices, and provide them with external support and fair rewards for doing their work well. In many other countries, school teaching is a poorly paid and undersupported profession that follows the adage "those that can, do; while those that can't, teach".⁸

Globalisation has been accompanied by significant increases in economic inequity across the world, and these have also spilled over into the educational arena, accentuating the problems of social mobility. The rich have access to the best educational opportunities for their children. The children of those who are less privileged go to lower quality schools and cannot afford higher education, which in turn is growing increasingly expensive, and borne more and more by the student's family rather than the state. However, most of the high-performing countries on the PISA evaluation cited above, with the addition of Australia, Canada, Estonia and Finland, have managed to build educational systems that combine high levels of performance with equity in educational opportunities. This is not the case for the US, Iberia, and many countries in Latin America such as Chile and Peru. Gender inequity is a parallel challenge. While there has been great progress across the world in providing primary and secondary education to female children, there are still large gender gaps in Sub-Saharan Africa and Southern Asia, as well as the Middle East and Northern Africa.⁹

Perhaps the most profound challenge in a talent-dependent world is that most children are taught what to think, not how to think. Critical and analytical skills, which underlie the ability to learn in a fast-changing knowledge world, along with interpersonal, team and entrepreneurial skills – increasingly seen as necessary competencies to be fostered through basic education – are more the product of the way subjects are taught, than the subject matter in the curriculum itself. France, for example, experiences periodic trauma with the publication of each PISA report that highlights the poor output of its educational system, where the teacher traditionally delivers the knowledge, with little group work and few projects, low utilisation of digital technology or encouragement of a taste for learning – critiques that have been current for decades.¹⁰

Lifelong Learning: The Renaissance of Vocational Skills

Vocational and skill-oriented training has long been seen as an inferior alternative to university education in most countries, with the publicised exception of Germany. The skills gap has been changing this, and vocational training is now enjoying a revival elsewhere.¹¹ Worrying

levels of youth unemployment are a driving force – a quarter of the Eurozone’s 15- to 25-year-olds are without a job, and that figure for the US, a country that prides itself on a competitive labour market, is 15%. But the renaissance goes much deeper than that. Many young people are sceptical about job prospects after an expensive university education, turning for that very reason to a legion of skill-based programmes run by community colleges, labour organisations, employer and trade associations, as well as universities. In Switzerland, Germany and Austria, vocational education is built into the secondary educational system (see box below). Canada is a country with a notable

track record in skill-oriented training dispensed through its colleges and community institutes. Burkovic and Brennan, from Colleges and Institutes Canada, describe an extensive approach to bringing such competency-based vocational education to Africa in partnership with local government ministries, businesses and educational establishments in Chapter 6 of this report, entitled *Growing Vocational Talent in Africa: Lessons from the Canadian Applied Learning System in Demand-driven Education for Employment*. On the demand side, a survey in 25 countries suggests that almost 40% of employers say that a lack of skills is the main reason for entry-level vacancies.¹²

VOCATIONAL EDUCATION LEADS THE WAY IN SWITZERLAND

In most countries, the path to get ahead in life is university, or what the French call ‘the great schools’. US President Barack Obama’s vision is to allow more people to study at university. Not so in Switzerland, where almost two-thirds of 16- to 18-year-olds opt for the apprenticeship route combining practice and theory, which is the means of entry into 300 occupational categories from butchers to IT specialists, and precision engineers to bankers. Half of the ministers in the Swiss government started their careers on this vocational track.¹³

Apprenticeships date back to middle-age guilds that existed across Europe, though the modern Swiss system traces its roots to reforms in 1934. What is distinctive about the dual practice/theory system of education in Switzerland, Germany and Austria is that work is a part of secondary education. Starting from age 12, pupils at Swiss schools are encouraged to think vocationally, following practical courses with an eye to determine their career orientation. At age 15 to 16, two-thirds search for a two- to three-year apprenticeship. Many have to wait for a year to find something suitable or change to other occupations covered by the system.¹⁴ Employers design the curriculum, ensuring that it matches market needs, and one to two days a week are spent on theory training at technical schools. While the initiative lies with the employer, the system requires close coordination between technical schools (universities are also involved), local cantonal regions, as well as the federal government, which wants to ensure a consistency that permits mobility across the country. There are also more open crossover paths to university than in other countries.

What surprises those outside Switzerland is that more than half of the qualified apprentices are not hired by the firm that trained them. This does not worry the employers who trained the apprentices, since they can find other qualified candidates in the market.

Around 90% of the Swiss land up with a full secondary education (higher than in most other countries), and the country scores high on the PISA evaluation of educational competences.¹⁵ Some Swiss experts believe that the deeply rooted dual vocational education system largely accounts for the country’s track record on innovation and national competitiveness.¹⁶ It develops a business culture of reliability, punctuality, teamwork and exacting standards. Neither in Germany nor Austria is the attachment to vocational education so deeply ingrained.

Observers note that while foreigners in cosmopolitan Geneva and Zurich urge their children to take the academic school route, elite Swiss citizens, more often than not, put them on the proven vocational track.¹⁷ Other countries have eagerly tried to adopt the apprenticeship system – France, Canada, Australia, the UK and India to name some¹⁸ – but with mixed success. The obstacles are cultural. Work is not integrated into secondary education. Vocational education and apprenticeships are seen in France, the UK and Australia as a sign of failure at school and a fall in social status. However, the perception in Switzerland and Germany is more nuanced. Some occupations are eagerly sought after, while others are indeed less attractive.

The striking reality is that whereas many European countries are plagued by youth unemployment – in excess of 25% across southern Europe – youth unemployment is 3.6% in Switzerland and 8% in Germany.¹⁹ Switzerland also ranks as the top country in the world on innovation, according to the Global Innovation Index²⁰ and it has one of Europe’s highest rates of employment.

Growth Opportunities: Learning Through Experience

Mark Twain famously wrote, “I have never let my schooling interfere with my education.” Above all, adults develop through challenging experience – learning by doing. While economists acknowledge that the two main elements resulting in human capital development are education and experience, experience is too nebulous a concept to be captured by quantitative calculus.²¹ Nevertheless, human resource specialists often use a rule of thumb: 70% of development happens through on-the-job experience, 20% comes from coaching by supervisors and peers, and the remaining 10% comes from formal training. As mentioned above, successful and innovative vocational training programmes combine all these elements.

Given the paucity of ways to capture challenging experience, one indirect way of doing so is through analysing degrees of delegation. There are marked differences between national cultures when it comes to the delegation of authority. For example, consider a Spanish proverb told in Latin America: “Quien a buen arbol se arrima, buena sombra le cobija” – If you stand under a good tree, you will get good shade. An analogous Swedish proverb says: “Under stora träd växer inga nya plantor” – New plants don’t grow under big trees. In cultures where there are high levels of delegation, more people are more likely to be exposed to growth opportunities through experience, and these countries are much more likely to invest in staff training.²²

Research shows that networks have always been another means of development. People who bridge different networks get more ideas, behave in more innovative ways and get ahead faster.²³ Social media, aided by technology, have greatly expanded this networking potential. A further element of learning through experience is having a say in the workplace and contributing to work issues that matter, which in the GTCI 2014, is captured by the concept of ‘voice’. Building on Hirschman’s original definition of “any attempt to change, rather than escape from an objectionable state of affairs”, researchers in many fields, from industrial relations to economics, and sociology to human resource management, have explored this concept, which is also a key element of employee involvement.²⁴ It is partly through being able to voice their experiences and views, and getting feedback on these, that people learn and develop. In contrast, without voice, frustration, or the forces of what Hirschman called ‘exit’ build up.

Facing Up to the Challenges

World over, young people are thrice as likely as their parents to be out of work.²⁵ If one were to add those who were estimated to be underemployed to the 75 million youths currently unemployed, that figure would potentially triple.²⁶ It is not only an appalling loss of talent, but also a source of social and political unrest while job openings across the world remain unfilled due to the absence of

skilled applicants. To this, one can also add the need to focus on opportunities for other oft-neglected sections of society – women and older workers – as described by Jeon from the OECD in Chapter 3 of this report, entitled *Enhancing Employment for Women, Youth and Older Workers: Why Skills Strategies Matter*.

The challenges these pose to our educational and skill development programmes are not new, but they have become more urgent. Perhaps one of the most important insights from this year’s GTCI report is that vocational learning needs to be integrated into secondary education, instead of just being grafted atop educational systems. This is a key takeaway from the dual educational systems of the Swiss and Germans, as discussed in the box above. At the same time, primary education across most countries must evolve, equipping youngsters with the needed digital skills, team and networking capabilities, and a spirit of learning how to learn. As *The Economist* points out, studies show that improving the quality of school teachers from just poor to middling significantly improves the lifetime earnings potential of a typical school cohort.²⁷

It has been clear for some decades now, that globalisation, combined with technological change (the digital revolution, 3D printing and automation), will change the economic and talent landscapes of the future. But this appears to be happening faster than anticipated – tomorrow is with us today! This requires a forward-looking understanding of the dynamics of job markets. Information technologies both destroy and create jobs. Chapter 4 of this report, entitled *Talent Growth as an Equaliser: A View from the ICT Industry* by Yoo, Pepper and Garrity from Cisco Systems, assesses the high demand at present, and in the near future, for Internet Protocol (IP) networking professionals across the world, and outlines what can be done to respond to this immediate gap. Global leadership skills, currently in short supply in Asia, have also become indispensable, as described by Puri and Siow from the Human Capital Leadership Institute (HCLI) in Chapter 5 of this report, entitled *Can Southeast Asia Develop its Global Leaders?*

THE GTCI CONCEPTUAL FRAMEWORK

As underlined in the 2013 edition 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 these goals. In such a context, governments, businesses and various other stakeholders need quantitative instruments that can help inform their decisions (as investors, employers, employees or job seekers), and 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 multi-layered. 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 as well as 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, among others.

Faced with such intricate issues, decision-makers – both public and private – need quantitative tools that will enable them to benchmark the efforts made and results obtained in different socioeconomic environments with respect to 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 (93 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.²⁸

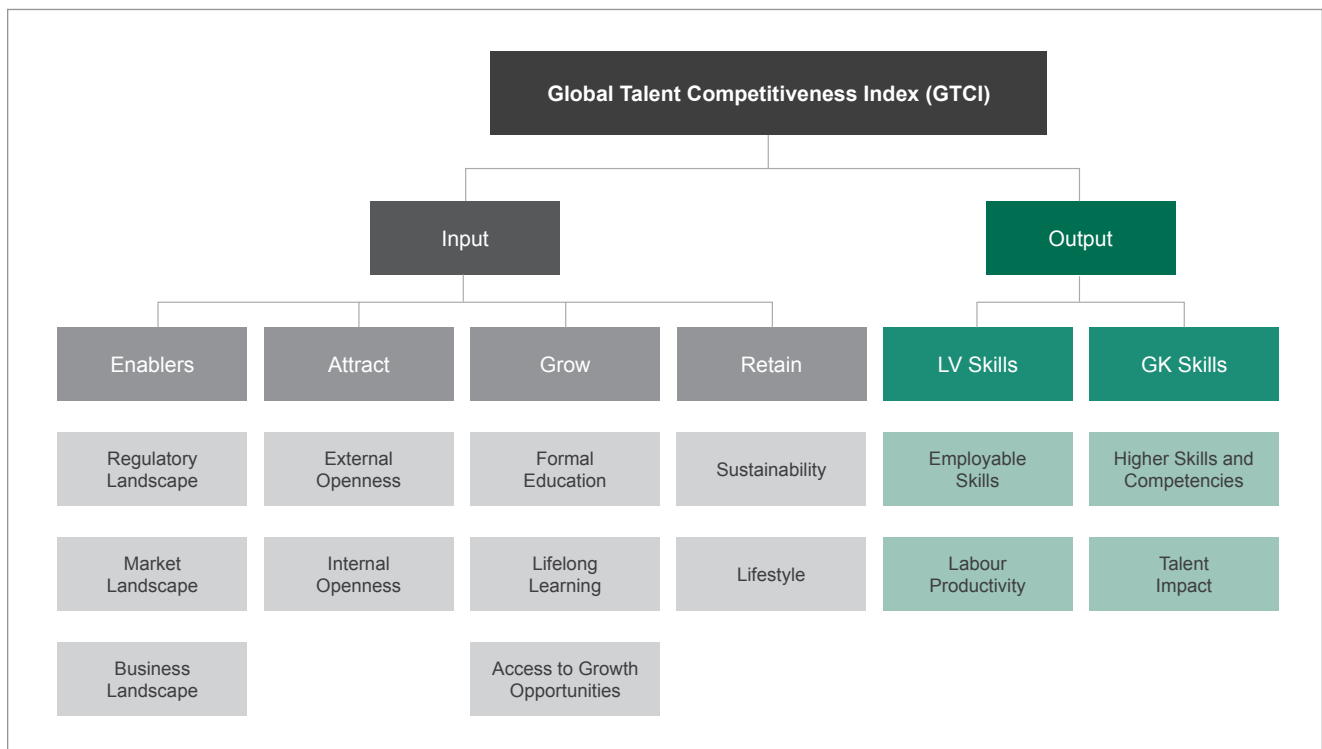
Structure of the GTCI model

After successfully introducing the GTCI in 2013, the Adecco Group, HCLI and INSEAD have once again joined forces to produce this year’s edition of the report. Feedback received on last year’s edition, additional research and the availability of new data have allowed for significant enrichments to be made to the model, though its basic structure is robust and unchanged.²⁹

In the context of the GTCI, talent competitiveness refers to the set of policies and practices that enables a country to attract, develop and retain human capital that contribute to its productivity (where productivity is defined as Output per unit of Input). The GTCI is an Input/Output model, 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).

The Output parameters of the GTCI differentiate 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 (LV skills)**, describes skills acquired through vocational training, and are those relevant to technical roles in the workforce. The economic impact of LV skills is measured by labour productivity, the relationship between pay and productivity, and mid-value exports that rely on such skills. High-level skills, labelled **Global Knowledge skills (GK skills)** deal with knowledge workers in professional, managerial or leadership roles. Their

Figure 2: The GTCI 2014 model



economic impact is evaluated using indicators relating to innovation and entrepreneurship, and sophisticated exports that rely on such abilities. Despite its focus on talent, it does not measure a third type of human capital – unskilled labour – though discussions will sometimes embrace lower level skills. Together, LV skills and GK 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.³⁰

Attracting talent, in the context of national competitiveness, should be viewed in terms of the growth of the talent pool – external attraction involving appropriate immigration, as well as internal attraction 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, in addition to experience and access to growth opportunities (while we acknowledge that most skill development occurs through on-the-job experience, much remains to be done to conceptualise and measure its exact role). The more talented the person, the better 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. Furthermore, the regulatory, market and business landscapes in a country can facilitate or impede talent attraction and growth, and the GTCI calls these elements Enablers. Together, Enablers, Attract, Grow and Retain constitute the four Input pillars of the GTCI model.

The GTCI attempts to offer an approach to talent competitiveness issues that is at once comprehensive, action-oriented, analytical and practical. As described earlier, the GTCI is a composite index, relying on a simple but robust Input/Output model, composed of six pillars (four on the Input side and two on the Output side), as illustrated in Figure 2. The GTCI generates three main indices that are the most visible focus for analysis, namely:

1. **The talent competitiveness Input sub-index:** It is composed of four pillars, describing the policies, resources and efforts that a particular country can harness to foster its talent competitiveness. Enablers (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** 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 2014 GTCI model. Overall, the number of variables in this year's model has increased from 48 to 65.

This increase in the number of variables used has not significantly diminished the overall country coverage of the GTCI, which remains close to 100 (93 this year, representing 83.8% of the world's population and 96.2% of the world's GDP). The audit carried out by the Joint Research Council (JRC) of the European Commission has confirmed that the changes introduced in the model have improved its accuracy, while maintaining its solidity and robustness.³¹ Further details on the variable definitions and 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, and feedback from users.

Figure 3a: 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 ($R^2 = 0.771$)

Figure 3b: GTCI scores versus GDP per capita (ISO Code)

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

Table 1: GTCI 2014 rankings

Country	Score	Overall Rank	Income Group	Income Group Rank	Regional Group	Regional Group Rank
Switzerland	71.46	1	HI	1	EUR	1
Singapore	70.72	2	HI	2	ESEAO	1
Luxembourg	70.15	3	HI	3	EUR	2
United States	68.32	4	HI	4	NAC	1
Canada	66.49	5	HI	5	NAC	2
Sweden	65.71	6	HI	6	EUR	3
United Kingdom	64.72	7	HI	7	EUR	4
Denmark	64.13	8	HI	8	EUR	5
Australia	64.03	9	HI	9	ESEAO	2
Ireland	63.67	10	HI	10	EUR	6
Norway	63.55	11	HI	11	EUR	7
Netherlands	63.25	12	HI	12	EUR	8
Finland	62.18	13	HI	13	EUR	9
Germany	61.78	14	HI	14	EUR	10
Austria	61.42	15	HI	15	EUR	11
New Zealand	60.58	16	HI	16	ESEAO	3
Iceland	60.54	17	HI	17	EUR	12
Belgium	59.71	18	HI	18	EUR	13
Estonia	58.40	19	HI	19	EUR	14
Japan	58.01	20	HI	20	ESEAO	4
Israel	58.00	21	HI	21	NAWA	1
United Arab Emirates	56.70	22	HI	22	NAWA	2
France	56.49	23	HI	23	EUR	15
Czech Republic	56.06	24	HI	24	EUR	16
Qatar	55.80	25	HI	25	NAWA	3
Slovenia	54.21	26	HI	26	EUR	17
Chile	53.20	27	HI	27	LCN	1
Latvia	52.84	28	HI	28	EUR	18
South Korea	52.21	29	HI	29	ESEAO	5
Spain	51.25	30	HI	30	EUR	19
Slovakia	50.73	31	HI	31	EUR	20
Saudi Arabia	50.69	32	HI	32	NAWA	4
Hungary	50.49	33	UM	1	EUR	21
Portugal	50.38	34	HI	33	EUR	22
Malaysia	49.86	35	UM	2	ESEAO	6
Italy	49.47	36	HI	34	EUR	23
Lithuania	49.42	37	HI	35	EUR	24
Costa Rica	49.42	38	UM	3	LCN	2
Poland	49.11	39	HI	36	EUR	25
Kazakhstan	45.59	40	UM	4	CSA	1
China	45.21	41	UM	5	ESEAO	7
Panama	44.94	42	UM	6	LCN	3
Trinidad and Tobago	44.92	43	HI	37	LCN	4
Uruguay	44.46	44	HI	38	LCN	5
Bulgaria	44.13	45	UM	7	EUR	26
Croatia	43.70	46	HI	39	EUR	27
Macedonia	43.51	47	UM	8	EUR	28
Armenia	43.48	48	LM	1	NAWA	5
Brazil	42.82	49	UM	9	LCN	6

Table 1: GTCI 2014 rankings (continued)

Country	Score	Overall Rank	Income Group	Income Group Rank	Regional Group	Regional Group Rank
Greece	42.46	50	HI	40	EUR	29
South Africa	42.24	51	UM	10	SSF	1
Colombia	41.94	52	UM	11	LCN	7
Mongolia	41.85	53	LM	2	ESEAO	8
Philippines	41.57	54	LM	3	ESEAO	9
Russia	41.40	55	HI	41	EUR	30
Argentina	41.13	56	UM	12	LCN	8
Lebanon	41.13	57	UM	12	NAWA	6
Azerbaijan	41.02	58	UM	14	NAWA	7
Turkey	40.63	59	UM	15	NAWA	8
Mexico	40.59	60	UM	16	LCN	9
Thailand	40.23	61	UM	17	ESEAO	10
Moldova	39.57	62	LM	4	EUR	31
Peru	39.50	63	UM	18	LCN	10
Romania	39.22	64	UM	19	EUR	32
Tunisia	39.11	65	UM	20	NAWA	9
Botswana	38.98	66	UM	21	SSF	2
Ecuador	38.75	67	UM	22	LCN	11
Dominican Republic	38.13	68	UM	23	LCN	12
Guatemala	37.83	69	LM	5	LCN	13
Albania	37.69	70	UM	24	EUR	33
Ukraine	37.69	71	LM	6	EUR	33
El Salvador	37.30	72	LM	7	LCN	14
Namibia	37.11	73	UM	25	SSF	3
Kyrgyzstan	36.55	74	LM	8	CSA	2
Vietnam	36.45	75	LM	9	ESEAO	11
Sri Lanka	36.09	76	LM	10	CSA	3
Nicaragua	34.86	77	LM	11	LCN	15
India	34.12	78	LM	12	CSA	4
Paraguay	34.00	79	LM	13	LCN	16
Egypt	32.93	80	LM	14	NAWA	10
Bolivia	32.16	81	LM	15	LCN	17
Iran	32.09	82	UM	26	CSA	5
Cambodia	31.84	83	LI	1	ESEAO	12
Venezuela	31.76	84	UM	27	LCN	18
Morocco	31.60	85	LM	16	NAWA	11
Indonesia	31.13	86	LM	17	ESEAO	13
Ghana	30.39	87	LM	18	SSF	4
Uganda	29.86	88	LI	2	SSF	5
Pakistan	28.56	89	LM	19	CSA	6
Bangladesh	28.31	90	LI	3	CSA	7
Algeria	26.28	91	UM	28	NAWA	12
Madagascar	24.69	92	LI	4	SSF	6
Yemen	24.03	93	LM	20	NAWA	13

Note: All scores range between 0 and 100. Income groups are based on the World Bank Income Classification (July 2014). Economies are divided as per their 2013 gross national income (GNI) per capita, calculated using the World Bank Atlas method. The groups are: LI = Low Income (US\$1,045 or less); LM = Lower Middle Income (US\$1,046 to US\$ 4,125); UM = Upper Middle Income (US\$4,126 to US\$12,745); and HI = High Income (US\$12,746 or more).

Regional Groups are based on the United Nations Regional Classification (October 2013). The groups are: EUR = Europe; NAC = North America; LCN = Latin, Central America and the Caribbean; CSA = Central and Southern Asia; ESEAO = Eastern, Southeastern Asia and Oceania; NAWA = Northern Africa and Western Asia; SSF = Sub-Saharan Africa

GLOBAL TALENT COMPETITIVENESS INDEX 2014: MAIN FINDINGS

As witnessed in the first edition of the GTCI, talent competitiveness is closely correlated with wealth: countries with high GDP per capita are in general more talent competitive than countries with lower levels of income (see Figure 3a). Not surprisingly, rich countries tend to have better universities, and a greater ability to attract foreign talents through better quality of life and higher remuneration.

Indeed, the top-scoring countries in the GTCI 2014 are all high-income countries. However, the GTCI data allow us to look beyond this ‘top-level’ correlation and consider ways in which countries of different types and development levels are affected by the global competition for talent, and how they fare in terms of their abilities to grow, attract and retain 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 65 variables of this year’s GTCI model, several patterns of differences and similarities emerge, which converge towards six key messages. Although it is too early to start comparing country data across time, the above key messages can be inferred from both the GTCI 2013 and GTCI 2014. Some of these messages concern the Grow pillar, which is our area of focus this year.

MESSAGE 1: Openness is a key ingredient of talent competitiveness

This year, the GTCI’s top three performers – Switzerland, Singapore and Luxembourg – are all small countries with a high degree of openness in terms of trade, investments and people. Their respective histories and geographies (they are either islands or landlocked countries), as well as their lack of natural resources left them with little choice in this regard. They all played the game of globalisation and focused on their ability to leverage their human resources. It comes as no surprise that, for largely the same reasons, all three countries lead the world when it comes to competitiveness and innovation.^{32,33} Their socioeconomic development strategies have prioritised talent issues for decades. Switzerland is the global benchmark when it comes to vocational and technical training, linking its education system with the needs of the labour market. Singapore has been leading the charts on formal education achievement for many years, showing new ways to modernise the classroom and cross-fertilise fields of knowledge. Luxembourg demonstrates how a small nation can leverage its niche economy by growing and attracting top talent from abroad. Talent is by essence a fluid resource. Countries and firms need to accept that they will often invest in growing talent that may (and often will) join the labour force elsewhere. This is a calculated risk that they will need to take, while simultaneously considering two major principles to mitigate it, namely: (1) fluidity works both ways (countries and firms will also benefit from

incoming foreign talent); and (2) policy measures need to be taken if dissymmetry becomes structural (brain drain, external dependence etc.). Global employers such as large multinational firms will have an increasingly critical role to play in fostering openness through their development, deployment and skill upgrading practices. The disease that such multinationals have long railed against is the tendency of functions, divisions and countries to hoard their best talent, thereby undermining the development of human potential in our rapidly changing global environment.

MESSAGE 2: Fiscally stable countries are advised to invest astutely in fostering their talent competitiveness so as to build a sustainable economy

Most of the countries that are positive ‘outliers’ in the curvilinear relationship between GTCI scores and GDP per capita (as shown in Figure 3a), with incomes that are disproportionately higher than their respective GTCI scores, are well endowed with minerals, oil or a context-specific competitive advantage. The risk of squandering such resources, and the various ‘resource curses’ that accompany such scenarios have been well studied by economists.³⁴ Such countries need to foster their talent competitiveness in order to ensure sustainable prosperity. The development of Finland over the last 40 years, from a niche trading window for the former Soviet Union, to a country that was able to shift economic gears when this special advantage ceased, is a positive example. Once a Scandinavian laggard, today it has an educational system that performs extremely well on the PISA evaluations and the country is ranked 13th on the overall GTCI ranking. In Latin America, Chile would be a similar example (27th on the overall GTCI ranking), while this is also the case with Malaysia in Southeastern Asia (35th on the overall GTCI ranking). In the oil-rich region of the Middle East and Northern Africa, Qatar and the United Arab Emirates (UAE), 25th and 22nd, respectively, on the overall GTCI ranking, stand out by virtue of their idiosyncratic talent policies. These are noteworthy in the sense that they rely heavily on the respective country’s ability to attract not only talented expatriates, but also top universities and institutions, allowing their relatively small local populations to build on the developmental opportunities thus created.

MESSAGE 3: Talent can be grown internally or externally, depending on the characteristics of the economy

Some countries focus on developing talent within their borders, while others prefer to attract it from outside or educate their talent pool abroad. The respective merits and demerits of these approaches need to be considered relative to the characteristics of each country in question. Smaller and emerging economies display a tendency to attract foreign talent or send their elites abroad for higher or specialised education. The example of China is often quoted in this regard, with students being sent abroad, only for them to return later, as the country continues to develop

its educational system. Norway did the same thing, to take a European example. Larger countries and those with longer traditions of formal education have not only been more home-centric in growing talents, but they have also acted as a global magnet for 'potential talents' (the UK, the US and to a large extent most western European countries with multi-century university traditions). Today universities in the UK, the US and France compete to attract foreign students, while smaller countries such as Cyprus try to become educational centres for developing regions. Talent competitiveness champions show how both growing and attracting talent can be combined: Singapore, for instance, has made its world-class education system remarkably open to foreign students (ranking first in the world on that variable), while Swiss universities are attracting growing numbers of students and researchers from Europe and beyond. The strategies of some resource-rich GTCI 'outliers' to build local talent development capacities, as mentioned previously, are starting to show results: the UAE and Qatar also rank first along with Singapore and Luxembourg on openness to international students.

MESSAGE 4: Talent development is not an end unto itself. It needs to be considered in the broader context of employability

The GTCI data point to a number of countries where talents have been produced (at high levels and considerable costs) in manners that do not correspond to the actual needs of the national economy. Such imbalances contribute to higher levels of unemployment, and lost opportunities in terms of competitiveness and productivity. GTCI champions such as Switzerland, Singapore and the Nordic countries seem to have been able to customise and target their education systems towards the creation of appropriate levels of 'employable skills' (both in terms of LV skills and GK); whereas in other countries, significant investments in education have not led to visible results in Output. There are various possible explanations for this. Efforts in education may not have been focused on developing the skills required by the economy (e.g., Venezuela which ranks 55th on the Grow pillar, but 84th on the overall GTCI ranking). Or they may be insufficiently focused on the need for vocational and technical skills in the economy. Examples include Australia and New Zealand (9th and 16th on the overall GTCI, but 38th and 44th on the LV skills sub-pillar ranking, respectively), as well as Spain and Portugal (30th and 34th on the overall GTCI, but 50th and 63rd on the LV skills sub-pillar ranking, respectively). Talent development may not adequately reflect demographic peculiarities in a country such as Thailand (which ranks 35th on the Grow pillar, but 57th on the overall GTCI ranking), where a third of the population is younger than 25 years old. The concept of employable skills should guide talent growth policies, starting with university curricula, as well as linkages between employers and universities. The focus on employable skills starts early on in the dual educational systems of Switzerland,

Germany and Austria, and this merits attention, especially from mature economies facing structurally high unemployment rates among younger generations.

MESSAGE 5: Talent development in the 21st century must go beyond the traditional pillar of formal education

Although there is an urgent need to rethink and reform education (including at the primary and secondary levels), as noted earlier in this chapter, today's thinking about growing talent must go beyond the traditional focus on formal education. Particularly in high-income countries, it should include lifelong learning and access to growth opportunities linked to experience. Countries such as the Netherlands, Switzerland, Canada, the US, the UK and all Scandinavian countries perform well on the three sub-pillars of growing talent. It is the Netherlands that delivers best across the talent growth elements in the 2014 GTCI, followed closely by Switzerland. On the other hand, Australia scores well in formal education, perhaps to attract young immigrants, but performs less well on lifelong education and growth opportunities through experience. China performs relatively well on both formal education and lifelong learning, but very poorly at self-steered learning through experience; and the same is true for Russia. Language and culture barriers aside, this might compromise their ability to attract talented immigrants (though this is not a policy of either government). Opening up growth opportunities – i.e., learning through experience – may also present a challenge for Singapore, where the development of human potential may be somewhat constrained by limited delegation of authority. The reverse is true for countries such as Qatar, the UAE, Costa Rica and notably, Luxembourg, which have all built reputations as places of growth opportunities, thereby attracting talent from abroad in spite of less developed formal education infrastructure.

MESSAGE 6: Technological changes will affect new segments of the labour market, implying changes in the required profile of employable skills

Automation used to be seen as a way to substitute fixed capital for the physical labour of human capital. The advent of low-cost interconnected IT services (mobile broadband Internet) and new ways of analysing and leveraging information (e.g., big data, business analytics) has now started to impact the 250 million 'knowledge workers' of this world. This trend is bound to have massive consequences on how knowledge work is managed, and on the specific talents that will be either valued by this trend or made redundant by it. Given the rapidity with which particular labour market segments and sectors will be affected, employers will have a central responsibility in adapting their labour forces to such challenges. Internal talent growth will most likely receive increasing attention, in parallel with outsourcing strategies to hire strategically important talents for those who cannot (or will not) take

the full risk of growing them. Among the countries likely to be most affected by such trends, one can think of those employing high proportions of knowledge workers (notably the 'service economies' of the OECD: the US, the UK and some of the smaller European economies such as those of the Benelux region), but also those emerging economies that have started to grow talent in service-related areas such as business process outsourcing (India, Morocco, Tunisia, Egypt). Efforts made to encourage a systematic update of curricula to grow 'e-skills' will need to take this factor into account to foster the 'job-rich recovery' that is being sought.

ANNEX 1: DISCUSSION OF GTCI RESULTS

The following analysis covers in greater detail the results of the GTCI 2014 (see Table 1). It focuses on the top 10 performers overall, as well as the leaders within the four income categories of the World Bank: High, Upper Middle, Lower Middle and Low Income.³⁵

Top 25 Countries in the 2014 GTCI

European countries continue to dominate the GTCI rankings, with 16 of them in the top 25. Switzerland maintains its position at the top of the list, and this year sees four non-European countries making up the top 10, led by Singapore (2nd), the US (4th), Canada (5th) and Australia (9th). If we consider the top 25 countries in this year's index, five additional non-European countries make the grade: New Zealand (16th), Japan (20th), Israel (21st), the UAE (22nd) and Qatar (25th).

Talent within Northern and Western Europe appears to be more competitive than that in other parts of the continent. Luxembourg (3rd), Sweden (6th), the UK (7th), Denmark (8th), Ireland (10th), Norway (11th), the Netherlands (12th), Finland (13th), Germany (14th), Austria (15th), Iceland (17th), Belgium (18th) and Estonia (19th) are all ranked above France (23rd).

Not surprisingly, 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 following paragraphs provide a deeper appreciation of the factors that underpin the performances of the top 10 economies. While there are obvious similarities on the surface – effective governments, positive regulatory and business landscapes, strong focus on formal education and socially mobile societies – 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.

Switzerland (1st) is at the top by virtue of its strong performance across all six pillars of the GTCI model. Switzerland also leads the Input sub-Index (1st), where it performs consistently well across the Enablers (2nd), Grow (3rd) and Retain (2nd) pillars, and their constituent sub-pillars. Access to growth opportunities (11th), along with the Attract pillar (9th) and its weak Internal openness (15th), pull down the country's overall ranking. Poor scores on Tolerance to minorities (21st) and to immigrants (26th) can help explain the latter phenomenon, which is also reflected in the recent referendum limiting immigration through quotas.³⁶ On the Output side (2nd), Switzerland performs very well across both the LV skills and GK pillars (ranked 5th on both), and displays a high degree of Talent impact

(4th), leading the world on Innovation output (1st). However, entrepreneurship is an area that could be encouraged, as New product entrepreneurial activity (37th) and New business density (35th) are less than desirable. In addition, Secondary-educated workforce (25th), Labour productivity per employee (20th) and Vocational skill-intensive exports (33rd) are other weaknesses that may have to be addressed.

Singapore (2nd) shows exemplary performance across the Enablers and Attract pillars (ranked 1st on both), and their underlying sub-pillars, except for Market landscape (11th) and Internal openness (10th). Despite leading on Ease of doing business and Female-to-male earnings ratio (ranked 1st on both), the country lags behind on R&D expenditure (16th), Intensity of local competition (15th), and Tolerance to minorities (24th) and to immigrants (41st). Singapore underperforms on the Retain pillar (9th) and drops out of the top 10 on the Grow pillar (13th), where low scores on Access to growth opportunities (34th) and Sustainability (13th) impact its ranking. Willingness to delegate authority (21st) and Voicing concern to officials (90th) are fields that need to be encouraged, while the Pension system (44th) and Pay levels (Head of organisation: 25th) could be brought on par with global standards. It is interesting to note that while Singapore's Formal education (6th) rank is high, Vocational enrolment (52nd) lags behind, which could be indicative of the country's shift towards the production of increasingly sophisticated goods and services. However, its poor score on Vocational skill-intensive exports (60th) suggests that policymakers may be neglecting the technical and vocational dimensions of talent, in spite of the country scoring consistently well across the LV skills pillar and its underlying sub-pillars (ranked 7th on all). The country ranks high on the GK pillar (2nd), with strong Talent impact (3rd), and Higher skills and competencies (7th). Singapore's excellent showing across both the Input (2nd) and Output (3rd) sub-indices underpins its competitiveness.

Luxembourg (3rd) continues the trend of high performance distributed evenly across the Input (3rd) and Output (1st) sub-indices. As a small country that has a built an international reputation as a centre of finance and industry, it occupies top spots on the Retain (1st) and Attract (2nd) pillars, driven by high scores on External openness (2nd) and Sustainability (1st). Given its population limitations, Luxembourg prefers to attract talent from outside rather than develop it internally. Aside from its ability to attract and retain, its talent infrastructure leaves room for improvement in domains such as its Market (29th) and Business (62nd) landscapes, Formal education (27th) and Lifelong learning (21st), which ultimately affect its rankings on the Enablers (24th) and Grow (16th) pillars. Luxembourg's Ease of doing business (48th), Intensity of local competition (44th), and Difficulty of hiring (85th) and redundancy (47th) could also be bolstered. As befits a financial and industrial headquarter hub, the country displays high levels of FDI inflow and Prevalence of foreign ownership (ranked 1st on both), in addition to Male adult migrants (1st), Female adult migrants

(4th) and Brain gain (6th). It shows robust performance across both the LV skills (6th) and GK (1st) pillars. Within these, it leads the world on Talent impact and Labour productivity (ranked 1st on both), but underperforms on Employable skills (21st) and Higher skills and competencies (19th). While this is largely due to its limited stock of human capital, others areas such as the State of cluster development (20th), Relationship of pay to productivity (38th) and Sophisticated exports (38th) could be improved.

Both North American economies, the US (4th) and Canada (5th), feature in the top 10 of this year's GTCI. Despite their economic and geographic proximity, **Canada** exhibits wide variation across the Input (4th) and Output (17th) sub-indices (only Australia has a larger variation across the Input and Output sub-indices in the top 10), whereas the US follows the pattern of high performance across both the Input (5th) and Output (4th) sub-indices, which is typical of other top-ranked economies. Both countries are evenly matched across the Input pillars, with only the Regulatory landscape sub-pillar showing marked divergence in Canada's favour (US: 24th; Canada: 9th). This arises from differences in Government effectiveness (US: 17th; Canada: 9th), Business-government relations (US: 52nd; Canada: 14th) and Political stability (US: 30th; Canada: 13th). On the Output side, the US outperforms Canada across both the LV skills (US: 13th; Canada: 20th) and GK (US: 4th; Canada: 16th) pillars, with strong ranks on Labour productivity (US: 3rd; Canada: 17th) and Talent impact (US: 12th; Canada: 37th) driving this difference. Labour productivity per employee (US: 3rd; Canada: 14th) and Relationship of pay to productivity (US: 9th; Canada: 23rd) see Canada falling behind the US. Another indicator on which Canada does not score as well as the US is the State of cluster development (US: 5th; Canada: 16th). This points to the fact that when compared to its neighbor, the US has more mature regional concentrations of allied industries that serve local, domestic and international markets, and create wealth, employment and intellectual property in the process.

The lower half of the top 10 is rounded out by Sweden (6th), the UK (7th), Denmark (8th), Australia (9th) and Ireland (10th). Denmark represents an inflection point in terms of rankings on the constituents of talent competitiveness as quantified by the GTCI. Countries ranked above it show a bias towards the Output sub-Index, with Input-Output skews of +3 ranks for **Sweden** and +7 ranks for the **UK**; whereas countries ranked below it show a bias towards the Input sub-index, with Input-Output skews of -20 ranks for **Australia**, and -11 ranks for **Ireland**. **Denmark** on the other hand, is notably consistent across both the Input and Output sub-indices (ranked 10th on both).

On the Input side, Sweden (9th) and the UK (12th) trail Australia (6th) and Ireland (8th). Both the UK and Sweden are affected by their weaknesses on the Attract (Sweden: 10th; UK: 13th) and Retain (Sweden: 18th; UK: 21st) pillars, which

are caused by deficiencies on External openness (Sweden: 18th; UK: 11th) and Sustainability (Sweden: 25th; UK: 30th). Both countries struggle to attract FDI inflow (Sweden: 44th; UK: 47th), and senior executive remuneration – measured by Pay levels (Head of organisation: Sweden: 40th; UK: 57th) – lags far behind that in proximally-ranked countries. Similarly, Social mobility (Sweden: 18th; UK: 22nd), Extent and effect of taxation (UK: 22nd) and the Pension system (Sweden: 21st) are other factors that act as policy tailwinds. On the Output side, the situation is reversed, where Australia (26th) and Ireland (19th) trail Sweden (6th) and the UK (5th). Both Australia and Ireland are hampered by their weaknesses in technical and vocational skills, with the LV skills pillar (Australia: 38th; Ireland: 32nd) disappointing in particular. Labour productivity (52nd) in Australia is pulled down by the country's low scores on the Relationship of pay to productivity (79th), State of cluster development (31st) and Vocational skill-intensive exports (75th). This is especially relevant, given that the country's mining sector, which has historically driven labour productivity, is undergoing a slowdown. There is further room for improvement on Talent impact (25th), where Australia's Innovation output (29th) and Sophisticated exports (56th) ranks have significant upside potential. The latter could also be indicative of the country's overreliance on resource-based industries, and the 'Dutch disease' that may have crept into other industries. Despite a relatively advanced State of cluster development (19th), Employable skills (45th) is a major area of concern for Ireland, with Secondary-educated population (45th) and workforce (53rd) the reasons for this underperformance. Other deficiencies include the Relationship of pay to productivity (32nd), Vocational skill-intensive exports (61st) and New product entrepreneurial activity (27th).

Denmark is rewarded for its all-round achievement on the Enablers (3rd), Grow (5th) and GK (7th) pillars. Regulatory (10th), Market (6th) and Business (3rd) landscapes are all strong, while the country shows exceptional Access to growth opportunities (1st) and good Talent impact (8th). Among others, its strengths are Government effectiveness (3rd), Ease of doing business (4th), Difficulty of hiring (1st) and redundancy (1st), Labour-employer cooperation (3rd), Willingness to delegate authority (1st), Voicing concern to officials (1st), Innovation output (13th) and New product entrepreneurial activity (11th). On the other hand, Denmark's performance on the Attract (15th), Retain (25th) and LV skills (18th) pillars leaves more to be desired. The country fares poorly on External openness (34th), Sustainability (33rd), Employable skills (25th) and Labour productivity (23rd). Issues that need to be addressed include FDI inflow (76th), Prevalence of foreign ownership (29th), Extent and effect of taxation (77th), Secondary-educated population (26th) and workforce (36th), Relationship of pay to productivity (42nd) and Vocational skill-intensive exports (43rd).

Top Performers by Income Group

Bearing in mind the strong positive correlation (see Figure 3a) between GTCI scores and GDP per capita, analysing the relative positions of economies within their respective income groups may be insightful. A cursory glance at the pillar-specific performance of the major income groups (see Table 2 below) highlights that differences are more significant on the Output side (more so for the GK 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.

It is useful to benchmark results within a given income group, since it can help said group to zero in on factors that act as a drag on talent competitiveness, and may allow them to fine-tune their policies in order to get a superior 'return on talent investment'. Table 3 tabulates these and lists the top 10 performers by income group.

Table 2: Income group average scores

Classification		GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
INCOME GROUPS	High Income	57.13	68.15	58.30	56.92	61.45	53.04	44.91
	Upper Middle Income	40.84	50.53	44.84	40.38	43.25	39.01	27.02
	Lower Middle Income	35.11	44.46	40.05	34.00	36.53	34.10	21.49
	Low Income	28.67	40.40	40.40	29.75	21.55	28.74	11.21

High Income (41 countries)

Not surprisingly, this group dominates the GTCI rankings this year, with a virtual stranglehold on the top one-third of the list, ranging from Switzerland (1st) all the way down to Saudi Arabia (32nd). While many of these countries have been discussed in detail in the previous section, some patterns emerge even when taking a bird's-eye view of the proceedings. Switzerland is the most consistent high-performer among all its peers, never once dropping out of the top 10, regardless of the pillar in question. Most economies display a good balance between the Input and Output sub-indices, with the exception of Australia, Canada and two groups of neighbouring countries: Czech Republic and Slovakia from Central Europe, and Israel, the UAE and Qatar from the Middle East.

The two Central European countries are strongly biased towards the Output sub-index (Czech Republic: 7th; Slovakia: 14th), where they outperform their respective overall rankings (**Czech Republic**: 24th; **Slovakia**: 31st). They also show similar behaviour within the Output sub-index, where there seems to be a clear trade-off between the LV skills and GK pillars. Both countries lead the world on the LV skills pillar (Czech Republic: 1st; Slovakia: 2nd), but the Czech Republic outperforms Slovakia on the GK pillar (Czech Republic: 25th; Slovakia: 34th). They do exceptionally well on Secondary-educated workforce (both ranked 1st), Technicians and associate professionals

(Czech Republic: 4th; Slovakia: 5th) and Vocational skill-intensive exports (Czech Republic: 8th; Slovakia: 11th). Despite their strong showings on Sophisticated exports (Czech Republic: 15th; Slovakia: 12th), the above trend does not extend to Tertiary-educated workforce (Czech Republic: 51st; Slovakia: 53rd) and other indicators relating to their pool of knowledge workers, which in turn, affect both countries' scores on the GK pillar.

The two Arab nations are heavily biased towards the Input sub-index (UAE: 17th; Qatar: 20th), whereas Israel leans towards the Output sub-index (9th). The **UAE** (4th) and **Qatar** (3rd) both rank extremely high on the Attract pillar, reflecting the efforts of the two countries to diversify their resource-based economies. In recent years, there has been a clear push towards the 'knowledge economy', which the respective governments have pursued by formulating policies to attract foreign talent and expertise. This is evidenced by their performances on External openness (UAE: 3rd; Qatar: 4th), with top ranks on FDI and technology transfer (UAE: 2nd; Qatar: 4th). Both countries are evenly matched across the LV skills (UAE: 31st; Qatar: 30th) and GK (UAE: 52nd; Qatar: 59th) pillars, which could indicate a time lag between the various policies, resources and efforts implemented to foster talent competitiveness, and the quality of talent produced in the two countries as a result of these measures. **Israel** (21st) is on the opposite end of the spectrum in that it ranks very high on the GK pillar (3rd), which points to its well-developed economy built on high-

Table 3a: Best performers by income group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
High Income (41 countries)						
Switzerland (1)	Singapore (2)	Singapore (2)	Netherlands (12)	Luxembourg (3)	Czech Republic (24)	Luxembourg (3)
Singapore (2)	Switzerland (1)	Luxembourg (3)	United States (4)	Switzerland (1)	Slovakia (31)	Singapore (2)
Luxembourg (3)	Denmark (8)	Qatar (25)	Switzerland (1)	United States (4)	Germany (14)	Israel (21)
United States (4)	Canada (5)	United Arab Emirates (22)	Canada (5)	Australia (9)	Austria (15)	United States (4)
Canada (5)	Sweden (6)	Australia (9)	Denmark (8)	Canada (5)	Switzerland (1)	Switzerland (1)
Sweden (6)	Ireland (10)	Ireland (10)	Sweden (6)	Germany (14)	Luxembourg (3)	United Kingdom (7)
United Kingdom (7)	New Zealand (16)	Canada (5)	Australia (9)	Norway (11)	Singapore (2)	Denmark (8)
Denmark (8)	Finland (13)	Norway (11)	United Kingdom (7)	Iceland (17)	Japan (20)	New Zealand (16)
Australia (9)	United States (4)	Switzerland (1)	Finland (13)	Singapore (2)	Sweden (6)	Iceland (17)
Ireland (10)	United Kingdom (7)	Sweden (6)	Norway (11)	Austria (15)	United Kingdom (7)	Sweden (6)

technology industries and services. The country scores consistently well on Quality of scientific research institutions (1st), Scientific and technical journal articles (4th), Tertiary-educated workforce (5th) and Innovation output (8th), and these factors consequently turbocharge its performance on Higher skills and competencies (2nd) and Talent impact (6th). Other noteworthy statistics are Israel's Venture capital deals (1st), Firm-level technology absorption (5th) and R&D expenditure (1st), which solidify its reputation as the Middle East's 'Silicon Wadi'.

Within the Output sub-index, **Germany** and **Austria** perform far better on the LV skills pillar (Germany: 3rd; Austria: 4th) than they do on the GK pillar (Germany: 25th; Austria: 30th), which underscores the continuing importance of technical and vocational occupations in their respective economies. In addition to having strong Vocational skill-intensive exports (Germany: 16th; Austria: 15th), they are leaders when it comes to Technical and vocational professionals (Germany: 2nd; Austria: 6th) and State of cluster development (Germany: 3rd; Austria: 15th). Areas for improvement include the Relationship of pay to productivity (Germany: 34th; Austria: 52nd), Tertiary-educated workforce (Germany: 32nd; Austria: 52nd) and New business density (Germany: 49th; Austria: 67th). In sharp contrast to the Germanic countries, **Australia**, **New Zealand** and **Iceland** fare much better on the GK pillar (Australia: 12th; New Zealand: 8th; Iceland: 9th) than they do on the LV skills pillar (Australia: 33rd; New Zealand: 36th; Iceland: 32nd).

This highlights their respective economies' structural shifts towards knowledge jobs and services, but also perhaps gaps left behind in the technical and vocational spheres. Related concerns include State of cluster development (Australia: 31st; New Zealand: 53rd; Iceland: 44th), Vocational skill-intensive exports (Australia: 75th; New Zealand: 72nd; Iceland: 71st) and Sophisticated exports (Australia: 56th; New Zealand: 60th; Iceland: 62nd).

Upper Middle Income (28 countries)

The top 10 performers in this income group are Hungary (33rd), Malaysia (35th), Costa Rica (38th), Kazakhstan (40th), China (41st), Panama (42nd), Bulgaria (45th), Macedonia (47th), Brazil (49th) and South Africa (51st).

Hungary (33rd) performs consistently across the Input (36th) and Output (28th) sub-indices, with marked outperformance on the LV skills pillar (17th) and underperformance on the Grow pillar (53rd). It suffers on Lifelong learning (82nd) and Access to growth opportunities (50th), with the Extent of staff training (75th) and Willingness to delegate authority (90th) being particular areas of concern. In contrast, the country ranks very high on Employable skills (8th), with Secondary-educated population and workforce (ranked 9th on both) forming the backbone of its technical and vocational workforce. Hungary's other strengths include FDI inflow (8th), Prevalence of foreign ownership (14th), Female graduates (13th), Voicing concern to officials (16th), Pension system (12th), New business density (17th)

Table 3b: Best performers by income group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Upper Middle Income (28 countries)						
Hungary (33)	Malaysia (35)	Costa Rica (38)	Costa Rica (38)	Brazil (49)	Hungary (33)	China (41)
Malaysia (35)	Hungary (33)	Panama (42)	China (41)	Costa Rica (38)	Malaysia (35)	Hungary (33)
Costa Rica (38)	Botswana (66)	Kazakhstan (40)	Thailand (61)	Hungary (33)	Macedonia (47)	Panama (42)
Kazakhstan (40)	Macedonia (47)	Hungary (33)	Colombia (52)	Argentina (56)	Romania (64)	Malaysia (35)
China (41)	Namibia (73)	Brazil (49)	South Africa (51)	Macedonia (47)	Bulgaria (45)	Bulgaria (45)
Panama (42)	Costa Rica (38)	Peru (63)	Malaysia (35)	Azerbaijan (58)	Kazakhstan (40)	South Africa (51)
Bulgaria (45)	Kazakhstan (40)	Namibia (73)	Argentina (56)	Kazakhstan (40)	Azerbaijan (58)	Costa Rica (38)
Macedonia (47)	Bulgaria (45)	Dominican Republic (68)	Lebanon (57)	Turkey (59)	Panama (42)	Tunisia (65)
Brazil (49)	Thailand (61)	Malaysia (35)	Ecuador (67)	Albania (70)	China (41)	Lebanon (57)
South Africa (51)	Dominican Republic (68)	South Africa (51)	Brazil (49)	Malaysia (35)	Mexico (60)	Colombia (52)

and Sophisticated exports (8th). However, these are offset to some extent by Business-government relations (88th), Ease of doing business (44th), Labour-employer cooperation (55th), Reliance on professional management (78th), Firms offering formal training (62nd), Social mobility (81st), Extent and effect of taxation (79th), Relationship of pay to productivity (63rd), State of cluster development (77th) and New product entrepreneurial activity (65th).

Malaysia (35th) comes ahead of all its peers from Eastern Asia, Southeastern Asia and Oceania. The country has a good balance across the Input (35th) and Output (32nd) sub-indices, with the Enablers (22nd) pillar beating the country's overall ranking, and the Attract (44th) and Retain (52nd) pillars underperforming. It has a robust Business landscape (10th), with strong scores on Business-government relations (10th), Difficulty of hiring (1st), Labour-employer cooperation (16th), Reliance on professional management (20th), Ease of doing business (5th) and Starting a foreign business (6th). However, it performs very poorly on Internal openness (75th), hampered by low Tolerance to immigrants (91st) and Female-to-male earnings ratio (80th). Formal education (51st) and Access to growth opportunities (53rd) are other problem areas, where in addition to weaknesses on Vocational (66th) and Tertiary (59th) enrolment, Malaysia lags behind on Voicing concern to officials (74th). FDI and technology transfer (11th), International student inflow (21st), Extent of staff training (11th), Firms offering formal training (20th), Willingness to delegate authority (13th), Extent and effect of taxation (4th), State of cluster development (12th), Relationship of pay to productivity (1st) and Sophisticated exports (5th) are performance hotspots, but these are undermined by the country's low scores on Political stability (52nd), Pension system (50th), Safety at night (76th), New product entrepreneurial activity (57th) and Vocational skill-intensive exports (59th).

Costa Rica (38th) and **Kazakhstan** (40th) are biased towards the Input sub-index (Costa Rica: 30th; Kazakhstan: 37th) versus the Output sub-index (Costa Rica: 49th; Kazakhstan: 56th), and both countries markedly outperform their overall ranking on the Attract pillar (Costa Rica: 16th; Kazakhstan: 22nd). Costa Rica suffers on the LV skills pillar (52nd), with poor Employable skills (51st) and Labour productivity (57th), due to a small Secondary-educated population (73rd) and workforce (54th), and low scores on Labour productivity per employee (50th) and Vocational skill-intensive exports (47th). It performs well on External (19th) and Internal (19th) openness, and Access to growth opportunities (13th), driven by high ranks on FDI and technology transfer (6th), Prevalence of foreign ownership (17th), Tolerance to minorities (16th) and to immigrants (19th), and Voicing concern to officials (3rd). Other strengths include Labour-employer cooperation (13th), Extent of staff training and Firms offering formal training (ranked 21st on both), and Sophisticated exports (10th). Costa Rica's weaknesses, among others, are Ease of doing business (70th), Difficulty of hiring (85th), University ranking (63rd),

Safety at night (66th) and New product entrepreneurial activity (65th). Kazakhstan disappoints across the Grow (52nd) and GK (65th) pillars, with poor Formal education (67th) and Talent impact (89th), caused by underperformance on Vocational (63rd) and Tertiary (51st) enrolment, International student inflow (65th), Innovation output (79th), New product entrepreneurial activity (77th) and Sophisticated exports (66th). The country has a strong Attract pillar (22nd), with very good External openness (16th) due to high FDI inflow (16th), a large Male (9th) and Female (8th) adult migrant population. Other strengths include Business-government relations (22nd), Starting a foreign business (12th), Difficulty of hiring (1st), Labour-employer cooperation (27th), Secondary-educated population (2nd), Relationship of pay to productivity (7th) and Tertiary-educated workforce (3rd). Kazakhstan's weaknesses, among others, are Government effectiveness (73rd), Political stability (61st), Intensity of local competition (83rd), R&D Expenditure (70th), Prevalence of foreign ownership (75th), Vocational enrolment (63rd), Quality of management schools (68th), Environmental performance (64th), State of cluster development (84th), Labour productivity per employee (53rd) and Vocational skill-intensive exports (73rd).

China (41st) bucks the trend of the above two countries in that its rankings are skewed more towards the Output sub-index (Input-Output skew of +17 ranks). Focused on its own population of almost 1.4 billion, the country has low ranks on the Attract (61st) pillar, with poor External (57th) and Internal (62nd) openness due to weaknesses in FDI inflow (62nd), Prevalence of foreign ownership (60th), Tolerance to immigrants (66th) and to minorities (63rd), and Female graduates (65th), which could affect its desirability as a destination for top talent from across the globe. China also struggles on the Retain pillar (65th), with poor Sustainability (70th) and Lifestyle (56th) due to weakness on the Pension system (59th), Pay levels (Head of organisation: 52nd) and Environmental performance (82nd). Its performance on the Grow pillar (52nd) is polarised, with strong Formal education (23rd) and Lifelong learning (13th), but extremely low Access to growth opportunities (91st). China leads the world on Reading, maths and science scores (1st) and University ranking (9th), but has dismal figures on Secondary-educated population (64th) and Tertiary-educated population (78th). These figures could be indicative of the significant proportion of the country's population that is yet to enjoy the benefits associated with China's urbanisation drive, such as better access to education, increased opportunities for growth and improved standards of living. Vocational-skill intensive exports (17th), New product entrepreneurial activity (12th) and Sophisticated exports (3rd) are strong suits, while Government effectiveness (54th), Political stability (66th), Ease of doing business (67th) and Labour productivity per employee (65th) weaknesses.

Two BRICS economies round out the top 10 in this income group. **Brazil** (49th on GTCI) ranks far higher on the Input sub-index (Input-Output skew of -30 ranks), while

South Africa (51st on GTCI) outperforms on the Output sub-index (Input-Output skew of +9 ranks). Strong showings across the Attract and Retain pillars (ranked 33rd on both) are offset by weaknesses across the LV skills (68th) and GK (76th) pillars in Brazil's case. High scores on FDI and technology transfer (22nd), Tolerance to minorities (15th) and to immigrants (25th), Female graduates (25th), Female part-time workers (21st), and Pay levels (Head of organisation: 2nd) contribute to Brazil's performance, whereas Government effectiveness (60th) and Ease of doing business (76th) ought to be addressed. There are strengths in Growing talent – high University rankings (22nd), complemented by Firms offering formal training (15th) and State of cluster development (23rd). But further problem areas include Extent and effect of taxation (85th), Relationship of pay to productivity (70th) and New product entrepreneurial activity (78th). South Africa performs in line with its overall ranking across the board, barring the strong Grow (37th) and weak Retain (76th) pillars. Talent competitiveness is boosted by tertiary education, with positive showings on University ranking (29th) and the Quality of management schools (20th). The Extent of staff training (17th), Firms offering formal training (35th), Number of LinkedIn users (28th), Willingness to delegate authority (25th) and Voicing concern to officials (33rd) combine to create a professional

environment that is conducive for growth. However, the Retain pillar (76th) acts as a drag on South Africa's ranking, due to low contributions from Pension system (84th) and Safety at night (90th). That said, pockets of outperformance do exist, especially on Extent and effect of taxation (8th), Pay Levels (Head of Organisation: 18th), and Female Part-time Workers (25th). The country does well on Technicians and Associate Professionals (37th) and State of Cluster Development (35th), though its high ranking on Secondary-educated Population (13th) is in stark contrast with its score on Tertiary-educated Population (75th).

Lower Middle Income (20 countries)

Armenia shows the best balance across the Input (45th) and Output (50th) sub-indices, and barring the Grow pillar (73rd), scores consistently well elsewhere. In this regard, it may not be surprising that a small country in this income group scores poorly on University rankings (63rd) and the Quality of business schools (82nd), though notice might be paid to low scores in Vocational enrolment (61st), Extent of staff training (79th) and Willingness to delegate authority (80th). Its high rankings on Venture capital deals (21st) and FDI inflow (25th) do not seem to be spurring Intensity of Local competition (73rd), while Firm-level technology absorption

Table 3c: Best performers by income group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Lower Middle Income (20 countries)						
Armenia (48)	Armenia (48)	Mongolia (53)	Guatemala (69)	Moldova (62)	Armenia (48)	Philippines (54)
Mongolia (53)	Mongolia (53)	Nicaragua (77)	Philippines (54)	Egypt (80)	Ukraine (71)	Vietnam (75)
Philippines (54)	Guatemala (69)	Paraguay (79)	Mongolia (53)	Armenia (48)	Kyrgyzstan (74)	Moldova (62)
Moldova (62)	El Salvador (72)	Bolivia (81)	El Salvador (72)	Kyrgyzstan (74)	El Salvador (72)	Armenia (48)
Guatemala (69)	Vietnam (75)	Armenia (48)	Paraguay (79)	Sri Lanka (76)	Mongolia (53)	Ukraine (71)
Ukraine (71)	Moldova (62)	Sri Lanka (76)	Bolivia (81)	Mongolia (53)	Egypt (80)	Mongolia (53)
El Salvador (72)	Kyrgyzstan (74)	Philippines (54)	Armenia (48)	Ukraine (71)	India (78)	India (78)
Kyrgyzstan (74)	Ghana (87)	Ghana (87)	Moldova (62)	Philippines (54)	Moldova (62)	Yemen (93)
Vietnam (75)	India (78)	Guatemala (69)	India (78)	Guatemala (69)	Philippines (54)	Egypt (80)
Sri Lanka (76)	Philippines (54)	Kyrgyzstan (74)	Ukraine (71)	Morocco (85)	Nicaragua (77)	Pakistan (89)

(68th), R&D expenditure (61st) and Reliance on professional management (65th) could be improved. There is high Labour-employer cooperation (24th), perhaps explaining the Ease of doing business (32nd) when compared to its peers. Despite strong talent bases of Secondary-educated workforce (4th) and Tertiary-educated workforce (36th), Armenia loses out on Vocational skill-intensive exports (65th) and Labour productivity (68th), while also finishing nearly last on Sophisticated exports (92nd). These can perhaps be explained by the low Vocational enrolment mentioned earlier and a relatively poor showing in State of cluster development (60th).

Mongolia shows a skew towards the Input sub-index (Input-Output skew of -15 ranks), with the strong Attract (35th) and weak Retain (64th) pillars standing out. The country's performances across the rest of the pillars are quite homogeneous, with no great deviation from the overall ranking. It leads the world on FDI inflow (1st), which is unsurprising given its wealth of natural resources, though it remains to be seen if this will continue to be a sustainable growth lever going forward. There is relatively high Prevalence of foreign ownership (44th) and excellent scores on Female graduates (12th) and Female-to-male earnings ratio (14th), but there also appears to be worrying lack of Tolerance to immigrants (70th). Low ranking on Technicians and associate professionals (72nd) and a high score on Firms offering formal training (6th) could point to Mongolia's economic isolation, and the fact that companies have had to invest in developing talent in-house, due to the lack of 'legacy infrastructure'. Willingness to delegate authority (86th) and Voicing concern to officials (27th) are on opposite ends of the spectrum, while Environmental performance (77th) will have to grow in importance over time, given that the country is a resource-based economy. Mongolia performs poorly in State of cluster development (89th), Vocational skill-intensive exports (81st) and Sophisticated exports (75th).

The **Philippines** is the ASEAN leader in this income group, and it shows a distinct bias towards the Output sub-index (Input-Output skew of +20 ranks). This is due in large part to its very strong performance on the GK pillar (29th) in comparison to both the LV skills pillar (69th) and its overall ranking (54th). Excellent scores on Sophisticated exports (1st) and New product entrepreneurial activity (18th) are somewhat offset by underwhelming scores on New business density (71st), Innovation output (65th), Quality of scientific research institutions (67st) and Scientific and technical journal articles (83rd). While the Relationship of pay to productivity (35th) is relatively high, Labour productivity (74th) is not as impressive. The Philippines's scores indicate its strength lies in the informal aspects of Growing talent where the Extent of staff training (24th) outperforms the country's overall ranking, as does Voicing concern to officials (2nd) and the Willingness to delegate authority (23rd), combined with fair Social mobility (35th). Despite low FDI inflows (70th), which might be due to low Political stability (82nd), there is high FDI and technology transfer (33rd). Other areas for improvement include Difficulty

of hiring (74th), R&D expenditure (76th), Ease of doing business (71st), the Pension system (66th) and Environmental performance (79th), which overshadow good performances on Business-government relations (20th), Firm-level technology absorption (32nd), Labour-employer relations (23rd) and Reliance on professional management (26th).

Vietnam is the next-highest ranked ASEAN economy in this income group, and like the Philippines, its ranking is skewed towards the Output sub-index (Input-Output skew of +17 ranks). Performance across all pillars is in line with the country's overall ranking, except for stronger scores on the Enabler (60th) and GK (48th) pillars than its GTCI 75th ranking. It does well on Business-government relations (38th), Political stability (41st), Starting a foreign business (21st) and Intensity of local competition (40th), making up for weaknesses in Firm-level technology absorption (91st) and Reliance on professional management (82nd). While the Female-to-male earnings ratio (27th) is encouraging, there appears to be a lack of Social mobility (73rd) in the country. World-class Reading, maths and science scores at secondary school (11th) are to its credit, though its University ranking (63rd) and Quality of business schools (84th) are yet to catch up. Willingness to delegate authority (73rd) and Voicing concern to officials (84th) are issues that need to be addressed, in addition to Environmental performance (86th). Vietnam has excellent Relationship of pay to productivity (12th), though Labour productivity per employee remains a sore spot.

Low Income (4 countries)

The Low Income group consists of four countries: Cambodia (83rd), Uganda (88th), Bangladesh (90th) and Madagascar (92nd).

Cambodia shows balance across the Input (89th) and Output (86th) sub-indices, and outperforms its overall ranking on the Attract (75th) and LV skills (70th) pillars. The country has excellent FDI inflow (6th), in addition to relatively strong FDI and technology transfer (34th) and Prevalence of foreign ownership (50th). It scores low on Tolerance to immigrants (79th) and minorities (87th), with limited Social mobility (72nd), but the Female-to-male earnings ratio (23rd) is encouraging. While Extent of staff training (47th) is high, Vocational enrolment (79th) and Tertiary enrolment (77th) lag, and Voicing concern to officials (76th) and Pension system (88th) are areas of concern. Cambodia leads the world in Vocational skill-intensive exports and has high Relationship of pay to productivity (27th) and State of cluster development (36th). However, Labour productivity per employee (82nd) languishes, possibly due to the fact that Cambodia's economy is driven by labour-intensive industries such as garments manufacturing, tourism and agriculture.

Uganda too scores consistently across both Input (85th) and Output (91st) sub-indices, and outperforms its overall ranking on the Attract (59th) and Enablers (75th). Business-

Table 3d: Best performers by income group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Low Income (4 countries)						
Cambodia (83)	Uganda (88)	Uganda (88)	Madagascar (92)	Bangladesh (90)	Cambodia (83)	Uganda (88)
Uganda (88)	Cambodia (83)	Madagascar (92)	Cambodia (83)	Cambodia (83)	Bangladesh (90)	Cambodia (83)
Bangladesh (90)	Bangladesh (90)	Cambodia (83)	Uganda (88)	Uganda (88)	Madagascar (92)	Bangladesh (90)
Madagascar (92)	Madagascar (92)	Bangladesh (90)	Bangladesh (90)	Madagascar (92)	Uganda (88)	Madagascar (92)

government relations (54th), Starting a foreign business (32nd), Venture capital deals (31st) and R&D expenditure (56th) are relative strengths, while Government effectiveness (79th), Political stability (79th), Firm-level technology absorption (82nd), ICT access (90th) and Ease of doing business (84th) are issues that need to be tackled. The country has flexible labour markets, with no difficulties in Hiring and Firing (both 1st), and surprisingly good Labour-employer relations (63rd) and Reliance on professional management (66th). FDI inflow (15th), FDI and technology transfer (46th) and Prevalence of foreign ownership (30th) are possibly correlated factors that show strong performance. Uganda is also fairly open internally, with decent scores on Tolerance to immigrants (45th) and minorities (48th), Voicing concern to officials (13th) and Female-to-male earnings ratio (18th). Other areas requiring attention are Tertiary enrolment (86th), Extent of staff training (80th), State of cluster development (74th), Labour productivity per employee (84th) and Relationship of pay to productivity. Vocational skill-intensive exports (63rd) and Sophisticated exports (31st) both outperform Uganda's overall ranking.

Bangladesh scores across the Input (89th) and Output (86th) pillars in line with its overall ranking (90th), with only the LV skills pillar (72nd) really standing out in terms of performance. This is understandable given the country's reliance, like Cambodia, on labour-intensive industries such as textiles and agriculture. Within this pillar, Bangladesh sees significant progress on State of cluster development (49th) and Vocational skill-intensive exports (4th). However, it experiences bottlenecks in Labour productivity per employee (83rd), Relationship of pay to productivity (71st) and the supply of Technicians and associate professionals (76th). Business-government relations (50th) and Starting a foreign business (28th) score relatively high, despite the country's poor rankings on Government effectiveness (87th) and Political stability (88th). ICT access (89th) and Firm-level technology absorption (77th) could be improved, along with the Ease of doing business (83rd). Other possible reforms in the business environment could

be to increase Reliance on professional management (81st) and improve Labour-employer cooperation (64th). FDI inflow (77th), FDI and technology transfer (80th) and Prevalence of foreign ownership (81st) are concerns that need to be addressed by policymakers. Moreover, Vocational enrolment (78th) and Tertiary enrolment (79th) are also keys to unlocking skilled local talent.

Madagascar, like the other countries in its group, scores on the Input (91st) and Output (93rd) pillars in line with its overall ranking, where it outperforms on the Attract (72nd) and Grow (77th) pillars. FDI inflow (11th), Prevalence of foreign ownership (54th) and Female-to-male earnings ratio (21st) drive scores on the former, while Social mobility (87th) is a key concern. On the latter pillar, relatively strong ranks on International student inflow (51st), University ranking (63rd), Quality of business schools (62nd) and Firms offering formal training (51st) boost Madagascar's performance, despite its low Vocational enrolment (80th) and Tertiary enrolment (88th) statistics. Vocational skill-intensive exports (52nd) and Relationship of pay to productivity (44th) show contrasting behaviour to Sophisticated exports (89th) and Labour productivity per employee (85th).

ANNEX 2: TOP PERFORMERS IN THE GTCI INPUT AND OUTPUT SUB-INDICES

The analysis offered in Chapter 1 and its annexes often highlights differences between rankings on the Input and Output sub-indices of the GTCI model. What does this signify? As discussed earlier, inputs are the parameters that a country can potentially influence so as to obtain better talent outputs (typically on Vocational and Global Knowledge types). Naturally, a direct comparison between the input and output sides of the model should be considered (and used) with extreme caution, be it only for two reasons: (1) the inclusion of some variables on either side of the model is a matter of judgement (for example, the proportion of citizens acquiring a tertiary education can be seen both as an input and as an output of a talent-focused policy), and (2) the 'output effect' many of the 'input variables' will not be observable until some time has elapsed (a few years for a wage-related incentive, possibly a generation for an education-related measure). Input-skewed countries may be making investments in talent parameters that they hope will pay off in the future (such as investments in education in Qatar or the UAE). Alternatively, countries may have invested in policies or practices that are questionable from a Talent Competitiveness perspective. Here an example would be Australia, where there may be insufficient investment in technical/vocational attraction and development. On the other hand, a strongly Output-skewed country may be one where efforts made are either insufficient or not geared to a sustainable talent competitiveness position in the future. The example of many European countries (with deficits in IT-

related skills) and even Japan (with a deficit on engineers) come to mind in this context.

These are some of the reasons why the following annexes provide ample room to assess whether specific countries are input-skewed or output-skewed, and what some of the policy implications could be for them.

Top Performers in the Input Sub-index

There is a strong correlation between income groups and the Input sub-index: the top 25 performers in the GTCI Input sub-index are all high-income countries. Since the Input sub-index can be viewed as a summary of the measures, policies and resources mobilised by countries to develop their respective internal talent pools, one can see why richer countries hold an advantage in this regard, as they have more means to attract, grow and retain talent. Despite this income concentration, delving into the Input side of the GTCI model is a worthwhile exercise, because it provides pointers as to what constitutes optimal talent competitiveness roadmaps for countries, given their strengths and weaknesses.

The top 10 of the GTCI Input sub-index are nearly the same as for the overall GTCI ranking, with the exception of Norway (7th), which is ranked 11th overall, which takes the place of the UK (12th), which is ranked 7th overall. If we consider the top 25 performers, Chile (23rd), which is ranked 27th overall, replaces the Czech Republic (28th), which is ranked 24th overall.

Table 4a: Best performers on the Input sub-index

Country	Input	Input Rank	Enablers	Enablers Rank	Attract	Attract Rank	Grow	Grow Rank	Retain	Retain Rank
Switzerland	76.75	1	85.26	2	70.29	9	72.72	3	78.72	2
Singapore	75.90	2	86.31	1	83.66	1	65.37	13	68.25	9
Luxembourg	74.47	3	67.97	24	83.38	2	62.72	16	83.80	1
Canada	73.48	4	81.09	4	70.79	7	71.95	4	70.07	5
United States	73.28	5	78.87	9	68.07	11	72.93	2	73.26	3
Australia	71.44	6	72.84	18	72.57	5	68.84	7	71.48	4
Norway	70.28	7	74.30	14	70.78	8	67.62	10	68.44	7
Ireland	70.10	8	79.27	6	71.68	6	66.79	11	62.68	19
Sweden	70.07	9	79.37	5	69.00	10	69.19	6	62.73	18
Denmark	68.68	10	82.73	3	61.70	15	70.52	5	59.74	25

Norway is the highest-ranked Scandinavian country in this list, and it shows a strong bias towards the Input sub-index (Input-Output skew of -15 ranks), with performance on most Input pillars being more or less in keeping with the country's overall ranking. The Enablers pillar (14th) scores the lowest, driven mostly by weak Market Landscape (22nd) and Business Landscape (34th) sub-pillars, whereas it ranks very high on the Regulatory Landscape sub-pillar (4th). Government Effectiveness (5th), Business-Government Relations (8th), Political Stability (7th), Ease of Doing Business (7th), Labour-Employer Cooperation (4th) and Reliance on Professional Management (3rd) are exceptionally strong, however. Intensity of Local Competition (33rd), R&D Expenditure (24th) and Difficulty of Hiring (78th), Difficulty of Redundancy (47th) are relatively weak, suggesting possible improvement.

Chile is the highest-ranked South American country in the list, and it too shows a performance skewed toward the Input side (Input-Output skew of -14 ranks), with performance on most Input pillars tracking the country's overall ranking rather closely. The Retain pillar (14th) is a standout performer, with contrasting showings on its constituent Sustainability (3rd) and Lifestyle (48th) sub-pillars. Despite weak contributions from Pension System (48th), Pay Level – Head of Organisation (1st) and Extent and Effect of Taxation (9th) more than make up for this shortfall. However, weaknesses exist on Environmental Performance (29th), Female Part-time Workers (44th), Physician Density (67th) and Safety at Night (54th).

Among other countries in the top 25, **Australia** and **New Zealand** also show similar differences between the Input and Output sub-indices (Australia: -20 ranks; New Zealand: -11 ranks). Australia's Retain (4th) and Attract (5th) pillars are high performance areas, while its Enablers pillar (18th) lags behind, out of sync with the country's overall ranking. It suffers from consistently poor scores across the Regulatory Landscape (18th), Market Landscape (16th) and Business Landscape (17th) sub-pillars. Business-Government Relations (57th), Labour-Employer Cooperation (68th), Difficulty of Hiring (22nd) and Difficulty of Redundancy (30th) are the primary causes of this underperformance. Areas of strength include Government Effectiveness (11th), Intensity of Local Competition (9th), Ease of Doing Business (9th) and Reliance on Professional Management (11th). New Zealand on the other hand performs in line with its overall ranking on the Attract (12th) and Grow (40th) pillars, outperforms on the Enablers pillar (7th) and drastically underperforms on the Retain pillar (40th). The country has strong scores on the Regulatory Landscape and Business Landscape (ranked 5th on both) sub-pillars, where its Government Effectiveness (8th), Business-Government Relations (6th), Political Stability (3rd), Labour-Employer Cooperation (10th), Ease of Doing Business (2nd) and Reliance on Professional Management (1st) rankings make up for deficiencies on Intensity of Local Competition (26th), Venture Capital Deals (25th), R&D Expenditure (28th), Firm-level Technology Absorption (17th),

Difficulty of Hiring (22nd) and Difficulty of Redundancy (30th). Other areas of concern are Pay Level – Head of Organisation (50th), Pay Level – Head of Information Technology (34th), which combine to negatively affect its performance on the Sustainability sub-pillar.

Top Performers in the Output Sub-index

The top 10 of the GTCI Output sub-index also closely follows the top 10 of the overall GTCI ranking, with the exception of the Czech Republic (7th), which is ranked 24th overall, Germany (8th), ranked 14th overall and Israel (9th), ranked 21st overall. These three countries take the place of Canada (17th), which is ranked 5th overall, Ireland (19th), ranked 10th overall and Australia (26th), ranked 9th overall. Further down the list, new entrants appear such as Slovakia (14th), which is ranked 31st overall, Slovenia (20th), ranked 26th overall and South Korea (23rd), ranked 29th overall.

As discussed previously, most economies show a relative balance between the Input and Output sub-indices (i.e., an Input-Output skew between -10 and +10) except for two sets of neighbouring countries – the Czech Republic and Slovakia on one hand, and the UAE, Qatar and Israel on the other. They also show marked differences between their Output sub-index and overall ranking.

Finland (ranked 13th overall) shows exceptional consistency across the Input and Output sub-indices (Input-Output skew of +3 ranks), where it scores uniformly, and in accordance with its overall ranking, on the LV (15th) and GK (11th) pillars. However, the picture changes when considering their underlying sub-pillars, with Employable Skills (12th) outperforming Labour Productivity (22nd), and Higher Skills and Competencies (4th) far outstripping Talent Impact (26th) on the LV and GK pillars respectively. The country also registers strong scores on Technicians, and Associate Professionals (11th), and State of Cluster Development (10th). Labour Productivity per Employee remains relatively low (19th), while other indicators such as Relationship of Pay to Productivity (46th) and Vocational Skill-intensive Exports (42nd) clearly call for improvement. Exceptional achievement when it comes to Innovation Output (7th), Researchers (2nd), Quality of Scientific Research Institutions (10th), Scientific and Technical Journal Articles (5th), Professionals (11th) and Tertiary-educated Workforce (10th) offsets less remarkable performance on New Product Entrepreneurial Activity (34th), New Business Density (37th) and Sophisticated Exports (26th).

Japan (ranked 20th overall) does not show the same consistency across the Input and Output sub-indices (Input-Output skew of +10 ranks). It shows a high overall ranking on the LV pillar (8th), but a more average performance on the GK pillar (17th). Further performance disparities are noticeable at the sub-pillar level, with Labour Productivity (4th) far ahead of Employable Skills (20th), and Higher Skills and Competencies (14th) significantly better than Talent Impact (28th) on the LV and GK pillars

Table 4b: Best performers on the Output sub-index

Country	Output	Output Rank	LV	LV Rank	GK	GK Rank	Grow
Luxembourg	61.51	1	61.72	6	61.30	1	72.72
Switzerland	60.88	2	63.91	5	57.85	5	65.37
Singapore	60.36	3	60.80	7	59.93	2	62.72
United States	58.39	4	57.14	13	59.64	4	71.95
United Kingdom	57.92	5	58.14	10	57.70	6	72.93
Sweden	57.00	6	59.38	9	54.62	10	68.84
Czech Republic	55.53	7	70.04	1	41.02	26	67.62
Germany	55.42	8	67.66	3	43.19	25	66.79
Israel	55.40	9	50.99	29	59.80	3	69.19
Denmark	55.03	10	54.32	18	55.73	7	70.52

respectively. Japan's high rankings on State of Cluster Development (6th), Relationship of Pay to Productivity (10th) and Vocational Skill-intensive Exports (9th) counterbalance its sub-par Secondary-educated Population (29th) and Labour Productivity per Employee (24th) figures. Similarly, the country's exceptional statistics on Tertiary-educated Workforce (7th), Researchers (7th) and Quality of Scientific Institutions (9th) compensate for weaknesses on Scientific and Technical Journal Articles (30th), Innovation Output (30th) and New Business Density (72nd). Sophisticated Exports (17th), New Product Entrepreneurial Activity (18th) and Tertiary-educated Population (17th) are other indicators that fit Japan's overall ranking.

Estonia (ranked 19th overall) shows an inverted pattern of performance to Japan's, with slightly better consistency across the Input and Output sub-indices (Input-Output skew of +6 ranks). The GK pillar (14th) outperforms the LV pillar (21st), with the Talent Impact (10th) and Employable Skills (23rd) sub-pillars outscoring the Higher Skills and Competencies (18th), and Labour Productivity (30th) sub-pillars respectively. The country's relative weaknesses are on Researchers (21st) and Quality of Scientific Research Institution (24th), which lower its ranking despite strong showings on Tertiary-educated Workforce (13th), Legislators, Senior Officials and Managers (12th), Professionals (14th) and Scientific and Technical Journal Articles (13th). Estonia shows good scores on Innovation Output (18th), New Business Density (11th) and Sophisticated Exports (19th), but not on New Product Entrepreneurial Activity (27th).

ANNEX 3: A REGIONAL VIEW OF GTCI DATA

Given intrinsic heterogeneities within and across regional groups, one has to be careful when trying to draw inferences from this data. For example, Eastern, Southeastern Asia and Oceania includes low income (Cambodia), lower middle income (Indonesia, Vietnam etc.), upper middle income (China, Thailand etc.) and high income (Singapore, Australia etc.) countries covering a GDP per capita range of US\$75,700. North America on the other hand, includes high income countries (the US and Canada) spread over a narrower GDP per capita range of US\$9,935.

Table 5 below collates key information on how various geographic clusters perform across the various pillars of the GTCI model. Table 6 on the other hand lists the best performers by regional group.

North America (2 countries)

North America comprises of the US and Canada, and these economies have already been covered in the section on the top 10 performers in this year's GTCI.

Europe (34 countries)

This regional group consists of Switzerland (1st), Luxembourg (3rd), Sweden (6th), the UK (7th), Denmark (8th), Ireland (10th), Norway (11th), the Netherlands (12th), Finland (13th), Germany (14th), Austria (15th), Iceland (17th), Belgium (18th), Estonia (19th), France (23rd), Czech Republic (24th), Slovenia (26th), Latvia (28th), Spain (30th), Slovakia (31st), Hungary (33rd), Portugal (34th), Italy (36th), Lithuania (37th), Poland (39th), Bulgaria (45th), Croatia (46th), Macedonia (47th), Armenia (48th), Greece (50th), Russia (55th), Moldova

Table 5: Regional group average scores

Classification		GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
REGIONS	North America	67.41	75.74	73.38	69.94	55.61	55.38	68.38
	Europe	53.84	55.13	47.07	69.39	59.07	46.69	46.00
	Eastern, Southeastern Asia and Oceania	47.98	47.57	40.89	53.79	42.74	43.75	35.57
	Northern Africa and Western Asia	41.64	45.63	37.78	56.93	40.53	38.86	30.04
	Latin, Central America and the Caribbean	40.43	49.54	42.99	44.81	39.31	33.34	20.76
	Central and Southern Asia	34.47	37.14	31.10	42.39	36.95	34.94	23.02
	Sub-Saharan Africa	33.88	49.25	28.45	20.10	28.38	28.82	16.76

Table 6a: Best performers by regional group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
North America (2 countries)						
United States (4)	Canada (5)	Canada (5)	United States (4)	United States (4)	United States (4)	United States (4)
Canada (5)	United States (4)	United States (4)	Canada (5)	Canada (5)	Canada (5)	Canada (5)

(62nd), Romania (64th), Albania (70th) and Ukraine (71st). This diverse group, which occupies ranks from 1st all the way down to 71st, provides a snapshot of the various challenges faced by the region.

Most of the above countries, especially those appearing in the top 10 of the GTCI, have been discussed in previous sections of the chapter. It is interesting to note that the Benelux countries all rank higher than the traditional economic powerhouses, France and Germany. The **Netherlands** (12th) falls just short of the top 10, both in the overall rankings as well as the Input sub-index. The country also displays a fairly balanced performance across the Input (11th) and Output (16th) sub-indices. It performs consistently on the Enablers (15th), Attract (14th) and Retain (13th) pillars, but leads the way when it comes to the Grow pillar (1st). This is due to a strong combination of Formal Education (5th), Lifelong Learning (7th) and Access to Growth Opportunities (3rd).

On the Output side, the Netherlands shows mismatched performance on the LV (22nd) and GK (13th) pillars, where it ranks relatively low on Employable Skills (22nd) and Labour Productivity (32nd). Both Higher Skills and Competencies (16th) and Talent Impact (11th) are high, with exceptional scores on Quality of Scientific Research Institutions (7th), Scientific and Technical Journal Articles (9th) and Innovation Output (2nd). Other noteworthy figures include Vocational Enrolment (1st), Reading, Maths and Science Scores (9th), University Ranking (11th), Quality of Management

Schools (9th), Extent of Staff Training (9th) and Willingness to Delegate Authority (5th). It is also strong on Regulatory Landscape (8th), Internal Openness (11th) and Lifestyle (11th). However, Ease of Doing Business (24th), Difficulty of Hiring (39th), Difficulty of Redundancy (88th), FDI Inflow (91st), Relationship of Pay to Productivity (58th), Vocational Skills-intensive Exports (51st) and New Product Entrepreneurial Activity (40th) are some areas of weakness.

Belgium (18th) makes the top 20 both in the overall rankings as well as the Input sub-index (19th). However, it drops out of similar contention on the Output sub-index (25th). The country performs in line with its overall ranking on the Enablers (20th) and Attract (21st) pillars, and outperforms on the Grow (12th) and Retain (15th) pillars. It scores very well on Formal Education (8th), Lifelong Learning (6th) and Lifestyle (9th), but suffers from a drop in performance on Sustainability (28th). This is due to high scores on Vocational Enrolment (2nd), Reading, Maths and Science Scores (15th), University Ranking (14th), Quality of Business Schools (2nd) and Female Part-time Workers (5th), but a worryingly low rank on Extent and Effect of Taxation (88th).

The Output side sees Belgium score consistently across the LV (23rd) and GK (22nd) pillars, with Employable Skills (33rd) and Talent Impact (43rd) being areas of concern. On the former, size-limited factors such as Secondary-educated Population (45th) and Secondary-educated Workforce (44th) offset strong showings on State of Cluster Development

Table 6b: Best performers by regional group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Europe (34 countries)						
Switzerland (1)	Switzerland (1)	Luxembourg (3)	Netherlands (12)	Luxembourg (3)	Czech Republic (24)	Luxembourg (3)
Luxembourg (3)	Denmark (8)	Ireland (10)	Switzerland (1)	Switzerland (1)	Slovakia (31)	Switzerland (1)
Sweden (6)	Sweden (6)	Norway (11)	Denmark (8)	Germany (14)	Germany (14)	United Kingdom (7)
United Kingdom (7)	Ireland (10)	Switzerland (1)	Sweden (6)	Norway (11)	Austria (15)	Denmark (8)
Denmark (8)	Finland (13)	Sweden (6)	United Kingdom (7)	Iceland (17)	Switzerland (1)	Iceland (17)
Ireland (10)	United Kingdom (7)	United Kingdom (7)	Finland (13)	Austria (15)	Luxembourg (3)	Sweden (6)
Norway (11)	Norway (11)	Netherlands (12)	Norway (11)	Slovenia (26)	Sweden (6)	Finland (13)
Netherlands (12)	Netherlands (12)	Denmark (8)	Ireland (10)	Netherlands (12)	United Kingdom (7)	Netherlands (12)
Finland (13)	Iceland (17)	Iceland (17)	Belgium (18)	Belgium (18)	France (23)	Estonia (19)
Germany (14)	Austria (15)	Germany (14)	Austria (15)	Spain (30)	Poland (39)	Ireland (10)

Table 6c: Best performers by regional group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Eastern, Southeastern Asia and Oceania (13 countries)						
Singapore (2)	Singapore (2)	Singapore (2)	Australia (9)	Australia (9)	Singapore (2)	Singapore (2)
Australia (9)	New Zealand (16)	Australia (9)	Singapore (2)	Singapore (2)	Japan (20)	New Zealand (16)
New Zealand (16)	Japan (20)	New Zealand (16)	New Zealand (16)	Japan (20)	Malaysia (35)	Australia (9)
Japan (20)	Australia (9)	Mongolia (53)	Japan (20)	South Korea (29)	South Korea (29)	Japan (20)
South Korea (29)	Malaysia (35)	Malaysia (35)	South Korea (29)	New Zealand (16)	Australia (9)	South Korea (29)
Malaysia (35)	South Korea (29)	Japan (20)	China (41)	Malaysia (35)	New Zealand (16)	China (41)
China (41)	Thailand (61)	Philippines (54)	Thailand (61)	Mongolia (53)	China (41)	Philippines (54)
Mongolia (53)	China (41)	China (41)	Malaysia (35)	China (41)	Mongolia (53)	Malaysia (35)
Philippines (54)	Mongolia (53)	South Korea (29)	Philippines (54)	Thailand (61)	Philippines (54)	Vietnam (75)
Thailand (61)	Vietnam (75)	Cambodia (83)	Mongolia (53)	Philippines (54)	Cambodia (83)	Thailand (61)

(18th) and Technicians and Associate Professionals (17th). Whereas on the latter, New Product Entrepreneurial Activity (47th), New Business Density (36th) and Sophisticated Exports (32nd) weigh down impressive Innovation Output (19th). Other weaknesses include Business-Government Relations (56th), Ease of Doing Business (31st), Labour-Employer Cooperation (52nd), FDI Inflow (92nd), Voicing Concern to Officials (60th), Extent and Effect of Taxation (88th), Relationship of Pay to Productivity (67th) and Vocational Skill-intensive Exports (39th).

France (23rd) shows performance opposite to that shown by Belgium, just making the top 20 in the Output sub-index (18th), but missing out when it comes to both its overall ranking and the Input sub-index (25th). It relatively underperforms on the Enablers (33rd) and Attract (28th) pillars, outperforms on the Grow pillar (17th) and scores in sync with its overall ranking on the Retain pillar (23rd).

There is also wide variation between the LV (11th) and GV (21st) pillars on the Output side. The country is hit hard by its low rank on Business Landscape (83rd), with Difficulty of Hiring (81st), Difficulty of Redundancy (63rd) and Labour-Employer Cooperation (86th) responsible for this inferior performance. These figures probably point to the fact that most businesses in France operate within a highly unionised environment. Regulatory Landscape (8th), Internal Openness (11th), Formal Education (5th), Lifelong

Learning (7th), Access to Growth Opportunities (3rd) and Lifestyle (11th) rank high, while the remaining sub-pillars on the Input side show performance more or less in keeping with the country's overall ranking. On the LV pillar, Employable Skills (13th) does marginally better than Labour Productivity (16th), while on the GV pillar, Higher Skills and Competencies (22nd) and Talent Impact (27th) show a degree of balance. Issues that need to be addressed include Business-Government Relations (63rd), FDI Inflow (75th), FDI and Technology Transfer (55th), Social Mobility (36th), Tertiary Enrolment (38th), Willingness to Delegate Authority (55th), Extent and Effect of Taxation (76th), Pay Level – Head of Organisation (49th), Relationship of Pay to Productivity (57th) and New Product Entrepreneurial Activity (50th).

Eastern, Southeastern Asia and Oceania (13 countries)

Singapore is the flag bearer of performance in the region, aided by its government's clear thrust on developing competitive talent. Next come Australia (9th) and New Zealand (16th), followed by the Eastern economies of Japan (20th) and South Korea (29th), which also round out the high income countries in this group. Malaysia (35th) and China (41st) follow, with Mongolia (53rd), Philippines (54th) and Thailand (61st) clustering a small distance behind them. Vietnam (75th), Cambodia (83rd) and Indonesia (86th) lag behind.

South Korea (29th) performs better on the Output sub-index (23rd) than on the Input side (33rd). Its scores on the Enablers (26th), Grow (31st) and Retain (35th) pillars are in keeping with its overall ranking, whereas it significantly underperforms on the Attract pillar (65th). Within this pillar, External Openness (56th), Internal Openness (66th) and Access to Growth Opportunities (67th) are areas which have the most potential for improvement. Weaknesses on the remaining Input pillars include Business Landscape (66th), Labour-Employer Cooperation (83rd), FDI and Technology Transfer (59th), Prevalence of Foreign Ownership (64th), Tolerance to Immigrants (48th), Female-to-Male Earnings Ratio (74th), Social Mobility (70th), Voicing Concern to Officials (52nd) and Extent and Effect of Taxation (45th). Performance highlights are Starting a Foreign Business (8th), Intensity of Local Competition (5th), R&D Expenditure (3rd), ICT Access (8th), Ease of Doing Business (6th), Tertiary Enrolment (1st) and Reading, Maths and Science Scores (3rd).

On the Output side, the LV pillar (28th) fares worse than the GV pillar (18th), with Labour Productivity (14th) and Talent Impact (16th) outperforming Employable Skills (42nd) and Higher Skills and Competencies (25th). Low ranks on Secondary-educated Workforce (37th), Technicians and Associate Professionals (40th), Legislators, Senior Officials and Managers (71st) and Professionals (51st) are the primary reasons behind this underperformance. Tertiary-educated Population (9th), Researchers (6th), Relationship of Pay to Productivity (17th), Vocational Skill-intensive Exports (23rd), Innovation Output (21st), New Product Entrepreneurial Activity (25th) and Sophisticated Exports (6th) are areas of strength on the Output sub-index.

Indonesia (86th) shows very even performance across the Input (87th) and Output (84th) sub-indices, right down to the pillar level, where it scores consistently on the Enablers (87th), Attract (85th), Grow (79th), Retain (82nd), LV (84th) and GK (83rd) pillars. It does relatively well on External Openness (49th), driven by FDI Inflow (50th) and FDI and Technology Transfer (31st). However, Internal Openness (87th) is poor, largely due to low Tolerance to Immigrants (88th), Female Graduates (70th) and Female-to-Male Earnings Ratio (76th), which offset the higher ranks on Tolerance to Minorities (66th) and Social Mobility (51st). Formal Education (68th) and Labour Productivity (69th) are also bright spots of performance. Vocational Enrolment (33rd), University Ranking (39th), Relationship of Pay to Productivity (24th) are high, while Reading, Maths and Science Scores (55th) and Vocational Skill-intensive Exports (58th) also do relatively well. Business-Government Relations (26th), Starting a Foreign Business (36th), Labour-Employer Cooperation (32nd), Reliance on Professional Management (28th), Extent of Staff Training (23rd), Willingness to Delegate Authority (28th) and State of Cluster Development (25th) are strengths, while Pay Level – Head of Organisation (36th), Pay Level – Head of Information Technology (38th) and Sophisticated Exports (44th) outperform the country's overall ranking. Weaknesses include Ease of Doing Business (79th),

Difficulty of Hiring (84th), Difficulty of Redundancy (82nd), Environmental Performance (78th), Labour Productivity per Employee (73rd) and Tertiary-educated Workforce (80th).

Northern Africa and Western Asia (13 countries)

Saudi Arabia (32nd) makes it into the top one-third of this year's GTCI with consistent performance across both the Input (31st) and Output (36th) sub-indices. The Enablers (27th) and Retain (26th) pillars outperform the country's overall ranking, whereas the Attract (34th) and Grow (42nd) pillars lag behind slightly. Market Landscape (26th), Business Landscape (12th) and Sustainability (16th) are the factors underpinning the above outperformance, with Intensity of Local Competition (14th), Ease of Doing Business (22nd), Extent and Effect of Taxation (5th), Pay Level – Head of Organisation (16th) and Pay Level – Head of Information Technology (8th) doing particularly well. Despite very high External Openness (9th), factors such as Tolerance to Minorities (85th), Female Graduates (62nd) and Female-to-Male Earnings Ratio (90th) combine to give the country a very low Internal Openness (78th) rank. Saudi Arabia underperforms to a similar degree on Formal Education (47th) and Lifelong Learning (45th) with Vocational Enrolment (77th), Tertiary Enrolment (46th), Extent of Staff Training (42nd) and Quality of Management Schools (47th) being the primary reasons for this phenomenon.

The Output side doesn't see significant variation between the LV (43rd) and GK (35th) pillars. Employable Skills (50th) and Higher Skills and Competencies (49th) score lower than the country's overall ranking due to weakness on Secondary-educated Workforce (66th), Secondary-educated Population (52nd), Tertiary-educated Workforce (48th) and other indicators relating to its pool of knowledge workers. Despite extremely low Vocational Skill-intensive Exports (85th), strong Labour Productivity per Employee (9th) and Relationship of Pay to Productivity (21st) offset this negative. Talent Impact (18th) also sees this kind of trade-off, with New Product Entrepreneurial Activity (3rd) glossing over stark deficiencies on Sophisticated Exports (90th).

Azerbaijan (58th) shows a slight skew towards the Input sub-index (52nd versus 60th), with only the Retain pillar (47th) performing out of line with the country's overall ranking. Both Sustainability (49th) and Lifestyle (44th) are relatively high due to good scores on Extent and Effect of Taxation (40th), Environmental Performance (49th), Safety at Night (31st) and Physician Density (25th). Other strengths are Business-Government Relations (40th), Firm-level Technology Absorption (46th), Labour-Employer Cooperation (31st), FDI Inflow (38th), Vocational Enrolment (32nd), International Student Inflow (42nd) and Voicing Concern to Officials (26th). Areas of concern include Government Effectiveness (85th), Political Stability (72nd), Intensity of Local Competition (86th), Prevalence of Foreign Ownership (76th), Tertiary Enrolment (72nd) and Quality of Management Schools (88th).

The Output sub-index sees the country outperforming significantly when it comes to Employable Skills (18th), underperforming on Labour Productivity (79th) and Talent Impact (90th) and matching its overall ranking on Higher Skills and Competencies (55th). High performance on Employable Skills owes itself solely to Secondary-educated Workforce (3rd) and Secondary-educated Population (5th), which stand head and shoulders above mediocre scores on other indicators. Other strengths include Relationship of Pay to Productivity (19th), Tertiary-educated Population (29th) and Professionals (29th). Weaknesses are Technicians (74th), Vocational Skill-intensive Exports (89th), Legislators, Senior Officials and Managers (78th), Innovation Output (83rd) and Sophisticated Exports (81st).

Egypt (80th) is the lowest-ranked country in this regional group, and incidentally the only low income economy. The country's performance shows stark contrast between Input (88th) and Output (66th) sub-indices. On the Input side, except for the Retain pillar (43rd), all other pillars score in keeping with the country's overall ranking. Both Lifestyle (37th) and Sustainability (51st) are relatively high, with Pay Level – Head of Organisation (24th), Pay Level – Head of Information Technology (15th) and Environmental Performance (42nd) being highlights. Other strengths include Starting a Foreign Business (12th), Venture Capital Deals (53rd), Difficulty of Hiring (22nd), Vocational Enrolment (34th), University Ranking (43rd)

and Willingness to Delegate Authority (32nd). Major weaknesses are Government Effectiveness (84th), Business-Government Relations (86th), Political Stability (90th), Ease of Doing Business (82nd), Difficulty of Redundancy (82nd), Reliance on Professional Management (91st), Tolerance to Minorities (90th), Tolerance to Immigrants (89th), Social Mobility (82nd), Quality of Management Schools (93rd) and Extent of Staff Training (91st).

The Output sub-index sees both LV (62nd) and GK (67th) doing significantly better than the country's overall score. Employable Skills (48th) and Higher Skills and Competencies (56th) outperform Labour Productivity (78th) and Talent Impact (79th). Strengths include Secondary-educated Workforce (52nd), Technicians and Associate Professionals (46th), State of Cluster Development (40th), Vocational Skill-intensive Exports (46th), Tertiary-educated Workforce (58th), Professionals (40th) and Researchers (51st). Some of the areas that need to be addressed are Relationship of Pay to Productivity (86th), Quality of Scientific Research Institutions (86th), Innovation Output (81st) and Sophisticated Exports (74th).

Latin, Central America and the Caribbean (18 countries)

Of the three high-income countries in this group, Chile (27th) leads the field, followed by Trinidad and Tobago (43rd) and Uruguay (44th). Interestingly, the latter two are preceded

Table 6d: Best performers by regional group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Northern Africa and Western Asia (13 countries)						
Israel (21)	United Arab Emirates (22)	Qatar (25)	Israel (21)	Israel (21)	Israel (21)	Israel (21)
United Arab Emirates (22)	Qatar (25)	United Arab Emirates (22)	United Arab Emirates (22)	Saudi Arabia (32)	Qatar (25)	Saudi Arabia (32)
Qatar (25)	Israel (21)	Saudi Arabia (32)	Qatar (25)	United Arab Emirates (22)	United Arab Emirates (22)	Tunisia (65)
Saudi Arabia (32)	Saudi Arabia (32)	Israel (21)	Lebanon (57)	Qatar (25)	Azerbaijan (58)	Lebanon (57)
Armenia (48)	Armenia (48)	Armenia (48)	Saudi Arabia (32)	Egypt (80)	Armenia (48)	Turkey (59)
Lebanon (57)	Turkey (59)	Azerbaijan (58)	Turkey (59)	Armenia (48)	Saudi Arabia (32)	United Arab Emirates (22)
Azerbaijan (58)	Azerbaijan (58)	Tunisia (65)	Azerbaijan (58)	Azerbaijan (58)	Tunisia (65)	Armenia (48)
Turkey (59)	Lebanon (57)	Lebanon (57)	Armenia (48)	Turkey (59)	Turkey (59)	Qatar (25)
Tunisia (65)	Tunisia (65)	Morocco (85)	Tunisia (65)	Lebanon (57)	Lebanon (57)	Yemen (93)
Egypt (80)	Morocco (85)	Turkey (59)	Egypt (80)	Tunisia (65)	Egypt (80)	Egypt (80)

Table 6e: Best performers by regional group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Latin, Central America and the Caribbean (18 countries)						
Chile (27)	Chile (27)	Costa Rica (38)	Chile (27)	Chile (27)	Trinidad and Tobago (43)	Panama (42)
Costa Rica (38)	Costa Rica (38)	Panama (42)	Costa Rica (38)	Uruguay (44)	Chile (27)	Chile (27)
Panama (42)	Trinidad and Tobago (43)	Chile (27)	Colombia (52)	Brazil (49)	Panama (42)	Costa Rica (38)
Trinidad and Tobago (43)	Uruguay (44)	Uruguay (44)	Argentina (56)	Trinidad and Tobago (43)	Mexico (60)	Colombia (52)
Uruguay (44)	Dominican Republic (68)	Trinidad and Tobago (43)	Guatemala (69)	Costa Rica (38)	Costa Rica (38)	Mexico (60)
Brazil (49)	Colombia (52)	Brazil (49)	Uruguay (44)	Argentina (56)	El Salvador (72)	Ecuador (67)
Colombia (52)	Guatemala (69)	Peru (63)	Ecuador (67)	Ecuador (67)	Peru (63)	Uruguay (44)
Argentina (56)	Brazil (49)	Nicaragua (77)	Brazil (49)	Mexico (60)	Dominican Republic (68)	Peru (63)
Mexico (60)	El Salvador (72)	Paraguay (79)	Mexico (60)	Colombia (52)	Argentina (56)	Dominican Republic (68)
Peru (63)	Panama (42)	Bolivia (81)	Venezuela (84)	Peru (63)	Brazil (49)	Venezuela (84)

by Costa Rica (38th) and Panama (42nd), which are upper middle income countries. Brazil (49th), Colombia (52nd), Argentina (56th), Mexico (60th), Peru (63rd), Ecuador (67th) and Dominican Republic (68th) form the remainder of the chasing pack of upper middle income economies. These are followed by Guatemala (69th), El Salvador (72nd), Nicaragua (77th), Paraguay (79th), Bolivia (81st) and Venezuela (84th), where Venezuela is a high-income country unlike the rest of the lower-middle-income countries.

Chile (27th) is a standout performer in this group, with the Input sub-index (23rd) the driving force behind its strong showing. It is evenly matched on the Enablers (29th), Attract (24th) and Grow (26th) pillars, while the Retain pillar (14th) performs exceedingly well when compared to the country's overall ranking. This is largely due to world-leading ranks on Extent and Effect of Taxation (9th) and Pay Level – Head of Organisation (1st), which combine to give it an excellent score on Sustainability (3rd). Other highlights on the Input side are Regulatory Landscape (19th), External Openness (15th) and Access to Growth Opportunities (17th). Areas for improvement include Market Landscape (40th), Business Landscape (39th), Internal Openness (39th) and Lifestyle (48th).

Chile shows consistent performance on the Output sub-index (37th) as well, however its ranks on the LV (40th) and GK (39th) pillars are significantly lower than its overall ranking. It has strong Talent Impact (20th) and Employable

Skills (29th), with high ranks on Secondary-educated Workforce (16th), New Product Entrepreneurial Activity (1st) and New Business Density (15th), although Sophisticated Exports (71st) acts as a drag on its ranking. The country suffers on Labour Productivity (67th) and Higher Skills and Competencies (54th), primarily due to its showings on Labour Productivity per Employee (42nd), Vocational-skill Intensive Exports (74th), Tertiary-educated Workforce (55th) and other indicators relating to its pool of vocational workers.

Costa Rica (38th) and **Panama** (42nd) are closely matched, however for differing reasons. Costa Rica shows a strong bias towards the Input sub-index (30th) and lags on the Output side (49th). It displays scores in line with its overall ranking on the Enablers (39th), Grow (32nd) and Retain (37th) pillars, but shows robust outperformance on the Attract pillar (16th) due to its high degrees of External (19th) and Internal Openness (20th). Other highlights on the Input side are Lifelong Learning (22nd), Access to Growth Opportunities (13th) and Sustainability (20th). Weaknesses include Business Landscape (50th) and Formal Education (67th).

Costa Rica shows subdued performance on the LV (52nd) and GK (44th) pillars, with only Talent Impact (38th) in line with the country's overall ranking, while Employable Skills (51st), Labour Productivity (57th), and Higher Skills and Competencies (51st) collectively underperform. Sophisticated Exports (10th) is world class, while New Business Density (28th), Innovation Output (28th) and

Quality of Scientific Research Institutions (31st) all outperform Costa Rica's overall ranking. All variables under the three underperforming sub-pillars show significant room for improvement, with the exception of Technicians and Associate Professionals (25th).

Panama, on the other hand, displays more balanced performance across the Input (46th) and Output (38th) sub-indices, albeit with a slight skew towards the Output side. It underperforms its overall ranking on the Enablers (61st), Grow (58th) and Retain (71st) pillars, but scores highly on the Attract pillar (19th) due to its high degrees of External (12th) and Internal (31st) Openness. Other strengths on the Input side are Market Landscape (36th) and Access to Growth Opportunities (23rd), while deficiencies include Business Landscape (90th), Formal Education (62nd), Lifelong Learning (79th) and Lifestyle (75th).

Panama shows contrasting performance on the LV (45th) and GK (36th) pillars, with the former in line with the country's overall ranking, and the latter outperforming it. Despite scoring highly on Labour Productivity (25th), low ranks on Technicians and Associate Professionals (53rd) and Secondary-educated Population (59th) adversely affect Employable Skills (64th). Panama has high Talent Impact (21st), led by excellent scores on New Business Density (3rd) and Sophisticated Exports (4th), however, Innovation Output (80th) and New Product Entrepreneurial Activity (71st) are concerns that need to be addressed. The country's Higher Skills and Competencies (46th) score is impacted by variables relating to its pool of knowledge workers, such as Researchers (65th) and Scientific and Technical Journal Articles (71st).

Venezuela (84th) is an outlier in that it languishes near the bottom of the table, despite being a resource-rich high-income country. It performs equally poorly across the Input (82nd) and Output (85th) sub-indices, with only the Grow (55th) and Retain (70th) pillars standing out due to relatively strong showings on their underlying sub-pillars. The country ranks last on the Enablers pillar (93rd), and only performs marginally better on the Attract pillar (84th). In addition to External Openness (90th), Regulatory (92nd), Market (84th) and Business (92nd) Landscape ranks are predictably poor due to the country's economic setup. However, Internal Openness (54th) is relatively high, with good scores on Tolerance to Minorities (53rd), Tolerance to Immigrants (35th), Female Graduates (31st) and Female-to-Male Earnings Ratio (67th), with only Social Mobility (88th) acting as a hindrance to its ranking on the sub-pillar.

On the Output side, Venezuela scores in line with its overall ranking on the LV pillar (88th), but outperforms on the GK pillar (73rd). Despite relatively high Secondary-education Population (53rd) and Secondary-educated Workforce (68th) ranks, Venezuela's State of Cluster Development (91st) acts as a serious impediment to Employable Skills (77th). Similarly, the country's strong Labour Productivity per Employee (52nd) is offset by dismal scores on Relationship

of Pay to Productivity (89th) and Vocational Skill-intensive Exports (88th). Higher Skills and Competencies (71st) mirrors Employable Skills, in that high ranks on Tertiary-educated Population (54th), Tertiary-educated Workforce (30th) and Researchers (57th) are offset by Quality of Research Institutions (84th) and Scientific and Technical Journal Articles (80th). Despite low ranks on Sophisticated Exports (84th) and Innovation Output (72nd), Venezuela's New Product Entrepreneurial Activity (60th) boosts the country's standing on Talent Impact (67th).

Central and Southern Asia (7 countries)

Despite this group only having seven countries, it has the largest captive pool of human capital of 1.71 billion people, with India leading the way with 1.25 billion. Kazakhstan (40th) is a clear outlier, with Kyrgyzstan (74th), Sri Lanka (76th), India (78th) and Iran (82nd) forming a cluster of proximally-ranked countries following it. Finally, Pakistan (89th) and Bangladesh (90th) round out this group.

The largest economy in Central Asia, **Kazakhstan** (40th) outperforms its regional peers by a significant margin. It shows a definite tilt towards the Input sub-index (37th), and underperforms in comparison on the Output side (56th). The country performs in keeping with its overall ranking on the Enablers (41st) and Retain (48th) pillars. However, it shows strong outperformance on the Attract pillar (22nd), and weakness on the Grow pillar (52nd). FDI Inflow (16th) and Male (9th) and Female (8th) Adult Migrants combine to give it a high score on External Openness (16th), although Social Mobility (58th) and Female-to-Male Earnings Ratio (43rd) slightly offset Tolerance to Minorities (26th) and Tolerance to Immigrants (21st), resulting in a slightly lower Internal Openness (32nd) score. On the other hand, the Grow pillar is affected by low ranks on Formal Education (59th) and Lifelong Learning (56th), which counter the country's performance on Access to Growth Opportunities (42nd).

On the Output sub-index, Kazakhstan shows vast divergence in its scores on the LV (39th) and GK (65th) pillars. This phenomenon exists even at the sub-pillar level, with Employable Skills (31st) and Higher Skills and Competencies (36th) significantly outscoring Labour Productivity (65th) and Talent Impact (89th) respectively. The two high-performing sub-pillars are largely aided by indicators relating to Kazakhstan's pool of vocational and knowledge workers, whereas Labour Productivity per Employee (53rd), Vocational Skill-intensive Exports (73rd), Innovation Output (79th), New Product Entrepreneurial Activity (77th) and Sophisticated Exports (66th) negatively affect the two underperforming sub-pillars.

Kyrgyzstan (74th) and **Sri Lanka** (76th) both display remarkable consistency across the Input (Kyrgyzstan: 70th; Sri Lanka: 71st) and Output (Kyrgyzstan: 74th; Sri Lanka: 76th) sub-indices. However, the Grow pillar (Kyrgyzstan: 81st; Sri Lanka: 87th) is a cause for concern for both economies, with Kyrgyzstan lagging behind when it comes to Lifelong

Table 6f: Best performers by regional group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Central and Southern Asia (7 countries)						
Kazakhstan (40)	Kazakhstan (40)	Kazakhstan (40)	Kazakhstan (40)	Kazakhstan (40)	Kazakhstan (40)	India (78)
Kyrgyzstan (74)	Kyrgyzstan (74)	Sri Lanka (76)	India (78)	Iran (82)	Kyrgyzstan (74)	Kazakhstan (40)
Sri Lanka (76)	India (78)	Kyrgyzstan (74)	Kyrgyzstan (74)	Kyrgyzstan (74)	India (78)	Pakistan (89)
India (78)	Sri Lanka (76)	India (78)	Iran (82)	Sri Lanka (76)	Bangladesh (90)	Iran (82)
Iran (82)	Bangladesh (90)	Bangladesh (90)	Sri Lanka (76)	Bangladesh (90)	Sri Lanka (76)	Sri Lanka (76)
Pakistan (89)	Iran (82)	Pakistan (89)	Pakistan (89)	Pakistan (89)	Pakistan (89)	Kyrgyzstan (74)
Bangladesh (90)	Pakistan (89)	Iran (82)	Bangladesh (90)	India (78)	Iran (82)	Bangladesh (90)

Learning (88th) and Sri Lanka adversely affected by its rank on Formal Education (89th). These highlight their inability to grow top-quality local talents, which when analysed in conjunction with low External Openness (Kyrgyzstan: 82nd; Sri Lanka: 76th) scores, point to potentially widening talent deficits in spite of relatively high levels of Internal Openness (Kyrgyzstan: 59th; Sri Lanka: 43rd). Areas of strength include the Attract pillar (55th) for Sri Lanka and the Retain pillar (Kyrgyzstan: 59th; Sri Lanka: 63rd) for both countries.

On the Output side, Sri Lanka scores identically, and in accordance with its overall ranking, on the LV and GK pillars (ranked 77th on both), whereas Kyrgyzstan significantly outperforms on the LV pillar (51st) when compared to the GK pillar (89th). Kyrgyzstan performs poorly on Labour Productivity (85th), while Employable Skills (84th) drags down Sri Lanka's ranking on the LV pillar. The island nation continues in a similar vein on the GK pillar, with its strengths on Higher Skills and Competencies (63rd) negated by weaknesses on Talent Impact (84th). Kyrgyzstan on the other hand, shows equally poor performance on both Higher Skills and Competencies (80th) and Talent Impact (91st).

Despite being the largest regional economy, **India** (78th) ranks fourth amongst its peers, and also happens to be the lowest-ranked BRICS economy. With its population of over 1.25 billion, 50% of which is below 25 years of age, the country has a huge latent pool of talent, for which issues relating to competitiveness will only grow increasingly more important over the coming years. Predictably, the country scores higher on the Output sub-index (65th) than it does on the Input side (83rd).

The LV (66th) and GK (64th) pillars show similar performance, indicating good balance between the 'vocational' and 'knowledge' economies. Highlights include State of Cluster Development (14th), Secondary-educated Workforce (58th), Vocational Skill-intensive Exports (38th), Quality of Scientific Research Institutions (35th), Innovation Output (38th), New Product Entrepreneurial Activity (47th) and Sophisticated Exports (47th). However, problem areas such as Labour Productivity per Employee (78th), Tertiary-educated Workforce (76th), Professionals (76th) and New Business Density (72nd) need to be addressed effectively.

Among the Input pillars, India ranks best on Enablers (69th), with strong scores on Regulatory Landscape (62nd) and Business Landscape (56th). Lifelong Learning (66th) and Access to Growth Opportunities (66th) combine to boost the country's ranking on the Grow pillar (75th) when compared with the other two Input pillars relating to human capital development – Attract (82nd) and Retain (89th). Other strengths are Starting a Foreign Business (10th), Intensity of Local Competition (20th), Venture Capital Deals (23rd), Difficulty of Hiring (1st), FDI and Technology Transfer (27th), University Ranking (26th) and Social Mobility (34th). On the other hand, Political Stability (85th), Ease of Doing Business (86th), Difficulty of Redundancy (88th), Tolerance to Immigrants (84th), Female-to-Male Earnings Ratio (84th), Vocational Enrolment (84th), Tertiary Enrolment (71st), Pension System (78th) and Environmental Performance (90th) are problem areas that need to be tackled.

Table 6g: Best performers by regional group (rank)

GTCI	Enablers	Attract	Grow	Retain	Labour and Vocational Skills	Global Knowledge
Sub-Saharan Africa (6 countries)						
South Africa (51)	Botswana (66)	Namibia (73)	South Africa (51)	South Africa (51)	South Africa (51)	South Africa (51)
Botswana (66)	Namibia (73)	South Africa (51)	Namibia (73)	Botswana (66)	Botswana (66)	Botswana (66)
Namibia (73)	South Africa (51)	Botswana (66)	Botswana (66)	Ghana (87)	Namibia (73)	Namibia (73)
Ghana (87)	Ghana (87)	Uganda (88)	Madagascar (92)	Namibia (73)	Ghana (87)	Uganda (88)
Uganda (88)	Uganda (88)	Ghana (87)	Uganda (88)	Uganda (88)	Madagascar (92)	Ghana (87)
Madagascar (92)	Madagascar (92)	Madagascar (92)	Ghana (87)	Madagascar (92)	Uganda (88)	Madagascar (92)

Sub-Saharan Africa (6 countries)

This group occupies the bottom position on the overall GTCI ranking. It shows a perfect income hierarchy, which feeds through to the ranks of its constituent countries. South Africa (51st) leads the group by far, making it into the top half of the rankings. The two countries following it, Botswana (66th) and Namibia (73rd), are also upper-middle-income economies. Ghana (87th) is a lower-middle-income country, while Uganda (88th) and Madagascar (92nd) are low-income countries.

Botswana (66th) performs consistently across the Input (62nd) and Output (69th) sub-indices, with high scores on the Enablers (34th) and Attract (48th) pillars, in contrast to low ranks on the Grow (65th) and Retain (83rd) pillars. Standout performers are Regulatory Landscape (26th) and Business Landscape (33rd), and External Openness (43rd), whereas Formal Education (86th) and Lifestyle (86th) negatively affect the country's ranking. Underlying strengths include Business-Government Relations (35th), Political Stability (12th), Reliance on Professional Management (25th), Prevalence of Foreign Ownership (21st), Social Mobility (27th), Firms Offering Formal Training (17th) and Extent and Effect of Taxation (10th). ICT Access (77th), Tertiary Enrolment (87th), Pension System (81st), Safety at Night (88th) and Physician Density (80th) are deficiencies.

On the Output side, Botswana scores much higher on the GK pillar (58th) than it does on the LV pillar (75th). The country's performance on Higher Skills and Competencies (70th) and Labour Productivity does not show much deviation from its overall ranking, whereas Talent Impact (52nd) is a clear outperformer. This is largely due to its extremely high rank on New Business Density (4th), which smoothes over deficiencies on Innovation Output (87th), Sophisticated Exports (63rd) and New Product Entrepreneurial Activity

(57th). Other areas of improvement include Secondary-educated Workforce (69th), State of Cluster Development (62nd), Vocational Skill-intensive Exports (79th), Professionals (70th) and Quality of Scientific Research Institutions (71st).

Namibia (73rd), like Botswana, before it shows fairly even performance across the Input (67th) and Output (77th) sub-indices. Its ranking on the Input side is dragged down by the Retain pillar (91st), which grossly underperforms the Enablers (36th), Attract (40th) and Grow (54th) pillars. This is primarily due to low scores on Sustainability (76th) and Lifestyle (92nd), with Pension System (80th), Environmental Performance (81st), Safety at Night (89th) and Improved Sanitation (89th) being problem areas. The country has strong Regulatory Landscape (34th) and Business Landscape (28th), with Market Landscape (50th) lagging behind slightly. Within the Grow pillar, Formal Education (72nd) is low, while Access to Growth Opportunities (31st) outperforms. Other strengths on the Input side are Political Stability (18th), Difficulty of Hiring (1st), Difficulty of Redundancy (38th), FDI Inflow (41st), Prevalence of Foreign Ownership (33rd), International Student Inflow (13th), Firms Offering Formal Training (27th), Voicing Concern to Officials (28th) and Extent and Effect of Taxation (27th). Weaknesses include Intensity of Local Competition (71st), ICT Access (83rd), Ease of Doing Business (68th), Labour Employer Cooperation (69th), Tertiary Enrolment (83rd), Quality of Management Schools (83rd) and Physician Density (77th).

The Output sub-index sees Namibia performing consistently on Employable Skills (75th), Labour Productivity (75th) and Higher Skills and Competencies (73rd), however its high rank on Talent Impact (64th) results in the GK pillar (70th) outscoring the LV pillar (83rd). New Product Entrepreneurial Activity (9th) is very high, whereas other Output indicators show low to moderate outperformance versus the country's overall ranking. Vocational Skills-

intensive Exports (80th), Tertiary-educated Workforce (81st), Innovation Output (90th) and Sophisticated Exports (86th) are weak spots that need to be addressed.

Ghana (87th) and **Uganda** (88th) are bunched closely together, and show very similar performance characteristics across the Input (Ghana: 81st; Uganda: 85th) and Output (Ghana: 90th; Uganda: 91st) sub-indices. Only the Enablers pillar (Ghana: 66th; Uganda: 75th) shows moderated divergence, with the remaining three Input pillars very closely matched. While Ghana outscores Uganda on Regulatory Landscape (66th to 84th) and Market Landscape (81st to 91st), the opposite is the case when it comes to Business Landscape (47th to 21st). The former is due to Ghana's higher Government Effectiveness (58th to 79th), Political Stability (47th to 79th), Firm-level Technology Absorption (64th to 82nd) and Ease of Doing Business (51st to 84th) ranks, whereas the latter case solely due to Uganda's significantly better score on Difficulty of Redundancy (1st versus 75th). Only External Openness shows significant divergence on the Input sub-index (Ghana: 30th; Uganda: 46th), with Brain Drain (Ghana: 38th; Uganda: 72nd) and Brain Gain (Ghana: 29th; Uganda: 61st) responsible for this discrepancy.

There is less to choose between either country on the Output side, with both the LV (Ghana: 89th; Uganda: 93rd) and GK (Ghana: 85th; Uganda: 84th) pillars ranked very close to each other, and this trend continues at the sub-pillar level as well. Ghana outscores Uganda by a sizeable margin on State of Cluster Development (59th to 74th) and Relationship of Pay to Productivity (53rd to 83rd), where Uganda performs markedly better on both Vocational Skill-Intensive (63rd to 84th) and Sophisticated (31st to 78th) Exports.

NOTES

- ¹ Akerlof and Kranton (2010)
- ² See *The Economist* article titled *Automation: competing with computers – the hollowing out effect* (2014). Main relevant articles on the same topic include Autor (2014); Frey and Osborne (2013); and Canon and Marifian (2013).
- ³ Manyika et al. (2013)
- ⁴ As the worldwide success of Thomas Piketty's work shows, this is an area that affects the very basis of our understanding of growth, inequality and social relations. See Piketty (2014)
- ⁵ World Economic Forum (2014a)
- ⁶ World Economic Forum (2014b)
- ⁷ Dobbs et al. (2012)
- ⁸ OECD (2014a). See also Mehta (2013)
- ⁹ Yoo (2014)
- ¹⁰ See article in *Le Monde* titled *La classe résiste magistralement* (2014)
- ¹¹ McKinsey Center for Government (2014). See also *The Economist* article titled *Got skills? Retooling vocational education* (2014)
- ¹² McKinsey Center for Government (2014)
- ¹³ See article in *La Tribune* titled *Le succès de l'apprentissage en Suisse* (2014)
- ¹⁴ This is a bigger problem in Germany where large numbers of students are enrolled in a substitute training system because apprenticeships are not available. Studies show that apprenticeship training is profitable for firms in Switzerland, but not in Germany. Trainee wages are lower and more productive tasks are assigned to Swiss apprentices (Dionisius et al., 2008).
- ¹⁵ OECD (2014b)
- ¹⁶ Strahm (2014)
- ¹⁷ See article in *La Tribune* titled *Le succès de l'apprentissage en Suisse* (2014)
- ¹⁸ World Bank and International Labour Organization (2013)
- ¹⁹ The source for the Swiss figure is SECO (Staatssekretariat für Wirtschaft in Bern), September 2014; the source for the German figure is Eurostat. Factors other than vocational education contribute to this, such as flexible labour law and the absence (until recently) of minimum wages.
- ²⁰ Cornell, INSEAD and WIPO (2014)
- ²¹ Lucas (1988)
- ²² In the GTCI 2014 data, there is a very high correlation of 0.88 between delegation of authority and the extent of staff training.
- ²³ Burt (1995)
- ²⁴ Wilkinson, Donaghey, Dundon and Freeman (2014)
- ²⁵ Dobbs et al. (2012)
- ²⁶ International Labour Organization (2013)
- ²⁷ See *The Economist* article titled *Easing the tradition: means and ends – how governments can deal with labour imbalance* (2014)
- ²⁸ For example, the Heidrick and Struggles' Global Talent Index and more recently, the World Economic Forum's Human Capital Index.
- ²⁹ 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 thirteenth 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). 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).
- ³⁰ Cappelli and Keller (2014); Stahl et al. (2012)
- ³¹ The method and results of this audit are the subject of Chapter 7 in this report, *JRC Statistical Audit on the 2014 Global Talent Competitiveness Index* by Saisana and Hardeman.
- ³² See World Economic Forum (2014c)
- ³³ See Cornell, INSEAD and WIPO (2014)
- ³⁴ For recent reviews, see Lederman and Maloney (2007); and Gelb (2010)
- ³⁵ Countries are grouped according to the World Bank Income Classifications (July 2014). Economies are divided based on their 2013 gross national income (GNI) 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).
- ³⁶ Note: All scores range between 0 and 100. Income Groups are based on World Bank Income Classifications (July 2014): HI = High Income; UM = Upper Middle Income; LI = Lower Middle Income; LI = Low Income. Regional Groups are based on United Nations Regional Classifications (October 2013): EUR = Europe; NAC = North America; LCN = Latin, Central America and the Caribbean; CSA = Central and Southern Asia; ESEAO = Eastern, Southeastern Asia and Oceania; NAWA = Northern Africa and Western Asia; SSF = Sub-Saharan Africa
- This referendum on immigration took place after data collection for 2014, and so it is not reflected in the Swiss ranking.

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CHAPTER 2

THE TALENT IMPERATIVE

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Juan, unemployed for more than a year in spite of his engineering experience, must decide whether to remain at home hoping for an upturn, or leave his young family for plentiful jobs, but formidable language and culture barriers, to the north.

Parmita, thousands of miles away, has just graduated with a degree in information technology. A local company beckons with a safe position. But women may still be disadvantaged and promotion may be slow, making her yearn for work abroad, in spite of the fearsome immigration and bureaucratic hurdles involved.

The two examples may be imaginary, but the dilemmas they depict are all too real. Much of the developed world is being confronted with acute skills shortages. Companies cannot find people with the required talent, and firms are reluctant to hire because of labour market rigidities, including immigration controls, and to invest in training. At

the same time, there is serious unemployment, especially of young people, and even graduates, that poses a fundamental challenge for governments, companies, educational institutions and individuals.

Even when candidates are available, they may lack the flexibility or mobility to take up vacancies. Formerly, such mismatches may have been dismissed as temporary phenomena. But now, the signs are that the high unemployment afflicting much of Europe in particular, especially in the wake of the 'Great Recession', is not a passing fad, but structural and here to stay. Sadder still is that youth unemployment is more than double the average unemployment in mature economies, and this situation could endure for at least a decade.

Within 20 to 30 years, demographic factors could kick in and alter the balance between supply and demand for labour, easing such problems. And no one can even guess

how leaps in robotics and automation – 3D printing and driverless cars, for example – may yet transform traditional worker-intensive manufacturing and production processes. Until then, retraining programmes, educational schemes and assorted other initiatives may alleviate the skills shortages somewhat. But severe gaps will still remain – gaps that are likely to worsen in the foreseeable future.

BRIDGING THE TALENT GAP: THE YOUTH IMPERATIVE

What can be done to bridge such talent gaps, arguably at their most acute in Europe? In last year's inaugural Global Talent Competitiveness Index (GTCI), developed by INSEAD with Singapore's Human Capital Leadership Institute and the Adecco Group, European countries performed well, albeit with big differences between them. But all nations, even those beyond Europe and the US, face worrying mismatches between the demand for specific skills and the supply of suitable candidates (see Figure 1). Talent, it could be said, has become the new currency of the global economy, amid intense competition across the globe for the best candidates.

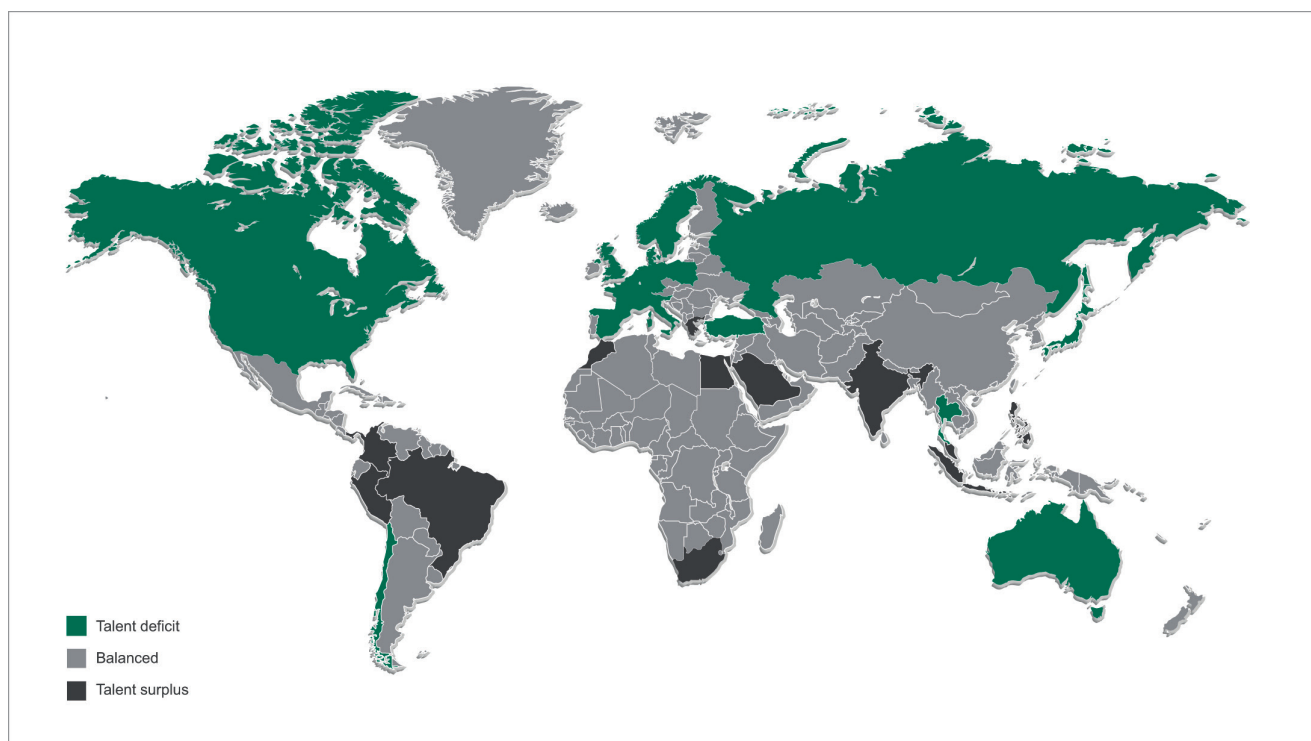
The raw figures are certainly worrying. Today, 8.4 million jobs are not being filled because of mismatches in skills and geographies. China, despite stamping out engineers in industrial quantities, may face a skills gap of more than

20 million college-educated workers by 2020. Indonesia's need for skilled workers could rise from 55 million to 113 million by 2030. In the US, meanwhile, there are about 4.7 million vacancies, and in Europe more than 3.7 million – while more than 26 million people in the region remain unemployed. Germany alone needs 90,000 engineers and 40% of hospital roles in Switzerland have to be filled by foreign nationals.

The characteristics most in demand include so-called 'global knowledge' skills. But there is also a growing 'digital divide', with millions of people unable to master even the most basic computer tasks. This ranges from nearly one in four adults in Italy, South Korea, Poland, Slovakia and Spain, to one in 14 in the Netherlands, Norway and Sweden.¹

More generally, a dangerously high number of young people are leaving secondary school with insufficient literacy, numeracy, social and team skills – precisely the effective educational tools needed to reach their full potential. Research shows more than one in five adults in Italy, Spain and France perform at or below the most basic level. To top it all off, there is a critical lack of work experience – a major disadvantage for new entrants to the job market. To solve this issue, structural measures are needed, as well as a change in youngsters' attitude.

Figure 1: The global talent crunch: projected trends in talent supply (2011–2021)



Source: Oxford Economics, September 2014

THE ESSENTIAL STEPS

What should governments, institutions, businesses and other stakeholders do to mesh the production of talents and skills more precisely with the needs of the labour market – especially in Europe? And what lessons can be learnt from the champions of talent competitiveness?

The GTCI study evaluates nations' competitiveness on six key pillars in an Input/Output model. The four pillars on the Input side – Enablers, Attract, Grow and Retain – include the key fields that comprise the talent policies nations invest in, and can inspire insights and actions for policymakers and business leaders. Countries ranking higher are those that put more effort into the four key pillars, meaning: higher investment in lifelong learning through valuable formal and vocational training; higher flexibility and mobility within their labour markets; a recognised tradition of being open to steered immigration; and open societies and sustainable lifestyles.

More flexible labour markets are needed to ensure increased job rotations and better access to vacancies. Liberalising employment rules, eliminating unnecessary or antiquated regulations and barriers, and reducing taxes on labour are among the key policy lessons to improving efficiency and tackling skills shortages.

Reforming education systems is a second essential step. The first GTCI demonstrated education to be a common success factor among many of the highest-ranking countries. These included several European nations, which have traditionally emphasised broad-based and high-quality teaching for all citizens.

But investing in education means both building schools and hiring teachers, and paying the closest attention to the curriculum to ensure that what is taught stimulates not just pupils' personal and intellectual development, but also supplies what the labour market needs. Not surprisingly, many countries that have found themselves left behind are now putting greater emphasis on what are known in the Anglo-Saxon world as STEM skills (science, technology, engineering and mathematics). More money and attention are being devoted to countering deficiencies – revealed most strikingly in the triennial Programme for International Student Assessment (PISA) surveys conducted by the Organisation for Economic Cooperation and Development (OECD).² However, much more could be done.

Improving education extends beyond the classroom to the broader introduction of apprenticeships. Research by Adecco found that countries with established systems of work-based vocational training, such as Switzerland, Germany and Austria, were most successful in tackling youth unemployment – a key indicator of the talent mismatch.³ Tellingly, youth unemployment in Germany stands at around 7.6% and in Switzerland at around 3%, compared to the Eurozone average of over 23%.⁴ Not surprisingly, introducing or reviving traditional apprenticeship schemes has gained

currency recently in a number of countries where such programmes had, in the last few decades, gone out of favour, as for example in the UK.

MORE THAN JUST TRAINING

However, beyond formal training, labour markets need to offer young people the opportunity to gain work experience. There is clear evidence that the lack of such experience is one of the main barriers to entry into the workforce. Having a temporary job is a better option than being unemployed. Evidence suggests temporary work can help youngsters take their first step onto the career ladder or into a permanent position. With a temporary job, young people can start to build the experience employers seek. In France, for example, 66% of people are in employment after a year of temporary work; in the UK, 48% of temporary workers find permanent jobs in a year. Young people's willingness to accept flexible job assignments or job opportunities abroad are essential to bring youngsters into the labour force.

With this in mind, in 2013 we launched the Adecco Way to Work™ programme, a global initiative involving Adecco employees in more than 50 countries. Thanks to the cooperation of leading client companies, Adecco placed 88 youngsters in one-month job experience slots. The candidates were given the chance to learn workplace skills in a wide range of roles across various sectors. Some received job offers at the end of the period. Adecco Way to Work™ was a great opportunity and a true learning process for all participants. The youngsters were tested in the real business environment, grew personally and professionally, and improved their employability.

Lifelong learning through vocational training is another important contributor to ensuring the growth and retention of talented staff. Data show that training and personal development programmes are important elements in maintaining and boosting productivity, as well as retaining employees. The word 'lifelong' is used advisedly: vocational training is arguably just one aspect of a broader way of bridging skills shortages – namely, by encouraging older staff to stay on longer if they wish, as well as other initiatives to foster a more inclusive work environment.

FOSTERING A MORE INCLUSIVE WORK ENVIRONMENT

Internationally, governments are facing growing financial pressure on state pension schemes and are already pushing back statutory retirement ages to reflect improved medical care and longer life expectancy. Exploiting the willingness – sometimes enthusiasm – of older staff to stay on beyond 60, 62 or even 65 is an important element in boosting productivity and addressing skills shortages. Leveraging older workers is all the more astute given the one vital component – lifelong experience – they so obviously provide. Clearly, no worker should be compelled to toil longer than legally required. And working times and practices should be

adapted to reflect the different requirements of older staff. But their experience should be leveraged, and their abilities cherished and not left to waste.

Encouraging older workers to stay on is not the only way of raising the proportion of people who wish to be in the labour force. Measures could also be taken to encourage women and other groups, such as ethnic minorities, that can sometimes face difficulties entering the labour market to find jobs. More contentious politically, is to encourage higher birth rates. However, the benefit here, while potentially many years down the line, would have the shorter-term effect of taking more women out of the workforce.

Yet more sensitive politically – but arguably even more valuable in addressing labour and skills shortages – is promoting geographical mobility and steered immigration. Much of Asia, with relatively young and increasingly well-educated populations, or many countries of northern Africa, with their often remarkably youthful demographic profiles, face restrictions on mobility to the more developed world. Some industrialised states have devised elaborate schemes to promote selective immigration for those with specific talents like engineering or IT. But elsewhere, immigration remains a political minefield, with policymakers reluctant to act for fear of kindling xenophobia or boosting populist rivals, in spite of local companies' entreaties for qualified labour, irrespective of origin.

IMAGE ALSO COUNTS: BUILDING JOB APPEAL

Finally, efforts should be made to revalue and upgrade the standing of technical jobs and professions. Image-boosting campaigns are conceivable: former UK Prime Minister Tony Blair once attempted much the same for teachers, with some success. The measures could include improving pay and conditions for those already in such professions, as well as stimulating young people's interest in fields like engineering and science where skills shortages are most acute.

Pay and conditions, of course, are up to individual companies, and their actions will be conditioned largely by their respective competitive environments. But efforts to boost STEM skills among youngsters are already well under way. In one of hundreds of examples, ABB, the Swiss electrical engineering group, recently donated US\$1 million to a leading US children's museum based near its North Carolina regional headquarters. The gift was to create Kid Grid, an interactive display designed to stimulate even the youngest children's interest and awareness of electricity and science in general. The opening came just days after US President Barack Obama hosted his fourth White House Science Fair – one of many international efforts to boost STEM education.

In sum, there is no single remedy, but a range of measures to address talent and skills issues. As a recent Boston Consulting Group paper, focused primarily on potential labour shortages, noted, "Clearly, there is no one solution [...] each situation calls for a focused set of interventions. Many cases will require activating a combination of levers."⁵

OTHER FACTORS

The worldwide skills shortage – or, more precisely, mismatch – is only one of a number of overriding trends defining how the world of work is changing, what this means for policymakers and the role of providers of human resources solutions in coping with ever-faster transition.

For our grandparents, probably even our parents, a job was a job for life. Japan's 'salaryman' may have become a cliché, but the employee of the big corporation, offering loyalty in return for a secure, long-term position, was stereotypical of much of the developed world.

That world, as we know, has changed beyond recognition. Global economic, demographic and social factors have had massive repercussions on people in work, whether in mature economies or fast-industrialising countries. But if there is one common thread, virtually irrespective of location, it is that employment has become far less predictable, and that mobility and flexibility – for both employer and employee – have gained importance. Greater flexibility has made individuals more employable, and companies more competitive. Greater mobility has increased options – particularly vital amid spiralling skills shortages – but also highlighted barriers to open markets.

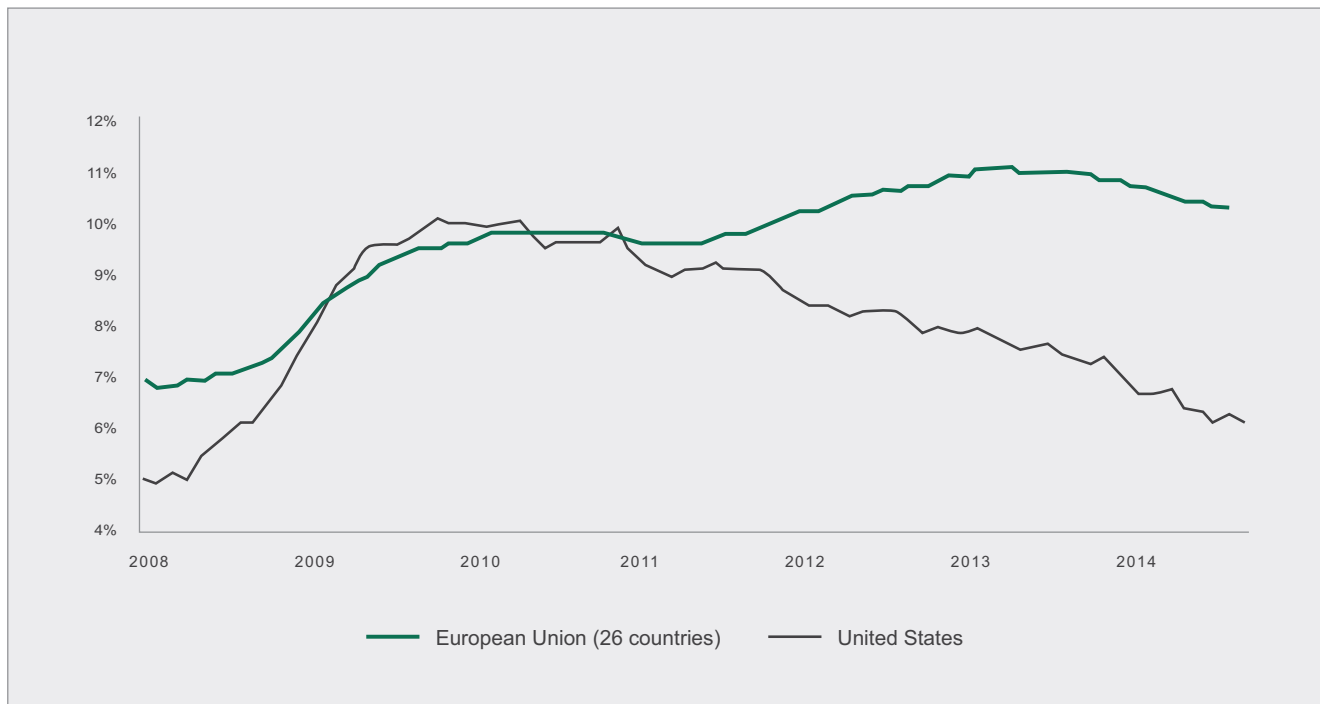
LESSONS ON FLEXIBILITY FROM THE US

In the US, the unemployment issue has actually been somewhat mitigated. Compared with Europe, the economy is recovering – albeit gradually – from the financial crisis, whereas unemployment in Europe may only just have passed its peak (see Figure 2). America's 'return' has been boosted by greater flexibility, lower average salaries and significantly longer working periods than in Europe, boosting competitiveness compared with lower-cost rivals. And, more recently, what can only be described as the shale gas 'revolution', has reinforced US manufacturing competitiveness.

All these factors have been reflected in significant changes in hiring practices, with profound consequences for the labour market. US companies have often been trendsetters in this arena. Many quickly grasped the value of flexibility in remaining competitive – in other words, the ability to adjust workforces relatively quickly to adapt to rapidly changing market circumstances. While years ago, all employees may have been permanent, the mix today between permanent and temporary labour – used to tackle periods of higher demand – has shifted radically. Economic data for the current US upturn strikingly demonstrates this upheaval.

Such momentous changes in labour relationships have inevitably affected popular behaviour and attitudes. Not only have former bonds between employee and employer loosened, ever more people, who may once have sought long-term company positions, have become self-employed – partly in reaction to the structural changes mentioned.

Figure 2: Diverging unemployment trends between the US and Europe



Source: US Bureau of Labor Statistics; and Eurostat

Some have gone so far as to identify generational change, referring to Generation Y or Generation Me – a new cohort of people with much more entrepreneurial, or even ‘happy-go-lucky’ attitudes to long-term labour relationships.

THE NEW PARADIGM

Behavioural changes, along with skills shortages and the structural economic shifts leading to higher unemployment, present harrowing challenges, notably in Europe. Already, some refer to a ‘lost generation’ of school-leavers, or even university graduates, facing the bleak prospect of potentially years without a fixed job.

It is here companies like Adecco, with its global network, have a bigger role to play. In 2012, nearly 36 million people worked for private employment services groups, occupying 11.5 million full-time positions. On average, that accounted for around 0.9% of the total working population.

Significantly, a relatively large proportion of such agency workers were, on average, young, with 61% under 30. The fact that only 32% had previously been in work spotlights how private employment services providers are stepping stones from education to work, and from unemployment to jobs. Some 68% of agency workers secured permanent, full-time contracts after occupying temporary positions. By contrast, just 14% returned to the dole. In total, about 22 million young people were employed as agency workers in 2012.

Private employment services providers can also work with governments, stimulating and reinforcing active labour market policies and cooperating with public sector employment agencies. One area, already established but well worth expanding, lies in using private employment services groups for training schemes to develop or upgrade skills and boost workers’ employability. Such groups are particularly well-placed given their precise knowledge of labour market needs based on close contacts with user companies.

Private sector employment services providers have unique insights into employment trends and developments. Working more closely with public employment agencies would allow speedier and more effective implementation of government policies – whether aimed at exposed groups, such as older workers, women, ethnic minorities, the disabled or the long-term unemployed, or focused on raising labour participation in general. Most recently, Adecco, with its Adecco Way to Work™ programme, joined the Nestlé Alliance for YOUTH initiative, which brings together private companies, European institutions and national governments in the fight against youth unemployment.

As the classic working relationship evolves due to global structural factors, so the importance of human resources solutions providers rises. Industry data demonstrate that countries with an above average penetration rate for private employment services providers consistently perform better and show more efficient labour markets than those with less developed or more restricted systems.

Companies like Adecco cannot, of course, resolve core policy issues like determining national education and training policies, dealing with demographics or assessing immigration, let alone stimulating growth. That is a matter for government. But we can assist in easing – for individuals and employers – the frictions and changes the vast upheavals in the world economy are forcing upon us all, helping to create new jobs and, for youngsters in particular, facilitating the move into the labour market by providing an initial taste of the world of work.

There are crucial lessons here and important actions for the future. Growing more, better and more employable talent is key. In education, we must boost both literacy and numeracy, and broader interpersonal skills. Learning, moreover, is not something that should cease at 16, 18 or 21, but a lifelong process. Energy and imagination are required to boost the image and appeal of certain types of jobs where demand most strikingly outstrips supply. And – I tread carefully here – greater thought should go to managed immigration. Finally, of course, while the role of private sector employment services providers has expanded greatly in recent years, thanks partly to broader liberalisation of national labour markets, there is much more that can be done, especially in deepening partnerships with governments to tackle employment challenges ahead.

NOTES

- ¹ OECD (2013)
- ² See Chapter 3
- ³ Adecco Group (2010)
- ⁴ In January 2014, youth unemployment in the Eurozone reached 23.4%. Germany experienced the lowest youth unemployment in the euro area, with a rate of 7.6%. For more information, see European Commission Eurostat (2014).
- ⁵ Strack, Baier, Marchingo and Sharda (2014)

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CHAPTER 3

ENHANCING EMPLOYMENT FOR WOMEN, YOUTH AND OLDER WORKERS: WHY SKILLS STRATEGIES MATTER

Shinyoung Jeon

The Organisation for Economic Cooperation and Development¹

Skills affect people's lives and the well-being of nations, and thus, skills are everybody's business.^{2,3} A high school student studying for a university entrance exam, a woman returning to the labour force after raising two children, or a retiree seeking to start a business to supplement pension income – all are concerned with how their skills can be developed and put to good use. At the same time, schools, governments, employers and a range of other actors face skills challenges. Skills matter from the perspective of the development of an individual to a policymaker's strategy of restructuring the labour market and industry, and creating more high-skills jobs.

Tackling skills mismatches and imbalances thus requires the involvement of all stakeholders. If they do not work together, inefficiencies and disagreements may arise from conflicting interests and priorities. Resources may be poorly mobilised and voices may not gather and cooperate. Policies may be disjointed, resulting in some groups winning

while others lose, leading to a continuing cycle of skills mismatches. For many member countries of the Organisation for Economic Cooperation and Development (OECD), this is the case for under-represented groups, such as women, youth and older workers. These groups, explored in the following sections, serve to highlight skills challenges facing certain OECD countries, while at the same time pointing to common and shared themes that are relevant to all economies and skills systems across the globe.

The OECD, through the OECD Skills Strategy – a global strategy to help both OECD countries and non-member countries – seeks to promote the sharing of such international experiences and to advance a whole-of-government approach. This approach is designed to lead to better skills outcomes, increased flexibility and mobility in the labour market and resiliency to face an uncertain future. Promoting such dialogue and work on policy coherence and stakeholder engagement will ultimately lead to better

skills, better jobs and better lives, based on evidence-based policymaking while promoting stronger political buy-in.⁴

For example, in Norway, stakeholder dialogue facilitated by the OECD Skills Strategy has resulted in the identification of 12 skills challenges for Norway (see Box 1).⁵ These challenges – centred around developing relevant skills, activating supply of skills, using skills effectively and enabling conditions for building an effective skills system – were specified through bringing stakeholders together and aligning their diverse priorities and perspectives. This required identifying policy trade-offs and avoiding bias to one or two specific interests that may not necessarily reflect optimal national outcomes. A national skills strategy can set an agenda for a country on how to achieve high skills equilibrium with employment and other social outcomes, all done at an appropriate pace.

In the following sections, a selection of challenges and potential policies will be explored with regard to women, youth and older workers in OECD countries. Addressing these challenges will require linking these skills issues with a range of relevant policy areas not limited to education and employment, and thus highlight the need for a wide range of stakeholders and government actors to come to the table to find appropriate solutions.

WOMEN IN THE WORKFORCE

Female labour participation rates vary across OECD countries: Turkey, Mexico, Italy, Chile and South Korea have relatively lower rates, while rates in Sweden, Switzerland, Norway, Denmark and the Netherlands are relatively higher (see Figure 1). In most OECD countries, there is general agreement on the importance of increasing

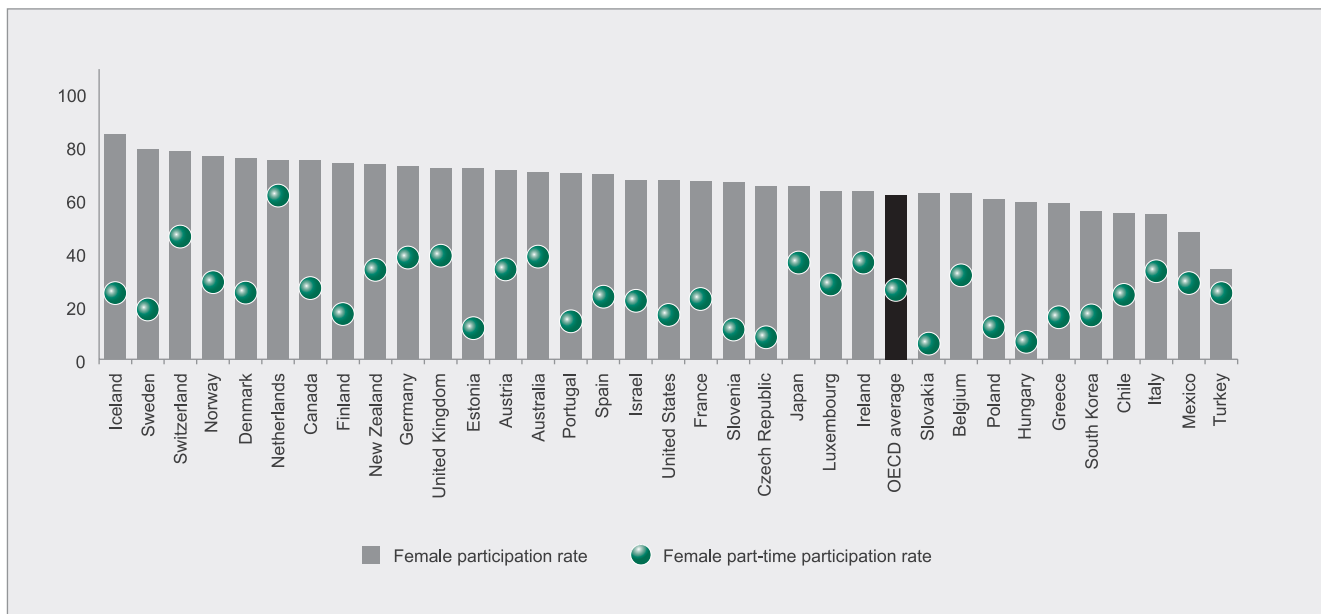
BOX 1: SKILLS CHALLENGES FOR NORWAY

Using the OECD Skills Strategy framework, Norway identified the 12 challenges listed below, which fall under the overarching theme of strengthening the skills system and the three pillars of the project: (i) developing relevant skills, (ii) activating supply of skills, and (iii) using skills effectively.

- Developing relevant skills
 1. Ensuring strong foundation skills for all
 2. Reducing drop-outs
 3. Informing educational choices
- Activating skills supply
 4. Enhancing labour market participation among those receiving disability benefits
 5. Encouraging labour market attachment among low-skilled youth
 6. Ensuring Norwegians remain active longer
- Using skills effectively
 7. Engaging employers in ensuring a highly skilled workforce
 8. Promoting entrepreneurship
 9. Enhancing the use of migrant worker skills
- Strengthening Norway's skills system
 10. Facilitating a whole-of-government approach to skills
 11. Ensuring local flexibility and adaptability for nationally designed policies
 12. Building partnerships at the local and national level to improve implementation

Source: OECD, 2014a

Figure 1: Women's labour market participation rates, % in 2013 (15- to 64-year-olds)



Source: OECD, Labour Force Statistics 2014 database⁸

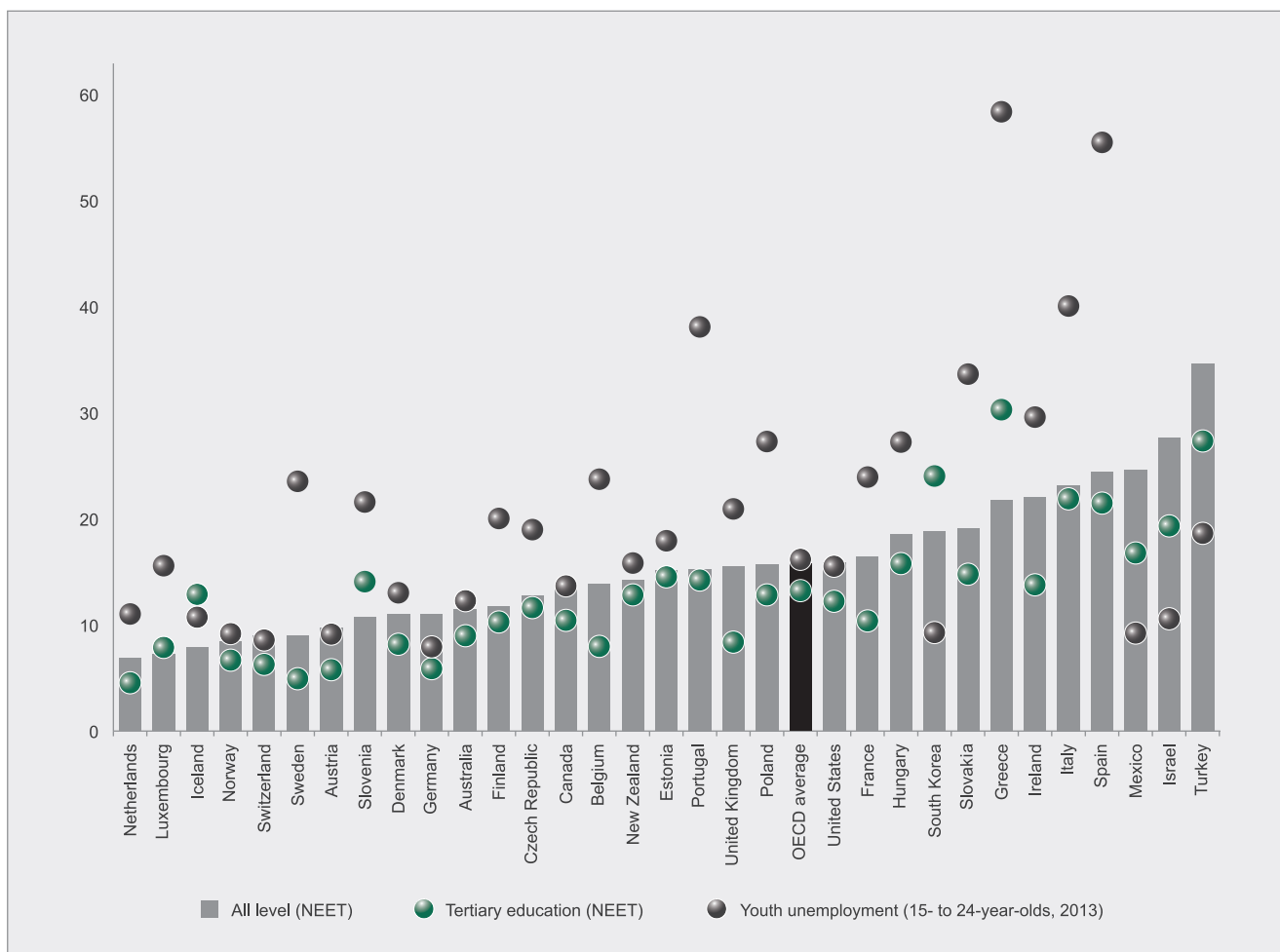
female labour force participation and employment rates for a strong and balanced economy. This has been well documented, for example, in *Empowering the Third Billion*, which suggests “raising female employment to male levels could have a direct impact on GDP”.⁶ In OECD countries such as Denmark, France, Germany, the US and the UK, this impact ranges from 3% to 5%. In Japan, it is 9% (the impact is even larger in non-OECD countries such as South Africa and Egypt, where it amounts to 10% and 34%, respectively). Australia, Canada, Finland, France, Germany, the Netherlands and Norway are typically top performers with a strong set of input policies and output success.⁷

The rise of women's participation in the labour market and employment over the past few decades has been due in part to an increase in female educational attainment, the expansion of the service sector, an increase in part-time employment opportunities, as well as provision of childcare and maternity benefits.⁹ For countries with a shrinking working-age population such as Japan and South Korea, increasing female employment becomes even more important in order to spur growth rates and productivity. The acceleration and implementation of policies to boost female employment is therefore even more urgent and necessary. However, in Japan and South Korea, a rigid work schedule and long working hours, combined with limited availability of affordable, high-quality childcare options, force women to choose between their career and motherhood.¹⁰ In *The Economist's* index for women and work, or the “glass-ceiling index”, South Korea ranks at the bottom of 27 OECD countries, just behind Japan.¹¹

There are a variety of reasons why female labour participation and employment rates remain low in some OECD countries; these range from low levels of education, traditional social constraints, family policies including underdeveloped child- and senior-care institutions and a lack of flexible work arrangements.¹² In Turkey, 78% of the female working-age population have less than high school education.¹³ Social constraints can include traditional attitudes, such as “women should be prepared to cut down on paid work for the sake of the family”, a statement that 63% of mothers and 57% of fathers with children under 15 in Switzerland agree with. Similar results were also found in Israel, Portugal, Germany, Poland and Hungary.¹⁴ Such attitudes are ultimately self-reinforcing, whereby “obstacles to female employment arise from both policies and social norms, which are themselves influenced by policies”.¹⁵

So have countries with high or increasing female employment rates solved the problem? The story is not always so simple. In Switzerland, a country with a high and rising female employment rate (78%, the third-highest in the OECD in 2013), gains are being offset by a high incidence of part-time work; 46% of women in Switzerland work part-time, second only to the Netherlands at 61%, and well above the OECD average of 26% (see Figure 1). This can be explained not only by personal choice, but also structural factors that limit their participation in the workforce, including a lack of all-day childcare and out-of-school-hours care, and the most expensive unsubsidised care in the OECD, as well as burdensome marginal income tax rates for second earners. This is compounded by a persistent wage gap of about 7%

Figure 2: Share of youth neither in employment nor in education or training, % in 2011 (15- to 29-year-olds)



Source: 2013 Education at a Glance; 2014 OECD Employment Outlook²¹

in favour of men, and a lack of women managers (only 33% of senior management; 29% for the Netherlands). Taken together, these are formidable disincentives for women to offer their skills to the labour market.¹⁶

However, at the other end of spectrum where the incidence of part-time work is low, such as in Hungary, Poland, Portugal, Greece and South Korea, part-time work can be promoted to boost overall female participation. Yet, it is important to consider the quality of such part-time jobs. In those countries where an informal economy or labour market dualism is present, part-time jobs, especially for women, tend to lack employment protection in terms of wages, working hours, leave or training.

Decisions to increase female labour market participation, and implementation of those moves, need to be taken in association with relevant stakeholders. These stakeholders include public agencies supporting gender equality, tax agencies devising tax codes that increase maternity benefits and reduce motherhood penalties, research institutions

providing evidence-based advice on the effect of policy on women, employers promoting female employment, and women’s associations addressing women’s issues.

For example, in Denmark, Sweden, Hungary and Australia, 50% to 70% of six- to 11-year-olds benefit from out-of-school-hours care. Nordic countries, Australia, the Netherlands and the UK promote family-friendly, flexible working hours, part-time options for mothers returning to work, and incentives to provide workplace care facilities for the children of employees.¹⁷

SCHOOL-TO-WORK TRANSITION FOR YOUTH

If a young person graduates from high school, college or university and finds that he or she is unable to enter the workforce, then something is out of balance. Perhaps the student chose poorly when it came to picking a field of study, based on poor or outdated information from parents, education providers and government. Perhaps the courses he or she studied in school had little real-world applicability,

and did not give him or her the actual skills necessary to compete in the labour market. Or maybe their skills are in high demand, but the recent graduate is surrounded by peers with similar qualifications and the market is over-saturated.

Despite rising levels and quality of education, the school-to-work transition continues to pose challenges, exemplified by youth that are neither employed nor in education or training (NEET). At all levels of education, Turkey, Israel, Mexico and Spain had the highest rates of NEET, while at the tertiary education level, Greece, Turkey, South Korea and Spain had some of the highest rates in 2011.¹⁸ Greece, Spain, Italy and Portugal had worryingly high rates of youth unemployment in 2013.¹⁹ The longer youth stay in the NEET category, the higher the loss of skills and opportunities to build further skills as well as earnings for individuals, and the higher the loss of human capital and tax revenues for the economy.²⁰

A failed school-to-work transition represents a failure of the skills system. Choosing a relevant field of study and gaining work experience are the main indicators for employability of graduates as indicated by employers.²² Better skills matches can be promoted through well-disseminated labour market information and effective public employment services. Government and trade unions can also help employers to hire youth and make better use of their employees' skills, in addition to addressing low levels of foundation skills, and a variety of skills mismatches.

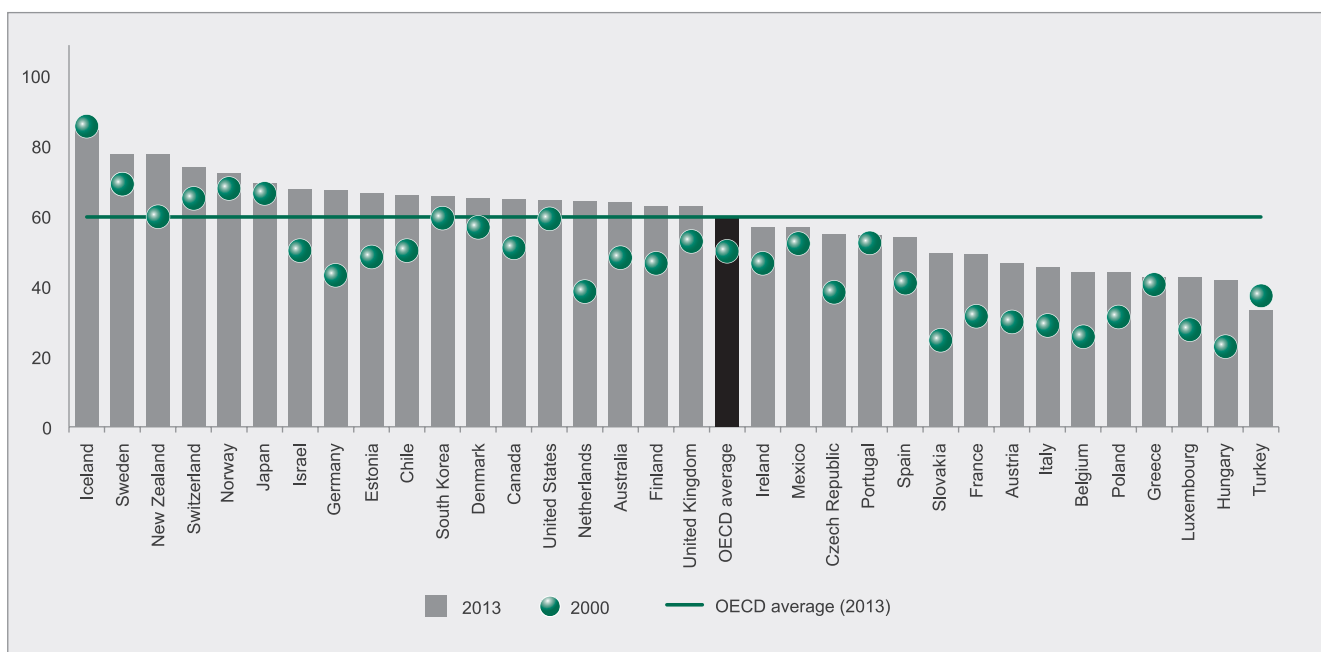
For countries such as South Korea, it is necessary to foster active labour market policies, for example, by

ensuring remedial education pathways and mobility between different education tracks and career paths. Moreover, active employer engagement in hiring and training youth is crucial, not only through individual efforts by firms but also through collective and sectoral efforts. Such efforts can include sector skills councils, which are often employer-led and consist of industrial associations, representative businesses, and relevant research and training institutions.²³ Employers are the most effective player in youth employment through the promotion of on-the-job training or apprenticeship programmes. In countries with strong work-based training or apprenticeship systems, such as Germany, about three-quarters of school-leavers succeed in integrating into the labour market; in contrast, in Italy and Spain, more than a third of young people end up unemployed or inactive.²⁴

The vocational education and training system, general track schools and higher education can all help to ensure better skills matches through extensive use of traineeships, apprenticeships and career management education. This can be facilitated by incentivising employers to promote work-based training for young people and hiring apprentices or interns; methods may include direct subsidies, tax breaks, or levies such as the training cost deductions used in Austria²⁵ and the Netherlands,²⁶ or a cost subsidy to non-training firms as in Switzerland.²⁷

In order to increase the responsiveness of the education system to the needs of the labour market, teachers and schools can collaborate with local employers, employer's associations or sector skills councils. Education institutions should continuously communicate what qualifications and

Figure 3: Labour force participation rates among older population, % in 2013 (55- to 64-year-olds)



Source: 2014 OECD Employment Outlook³⁵

skills are currently in demand and what are the market requirements. Instruments such as the Job Card System in Japan,²⁸ the European Skills Passport,²⁹ the Unique Student Identifier in Australia,³⁰ or a personal education number (*Onderwijsnummer*) in the Netherlands³¹ are helpful for connecting acquired skills to jobs, increasing mobility and reducing school drop-out.

ACTIVATING THE SKILLS OF OLDER WORKERS

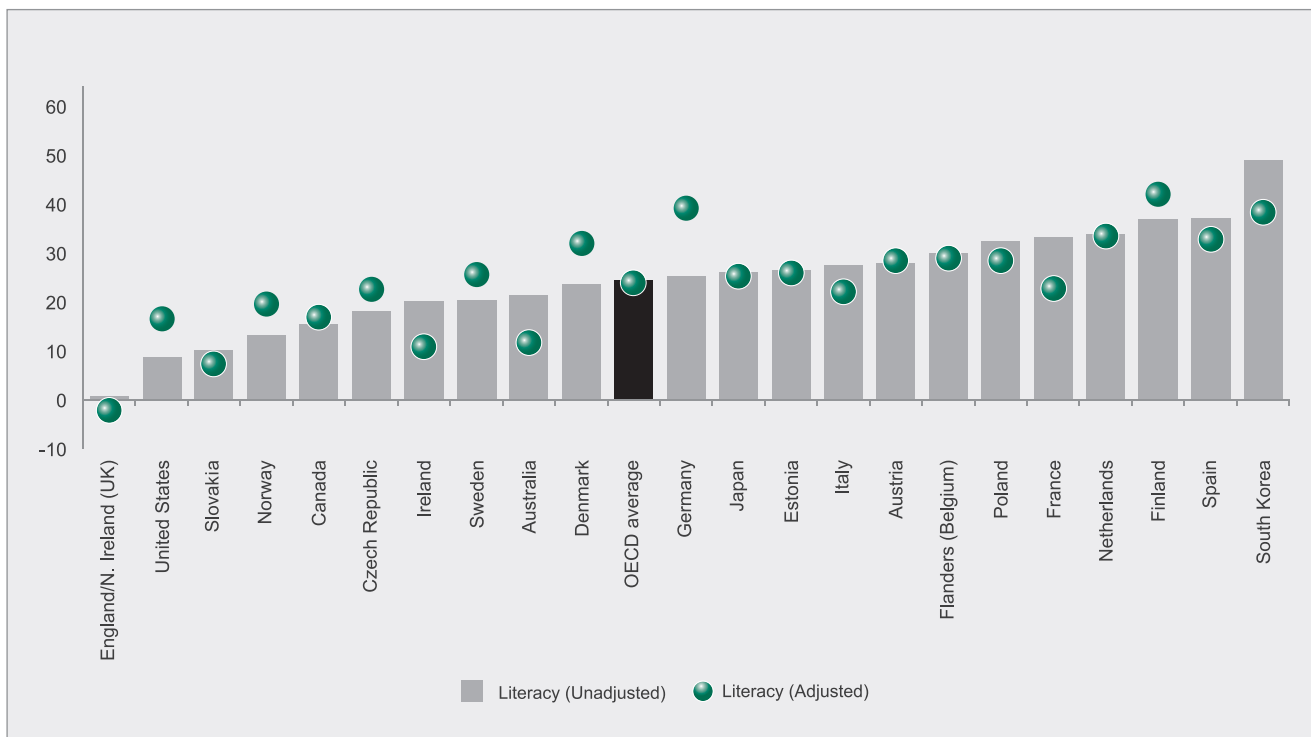
In many countries, older workers find themselves staying in, or returning to the workforce. This may mean starting a small business with savings earned over a lifetime of work, doing part-time work to supplement a pension, or simply putting off retirement until later than originally planned.

The labour force participation rates among older workers (55- to 64-year-olds) in OECD countries ranged from 33% to 84% in 2013, with an average of 60% – 10 percentage points higher than it was in the year 2000 (see Figure 3). The level of labour market participation and employment rates among seniors can raise serious socioeconomic issues, depending on factors such as the dependency ratio, poverty rates among seniors, effectiveness of pension systems or health-care systems, and tax revenues.³²

In the case of South Korea, a country with one of the highest OECD rates (66%) of labour participation for older workers, a comparatively high elderly employment rate reflects a high elderly poverty rate and a lack of pension benefits. A seniority-based wage system impedes their skills development, leading to forced early retirement and one of the highest rates of self-employment as a share of total employment (28% in 2011; the OECD average was 16% in 2010). In the absence of a well-developed pension system in South Korea, the share of work as a source of income for those over 65 is the highest among OECD countries at 63%.³³

Austria on the other hand, has one of the lowest OECD rates (30%) of labour participation for older workers. This stems from low incentives to remain in the labour market as a result of the country’s generous pensions and a tax-benefit system that discourages working additional years. Half of the old unemployed aged 55 to 64 are long-term unemployed.³⁴ Unemployed people in this age group face a high risk of staying out of employment, as indicated by their hiring rate at 4.7% of employees, lower than the OECD average of 5.9% in 2013.

Figure 4: Age differences in literacy proficiency (mean literacy score by age group: 16- to 24-year-olds minus 55- to 65-year-olds)



Notes: Adjusted differences take account of differences associated with other factors: gender, education, immigration and language background, socioeconomic background and type of occupation.
Source: OECD, 2013a

An important factor determining older worker employment is skills. The results of the Survey of Adult Skills,³⁶ shown in Figure 4, indicate that literacy proficiency of older adults is much lower than that of young adults. This is particularly pronounced in South Korea, Spain, Finland and the Netherlands, with a 30- to 50-point gap in mean literacy scores in the survey. Participation rates among older workers are lower for those who are not highly educated. Lifelong learning is thus crucial for older workers, especially when the levels of skills and education of older workers are significantly lower than those of other segments of the population. This situation can affect the use of skills among older workers, and hence their employability, unless efforts are made to encourage participation in lifelong learning. One example of such an effort is the *Noste* programme implemented in Finland between 2003 and 2009.³⁷

Given ageing populations and increasing life expectancies, countries will benefit from people staying in the workforce longer through increased tax revenues and less stress on overburdened pension systems. The elimination of early-retirement schemes, an increased official pensionable age and the correction of distorted financial incentives to retire early are helpful if implemented properly. For example, the Netherlands has been rewarding older workers with a 24% increase in pension wealth for each additional year's work, since the abolishment of early-retirement programmes.³⁸

BUILDING AN EFFECTIVE SKILLS STRATEGY

Across these three groups, none of the challenges identified exist in isolation. More women in the workforce may mean tackling issues with the childcare system. Getting

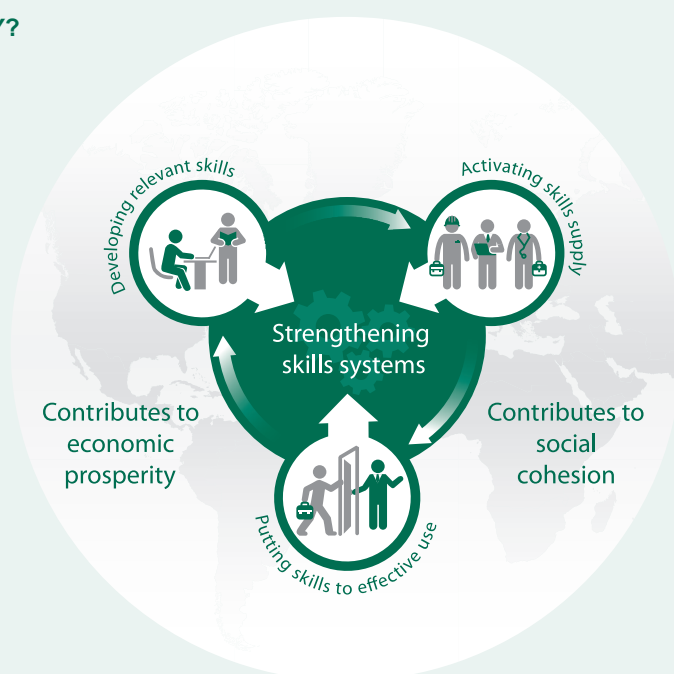
BOX 2: WHAT IS THE OECD SKILLS STRATEGY?

The OECD Skills Strategy was launched at the 2012 OECD Ministerial Council Meeting. This project aims to provide a strategic assessment of the current national skills systems not limited to OECD countries. As of September 2014, the OECD has been collaborating with Norway,⁴⁰ Austria,⁴¹ South Korea,⁴² Portugal and Spain on building effective skills strategies at national and local levels. The Strategy promotes a whole-of-government approach, where dialogue across ministerial portfolios is essential.

The approach of the OECD Skills Strategy is: developing, activating and using skills to boost the level of skills, employment and economic growth, while promoting social inclusion and participation.

The project has two phases. During the initial 'diagnostic phase', the main goal is to build a shared understanding and engage a range of ministries and stakeholders in a strategic assessment of the challenges facing a country's skills system. This serves as a basis for the 'action phase' aimed at developing effective skills strategies to support longer-term economic and social development.

Each project is tailor-made to the specific country context and designed in close collaboration with an inter-ministerial project team. Interactive workshops with government authorities and stakeholders are a key feature, and allow participants to benefit from OECD's comparative data and analysis on skills challenges, as well as engage with a diverse range of perspectives including those from government officials, local authorities, employers, trade unions, training providers and student associations.



youth into good jobs could require employers to drastically rethink how they cooperate with schools. Older workers continuing to use their skills and staying in the labour force can have knock-on effects on the tax and pension systems.

To tackle such challenges in a holistic manner, the OECD Skills Strategy (see Box 2) starts by identifying challenges and priorities according to what a country aims to achieve for its economy, society and individual citizens (see Box 1). These challenges are identified based on the understanding that purposeful policies, designed to set up more inclusive and cohesive societies, will be more successful when built on a foundation of motivated stakeholder engagement.

The steps in this process include building an inter-ministerial project team in the country, conducting interactive workshops with a broad range of stakeholders for diagnosis, discussing skills challenges, and priority-setting, which would involve establishing commitment to tackle identified and prioritised challenges, and making a plan for step-by-step action. Countries committed to applying the OECD Skills Strategy framework in practice – Norway, Austria, South Korea, Portugal and Spain – are currently undertaking this process.³⁹

Of course, policy recommendations to any country are only useful when the country implements them with the consensus of and support from stakeholders, and the consideration of actual economic and social context, policy priority, consistency and coherence, and policy interlinkages.

Countries can learn from each other through sharing their experiences, practices and responses; especially between countries located on opposite ends of the skills spectrum and practices. For example, Norway has one of the highest rates of public spending on education, whereas South Korea tops the charts in terms of private spending. South Korea worries about a centralised approach to its skills system, silos among ministries and departments, and rare public engagement opportunities, while some Nordic countries worry about the inefficiency of coordination processes and how that leads to some stakeholders not taking responsibility or ownership for systemic challenges. The one thing that all countries share, however, is that the level of political commitment and stakeholder engagement determines the impact that a project such as the OECD Skills Strategy can have on national and local skills systems.

NOTES

- ¹ Shinyoung Jeon is Policy Analyst at the OECD Directorate for Education and Skills. The analyses given and the opinions expressed in this chapter are those of the author and do not necessarily reflect the official views of the OECD or of the governments of its member countries. The author appreciates all comments from the editors, Deborah Roseveare (Head of the Skills Beyond School Division in the Directorate for Education and Skills at the OECD), Joanne Caddy (Senior Policy Analyst, OECD Skills Strategy team), and Paul Swaim (Senior Economist, Directorate for Employment, Labour and Social Affairs).
- ² The 2012 OECD Ministerial Council Meeting (23–24 May 2012) encouraged further investment in skills, and better matching of skill supply and demand for inclusive growth and jobs, as better skills transform into better jobs, contributing to economic growth and social inclusion. Similarly, the 2014 OECD Ministerial Council Meeting (6–7 May 2014) “Resilient Economies and Inclusive Societies – Empowering People for Jobs and Growth” also addressed the importance of skills: relevant skills, a better match between available skills and those needed in the labour market, and an effective skills system empower people and provide resiliency and flexibility to countries in the face of economic uncertainty.
- ³ OECD (2012a)
- ⁴ OECD (2012a)
- ⁵ OECD (2014a)
- ⁶ Aguirre, Hoteit, Rupp, and Sabbagh (2012)
- ⁷ Aguirre, Hoteit, Rupp, and Sabbagh (2012)
- ⁸ OECD (2014i)
- ⁹ Thévenon (2013)
- ¹⁰ Aguirre, Hoteit, Rupp, and Sabbagh (2012); and OECD (2014c, forthcoming)
- ¹¹ See Economist 8 March 2014 “the glass-ceiling index”
- ¹² Boulhol (2014)
- ¹³ OECD (2014f)
- ¹⁴ OECD (2012b and 2013b)
- ¹⁵ Boulhol (2014)
- ¹⁶ OECD (2013b)
- ¹⁷ OECD (2011)
- ¹⁸ It should be noted that South Korea’s NEET statistics are somewhat controversial. The Ministry of Employment and Labour claims that they are overstated because some of the youth classified as NEET are in fact attending an educational institution for the purpose of entering a college or a university, and finding work or preparing for employment. This type of informal education is particularly common among youth with a tertiary degree. The Ministry estimates that a corrected NEET rate for this group would be about 15%, rather than the stated 24% in 2011 and 16% in 2012 (OECD, 2014c, forthcoming; a note from South Korea’s Ministry of Employment and Labour).
- ¹⁹ OECD (2014i)
- ²⁰ OECD (2014c, forthcoming)
- ²¹ OECD (2013c and 2014i)
- ²² Humburg, van der Velden, and Verhagen (2013)
- ²³ OECD (2014c, forthcoming)
- ²⁴ Fazekas and Field (2013); and Quintini and Manfredi (2009)
- ²⁵ OECD (2014g)
- ²⁶ Stone (2010)
- ²⁷ For companies that are unable to offer apprenticeship posts due to relatively higher costs for training than those of training companies, if they were to engage in training apprentices. See Muehlemann, Schweri, Winkelmann and Wolter (2007)
- ²⁸ Ministry of Health, Labour and Welfare of Japan (2009)
- ²⁹ EUCIS-LLL (2012)
- ³⁰ Unique Student Identifier initiative for VET (Australian Government, Department of Industry)
- ³¹ De Witte, Cabus, Groot, and van den Brink (2014)
- ³² Boulhol (2014)
- ³³ OECD (2014c forthcoming)
- ³⁴ OECD (2014b forthcoming)
- ³⁵ OECD (2014i)
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CHAPTER 4

TALENT GROWTH AS AN EQUALISER: A VIEW FROM THE ICT INDUSTRY

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Cisco Systems

In 1848, Horace Mann, a champion of education in the US, wrote, “Education then, beyond all other devices of human origin, is a great equaliser of the conditions of men – the balance wheel of the social machinery.”¹ Today in the early 21st century, we see Internet connectivity in much the same light, drawing together nearly three billion people into a global community to facilitate the exchange of ideas, resources and wealth.

However, even as Internet Protocol (IP) networks spread connectivity across the world, aided in part by the advance of mobile telephony, its march and the intensity of Internet use is hampered by a major constraint: a pervasive and worldwide shortage of skilled IP networking professionals measured in the hundreds of thousands, and forecasted to grow to at least 1.2 million by 2015, as we demonstrate below. As part of the broader information and communications technology (ICT) skills gap, the shortfall in qualified networking professionals persists even as high

unemployment levels continue in many parts of the world, particularly among young adult populations.

This chapter first details the gap between the demand for talent in IP networking roles and the supply of qualified employees. The second section explores the demand drivers and the impact of the IP skills shortage. The chapter then concludes by identifying specific policies and programmes that governments, businesses and civil society can implement to close the skills gap and fully benefit from the power of the Internet.

SKILLS GAPS IN NETWORKING AND BEYOND

Networking technology is at the heart of the Internet, connecting devices and local networks with the global public Internet. Planning, designing, building, managing and supporting IP networks all require dedicated networking skills. In order to systematically analyse the supply of,

and demand for, networking skills, Cisco partnered with the research firm IDC, to analyse the networking talent pool of 29 emerging market countries, across Asia Pacific, South America, Russia-CIS and Middle East/Turkey/North Africa regions.² The analysis measured the demand and supply of full-time equivalents (FTEs) in IP networking, defined as ICT professionals spending 100% of their time working with networking technologies.

The common trend across all regions in the analysis is that demand for employees skilled in IP networking far exceeds the available supply. This unfulfilled demand, measured in FTEs, exists today and is forecasted to grow over a three-year period in all regions. While the growth in the shortage of networking FTEs is highest in Russia-CIS (21% compound annual growth rate, CAGR, over 2012 to 2015) and the Middle East/Turkey/North Africa region (28% CAGR), those regions had a smaller absolute FTE gap in 2012 and are starting from a smaller base. At the aggregate level, based on the 29 countries in the sample, we see unfulfilled demand in networking FTEs rising from 762,523 FTEs in 2012 to 1,211,783 FTEs by 2015. Table 1 highlights summary level results by region (see Annex for detailed methodology and results).

The analysis highlights pervasive shortages, today and into the future, of various types of networking skills across all the countries and regions covered. Shortages exist for employees with both 'essential networking skills', comprising core networking (routing and switching) including network security, IP telephony and wireless networking; and 'emerging networking technology skills' related to specific technologies such as unified communications, video traffic, cloud computing, mobility, data centres and virtualisation. While essential networking roles comprise the majority of all FTEs demanded across the whole sample (67% in 2012; 62% in 2015), demand for personnel to fill emerging networking positions is on the rise as these new IP technologies spread (2012 to 2015 CAGR of 19% compared to 9% for essential networking positions).

At the country level, various differences appear in the growth of unfulfilled demand in networking skills, as well as in the level of unfulfilled demand measured as a share of total (filled and unfilled) demand. As illustrated in Figure 1, there are several countries where unfulfilled demand for networking skills is growing at very fast rates, such as in Kazakhstan, Turkey, Ukraine and Egypt (with 2012 CAGRs of 42%, 40%, 37% and 34%, respectively). Saudi Arabia appears as an outlier with the highest forecasted gap in unfulfilled demand for FTEs at 78% of total demand. The most advanced economies in the sample – Australia, South Korea, Taiwan and Hong Kong – all cluster together and exhibit both some of the lowest forecasted gaps for 2015 and the slowest growth over the period.

This problem extends beyond networking. Similar gaps and mismatches can be found in the broader ICT industry, sectors driven by science, technology, engineering and mathematics (STEM) skills, and the general economy as a whole. For example, in the US from 2005 to 2012, three to four times more job openings appeared for STEM related positions than for non-STEM roles.³ Cisco estimates that in 2014, there will be a shortage of more than one million information security (including networking professionals worldwide).⁴ In Europe, the 'e-skills' gap in 2011 was approximately 255,000 individuals, forecasted to rise to nearly 375,000 in 2015 based on a cautious GDP growth estimate, or 864,000 if the continent experiences stronger economic growth.⁵ The Global Talent Competitiveness Index 2013 report highlights that in the next two decades, there is a potential shortage of nearly 40 million 'high-talent' individuals across the globe, which amounts to an unfulfilled demand of 13% for such workers.⁶

RISING DEMAND FOR NETWORKING PROFESSIONALS

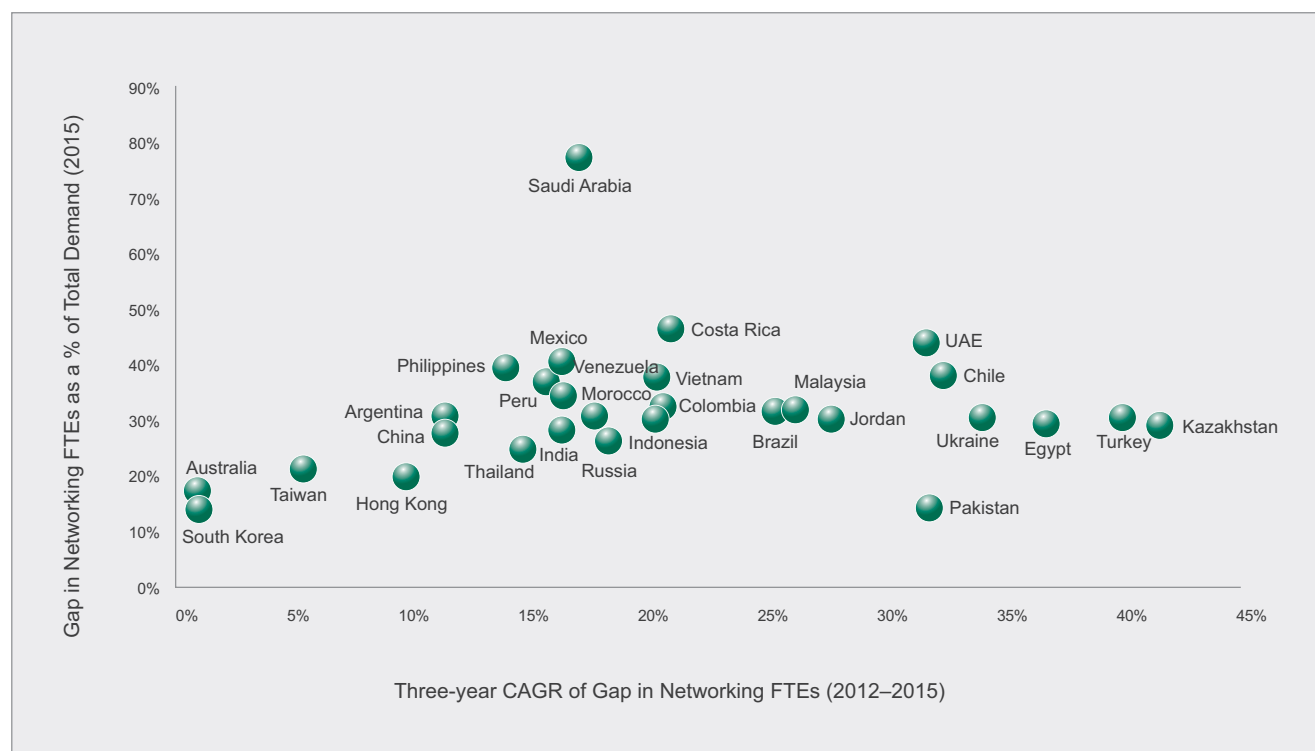
A number of factors appear to impact demand for networking employees. While identifying the causal drivers of the gaps through statistical analysis is beyond the scope of this chapter, some potential drivers are discussed.

Table 1: Regional comparisons of networking employment gaps

Gap in the Number of Full-time Equivalent Employees Needed in Networking Positions	2012	2015	CAGR
Latin America	174,866	296,163	19%
Russia-CIS	60,949	107,390	21%
Middle East/Turkey/North Africa	47,945	102,108	28%
Asia Pacific	478,763	706,122	14%

Source: Lee (2013); Adam (2013); Adducci et al (2013); Kroa et al (2013)

Figure 1: Country comparisons of networking employment gaps



Notes: CAGR – Compound Annual Growth Rate; FTEs – Full-time Equivalents
Source: Lee (2013); Adam (2013); Adducci et al (2013); Kroa et al (2013)

A relationship appears to exist between increasing Internet connectivity and the networking skills gaps, based on Internet, mobile broadband and fixed broadband penetration. By observing correlation coefficients, which measures the linear relationship between two variables, we can see that in general, the greater the Internet user base in a country, the larger the gap in networking FTEs (with a correlation coefficient of 0.55). Similar relationships to the gap exist in the cases of mobile broadband subscription (0.55) and fixed broadband subscription (0.59; see Table 2).

Increasing digitisation within economies, as well as globalisation, fuels the expansion of IP networks and the demand for networking labour. The connectivity needs of citizens, organisations, governments and businesses increase as they further integrate ICT systems into their daily lives and operations. Businesses in particular, are embracing ICTs to increase operational efficiency, reduce expenditure, increase revenue and better compete against their peers. Firms slow to adopt ICTs risk falling behind as Brynjolfsson et al (2009) demonstrate; their analysis shows that particularly in industries that are utilising ICTs intensively (such as finance and health care), higher-performing firms are pulling away from their competitors at a faster rate. They note that the “difference between being

a winner and being a lagging firm in ICT-intensive industries is very large and growing. Using technology effectively matters more now than ever before.”⁸

In addition, services enabled by ICTs – business process outsourcing, call centres, software development and systems integration, research and development, and analytics, for example – are growing rapidly, aided in part by the ability to locate these services in remote destinations far from the customer and client base because of networking and high-speed communications.⁹

Economic growth can also drive up the demand for networking professionals because of subsequent ICT investment and the talent needed to connect and manage communications networks.¹⁰ In some cases, ICT employment has even demonstrated resilience to economy-wide cycles. For example in Europe, employment in ICT grew at an annual average rate of 4.4% from 2000 to 2010, and even exhibited positive growth during the global financial crisis. Between 2008 and 2010, ICT employment growth continued at 2.65% in Europe.¹¹ It may be that during economic crises, the focus on ICT skills development is heightened, as when normal business activity resumes, the ICT employment gaps return, often to an even greater degree.¹²

Table 2: Relationships between the networking gap and Internet penetration

Correlations between Gap in Networking FTEs as a % of Total Demand and Internet Penetration	Correlation Coefficients
2012 Internet Users Penetration	0.55
2012 Mobile Broadband Subscription Penetration	0.55
2012 Fixed Broadband Subscription Penetration	0.59

Source: ITU World Telecommunications Indicators Database 2013; Lee (2013); Adam (2013); Adducci et al (2013); Kroa et al (2013); authors' calculations

THE MISSED OPPORTUNITY

Skills gaps in the ICT industry (comprising of IP networking technology, as well as other sub-categories such as software development, database design and others) reflect a shortfall in reaching potential economic output. Countries that are unable, or unwilling, to match their supply of networking FTEs with overall demand miss an opportunity to grow their economies.

Chapter 1.3 of the *Global Information Technology Report 2013: Growth and Jobs in a Hyperconnected World* articulates the mechanisms by which the ICT industry creates employment and economic activity. For example, broadband deployment leads both to short- and long-term growth due to direct labour and capital investment, as well as indirect and induced labour created by upstream suppliers and services. The total short-term employment impact has been measured at up to 2.78 additional direct, indirect and induced jobs created per employment opportunity focused on broadband network construction. The broader adoption of ICTs across an economy by consumers, enterprises and governments – termed ‘digitisation’ – is credited with providing a “US\$193 billion boost to world economic output, and created six million jobs” in 2011.^{13,14}

The employment impact of ICT is particularly acute in emerging markets where ICT-related positions tend to be compensated at rates above the country’s average wage, and have strong indirect and spillover effects. For example in India, four indirect employment opportunities were created by every new job in the ICT-enabled business processing industry.¹⁵ Similar analysis highlights that each ICT position created leads to two to three jobs in other sectors in the Philippines, and 2.4 jobs in South America. Even in developed countries such as the US, each ICT-related position leads to four additional jobs created in a local economy.¹⁶

In addition to the loss of potential employment effects, accepting a prolonged networking skills gap is a direct lost opportunity both to advance the ICT industry in a country, as well as to gain from the indirect impacts to other sectors of an economy. National competitiveness can also suffer, as it is strongly correlated with the level of development

of a country’s Internet network environment (with network readiness and country competitiveness having a correlation coefficient of 0.90).¹⁷ A prolonged shortage of networking employees may also hinder development of a country’s innovation edge, as country comparisons also show a high correlation between network readiness and innovation (with a correlation coefficient of 0.86).¹⁸

EXPANDING SUPPLY AND POLICIES TO CLOSE THE NETWORKING SKILLS GAP

Increasing the overall supply of IP networking professionals in a given economy is challenging in the very short term because the nature of specialised training requires coursework and certification. However, targeted policies and programmes can make a significant impact and grow the labour supply. The existing pool of qualified labour in any country is determined by three main factors: the number of new employees with networking skills (graduates) entering the labour force; the ease by which individuals can shift careers into networking; and immigration of new talent from other countries. Public policy and targeted training programmes can help increase these three elements of networking skills supply.

In terms of public policy, more effort needs to be put in to increase the number of trained ICT, and specifically, IP networking graduates from universities, technical colleges and technical training centres. Diminishing interest in formal ICT training, such as networking and computer science, is resulting in falling replacement rates and contributing to the growing gap in unfulfilled networking demand. In the US, the number of computer science bachelor degrees conferred has steadily fallen from a peak of 59,968 in 2004 to 38,496 in 2009.¹⁹ Education policy can target specific groups to embed interest (starting early with primary and secondary education) as well as provide employment training (university level and transitioning adults).

Integrating elements of computer science, such as basic coding logic and problem solving, as well as general Internet technologies, into general primary and secondary education curricula can help to introduce students to the basic functioning of computers, IP networking and software.

This helps to generate interest in and curiosity about these topics at an early age.²⁰ However, many schools do not place the same value in computer science training as other basic courses. While technical ICT training, including computer science coursework, may be present in curricula, particularly at the high-school level, often the courses are presented as electives and do not count towards graduation requirements. Proactive education policies include allowing students to fulfil graduation credit requirements with ICT and computer science courses, or even mandating basic ICT training as part of a science or maths requirement, ensuring sufficient ICT training opportunities exist for teachers, and supporting development and implementation of higher-level ICT placement courses such as those in the Advanced Placement and International Baccalaureate programmes. Organisations such as the STEMconnector and Computing in the Core are proactively advocating for policy change and legislation that will ensure greater support for ICT training.²¹

Public policy on immigration also impacts the immediate supply of skilled networking employees. Strict limits on the number of temporary and immigrant visas that can be issued for skilled labourers can impede the ability to satisfy unfulfilled demand. In the US for example, applications for H1-B visas (reserved for workers in high-skilled fields including ICT and networking) reached the outlined limit within a week after the application process opened.²² Similarly in Saudi Arabia, the large unfulfilled demand for employees with networking skills is partly a result of strict visa regulations that exacerbate the

difficulties that businesses face in finding employees with technical skills and the ability to understand and communicate in English.²³ Some countries have even implemented visa programmes specifically targeted at technology workers and entrepreneurs such as Canada's Entrepreneur Start-Up Visa (being marketed to frustrated H1-B visa holders in the technology hubs in the US), Chile's Start-Up Chile programme and the EU Blue Card programme focused on attracting high-skilled workers to alleviate Europe's growing digital skills gap.²⁴

Tailored training programmes can also accelerate the number of skilled networking employees joining the labour force. Direct training programmes are often administered through government agencies, academia or through public-private partnerships (PPPs). These programmes can help target young people as well as support transitioning adults with technical skills to embark on new career paths. One such example of this approach is the Joining Forces IT Training and Certification Program. This partnership between the US government and ICT industry companies²⁵ focuses on equipping transitioning military service members with technical training to prepare them for industry ICT certifications, so they can find employment after their military careers. Another PPP involving the US government, the US Technical Training Institute (USTTI) has been providing in-depth technical training in ICT to in-career individuals around the world since 1982 (see box below). Similarly, Raja et al. (2013) detail a number of PPP ICT training programmes

USTTI: A MODEL FOR GLOBAL COMMUNICATIONS TRAINING

In 1982, US ambassador Michael R. Gardner launched a unique PPP initiative to “provide tuition-free training to developing country officials and entrepreneurs who build, regulate and maintain the communications infrastructures” of their countries. Structured as a not-for-profit entity, the programme was dubbed the US Telecommunications Training Institute, or USTTI, and continues to be supported today through funding and staff time contributions from various US government agencies and corporate members.

The programme offers tuition-free training in 84 courses, including Internet technology, cybersecurity, emergency communications, spectrum management, rural connectivity, and satellite applications, among others. In the first training year (1983), 134 graduates came from 62 developing countries for training in 13 courses. Over the 32-year history of the programme, over 1,940 courses have been taught, to 9,076 participants from 171 different developing countries.

Students are selected for their potential to apply the learned lessons in their home country context. One concrete example of the programme's overall contribution to shaping international telecommunications policy is that of the participants in two major global treaty conferences in 2012 (the World Radio Congress, WRC-12, and the World Conference on International Telecommunications, WCIT-12) at least 42 country delegations were either chaired or vice-chaired by USTTI graduates. The shared background, experience and knowledge obtained through the USTTI programme helps to provide a common understanding and platform to better reach global consensus and cooperation on the future of international communications regulation.

Source: USTTI

established between government and industry across a range of emerging economies, including Egypt's EDUEgypt, India's National Skill Development Corporation of India and Mexico's MexicoFirst. Each of these emphasise ICT training and certification, and are delivered in partnership with government and/or non-profit partners.²⁶

Another approach is through corporate programmes whereby businesses offer direct apprenticeships or training and share technical know-how through coursework. One example is Cisco's Networking Academy programme, which prepares students for entry-level ICT jobs through the PPP model. To date, over five million students have been trained in elements of networking technology and there are approximately one million students annually studying in over nine thousand academies across 170 countries. Monitoring and evaluation of the programme, based on surveys of over 36,000 Networking Academy graduates (who have completed at least four courses) worldwide indicates that 92% of students obtained a new job and/or further educational opportunity following their graduation from the Networking Academy coursework. Using industry standard methods indicates that upwards of 1.2 million Network Academy students between 2005 and 2013 have gained new employment because of the Networking Academy programme.²⁷

Other programmes focus on mentoring students to provide opportunities to experience and learn about careers in technology-related fields. One such programme, US2020, aims to match one million STEM mentors with students at youth-serving non-profit organisations. The goal of US2020 is to increase access and awareness of STEM skills and careers among girls, under-represented minorities and low-income children. Another programme, Girls Who Code, involves summer training for girls in high school centred on project-based computer science education with real-world tech industry exposure. Conveyed in an intensive daily summer session working with female mentors, the teenage girls are exposed to a wide range of ICT applications, including mobile application development, robotic programming and front-end web design. The scheme allows the young women to observe how computer science is utilised in different workplaces through field trips to start-ups and interviews with employees.

CONCLUSION

In 1848, Horace Mann spoke of the equalising power of education. Today, we see that it is the Internet, and skills training in IP networking technology, that can help further disseminate the opportunities provided by ICTs.

As our research demonstrates, unfulfilled demand for IP networking skills exists across the world, and specifically in the 29 emerging countries we examined. This is in line with other analysis pointing to existing ICT skills gaps and the shortfall in STEM-related training. Unfortunately, these gaps are only expected to grow in the near future, driven in part by economic growth, increasing connectivity, greater digitisation of our economies and the trend towards globalisation.

The presence of this IP networking gap highlights a missed opportunity for countries, as it indicates a shortfall in reaching potential economic growth, employment and social development. But the gaps are manageable. Filling them and increasing the supply of qualified networking talent requires dedicated public policy, specific training programmes, and public participation on the part of governments, citizens and private enterprise.

ANNEX: MEASURING THE NETWORKING SKILLS GAP

In 2012 and 2013, IDC and Cisco partnered on a research project to measure the IP networking skills gap in 29 countries across four geographic regions. By applying IDC's Networking Skills Model analysis, the research identified the demand for full-time employment in networking, as well as the existing supply of networking talent, in 2012 out to 2015. Networking was segmented into 'essential networking skills', which comprises core networking, including network security, IP telephony and wireless networking; and 'emerging networking technology skills', related to specific technologies such as unified communications, video traffic, cloud computing, mobility, data centres and virtualisation.

The country markets analysed were, in South America: Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru and Venezuela; Russia-CIS: Russia, Ukraine and Kazakhstan; Middle East/Turkey/North Africa: Egypt, Jordan, Morocco, Pakistan, Saudi Arabia, Turkey and the United Arab Emirates; and Asia Pacific: China, South Korea, Australia, India, Indonesia, Philippines, Taiwan, Thailand and Vietnam.

SOUTH AMERICA

		2011	2012	2013	2014	2015	5-year CAGR
Essential Networking	Demand	356,957	393,767	432,591	474,589	520,813	9.9%
	Supply FTE	280,186	301,809	328,891	356,573	391,706	8.7%
	Gap FTE	76,772	91,958	103,700	118,016	129,107	13.9%
	Gap (%)	21.5%	23.4%	24.0%	24.9%	24.8%	N/A
Emerging Networking	Demand	151,359	183,461	216,535	266,078	313,967	20.0%
	Supply FTE	88,362	100,553	113,329	129,491	146,911	13.6%
	Gap FTE	62,997	82,908	103,207	136,586	167,056	27.6%
	Gap (%)	41.6%	45.2%	47.7%	51.3%	53.2%	N/A
Total Networking	Demand	508,316	577,227	649,126	740,666	834,780	29.9%
	Supply FTE	368,548	402,361	442,219	486,064	538,616	22.3%
	Gap FTE	139,768	174,866	206,906	254,602	296,163	41.5%
	Gap (%)	27.5%	30.3%	31.9%	34.4%	35.5%	N/A

RUSSIA-CIS

		2012	2013	2014	2015	2016	5-year CAGR
Essential Networking	Demand	180,853	191,805	210,914	235,497	258,099	9.3%
	Supply FTE	149,726	157,601	174,408	192,620	205,907	8.3%
	Gap FTE	31,126	34,203	36,506	42,876	52,192	13.8%
	Gap (%)	17.2%	17.8%	17.3%	18.2%	20.2%	N/A
Emerging Networking	Demand	98,301	113,825	134,883	158,928	188,502	17.7%
	Supply FTE	68,478	77,791	86,106	94,415	109,836	12.5%
	Gap FTE	29,823	36,033	48,777	64,514	78,666	27.4%
	Gap (%)	30.3%	31.7%	36.2%	40.6%	41.7%	N/A
Total Networking	Demand	279,153	305,629	345,797	394,425	446,601	12.5%
	Supply FTE	218,205	235,393	260,514	287,035	315,743	9.7%
	Gap FTE	60,949	70,237	85,283	107,390	130,858	21.0%
	Gap (%)	21.8%	23.0%	24.7%	27.2%	29.3%	N/A

MIDDLE EAST/TURKEY/NORTH AFRICA

		2012	2013	2014	2015	2016	5-year CAGR
Essential Networking	Demand	129,052	140,299	157,743	176,403	195,341	10.9%
	Supply FTE	99,527	104,208	111,404	119,053	125,622	6.0%
	Gap FTE	29,525	36,091	46,339	57,351	69,718	24.0%
	Gap (%)	22.9%	25.7%	29.4%	32.5%	35.7%	N/A
Emerging Networking	Demand	54,253	71,317	87,695	105,075	131,800	24.8%
	Supply FTE	35,832	43,232	51,094	60,318	71,657	18.9%
	Gap FTE	18,421	28,086	36,601	44,757	60,144	34.4%
	Gap (%)	34.0%	39.4%	41.7%	42.6%	45.6%	N/A
Total Networking	Demand	183,304	211,616	245,438	281,479	327,141	15.6%
	Supply FTE	135,359	147,439	162,498	179,371	197,279	9.9%
	Gap FTE	47,945	64,177	82,940	102,108	129,862	28.3%
	Gap (%)	26.2%	30.3%	33.8%	36.3%	39.7%	N/A

ASIA PACIFIC

		2012	2013	2014	2015	2016	5-year CAGR
Essential Networking	Demand	1,164,674	1,265,087	1,385,712	1,517,379	1,653,117	9.2%
	Supply FTE	887,315	949,376	1,023,319	1,115,334	1,227,801	8.5%
	Gap FTE	277,359	315,710	362,394	402,045	425,316	11.3%
	Gap (%)	23.8%	25.0%	26.2%	26.5%	25.7%	N/A
Emerging Networking	Demand	573,434	680,691	806,464	938,690	1,088,380	17.4%
	Supply FTE	372,029	456,796	551,029	634,613	715,345	17.8%
	Gap FTE	201,405	223,896	255,436	304,077	373,035	16.7%
	Gap (%)	35.1%	32.9%	31.7%	32.4%	34.3%	N/A
Total Networking	Demand	1,738,107	1,945,778	2,192,177	2,456,068	2,741,497	12.1%
	Supply FTE	1,259,344	1,406,172	1,574,348	1,749,946	1,943,145	11.5%
	Gap FTE	478,763	539,606	617,829	706,122	798,352	13.6%
	Gap (%)	27.5%	27.7%	28.2%	28.8%	29.1%	N/A

NOTES

- ¹ Mann (1848)
- ² Lee (2013); Adam (2013); and Adducci, Pineda and Villate (2013)
- ³ Meeker and Wu (2013)
- ⁴ Cisco (2014c)
- ⁵ Cattaneo et al. (2013)
- ⁶ Lanvin and Evans (2013)
- ⁷ ITU (2013)
- ⁸ Brynjolfsson et al. (2009)
- ⁹ Dongier and Sudan (2009)
- ¹⁰ However, with regard to overall talent competitiveness and the supply of skilled ICT networking employees, there appears to be no statistical relationship between the extent of the networking skills gap and the Global Talent Competitiveness Index (correlation coefficient of 0.17). An even weaker relationship appears between the networking skills gap and the Global Knowledge (GK) component (correlation coefficient of 0.0). The lack of a statistical relationship may be due to the fact that the GTCI is a snapshot view of an economy's degree of skills development, while the networking gap reflects a dynamic market view of the demand and supply of those skills. It is plausible that a given country can have a high level of talent competitiveness and either extreme of labour market conditions (large unfulfilled demand, as well as excess supply) depending on the stage in the business cycle.
- ¹¹ Cattaneo et al. (2013)
- ¹² Lanvin and Fonstad (2010)
- ¹³ In the context of employment impacts as a result of greater integration of ICT, it is important to note that job displacement can occur. In this paper however, we focus specifically on IP networking technology and IP networking skills and employment.
- ¹⁴ Bilbao-Osorio et al. (2013)
- ¹⁵ NASSCOM and McKinsey & Company (2005)
- ¹⁶ Imaizumi et al. (2013)
- ¹⁷ Calculated using the country data from the 2013 Network Readiness Index and 2013 Global Competitiveness Index
- ¹⁸ Calculated using the country data from the 2013 Network Readiness Index and 2013 Global Innovation Index
- ¹⁹ National Science Foundation (2012)
- ²⁰ It is important to note that basic and advanced networking courses can also be more impactful when coupled with dedicated programmes to ensure high-speed connectivity to schools and universities. For example, the US's Universal Service Program for Schools and Libraries (also known as the E-Rate Program) provides funding from the universal service fund collected from telecom providers to assist in expanding Internet connectivity. Since 1998, the programme has provided billions of dollars of funding to over 100,000 schools and libraries for broadband connections.
- ²¹ Cronin et al. (2013)
- ²² US Department of Homeland Security (2014)
- ²³ Adams (2013)
- ²⁴ It should be noted that attractive immigration policies can sometimes negatively impact a home country in situations where highly skilled domestic talent may decide to emigrate to other markets. Attractive immigration policies can cut both ways, helping and hurting a domestic market depending who is instituting the policies.
- ²⁵ White House (2013)
- ²⁶ Imaizumi et al. (2013)
- ²⁷ Cisco (2014a); and Cisco (2014b)

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CHAPTER 5

CAN SOUTHEAST ASIA DEVELOP ITS GLOBAL LEADERS?

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The pursuit of growth has always brought businesses beyond their national borders. The British, Portuguese and Dutch going to the East Indies is an obvious example, and it is said that the Dutch's *Vereenigde Oost-Indische Compagnie*, or the United East India Company, was the first multinational corporation to exist.¹ In modern times, the resurgence of Asia continues to attract multinationals from the West. In addition, more and more of the world's largest businesses are originating from emerging markets. McKinsey Global Institute (MGI) highlighted in a 2013 report that between 1980 and 2000, such companies' presence on the Fortune Global 500 stayed relatively flat at 5%. This increased to 17% by 2010 and 26% by 2013. MGI forecasted that by 2025, the emerging world will account for more than 45% of the Fortune Global 500, and about half of this will be from Greater China. It also pointed out "it is only a matter of time before the most successful companies in the emerging

world set their sights on international expansion".² China's Lenovo, Haier and Huawei Technologies, and India's Tata companies, HCL Technologies, and Aditya Birla are already contemporary examples.

As business crosses borders, the need for leaders who can do likewise has intensified, leading to increased interest in the topic of global leadership. In a literature review of this topic, Mendenhall, Reiche and Osland highlighted the definition of global leadership by Schon Beechler and Mansour Javidan, acknowledged thought leaders in the subject:³

Global leadership is the process of influencing individuals, groups, and organisations (inside and outside the boundaries of the global organisation) representing diverse cultural/political/institutional systems to contribute towards the achievement of the global organisation's goals.

WHAT IS GLOBAL LEADERSHIP?

Building on this and other definitions, some have proposed that the extent of global leadership – or its differentiation from local leadership – should be assessed through the dimensions of:⁴

- **Complexity.** Global business leaders deal with more, and different, competitors, customers, governments and stakeholders, and thus, more and different models of organising, competing and governing. Often, these elements are also interconnected, thus heightening the complexity. Moreover, today's world is not only complex and in flux, but also an ambiguous one. There is a deluge of data but a drought of insight, and non-linear relationships limit predictability. In particular, leaders managing multiple markets in Asia often highlight that the region is more volatile, uncertain, complex and ambiguous (VUCA) than developed markets. Challenges include higher political and regulatory risk, intense local competition and local customers with their myriad of preferences, but smaller wallet sizes. Consequently, solutions imported from developed markets rarely work in emerging Asia. There is a need to constantly innovate, whether in product, service or business model, and yet intellectual property protection is hardly guaranteed.⁵
- **Boundary spanning.** A global business consists of a variety of boundaries. Externally, boundaries exist between the organisation and its stakeholders, multiplied across different country markets. Internally, one critical boundary lies between headquarters (HQ) and the local affiliates. Often, decisions are made at the HQ level, but lack alignment to local challenges. On a broader scale, this is the challenge of balancing global strategy with local customisation, or 'think global, act local'. Coming from the perspective of executives based in the local affiliates, specific challenges include selling ideas and influencing HQ, and even "keeping HQ engaged while project schedules in Asia float in uncertainty", said one such executive.⁶ To ensure that the HQ-local affiliate boundary does not hamper the flow of essential knowledge and information, leaders in global businesses need to tap on interpersonal links (i.e., relationships) that hold their geographically dispersed and internally differentiated organisational units together.
- **Relocation across geographical, cultural and national boundaries.** In order to engage with key stakeholders situated around the world, global business leaders usually experience physical relocation away from their home culture. A higher degree of physical relocation places global business leaders outside of their home culture's social predictability and exposes them to cross-culturally ambiguous encounters. Take an expatriate manager based in Singapore, but responsible for the Asian region. His work requires him

to travel to multiple Asian markets. The expectations and working styles of his subordinates in these diverse markets, and even their perceptions of leadership, may differ. For instance, a team in India – used to uncertain conditions in their macro environment – will likely be comfortable with improvisation and ad hoc or urgent requests. However, teams in orderly Singapore and Japan may expect processes and structure to be first established, and subsequent adherence to these. Meanwhile, a team in Indonesia will expect him to be a father figure and role model to them, blurring the divide between business and personal matters.⁷ How should global leaders then adapt? At the same time, will adapting make them feel that they are losing their real self, and trigger other interpersonal challenges and emotions?

In understanding the make-up of effective global leaders, some researchers have suggested a number of critical traits and abilities, including cosmopolitanism, cognitive complexity, mental inquisitiveness, honesty, humility and personal resiliency.⁸ In addition, a 2012 survey-study of 420 global leaders suggests that two key factors are an individual's tolerance of ambiguity, and cultural flexibility.⁹ Not unlike these findings, the Human Capital Leadership Institute (HCLI) also suggests three qualities of effective cross-border leaders:¹⁰

- **Comfort with discomfort.** Successful global leaders seem to not just tolerate discomfort and ambiguity, but embrace it. They do not let ambiguity cripple them. Instead, they recognise the need to act decisively even without possessing complete knowledge of the situation. They realise that learning from a poor decision is still better than not making any decision at all.
- **Judicious relationship building.** Relationship building is important to drive business growth. But it is more important to discern the right partners. In an extreme example, associating with partners that engage in corrupt practices can undermine one's reputation in a new market. Similarly, it is important to identify and build relationships with key partners on both sides of the HQ-local affiliate divide, in order to wholistically champion the global organisation's goals.
- **Authentic adaptation.** While cross-border leaders should learn to adapt their behaviours, they should stay authentic to their cultural roots. Completely assimilating into another culture robs global leaders of their unique differentiator and value to their organisations. As one Singaporean executive working in a Chinese bank explained, his more direct management style, relative to his Chinese peers, helped his bank win its first *renminbi* bond mandate from a global European motor company.¹¹

CONTRASTING EMERGING LEADERS IN SINGAPORE AND INDONESIA

One of HCLI's aims is to build Asian leaders with the ability to lead on the global stage. Based out of Singapore, HCLI has a particular interest in uncovering leadership insights from, and about, Southeast Asia. This region is also less explored in terms of leadership research, compared to its Asian cousins such as China and India. Accordingly, and in the past year, HCLI has sought to understand the emerging leaders in Southeast Asia, particularly those in Singapore and Indonesia. In light of the context and challenges that effective global leaders grapple with, and the traits and abilities they should possess, how ready are Singaporean and Indonesian emerging leaders for the global stage? What do they need to better prepare them to become global leaders?

HCLI's findings,¹² analysed across 30 semi-structured interviews with senior business and human resource (HR) executives in both countries, can be summarised in Table 1.

To elaborate with anecdotes from the interviews:

- On comfort with discomfort in a VUCA world.** On Singaporean emerging leaders, the executives interviewed overwhelmingly opined that they are “superb administrators”, delivering “execution to a T”. They are noted for their structured thinking around challenges and solutions, and rigour and meticulousness in the process. The Singaporean education system has been credited for providing a good foundation for these leaders. However, there is a caveat to their seemingly perfect execution: clarity of direction must first exist. Furthermore, tasks must be defined, processes and structure set in place, and data
- On building judicious relationships spanning global boundaries.** In engaging global external stakeholders and internal ones such as the HQ of a US or European multinational, the main barrier facing Southeast Asians lies in communication. They need to better sell themselves and their ideas, and articulate their opinions and challenge that of others. Understated communication styles do not promote visibility, which is critical in building and maintaining

available for analysis. In short, Singaporean emerging leaders do not thrive in the midst of complexity and ambiguity – which unfortunately, happens to be the nature of developing markets. They are less likely to display the creativity and lateral thinking necessary to survive and excel in a VUCA world. One executive wondered if the Singaporean emphasis on logic has caused a bit of the ‘magic’ to be lost.

In contrast, the Indonesian emerging leader is adept at navigating a VUCA world – such is the natural environment of their home country. A Singaporean expatriate in Jakarta expressed of her Indonesian next-gen leadership: “They can adjust to the flexibility and demands of today’s world, unlike their Singaporean counterpart. They have got that as a given.” Other Indonesian executives explained that flexibility has been cultivated in an operating environment where business assumptions continuously change. Creativity fuelling innovation also comes from the need to get things done with limited resources. As one leader put it, “We have a lot more pieces of the puzzle that we have to put together. And to solve the puzzle, some pieces are missing, so we have to make it up.”

Table 1: Comparison of Singaporean and Indonesian emerging leaders

The World of Global Business Leaders	Traits and Abilities of Effective Global Business Leaders	How does Southeast Asia Compare?	
		Singapore	Indonesia
In terms of the macro environment – VUCA (Volatile, Uncertain, Complex, and Ambiguous)	Comfort with discomfort	Great administrators but not VUCA navigators	Adept VUCA navigators
At an organisational level – different boundaries that need to be bridged through interpersonal links	Judicious relationship building	Quiet workers but not passionate advocates	Polite collaborators but not tough performers
At a team level – diversity, particularly of the cultural kind	Authentic adaptation	Familiar with diversity but not personally invested	Comfortable with diversity but only within Indonesia

Source: HCLI (2014a); HCLI (2014c)

relationships beyond the region. For instance, an executive said that the Singaporean emerging leader tends to be too modest and undersell: “In the US, people generally market a lot. In Singapore, good guys may tell you ‘seven’ when it is actually ‘10.’” Another felt that the engagement style of the Singaporean emerging leader is “intellectually convincing” but not “emotionally appealing”.

The Indonesian faces additional challenges. Firstly, the executives interviewed noted that English – the language of global business – is not the first language of many Indonesians, which may explain their reservation in speaking up. One executive said, “Indonesian is their first language, and their dialect the second. English can be their third language. And this becomes misinterpreted as they ‘can’t work.’” Secondly, Indonesians – especially if they are of the Javanese culture – are used to polite conversations, particularly with those senior to them in age and hierarchy. The Javanese culture also emphasises sensitivity and harmony. Many Indonesians are just not used to frankly expressing their opinions, making tough decisions and standing by them. Unfortunately, as pointed out by an expatriate CEO in Indonesia, “If you go for an international career, you need to do [these] unpleasant tasks sometimes.”

- **On adapting to culturally diverse teams, yet staying authentic.** Singapore’s multicultural society has positioned her emerging leaders at a good starting point. For instance, during strategic discussions on Asian consumers, they could contribute valued insights on Indian or Chinese culture. However, Singaporean emerging leaders can appear impatient when operating in developing markets and only direct by giving instructions. The executives advised that Singaporean emerging leaders need to understand that their way of doing things is not the only way. One executive said, “It doesn’t matter what one is rigid at. The fact that one is rigid almost certainly means one is going to be wrong.” For instance, an expatriate corporate lawyer in Indonesia remarked that when Indonesians propose solutions around roadblocks, the Americans and Malaysians are more accepting of them. However, their Singaporean counterparts’ first instinct is to express the difficulties of the situation. This is then followed by suspicions of, “What are they trying to do? Are they trying to play me out?”

Similar to Singaporean society, Indonesia is very multicultural. Perhaps it is even more so, with 350 ethnic groups and 250 languages across its 17,000 islands. In fact, one Indonesian interviewee, among others, emphasised, “We have many religions in Indonesia. We have different races. Even if you talk about Java, there is East Java, West Java, and so on. The cultures are different. We are working in an

environment where we are used to adapting to each other’s culture.” Unfortunately, a Singaporean executive who had spent almost a decade in the country pointed out this cultural adaptability only works within Indonesia – Indonesians do not mind going from one province to another as the culture is still broadly familiar. For instance, while the Javanese are quiet and those in Sumatra more outspoken, family values are important to both. However, Indonesians face challenges when they move out of the country. A senior Indonesian leader shared his experience years ago when on his first international assignment in the UK. While his religion teaches that alcohol is sinful, going to the pub was a typical way of celebrating success among his colleagues. This Indonesian executive resolved the issue by seeing the pub as a social gathering place, similar to the teahouse in Indonesia. With this new perspective, he adapted his behaviour by joining his colleagues at the pub, but stayed authentic to his values by drinking orange juice instead. However, this executive also said that a large number of young Indonesians have failed to go global as they are unwilling to adapt their lifestyle. Only a small number have the open mind needed to help them adapt to a foreign environment without losing their identities as Indonesians.

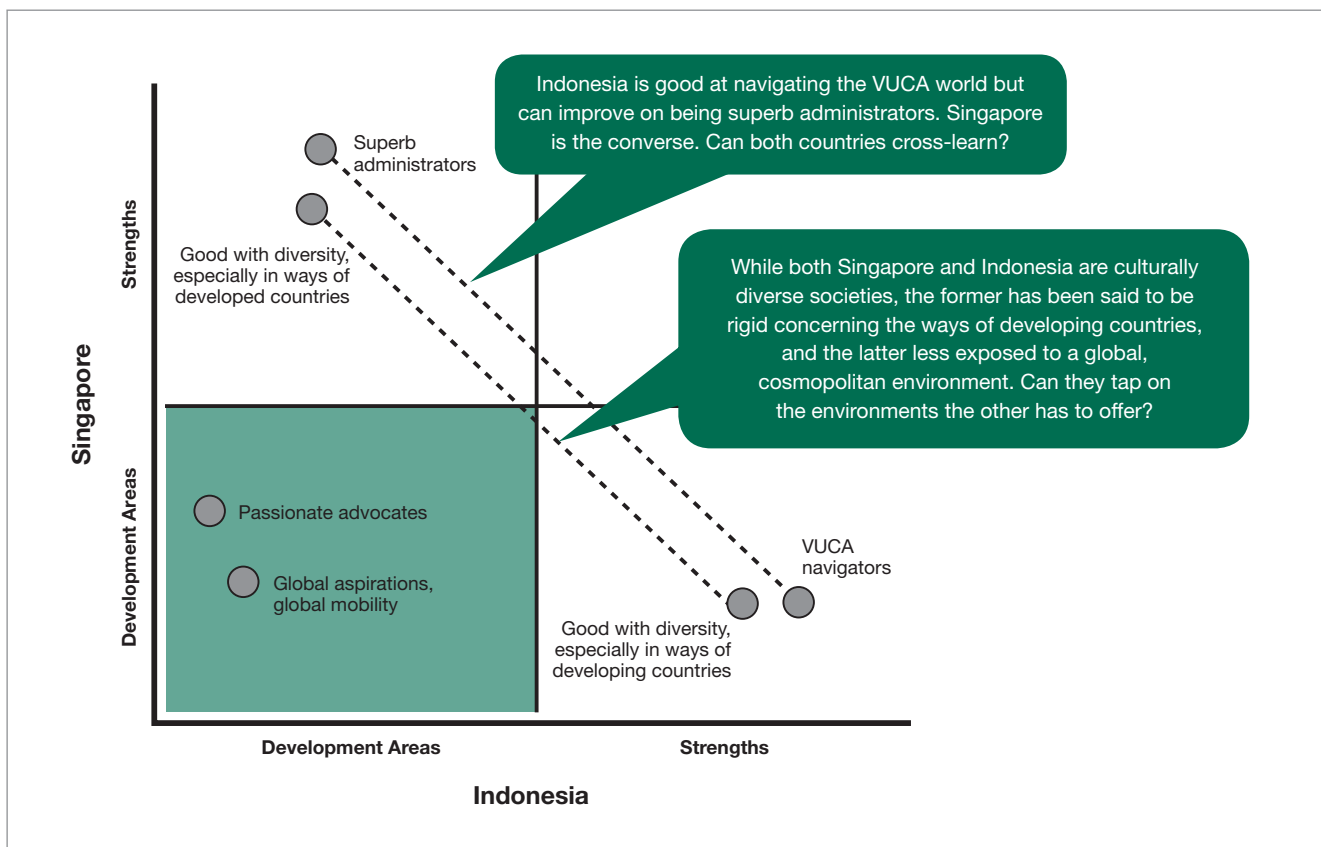
CAN THE COMPLEMENTARITY BE HARNESSSED?

Growing the emerging leaders of Southeast Asia into global leaders requires a multi-pronged approach. Based on HCLI’s interviews with senior business and HR leaders, the proposed solutions – typically meant for application at the organisational level – include functional and geographical rotations, exercises in confidence building, and mentoring and role-modelling by local senior leaders who are also successful global leaders.

At a country level however, one wonders if Southeast Asia can grow together. Take the case of Singapore and Indonesia. While these Southeast Asian neighbours are separated by many notches on the Global Talent Competitiveness Index (GTCI), they have complementary traits and abilities (see Figure 1). As an Indonesian leader with businesses in both countries shared, “Indonesia is a living lab because you still have people living in the Stone Age, and you have Jakarta. One flight hour away, there is Singapore with a different ecosystem.” How can these two different ecosystems come together to develop global leaders?

In the GTCI, the regulatory landscape in Singapore is highly ranked due to government effectiveness and political stability, with the market landscape similarly earning high scores due to ease of doing business. Meanwhile, Indonesia is almost the polar opposite. However, this is precisely what is necessary to force the Singaporean emerging leader to hone his skills in navigating volatility, uncertainty, complexity and ambiguity. For instance, immersed in a different operating environment, how would

Figure 1: Common development areas and cross-learning opportunities between Singaporean and Indonesian emerging leaders



he deal with labour market inflexibility, where firing an employee is constrained by both legal and cultural norms?

On the other hand, Singapore's business environment is more global. According to the GTCI, Singapore ranks highly on external openness. It has been and continues to be the regional headquarters for many multinationals. In addition, Singapore's management schools have scored well on the GTCI, and they are one means of facilitating continuous learning. As such, an Indonesian working in the more global environment of Singapore will thus have to speak English constantly, and structure his communication in a more compelling manner to influence external and internal stakeholders. Moreover, while global, Singapore is still rooted in its Asian heritage. This may offer a more gradual – and hence, comfortable – transition for the Indonesian emerging leader on his first international assignment.

GLOBAL MOBILITY REMAINS A CHALLENGE IN ASIA

As suggested, the complementarity between Singapore and Indonesia can be harnessed. However, the successful interaction of these two countries' ecosystems ultimately depends on their emerging leaders' willingness to move across borders – and stay in the other ecosystem. As research by Maddux and others¹³ suggests, living abroad produces benefits that even frequent travels cannot induce.

For one, living in a host country fosters creativity, which will help individuals approach a problem from multiple perspectives and appreciate that there can be different ways to solving it. Certainly, this will be helpful in growing Singaporean emerging leaders into global leaders – as the previous section suggests, they are perceived as rigid in their ways and overly insistent on clarity, processes and structure. Moreover, as most of the executives that HCLI interviewed¹⁴ firmly believed, one simply has to leave the home country at some stage in order to be a global leader. "There is no other way apart from putting leaders on the ground. Otherwise, they cannot get more than superficial respect," said one executive. Another echoed, "All the people around you may not necessarily see you as a global leader because you have not really worked, done or experienced anything global."

The challenge however, lies in getting emerging leaders to move. For instance, according to the business and HR leaders interviewed about Singapore's emerging leaders, common reasons behind a lack of global mobility are:

- "Singapore is such a nice, safe and organised place to be. Am I sure I want to go to Jakarta?"
- "Who is going to cook or clean up for me?"

- “I have ageing parents.”
- “What about my spouse’s career? Will you make up for the loss of income?”
- “There are enough good jobs here.”

Indonesian emerging leaders have similar concerns. In fact, they may be even more integrated into their families and social networks in Indonesia, and are generally reluctant to give these up. In addition, for both groups, there are ample job opportunities in their home countries. Hence, personal sacrifices outweigh professional gains, the latter of which is perceived as currently unnecessary.

To overcome this immobility, it may be constructive for organisations to help their emerging leaders shift their mindset towards ‘return on investment’. Research by McNulty, De Cieri and Hutchings (2013) suggests that expatriates complain about unmet expectations in terms of compensation, HR support (especially during relocation), and career and performance management. Yet, they are still able to appreciate the benefits of international stints. These stints can enhance one’s career and align with family or personal goals at times. To emphasise these advantages, some of the interviewees suggested that Singaporean and Indonesian leaders who had successfully gone global could become powerful role models for the next generation – their stories could help create a vision for the emerging leaders to strive for, and challenge their aspirations. As an executive stated, “It’s not just about having a job or having a good life.” Another felt that it is important to repeatedly highlight to emerging leaders the opportunity for them to make a difference in the context of a resurging Asia and examine the urgency or importance for them to succeed in greater roles. At the same time, HR can provide career counselling. For instance, one HR executive spoke with her Singaporean emerging leader about the value of the international experience. She explained, “Singapore becomes bigger for you when you have had such experiences. When you come back, whether within or outside of our company, you would have gained something. Outlook, worldliness, which differentiates you from many others. Take that opportunity while you can.”

In addition, the physical act of moving across borders, and living and working in a different country is not sufficient in itself. Both Singaporean and Indonesian emerging leaders must have an open mind and must be willing to learn from each other. According to research by Maddux, Leung, Chiu and Galinsky (2009), what determines the creative benefits derived from a multicultural experience is not how long or arduous the multicultural experience is, but rather the mindset that individuals bring with them to the host environment. To truly be open and collaborate across cultures, it is important to develop cultural metacognition, which is a mental habit to enhance intercultural interaction. Simple steps include jotting down current assumptions of another’s culture, having a chat over coffee with a counterpart to refine (even debunk) one’s assumptions and

reflecting on one’s learning to develop a multidimensional view of each other.¹⁵ Key questions that both Singaporean and Indonesian emerging leaders can ask themselves (and each other) include:

- “What do I see in your country that I also see in mine?” (Instead of imposing a value judgment)
- “What binds us together in Southeast Asia? What is our shared history? Why are we similar?”
- “Welcome to my world; this is how I work. But I also want to understand how you work. Please would you share your knowledge with me?”

CONCLUSION

In a global business environment that is volatile, uncertain, complex and ambiguous, effective leaders need to be comfortable with discomfort. Where there are multiple boundaries spanning their organisations and beyond, they need to build strong interpersonal relationships to bridge these boundaries. Finally, in leading culturally diverse teams, they need to be able to adapt to different styles and followership expectations, but remain authentic to themselves.

In helping Southeast Asia’s leaders grow these necessary traits and abilities to become global leaders, this chapter has suggested a few tips for action.

- Firstly, stop using rankings in a divisive way. Rankings are a vehicle for learning through measurement and comparison. Take the example of Singapore and Indonesia: the former may be ranked second, and the latter 86th on the GTCI 2014. However, each country has its unique strengths and their emerging leaders can cross-learn from each other. Hence, start leveraging country complementarity.
- Secondly, aspiring global leaders must stop calculating the immediate opportunity costs of leaving their home countries. Instead, they must appreciate how global mobility can help them develop global leadership competencies. Therefore, they – and the mentors, role models and HR supporting them – should start anticipating the future return on investment of moving to a host country.
- Finally, once in the host country, these aspiring global leaders need to stop making assumptions about other cultures and rigidly holding on to their old ways of doing things. Instead of focusing on differences that polarise, start finding cultural commonalities that bind.

In so doing, Southeast Asia may just become a wellspring of effective global leaders in the near future.

NOTES

- ¹ Taylor (2013)
- ² McKinsey Global Institute (2013)
- ³ Mendenhall, Reiche and Osland (2012)
- ⁴ Mendenhall et al. (2012)
- ⁵ These insights were shared by participants of HCLI's executive development programmes, when asked about their business and talent challenges.
- ⁶ These insights were shared by participants of HCLI's executive development programmes, when asked about their business and talent challenges.
- ⁷ Human Capital Leadership Institute (2014b)
- ⁸ Steers, Sanchez-Runde and Nardon (2012)
- ⁹ Caligiuri and Tarique (2012)
- ¹⁰ Ramakrishnan, Nguyen and Siow (2012)
- ¹¹ Wong (2012)
- ¹² Human Capital Leadership Institute (2014a); Human Capital Leadership Institute (2014c)
- ¹³ Maddux and Galinsky (2009); Maddux, Adam and Galinsky (2010)
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CHAPTER 6

GROWING VOCATIONAL TALENT IN AFRICA

LESSONS FROM THE CANADIAN APPLIED LEARNING SYSTEM IN DEMAND-DRIVEN EDUCATION FOR EMPLOYMENT

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Colleges and Institutes Canada

Individuals seeking meaningful employment in the 21st century will face progressively more complex social, economic and technological challenges. Internationally, one in eight youth aged 15 to 24 are unemployed and approximately 80% of the jobs that are available require strong technical and vocational education and training (TVET). Increasingly, employers in developing countries have identified a mismatch between their needs and the training provided by education institutions in their regions. People do not have the skills required by local industry and employers are unable to find enough suitably qualified employees to fill job vacancies. Training and education based on the actual competencies required by the sectors in which they will work is the best way to ready graduates for the job market.

The Canadian applied, competency-based education and training system provides youth and disadvantaged populations with access to the skills they need to find

meaningful employment. In this chapter, Colleges and Institutes Canada¹ (CICan) examines how it contributes to socioeconomic development in Africa via CICan's Education for Employment programme. This approach demonstrates how Canadian colleges and institutes have shared their expertise in a uniquely sustainable way, at the request of African countries.

Canada's applied learning system provides post-secondary education that meets the needs of highly skilled professionals. Canadian colleges and institutes are consistently ranked in the top two or three applied learning systems in the world. The Canadian system is highly regarded for its focus on advanced skills for employment, meeting the needs of skilled professionals in almost every employment category. In its Education at a Glance 2014 report, the Organisation for Economic Cooperation and Development (OECD) states that Canada is the only country in the world

in which more than half of adults have a post-secondary degree or diploma. This is largely due to the country's robust college/institute system.

Canada's college and institute system's strength is that it responds to the needs of students from diverse and divergent landscapes and socioeconomic backgrounds. **Colleges and institutes** serve a much greater range of students than universities, providing a way for a much larger proportion of the population in Canada to access post-secondary education. **These institutions** offer high-school graduates, adults and non-traditional learners further education and employment training: from applied baccalaureate degrees that now rival the prestige of those granted by traditional universities, to technological and professional training leading to diplomas or certificates, language training, adult skills upgrading, trades and apprenticeship training, post-graduate certificates or masters degrees for university graduates, and continuing education.

The key characteristics of this system are:

- **Linked to employers:** This results in demand-driven curriculum and ensures current standards in all programmes, access to equipment, internships and on-the-job experience.
- **Student-centred:** A focus on students rather than instructors and institutions means curricula, support services and teaching are all focused on student success.
- **Flexible:** Accommodating different programmes, scheduling, teaching approaches, curriculum changes, recognition of prior learning, transferability and much more.
- **Decentralised:** Applies both in terms of location and governance – institutions reflect and respond to the communities they serve.

WHY A CANADIAN APPROACH TO EDUCATION IN AFRICA?

Gaps in earnings between workers with higher education and those without have widened sharply. The wages of highly educated and well-trained workers have grown substantially, whereas earnings of lower-skilled workers with fewer years of education have decreased. This difference in educational attainment has increased long-standing inequality, contributing to the vulnerability of fragile political systems.² In many parts of the developing world, colonial traditions and a historic bias towards the university pathway have led to the development of education systems focused on university entrance exams, providing no alternatives for training, and consequently, leaving most students with no other option than to enter the low-skilled labour market.

In many African countries, however, policymakers have started to recognise the critical role that technical and vocational skills can play in national development, and to address the mismatch between training and labour market needs as a top priority. Africa's economies are growing quickly, with one of the fastest-growing youth populations and middle classes in the world, and a roughly tenfold increase in foreign investment in recent years.³ It is now crucial to ensure that this perfect storm of new consumers, new job opportunities and many youth needing to find employment comes together for true socio-economic progress in Africa. Education is the key to breaking the cycle of poverty and the time is now to realise Africa's potential.

A recent UNESCO study indicates that the only way to respond to the growing need for relevant education is to develop new TVET strategies and approaches for youth and underserved populations to access gainful employment. For this reason, the policy trend is to emphasise skills development in response to labour market needs.⁴

The Canadian college system offers a way of making post-secondary education accessible to a much larger proportion of the population and providing learners with job-ready knowledge, skills and attitudes to ensure that all young people can make an effective transition from school to skills to the labour market.

EDUCATION FOR EMPLOYMENT: FIGHTING POVERTY, CHANGING LIVES, IMPROVING ACCESS TO EDUCATION

The roots of the Education for Employment (EFE) approach date back to the 1970s when the Aid department of the Canadian government created a Partnerships Branch to enhance collaboration between Canadian colleges and institutes and their international counterparts. CICan, as an association of learning institutions, took an approach to international development that built on its institutions' strengths, pairing its member institutions with local organisations to help support their transformation. This concept stood in rather sharp contrast to the traditional consultancy model of technical assistance provided by foreign experts.

The goal of the early partnerships was to reduce poverty via increased employment by improving quality and access to education, while better aligning programmes with labour market needs. Canadian colleges were playing an increasingly active role in the development and management of institutional partnership projects based on their reputation for sustainable transformation, providing access to education for vulnerable populations and employer-led standards for training. In all, CICan and its members worked on 631 projects with 734 overseas partners in 105 countries between 1991 and 2007.⁵

In line with CICan's commitment to partnership and sustainability, the organisation undertook a series of consultations with key partners focused on designing a new college partnership programme that would integrate the Paris Declaration principles⁶ with the lessons from CICan's 20 years of experience. It was time to focus on fewer countries, support systemic changes within their TVET systems, as well as develop capacity at both the ministerial and institutional levels.

A number of countries in which CICan projects had been implemented were analysed using criteria such as:

- Request from the country for support in the transformation of their education system.
- Link between the country's Poverty Reduction Strategy Paper⁷ and the future programme, i.e., was TVET or skills development mentioned in the country planning documents? Alignment between the country's priorities and TVET/skills development/reform.
- Other donor supported initiatives in TVET/skills development.

During the planning phase for the EFE, workshops were held in four countries (Senegal, Tanzania, Vietnam and Chile) to review the results of CICan's programmes, and identify ways in which CICan and Canadian colleges and institutes could support skills development in the participating countries. The forums confirmed the value of the Canadian approach – decentralised, employer responsive, competency-based and employment-focused – in light of growing unemployment despite economic growth.

The number of potential beneficiaries was reduced from 30 to nine countries after one round of analysis and the decision was then made to focus on three African countries:

- Senegal, which had recently announced a full reform of its curriculum and ministry to introduce competency-based education and training.
- Tanzania, whose private sector firms in the tourism and mining sectors were then pushing for reforms that would allow them to hire Tanzanians instead of expatriates.
- Mozambique, which had just obtained a US\$60 million loan to undertake a rebuilding of the TVET system after years of civil war, but was short of funding to deal with curriculum reform, teacher training and institutional strengthening.

Each partner country was asked to select its priority economic or social sectors. Senegal decided to focus on construction and public works, shipping and port activities, and the agro-food industry. Tanzania chose the sectors of agriculture, mining and tourism-hospitality. Mozambique picked the construction, tourism-hospitality and resource processing (mining and fisheries) sectors.

In keeping with the spirit of the new EFE approach, Canadian colleges were not the ones to select a partner overseas, but rather the overseas institutions were funded to come to Canada to select their preferred Canadian institutional partner. They created their own terms of reference, defined their requirements for partnership, and reaffirmed that the local partners were driving the process of transformation, not the other way around.

AN AFRICAN SUCCESS STORY

The EFE programme, launched in Africa in 2008,⁸ offered for the first time an integrated and collaborative approach to sustainable development and cooperation. The overall goal of EFE AFRICA is to help reduce poverty by providing people with the technical skills that employers are looking for – giving them the chance to lead productive lives, find jobs, create their own businesses and develop their careers.

At its core, EFE contributes to economic growth and poverty reduction by aligning the skills of potential employees with current labour market needs. The programme offers a structured and systematic approach to job training where students learn by doing in accordance with competency-based education and training. The partner country is in the driver's seat, leading the process based on its unique economic and cultural realities. EFE's approach integrates all stakeholders throughout the process: private sector, community organisations, government, education and professional associations. EFE provides support at the:

- ministerial level by supporting policy reforms to better align training with the job market;
- institutional level by building the capacity of institutions to design and deliver demand-driven, competency-based training programmes, and supporting the development of entrepreneurial and management skills;
- regional, national, and international levels by creating networks for effective sharing of knowledge, experience, best practices and innovation.

All of this support works in conjunction with local industry partners. EFE has facilitated the development of powerful and lasting linkages between the education and private sectors, creating curricula linked to industry standards, and opportunities for hands-on training such as internships and work placements. This partnership has raised the profile of technical and vocational education and training in all three African countries, resulting in increased recognition of the importance of TVET for employment and increased enrolment, and more employers approaching local institutions to help them address their training needs.

In **Mozambique**, 12 partnerships were created in key economic sectors such as tourism and mining, involving 17 local and 13 Canadian institutions and close collaboration with the local Ministry of Education.

Highlights

- 115 training modules were created, in accordance with the Mozambique National Qualifications Framework.
- 222 teachers trained, 48% more than the 150 originally planned.
- 78 managers (heads of education institutions, inspectors, Ministry staff, education directors) trained, exceeding the original goal of 30 by 160%.

In **Senegal**, 12 partnerships were created, involving 12 local and 13 Canadian institutions, including the Government of Senegal's Ministry of Professional Training, Learning and Crafts. These partnerships focused on several key economic sectors such as the food industry, and construction and public works. Complementing these sectors, training in electro-mechanics and geomatics (geospatial technology) was also incorporated into the programme.

Highlights

- 876 students trained or receiving training towards a certificate or diploma, 188 of which are women.
- Of the first graduating electro-mechanics class of 14 students, 13 have jobs.
- 254 students received certification.
- 228 teachers trained, more than three times the 65 originally targeted.
- 50 management personnel trained, almost double the original number targeted.
- 17 new education and training programmes developed, including electro-mechanics, air conditioning, plumbing, architecture and interior design, and geomatics.

In **Tanzania**, 12 partnerships were created with the Government of Tanzania's Ministry of Education and Vocational Training, involving 12 local and 13 Canadian institutions. They honed in on the economic sectors of agriculture, mining, tourism and hospitality.

Highlights

- The introduction of 24 new or revised diploma and certificate programmes, delivered in technical institutes, reaching more than 1,500 students.
- 78 short courses developed, delivered to 1,689 learners and trainees (including small-scale miners, employees of mining companies, agriculture workers, farmers and hotel employees).

- Short courses created specifically for women farmers, based on a needs assessment.
- 250 teachers and 46 managers trained (far exceeding the original targets of 50 teachers and 30 managers).
- 73 Ministry and regulatory body officials and staff (one-third of which are women) have increased capacity in competency-based education and training, labour market information and use of performance indicators for monitoring institutional results.
- Tanzanian education institutions consulted with 1,800 employers and entrepreneurs to identify the competencies required by the private sector. As a result, more employers hired more trained workers.

An important aspect of this programme is its ability to reach marginalised populations, particularly women. The inclusion of women in formal training is an important component of community change. For example, in Tanzania, short courses were developed specifically for women farmers – such as vegetable growing and chick rearing – based on a needs assessment survey. The Mpanda Vocational Training Centre is working with women's organisations to encourage female enrolment, and programmes are advertised as being open to both men and women – something new in Tanzania, where equal opportunity advertising has not been standard. Similarly, the Dar Es Salaam Institute of Technology (DIT) and Arusha Technical College have made their campuses more female-friendly by upgrading security, putting in place women's-only facilities, and providing mentors and role models to support female students. The DIT and the Mineral Resource Institute are now working with parents, teachers and students in primary and secondary schools to ensure that potential female students have current and detailed information about career opportunities, particularly in technical, non-traditional sectors for women. In addition, the Ministry of Agriculture Training Institute in Ilonga provides childcare services so women can attend training courses, something essential for women looking to upgrade their skills in order to find meaningful employment.

WHAT WE HAVE LEARNED: LESSONS FOR DEMAND-DRIVEN TRAINING IN DEVELOPING ECONOMIES

A great deal goes into building a responsive education system, ready to equip youth and adults alike with the skills required to build a successful career and contribute positively to the economy. Beyond the EFE approach, CICan works with many countries to help them transform their applied learning systems. The three lessons most clearly derived from CICan's EFE experience in Africa focus on the different elements of a complete paradigm shift.

First and foremost, in order to develop a truly competency-based, responsive and productive, applied learning system, **close and effective partnerships with private industry** are required, at all levels. Education institutions are natural partners of small- and medium-sized enterprises in training, applied research and innovation. Engaging them in the process of change ensures their support for curriculum development and job placements, ultimately creating strong partnerships that can lead to employer contributions of equipment and strong hiring practices. The private sector's involvement in the transformation of education affects both governance and programming, which leads to a broader partnership that is at the heart of sustainable success, especially in times of fiscal restraint. Translating competencies required by employers into curriculum development and learning outcomes, involving local programme employer advisory committees and national industry sector councils, is critical to success.

Secondly, in order to provide the skills required for individuals to find meaningful employment while contributing to sustainable and inclusive economic growth, **decentralisation of power** is key. Responsibility needs to be decentralised from ministries to training institutions, local employers and learners themselves, while retaining an important role at the central level. Systems cannot adapt quickly to the changing needs of economies and societies if they must constantly go through the channels of central decision-making. Preparing people with the necessary job-related skills means that institutions need to be able to meet their local communities' needs, and adapt to create programmes needed by foreign and local employers – small and large, formal and informal.

Moreover, decentralising authority to institutions implies that governments have the means to ensure better governance, transparency and adequate audits. One way to accomplish this is to implement a Board whose mandate is to govern the institution. These Boards should be composed of representatives of local community institutions, and local and regional employers of all sizes. This form of governance ensures that institutions not only meet the needs and requirements of their ministries, but also those of their local employers.

Thirdly, fostering **social inclusion** is essential to an equitable and responsive education system. Institutions need to open their doors to the vast majority of people who want to learn and/or create jobs, but who do not always meet the traditional admissions requirements. This means recognising prior learning gained through lifelong experiences, developing different types of modular programmes, supporting the inclusion of women and other marginalised populations, and adopting new ways of teaching that meet the needs of non-traditional learners. Essential skills for employability must be provided while offering technical and professional training. Policies to encourage equitable access to advanced skills training must be implemented.

CONCLUSION: GROWING TALENT WITH SUSTAINABLE INSTITUTIONAL PARTNERSHIPS

Today's citizens and professionals need access to the knowledge, skills, and attitudes or approaches that will allow them to understand complex processes in globalised organisations and sectors, be innovative and effective, find work, keep their employment, and create new ideas and enterprises that can adapt and prosper. This is particularly important in Africa, a region struggling to meet the opportunities provided by its changing economy.

Because large government systems often struggle to adapt sufficiently rapidly to the ever-changing needs of current economies, growing the skills required for meaningful employment means that local institutions must be empowered to respond quickly to their communities' needs, and adapt and create programmes supporting their local learners and employers. This requires a close working relationship with employers and industry, who must set the standards for training. Also essential is that the education system be accessible to all types of learners, adapting the system to ensure that marginalised groups are welcomed and will succeed.

Greater skills proficiency in the workforce drives productivity and participation in the job market. Countries with a higher proportion of high-skilled adults enjoy better social equality and economic performance.⁹ Building a responsive, demand-driven technical and vocational education and training system requires transformational change that involves actors at many levels. Mutually beneficial partnerships must be built with employers small and large, institutional leaders and managers, ministries of education and industry, teachers, and ultimately, students. A system focused on providing learners with the skills they need to succeed, find meaningful employment, and contribute to their communities and countries is an essential component of a thriving Africa.

NOTES

- ¹ Colleges and Institutes Canada, formerly the Association of Canadian Community Colleges (ACCC), is the national and international voice of Canada's publicly funded colleges and institutes. The Association works with industry and social sectors to train learners of all ages and backgrounds at campuses serving over 3,000 urban, rural, and remote communities in Canada. The Association also operates in 29 countries via 13 offices worldwide. In over 40 years, we have facilitated more than 700 cooperation programs between Canadian colleges/institutes and equivalent institutions in over 100 countries.
- ² Sachs (2012)
- ³ UNESCO-IICBA (2011)
- ⁴ UNESCO-IICBA (2011)
- ⁵ Association of Canadian Community Colleges (2012)
- ⁶ In 2005, the Paris Declaration on Aid Effectiveness was adopted by 135 countries and almost all international development agencies. The Declaration set out five common principles for achieving effective development: (1) Local appropriation: ownership by the recipient country of its development policies and strategies; (2) Alignment: coordination among donors to comply with host countries' strategic policies; (3) Harmonisation: donors' programmes are harmonised to reduce procedures for the recipient country's government, which can then focus on development rather than management; (4) Results-based management approach: identification and measurement of development indicators to account for use of funds allocated to development assistance, and (5) Mutual responsibility: the recipient country and donors are both accountable for the development results.
- ⁷ Poverty Reduction Strategy Papers, or PRSPs, were introduced in 1999 by the World Bank and the IMF as a new framework to enhance domestic accountability for poverty reduction reform efforts – a means to enhance the coordination of development assistance between governments and development partners. A PRSP sets out a country's macroeconomic, structural and social policies and programmes to promote growth and reduce poverty, as well as associated external financing needs. Countries will typically prepare a PRSP every three to five years in a participatory process involving a broad range of stakeholders.
- ⁸ Funded by the Government of Canada through the Department of Foreign Affairs, Trade and Development, the programme has since been expanded to two other regions: C-EFE (CARICOM) in 2011 (including 12 Caribbean countries), and EFE ANDES in 2012 (Bolivia, Colombia and Peru).
- ⁹ Van Damme (2014)

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CHAPTER 7

JRC STATISTICAL AUDIT ON THE GLOBAL TALENT COMPETITIVENESS INDEX 2014

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The GTCI attempts to summarise complex and versatile concepts related to human capital and talent competitiveness at the national scale in 93 countries worldwide. In doing so, it raises some conceptual and practical challenges, which are discussed in the GTCI 2014 report. Herein, the focus is on the practical challenges related to the data quality and the methodological choices on the grouping of 65 variables into 14 sub-pillars, six pillars, two sub-indices and an overall index.

Last year, the audit of the initial GTCI model conducted by the European Commission's Joint Research Centre (JRC) concluded that the model was robust and relied on a sound conceptual structure and array of data. Indications were provided of areas in which the quality and relevance of the model could be enhanced. For the second edition of the GTCI, several changes were made to improve on the GTCI model since its initial launch in November 2013. The Econometrics and Applied Statistics Unit at the JRC in Ispra,

Italy, was hence invited for a second time by the development team to undertake an analysis of the statistical properties of the model, in order to ensure the transparency and reliability of the GTCI, and thus enable policymakers to derive more accurate and meaningful conclusions, and potentially guide choices on priority setting and policy formulation.

The present JRC assessment of the GTCI 2014 focuses on two main issues: the statistical coherence of the structure, and the impact of key modelling assumptions on the GTCI scores and ranks.¹ The JRC analysis complements the reported country and Input/Output sub-index rankings with confidence intervals in order to better appreciate the robustness of these ranks with respect to 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: although the GTCI model is still in its infancy, its new version is coherent, balanced and robust, and hence offers a sound basis for policy interpretations. Further improvements are possible, which would 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 a necessary, though not necessarily sufficient, condition for a sound index. Given that the present statistical analysis of the GTCI will mostly, though not exclusively, be based on correlations, the correspondence of the GTCI 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”.² The point is that the validity of the GTCI relies on the interplay between both statistical and conceptual soundness. In this respect, the GTCI has been developed following an iterative process that went back and forth between the theoretical understanding of human capital and talent competitiveness on the one hand, and empirical observations on the other.

STATISTICAL COHERENCE IN THE GTCI FRAMEWORK

Earlier versions of the GTCI model were assessed by the JRC in June, July and September 2014. Preliminary suggestions by the JRC related to dealing with variables with strong collinearity, reconsidering variables that behaved as noise in the overall framework, excluding variables that pointed in the opposite direction of the phenomenon being measured, and assessing the statistical dimensionality and reliability of the GTCI components. Through an iterative process that aimed at setting the foundation for a balanced index, the JRC's recommendations were taken into account in the final computation of the rankings by the GTCI development team.

Table 1 shows the new framework of the GTCI 2014 in comparison with the old framework of the GTCI 2013. It is immediately apparent that the basic conceptual framework has remained the same. In other words, the underlying concepts used to describe global talent competitiveness have not changed. What has changed are some of the specific variables used to capture each concept. These changes followed from discussions between the JRC and the GTCI development team preceding the construction of the final version of the GTCI 2014 presented here. First, the number of variables included has increased substantially from 48 variables in the GTCI 2013 to 65 variables in the GTCI 2014. Second, and notwithstanding the overall increase in variables included in the index, a number of variables were dropped. Third, some of the variables were retained in the index, but moved to a different (sub-) pillar. Finally, a number of new variables were added to the existing framework. Note that the reasons for including and excluding variables are both conceptual and empirical, as well as related to data quality issues. As such, the GTCI 2014 development team chose

to retain some variables for conceptual reasons, despite empirical observations pointing to a minimal contribution of those variables to the variation of the GTCI scores (e.g., 1.1.4 Starting a foreign business. For more details, see Table 3 and relevant discussion below).

Following on the iterative process during which the index was fine-tuned, the current assessment of the statistical coherence of this final version of the GTCI 2014 followed four steps:

Step 1: Relevance

Candidate indicators were selected for their relevance to a specific pillar on the basis of 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 team as appropriate and where needed.

Step 2: Data checks

The most recently released data were used for each country, with a cut-off at year 2002. Countries were included if data availability was at least 80% at the index level and 40% at the sub-pillar level. As a result, the GTCI 2014 data set comprises 93 countries and 65 variables. Consequently, data availability is at least 79% at the Input sub-index level and 67% at the Output sub-index level. Potentially problematic outlying indicators 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 3.5,³ and these were treated either by Winsorisation or by taking the natural logarithm (in the case of variables with more than five outliers). For variables with five outliers and above, log transformation was used (for more details, please refer to the Technical Notes section in the Appendices). These criteria follow practices implemented in the WIPO-INSEAD Global Innovation Index (formulated with the JRC in 2011).

Step 3: Statistical coherence

i) Principal component 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 54% (Internal Openness) to 64% (Market Landscape) of the total variance in the underlying indicators.⁴ Nevertheless, a more detailed analysis of the correlation structure within and across the six pillars confirms the expectation that 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 2). These results suggest that the conceptual grouping of sub-pillars into pillars is statistically confirmed and the six pillars are statistically well-balanced in the underlying sub-pillars.

Table 1: Overview and comparison of GTCI 2013 and GTCI 2014

Pillar	Sub-pillar	GTCI 2013	GTCI 2014	Action	Rationale
ENABLERS	Regulatory Landscape	Government effectiveness	Government effectiveness	Retained	
			Business-government relations	New	Conceptually enriching
		Political stability	Political stability	Retained	
		Starting a foreign business	Starting a foreign business	Retained	Conceptually enriching
	Market Landscape	Intensity of local competition	Intensity of local competition	Retained	
		Venture capital availability	Venture capital deals	Replaced	Better data quality
		Firm-level technology absorption	Firm-level technology absorption	Retained	
		R&D expenditure	R&D expenditure	Retained	
		ICT access	ICT access	Retained	
		Ease of doing business	Ease of doing business	Retained	
	Business Landscape	Labour market flexibility	Difficulty of hiring	Replaced	Conceptually enriching despite empirical observations
			Difficulty of redundancy	New	Conceptually enriching
			Labour-employer cooperation	New	Conceptually enriching
		Reliance on professional management	Reliance on professional management	Retained	
ATTRACT	External Openness	FDI inflow	FDI inflow	Retained	Conceptually enriching despite empirical observations
			FDI and technology transfer	New	Conceptually enriching
		Prevalence of foreign ownership	Prevalence of foreign ownership	Retained	
			Male adult migrants	New	Conceptually enriching
			Female adult migrants	New	Conceptually enriching
		Qualified labour inflow	Brain gain	Replaced/ new	Conceptually enriching and better data quality
			Brain drain	Replaced/ new	Conceptually enriching and better data quality
	Internal Openness	Tolerance to minorities	Tolerance to minorities	Retained	
		Tolerance to immigrants	Tolerance to immigrants	Retained	
			Female graduates	New	Conceptually enriching
			Female-to-male earnings ratio	New	Conceptually enriching
		Female professionals and technical workers		Dropped	Conceptually and statistically flawed
		Female parliamentarians		Dropped	Conceptually and statistically flawed
	Social mobility	Social mobility	Retained		

Table 1: Overview and comparison of GTCI 2013 and GTCI 2014 (continued)

Pillar	Sub-pillar	GTCI 2013	GTCI 2014	Action	Rationale
GROW	Formal Education	Pupil-teacher ratio		Dropped	Conceptually flawed
		Technical/vocational enrolment	Vocational enrolment	Retained	
		Tertiary enrolment	Tertiary enrolment	Retained	
		International student inflow	International student inflow	Retained	Conceptually enriching
		Reading, maths and science scores	Reading, maths and science scores	Retained	
		QS university ranking	University ranking	Retained	
	Lifelong Learning	Quality of management schools	Quality of management schools	Retained	
		Extent of staff training	Extent of staff training	Retained	
			Firms offering formal training	New	Conceptually enriching
	Access to Growth Opportunities	Use of virtual social networks	Use of virtual social networks	Retained	
			Number of LinkedIn users	New	Conceptually enriching
		State of cluster development		Moved to different pillar	Better aligned conceptually and statistically
		Quality of scientific research institutions		Moved to different pillar	Better aligned conceptually and statistically
			Willingness to delegate authority	New	Conceptually enriching
		Voicing concern to officials	Voicing concern to officials	Retained	
RETAIN	Sustainability	Pension system	Pension system	Retained	
		Extent and effect of taxation	Extent and effect of taxation	Retained	Conceptually enriching
			Pay level - head of organisation	New	Conceptually enriching despite empirical observations
			Pay level - head of information technology	New	Conceptually enriching
	Lifestyle	Environmental performance	Environmental performance	Retained	
		Property stolen		Dropped	Conceptually flawed
		Safety at night	Safety at night	Retained	
			Female part-time workers	New	Conceptually enriching
		Physician density	Physician density	Retained	
			Improved sanitation	New	Conceptually enriching

Table 1: Overview and comparison of GTCI 2013 and GTCI 2014 (continued)

Pillar	Sub-pillar	GTCI 2013	GTCI 2014	Action	Rationale
LABOUR AND VOCATIONAL SKILLS	Employable Skills	Secondary-educated workforce	Secondary-educated workforce	Replaced	Conceptually enriching and better data quality
			Secondary-educated population	New	Conceptually enriching and better data quality
		Technicians and associate professionals	Technicians and associate professionals	Retained	
		Youth employment		Dropped	Conceptually overlapping and statistically flawed
			State of cluster development	Moved from different pillar	Conceptually enriching
	Labour Productivity	Labour productivity per employee	Labour productivity per employee	Retained	Conceptually enriching
		Relationship of pay to productivity	Relationship of pay to productivity	Retained	Conceptually enriching
			Vocational skill-intensive exports	New	Conceptually enriching despite empirical observations
	GLOBAL KNOWLEDGE	Higher Skills and Competencies	Tertiary-educated workforce	Tertiary-educated workforce	Replaced
			Tertiary-educated population	New	Conceptually enriching
Legislators, senior officials and managers			Legislators, senior officials and managers	Retained	
Professionals			Professionals	Retained	
Researchers			Researchers	Replaced	Conceptually enriching and better data quality
			Scientific and technical journal articles	New	Conceptually enriching
			Quality of scientific research institutions	Moved from different pillar	Better aligned conceptually and statistically
Talent Impact		Innovation output	Innovation output	Retained	
		New product entrepreneurial activity	New product entrepreneurial activity	Retained	Conceptually enriching despite empirical observations
			New business density	New	Conceptually enriching
			Sophisticated exports	New	Conceptually enriching

Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

Table 2: Statistical coherence in the GTCI: correlations between sub-pillars and pillars

		Enablers	Attract	Grow	Retain	LV	GK
INPUT	1.1 Regulatory Landscape	0.93	0.83	0.84	0.75	0.76	0.77
	1.2 Market Landscape	0.92	0.72	0.87	0.79	0.79	0.87
	1.3 Business Landscape	0.81	0.56	0.58	0.45	0.49	0.49
	2.1 External Openness	0.72	0.87	0.65	0.54	0.48	0.54
	2.2 Internal Openness	0.71	0.90	0.78	0.63	0.54	0.60
	3.1 Formal Education	0.77	0.61	0.90	0.81	0.75	0.87
	3.2 Lifelong Learning	0.76	0.76	0.87	0.59	0.53	0.67
	3.3 Access to Growth Opportunities	0.72	0.78	0.82	0.60	0.47	0.62
	4.1 Sustainability	0.63	0.61	0.65	0.86	0.57	0.64
	4.2 Lifestyle	0.73	0.59	0.76	0.93	0.78	0.76
OUTPUT	5.1 Employable Skills	0.67	0.49	0.60	0.72	0.92	0.65
	5.2 Labour Productivity	0.68	0.52	0.62	0.57	0.79	0.63
	6.1 Higher Skills and Competencies	0.81	0.65	0.84	0.81	0.72	0.93
	6.2 Talent Impact	0.64	0.50	0.70	0.60	0.61	0.88

Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

The six pillars also share a single statistical dimension that summarises 80% 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 by the development team, given that all six pillars are assigned equal weights. The reliability of the GTCI, measured by the Cronbach-alpha value, is very high at 0.95, which is well above the 0.7 threshold for a reliable aggregate.⁵

An important part of the analysis relates to clarifying the importance of the Input and Output sub-indices with respect to the variation of the GTCI scores. The GTCI is built as the simple arithmetic average of the four Input and two Output sub-pillars. This 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 mean that the Input aspect is more important than the Output aspect in determining the variation of the GTCI scores. In fact, the correlation coefficients between the GTCI scores and the Input and Output sub-indices are 0.99 and 0.95, respectively, which suggest that the sub-indices are effectively placed on equal footing. Had the GTCI been assigning an equal weight to the Input and

Output sub-indices (which would translate into assigning 12.5% to each Input pillar and 25.0% to each Output pillar), the reliability of the GTCI would have been slightly lower, decreasing from 0.95 to 0.90. Overall, the tests so far show that the grouping of indicators into sub-pillars, pillars and an overall index is statistically coherent, and that the GTCI has a balanced structure, whereby all six pillars are equally important in determining the variation in the GTCI scores. 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

The GTCI and its components are simple arithmetic averages of the underlying variables. Developers and users of composite indicators often consider that the weights assigned to the variables coincide with the variables' importance in the index. However, in practice, the correlation structure of the variables and 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 65 variables at the various levels of aggregation in the GTCI structure, through a statistical measure known as the Pearson correlation ratio, which is the non-linear equivalent of the classical Pearson correlation coefficient. The suitability of Pearson's correlation ratio as a measure of the importance of variables in an index is fourfold: it offers a precise definition of importance that is, "the expected reduction in variance of the composite indicator that would be obtained if a variable could be fixed"; it can be used regardless of the degree of correlation between variables; it is model-free, in that it can also be applied to non-linear aggregations; and finally, it is not invasive, in that no changes are made to the composite indicator or to the correlation structure of the indicators.⁶

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 3. Examining the importance measures of the 65 variables, we see that almost all variables are important at the various levels of aggregation. For example, country variations in Government effectiveness scores captures 88% of the variance in the respective sub-pillar scores (Regulatory Landscape), 83% of the variance in the respective pillar scores (Enablers), 85% of the variance in the Input sub-index scores and 88% of the variance in the overall GTCI scores. Similarly, country variations in the Foreign direct investment (FDI) and technology transfer scores can capture 53%, 38%, 30% and 27% of the variance in the External Openness, Attract, Input and GTCI scores, respectively. In the 2014 data set, there seem to be only six variables that have a very low impact on the GTCI variance (less than 10%). These are: 1.3.1 Difficulty of hiring, 2.1.1 FDI inflow, 4.1.2 Extent and effect of taxation, 4.1.3 Pay level – head of organisation, 5.2.3 Vocational skill-intensive exports, and finally, 6.2.2 New product entrepreneurial activity. 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 reconsider the inclusion of these variables, or replace them with 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 with the GTCI. In fact, for more than 34% (up to 49%) of the 93 countries included in the GTCI 2014, the overall GTCI ranking differs by at least 10 positions from any of the six pillar rankings (see Table 4). 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 on human capital and talent competitiveness can be identified and serve as an input for evidence-based policymaking.

In addition we compared the GTCI 2014 with both the World Economic Forum's 2014–2015 Global Competitiveness Index⁷ and INSEAD's 2014 Global Innovation Index.⁸ After having extracted data from both projects' websites, we find that the GTCI 2014 correlates substantially with both indices (≈ 0.90). The GTCI has most in common with the INSEAD 2014 Global Innovation Index. Looking at the shifts in rankings (see Table 5), we nevertheless find that 40% and 29% out of the 93 countries differ in ranking by at least 10 positions when comparing the GTCI 2014 with the WEF 2014–2015 Global Competitiveness Index and the INSEAD 2014 Global Innovation Index, respectively. This indicates that the GTCI 2014 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 development team and external experts to verify that the 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 the 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.

Table 3: Importance measures for variables at various levels of the GTCI structure

			Sub-pillar	Pillar	Input/Output	GTCI
ENABLERS	Regulatory Landscape	1.1.1 Government effectiveness	88%	83%	85%	88%
		1.1.2 Business-government relations	47%	45%	36%	31%
		1.1.3 Political stability	76%	59%	61%	59%
		1.1.4 Starting a foreign business	36%	28%	21%	24%
	Market Landscape	1.2.1 Intensity of local competition	42%	44%	36%	39%
		1.2.2 Venture capital deals	56%	43%	41%	42%
		1.2.3 Firm-level technology absorption	70%	67%	66%	65%
		1.2.4 R&D expenditure	70%	54%	52%	59%
		1.2.5 ICT access	76%	67%	79%	84%
		1.2.6 Ease of doing business	76%	75%	66%	69%
	Business Landscape	1.3.1 Difficulty of hiring	55%	19%	6%	7%
		1.3.2 Difficulty of redundancy	51%	24%	16%	13%
		1.3.3 Labour-employer cooperation	42%	48%	40%	36%
1.3.4 Reliance on professional management		35%	66%	67%	63%	
ATTRACT	External Openness	2.1.1 FDI inflow	18%	8%	1%	1%
		2.1.2 FDI and technology transfer	53%	38%	30%	27%
		2.1.3 Prevalence of foreign ownership	48%	48%	37%	35%
		2.1.4 Male adult migrants	66%	48%	44%	40%
		2.1.5 Female adult migrants	67%	52%	47%	43%
		2.1.6 Brain gain	68%	54%	43%	37%
		2.1.7 Brain drain	52%	49%	46%	40%
	Internal Openness	2.2.1 Tolerance to minorities	70%	50%	32%	26%
		2.2.2 Tolerance to immigrants	71%	53%	40%	32%
		2.2.3 Female graduates	25%	14%	14%	15%
		2.2.4 Female-to-male earnings ratio	59%	54%	45%	43%
		2.2.5 Social mobility	50%	63%	71%	67%
		GROW	Formal Education	3.1.1 Vocational enrolment	49%	34%
3.1.2 Tertiary enrolment	62%			41%	37%	41%
3.1.3 International student inflow	30%			38%	45%	41%
3.1.4 Reading, maths and science scores	62%			32%	26%	38%
3.1.5 University ranking	66%			57%	44%	46%
Lifelong Learning	3.2.1 Quality of management schools		63%	58%	52%	48%
	3.2.2 Extent of staff training		66%	61%	62%	58%
	3.2.3 Firms offering formal training		74%	42%	23%	19%
Access to Growth Opportunities	3.3.1 Use of virtual social networks		45%	50%	54%	54%
	3.3.2 Number of LinkedIn users		69%	66%	65%	59%
	3.3.3 Willingness to delegate authority		60%	66%	60%	56%
	3.3.4 Voicing concern to officials		51%	22%	18%	15%

Table 3: Importance measures for variables at various levels of the GTCI structure (continued)

			Sub-pillar	Pillar	Input/Output	GTCI
RETAIN	Sustain ability	4.1.1 Pension system	50%	74%	53%	60%
		4.1.2 Extent and effect of taxation	4%	2%	10%	7%
		4.1.3 Pay level – head of organisation	43%	11%	5%	3%
		4.1.4 Pay level – head of information technology	74%	37%	27%	23%
	Lifestyle	4.2.1 Environmental performance	84%	82%	74%	78%
		4.2.2 Safety at night	39%	30%	32%	33%
		4.2.3 Female part-time workers	57%	45%	45%	45%
		4.2.4 Physician density	59%	47%	31%	36%
		4.2.5 Improved sanitation	75%	68%	42%	44%
LABOUR AND VOCATIONAL SKILLS	Employable Skills	5.1.1 Secondary-educated workforce	72%	43%	26%	17%
		5.1.2 Secondary-educated population	70%	48%	26%	17%
		5.1.3 Technicians and associate professionals	68%	71%	74%	68%
		5.1.4 State of cluster development	13%	30%	35%	41%
	Labour Productivity	5.2.1 Labour productivity per employee	53%	50%	58%	73%
		5.2.2 Relationship of pay to productivity	22%	19%	17%	16%
		5.2.3 Vocational skill-intensive exports	40%	15%	8%	2%
GLOBAL KNOWLEDGE	Higher Skills and Competencies	6.1.1 Tertiary-educated workforce	72%	62%	52%	49%
		6.1.2 Tertiary-educated population	74%	57%	48%	49%
		6.1.3 Professionals	76%	66%	66%	64%
		6.1.4 Researchers	79%	70%	66%	70%
		6.1.5 Legislators, senior officials and managers	39%	32%	27%	25%
		6.1.6 Quality of scientific research institutions	68%	68%	67%	74%
		6.1.7 Scientific and technical journal articles	76%	68%	62%	60%
	Talent Impact	6.2.1 Innovation output	59%	77%	76%	77%
		6.2.2 New product entrepreneurial activity	34%	15%	11%	7%
		6.2.3 New business density	36%	32%	23%	24%
		6.2.4 Sophisticated exports	44%	28%	27%	16%

Notes: The values are the kernel estimates of the Pearson correlation ratio, as in Paruolo et al. (2013).

Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

Table 4: Distribution of differences between pillar and GTCI rankings

Shifts with respect to the GTCI	GTCI Input Sub-index			GTCI Output Sub-index		
	Enablers	Attract	Grow	Retain	Labour and Vocational	Global Knowledge
more than 30 positions	2%	9%	0%	1%	2%	3%
20 to 29 positions	5%	15%	9%	9%	14%	10%
10 to 19 positions	27%	23%	27%	31%	33%	22%
5 to 9 positions	24%	17%	20%	27%	23%	25%
less than 5 positions	40%	32%	40%	30%	27%	39%
0 positions	2%	4%	4%	2%	1%	2%
Total	100%	100%	100%	100%	100%	100%
More than 10	34%	46%	35%	41%	49%	34%

Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014.

IMPACT OF MODELLING ASSUMPTIONS ON THE GTCI RESULTS

Every country's scores on the GTCI and its two sub-indices depend 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), or 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 the GTCI was based on a combination of a Monte Carlo experiment and a multi-modelling approach that dealt with three issues: pillar weights, missing data and the aggregation formula. This type of assessment aims to respond to eventual criticism that country scores associated with aggregate measures are generally not calculated under conditions of certainty, even if they are frequently presented as such.⁹

The Monte Carlo simulation related to the issue of pillar weights, and comprised 1,000 runs, each corresponding to a different set of weights for the six pillars, randomly sampled from uniform continuous distributions and ranging $\pm 20\%$ from 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 the GTCI that places equal importance on all six pillars. Given these considerations, limit values of uncertainty intervals for the pillar weights were: 10% to 30% 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 6). For the calculation of the GTCI, the limit values of uncertainty intervals for all six pillar weights were: 12% to 20%. In all simulations, sampled weights were rescaled to unity sum.

The GTCI development team, for transparency and replicability, opted not to estimate the few missing data (only 7.6% missing data in the data set of 93 countries \times 65 variables). The 'no imputation' choice, which is common in similar contexts, might encourage countries not to report low data values.¹⁰ To overcome this limitation, the JRC estimated missing data using the Expectation Maximisation (EM) algorithm.¹¹

Table 5: Distribution of differences between GTCI and other international rankings

Shifts with respect to the GTCI	2014–2015 WEF Global Competitiveness Index	2014 Global Innovation Index
more than 30 positions	5%	0%
20 to 29 positions	12%	5%
10 to 19 positions	23%	24%
5 to 9 positions	25%	24%
less than 5 positions	28%	38%
0 positions	7%	10%
Total	100%	100%
More than 10	40%	29%

Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

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.¹² Despite the arithmetic averaging formula receiving statistical support for the development of the GTCI, as already discussed in the previous section, the geometric average was considered instead,¹³ 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 *any* pillar.

Four models were tested based on the combination of no imputation versus EM imputation, and arithmetic versus geometric average, combined with 1,000 simulations per model (random weights versus fixed weights), for a total of 4,000 simulations for the GTCI, and each of the two sub-indices (see Table 6 for a summary of the uncertainties considered in the GTCI 2014).

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 the GTCI, and the two sub-indices. Countries are ordered from best to worst according to their reference rank (black line), the dot being the median rank. Error bars represent, for each country, the 90% interval across all simulations. Table 7 reports the published rankings and the 90% confidence intervals that account for uncertainties in the missing data estimation, pillar weights and 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, pillar weights and 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 the GTCI is a suitable summary measure. Furthermore, the narrow confidence intervals for the majority of the countries' ranks (less than ± 3 positions for almost half of the countries) imply that the GTCI ranks are also, for most countries, robust to changes in the pillar weights, imputation method and aggregation formula.

Results for the Input and Output sub-indices are also robust and representative of the plurality of scenarios considered. The Input rank is close to the median rank (less than two positions away) for 83% of the countries and the rank intervals are ± 3 positions for 61% of the countries. Similarly, the Output rank is close to the median rank (less than two positions away) for 87% of the countries and the rank intervals are ± 3 positions for 75% of the countries.

Overall, country ranks in the GTCI and its two sub-indices are robust to changes in the pillar weights, imputation method and aggregation formula for the majority of the countries considered. For full transparency and information, Table 7 reports the GTCI country ranks (and those of the sub-indices) together with the 90% confidence intervals (of the 4,000 simulated scenarios) in order to better appreciate the robustness of these ranks to the computation methodology.

Table 6: Uncertainty analysis for the GTCI 2014: pillar weights, missing data and aggregation formula

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 Pillar Weights			
Pillar		Reference value for the weight (within the sub-Index)	Distribution assigned for robustness analysis (within the sub-Index)
INPUT	Enablers	0.25	U[0.10,0.30]
	Attract	0.25	U[0.10,0.30]
	Grow	0.25	U[0.10,0.30]
	Retain	0.25	U[0.10,0.30]
OUTPUT	Labour and Vocational	0.5	U[0.40,0.60]
	Global Knowledge	0.5	U[0.40,0.60]

Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014.

SENSITIVITY ANALYSIS RESULTS

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

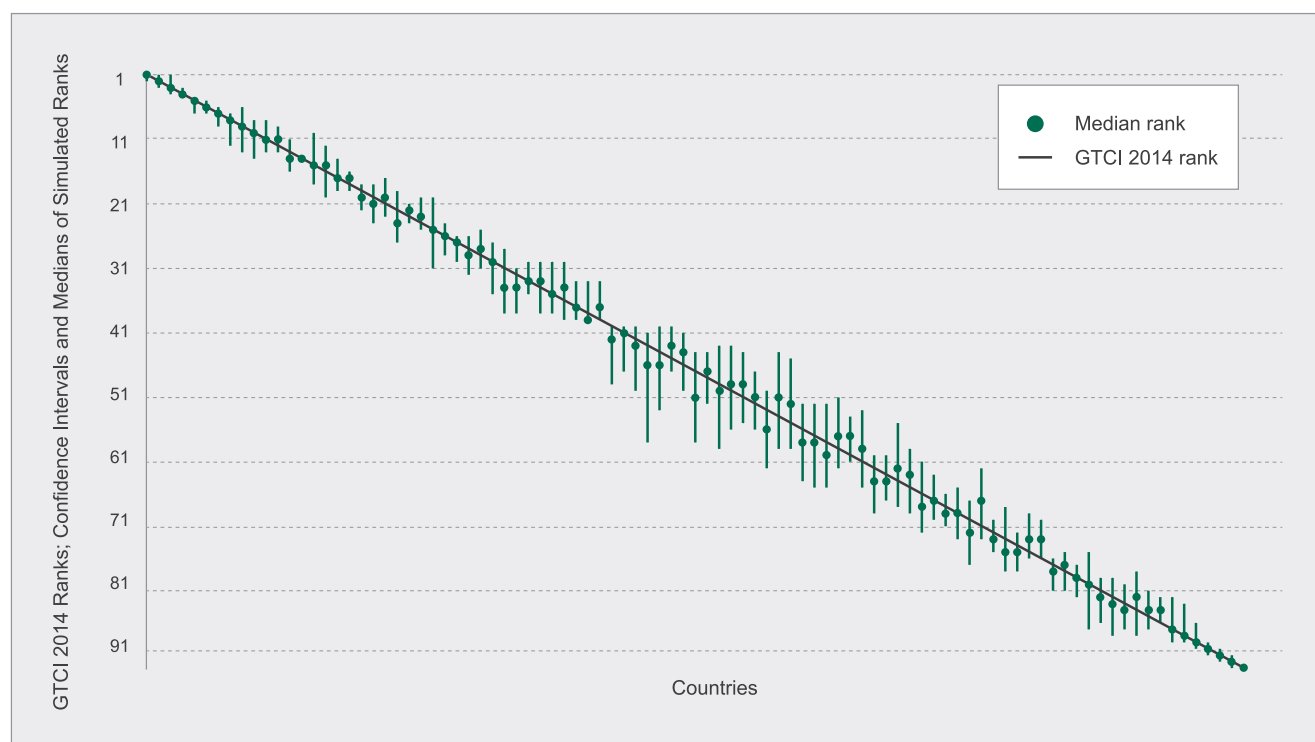
The most influential methodological assumption is the choice of no imputation versus EM imputation. This choice has the largest impact on differences in ranking for the Output sub-index, less so for the Input sub-index, and least for the overall GTCI 2014. For example, in the most extreme case, a country declines by five positions in the Output ranking if a geometric aggregation is applied, yet the country declines by 14 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 declines by 12 positions. Note however that these assumptions concern methodological choices only and might be less influential overall than choices relating to the background assumptions in the conceptual framework.¹⁴

Overall, the JRC recommendation is to not alter the GTCI inclusion criteria on data availability, but consider country ranks in the GTCI 2014, and Input and Output sub-indices within their 90% confidence intervals in order to better appreciate the degree to which a country's rank depends on the modelling choices. It is reassuring that for over 80% of the countries included in the GTCI, their ranks in the GTCI 2014, and Input and Output sub-indices are the result of the underlying data and not modelling choices.

CONCLUSION

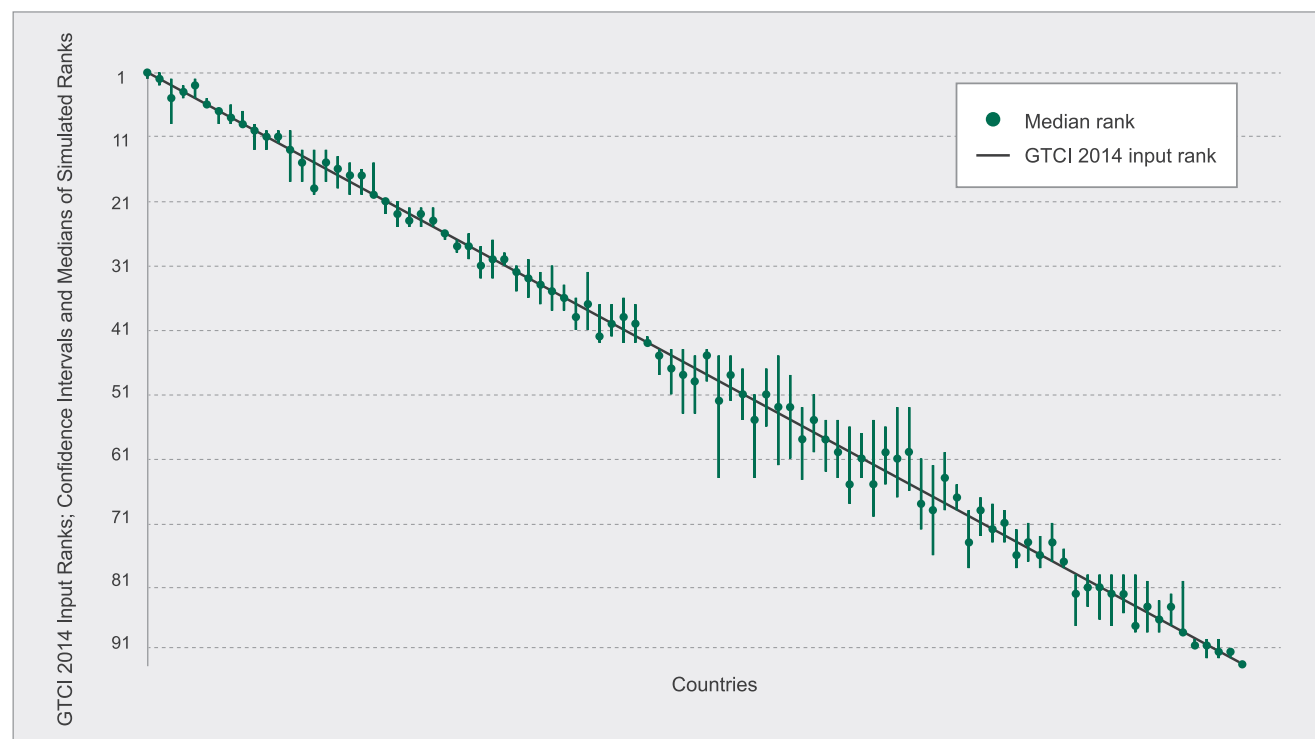
The JRC analysis suggests that the conceptualised multi-level structure of the GTCI 2014 is statistically coherent and balanced (i.e., not dominated by any pillar or sub-pillar; all indicators contribute to the variation of the respective Input and Output sub-indices, and to the overall GTCI). The reliability of the GTCI, as measured by the Cronbach-alpha value is very high at 0.95 (well above the recommended 0.70 threshold for a reliable aggregate). Furthermore, the analysis offers statistical justification for the use of equal weights and arithmetic averaging at various levels of aggregation, and shows that the GTCI is statistically more reliable in its current form, namely, the simple arithmetic average of the six pillars, instead of the simple arithmetic average of the Input and Output sub-indices.

Figure 1a: Robustness analysis: GTCI rank versus median rank, 90% confidence interval



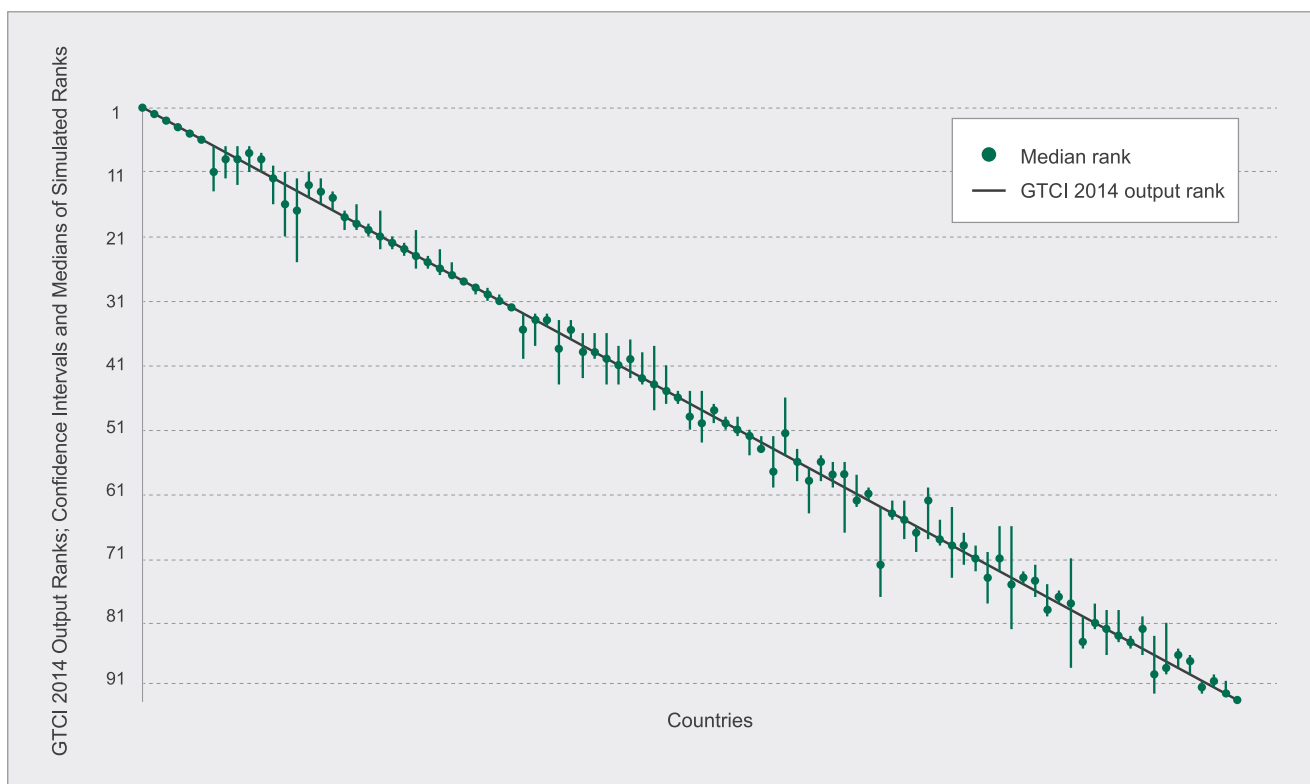
Notes: The Spearman rank correlation between the median rank and GTCI 2014 rank is 0.998. Median ranks and intervals are calculated over 4,000 simulated scenarios combining random weights, imputed versus missing values, and geometric versus arithmetic average at the pillar level.
Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

Figure 1b: Robustness analysis: GTCI Input rank versus median rank, 90% confidence interval



Notes: The Spearman rank correlation between the median rank and GTCI 2014 Input rank is 0.998. Median ranks and intervals are calculated over 4,000 simulated scenarios combining random weights, imputed versus missing values, and geometric versus arithmetic average at the pillar level.
Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

Figure 1c: Robustness analysis: GTCI Input rank versus median rank, 90% confidence interval



Note: The Spearman rank correlation between the median rank and GTCI 2014 Output rank is 0.998. Median ranks and intervals are calculated over 4,000 simulated scenarios combining random weights, imputed versus missing values, and geometric versus arithmetic average at the pillar level.
Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

Points that call for possible refinements of the GTCI framework were also identified. These refinements regard mainly six out of the 65 variables, namely 1.3.1 Difficulty of hiring, 2.1.1 FDI inflow, 4.1.2 Extent and effect of taxation, 4.1.3 Pay level – head of organisation, 5.2.3 Vocational skill-intensive exports, and finally 6.2.2 New product entrepreneurial activity. Although present in the conceptual framework, these variables do not contribute significantly to the variation of the GTCI country scores 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 will refine next year's release along these issues.

The GTCI 2014, and Input and Output sub-indices country ranks are robust to methodological assumptions relating to the estimation of missing data, pillar weighting and aggregation formula. It is reassuring that for over 80% of the countries included in the GTCI, the overall rank and those in the Input and Output sub-indices are the result of the underlying data and not the modelling choices. Consequently, inferences can be drawn for most countries in the GTCI, whilst some caution may be needed for a few countries. Note that perfect

robustness would have been undesirable, since this would have implied that the GTCI components are perfectly correlated and hence redundant, which is not the case for the GTCI 2014. In fact, one way in which the GTCI helps to highlight other components of human capital and talent competitiveness is by pinpointing the differences in rankings that emerge from a comparison between the GTCI and each of the six pillars: for more than 34% (up to 49%) of the 93 countries included in the GTCI 2014, the overall GTCI ranking differs by 10 positions or more from any of the six pillar rankings. 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 on human capital and talent competitiveness can be identified, and serve as an input for evidence-based policymaking.

The auditing conducted herein has shown the potential of the Global Talent Competitiveness Index 2014, upon some further refinements, to reliably identify weaknesses and best practices, and ultimately monitor national performance in human capital and competitiveness issues around the world.

Table 7: Country ranks and 90% confidence intervals for the GTCI 2014 and its Input and Output sub-indices

Country	GTCI 2014		Input Sub-index		Output Sub-index	
	Rank	Interval	Rank	Interval	Rank	Interval
Switzerland	1	[1, 2]	1	[1, 2]	2	[2, 2]
Singapore	2	[1, 3]	2	[1, 3]	3	[3, 3]
Luxembourg	3	[1, 4]	3	[2, 9]	1	[1, 1]
United States	4	[3, 4]	5	[2, 5]	4	[4, 4]
Canada	5	[5, 7]	4	[3, 5]	17	[14, 17]
Sweden	6	[5, 7]	9	[7, 9]	6	[6, 6]
United Kingdom	7	[6, 9]	12	[10, 12]	5	[5, 5]
Denmark	8	[7, 12]	10	[9, 13]	10	[7, 11]
Australia	9	[6, 13]	6	[5, 6]	26	[23, 27]
Ireland	10	[8, 14]	8	[6, 9]	19	[16, 20]
Norway	11	[8, 13]	7	[7, 9]	22	[21, 23]
Netherlands	12	[9, 13]	11	[10, 13]	16	[12, 16]
Finland	13	[11, 16]	14	[13, 18]	11	[8, 11]
Germany	14	[9, 17]	18	[15, 20]	8	[7, 12]
Austria	15	[10, 18]	16	[13, 18]	13	[11, 21]
New Zealand	16	[12, 20]	13	[10, 18]	24	[20, 26]
Iceland	17	[14, 19]	15	[13, 20]	21	[17, 23]
Belgium	18	[16, 19]	19	[16, 20]	25	[24, 26]
Estonia	19	[18, 22]	21	[21, 23]	15	[11, 15]
Japan	20	[18, 24]	22	[21, 25]	12	[10, 16]
Israel	21	[17, 23]	24	[22, 25]	9	[7, 13]
United Arab Emirates	22	[19, 27]	17	[14, 19]	40	[36, 44]
France	23	[21, 24]	25	[22, 25]	18	[17, 20]
Czech Republic	24	[20, 25]	28	[26, 30]	7	[7, 14]
Qatar	25	[20, 31]	20	[15, 20]	44	[38, 48]
Slovenia	26	[24, 29]	29	[28, 33]	20	[19, 21]
Chile	27	[26, 30]	23	[22, 25]	37	[34, 37]
Latvia	28	[26, 32]	32	[31, 35]	27	[25, 27]
South Korea	29	[25, 31]	33	[30, 36]	23	[22, 24]
Spain	30	[27, 35]	26	[26, 27]	39	[36, 40]
Slovakia	31	[28, 38]	43	[42, 43]	14	[12, 25]
Saudi Arabia	32	[31, 38]	31	[29, 31]	36	[34, 44]

Table 7: Country ranks and 90% confidence intervals for the GTCI 2014 and its Input and Output sub-indices (continued)

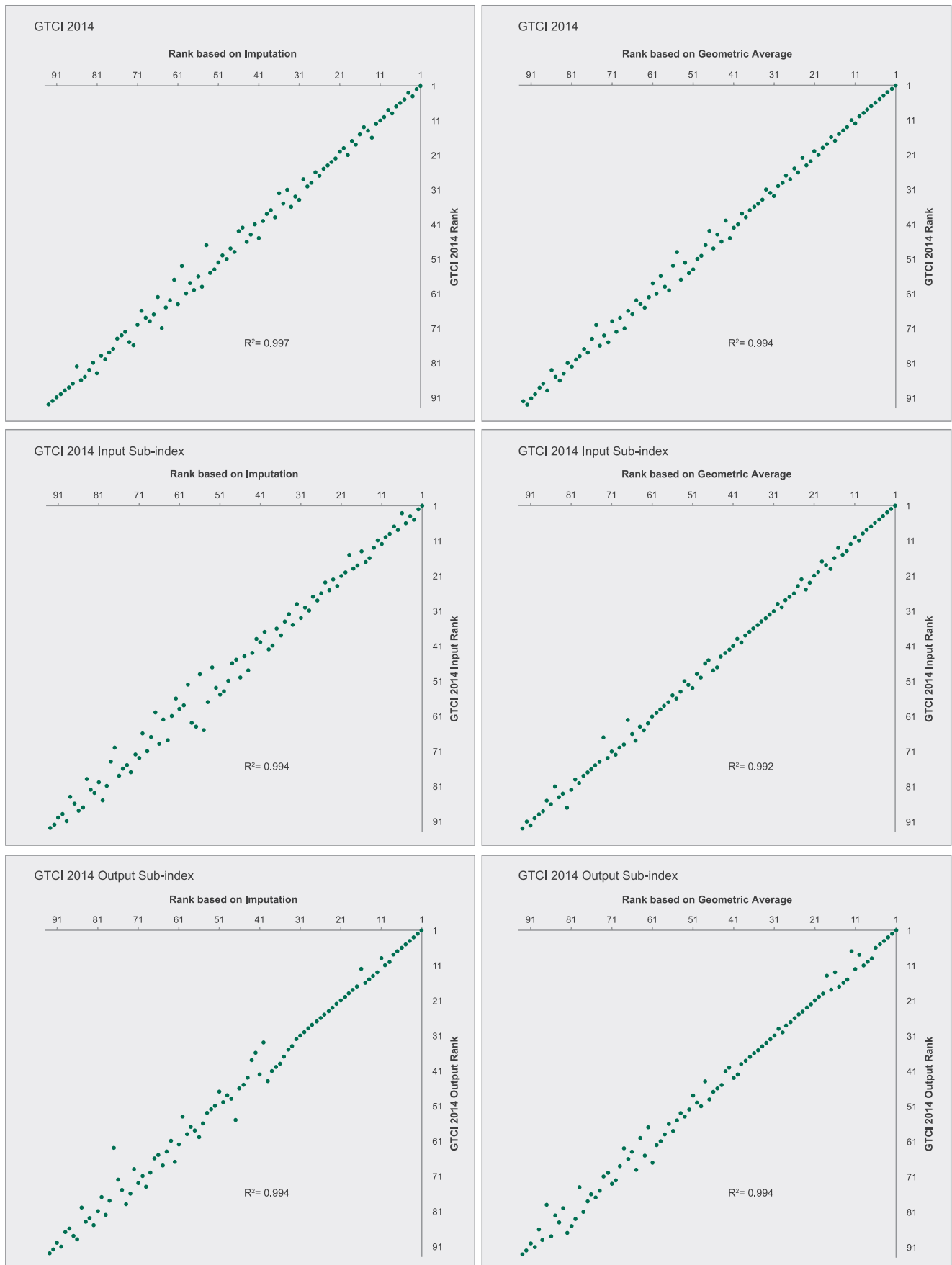
Country	GTCI 2014		Input Sub-index		Output Sub-index	
	Rank	Interval	Rank	Interval	Rank	Interval
Hungary	33	[30, 35]	36	[34, 38]	28	[28, 28]
Portugal	34	[30, 38]	27	[27, 29]	43	[30, 38]
Malaysia	35	[30, 38]	35	[31, 38]	32	[32, 32]
Italy	36	[30, 39]	38	[32, 41]	31	[30, 31]
Lithuania	37	[33, 39]	40	[37, 42]	30	[29, 31]
Costa Rica	38	[33, 39]	30	[27, 33]	49	[47, 50]
Poland	39	[33, 39]	42	[37, 43]	29	[29, 30]
Kazakhstan	40	[40, 49]	37	[36, 41]	56	[54, 59]
China	41	[40, 47]	50	[45, 52]	33	[33, 40]
Panama	42	[40, 50]	46	[44, 54]	38	[36, 43]
Trinidad and Tobago	43	[41, 58]	39	[37, 43]	57	[57, 64]
Uruguay	44	[40, 53]	34	[32, 37]	73	[66, 73]
Bulgaria	45	[40, 47]	51	[47, 55]	35	[33, 35]
Croatia	46	[41, 50]	57	[51, 60]	34	[33, 38]
Macedonia	47	[44, 58]	49	[45, 64]	48	[45, 53]
Armenia	48	[44, 52]	45	[44, 51]	50	[49, 51]
Brazil	49	[43, 59]	41	[36, 43]	71	[69, 73]
Greece	50	[43, 56]	54	[45, 62]	47	[45, 51]
South Africa	51	[44, 55]	55	[48, 61]	46	[45, 47]
Colombia	52	[47, 56]	48	[44, 49]	59	[56, 60]
Mongolia	53	[50, 62]	47	[45, 54]	62	[60, 62]
Philippines	54	[44, 59]	65	[53, 66]	45	[41, 47]
Russia	55	[45, 59]	68	[60, 69]	42	[37, 43]
Argentina	56	[52, 64]	44	[44, 48]	70	[67, 72]
Lebanon	57	[52, 65]	56	[53, 64]	54	[52, 60]
Azerbaijan	58	[52, 65]	52	[51, 64]	60	[56, 67]
Turkey	59	[51, 62]	64	[53, 67]	52	[51, 55]
Mexico	60	[54, 61]	63	[56, 65]	53	[52, 54]
Thailand	61	[53, 65]	53	[47, 56]	67	[60, 68]
Moldova	62	[60, 69]	66	[61, 72]	58	[55, 59]
Peru	63	[60, 67]	59	[55, 64]	64	[62, 65]
Romania	64	[55, 68]	77	[71, 77]	41	[38, 44]

Table 7: Country ranks and 90% confidence intervals for the GTCI 2014 and its Input and Output sub-indices (continued)

Country	GTCI 2014		Input Sub-index		Output Sub-index	
	Rank	Interval	Rank	Interval	Rank	Interval
Tunisia	65	[59, 69]	72	[68, 74]	51	[49, 52]
Botswana	66	[61, 72]	62	[55, 70]	69	[63, 74]
Ecuador	67	[63, 70]	58	[55, 63]	72	[70, 78]
Dominican Republic	68	[66, 71]	69	[65, 69]	68	[65, 69]
Guatemala	69	[65, 73]	61	[57, 64]	78	[76, 78]
Albania	70	[67, 77]	60	[56, 68]	79	[71, 88]
Ukraine	71	[62, 73]	76	[73, 78]	55	[46, 55]
El Salvador	72	[70, 75]	73	[69, 74]	63	[63, 77]
Namibia	73	[68, 78]	67	[62, 76]	77	[75, 80]
Kyrgyzstan	74	[72, 78]	70	[69, 78]	74	[66, 82]
Vietnam	75	[69, 76]	78	[75, 78]	61	[58, 63]
Sri Lanka	76	[70, 76]	71	[67, 73]	76	[72, 77]
Nicaragua	77	[76, 81]	75	[71, 77]	80	[80, 85]
India	78	[75, 81]	83	[79, 85]	65	[62, 68]
Paraguay	79	[77, 82]	74	[72, 78]	88	[85, 88]
Egypt	80	[75, 87]	88	[80, 88]	66	[66, 70]
Bolivia	81	[79, 86]	79	[79, 87]	83	[79, 84]
Iran	82	[79, 88]	84	[79, 88]	81	[78, 82]
Cambodia	83	[80, 87]	86	[83, 88]	82	[79, 86]
Venezuela	84	[78, 88]	82	[79, 87]	85	[80, 86]
Morocco	85	[81, 87]	80	[79, 84]	89	[86, 89]
Indonesia	86	[82, 86]	87	[82, 87]	84	[83, 85]
Ghana	87	[82, 89]	81	[79, 86]	90	[90, 92]
Uganda	88	[83, 89]	85	[80, 88]	91	[89, 91]
Pakistan	89	[86, 90]	92	[91, 92]	75	[73, 75]
Bangladesh	90	[89, 91]	89	[89, 90]	86	[83, 92]
Algeria	91	[90, 92]	90	[89, 92]	92	[90, 92]
Madagascar	92	[91, 93]	91	[89, 92]	93	[93, 93]
Yemen	93	[91, 93]	93	[93, 93]	87	[81, 89]

Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

Figure 2: Sensitivity analysis: impact of modelling choices



Source: Saisana and Hardeman, European Commission Joint Research Centre, 2014

NOTES

- ¹ 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).
- ² OECD (2008)
- ³ 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 (93 countries).
- ⁴ The sub-pillars that have a single latent dimension are: 1.2 Market Landscape, 2.2 Internal Openness, 3.2 Lifelong Learning, 3.3 Access to Growth Opportunities, 4.2 Lifestyle, and 6.1 Higher Skills and Competencies. The sub-pillars that do not have a single latent dimension are: 1.1 Regulatory Landscape, 1.3 Business Landscape, 2.1 External Openness, 3.1 Formal Education, 4.1 Sustainability, 5.1 Employable Skills, 5.2 Labour Productivity, and 6.2 Talent Impact. Hence, in this latter group of sub-pillars, there is a notable amount of information that is lost when aggregating the variables directly into sub-pillars.
- ⁵ See Nunnally (1978)
- ⁶ Paruolo, Saisana and Saltelli (2013)
- ⁷ World Economic Forum (2014)
- ⁸ Cornell University, INSEAD and WIPO (2014); Saisana and Saltelli (2011); Saltelli et al. (2008)
- ⁹ Saisana, Saltelli and Tarantola (2005); and Saisana, D'Hombres and Saltelli (2011)
- ¹⁰ In the case of arithmetic average, the 'no imputation' choice is equivalent to replacing missing values with the average of the available (normalised) data within each sub-pillar.
- ¹¹ 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 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.
- ¹² Munda (2008)
- ¹³ In the case of geometric average, pillars are multiplied as opposed to summed, like they are 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).
- ¹⁴ Saltelli and Funtowicz (2014)

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COUNTRY PROFILES

How to read the country profiles

COUNTRY PROFILES
ALBANIA

Upper Middle Income
Europe

70

RANK
(out of 93)

Population (millions) **2.77**

GDP per capita (PPP\$) **10,488**

GDP (US\$ billions) **12.99**

GTCI Score **37.69**

GTCI Score (Income Group Average) **40.84**

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

3	VARIABLE	SCORE	RANK	
	1 Enablers	49.88	58	
1.1	Regulatory landscape	54.05	46	
	Government efficiency			
1.1.1	Government effectiveness	28.52	68	
1.1.2	Business-government relations	45.12	66	
1.1.3	Political stability	61.81	58	
	FDI climate			
1.1.4	Starting a foreign business	80.77	2	
1.2	Market landscape	31.56	80	
	Competition climate			
1.2.1	Intensity of local competition	40.30	92	
	Innovation climate			
1.2.2	Venture capital deals	n/a	n/a	
1.2.3	Firm-level technology absorption	54.07	75	
1.2.4	R&D expenditure	2.71	74	
	Connectivity			
1.2.5	ICT access	30.20	73	
	Ease of doing business			
1.2.6	Ease of doing business	30.50	65	
1.3	Business landscape	64.03	51	
	Labour market flexibility			
1.3.1	Difficulty of hiring	56.67	58	
1.3.2	Difficulty of redundancy	30.00	30	
1.3.3	Labour-employer cooperation	62.19	26	
	Ownership and governance			
1.3.4	Reliance on professional management	48.28	64	
2	Attract	43.52	63	
2.1	External openness	36.49	46	
	Industrial openness			
2.1.1	FDI inflow	56.65	14	
2.1.2	FDI and technology transfer	56.16	64	
2.1.3	Prevalence of foreign ownership	42.66	85	
	Migration openness			
2.1.4	Male adult migrants	6.35	57	
2.1.5	Female adult migrants	7.69	51	
2.1.6	Brain gain	43.17	40	
2.1.7	Brain drain	42.33	43	
2.2	Internal openness	59.54	67	
	Diversity			
2.2.1	Tolerance to minorities	47.13	76	
2.2.2	Tolerance to immigrants	41.89	74	
	Gender mobility			
2.2.3	Female graduates	87.63	5	
2.2.4	Female-to-male earnings ratio	45.24	58	
	Social mobility			
2.2.5	Social mobility	30.83	93	
3	Grow	38.04	69	
3.1	Formal education	15.86	75	
	Education climate			
3.1.1	Vocational enrolment	11.29	69	
3.1.2	Tertiary enrolment	52.49	42	
	Internationalisation of education			
3.1.3	International student inflow	6.05	57	
	Performance of education system			
3.1.4	Reading, maths and science scores	9.47	53	
3.1.5	University ranking	0.00	63	
3.2	Lifelong learning	42.91	72	
	Further education			
3.2.1	Quality of management schools	51.60	60	
3.2.2	Extent of staff training	56.50	28	
	Continuous development			
3.2.3	Firms offering formal training	20.62	58	

3	VARIABLE	SCORE	RANK	
	3.3 Access to growth opportunities	49.35	45	
	Networks			
3.3.1	Use of virtual social networks	67.52	82	
3.3.2	Number of LinkedIn users	n/a	n/a	
	Learning through experience			
3.3.3	Willingness to delegate authority	45.87	52	
	Voice			
3.3.4	Voicing concern to officials	34.66	50	
4	Retain	46.79	51	
4.1	Sustainability	41.28	46	
	Social protection			
4.1.1	Pension system	37.60	56	
	Taxation			
4.1.2	Extent and effect of taxation	44.97	39	
	Pay			
4.1.3	Pay level – head of organisation	n/a	n/a	
4.1.4	Pay level – head of information technology	n/a	n/a	
4.2	Lifestyle	52.30	54	
	Quality of life			
4.2.1	Environmental performance	46.92	52	
4.2.2	Safety at night	52.45	50	
4.2.3	Female part-time workers	n/a	n/a	
	Access to services			
4.2.4	Physician density	16.90	65	
4.2.5	Sanitation	92.95	45	
5	Labour and Vocational Skills	39.37	56	
5.1	Employable skills	36.65	66	
	Vocationally trained workforce			
5.1.1	Secondary-educated workforce	30.36	62	
5.1.2	Secondary-educated population	54.76	27	
	Technical professions			
5.1.3	Technicians and associate professionals	n/a	n/a	
	Employment quality			
5.1.4	State of cluster development	24.84	92	
5.2	Labour productivity	42.08	44	
	Labour productivity			
5.2.1	Labour productivity per employee	14.16	58	
	Pay and productivity			
5.2.2	Relationship of pay to productivity	58.73	20	
	Misvalue exports			
5.2.3	Vocational skill-intensive exports	63.33	32	
6	Global Knowledge	10.56	91	
6.1	Higher skills and competencies	9.33	90	
	Educated workforce			
6.1.1	Tertiary-educated workforce	9.09	79	
6.1.2	Tertiary-educated population	2.41	79	
	Knowledge workers			
6.1.3	Professionals	n/a	n/a	
6.1.4	Researchers	1.43	62	
6.1.5	Legislators, senior officials and managers	n/a	n/a	
	Research quality			
6.1.6	Quality of scientific research institutions	30.38	83	
6.1.7	Scientific and technical journal articles	3.31	75	
6.2	Talent impact	11.78	87	
	Innovation			
6.2.1	Innovation output	15.47	84	
	Entrepreneurship			
6.2.2	New product entrepreneurial activity	n/a	n/a	
6.2.3	New business density	4.01	56	
	High-value exports			
6.2.4	Sophisticated exports	15.87	58	

The country profiles provide more granular information on how each of the 93 countries performs in the various dimensions of the Global Talent Competitiveness Index (GTCI).

Each country profile consists of three parts:

- 1** **Key indicators**,
 - 2** **Radar chart**, and
 - 3** **Scores and Ranks.**
- 1** The first section comprises the respective country's rank (out of 93 countries), GTCI score and Income group average GTCI score. The Income group is based on the World Bank Income Group Classification, as of July 2014. 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*.[†]
- 2** The second section presents 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 black line plots the country's score on each of the six pillars, while the green line represents its income group average.
- 3** The third section lays out the country's normalized scores and ranks across all pillars, sub-pillars and variables. The pillars are identified by a bold single-digit notation (e.g., **1 Enablers**) 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 65 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.

[†] The GDP per capita indicator for Argentina is drawn from World Economic Outlook, April 2014, International Monetary Fund.

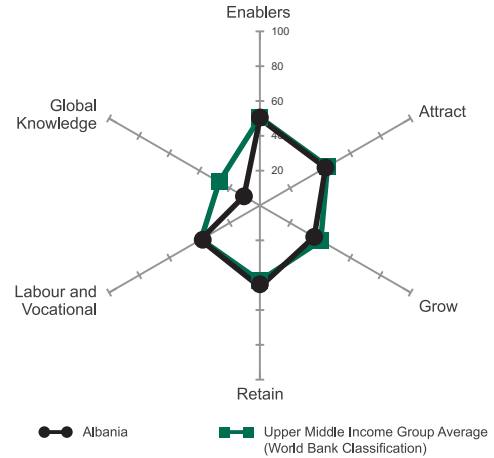
ALBANIA

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 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	49.88	58
1.1 Regulatory landscape	54.05	46
Government efficiency		
1.1.1 Government effectiveness.....	28.52	66
1.1.2 Business-government relations.....	45.12	66
1.1.3 Political stability.....	61.81	58
FDI climate		
1.1.4 Starting a foreign business.....	80.77	2
1.2 Market landscape	31.56	80
Competition climate		
1.2.1 Intensity of local competition.....	40.30	92
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	54.07	75
1.2.4 R&D expenditure.....	2.71	74
Connectivity		
1.2.5 ICT access.....	30.20	73
Ease of doing business		
1.2.6 Ease of doing business.....	30.50	65
1.3 Business landscape	64.03	51
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	90.00	30
1.3.3 Labour-employer cooperation.....	62.19	26
Ownership and governance		
1.3.4 Reliance on professional management.....	48.28	64
2 Attract	43.52	63
2.1 External openness	36.49	48
Industrial openness		
2.1.1 FDI inflow.....	56.85	14
2.1.2 FDI and technology transfer.....	56.16	64
2.1.3 Prevalence of foreign ownership.....	42.68	85
Migration openness		
2.1.4 Male adult migrants.....	6.35	57
2.1.5 Female adult migrants.....	7.89	51
2.1.6 Brain gain.....	43.17	40
2.1.7 Brain drain.....	42.33	43
2.2 Internal openness	50.54	67
Diversity		
2.2.1 Tolerance to minorities.....	47.13	78
2.2.2 Tolerance to immigrants.....	41.89	74
Gender mobility		
2.2.3 Female graduates.....	87.63	5
2.2.4 Female-to-male earnings ratio.....	45.24	58
Social mobility		
2.2.5 Social mobility.....	30.83	93
3 Grow	36.04	69
3.1 Formal education	15.86	75
Education climate		
3.1.1 Vocational enrolment.....	11.29	69
3.1.2 Tertiary enrolment.....	52.49	42
Internationalisation of education		
3.1.3 International student inflow.....	6.05	57
Performance of education system		
3.1.4 Reading, maths and science scores.....	9.47	53
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	42.91	72
Further education		
3.2.1 Quality of management schools.....	51.60	60
3.2.2 Extent of staff training.....	56.50	28
Continuous development		
3.2.3 Firms offering formal training.....	20.62	58

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	49.35	45
Networks		
3.3.1 Use of virtual social networks.....	67.52	82
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	45.87	52
Voice		
3.3.4 Voicing concern to officials.....	34.66	50
4 Retain	46.79	51
4.1 Sustainability	41.28	46
Social protection		
4.1.1 Pension system.....	37.60	56
Taxation		
4.1.2 Extent and effect of taxation.....	44.97	39
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	52.30	54
Quality of life		
4.2.1 Environmental performance.....	46.92	52
4.2.2 Safety at night.....	52.45	50
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	16.90	65
4.2.5 Sanitation.....	92.95	45
5 Labour and Vocational Skills	39.37	56
5.1 Employable skills	36.65	66
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	30.36	62
5.1.2 Secondary-educated population.....	54.76	27
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	24.84	92
5.2 Labour productivity	42.08	44
Labour productivity		
5.2.1 Labour productivity per employee.....	14.18	58
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	58.73	20
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	53.33	32
6 Global Knowledge	10.56	91
6.1 Higher skills and competencies	9.33	90
Educated workforce		
6.1.1 Tertiary-educated workforce.....	9.09	79
6.1.2 Tertiary-educated population.....	2.41	79
Knowledge workers		
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	1.43	62
6.1.5 Legislators, senior officials and managers.....	n/a	n/a
Research quality		
6.1.6 Quality of scientific research institutions.....	30.38	83
6.1.7 Scientific and technical journal articles.....	3.31	75
6.2 Talent impact	11.78	87
Innovation		
6.2.1 Innovation output.....	15.47	84
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	4.01	56
High-value exports		
6.2.4 Sophisticated exports.....	15.87	58

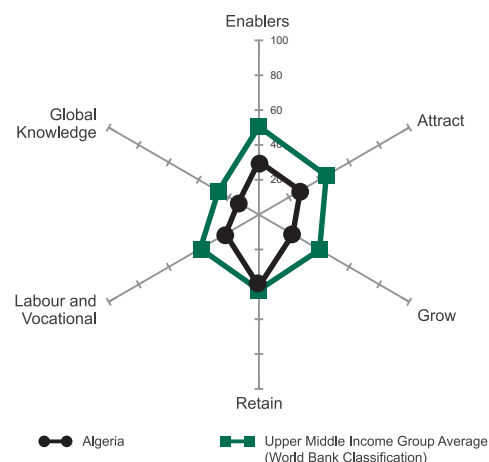
ALGERIA

Upper Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

91

Population (millions) **39.21**
GDP per capita (PPP\$) **13,304**
GDP (US\$ billions) **210.18**
GTCI Score **26.28**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	30.52	92
1.1 Regulatory landscape	29.08	90
Government efficiency		
1.1.1 Government effectiveness.....	20.71	78
1.1.2 Business-government relations.....	39.68	77
1.1.3 Political stability.....	32.84	87
FDI climate		
1.1.4 Starting a foreign business.....	23.08	32
1.2 Market landscape	18.37	93
Competition climate		
1.2.1 Intensity of local competition.....	42.72	91
Innovation climate		
1.2.2 Venture capital deals.....	0.00	58
1.2.3 Firm-level technology absorption.....	36.13	93
1.2.4 R&D expenditure.....	0.73	81
Connectivity		
1.2.5 ICT access.....	28.46	75
Ease of doing business		
1.2.6 Ease of doing business.....	2.20	91
1.3 Business landscape	44.12	89
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	39.21	88
Ownership and governance		
1.3.4 Reliance on professional management.....	21.59	93
2 Attract	27.57	90
2.1 External openness	18.23	91
Industrial openness		
2.1.1 FDI inflow.....	9.75	82
2.1.2 FDI and technology transfer.....	43.82	86
2.1.3 Prevalence of foreign ownership.....	36.95	89
Migration openness		
2.1.4 Male adult migrants.....	1.71	75
2.1.5 Female adult migrants.....	1.39	74
2.1.6 Brain gain.....	16.00	86
2.1.7 Brain drain.....	18.00	85
2.2 Internal openness	36.90	90
Diversity		
2.2.1 Tolerance to minorities.....	20.84	88
2.2.2 Tolerance to immigrants.....	44.64	71
Gender mobility		
2.2.3 Female graduates.....	83.47	9
2.2.4 Female-to-male earnings ratio.....	0.00	91
Social mobility		
2.2.5 Social mobility.....	35.56	89
3 Grow	22.51	92
3.1 Formal education	11.99	81
Education climate		
3.1.1 Vocational enrolment.....	17.12	60
3.1.2 Tertiary enrolment.....	28.31	63
Internationalisation of education		
3.1.3 International student inflow.....	2.53	62
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	28.17	91
Further education		
3.2.1 Quality of management schools.....	33.33	89
3.2.2 Extent of staff training.....	34.06	92
Continuous development		
3.2.3 Firms offering formal training.....	17.14	60

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	27.36	92
Networks		
3.3.1 Use of virtual social networks.....	68.46	78
3.3.2 Number of LinkedIn users.....	8.24	54
Learning through experience		
3.3.3 Willingness to delegate authority.....	27.18	93
Voice		
3.3.4 Voicing concern to officials.....	5.56	87
4 Retain	41.11	67
4.1 Sustainability	33.78	66
Social protection		
4.1.1 Pension system.....	74.53	36
Taxation		
4.1.2 Extent and effect of taxation.....	38.17	61
Pay		
4.1.3 Pay level – head of organisation.....	14.48	59
4.1.4 Pay level – head of information technology.....	7.93	50
4.2 Lifestyle	48.45	62
Quality of life		
4.2.1 Environmental performance.....	39.43	71
4.2.2 Safety at night.....	41.57	64
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	18.45	61
4.2.5 Sanitation.....	94.34	42
5 Labour and Vocational Skills	22.25	91
5.1 Employable skills	24.52	83
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	17.21	75
5.1.2 Secondary-educated population.....	2.13	81
Technical professions		
5.1.3 Technicians and associate professionals.....	42.29	46
Employment quality		
5.1.4 State of cluster development.....	36.45	81
5.2 Labour productivity	19.98	93
Labour productivity		
5.2.1 Labour productivity per employee.....	15.09	56
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	30.29	88
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	14.55	90
6 Global Knowledge	13.70	87
6.1 Higher skills and competencies	16.74	78
Educated workforce		
6.1.1 Tertiary-educated workforce.....	21.38	70
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	11.89	73
6.1.4 Researchers.....	1.62	58
6.1.5 Legislators, senior officials and managers.....	32.77	36
Research quality		
6.1.6 Quality of scientific research institutions.....	25.23	90
6.1.7 Scientific and technical journal articles.....	7.53	61
6.2 Talent impact	10.67	88
Innovation		
6.2.1 Innovation output.....	0.00	93
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	28.38	59
6.2.3 New business density.....	2.34	63
High-value exports		
6.2.4 Sophisticated exports.....	11.95	85

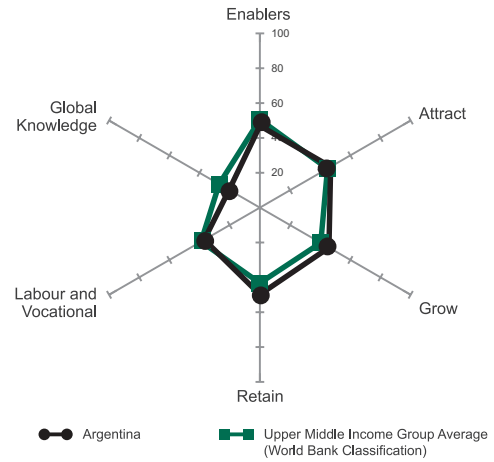
ARGENTINA

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

56

Population (millions) **41.45**
 GDP per capita (PPP\$, IMF) **18,749**
 GDP (US\$ billions) **611.76**
 GTCI Score **41.13**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	47.01	68
1.1 Regulatory landscape	43.85	69
Government efficiency		
1.1.1 Government effectiveness.....	29.25	65
1.1.2 Business-government relations.....	19.25	92
1.1.3 Political stability.....	67.30	49
FDI climate		
1.1.4 Starting a foreign business.....	59.62	17
1.2 Market landscape	37.49	68
Competition climate		
1.2.1 Intensity of local competition.....	50.15	88
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	51.77	81
1.2.4 R&D expenditure.....	13.37	46
Connectivity		
1.2.5 ICT access.....	59.06	45
Ease of doing business		
1.2.6 Ease of doing business.....	13.10	81
1.3 Business landscape	59.68	61
Labour market flexibility		
1.3.1 Difficulty of hiring.....	44.33	74
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	38.50	91
Ownership and governance		
1.3.4 Reliance on professional management.....	55.91	47
2 Attract	46.92	47
2.1 External openness	28.99	77
Industrial openness		
2.1.1 FDI inflow.....	22.81	43
2.1.2 FDI and technology transfer.....	35.38	93
2.1.3 Prevalence of foreign ownership.....	60.02	52
Migration openness		
2.1.4 Male adult migrants.....	11.84	43
2.1.5 Female adult migrants.....	12.38	43
2.1.6 Brain gain.....	23.50	76
2.1.7 Brain drain.....	37.00	57
2.2 Internal openness	64.85	34
Diversity		
2.2.1 Tolerance to minorities.....	79.72	25
2.2.2 Tolerance to immigrants.....	75.96	24
Gender mobility		
2.2.3 Female graduates.....	85.61	6
2.2.4 Female-to-male earnings ratio.....	39.29	68
Social mobility		
2.2.5 Social mobility.....	43.65	77
3 Grow	45.81	39
3.1 Formal education	35.60	41
Education climate		
3.1.1 Vocational enrolment.....	15.90	62
3.1.2 Tertiary enrolment.....	73.15	15
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	10.15	51
3.1.5 University ranking.....	43.21	31
3.2 Lifelong learning	60.60	31
Further education		
3.2.1 Quality of management schools.....	65.24	28
3.2.2 Extent of staff training.....	44.82	69
Continuous development		
3.2.3 Firms offering formal training.....	71.75	9

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	41.23	68
Networks		
3.3.1 Use of virtual social networks.....	82.78	33
3.3.2 Number of LinkedIn users.....	29.79	25
Learning through experience		
3.3.3 Willingness to delegate authority.....	42.49	65
Voice		
3.3.4 Voicing concern to officials.....	9.86	83
4 Retain	49.81	44
4.1 Sustainability	46.46	29
Social protection		
4.1.1 Pension system.....	46.80	53
Taxation		
4.1.2 Extent and effect of taxation.....	18.05	91
Pay		
4.1.3 Pay level – head of organisation.....	62.45	7
4.1.4 Pay level – head of information technology.....	58.53	6
4.2 Lifestyle	53.15	51
Quality of life		
4.2.1 Environmental performance.....	38.58	72
4.2.2 Safety at night.....	29.12	81
4.2.3 Female part-time workers.....	50.96	31
Access to services		
4.2.4 Physician density.....	51.38	27
4.2.5 Sanitation.....	95.72	40
5 Labour and Vocational Skills	36.88	65
5.1 Employable skills	45.24	47
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	45.70	44
5.1.2 Secondary-educated population.....	34.14	49
Technical professions		
5.1.3 Technicians and associate professionals.....	64.18	25
Employment quality		
5.1.4 State of cluster development.....	36.95	79
5.2 Labour productivity	28.52	80
Labour productivity		
5.2.1 Labour productivity per employee.....	19.59	47
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	29.18	92
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	36.81	57
6 Global Knowledge	20.38	74
6.1 Higher skills and competencies	21.00	69
Educated workforce		
6.1.1 Tertiary-educated workforce.....	30.47	49
6.1.2 Tertiary-educated population.....	22.72	58
Knowledge workers		
6.1.3 Professionals.....	11.59	75
6.1.4 Researchers.....	12.76	41
6.1.5 Legislators, senior officials and managers.....	0.56	85
Research quality		
6.1.6 Quality of scientific research institutions.....	50.77	44
6.1.7 Scientific and technical journal articles.....	18.17	48
6.2 Talent impact	19.75	69
Innovation		
6.2.1 Innovation output.....	42.16	39
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	18.92	70
6.2.3 New business density.....	2.05	69
High-value exports		
6.2.4 Sophisticated exports.....	15.87	59

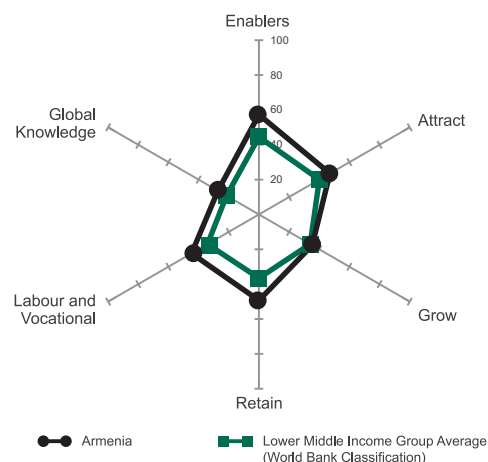
ARMENIA

Lower Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

48

Population (millions) **2.98**
GDP per capita (PPP\$) **7,774**
GDP (US\$ billions) **10.43**
GTCI Score **43.48**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	57.27	43
1.1 Regulatory landscape	64.54	31
Government efficiency		
1.1.1 Government effectiveness.....	35.51	56
1.1.2 Business-government relations.....	54.33	51
1.1.3 Political stability.....	68.33	46
FDI climate		
1.1.4 Starting a foreign business.....	100.00	1
1.2 Market landscape	40.23	59
Competition climate		
1.2.1 Intensity of local competition.....	59.69	73
Innovation climate		
1.2.2 Venture capital deals.....	13.18	21
1.2.3 Firm-level technology absorption.....	56.00	68
1.2.4 R&D expenditure.....	5.34	61
Connectivity		
1.2.5 ICT access.....	40.81	59
Ease of doing business		
1.2.6 Ease of doing business.....	66.40	32
1.3 Business landscape	67.03	41
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	90.00	30
1.3.3 Labour-employer cooperation.....	63.21	24
Ownership and governance		
1.3.4 Reliance on professional management.....	48.23	65
2 Attract	47.06	45
2.1 External openness	38.24	40
Industrial openness		
2.1.1 FDI inflow.....	38.51	25
2.1.2 FDI and technology transfer.....	64.19	37
2.1.3 Prevalence of foreign ownership.....	56.38	58
Migration openness		
2.1.4 Male adult migrants.....	26.08	26
2.1.5 Female adult migrants.....	29.52	20
2.1.6 Brain gain.....	26.00	68
2.1.7 Brain drain.....	27.00	76
2.2 Internal openness	55.89	55
Diversity		
2.2.1 Tolerance to minorities.....	58.66	64
2.2.2 Tolerance to immigrants.....	51.43	57
Gender mobility		
2.2.3 Female graduates.....	75.80	22
2.2.4 Female-to-male earnings ratio.....	44.05	60
Social mobility		
2.2.5 Social mobility.....	49.51	62
3 Grow	35.32	73
3.1 Formal education	18.89	69
Education climate		
3.1.1 Vocational enrolment.....	16.40	61
3.1.2 Tertiary enrolment.....	43.38	49
Internationalisation of education		
3.1.3 International student inflow.....	15.79	36
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	39.29	77
Further education		
3.2.1 Quality of management schools.....	40.47	82
3.2.2 Extent of staff training.....	42.72	79
Continuous development		
3.2.3 Firms offering formal training.....	34.67	47

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	47.79	49
Networks		
3.3.1 Use of virtual social networks.....	79.56	52
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	38.05	80
Voice		
3.3.4 Voicing concern to officials.....	25.77	62
4 Retain	49.32	45
4.1 Sustainability	37.15	57
Social protection		
4.1.1 Pension system.....	31.80	60
Taxation		
4.1.2 Extent and effect of taxation.....	42.51	46
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	61.49	36
Quality of life		
4.2.1 Environmental performance.....	58.11	40
4.2.2 Safety at night.....	82.29	15
4.2.3 Female part-time workers.....	32.78	53
Access to services		
4.2.4 Physician density.....	45.38	34
4.2.5 Sanitation.....	88.90	55
5 Labour and Vocational Skills	44.69	42
5.1 Employable skills	58.38	27
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	88.11	4
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	43.28	45
Employment quality		
5.1.4 State of cluster development.....	43.76	60
5.2 Labour productivity	31.00	73
Labour productivity		
5.2.1 Labour productivity per employee.....	10.23	68
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	55.55	31
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	27.22	65
6 Global Knowledge	27.19	55
6.1 Higher skills and competencies	35.88	34
Educated workforce		
6.1.1 Tertiary-educated workforce.....	38.55	36
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	45.43	29
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	24.86	52
Research quality		
6.1.6 Quality of scientific research institutions.....	35.73	78
6.1.7 Scientific and technical journal articles.....	34.84	31
6.2 Talent impact	18.49	73
Innovation		
6.2.1 Innovation output.....	38.76	43
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	7.21	46
High-value exports		
6.2.4 Sophisticated exports.....	9.51	92

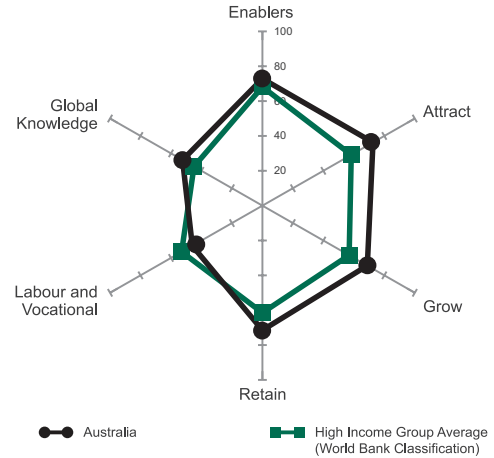
AUSTRALIA

High Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

9

Population (millions) **23.13**
 GDP per capita (PPP\$) **43,550**
 GDP (US\$ billions) **1,560.60**
 GTCI Score **64.03**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	72.84	18
1.1 Regulatory landscape	74.31	18
Government efficiency		
1.1.1 Government effectiveness	82.74	11
1.1.2 Business-government relations	50.10	57
1.1.3 Political stability	90.08	17
FDI climate		
1.1.4 Starting a foreign business	n/a	n/a
1.2 Market landscape	67.16	16
Competition climate		
1.2.1 Intensity of local competition	80.36	9
Innovation climate		
1.2.2 Venture capital deals	14.28	20
1.2.3 Firm-level technology absorption	80.32	13
1.2.4 R&D expenditure	53.93	13
Connectivity		
1.2.5 ICT access	82.68	19
Ease of doing business		
1.2.6 Ease of doing business	91.40	9
1.3 Business landscape	77.06	17
Labour market flexibility		
1.3.1 Difficulty of hiring	89.00	22
1.3.2 Difficulty of redundancy	90.00	30
1.3.3 Labour-employer cooperation	50.55	68
Ownership and governance		
1.3.4 Reliance on professional management	78.67	11
2 Attract	72.57	5
2.1 External openness	60.54	7
Industrial openness		
2.1.1 FDI inflow	29.68	34
2.1.2 FDI and technology transfer	70.42	15
2.1.3 Prevalence of foreign ownership	80.56	7
Migration openness		
2.1.4 Male adult migrants	66.21	7
2.1.5 Female adult migrants	62.91	7
2.1.6 Brain gain	62.17	12
2.1.7 Brain drain	51.83	25
2.2 Internal openness	84.61	5
Diversity		
2.2.1 Tolerance to minorities	93.94	6
2.2.2 Tolerance to immigrants	94.75	4
Gender mobility		
2.2.3 Female graduates	63.64	50
2.2.4 Female-to-male earnings ratio	90.48	7
Social mobility		
2.2.5 Social mobility	80.25	13
3 Grow	68.84	7
3.1 Formal education	78.78	1
Education climate		
3.1.1 Vocational enrolment	69.40	10
3.1.2 Tertiary enrolment	81.85	6
Internationalisation of education		
3.1.3 International student inflow	91.19	5
Performance of education system		
3.1.4 Reading, maths and science scores	64.69	14
3.1.5 University ranking	86.75	5
3.2 Lifelong learning	63.03	25
Further education		
3.2.1 Quality of management schools	67.57	25
3.2.2 Extent of staff training	58.50	26
Continuous development		
3.2.3 Firms offering formal training	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	64.72	15
Networks		
3.3.1 Use of virtual social networks	89.75	9
3.3.2 Number of LinkedIn users	73.33	7
Learning through experience		
3.3.3 Willingness to delegate authority	65.07	15
Voice		
3.3.4 Voicing concern to officials	30.72	57
4 Retain	71.48	4
4.1 Sustainability	64.84	7
Social protection		
4.1.1 Pension system	90.66	16
Taxation		
4.1.2 Extent and effect of taxation	47.02	33
Pay		
4.1.3 Pay level – head of organisation	45.96	13
4.1.4 Pay level – head of information technology	75.71	2
4.2 Lifestyle	78.13	10
Quality of life		
4.2.1 Environmental performance	91.51	3
4.2.2 Safety at night	63.39	37
4.2.3 Female part-time workers	73.83	13
Access to services		
4.2.4 Physician density	61.92	8
4.2.5 Sanitation	100.00	1
5 Labour and Vocational Skills	46.02	38
5.1 Employable skills	52.16	38
Vocationally trained workforce		
5.1.1 Secondary-educated workforce	44.44	47
5.1.2 Secondary-educated population	44.59	37
Technical professions		
5.1.3 Technicians and associate professionals	65.17	24
Employment quality		
5.1.4 State of cluster development	54.44	31
5.2 Labour productivity	39.87	52
Labour productivity		
5.2.1 Labour productivity per employee	58.03	8
Pay and productivity		
5.2.2 Relationship of pay to productivity	40.94	79
Mid-value exports		
5.2.3 Vocational skill-intensive exports	20.64	75
6 Global Knowledge	52.40	12
6.1 Higher skills and competencies	62.92	10
Educated workforce		
6.1.1 Tertiary-educated workforce	52.69	21
6.1.2 Tertiary-educated population	68.68	4
Knowledge workers		
6.1.3 Professionals	54.57	17
6.1.4 Researchers	46.84	14
6.1.5 Legislators, senior officials and managers	62.15	7
Research quality		
6.1.6 Quality of scientific research institutions	79.02	8
6.1.7 Scientific and technical journal articles	76.45	7
6.2 Talent impact	41.89	25
Innovation		
6.2.1 Innovation output	52.61	29
Entrepreneurship		
6.2.2 New product entrepreneurial activity	40.54	44
6.2.3 New business density	57.88	5
High-value exports		
6.2.4 Sophisticated exports	16.54	56

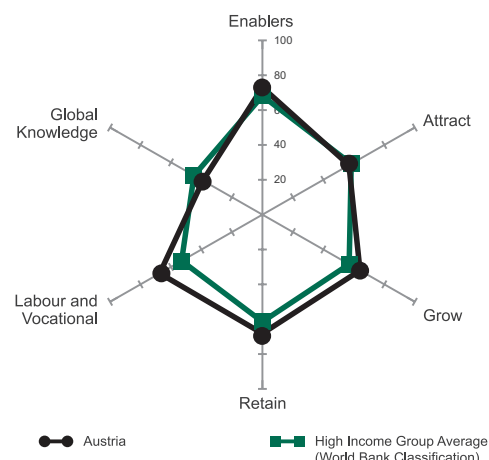
AUSTRIA

High Income
Europe

RANK
(out of 93)

15

Population (millions) **8.47**
 GDP per capita (PPP\$) **4,4167**
 GDP (US\$ billions) **415.84**
 GTCI Score **61.42**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	73.02	17
1.1 Regulatory landscape	75.27	17
Government efficiency		
1.1.1 Government effectiveness.....	81.17	14
1.1.2 Business-government relations.....	65.03	24
1.1.3 Political stability.....	98.16	6
FDI climate		
1.1.4 Starting a foreign business.....	56.73	19
1.2 Market landscape	66.69	18
Competition climate		
1.2.1 Intensity of local competition.....	80.50	7
Innovation climate		
1.2.2 Venture capital deals.....	18.14	18
1.2.3 Firm-level technology absorption.....	79.32	16
1.2.4 R&D expenditure.....	62.29	10
Connectivity		
1.2.5 ICT access.....	86.98	11
Ease of doing business		
1.2.6 Ease of doing business.....	72.90	26
1.3 Business landscape	77.09	16
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	75.61	9
Ownership and governance		
1.3.4 Reliance on professional management.....	72.74	21
2 Attract	56.80	25
2.1 External openness	46.31	22
Industrial openness		
2.1.1 FDI inflow.....	15.70	60
2.1.2 FDI and technology transfer.....	61.63	49
2.1.3 Prevalence of foreign ownership.....	66.54	40
Migration openness		
2.1.4 Male adult migrants.....	33.64	18
2.1.5 Female adult migrants.....	33.51	17
2.1.6 Brain gain.....	54.17	21
2.1.7 Brain drain.....	59.00	18
2.2 Internal openness	67.29	28
Diversity		
2.2.1 Tolerance to minorities.....	76.51	35
2.2.2 Tolerance to immigrants.....	69.40	34
Gender mobility		
2.2.3 Female graduates.....	54.36	61
2.2.4 Female-to-male earnings ratio.....	55.95	38
Social mobility		
2.2.5 Social mobility.....	80.21	14
3 Grow	64.04	15
3.1 Formal education	69.32	4
Education climate		
3.1.1 Vocational enrolment.....	80.85	4
3.1.2 Tertiary enrolment.....	69.19	22
Internationalisation of education		
3.1.3 International student inflow.....	89.69	6
Performance of education system		
3.1.4 Reading, maths and science scores.....	58.96	18
3.1.5 University ranking.....	47.93	25
3.2 Lifelong learning	64.05	24
Further education		
3.2.1 Quality of management schools.....	62.32	34
3.2.2 Extent of staff training.....	65.79	16
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	58.74	21
Networks		
3.3.1 Use of virtual social networks.....	87.13	16
3.3.2 Number of LinkedIn users.....	15.24	46
Learning through experience		
3.3.3 Willingness to delegate authority.....	59.64	22
Voice		
3.3.4 Voicing concern to officials.....	72.96	9
4 Retain	68.19	10
4.1 Sustainability	45.79	32
Social protection		
4.1.1 Pension system.....	93.67	6
Taxation		
4.1.2 Extent and effect of taxation.....	36.66	65
Pay		
4.1.3 Pay level – head of organisation.....	26.52	35
4.1.4 Pay level – head of information technology.....	26.32	35
4.2 Lifestyle	90.58	1
Quality of life		
4.2.1 Environmental performance.....	84.93	8
4.2.2 Safety at night.....	89.40	6
4.2.3 Female part-time workers.....	100.00	1
Access to services		
4.2.4 Physician density.....	78.54	2
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	67.40	4
5.1 Employable skills	79.64	4
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	83.72	6
5.1.2 Secondary-educated population.....	81.20	7
Technical professions		
5.1.3 Technicians and associate professionals.....	89.55	6
Employment quality		
5.1.4 State of cluster development.....	64.10	15
5.2 Labour productivity	55.15	8
Labour productivity		
5.2.1 Labour productivity per employee.....	53.79	11
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	49.05	52
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	62.61	15
6 Global Knowledge	39.09	30
6.1 Higher skills and competencies	42.09	28
Educated workforce		
6.1.1 Tertiary-educated workforce.....	29.46	51
6.1.2 Tertiary-educated population.....	29.96	47
Knowledge workers		
6.1.3 Professionals.....	42.38	33
6.1.4 Researchers.....	48.13	12
6.1.5 Legislators, senior officials and managers.....	27.68	47
Research quality		
6.1.6 Quality of scientific research institutions.....	67.34	22
6.1.7 Scientific and technical journal articles.....	49.70	24
6.2 Talent impact	36.09	39
Innovation		
6.2.1 Innovation output.....	54.90	24
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	50.00	29
6.2.3 New business density.....	2.20	67
High-value exports		
6.2.4 Sophisticated exports.....	37.25	24

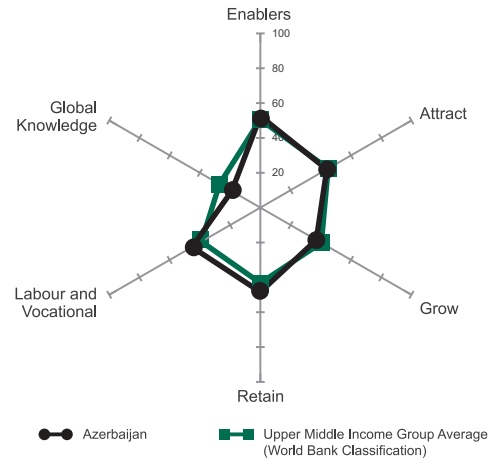
AZERBAIJAN

Upper Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

58

Population (millions) **9.42**
 GDP per capita (PPP\$) **1,7139**
 GDP (US\$ billions) **73.56**
 GTCI Score **41.02**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	52.53	50
1.1 Regulatory landscape	40.51	77
Government efficiency		
1.1.1 Government effectiveness.....	14.26	85
1.1.2 Business-government relations.....	58.42	40
1.1.3 Political stability.....	48.85	72
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	42.70	52
Competition climate		
1.2.1 Intensity of local competition.....	52.83	86
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	64.49	46
1.2.4 R&D expenditure.....	4.23	66
Connectivity		
1.2.5 ICT access.....	49.53	55
Ease of doing business		
1.2.6 Ease of doing business.....	42.40	54
1.3 Business landscape	74.38	22
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	90.00	30
1.3.3 Labour-employer cooperation.....	59.95	31
Ownership and governance		
1.3.4 Reliance on professional management.....	47.55	68
2 Attract	43.96	60
2.1 External openness	35.35	54
Industrial openness		
2.1.1 FDI inflow.....	25.19	38
2.1.2 FDI and technology transfer.....	61.54	51
2.1.3 Prevalence of foreign ownership.....	48.90	76
Migration openness		
2.1.4 Male adult migrants.....	9.14	51
2.1.5 Female adult migrants.....	9.37	48
2.1.6 Brain gain.....	51.67	24
2.1.7 Brain drain.....	41.67	44
2.2 Internal openness	52.56	64
Diversity		
2.2.1 Tolerance to minorities.....	62.18	59
2.2.2 Tolerance to immigrants.....	59.09	47
Gender mobility		
2.2.3 Female graduates.....	51.70	63
2.2.4 Female-to-male earnings ratio.....	42.86	63
Social mobility		
2.2.5 Social mobility.....	46.99	68
3 Grow	37.04	67
3.1 Formal education	21.16	66
Education climate		
3.1.1 Vocational enrolment.....	37.57	32
3.1.2 Tertiary enrolment.....	16.09	72
Internationalisation of education		
3.1.3 International student inflow.....	11.51	42
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	19.45	52
3.2 Lifelong learning	30.64	89
Further education		
3.2.1 Quality of management schools.....	35.26	88
3.2.2 Extent of staff training.....	48.64	56
Continuous development		
3.2.3 Firms offering formal training.....	8.03	64

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	59.33	20
Networks		
3.3.1 Use of virtual social networks.....	83.83	29
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	44.51	56
Voice		
3.3.4 Voicing concern to officials.....	49.64	26
4 Retain	48.39	47
4.1 Sustainability	39.81	49
Social protection		
4.1.1 Pension system.....	35.10	57
Taxation		
4.1.2 Extent and effect of taxation.....	44.53	40
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	56.96	44
Quality of life		
4.2.1 Environmental performance.....	48.11	49
4.2.2 Safety at night.....	69.47	31
4.2.3 Female part-time workers.....	33.88	51
Access to services		
4.2.4 Physician density.....	54.16	25
4.2.5 Sanitation.....	79.19	62
5 Labour and Vocational Skills	45.24	41
5.1 Employable skills	61.41	18
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	94.68	3
5.1.2 Secondary-educated population.....	88.26	5
Technical professions		
5.1.3 Technicians and associate professionals.....	16.42	74
Employment quality		
5.1.4 State of cluster development.....	46.29	55
5.2 Labour productivity	29.08	79
Labour productivity		
5.2.1 Labour productivity per employee.....	12.05	60
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	59.92	19
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	15.26	89
6 Global Knowledge	18.94	79
6.1 Higher skills and competencies	27.37	55
Educated workforce		
6.1.1 Tertiary-educated workforce.....	23.23	69
6.1.2 Tertiary-educated population.....	41.69	29
Knowledge workers		
6.1.3 Professionals.....	45.43	29
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	6.21	78
Research quality		
6.1.6 Quality of scientific research institutions.....	42.53	62
6.1.7 Scientific and technical journal articles.....	5.15	67
6.2 Talent impact	10.50	90
Innovation		
6.2.1 Innovation output.....	15.95	83
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	3.15	61
High-value exports		
6.2.4 Sophisticated exports.....	12.40	81

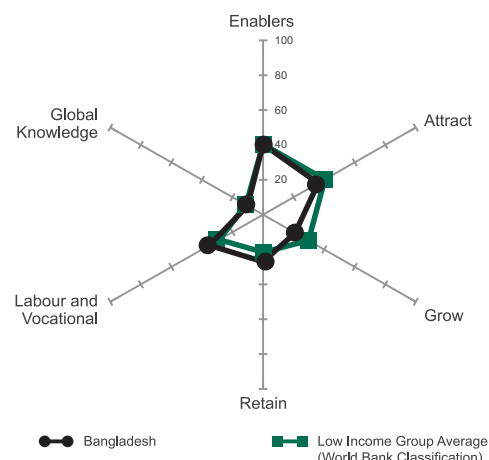
BANGLADESH

Low Income
Central and Southern Asia

RANK
(out of 93)

90

Population (millions) **156.59**
GDP per capita (PPP\$) **2,557**
GDP (US\$ billions) **129.86**
GTCI Score **28.31**
GTCI Score (Income Group Average) **28.67**



VARIABLE	SCORE	RANK
1 Enablers	40.41	83
1.1 Regulatory landscape	34.48	85
Government efficiency		
1.1.1 Government effectiveness.....	12.91	87
1.1.2 Business-government relations.....	54.92	50
1.1.3 Political stability.....	32.60	88
FDI climate		
1.1.4 Starting a foreign business.....	37.50	28
1.2 Market landscape	34.27	74
Competition climate		
1.2.1 Intensity of local competition.....	65.43	56
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	53.37	77
1.2.4 R&D expenditure.....	n/a	n/a
Connectivity		
1.2.5 ICT access.....	7.38	89
Ease of doing business		
1.2.6 Ease of doing business.....	10.90	83
1.3 Business landscape	52.49	77
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	51.39	64
Ownership and governance		
1.3.4 Reliance on professional management.....	42.89	81
2 Attract	36.08	87
2.1 External openness	22.58	88
Industrial openness		
2.1.1 FDI inflow.....	11.04	77
2.1.2 FDI and technology transfer.....	48.06	80
2.1.3 Prevalence of foreign ownership.....	45.74	81
Migration openness		
2.1.4 Male adult migrants.....	3.10	71
2.1.5 Female adult migrants.....	0.27	88
2.1.6 Brain gain.....	23.83	74
2.1.7 Brain drain.....	26.00	77
2.2 Internal openness	49.58	72
Diversity		
2.2.1 Tolerance to minorities.....	88.60	13
2.2.2 Tolerance to immigrants.....	66.08	36
Gender mobility		
2.2.3 Female graduates.....	0.00	80
2.2.4 Female-to-male earnings ratio.....	42.86	63
Social mobility		
2.2.5 Social mobility.....	50.35	61
3 Grow	20.99	93
3.1 Formal education	5.41	91
Education climate		
3.1.1 Vocational enrolment.....	6.48	78
3.1.2 Tertiary enrolment.....	9.38	79
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	5.76	61
3.2 Lifelong learning	34.54	87
Further education		
3.2.1 Quality of management schools.....	45.14	75
3.2.2 Extent of staff training.....	35.19	90
Continuous development		
3.2.3 Firms offering formal training.....	23.29	55

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	23.02	93
Networks		
3.3.1 Use of virtual social networks.....	56.07	90
3.3.2 Number of LinkedIn users.....	0.55	71
Learning through experience		
3.3.3 Willingness to delegate authority.....	28.55	92
Voice		
3.3.4 Voicing concern to officials.....	6.90	85
4 Retain	27.03	85
4.1 Sustainability	19.75	93
Social protection		
4.1.1 Pension system.....	2.07	87
Taxation		
4.1.2 Extent and effect of taxation.....	43.70	43
Pay		
4.1.3 Pay level – head of organisation.....	13.48	62
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	34.31	83
Quality of life		
4.2.1 Environmental performance.....	0.00	93
4.2.2 Safety at night.....	85.15	12
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	4.46	79
4.2.5 Sanitation.....	47.63	80
5 Labour and Vocational Skills	35.17	72
5.1 Employable skills	31.08	73
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	13.93	76
Employment quality		
5.1.4 State of cluster development.....	48.22	49
5.2 Labour productivity	39.26	55
Labour productivity		
5.2.1 Labour productivity per employee.....	2.16	83
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	43.51	71
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	72.12	4
6 Global Knowledge	10.16	92
6.1 Higher skills and competencies	13.02	85
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	0.00	87
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	21.47	58
Research quality		
6.1.6 Quality of scientific research institutions.....	27.42	88
6.1.7 Scientific and technical journal articles.....	3.19	76
6.2 Talent impact	7.30	92
Innovation		
6.2.1 Innovation output.....	15.07	85
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	0.00	78
6.2.3 New business density.....	0.24	74
High-value exports		
6.2.4 Sophisticated exports.....	13.91	65

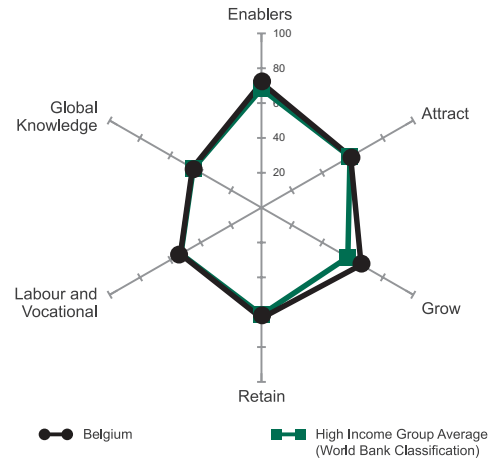
BELGIUM

High Income
Europe

RANK
(out of 93)

18

Population (millions) **11.20**
 GDP per capita (PPP\$) **40,338**
 GDP (US\$ billions) **508.12**
 GTCI Score **59.71**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	71.65	20
1.1 Regulatory landscape	73.49	21
Government efficiency		
1.1.1 Government effectiveness.....	82.13	12
1.1.2 Business-government relations.....	50.60	56
1.1.3 Political stability.....	87.74	23
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	62.30	25
Competition climate		
1.2.1 Intensity of local competition.....	82.88	4
Innovation climate		
1.2.2 Venture capital deals.....	17.76	19
1.2.3 Firm-level technology absorption.....	76.55	23
1.2.4 R&D expenditure.....	46.11	17
Connectivity		
1.2.5 ICT access.....	83.09	16
Ease of doing business		
1.2.6 Ease of doing business.....	67.40	31
1.3 Business landscape	79.18	13
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	53.17	52
Ownership and governance		
1.3.4 Reliance on professional management.....	74.53	19
2 Attract	58.71	21
2.1 External openness	41.67	28
Industrial openness		
2.1.1 FDI inflow.....	2.65	92
2.1.2 FDI and technology transfer.....	69.11	21
2.1.3 Prevalence of foreign ownership.....	75.23	16
Migration openness		
2.1.4 Male adult migrants.....	21.99	32
2.1.5 Female adult migrants.....	18.92	34
2.1.6 Brain gain.....	47.50	33
2.1.7 Brain drain.....	56.33	21
2.2 Internal openness	75.75	17
Diversity		
2.2.1 Tolerance to minorities.....	81.51	22
2.2.2 Tolerance to immigrants.....	80.00	20
Gender mobility		
2.2.3 Female graduates.....	70.18	37
2.2.4 Female-to-male earnings ratio.....	67.86	18
Social mobility		
2.2.5 Social mobility.....	79.22	15
3 Grow	65.65	12
3.1 Formal education	63.27	8
Education climate		
3.1.1 Vocational enrolment.....	81.35	2
3.1.2 Tertiary enrolment.....	67.39	24
Internationalisation of education		
3.1.3 International student inflow.....	37.66	15
Performance of education system		
3.1.4 Reading, math and science scores.....	63.21	15
3.1.5 University ranking.....	66.73	14
3.2 Lifelong learning	73.73	6
Further education		
3.2.1 Quality of management schools.....	82.56	2
3.2.2 Extent of staff training.....	64.90	18
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	59.95	19
Networks		
3.3.1 Use of virtual social networks.....	85.48	22
3.3.2 Number of LinkedIn users.....	62.00	10
Learning through experience		
3.3.3 Willingness to delegate authority.....	64.13	17
Voice		
3.3.4 Voicing concern to officials.....	28.18	60
4 Retain	63.41	15
4.1 Sustainability	47.87	28
Social protection		
4.1.1 Pension system.....	91.39	14
Taxation		
4.1.2 Extent and effect of taxation.....	21.83	88
Pay		
4.1.3 Pay level – head of organisation.....	36.79	17
4.1.4 Pay level – head of information technology.....	41.47	13
4.2 Lifestyle	78.95	9
Quality of life		
4.2.1 Environmental performance.....	66.07	33
4.2.2 Safety at night.....	70.08	29
4.2.3 Female part-time workers.....	97.80	5
Access to services		
4.2.4 Physician density.....	60.79	10
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	53.39	23
5.1 Employable skills	56.45	33
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	45.07	45
5.1.2 Secondary-educated population.....	41.13	44
Technical professions		
5.1.3 Technicians and associate professionals.....	76.12	17
Employment quality		
5.1.4 State of cluster development.....	63.48	18
5.2 Labour productivity	50.33	18
Labour productivity		
5.2.1 Labour productivity per employee.....	57.67	10
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	44.69	67
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	48.64	39
6 Global Knowledge	45.45	22
6.1 Higher skills and competencies	57.05	15
Educated workforce		
6.1.1 Tertiary-educated workforce.....	62.79	9
6.1.2 Tertiary-educated population.....	49.59	18
Knowledge workers		
6.1.3 Professionals.....	61.59	13
6.1.4 Researchers.....	40.24	20
6.1.5 Legislators, senior officials and managers.....	40.11	29
Research quality		
6.1.6 Quality of scientific research institutions.....	83.30	4
6.1.7 Scientific and technical journal articles.....	61.73	15
6.2 Talent impact	33.85	43
Innovation		
6.2.1 Innovation output.....	59.32	19
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	36.49	47
6.2.3 New business density.....	11.65	36
High-value exports		
6.2.4 Sophisticated exports.....	27.94	32

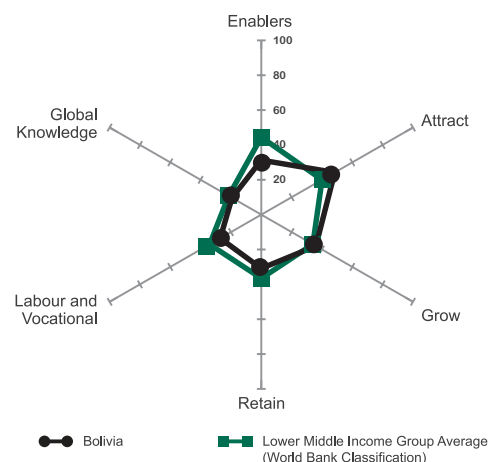
BOLIVIA

Lower Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

81

Population (millions) **10.67**
GDP per capita (PPP\$) **6,129**
GDP (US\$ billions) **30.60**
GTCI Score **32.16**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	31.28	91
1.1 Regulatory landscape	39.77	79
Government efficiency		
1.1.1 Government effectiveness.....	25.84	71
1.1.2 Business-government relations.....	40.03	76
1.1.3 Political stability.....	53.43	65
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	24.84	90
Competition climate		
1.2.1 Intensity of local competition.....	47.22	90
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	49.04	88
1.2.4 R&D expenditure.....	2.80	71
Connectivity		
1.2.5 ICT access.....	24.03	81
Ease of doing business		
1.2.6 Ease of doing business.....	1.10	92
1.3 Business landscape	29.22	93
Labour market flexibility		
1.3.1 Difficulty of hiring.....	22.33	85
1.3.2 Difficulty of redundancy.....	0.00	92
1.3.3 Labour-employer cooperation.....	47.66	76
Ownership and governance		
1.3.4 Reliance on professional management.....	46.88	73
2 Attract	48.42	41
2.1 External openness	30.43	71
Industrial openness		
2.1.1 FDI inflow.....	31.53	31
2.1.2 FDI and technology transfer.....	43.14	89
2.1.3 Prevalence of foreign ownership.....	43.72	83
Migration openness		
2.1.4 Male adult migrants.....	4.10	65
2.1.5 Female adult migrants.....	3.33	67
2.1.6 Brain gain.....	38.33	50
2.1.7 Brain drain.....	48.83	33
2.2 Internal openness	66.41	29
Diversity		
2.2.1 Tolerance to minorities.....	73.13	41
2.2.2 Tolerance to immigrants.....	70.33	32
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	78.57	12
Social mobility		
2.2.5 Social mobility.....	43.62	78
3 Grow	35.97	71
3.1 Formal education	14.82	77
Education climate		
3.1.1 Vocational enrolment.....	9.72	73
3.1.2 Tertiary enrolment.....	34.74	58
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, math and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	49.27	57
Further education		
3.2.1 Quality of management schools.....	38.58	85
3.2.2 Extent of staff training.....	42.84	78
Continuous development		
3.2.3 Firms offering formal training.....	66.40	14

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	43.80	59
Networks		
3.3.1 Use of virtual social networks.....	46.32	92
3.3.2 Number of LinkedIn users.....	8.04	56
Learning through experience		
3.3.3 Willingness to delegate authority.....	44.33	59
Voice		
3.3.4 Voicing concern to officials.....	76.54	7
4 Retain	30.87	84
4.1 Sustainability	26.67	85
Social protection		
4.1.1 Pension system.....	11.83	75
Taxation		
4.1.2 Extent and effect of taxation.....	41.50	54
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	35.08	82
Quality of life		
4.2.1 Environmental performance.....	40.07	67
4.2.2 Safety at night.....	22.10	86
4.2.3 Female part-time workers.....	40.22	46
Access to services		
4.2.4 Physician density.....	n/a	n/a
4.2.5 Sanitation.....	37.92	85
5 Labour and Vocational Skills	27.11	87
5.1 Employable skills	31.22	72
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	43.19	49
5.1.2 Secondary-educated population.....	13.38	78
Technical professions		
5.1.3 Technicians and associate professionals.....	25.87	66
Employment quality		
5.1.4 State of cluster development.....	42.44	63
5.2 Labour productivity	23.00	89
Labour productivity		
5.2.1 Labour productivity per employee.....	5.53	75
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	46.74	61
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	16.74	86
6 Global Knowledge	19.31	78
6.1 Higher skills and competencies	19.40	75
Educated workforce		
6.1.1 Tertiary-educated workforce.....	20.20	72
6.1.2 Tertiary-educated population.....	42.65	26
Knowledge workers		
6.1.3 Professionals.....	19.82	62
6.1.4 Researchers.....	1.59	59
6.1.5 Legislators, senior officials and managers.....	10.17	75
Research quality		
6.1.6 Quality of scientific research institutions.....	38.60	70
6.1.7 Scientific and technical journal articles.....	2.79	78
6.2 Talent impact	19.22	70
Innovation		
6.2.1 Innovation output.....	26.63	68
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	33.78	52
6.2.3 New business density.....	2.48	62
High-value exports		
6.2.4 Sophisticated exports.....	14.00	64

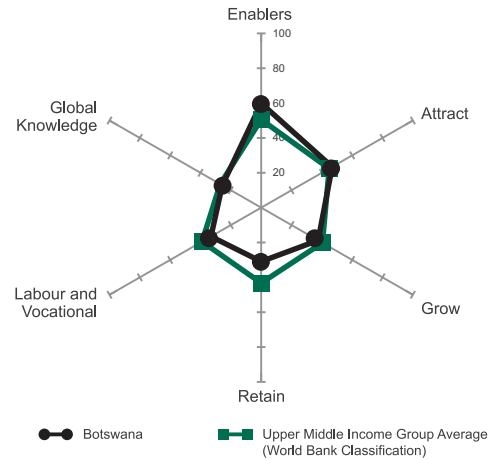
BOTSWANA

Upper Middle Income
Sub-Saharan Africa

RANK
(out of 93)

66

Population (millions) **2.02**
 GDP per capita (PPP\$) **15,675**
 GDP (US\$ billions) **14.79**
 GTCI Score **38.98**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	59.89	34
1.1 Regulatory landscape	68.72	26
Government efficiency		
1.1.1 Government effectiveness.....	49.13	40
1.1.2 Business-government relations.....	64.28	25
1.1.3 Political stability.....	92.75	12
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	41.63	55
Competition climate		
1.2.1 Intensity of local competition.....	62.14	68
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	55.67	70
1.2.4 R&D expenditure.....	11.05	49
Connectivity		
1.2.5 ICT access.....	28.19	77
Ease of doing business		
1.2.6 Ease of doing business.....	51.10	46
1.3 Business landscape	69.31	33
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	49.84	73
Ownership and governance		
1.3.4 Reliance on professional management.....	67.41	25
2 Attract	46.80	48
2.1 External openness	37.76	43
Industrial openness		
2.1.1 FDI inflow.....	15.96	59
2.1.2 FDI and technology transfer.....	52.18	68
2.1.3 Prevalence of foreign ownership.....	72.29	21
Migration openness		
2.1.4 Male adult migrants.....	24.20	31
2.1.5 Female adult migrants.....	17.38	36
2.1.6 Brain gain.....	39.00	46
2.1.7 Brain drain.....	43.33	40
2.2 Internal openness	55.83	57
Diversity		
2.2.1 Tolerance to minorities.....	67.58	49
2.2.2 Tolerance to immigrants.....	54.82	54
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	36.90	72
Social mobility		
2.2.5 Social mobility.....	64.01	27
3 Grow	37.54	65
3.1 Formal education	8.16	86
Education climate		
3.1.1 Vocational enrolment.....	10.03	72
3.1.2 Tertiary enrolment.....	3.46	87
Internationalisation of education		
3.1.3 International student inflow.....	19.14	30
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	52.45	49
Further education		
3.2.1 Quality of management schools.....	46.82	69
3.2.2 Extent of staff training.....	47.20	59
Continuous development		
3.2.3 Firms offering formal training.....	63.32	17

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	52.01	38
Networks		
3.3.1 Use of virtual social networks.....	73.80	67
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	45.90	50
Voice		
3.3.4 Voicing concern to officials.....	36.33	47
4 Retain	30.92	83
4.1 Sustainability	33.94	65
Social protection		
4.1.1 Pension system.....	8.60	81
Taxation		
4.1.2 Extent and effect of taxation.....	59.29	10
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	27.90	86
Quality of life		
4.2.1 Environmental performance.....	35.43	75
4.2.2 Safety at night.....	12.91	88
4.2.3 Female part-time workers.....	28.65	55
Access to services		
4.2.4 Physician density.....	4.13	80
4.2.5 Sanitation.....	58.38	78
5 Labour and Vocational Skills	33.11	75
5.1 Employable skills	32.39	70
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	24.88	69
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	29.35	61
Employment quality		
5.1.4 State of cluster development.....	42.93	62
5.2 Labour productivity	33.84	66
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	48.62	54
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	19.05	79
6 Global Knowledge	25.65	58
6.1 Higher skills and competencies	22.41	64
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	14.63	70
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	31.07	42
Research quality		
6.1.6 Quality of scientific research institutions.....	38.57	71
6.1.7 Scientific and technical journal articles.....	5.38	65
6.2 Talent impact	28.88	52
Innovation		
6.2.1 Innovation output.....	12.49	87
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	29.73	57
6.2.3 New business density.....	58.55	4
High-value exports		
6.2.4 Sophisticated exports.....	14.77	63

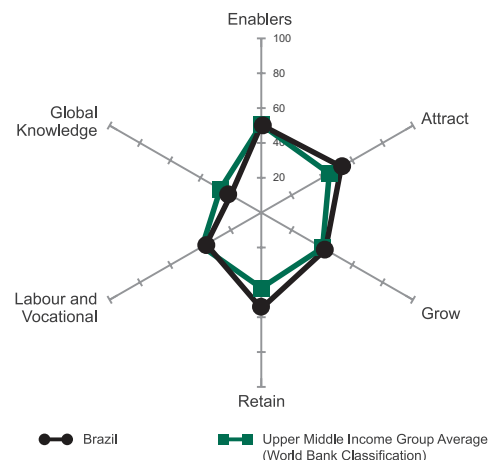
BRAZIL

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

49

Population (millions) **200.36**
GDP per capita (PPP\$) **15,033**
GDP (US\$ billions) **2,245.67**
GTCI Score **42.82**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	50.30	57
1.1 Regulatory landscape	52.38	53
Government efficiency		
1.1.1 Government effectiveness.....	32.99	60
1.1.2 Business-government relations.....	56.87	46
1.1.3 Political stability.....	67.28	50
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	39.19	64
Competition climate		
1.2.1 Intensity of local competition.....	66.37	53
Innovation climate		
1.2.2 Venture capital deals.....	3.94	34
1.2.3 Firm-level technology absorption.....	66.66	42
1.2.4 R&D expenditure.....	25.84	31
Connectivity		
1.2.5 ICT access.....	53.83	53
Ease of doing business		
1.2.6 Ease of doing business.....	18.50	76
1.3 Business landscape	59.34	63
Labour market flexibility		
1.3.1 Difficulty of hiring.....	22.33	85
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	52.28	58
Ownership and governance		
1.3.4 Reliance on professional management.....	62.75	31
2 Attract	52.76	33
2.1 External openness	35.72	51
Industrial openness		
2.1.1 FDI inflow.....	24.61	39
2.1.2 FDI and technology transfer.....	69.10	22
2.1.3 Prevalence of foreign ownership.....	57.63	55
Migration openness		
2.1.4 Male adult migrants.....	0.78	85
2.1.5 Female adult migrants.....	0.55	85
2.1.6 Brain gain.....	45.50	37
2.1.7 Brain drain.....	51.83	25
2.2 Internal openness	69.81	22
Diversity		
2.2.1 Tolerance to minorities.....	86.12	15
2.2.2 Tolerance to immigrants.....	75.90	25
Gender mobility		
2.2.3 Female graduates.....	74.74	25
2.2.4 Female-to-male earnings ratio.....	53.57	43
Social mobility		
2.2.5 Social mobility.....	58.72	43
3 Grow	42.37	49
3.1 Formal education	21.60	64
Education climate		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	n/a	n/a
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	12.70	50
3.1.5 University ranking.....	52.11	22
3.2 Lifelong learning	59.55	33
Further education		
3.2.1 Quality of management schools.....	59.04	37
3.2.2 Extent of staff training.....	55.07	32
Continuous development		
3.2.3 Firms offering formal training.....	64.52	15

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	45.95	55
Networks		
3.3.1 Use of virtual social networks.....	83.87	28
3.3.2 Number of LinkedIn users.....	24.79	30
Learning through experience		
3.3.3 Willingness to delegate authority.....	55.04	30
Voice		
3.3.4 Voicing concern to officials.....	20.12	69
4 Retain	55.01	33
4.1 Sustainability	61.20	9
Social protection		
4.1.1 Pension system.....	59.10	45
Taxation		
4.1.2 Extent and effect of taxation.....	25.26	85
Pay		
4.1.3 Pay level – head of organisation.....	94.95	2
4.1.4 Pay level – head of information technology.....	65.50	5
4.2 Lifestyle	48.82	60
Quality of life		
4.2.1 Environmental performance.....	44.09	59
4.2.2 Safety at night.....	30.67	79
4.2.3 Female part-time workers.....	63.91	21
Access to services		
4.2.4 Physician density.....	27.61	55
4.2.5 Sanitation.....	77.80	63
5 Labour and Vocational Skills	36.30	68
5.1 Employable skills	41.99	54
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	40.53	55
5.1.2 Secondary-educated population.....	33.36	51
Technical professions		
5.1.3 Technicians and associate professionals.....	35.32	56
Employment quality		
5.1.4 State of cluster development.....	58.75	23
5.2 Labour productivity	30.61	74
Labour productivity		
5.2.1 Labour productivity per employee.....	11.09	64
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	43.90	70
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	36.84	56
6 Global Knowledge	20.16	76
6.1 Higher skills and competencies	24.57	62
Educated workforce		
6.1.1 Tertiary-educated workforce.....	24.75	63
6.1.2 Tertiary-educated population.....	19.05	66
Knowledge workers		
6.1.3 Professionals.....	19.82	62
6.1.4 Researchers.....	7.61	48
6.1.5 Legislators, senior officials and managers.....	27.12	49
Research quality		
6.1.6 Quality of scientific research institutions.....	54.30	39
6.1.7 Scientific and technical journal articles.....	19.33	45
6.2 Talent impact	15.75	82
Innovation		
6.2.1 Innovation output.....	33.05	58
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	0.00	78
6.2.3 New business density.....	10.17	39
High-value exports		
6.2.4 Sophisticated exports.....	19.79	51

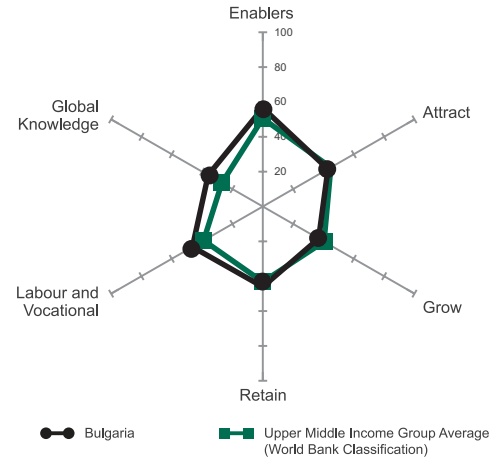
BULGARIA

Upper Middle Income
Europe

RANK
(out of 93)

45

Population (millions) **7.27**
 GDP per capita (PPP\$) **15,940**
 GDP (US\$ billions) **53.01**
 GTCI Score **44.13**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	56.55	44
1.1 Regulatory landscape	58.33	40
Government efficiency		
1.1.1 Government effectiveness.....	40.46	49
1.1.2 Business-government relations.....	38.30	82
1.1.3 Political stability.....	73.81	40
FDI climate		
1.1.4 Starting a foreign business.....	80.77	2
1.2 Market landscape	41.69	54
Competition climate		
1.2.1 Intensity of local competition.....	59.69	72
Innovation climate		
1.2.2 Venture capital deals.....	10.41	24
1.2.3 Firm-level technology absorption.....	52.61	79
1.2.4 R&D expenditure.....	12.30	48
Connectivity		
1.2.5 ICT access.....	65.10	40
Ease of doing business		
1.2.6 Ease of doing business.....	50.00	47
1.3 Business landscape	69.64	31
Labour market flexibility		
1.3.1 Difficulty of hiring.....	83.33	39
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	51.04	67
Ownership and governance		
1.3.4 Reliance on professional management.....	44.18	77
2 Attract	42.95	64
2.1 External openness	23.71	86
Industrial openness		
2.1.1 FDI inflow.....	30.27	33
2.1.2 FDI and technology transfer.....	51.08	73
2.1.3 Prevalence of foreign ownership.....	50.12	73
Migration openness		
2.1.4 Male adult migrants.....	1.85	74
2.1.5 Female adult migrants.....	2.29	71
2.1.6 Brain gain.....	14.83	88
2.1.7 Brain drain.....	15.50	89
2.2 Internal openness	62.19	40
Diversity		
2.2.1 Tolerance to minorities.....	74.24	37
2.2.2 Tolerance to immigrants.....	58.15	49
Gender mobility		
2.2.3 Female graduates.....	75.73	23
2.2.4 Female-to-male earnings ratio.....	63.10	27
Social mobility		
2.2.5 Social mobility.....	39.73	84
3 Grow	36.81	68
3.1 Formal education	34.77	43
Education climate		
3.1.1 Vocational enrolment.....	62.16	15
3.1.2 Tertiary enrolment.....	57.43	35
Internationalisation of education		
3.1.3 International student inflow.....	16.68	35
Performance of education system		
3.1.4 Reading, maths and science scores.....	30.76	41
3.1.5 University ranking.....	6.81	60
3.2 Lifelong learning	38.84	80
Further education		
3.2.1 Quality of management schools.....	44.03	79
3.2.2 Extent of staff training.....	37.27	85
Continuous development		
3.2.3 Firms offering formal training.....	35.21	46

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	36.84	81
Networks		
3.3.1 Use of virtual social networks.....	75.96	59
3.3.2 Number of LinkedIn users.....	16.10	44
Learning through experience		
3.3.3 Willingness to delegate authority.....	36.26	84
Voice		
3.3.4 Voicing concern to officials.....	19.03	72
4 Retain	46.07	54
4.1 Sustainability	32.45	71
Social protection		
4.1.1 Pension system.....	78.56	32
Taxation		
4.1.2 Extent and effect of taxation.....	37.54	63
Pay		
4.1.3 Pay level – head of organisation.....	9.58	64
4.1.4 Pay level – head of information technology.....	4.11	52
4.2 Lifestyle	59.70	41
Quality of life		
4.2.1 Environmental performance.....	61.88	36
4.2.2 Safety at night.....	51.67	51
4.2.3 Female part-time workers.....	24.52	57
Access to services		
4.2.4 Physician density.....	60.42	12
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	46.38	37
5.1 Employable skills	55.41	34
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	77.62	10
5.1.2 Secondary-educated population.....	68.88	19
Technical professions		
5.1.3 Technicians and associate professionals.....	36.32	54
Employment quality		
5.1.4 State of cluster development.....	38.83	75
5.2 Labour productivity	37.34	60
Labour productivity		
5.2.1 Labour productivity per employee.....	15.57	55
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	53.24	39
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	43.21	48
6 Global Knowledge	36.01	41
6.1 Higher skills and competencies	34.45	37
Educated workforce		
6.1.1 Tertiary-educated workforce.....	40.57	34
6.1.2 Tertiary-educated population.....	35.79	35
Knowledge workers		
6.1.3 Professionals.....	46.34	28
6.1.4 Researchers.....	17.64	37
6.1.5 Legislators, senior officials and managers.....	35.59	32
Research quality		
6.1.6 Quality of scientific research institutions.....	43.52	55
6.1.7 Scientific and technical journal articles.....	21.71	40
6.2 Talent impact	37.57	36
Innovation		
6.2.1 Innovation output.....	46.31	34
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	42.93	8
High-value exports		
6.2.4 Sophisticated exports.....	23.46	40

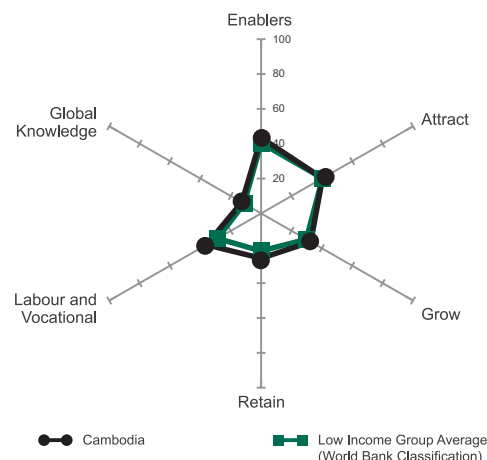
CAMBODIA

Low Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

83

Population (millions) **15.14**
GDP per capita (PPP\$) **3,041**
GDP (US\$ billions) **15.25**
GTCI Score **31.84**
GTCI Score (Income Group Average) **28.67**



VARIABLE	SCORE	RANK
1 Enablers	43.43	81
1.1 Regulatory landscape	41.31	74
Government efficiency		
1.1.1 Government effectiveness.....	12.74	88
1.1.2 Business-government relations.....	52.63	55
1.1.3 Political stability.....	62.36	56
FDI climate		
1.1.4 Starting a foreign business.....	37.50	28
1.2 Market landscape	30.58	83
Competition climate		
1.2.1 Intensity of local competition.....	64.95	59
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	59.82	59
1.2.4 R&D expenditure.....	0.34	84
Connectivity		
1.2.5 ICT access.....	22.28	82
Ease of doing business		
1.2.6 Ease of doing business.....	5.50	88
1.3 Business landscape	58.41	64
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	55.63	44
Ownership and governance		
1.3.4 Reliance on professional management.....	52.36	56
2 Attract	40.41	75
2.1 External openness	43.24	25
Industrial openness		
2.1.1 FDI inflow.....	79.71	6
2.1.2 FDI and technology transfer.....	64.80	34
2.1.3 Prevalence of foreign ownership.....	60.13	50
Migration openness		
2.1.4 Male adult migrants.....	1.41	79
2.1.5 Female adult migrants.....	0.95	79
2.1.6 Brain gain.....	46.67	35
2.1.7 Brain drain.....	49.00	32
2.2 Internal openness	37.57	89
Diversity		
2.2.1 Tolerance to minorities.....	45.74	79
2.2.2 Tolerance to immigrants.....	8.71	87
Gender mobility		
2.2.3 Female graduates.....	23.39	74
2.2.4 Female-to-male earnings ratio.....	64.29	23
Social mobility		
2.2.5 Social mobility.....	45.74	72
3 Grow	32.68	80
3.1 Formal education	4.21	92
Education climate		
3.1.1 Vocational enrolment.....	4.68	79
3.1.2 Tertiary enrolment.....	12.15	77
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	51.31	54
Further education		
3.2.1 Quality of management schools.....	44.55	77
3.2.2 Extent of staff training.....	50.60	47
Continuous development		
3.2.3 Firms offering formal training.....	58.77	23

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	42.52	65
Networks		
3.3.1 Use of virtual social networks.....	67.74	80
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	45.62	54
Voice		
3.3.4 Voicing concern to officials.....	14.20	76
4 Retain	25.73	87
4.1 Sustainability	27.02	83
Social protection		
4.1.1 Pension system.....	0.00	88
Taxation		
4.1.2 Extent and effect of taxation.....	54.05	18
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	24.43	88
Quality of life		
4.2.1 Environmental performance.....	15.84	87
4.2.2 Safety at night.....	56.82	45
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	2.38	82
4.2.5 Sanitation.....	22.66	88
5 Labour and Vocational Skills	36.04	70
5.1 Employable skills	19.11	92
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	15.65	77
5.1.2 Secondary-educated population.....	0.00	82
Technical professions		
5.1.3 Technicians and associate professionals.....	8.46	81
Employment quality		
5.1.4 State of cluster development.....	52.34	36
5.2 Labour productivity	52.97	13
Labour productivity		
5.2.1 Labour productivity per employee.....	2.27	82
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	56.65	27
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	100.00	1
6 Global Knowledge	12.74	90
6.1 Higher skills and competencies	8.01	92
Educated workforce		
6.1.1 Tertiary-educated workforce.....	0.51	84
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	4.57	84
6.1.4 Researchers.....	0.00	73
6.1.5 Legislators, senior officials and managers.....	2.82	83
Research quality		
6.1.6 Quality of scientific research institutions.....	37.18	74
6.1.7 Scientific and technical journal articles.....	2.96	77
6.2 Talent impact	17.47	78
Innovation		
6.2.1 Innovation output.....	22.14	78
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.80	76

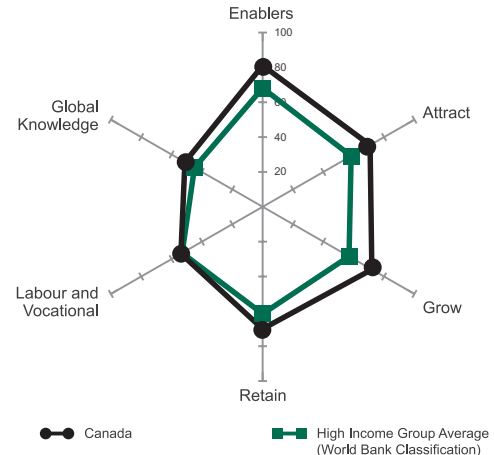
CANADA

High Income
North America

RANK
(out of 93)

5

Population (millions) **35.16**
 GDP per capita (PPP\$) **43,207**
 GDP (US\$ billions) **1,825.10**
 GTCI Score **66.49**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	81.09	4
1.1 Regulatory landscape	83.77	9
Government efficiency		
1.1.1 Government effectiveness.....	86.80	9
1.1.2 Business-government relations.....	72.12	14
1.1.3 Political stability.....	92.41	13
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	75.63	5
Competition climate		
1.2.1 Intensity of local competition.....	73.89	28
Innovation climate		
1.2.2 Venture capital deals.....	100.00	1
1.2.3 Firm-level technology absorption.....	74.14	28
1.2.4 R&D expenditure.....	39.21	23
Connectivity		
1.2.5 ICT access.....	82.82	18
Ease of doing business		
1.2.6 Ease of doing business.....	83.70	16
1.3 Business landscape	83.88	9
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	65.43	22
Ownership and governance		
1.3.4 Reliance on professional management.....	81.07	10
2 Attract	70.79	7
2.1 External openness	54.83	10
Industrial openness		
2.1.1 FDI inflow.....	22.32	48
2.1.2 FDI and technology transfer.....	63.49	39
2.1.3 Prevalence of foreign ownership.....	77.01	11
Migration openness		
2.1.4 Male adult migrants.....	45.25	11
2.1.5 Female adult migrants.....	46.40	10
2.1.6 Brain gain.....	68.67	7
2.1.7 Brain drain.....	60.67	14
2.2 Internal openness	86.76	3
Diversity		
2.2.1 Tolerance to minorities.....	100.00	1
2.2.2 Tolerance to immigrants.....	100.00	1
Gender mobility		
2.2.3 Female graduates.....	68.46	42
2.2.4 Female-to-male earnings ratio.....	82.14	10
Social mobility		
2.2.5 Social mobility.....	83.19	6
3 Grow	71.95	4
3.1 Formal education	78.67	2
Education climate		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	n/a	n/a
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	69.27	7
3.1.5 University ranking.....	88.07	3
3.2 Lifelong learning	67.87	14
Further education		
3.2.1 Quality of management schools.....	78.20	7
3.2.2 Extent of staff training.....	57.53	27
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	69.30	9
Networks		
3.3.1 Use of virtual social networks.....	88.96	11
3.3.2 Number of LinkedIn users.....	78.02	5
Learning through experience		
3.3.3 Willingness to delegate authority.....	66.98	11
Voice		
3.3.4 Voicing concern to officials.....	43.25	37
4 Retain	70.07	5
4.1 Sustainability	68.24	4
Social protection		
4.1.1 Pension system.....	87.30	23
Taxation		
4.1.2 Extent and effect of taxation.....	54.19	17
Pay		
4.1.3 Pay level – head of organisation.....	61.77	8
4.1.4 Pay level – head of information technology.....	69.72	4
4.2 Lifestyle	71.89	21
Quality of life		
4.2.1 Environmental performance.....	76.59	24
4.2.2 Safety at night.....	87.96	8
4.2.3 Female part-time workers.....	62.53	22
Access to services		
4.2.4 Physician density.....	32.62	48
4.2.5 Sanitation.....	99.77	27
5 Labour and Vocational Skills	53.85	20
5.1 Employable skills	57.16	30
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	46.17	43
5.1.2 Secondary-educated population.....	44.39	38
Technical professions		
5.1.3 Technicians and associate professionals.....	74.13	18
Employment quality		
5.1.4 State of cluster development.....	63.95	16
5.2 Labour productivity	50.53	17
Labour productivity		
5.2.1 Labour productivity per employee.....	51.90	14
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	58.01	23
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	41.68	50
6 Global Knowledge	51.22	16
6.1 Higher skills and competencies	65.18	3
Educated workforce		
6.1.1 Tertiary-educated workforce.....	74.07	4
6.1.2 Tertiary-educated population.....	79.32	2
Knowledge workers		
6.1.3 Professionals.....	53.05	19
6.1.4 Researchers.....	47.81	13
6.1.5 Legislators, senior officials and managers.....	51.98	10
Research quality		
6.1.6 Quality of scientific research institutions.....	74.44	16
6.1.7 Scientific and technical journal articles.....	75.61	8
6.2 Talent impact	37.26	37
Innovation		
6.2.1 Innovation output.....	68.87	12
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	50.00	29
6.2.3 New business density.....	4.92	52
High-value exports		
6.2.4 Sophisticated exports.....	25.24	37

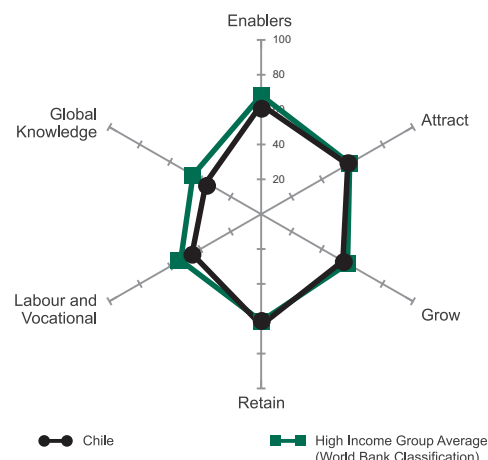
CHILE

High Income
Latin, Central America and Caribbean

RANK
(out of 93)

27

Population (millions) **17.62**
GDP per capita (PPP\$) **21,911**
GDP (US\$ billions) **277.20**
GTCI Score **53.20**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	62.81	29
1.1 Regulatory landscape	73.81	19
Government efficiency		
1.1.1 Government effectiveness.....	72.43	21
1.1.2 Business-government relations.....	74.83	11
1.1.3 Political stability.....	74.17	39
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	46.93	40
Competition climate		
1.2.1 Intensity of local competition.....	72.92	31
Innovation climate		
1.2.2 Venture capital deals.....	6.00	29
1.2.3 Firm-level technology absorption.....	68.26	36
1.2.4 R&D expenditure.....	8.83	55
Connectivity		
1.2.5 ICT access.....	55.97	49
Ease of doing business		
1.2.6 Ease of doing business.....	69.60	29
1.3 Business landscape	67.68	39
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	60.68	29
Ownership and governance		
1.3.4 Reliance on professional management.....	63.36	29
2 Attract	57.05	24
2.1 External openness	51.91	15
Industrial openness		
2.1.1 FDI inflow.....	82.46	5
2.1.2 FDI and technology transfer.....	69.78	17
2.1.3 Prevalence of foreign ownership.....	76.77	12
Migration openness		
2.1.4 Male adult migrants.....	4.21	64
2.1.5 Female adult migrants.....	4.48	62
2.1.6 Brain gain.....	58.33	16
2.1.7 Brain drain.....	67.33	10
2.2 Internal openness	62.20	39
Diversity		
2.2.1 Tolerance to minorities.....	77.70	31
2.2.2 Tolerance to immigrants.....	73.16	29
Gender mobility		
2.2.3 Female graduates.....	59.85	56
2.2.4 Female-to-male earnings ratio.....	39.29	68
Social mobility		
2.2.5 Social mobility.....	60.98	33
3 Grow	53.82	26
3.1 Formal education	38.39	35
Education climate		
3.1.1 Vocational enrolment.....	48.74	23
3.1.2 Tertiary enrolment.....	68.69	23
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	28.82	44
3.1.5 University ranking.....	45.70	27
3.2 Lifelong learning	60.87	29
Further education		
3.2.1 Quality of management schools.....	72.44	15
3.2.2 Extent of staff training.....	54.75	33
Continuous development		
3.2.3 Firms offering formal training.....	55.42	25

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	62.19	17
Networks		
3.3.1 Use of virtual social networks.....	85.67	20
3.3.2 Number of LinkedIn users.....	44.75	16
Learning through experience		
3.3.3 Willingness to delegate authority.....	46.27	48
Voice		
3.3.4 Voicing concern to officials.....	72.08	10
4 Retain	63.69	14
4.1 Sustainability	72.27	3
Social protection		
4.1.1 Pension system.....	57.48	48
Taxation		
4.1.2 Extent and effect of taxation.....	59.34	9
Pay		
4.1.3 Pay level – head of organisation.....	100.00	1
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	55.11	48
Quality of life		
4.2.1 Environmental performance.....	71.41	29
4.2.2 Safety at night.....	49.12	54
4.2.3 Female part-time workers.....	41.05	44
Access to services		
4.2.4 Physician density.....	15.47	67
4.2.5 Sanitation.....	98.50	33
5 Labour and Vocational Skills	45.51	40
5.1 Employable skills	57.37	29
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	72.77	16
5.1.2 Secondary-educated population.....	43.74	39
Technical professions		
5.1.3 Technicians and associate professionals.....	61.69	27
Employment quality		
5.1.4 State of cluster development.....	51.27	41
5.2 Labour productivity	33.64	67
Labour productivity		
5.2.1 Labour productivity per employee.....	23.28	42
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	56.58	28
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	21.06	74
6 Global Knowledge	36.30	39
6.1 Higher skills and competencies	28.03	54
Educated workforce		
6.1.1 Tertiary-educated workforce.....	28.96	55
6.1.2 Tertiary-educated population.....	29.97	46
Knowledge workers		
6.1.3 Professionals.....	27.74	54
6.1.4 Researchers.....	3.29	56
6.1.5 Legislators, senior officials and managers.....	31.64	40
Research quality		
6.1.6 Quality of scientific research institutions.....	52.18	43
6.1.7 Scientific and technical journal articles.....	22.41	39
6.2 Talent impact	44.57	20
Innovation		
6.2.1 Innovation output.....	38.09	44
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	100.00	1
6.2.3 New business density.....	26.98	15
High-value exports		
6.2.4 Sophisticated exports.....	13.21	71

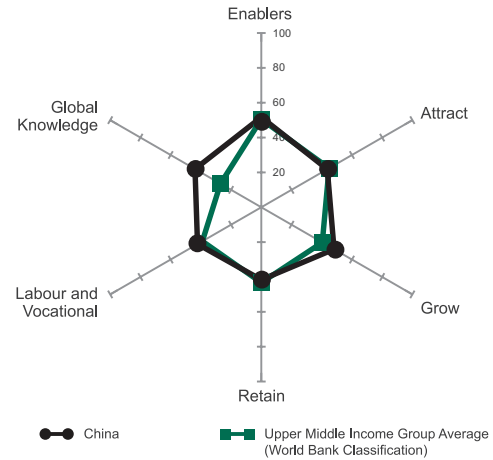
CHINA

Upper Middle Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

41

Population (millions) **1,357.38**
 GDP per capita (PPP\$) **11,903**
 GDP (US\$ billions) **9,240.27**
 GTCI Score **45.21**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	51.67	52
1.1 Regulatory landscape	50.15	55
Government efficiency		
1.1.1 Government effectiveness.....	36.73	54
1.1.2 Business-government relations.....	61.36	31
1.1.3 Political stability.....	52.35	66
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	40.93	56
Competition climate		
1.2.1 Intensity of local competition.....	71.05	38
Innovation climate		
1.2.2 Venture capital deals.....	4.70	32
1.2.3 Firm-level technology absorption.....	61.49	51
1.2.4 R&D expenditure.....	41.38	20
Connectivity		
1.2.5 ICT access.....	38.66	60
Ease of doing business		
1.2.6 Ease of doing business.....	28.30	67
1.3 Business landscape	63.94	53
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	50.00	75
1.3.3 Labour-employer cooperation.....	56.69	40
Ownership and governance		
1.3.4 Reliance on professional management.....	60.08	36
2 Attract	43.68	61
2.1 External openness	34.49	57
Industrial openness		
2.1.1 FDI inflow.....	15.09	62
2.1.2 FDI and technology transfer.....	59.02	57
2.1.3 Prevalence of foreign ownership.....	56.17	60
Migration openness		
2.1.4 Male adult migrants.....	0.00	93
2.1.5 Female adult migrants.....	0.00	93
2.1.6 Brain gain.....	56.50	18
2.1.7 Brain drain.....	54.67	24
2.2 Internal openness	52.87	62
Diversity		
2.2.1 Tolerance to minorities.....	59.01	63
2.2.2 Tolerance to immigrants.....	47.05	66
Gender mobility		
2.2.3 Female graduates.....	45.36	65
2.2.4 Female-to-male earnings ratio.....	57.14	36
Social mobility		
2.2.5 Social mobility.....	55.79	49
3 Grow	48.15	33
3.1 Formal education	48.28	23
Education climate		
3.1.1 Vocational enrolment.....	42.81	27
3.1.2 Tertiary enrolment.....	20.93	70
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	100.00	1
3.1.5 University ranking.....	77.69	9
3.2 Lifelong learning	68.72	13
Further education		
3.2.1 Quality of management schools.....	51.90	59
3.2.2 Extent of staff training.....	54.26	35
Continuous development		
3.2.3 Firms offering formal training.....	100.00	1

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	27.45	91
Networks		
3.3.1 Use of virtual social networks.....	62.15	87
3.3.2 Number of LinkedIn users.....	0.00	72
Learning through experience		
3.3.3 Willingness to delegate authority.....	47.63	43
Voice		
3.3.4 Voicing concern to officials.....	0.00	91
4 Retain	41.62	65
4.1 Sustainability	32.45	70
Social protection		
4.1.1 Pension system.....	33.23	59
Taxation		
4.1.2 Extent and effect of taxation.....	50.79	23
Pay		
4.1.3 Pay level – head of organisation.....	18.51	52
4.1.4 Pay level – head of information technology.....	27.27	31
4.2 Lifestyle	50.80	56
Quality of life		
4.2.1 Environmental performance.....	28.02	82
4.2.2 Safety at night.....	86.99	10
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	28.53	54
4.2.5 Sanitation.....	59.65	77
5 Labour and Vocational Skills	42.22	47
5.1 Employable skills	39.72	60
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	19.23	64
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	60.21	22
5.2 Labour productivity	44.73	34
Labour productivity		
5.2.1 Labour productivity per employee.....	10.99	65
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	61.01	14
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	62.18	17
6 Global Knowledge	43.88	24
6.1 Higher skills and competencies	20.69	70
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	5.95	76
Knowledge workers		
6.1.3 Professionals.....	16.77	68
6.1.4 Researchers.....	10.39	42
6.1.5 Legislators, senior officials and managers.....	9.04	76
Research quality		
6.1.6 Quality of scientific research institutions.....	55.06	38
6.1.7 Scientific and technical journal articles.....	26.95	36
6.2 Talent impact	67.07	2
Innovation		
6.2.1 Innovation output.....	56.71	22
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	66.22	12
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	78.29	3

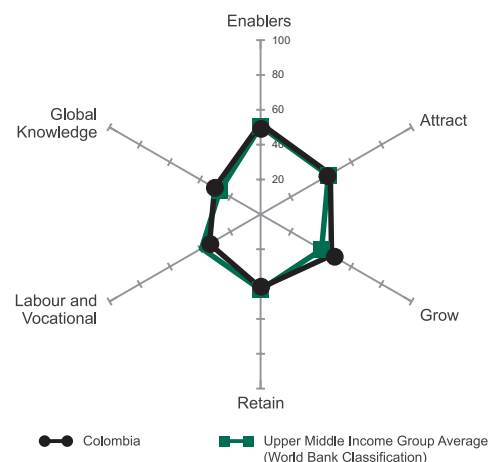
COLOMBIA

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

52

Population (millions) **48.32**
GDP per capita (PPP\$) **12,370**
GDP (US\$ billions) **378.15**
GTCI Score **41.94**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	52.09	51
1.1 Regulatory landscape	42.76	71
Government efficiency		
1.1.1 Government effectiveness.....	36.86	53
1.1.2 Business-government relations.....	60.10	34
1.1.3 Political stability.....	31.31	89
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	38.18	66
Competition climate		
1.2.1 Intensity of local competition.....	67.67	48
Innovation climate		
1.2.2 Venture capital deals.....	1.52	44
1.2.3 Firm-level technology absorption.....	56.00	67
1.2.4 R&D expenditure.....	3.38	69
Connectivity		
1.2.5 ICT access.....	38.52	61
Ease of doing business		
1.2.6 Ease of doing business.....	62.00	36
1.3 Business landscape	75.33	20
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	57.68	37
Ownership and governance		
1.3.4 Reliance on professional management.....	54.64	49
2 Attract	46.17	50
2.1 External openness	32.78	64
Industrial openness		
2.1.1 FDI inflow.....	34.31	28
2.1.2 FDI and technology transfer.....	60.35	54
2.1.3 Prevalence of foreign ownership.....	57.28	57
Migration openness		
2.1.4 Male adult migrants.....	0.43	87
2.1.5 Female adult migrants.....	0.28	87
2.1.6 Brain gain.....	35.17	56
2.1.7 Brain drain.....	41.67	44
2.2 Internal openness	59.56	45
Diversity		
2.2.1 Tolerance to minorities.....	71.93	43
2.2.2 Tolerance to immigrants.....	69.50	33
Gender mobility		
2.2.3 Female graduates.....	56.75	59
2.2.4 Female-to-male earnings ratio.....	54.76	40
Social mobility		
2.2.5 Social mobility.....	44.87	74
3 Grow	46.97	36
3.1 Formal education	25.90	54
Education climate		
3.1.1 Vocational enrolment.....	13.35	65
3.1.2 Tertiary enrolment.....	42.32	50
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	8.35	54
3.1.5 University ranking.....	39.57	33
3.2 Lifelong learning	56.74	41
Further education		
3.2.1 Quality of management schools.....	54.69	52
3.2.2 Extent of staff training.....	45.64	64
Continuous development		
3.2.3 Firms offering formal training.....	69.88	11

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	58.28	24
Networks		
3.3.1 Use of virtual social networks.....	75.91	60
3.3.2 Number of LinkedIn users.....	22.39	33
Learning through experience		
3.3.3 Willingness to delegate authority.....	48.13	38
Voice		
3.3.4 Voicing concern to officials.....	86.70	4
4 Retain	42.18	62
4.1 Sustainability	45.92	31
Social protection		
4.1.1 Pension system.....	27.43	63
Taxation		
4.1.2 Extent and effect of taxation.....	32.47	73
Pay		
4.1.3 Pay level – head of organisation.....	75.04	4
4.1.4 Pay level – head of information technology.....	48.74	11
4.2 Lifestyle	38.45	77
Quality of life		
4.2.1 Environmental performance.....	40.54	65
4.2.2 Safety at night.....	29.16	80
4.2.3 Female part-time workers.....	46.83	35
Access to services		
4.2.4 Physician density.....	1.02	86
4.2.5 Sanitation.....	74.68	66
5 Labour and Vocational Skills	33.80	73
5.1 Employable skills	41.08	55
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	52.43	30
5.1.2 Secondary-educated population.....	24.39	56
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	46.42	54
5.2 Labour productivity	26.53	83
Labour productivity		
5.2.1 Labour productivity per employee.....	11.25	63
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	43.19	72
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	25.13	67
6 Global Knowledge	30.43	49
6.1 Higher skills and competencies	22.38	65
Educated workforce		
6.1.1 Tertiary-educated workforce.....	33.84	44
6.1.2 Tertiary-educated population.....	32.85	43
Knowledge workers		
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	1.50	60
6.1.5 Legislators, senior officials and managers.....	n/a	n/a
Research quality		
6.1.6 Quality of scientific research institutions.....	38.80	69
6.1.7 Scientific and technical journal articles.....	4.91	69
6.2 Talent impact	38.49	33
Innovation		
6.2.1 Innovation output.....	33.92	55
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	97.30	2
6.2.3 New business density.....	9.36	41
High-value exports		
6.2.4 Sophisticated exports.....	13.38	69

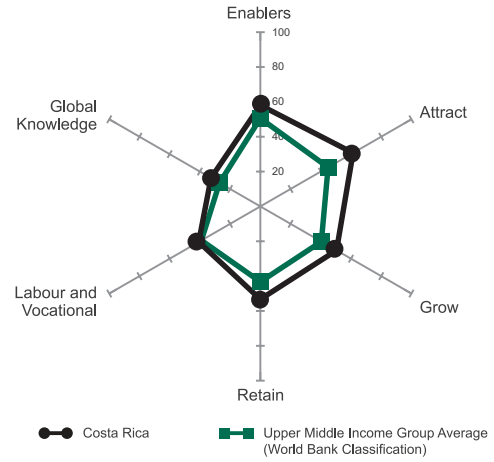
COSTA RICA

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

38

Population (millions) **4.87**
 GDP per capita (PPP\$) **13,872**
 GDP (US\$ billions) **49.62**
 GTCI Score **49.42**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	58.06	39
1.1 Regulatory landscape	64.17	32
Government efficiency		
1.1.1 Government effectiveness.....	50.52	38
1.1.2 Business-government relations.....	60.87	32
1.1.3 Political stability.....	81.12	31
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	45.90	41
Competition climate		
1.2.1 Intensity of local competition.....	70.06	41
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	69.88	35
1.2.4 R&D expenditure.....	10.18	51
Connectivity		
1.2.5 ICT access.....	54.36	51
Ease of doing business		
1.2.6 Ease of doing business.....	25.00	70
1.3 Business landscape	64.11	50
Labour market flexibility		
1.3.1 Difficulty of hiring.....	22.33	85
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	72.32	13
Ownership and governance		
1.3.4 Reliance on professional management.....	61.79	33
2 Attract	61.36	16
2.1 External openness	49.37	19
Industrial openness		
2.1.1 FDI inflow.....	39.09	24
2.1.2 FDI and technology transfer.....	78.29	6
2.1.3 Prevalence of foreign ownership.....	75.17	17
Migration openness		
2.1.4 Male adult migrants.....	19.25	36
2.1.5 Female adult migrants.....	20.46	32
2.1.6 Brain gain.....	49.67	28
2.1.7 Brain drain.....	63.67	13
2.2 Internal openness	73.34	20
Diversity		
2.2.1 Tolerance to minorities.....	85.92	16
2.2.2 Tolerance to immigrants.....	81.18	19
Gender mobility		
2.2.3 Female graduates.....	83.16	11
2.2.4 Female-to-male earnings ratio.....	48.81	52
Social mobility		
2.2.5 Social mobility.....	67.65	26
3 Grow	50.41	32
3.1 Formal education	21.13	67
Education climate		
3.1.1 Vocational enrolment.....	31.16	44
3.1.2 Tertiary enrolment.....	44.10	47
Internationalisation of education		
3.1.3 International student inflow.....	6.60	54
Performance of education system		
3.1.4 Reading, maths and science scores.....	23.79	45
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	64.50	22
Further education		
3.2.1 Quality of management schools.....	72.42	16
3.2.2 Extent of staff training.....	61.63	21
Continuous development		
3.2.3 Firms offering formal training.....	59.44	21

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	65.60	13
Networks		
3.3.1 Use of virtual social networks.....	83.99	27
3.3.2 Number of LinkedIn users.....	28.36	27
Learning through experience		
3.3.3 Willingness to delegate authority.....	58.61	24
Voice		
3.3.4 Voicing concern to officials.....	91.42	3
4 Retain	53.29	37
4.1 Sustainability	52.47	20
Social protection		
4.1.1 Pension system.....	58.38	47
Taxation		
4.1.2 Extent and effect of taxation.....	46.56	35
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	54.10	49
Quality of life		
4.2.1 Environmental performance.....	53.05	46
4.2.2 Safety at night.....	41.45	66
4.2.3 Female part-time workers.....	29.20	54
Access to services		
4.2.4 Physician density.....	n/a	n/a
4.2.5 Sanitation.....	92.72	46
5 Labour and Vocational Skills	40.78	52
5.1 Employable skills	43.29	51
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	41.47	54
5.1.2 Secondary-educated population.....	15.52	73
Technical professions		
5.1.3 Technicians and associate professionals.....	64.18	25
Employment quality		
5.1.4 State of cluster development.....	52.00	39
5.2 Labour productivity	38.27	57
Labour productivity		
5.2.1 Labour productivity per employee.....	18.23	50
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	52.44	43
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	44.15	47
6 Global Knowledge	32.65	44
6.1 Higher skills and competencies	28.49	51
Educated workforce		
6.1.1 Tertiary-educated workforce.....	35.02	42
6.1.2 Tertiary-educated population.....	34.77	39
Knowledge workers		
6.1.3 Professionals.....	30.79	47
6.1.4 Researchers.....	13.97	39
6.1.5 Legislators, senior officials and managers.....	15.25	65
Research quality		
6.1.6 Quality of scientific research institutions.....	63.29	31
6.1.7 Scientific and technical journal articles.....	6.30	62
6.2 Talent impact	36.82	38
Innovation		
6.2.1 Innovation output.....	52.63	28
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	21.62	65
6.2.3 New business density.....	16.76	28
High-value exports		
6.2.4 Sophisticated exports.....	56.25	10

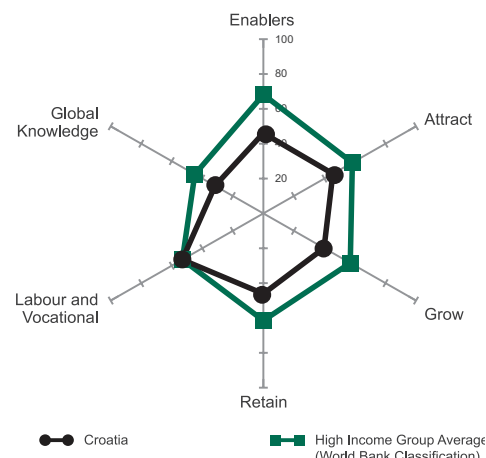
CROATIA

High Income
Europe

RANK
(out of 93)

46

Population (millions) **4.25**
 GDP per capita (PPP\$) **20,904**
 GDP (US\$ billions) **57.54**
 GTCI Score **43.70**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	46.07	73
1.1 Regulatory landscape	53.69	49
Government efficiency		
1.1.1 Government effectiveness.....	56.48	35
1.1.2 Business-government relations.....	40.98	72
1.1.3 Political stability.....	79.79	33
FDI climate		
1.1.4 Starting a foreign business.....	37.50	28
1.2 Market landscape	40.02	61
Competition climate		
1.2.1 Intensity of local competition.....	58.73	76
Innovation climate		
1.2.2 Venture capital deals.....	2.98	36
1.2.3 Firm-level technology absorption.....	60.88	55
1.2.4 R&D expenditure.....	16.40	41
Connectivity		
1.2.5 ICT access.....	69.53	33
Ease of doing business		
1.2.6 Ease of doing business.....	31.60	64
1.3 Business landscape	44.51	87
Labour market flexibility		
1.3.1 Difficulty of hiring.....	39.00	78
1.3.2 Difficulty of redundancy.....	50.00	75
1.3.3 Labour-employer cooperation.....	41.56	84
Ownership and governance		
1.3.4 Reliance on professional management.....	47.48	69
2 Attract	45.51	53
2.1 External openness	33.23	62
Industrial openness		
2.1.1 FDI inflow.....	19.80	52
2.1.2 FDI and technology transfer.....	50.06	77
2.1.3 Prevalence of foreign ownership.....	52.57	67
Migration openness		
2.1.4 Male adult migrants.....	36.64	13
2.1.5 Female adult migrants.....	37.50	13
2.1.6 Brain gain.....	14.83	88
2.1.7 Brain drain.....	21.17	84
2.2 Internal openness	57.80	51
Diversity		
2.2.1 Tolerance to minorities.....	62.35	58
2.2.2 Tolerance to immigrants.....	50.51	58
Gender mobility		
2.2.3 Female graduates.....	68.59	41
2.2.4 Female-to-male earnings ratio.....	64.29	23
Social mobility		
2.2.5 Social mobility.....	43.27	80
3 Grow	39.75	59
3.1 Formal education	38.24	36
Education climate		
3.1.1 Vocational enrolment.....	76.34	5
3.1.2 Tertiary enrolment.....	56.58	37
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	50.50	33
3.1.5 University ranking.....	7.79	58
3.2 Lifelong learning	41.54	75
Further education		
3.2.1 Quality of management schools.....	53.28	57
3.2.2 Extent of staff training.....	38.68	82
Continuous development		
3.2.3 Firms offering formal training.....	32.66	50

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	39.47	76
Networks		
3.3.1 Use of virtual social networks.....	76.92	55
3.3.2 Number of LinkedIn users.....	24.90	29
Learning through experience		
3.3.3 Willingness to delegate authority.....	40.14	70
Voice		
3.3.4 Voicing concern to officials.....	15.91	75
4 Retain	46.10	53
4.1 Sustainability	32.92	68
Social protection		
4.1.1 Pension system.....	75.90	35
Taxation		
4.1.2 Extent and effect of taxation.....	21.75	89
Pay		
4.1.3 Pay level – head of organisation.....	11.47	63
4.1.4 Pay level – head of information technology.....	22.55	40
4.2 Lifestyle	59.27	42
Quality of life		
4.2.1 Environmental performance.....	59.01	39
4.2.2 Safety at night.....	68.66	32
4.2.3 Female part-time workers.....	27.55	56
Access to services		
4.2.4 Physician density.....	43.24	41
4.2.5 Sanitation.....	97.92	36
5 Labour and Vocational Skills	53.11	25
5.1 Employable skills	62.58	17
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	82.94	7
5.1.2 Secondary-educated population.....	70.95	16
Technical professions		
5.1.3 Technicians and associate professionals.....	59.20	29
Employment quality		
5.1.4 State of cluster development.....	37.23	78
5.2 Labour productivity	43.63	40
Labour productivity		
5.2.1 Labour productivity per employee.....	30.76	35
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	46.78	60
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	53.35	31
6 Global Knowledge	31.68	45
6.1 Higher skills and competencies	35.74	35
Educated workforce		
6.1.1 Tertiary-educated workforce.....	32.15	45
6.1.2 Tertiary-educated population.....	30.38	45
Knowledge workers		
6.1.3 Professionals.....	40.24	38
6.1.4 Researchers.....	17.21	38
6.1.5 Legislators, senior officials and managers.....	23.73	53
Research quality		
6.1.6 Quality of scientific research institutions.....	50.50	45
6.1.7 Scientific and technical journal articles.....	55.94	19
6.2 Talent impact	27.62	56
Innovation		
6.2.1 Innovation output.....	44.50	37
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	25.68	60
6.2.3 New business density.....	13.28	33
High-value exports		
6.2.4 Sophisticated exports.....	27.04	34

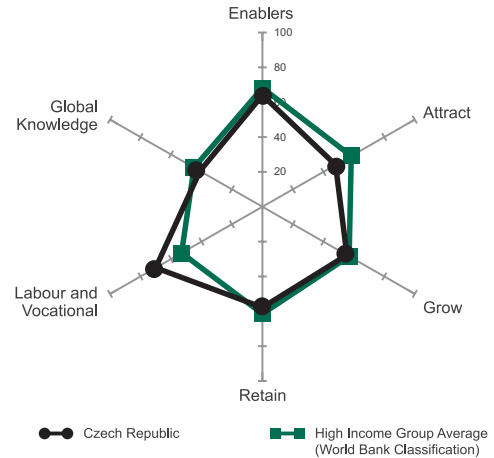
CZECH REPUBLIC

High Income
Europe

RANK
(out of 93)

24

Population (millions) **10.52**
 GDP per capita (PPP\$) **27,344**
 GDP (US\$ billions) **198.45**
 GTCI Score **56.06**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	64.03	28
1.1 Regulatory landscape	65.12	29
Government efficiency		
1.1.1 Government effectiveness.....	62.84	31
1.1.2 Business-government relations.....	44.90	67
1.1.3 Political stability.....	91.18	15
FDI climate		
1.1.4 Starting a foreign business.....	61.54	12
1.2 Market landscape	49.54	38
Competition climate		
1.2.1 Intensity of local competition.....	80.44	8
Innovation climate		
1.2.2 Venture capital deals.....	1.61	43
1.2.3 Firm-level technology absorption.....	65.83	43
1.2.4 R&D expenditure.....	41.45	19
Connectivity		
1.2.5 ICT access.....	68.72	34
Ease of doing business		
1.2.6 Ease of doing business.....	39.20	57
1.3 Business landscape	77.44	15
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	53.82	49
Ownership and governance		
1.3.4 Reliance on professional management.....	55.92	46
2 Attract	48.03	42
2.1 External openness	39.43	37
Industrial openness		
2.1.1 FDI inflow.....	41.68	23
2.1.2 FDI and technology transfer.....	68.27	24
2.1.3 Prevalence of foreign ownership.....	82.71	4
Migration openness		
2.1.4 Male adult migrants.....	9.94	49
2.1.5 Female adult migrants.....	6.26	53
2.1.6 Brain gain.....	36.67	53
2.1.7 Brain drain.....	30.50	68
2.2 Internal openness	56.64	53
Diversity		
2.2.1 Tolerance to minorities.....	51.61	76
2.2.2 Tolerance to immigrants.....	51.67	56
Gender mobility		
2.2.3 Female graduates.....	78.69	17
2.2.4 Female-to-male earnings ratio.....	39.29	68
Social mobility		
2.2.5 Social mobility.....	61.93	29
3 Grow	55.42	21
3.1 Formal education	55.25	18
Education climate		
3.1.1 Vocational enrolment.....	81.28	3
3.1.2 Tertiary enrolment.....	62.55	27
Internationalisation of education		
3.1.3 International student inflow.....	39.21	14
Performance of education system		
3.1.4 Reading, maths and science scores.....	58.83	19
3.1.5 University ranking.....	34.34	36
3.2 Lifelong learning	62.31	27
Further education		
3.2.1 Quality of management schools.....	49.22	64
3.2.2 Extent of staff training.....	50.57	48
Continuous development		
3.2.3 Firms offering formal training.....	87.15	4

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	48.71	47
Networks		
3.3.1 Use of virtual social networks.....	82.99	32
3.3.2 Number of LinkedIn users.....	17.87	39
Learning through experience		
3.3.3 Willingness to delegate authority.....	47.89	41
Voice		
3.3.4 Voicing concern to officials.....	46.11	34
4 Retain	57.80	27
4.1 Sustainability	40.70	48
Social protection		
4.1.1 Pension system.....	95.38	2
Taxation		
4.1.2 Extent and effect of taxation.....	28.73	80
Pay		
4.1.3 Pay level – head of organisation.....	23.23	44
4.1.4 Pay level – head of information technology.....	15.45	46
4.2 Lifestyle	74.91	16
Quality of life		
4.2.1 Environmental performance.....	90.01	5
4.2.2 Safety at night.....	54.99	48
4.2.3 Female part-time workers.....	69.97	16
Access to services		
4.2.4 Physician density.....	59.57	14
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	70.04	1
5.1 Employable skills	86.34	1
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	100.00	1
5.1.2 Secondary-educated population.....	100.00	1
Technical professions		
5.1.3 Technicians and associate professionals.....	93.03	4
Employment quality		
5.1.4 State of cluster development.....	52.31	37
5.2 Labour productivity	53.75	11
Labour productivity		
5.2.1 Labour productivity per employee.....	32.73	32
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	60.40	15
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	68.12	8
6 Global Knowledge	41.02	26
6.1 Higher skills and competencies	38.28	32
Educated workforce		
6.1.1 Tertiary-educated workforce.....	29.46	51
6.1.2 Tertiary-educated population.....	28.85	50
Knowledge workers		
6.1.3 Professionals.....	38.11	44
6.1.4 Researchers.....	31.58	26
6.1.5 Legislators, senior officials and managers.....	25.99	51
Research quality		
6.1.6 Quality of scientific research institutions.....	64.70	25
6.1.7 Scientific and technical journal articles.....	49.27	25
6.2 Talent impact	43.76	22
Innovation		
6.2.1 Innovation output.....	55.09	23
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	55.41	20
6.2.3 New business density.....	13.94	30
High-value exports		
6.2.4 Sophisticated exports.....	50.60	15

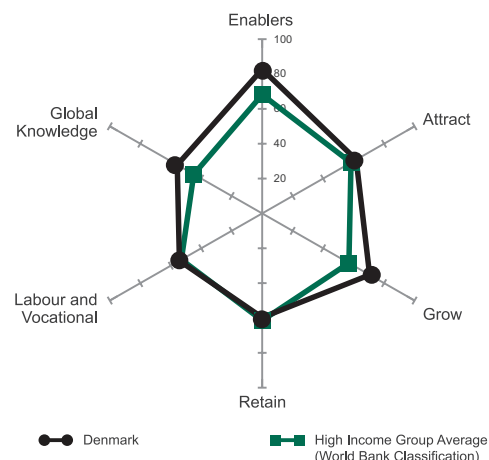
DENMARK

High Income
Europe

RANK
(out of 93)

8

Population (millions) **5.61**
 GDP per capita (PPP\$) **42,789**
 GDP (US\$ billions) **330.81**
 GTCI Score **64.13**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	82.73	3
1.1 Regulatory landscape	82.47	10
Government efficiency		
1.1.1 Government effectiveness.....	92.86	3
1.1.2 Business-government relations.....	66.71	21
1.1.3 Political stability.....	87.84	22
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	74.92	6
Competition climate		
1.2.1 Intensity of local competition.....	74.62	23
Innovation climate		
1.2.2 Venture capital deals.....	39.24	9
1.2.3 Firm-level technology absorption.....	78.74	18
1.2.4 R&D expenditure.....	70.21	6
Connectivity		
1.2.5 ICT access.....	89.93	10
Ease of doing business		
1.2.6 Ease of doing business.....	96.80	4
1.3 Business landscape	90.81	3
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	80.71	3
Ownership and governance		
1.3.4 Reliance on professional management.....	82.52	6
2 Attract	61.70	15
2.1 External openness	40.12	34
Industrial openness		
2.1.1 FDI inflow.....	11.20	76
2.1.2 FDI and technology transfer.....	62.38	47
2.1.3 Prevalence of foreign ownership.....	70.32	29
Migration openness		
2.1.4 Male adult migrants.....	20.80	33
2.1.5 Female adult migrants.....	20.79	30
2.1.6 Brain gain.....	46.17	36
2.1.7 Brain drain.....	49.17	31
2.2 Internal openness	83.29	8
Diversity		
2.2.1 Tolerance to minorities.....	89.61	10
2.2.2 Tolerance to immigrants.....	88.15	12
Gender mobility		
2.2.3 Female graduates.....	67.12	44
2.2.4 Female-to-male earnings ratio.....	86.90	8
Social mobility		
2.2.5 Social mobility.....	84.66	5
3 Grow	70.52	5
3.1 Formal education	57.98	13
Education climate		
3.1.1 Vocational enrolment.....	53.78	20
3.1.2 Tertiary enrolment.....	71.86	17
Internationalisation of education		
3.1.3 International student inflow.....	34.66	17
Performance of education system		
3.1.4 Reading, maths and science scores.....	57.97	22
3.1.5 University ranking.....	71.65	12
3.2 Lifelong learning	67.55	17
Further education		
3.2.1 Quality of management schools.....	69.22	22
3.2.2 Extent of staff training.....	65.88	14
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	86.02	1
Networks		
3.3.1 Use of virtual social networks.....	82.12	34
3.3.2 Number of LinkedIn users.....	78.48	4
Learning through experience		
3.3.3 Willingness to delegate authority.....	83.48	1
Voice		
3.3.4 Voicing concern to officials.....	100.00	1
4 Retain	59.74	25
4.1 Sustainability	45.50	33
Social protection		
4.1.1 Pension system.....	92.83	9
Taxation		
4.1.2 Extent and effect of taxation.....	29.59	77
Pay		
4.1.3 Pay level – head of organisation.....	25.43	38
4.1.4 Pay level – head of information technology.....	34.14	20
4.2 Lifestyle	73.99	18
Quality of life		
4.2.1 Environmental performance.....	82.68	13
4.2.2 Safety at night.....	86.65	11
4.2.3 Female part-time workers.....	45.73	37
Access to services		
4.2.4 Physician density.....	54.90	22
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	54.32	18
5.1 Employable skills	59.72	25
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	49.45	36
5.1.2 Secondary-educated population.....	55.30	26
Technical professions		
5.1.3 Technicians and associate professionals.....	79.10	12
Employment quality		
5.1.4 State of cluster development.....	55.01	29
5.2 Labour productivity	48.93	23
Labour productivity		
5.2.1 Labour productivity per employee.....	47.79	22
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	52.46	42
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	46.53	43
6 Global Knowledge	55.73	7
6.1 Higher skills and competencies	62.42	11
Educated workforce		
6.1.1 Tertiary-educated workforce.....	48.99	24
6.1.2 Tertiary-educated population.....	51.79	15
Knowledge workers		
6.1.3 Professionals.....	75.30	3
6.1.4 Researchers.....	73.68	3
6.1.5 Legislators, senior officials and managers.....	14.69	66
Research quality		
6.1.6 Quality of scientific research institutions.....	72.46	17
6.1.7 Scientific and technical journal articles.....	100.00	1
6.2 Talent impact	49.05	8
Innovation		
6.2.1 Innovation output.....	68.68	13
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	67.57	11
6.2.3 New business density.....	20.63	21
High-value exports		
6.2.4 Sophisticated exports.....	39.32	22

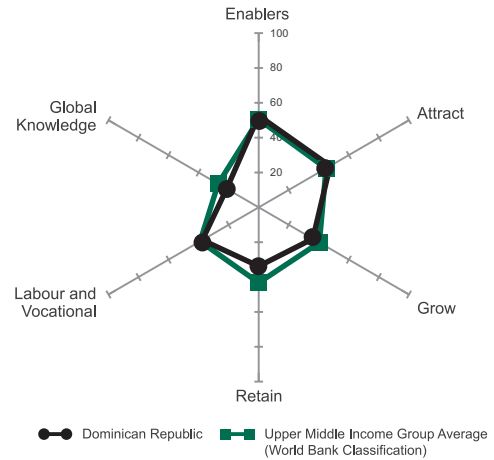
DOMINICAN REPUBLIC

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

68

Population (millions) **10.40**
 GDP per capita (PPP\$) **11,695**
 GDP (US\$ billions) **60.61**
 GTCI Score **38.13**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	52.63	48
1.1 Regulatory landscape	50.05	56
Government efficiency		
1.1.1 Government effectiveness.....	20.79	76
1.1.2 Business-government relations.....	57.95	42
1.1.3 Political stability.....	71.40	42
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	43.21	51
Competition climate		
1.2.1 Intensity of local competition.....	65.34	57
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	65.00	44
1.2.4 R&D expenditure.....	n/a	n/a
Connectivity		
1.2.5 ICT access.....	25.10	80
Ease of doing business		
1.2.6 Ease of doing business.....	17.40	77
1.3 Business landscape	64.64	48
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	59.16	33
Ownership and governance		
1.3.4 Reliance on professional management.....	43.71	79
2 Attract	47.51	43
2.1 External openness	39.68	35
Industrial openness		
2.1.1 FDI inflow.....	46.63	18
2.1.2 FDI and technology transfer.....	71.75	10
2.1.3 Prevalence of foreign ownership.....	66.80	37
Migration openness		
2.1.4 Male adult migrants.....	8.80	53
2.1.5 Female adult migrants.....	5.26	59
2.1.6 Brain gain.....	38.17	51
2.1.7 Brain drain.....	40.33	49
2.2 Internal openness	55.34	58
Diversity		
2.2.1 Tolerance to minorities.....	63.42	55
2.2.2 Tolerance to immigrants.....	62.35	39
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	n/a	n/a
Social mobility		
2.2.5 Social mobility.....	40.26	83
3 Grow	36.02	70
3.1 Formal education	13.08	80
Education climate		
3.1.1 Vocational enrolment.....	9.00	74
3.1.2 Tertiary enrolment.....	30.24	62
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	54.41	43
Further education		
3.2.1 Quality of management schools.....	45.10	76
3.2.2 Extent of staff training.....	49.33	54
Continuous development		
3.2.3 Firms offering formal training.....	68.81	13

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	40.58	72
Networks		
3.3.1 Use of virtual social networks.....	81.69	39
3.3.2 Number of LinkedIn users.....	12.13	49
Learning through experience		
3.3.3 Willingness to delegate authority.....	45.81	53
Voice		
3.3.4 Voicing concern to officials.....	22.70	65
4 Retain	33.77	80
4.1 Sustainability	27.14	82
Social protection		
4.1.1 Pension system.....	26.52	64
Taxation		
4.1.2 Extent and effect of taxation.....	27.76	82
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	40.40	74
Quality of life		
4.2.1 Environmental performance.....	44.52	58
4.2.2 Safety at night.....	20.45	87
4.2.3 Female part-time workers.....	17.08	59
Access to services		
4.2.4 Physician density.....	n/a	n/a
4.2.5 Sanitation.....	79.54	61
5 Labour and Vocational Skills	37.54	64
5.1 Employable skills	33.45	69
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	36.93	60
5.1.2 Secondary-educated population.....	23.98	58
Technical professions		
5.1.3 Technicians and associate professionals.....	29.35	61
Employment quality		
5.1.4 State of cluster development.....	43.53	61
5.2 Labour productivity	41.63	47
Labour productivity		
5.2.1 Labour productivity per employee.....	18.74	49
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	41.82	75
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	64.32	13
6 Global Knowledge	21.32	72
6.1 Higher skills and competencies	18.46	77
Educated workforce		
6.1.1 Tertiary-educated workforce.....	29.80	50
6.1.2 Tertiary-educated population.....	17.95	69
Knowledge workers		
6.1.3 Professionals.....	18.60	64
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	16.38	63
Research quality		
6.1.6 Quality of scientific research institutions.....	28.05	85
6.1.7 Scientific and technical journal articles.....	0.00	92
6.2 Talent impact	24.17	61
Innovation		
6.2.1 Innovation output.....	32.61	59
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	37.84	46
6.2.3 New business density.....	4.82	53
High-value exports		
6.2.4 Sophisticated exports.....	21.42	46

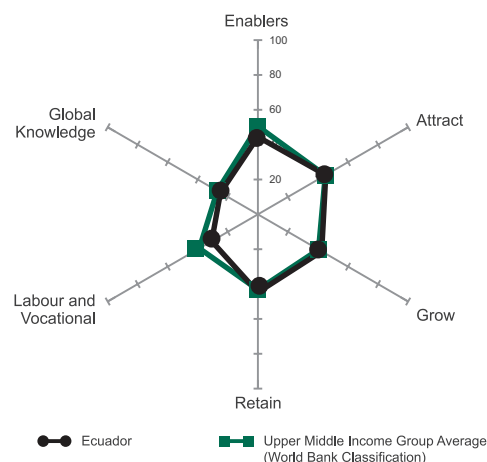
ECUADOR

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

67

Population (millions) **15.74**
GDP per capita (PPP\$) **10,468**
GDP (US\$ billions) **90.02**
GTCI Score **38.75**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	44.47	77
1.1 Regulatory landscape	39.81	78
Government efficiency		
1.1.1 Government effectiveness.....	21.94	74
1.1.2 Business-government relations.....	46.55	61
1.1.3 Political stability.....	50.94	69
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	33.30	76
Competition climate		
1.2.1 Intensity of local competition.....	58.17	77
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	58.18	62
1.2.4 R&D expenditure.....	5.16	62
Connectivity		
1.2.5 ICT access.....	38.39	62
Ease of doing business		
1.2.6 Ease of doing business.....	6.60	87
1.3 Business landscape	60.32	59
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	55.07	46
Ownership and governance		
1.3.4 Reliance on professional management.....	50.52	58
2 Attract	45.18	56
2.1 External openness	31.73	67
Industrial openness		
2.1.1 FDI inflow.....	10.35	81
2.1.2 FDI and technology transfer.....	49.77	78
2.1.3 Prevalence of foreign ownership.....	51.65	68
Migration openness		
2.1.4 Male adult migrants.....	4.31	63
2.1.5 Female adult migrants.....	3.73	65
2.1.6 Brain gain.....	51.67	24
2.1.7 Brain drain.....	50.67	29
2.2 Internal openness	58.62	49
Diversity		
2.2.1 Tolerance to minorities.....	74.00	38
2.2.2 Tolerance to immigrants.....	56.51	52
Gender mobility		
2.2.3 Female graduates.....	69.52	38
2.2.4 Female-to-male earnings ratio.....	41.67	66
Social mobility		
2.2.5 Social mobility.....	51.39	57
3 Grow	42.47	48
3.1 Formal education	26.49	53
Education climate		
3.1.1 Vocational enrolment.....	43.46	26
3.1.2 Tertiary enrolment.....	36.02	56
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	58.06	35
Further education		
3.2.1 Quality of management schools.....	53.59	56
3.2.2 Extent of staff training.....	51.12	45
Continuous development		
3.2.3 Firms offering formal training.....	69.48	12

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	42.84	63
Networks		
3.3.1 Use of virtual social networks.....	68.64	77
3.3.2 Number of LinkedIn users.....	18.41	38
Learning through experience		
3.3.3 Willingness to delegate authority.....	47.04	44
Voice		
3.3.4 Voicing concern to officials.....	37.29	46
4 Retain	44.74	58
4.1 Sustainability	41.85	44
Social protection		
4.1.1 Pension system.....	26.08	65
Taxation		
4.1.2 Extent and effect of taxation.....	47.32	32
Pay		
4.1.3 Pay level – head of organisation.....	52.14	10
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	47.63	65
Quality of life		
4.2.1 Environmental performance.....	53.06	45
4.2.2 Safety at night.....	33.63	74
4.2.3 Female part-time workers.....	33.33	52
Access to services		
4.2.4 Physician density.....	26.34	57
4.2.5 Sanitation.....	91.79	49
5 Labour and Vocational Skills	30.75	81
5.1 Employable skills	35.28	68
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	40.38	56
5.1.2 Secondary-educated population.....	23.39	60
Technical professions		
5.1.3 Technicians and associate professionals.....	29.85	59
Employment quality		
5.1.4 State of cluster development.....	47.52	51
5.2 Labour productivity	26.21	84
Labour productivity		
5.2.1 Labour productivity per employee.....	13.74	59
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	46.85	59
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	18.04	82
6 Global Knowledge	24.91	60
6.1 Higher skills and competencies	19.16	76
Educated workforce		
6.1.1 Tertiary-educated workforce.....	30.81	47
6.1.2 Tertiary-educated population.....	19.22	65
Knowledge workers		
6.1.3 Professionals.....	25.00	58
6.1.4 Researchers.....	0.94	67
6.1.5 Legislators, senior officials and managers.....	16.38	63
Research quality		
6.1.6 Quality of scientific research institutions.....	40.69	64
6.1.7 Scientific and technical journal articles.....	1.10	86
6.2 Talent impact	30.66	50
Innovation		
6.2.1 Innovation output.....	33.09	57
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	45.95	37
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.93	73

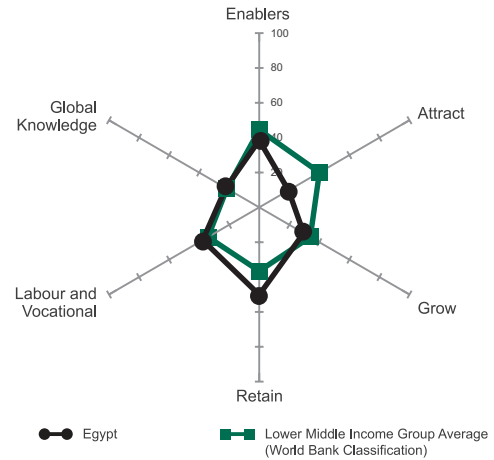
EGYPT

Lower Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

80

Population (millions) **82.06**
 GDP per capita (PPP\$) **11,084**
 GDP (US\$ billions) **271.97**
 GTCI Score **32.93**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	38.48	86
1.1 Regulatory landscape	35.37	83
Government efficiency		
1.1.1 Government effectiveness.....	14.52	84
1.1.2 Business-government relations.....	36.00	86
1.1.3 Political stability.....	29.41	90
FDI climate		
1.1.4 Starting a foreign business.....	61.54	12
1.2 Market landscape	27.08	88
Competition climate		
1.2.1 Intensity of local competition.....	51.08	87
Innovation climate		
1.2.2 Venture capital deals.....	0.44	52
1.2.3 Firm-level technology absorption.....	53.40	76
1.2.4 R&D expenditure.....	9.08	54
Connectivity		
1.2.5 ICT access.....	36.51	63
Ease of doing business		
1.2.6 Ease of doing business.....	12.00	82
1.3 Business landscape	53.00	74
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	40.00	82
1.3.3 Labour-employer cooperation.....	47.47	77
Ownership and governance		
1.3.4 Reliance on professional management.....	35.51	91
2 Attract	19.51	92
2.1 External openness	21.77	89
Industrial openness		
2.1.1 FDI inflow.....	12.44	71
2.1.2 FDI and technology transfer.....	53.10	67
2.1.3 Prevalence of foreign ownership.....	44.11	82
Migration openness		
2.1.4 Male adult migrants.....	0.84	84
2.1.5 Female adult migrants.....	0.57	84
2.1.6 Brain gain.....	19.67	80
2.1.7 Brain drain.....	21.67	83
2.2 Internal openness	17.24	92
Diversity		
2.2.1 Tolerance to minorities.....	8.78	90
2.2.2 Tolerance to immigrants.....	7.11	89
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	11.90	87
Social mobility		
2.2.5 Social mobility.....	41.17	82
3 Grow	29.56	88
3.1 Formal education	24.67	55
Education climate		
3.1.1 Vocational enrolment.....	36.10	34
3.1.2 Tertiary enrolment.....	25.51	64
Internationalisation of education		
3.1.3 International student inflow.....	8.52	46
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	28.55	43
3.2 Lifelong learning	26.43	92
Further education		
3.2.1 Quality of management schools.....	21.58	93
3.2.2 Extent of staff training.....	34.68	91
Continuous development		
3.2.3 Firms offering formal training.....	23.03	56

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	37.57	80
Networks		
3.3.1 Use of virtual social networks.....	81.85	38
3.3.2 Number of LinkedIn users.....	5.91	61
Learning through experience		
3.3.3 Willingness to delegate authority.....	50.95	32
Voice		
3.3.4 Voicing concern to officials.....	11.58	80
4 Retain	50.15	43
4.1 Sustainability	39.38	51
Social protection		
4.1.1 Pension system.....	54.87	49
Taxation		
4.1.2 Extent and effect of taxation.....	30.44	74
Pay		
4.1.3 Pay level – head of organisation.....	33.92	24
4.1.4 Pay level – head of information technology.....	38.28	15
4.2 Lifestyle	60.92	37
Quality of life		
4.2.1 Environmental performance.....	57.20	42
4.2.2 Safety at night.....	47.11	58
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	45.13	35
4.2.5 Sanitation.....	94.22	43
5 Labour and Vocational Skills	37.65	62
5.1 Employable skills	45.19	48
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	41.78	52
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	42.29	46
Employment quality		
5.1.4 State of cluster development.....	51.49	40
5.2 Labour productivity	30.11	78
Labour productivity		
5.2.1 Labour productivity per employee.....	10.61	67
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	35.47	86
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	44.25	46
6 Global Knowledge	22.26	67
6.1 Higher skills and competencies	27.09	56
Educated workforce		
6.1.1 Tertiary-educated workforce.....	28.11	58
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	39.02	40
6.1.4 Researchers.....	5.56	51
6.1.5 Legislators, senior officials and managers.....	45.76	18
Research quality		
6.1.6 Quality of scientific research institutions.....	27.81	86
6.1.7 Scientific and technical journal articles.....	16.29	52
6.2 Talent impact	17.42	79
Innovation		
6.2.1 Innovation output.....	16.41	81
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	22.97	64
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.88	74

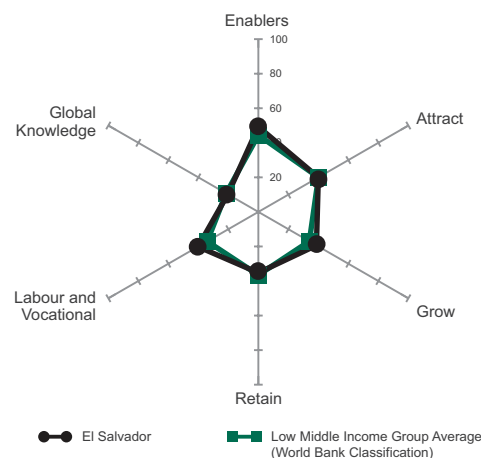
EL SALVADOR

Lower Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

72

Population (millions) **6.34**
GDP per capita (PPP\$) **7,762**
GDP (US\$ billions) **24.26**
GTCI Score **37.30**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	49.28	59
1.1 Regulatory landscape	47.50	61
Government efficiency		
1.1.1 Government effectiveness.....	32.45	61
1.1.2 Business-government relations.....	39.23	80
1.1.3 Political stability.....	70.81	43
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	32.85	77
Competition climate		
1.2.1 Intensity of local competition.....	59.21	74
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	54.75	71
1.2.4 R&D expenditure.....	0.74	80
Connectivity		
1.2.5 ICT access.....	33.15	70
Ease of doing business		
1.2.6 Ease of doing business.....	16.40	78
1.3 Business landscape	67.48	40
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	53.64	50
Ownership and governance		
1.3.4 Reliance on professional management.....	49.63	61
2 Attract	39.98	77
2.1 External openness	29.71	72
Industrial openness		
2.1.1 FDI inflow.....	19.67	53
2.1.2 FDI and technology transfer.....	47.72	81
2.1.3 Prevalence of foreign ownership.....	49.82	74
Migration openness		
2.1.4 Male adult migrants.....	1.49	76
2.1.5 Female adult migrants.....	1.24	76
2.1.6 Brain gain.....	46.83	34
2.1.7 Brain drain.....	41.17	46
2.2 Internal openness	50.25	70
Diversity		
2.2.1 Tolerance to minorities.....	57.81	67
2.2.2 Tolerance to immigrants.....	57.59	51
Gender mobility		
2.2.3 Female graduates.....	69.41	39
2.2.4 Female-to-male earnings ratio.....	30.95	78
Social mobility		
2.2.5 Social mobility.....	35.48	90
3 Grow	38.71	60
3.1 Formal education	13.26	79
Education climate		
3.1.1 Vocational enrolment.....	31.92	41
3.1.2 Tertiary enrolment.....	21.13	69
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	56.96	40
Further education		
3.2.1 Quality of management schools.....	47.48	65
3.2.2 Extent of staff training.....	48.58	57
Continuous development		
3.2.3 Firms offering formal training.....	74.83	8

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	45.91	56
Networks		
3.3.1 Use of virtual social networks.....	67.21	83
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	46.37	47
Voice		
3.3.4 Voicing concern to officials.....	24.14	64
4 Retain	35.24	75
4.1 Sustainability	29.48	77
Social protection		
4.1.1 Pension system.....	22.53	68
Taxation		
4.1.2 Extent and effect of taxation.....	36.43	66
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	41.00	72
Quality of life		
4.2.1 Environmental performance.....	29.29	80
4.2.2 Safety at night.....	41.49	65
4.2.3 Female part-time workers.....	44.08	39
Access to services		
4.2.4 Physician density.....	24.84	58
4.2.5 Sanitation.....	65.32	75
5 Labour and Vocational Skills	40.22	53
5.1 Employable skills	24.00	85
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	0.00	85
5.1.2 Secondary-educated population.....	14.02	75
Technical professions		
5.1.3 Technicians and associate professionals.....	30.85	57
Employment quality		
5.1.4 State of cluster development.....	51.13	42
5.2 Labour productivity	56.44	6
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	40.83	80
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	72.04	5
6 Global Knowledge	20.37	75
6.1 Higher skills and competencies	14.03	82
Educated workforce		
6.1.1 Tertiary-educated workforce.....	15.66	74
6.1.2 Tertiary-educated population.....	18.67	67
Knowledge workers		
6.1.3 Professionals.....	11.89	73
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	5.08	79
Research quality		
6.1.6 Quality of scientific research institutions.....	32.53	81
6.1.7 Scientific and technical journal articles.....	0.32	91
6.2 Talent impact	26.72	58
Innovation		
6.2.1 Innovation output.....	23.83	76
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	60.81	17
6.2.3 New business density.....	2.10	68
High-value exports		
6.2.4 Sophisticated exports.....	20.15	49

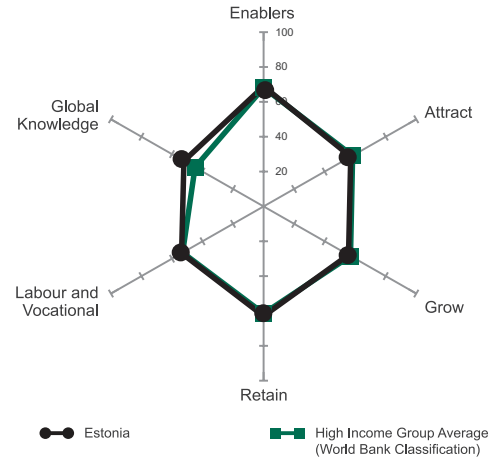
ESTONIA

High Income
Europe

RANK
(out of 93)

19

Population (millions) **1.32**
 GDP per capita (PPP\$) **25,048**
 GDP (US\$ billions) **24.48**
 GTCI Score **58.40**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	68.86	23
1.1 Regulatory landscape	69.09	23
Government efficiency		
1.1.1 Government effectiveness.....	64.08	29
1.1.2 Business-government relations.....	62.83	27
1.1.3 Political stability.....	80.37	32
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	66.75	17
Competition climate		
1.2.1 Intensity of local competition.....	76.54	18
Innovation climate		
1.2.2 Venture capital deals.....	37.86	12
1.2.3 Firm-level technology absorption.....	73.01	30
1.2.4 R&D expenditure.....	53.76	14
Connectivity		
1.2.5 ICT access.....	77.72	23
Ease of doing business		
1.2.6 Ease of doing business.....	81.60	18
1.3 Business landscape	70.75	29
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	65.64	21
Ownership and governance		
1.3.4 Reliance on professional management.....	70.71	24
2 Attract	57.08	23
2.1 External openness	49.12	20
Industrial openness		
2.1.1 FDI inflow.....	50.72	17
2.1.2 FDI and technology transfer.....	67.84	26
2.1.3 Prevalence of foreign ownership.....	79.24	9
Migration openness		
2.1.4 Male adult migrants.....	36.45	14
2.1.5 Female adult migrants.....	42.73	11
2.1.6 Brain gain.....	33.50	59
2.1.7 Brain drain.....	33.33	62
2.2 Internal openness	65.05	33
Diversity		
2.2.1 Tolerance to minorities.....	54.46	72
2.2.2 Tolerance to immigrants.....	37.69	80
Gender mobility		
2.2.3 Female graduates.....	100.00	1
2.2.4 Female-to-male earnings ratio.....	58.33	34
Social mobility		
2.2.5 Social mobility.....	74.77	21
3 Grow	55.64	20
3.1 Formal education	41.92	31
Education climate		
3.1.1 Vocational enrolment.....	40.28	29
3.1.2 Tertiary enrolment.....	69.86	21
Internationalisation of education		
3.1.3 International student inflow.....	8.20	50
Performance of education system		
3.1.4 Reading, maths and science scores.....	71.09	6
3.1.5 University ranking.....	20.19	50
3.2 Lifelong learning	67.05	19
Further education		
3.2.1 Quality of management schools.....	58.06	40
3.2.2 Extent of staff training.....	56.35	29
Continuous development		
3.2.3 Firms offering formal training.....	86.75	5

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	57.95	26
Networks		
3.3.1 Use of virtual social networks.....	90.18	7
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	57.92	26
Voice		
3.3.4 Voicing concern to officials.....	25.74	63
4 Retain	62.89	17
4.1 Sustainability	51.62	21
Social protection		
4.1.1 Pension system.....	94.43	5
Taxation		
4.1.2 Extent and effect of taxation.....	55.10	14
Pay		
4.1.3 Pay level – head of organisation.....	5.34	65
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	74.16	17
Quality of life		
4.2.1 Environmental performance.....	79.04	20
4.2.2 Safety at night.....	63.78	36
4.2.3 Female part-time workers.....	76.86	11
Access to services		
4.2.4 Physician density.....	53.57	26
4.2.5 Sanitation.....	97.57	37
5 Labour and Vocational Skills	53.71	21
5.1 Employable skills	60.40	23
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	66.51	23
5.1.2 Secondary-educated population.....	69.25	18
Technical professions		
5.1.3 Technicians and associate professionals.....	61.19	28
Employment quality		
5.1.4 State of cluster development.....	44.66	57
5.2 Labour productivity	47.03	30
Labour productivity		
5.2.1 Labour productivity per employee.....	25.92	38
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	65.36	6
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	49.81	37
6 Global Knowledge	52.19	14
6.1 Higher skills and competencies	56.28	18
Educated workforce		
6.1.1 Tertiary-educated workforce.....	58.42	13
6.1.2 Tertiary-educated population.....	59.97	8
Knowledge workers		
6.1.3 Professionals.....	58.84	14
6.1.4 Researchers.....	37.47	21
6.1.5 Legislators, senior officials and managers.....	50.28	12
Research quality		
6.1.6 Quality of scientific research institutions.....	65.56	24
6.1.7 Scientific and technical journal articles.....	63.40	13
6.2 Talent impact	48.10	10
Innovation		
6.2.1 Innovation output.....	59.40	18
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	51.35	27
6.2.3 New business density.....	37.63	11
High-value exports		
6.2.4 Sophisticated exports.....	44.01	19

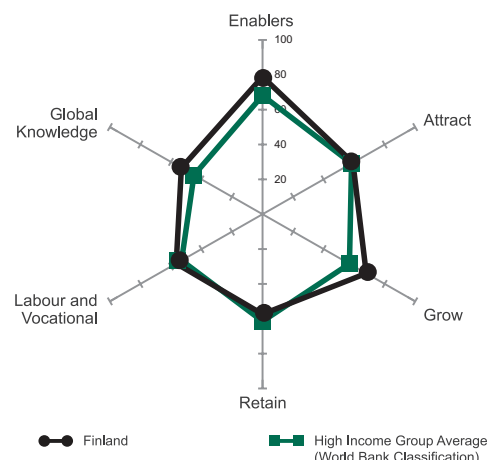
FINLAND

High Income
Europe

RANK
(out of 93)

13

Population (millions) **5.44**
 GDP per capita (PPP\$) **38,250**
 GDP (US\$ billions) **256.84**
 GTCI Score **62.18**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	78.89	8
1.1 Regulatory landscape	93.78	2
Government efficiency		
1.1.1 Government effectiveness.....	100.00	1
1.1.2 Business-government relations.....	81.80	3
1.1.3 Political stability.....	99.53	2
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	77.06	4
Competition climate		
1.2.1 Intensity of local competition.....	63.04	65
Innovation climate		
1.2.2 Venture capital deals.....	56.13	5
1.2.3 Firm-level technology absorption.....	83.87	7
1.2.4 R&D expenditure.....	86.05	2
Connectivity		
1.2.5 ICT access.....	82.95	17
Ease of doing business		
1.2.6 Ease of doing business.....	90.30	10
1.3 Business landscape	65.83	46
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	50.00	75
1.3.3 Labour-employer cooperation.....	69.21	17
Ownership and governance		
1.3.4 Reliance on professional management.....	88.45	2
2 Attract	59.20	20
2.1 External openness	38.99	39
Industrial openness		
2.1.1 FDI inflow.....	0.00	93
2.1.2 FDI and technology transfer.....	57.31	61
2.1.3 Prevalence of foreign ownership.....	71.59	22
Migration openness		
2.1.4 Male adult migrants.....	11.56	44
2.1.5 Female adult migrants.....	10.16	46
2.1.6 Brain gain.....	41.83	42
2.1.7 Brain drain.....	80.50	2
2.2 Internal openness	79.41	12
Diversity		
2.2.1 Tolerance to minorities.....	77.22	33
2.2.2 Tolerance to immigrants.....	78.18	22
Gender mobility		
2.2.3 Female graduates.....	76.16	21
2.2.4 Female-to-male earnings ratio.....	76.19	13
Social mobility		
2.2.5 Social mobility.....	89.30	1
3 Grow	67.91	9
3.1 Formal education	63.17	9
Education climate		
3.1.1 Vocational enrolment.....	65.16	13
3.1.2 Tertiary enrolment.....	94.56	2
Internationalisation of education		
3.1.3 International student inflow.....	23.43	25
Performance of education system		
3.1.4 Reading, maths and science scores.....	72.66	5
3.1.5 University ranking.....	60.03	16
3.2 Lifelong learning	76.31	2
Further education		
3.2.1 Quality of management schools.....	77.27	10
3.2.2 Extent of staff training.....	75.34	2
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	64.25	16
Networks		
3.3.1 Use of virtual social networks.....	90.57	6
3.3.2 Number of LinkedIn users.....	34.94	22
Learning through experience		
3.3.3 Willingness to delegate authority.....	79.01	4
Voice		
3.3.4 Voicing concern to officials.....	52.49	25
4 Retain	57.36	29
4.1 Sustainability	43.63	38
Social protection		
4.1.1 Pension system.....	89.66	18
Taxation		
4.1.2 Extent and effect of taxation.....	47.37	31
Pay		
4.1.3 Pay level – head of organisation.....	17.40	54
4.1.4 Pay level – head of information technology.....	20.09	43
4.2 Lifestyle	71.08	23
Quality of life		
4.2.1 Environmental performance.....	80.74	18
4.2.2 Safety at night.....	80.37	19
4.2.3 Female part-time workers.....	47.93	34
Access to services		
4.2.4 Physician density.....	46.37	31
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	56.56	15
5.1 Employable skills	63.98	12
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	57.43	27
5.1.2 Secondary-educated population.....	49.83	31
Technical professions		
5.1.3 Technicians and associate professionals.....	80.60	11
Employment quality		
5.1.4 State of cluster development.....	68.05	10
5.2 Labour productivity	49.14	22
Labour productivity		
5.2.1 Labour productivity per employee.....	48.79	19
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	51.24	46
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	47.38	42
6 Global Knowledge	53.17	11
6.1 Higher skills and competencies	64.68	4
Educated workforce		
6.1.1 Tertiary-educated workforce.....	60.10	10
6.1.2 Tertiary-educated population.....	54.23	13
Knowledge workers		
6.1.3 Professionals.....	64.33	11
6.1.4 Researchers.....	81.38	2
6.1.5 Legislators, senior officials and managers.....	28.81	46
Research quality		
6.1.6 Quality of scientific research institutions.....	78.17	10
6.1.7 Scientific and technical journal articles.....	85.76	5
6.2 Talent impact	41.65	26
Innovation		
6.2.1 Innovation output.....	72.52	7
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	47.30	34
6.2.3 New business density.....	10.89	37
High-value exports		
6.2.4 Sophisticated exports.....	35.89	26

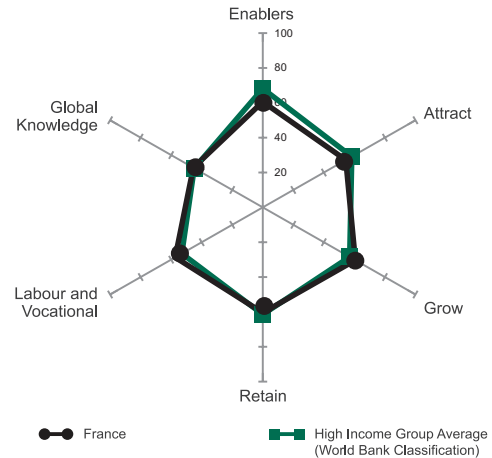
FRANCE

High Income
Europe

RANK
(out of 93)

23

Population (millions) **66.03**
 GDP per capita (PPP\$) **36,907**
 GDP (US\$ billions) **2,734.95**
 GTCI Score **56.49**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	60.60	33
1.1 Regulatory landscape	67.30	27
Government efficiency		
1.1.1 Government effectiveness.....	74.64	20
1.1.2 Business-government relations.....	46.14	63
1.1.3 Political stability.....	79.17	34
FDI climate		
1.1.4 Starting a foreign business.....	69.23	6
1.2 Market landscape	65.29	21
Competition climate		
1.2.1 Intensity of local competition.....	75.31	22
Innovation climate		
1.2.2 Venture capital deals.....	39.06	11
1.2.3 Firm-level technology absorption.....	74.34	26
1.2.4 R&D expenditure.....	50.86	15
Connectivity		
1.2.5 ICT access.....	86.85	12
Ease of doing business		
1.2.6 Ease of doing business.....	65.30	33
1.3 Business landscape	49.22	83
Labour market flexibility		
1.3.1 Difficulty of hiring.....	33.33	81
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	40.66	86
Ownership and governance		
1.3.4 Reliance on professional management.....	62.90	30
2 Attract	54.38	28
2.1 External openness	41.46	29
Industrial openness		
2.1.1 FDI inflow.....	11.45	75
2.1.2 FDI and technology transfer.....	60.01	55
2.1.3 Prevalence of foreign ownership.....	73.80	18
Migration openness		
2.1.4 Male adult migrants.....	28.24	23
2.1.5 Female adult migrants.....	25.85	26
2.1.6 Brain gain.....	48.00	31
2.1.7 Brain drain.....	42.83	42
2.2 Internal openness	67.29	27
Diversity		
2.2.1 Tolerance to minorities.....	79.51	27
2.2.2 Tolerance to immigrants.....	73.84	27
Gender mobility		
2.2.3 Female graduates.....	60.03	55
2.2.4 Female-to-male earnings ratio.....	63.10	27
Social mobility		
2.2.5 Social mobility.....	60.00	36
3 Grow	60.60	17
3.1 Formal education	57.67	14
Education climate		
3.1.1 Vocational enrolment.....	41.10	28
3.1.2 Tertiary enrolment.....	54.78	38
Internationalisation of education		
3.1.3 International student inflow.....	54.59	11
Performance of education system		
3.1.4 Reading, maths and science scores.....	58.72	20
3.1.5 University ranking.....	79.14	7
3.2 Lifelong learning	67.77	15
Further education		
3.2.1 Quality of management schools.....	80.01	5
3.2.2 Extent of staff training.....	55.54	30
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	56.36	29
Networks		
3.3.1 Use of virtual social networks.....	81.16	41
3.3.2 Number of LinkedIn users.....	38.42	20
Learning through experience		
3.3.3 Willingness to delegate authority.....	44.69	55
Voice		
3.3.4 Voicing concern to officials.....	61.18	19
4 Retain	60.50	23
4.1 Sustainability	41.83	45
Social protection		
4.1.1 Pension system.....	87.24	24
Taxation		
4.1.2 Extent and effect of taxation.....	29.66	76
Pay		
4.1.3 Pay level – head of organisation.....	21.47	49
4.1.4 Pay level – head of information technology.....	28.93	26
4.2 Lifestyle	79.17	7
Quality of life		
4.2.1 Environmental performance.....	73.22	27
4.2.2 Safety at night.....	69.82	30
4.2.3 Female part-time workers.....	98.62	3
Access to services		
4.2.4 Physician density.....	54.19	24
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	57.35	11
5.1 Employable skills	63.55	13
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	51.80	32
5.1.2 Secondary-educated population.....	48.58	32
Technical professions		
5.1.3 Technicians and associate professionals.....	97.01	3
Employment quality		
5.1.4 State of cluster development.....	56.79	27
5.2 Labour productivity	51.15	16
Labour productivity		
5.2.1 Labour productivity per employee.....	52.70	13
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	47.19	57
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	53.57	30
6 Global Knowledge	45.50	21
6.1 Higher skills and competencies	50.57	22
Educated workforce		
6.1.1 Tertiary-educated workforce.....	52.53	22
6.1.2 Tertiary-educated population.....	43.17	25
Knowledge workers		
6.1.3 Professionals.....	50.30	23
6.1.4 Researchers.....	41.45	19
6.1.5 Legislators, senior officials and managers.....	41.24	27
Research quality		
6.1.6 Quality of scientific research institutions.....	76.51	13
6.1.7 Scientific and technical journal articles.....	48.78	28
6.2 Talent impact	40.44	27
Innovation		
6.2.1 Innovation output.....	61.55	15
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	35.14	50
6.2.3 New business density.....	13.56	32
High-value exports		
6.2.4 Sophisticated exports.....	51.49	13

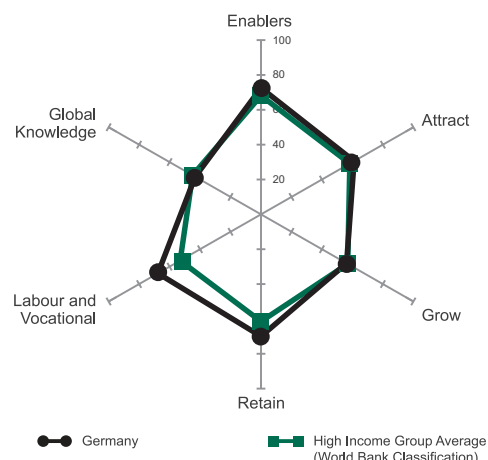
GERMANY

High Income
Europe

RANK
(out of 93)

14

Population (millions) **80.62**
 GDP per capita (PPP\$) **43,331**
 GDP (US\$ billions) **3,634.82**
 GTCI Score **61.78**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	72.57	19
1.1 Regulatory landscape	78.21	15
Government efficiency		
1.1.1 Government effectiveness.....	81.68	13
1.1.2 Business-government relations.....	68.31	17
1.1.3 Political stability.....	84.64	25
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	71.63	12
Competition climate		
1.2.1 Intensity of local competition.....	80.95	6
Innovation climate		
1.2.2 Venture capital deals.....	27.70	13
1.2.3 Firm-level technology absorption.....	79.58	15
1.2.4 R&D expenditure.....	64.46	8
Connectivity		
1.2.5 ICT access.....	94.36	4
Ease of doing business		
1.2.6 Ease of doing business.....	82.70	17
1.3 Business landscape	67.88	38
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	70.04	15
Ownership and governance		
1.3.4 Reliance on professional management.....	74.81	18
2 Attract	61.11	18
2.1 External openness	45.37	24
Industrial openness		
2.1.1 FDI inflow.....	6.23	88
2.1.2 FDI and technology transfer.....	62.61	45
2.1.3 Prevalence of foreign ownership.....	67.98	34
Migration openness		
2.1.4 Male adult migrants.....	25.57	28
2.1.5 Female adult migrants.....	25.51	27
2.1.6 Brain gain.....	61.50	14
2.1.7 Brain drain.....	68.17	7
2.2 Internal openness	76.85	16
Diversity		
2.2.1 Tolerance to minorities.....	85.40	17
2.2.2 Tolerance to immigrants.....	85.90	15
Gender mobility		
2.2.3 Female graduates.....	65.45	47
2.2.4 Female-to-male earnings ratio.....	71.43	15
Social mobility		
2.2.5 Social mobility.....	76.05	19
3 Grow	56.16	19
3.1 Formal education	54.56	19
Education climate		
3.1.1 Vocational enrolment.....	39.80	30
3.1.2 Tertiary enrolment.....	54.22	39
Internationalisation of education		
3.1.3 International student inflow.....	34.58	18
Performance of education system		
3.1.4 Reading, maths and science scores.....	65.93	13
3.1.5 University ranking.....	78.26	8
3.2 Lifelong learning	59.44	34
Further education		
3.2.1 Quality of management schools.....	68.28	23
3.2.2 Extent of staff training.....	68.66	10
Continuous development		
3.2.3 Firms offering formal training.....	41.37	36

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	54.49	35
Networks		
3.3.1 Use of virtual social networks.....	81.12	43
3.3.2 Number of LinkedIn users.....	10.78	50
Learning through experience		
3.3.3 Willingness to delegate authority.....	64.94	16
Voice		
3.3.4 Voicing concern to officials.....	61.13	20
4 Retain	69.98	6
4.1 Sustainability	54.67	15
Social protection		
4.1.1 Pension system.....	86.82	25
Taxation		
4.1.2 Extent and effect of taxation.....	45.75	36
Pay		
4.1.3 Pay level – head of organisation.....	35.80	20
4.1.4 Pay level – head of information technology.....	50.31	10
4.2 Lifestyle	85.29	3
Quality of life		
4.2.1 Environmental performance.....	88.40	6
4.2.2 Safety at night.....	84.03	13
4.2.3 Female part-time workers.....	94.77	6
Access to services		
4.2.4 Physician density.....	59.26	15
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	67.66	3
5.1 Employable skills	80.44	3
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	74.02	14
5.1.2 Secondary-educated population.....	77.21	10
Technical professions		
5.1.3 Technicians and associate professionals.....	97.51	2
Employment quality		
5.1.4 State of cluster development.....	73.01	3
5.2 Labour productivity	54.88	10
Labour productivity		
5.2.1 Labour productivity per employee.....	47.99	21
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	54.34	34
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	62.31	16
6 Global Knowledge	43.19	25
6.1 Higher skills and competencies	48.35	24
Educated workforce		
6.1.1 Tertiary-educated workforce.....	43.10	32
6.1.2 Tertiary-educated population.....	42.59	27
Knowledge workers		
6.1.3 Professionals.....	52.13	20
6.1.4 Researchers.....	43.22	17
6.1.5 Legislators, senior officials and managers.....	27.12	49
Research quality		
6.1.6 Quality of scientific research institutions.....	79.67	6
6.1.7 Scientific and technical journal articles.....	50.64	23
6.2 Talent impact	38.03	35
Innovation		
6.2.1 Innovation output.....	71.62	9
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	31.08	54
6.2.3 New business density.....	5.97	49
High-value exports		
6.2.4 Sophisticated exports.....	43.44	20

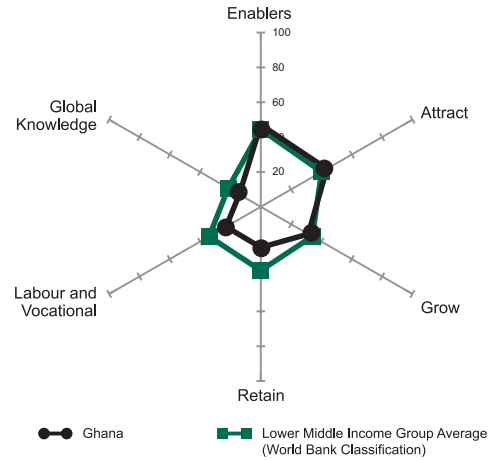
GHANA

Lower Middle Income
Sub-Saharan Africa

RANK
(out of 93)

87

Population (millions) **25.90**
 GDP per capita (PPP\$) **3,974**
 GDP (US\$ billions) **47.93**
 GTCI Score **30.39**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	47.09	66
1.1 Regulatory landscape	44.30	66
Government efficiency		
1.1.1 Government effectiveness.....	34.46	58
1.1.2 Business-government relations.....	53.44	53
1.1.3 Political stability.....	68.13	47
FDI climate		
1.1.4 Starting a foreign business.....	21.15	34
1.2 Market landscape	31.53	81
Competition climate		
1.2.1 Intensity of local competition.....	66.94	52
Innovation climate		
1.2.2 Venture capital deals.....	2.49	38
1.2.3 Firm-level technology absorption.....	57.19	64
1.2.4 R&D expenditure.....	4.51	64
Connectivity		
1.2.5 ICT access.....	12.35	87
Ease of doing business		
1.2.6 Ease of doing business.....	45.70	51
1.3 Business landscape	65.43	47
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	50.00	75
1.3.3 Labour-employer cooperation.....	55.23	45
Ownership and governance		
1.3.4 Reliance on professional management.....	56.49	43
2 Attract	43.55	62
2.1 External openness	41.38	30
Industrial openness		
2.1.1 FDI inflow.....	61.84	13
2.1.2 FDI and technology transfer.....	57.07	62
2.1.3 Prevalence of foreign ownership.....	71.53	23
Migration openness		
2.1.4 Male adult migrants.....	3.29	69
2.1.5 Female adult migrants.....	2.28	72
2.1.6 Brain gain.....	49.00	29
2.1.7 Brain drain.....	44.67	38
2.2 Internal openness	45.71	79
Diversity		
2.2.1 Tolerance to minorities.....	51.05	77
2.2.2 Tolerance to immigrants.....	52.25	55
Gender mobility		
2.2.3 Female graduates.....	17.70	75
2.2.4 Female-to-male earnings ratio.....	59.52	31
Social mobility		
2.2.5 Social mobility.....	48.04	65
3 Grow	31.29	85
3.1 Formal education	7.51	87
Education climate		
3.1.1 Vocational enrolment.....	7.42	76
3.1.2 Tertiary enrolment.....	8.39	80
Internationalisation of education		
3.1.3 International student inflow.....	14.22	39
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	47.66	63
Further education		
3.2.1 Quality of management schools.....	58.58	38
3.2.2 Extent of staff training.....	48.77	55
Continuous development		
3.2.3 Firms offering formal training.....	35.61	44

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	38.70	78
Networks		
3.3.1 Use of virtual social networks.....	70.65	74
3.3.2 Number of LinkedIn users.....	6.61	59
Learning through experience		
3.3.3 Willingness to delegate authority.....	43.95	60
Voice		
3.3.4 Voicing concern to officials.....	33.62	51
4 Retain	23.32	90
4.1 Sustainability	26.31	86
Social protection		
4.1.1 Pension system.....	8.27	82
Taxation		
4.1.2 Extent and effect of taxation.....	44.35	42
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	20.34	90
Quality of life		
4.2.1 Environmental performance.....	10.41	89
4.2.2 Safety at night.....	70.93	28
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	0.00	88
4.2.5 Sanitation.....	0.00	91
5 Labour and Vocational Skills	22.90	89
5.1 Employable skills	22.76	88
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	17.22	70
Technical professions		
5.1.3 Technicians and associate professionals.....	6.97	82
Employment quality		
5.1.4 State of cluster development.....	44.09	59
5.2 Labour productivity	23.05	88
Labour productivity		
5.2.1 Labour productivity per employee.....	3.28	80
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	48.87	53
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	16.99	84
6 Global Knowledge	14.17	85
6.1 Higher skills and competencies	11.07	89
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	5.21	77
Knowledge workers		
6.1.3 Professionals.....	7.93	81
6.1.4 Researchers.....	0.00	74
6.1.5 Legislators, senior officials and managers.....	1.69	84
Research quality		
6.1.6 Quality of scientific research institutions.....	46.44	51
6.1.7 Scientific and technical journal articles.....	5.16	66
6.2 Talent impact	17.27	80
Innovation		
6.2.1 Innovation output.....	24.31	75
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	14.86	73
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.65	78

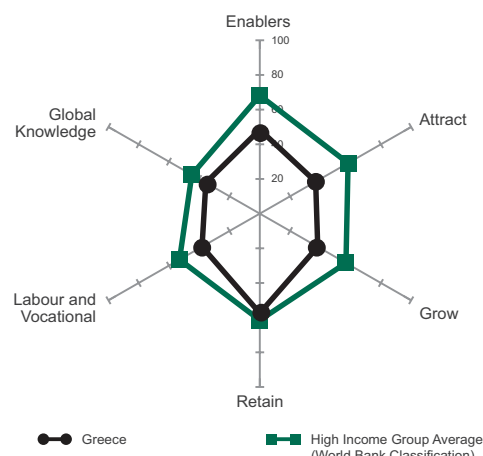
GREECE

High Income
Europe

RANK
(out of 93)

50

Population (millions) **11.038**
 GDP per capita (PPP\$) **25,650**
 GDP (US\$ billions) **241.72**
 GTCI Score **42.46**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	48.44	62
1.1 Regulatory landscape	47.06	63
Government efficiency		
1.1.1 Government effectiveness.....	45.36	47
1.1.2 Business-government relations.....	35.73	87
1.1.3 Political stability.....	60.10	59
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	40.91	57
Competition climate		
1.2.1 Intensity of local competition.....	62.57	66
Innovation climate		
1.2.2 Venture capital deals.....	0.52	49
1.2.3 Firm-level technology absorption.....	58.06	63
1.2.4 R&D expenditure.....	13.00	47
Connectivity		
1.2.5 ICT access.....	69.93	32
Ease of doing business		
1.2.6 Ease of doing business.....	41.40	55
1.3 Business landscape	57.35	65
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	45.51	80
Ownership and governance		
1.3.4 Reliance on professional management.....	47.22	71
2 Attract	36.90	86
2.1 External openness	29.61	73
Industrial openness		
2.1.1 FDI inflow.....	12.72	69
2.1.2 FDI and technology transfer.....	50.11	76
2.1.3 Prevalence of foreign ownership.....	56.29	59
Migration openness		
2.1.4 Male adult migrants.....	17.76	38
2.1.5 Female adult migrants.....	13.54	41
2.1.6 Brain gain.....	21.00	78
2.1.7 Brain drain.....	35.83	58
2.2 Internal openness	44.20	81
Diversity		
2.2.1 Tolerance to minorities.....	29.24	84
2.2.2 Tolerance to immigrants.....	27.98	83
Gender mobility		
2.2.3 Female graduates.....	72.42	33
2.2.4 Female-to-male earnings ratio.....	44.05	60
Social mobility		
2.2.5 Social mobility.....	47.31	66
3 Grow	38.27	64
3.1 Formal education	42.56	30
Education climate		
3.1.1 Vocational enrolment.....	32.04	40
3.1.2 Tertiary enrolment.....	90.27	4
Internationalisation of education		
3.1.3 International student inflow.....	19.23	29
Performance of education system		
3.1.4 Reading, maths and science scores.....	42.62	38
3.1.5 University ranking.....	28.65	42
3.2 Lifelong learning	36.48	86
Further education		
3.2.1 Quality of management schools.....	47.44	66
3.2.2 Extent of staff training.....	41.24	81
Continuous development		
3.2.3 Firms offering formal training.....	20.75	57

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	35.76	83
Networks		
3.3.1 Use of virtual social networks.....	73.34	69
3.3.2 Number of LinkedIn users.....	23.43	32
Learning through experience		
3.3.3 Willingness to delegate authority.....	39.77	71
Voice		
3.3.4 Voicing concern to officials.....	6.49	86
4 Retain	57.35	30
4.1 Sustainability	43.12	41
Social protection		
4.1.1 Pension system.....	85.90	27
Taxation		
4.1.2 Extent and effect of taxation.....	25.64	84
Pay		
4.1.3 Pay level – head of organisation.....	31.19	28
4.1.4 Pay level – head of information technology.....	29.73	25
4.2 Lifestyle	71.59	22
Quality of life		
4.2.1 Environmental performance.....	76.81	23
4.2.2 Safety at night.....	31.24	78
4.2.3 Female part-time workers.....	51.52	29
Access to services		
4.2.4 Physician density.....	100.00	1
4.2.5 Sanitation.....	98.38	34
5 Labour and Vocational Skills	38.16	60
5.1 Employable skills	39.76	59
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	48.04	38
5.1.2 Secondary-educated population.....	42.17	43
Technical professions		
5.1.3 Technicians and associate professionals.....	35.82	55
Employment quality		
5.1.4 State of cluster development.....	33.01	86
5.2 Labour productivity	36.57	62
Labour productivity		
5.2.1 Labour productivity per employee.....	39.88	26
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	36.33	84
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	33.49	62
6 Global Knowledge	35.65	42
6.1 Higher skills and competencies	38.83	31
Educated workforce		
6.1.1 Tertiary-educated workforce.....	44.78	28
6.1.2 Tertiary-educated population.....	33.33	41
Knowledge workers		
6.1.3 Professionals.....	53.35	18
6.1.4 Researchers.....	20.67	32
6.1.5 Legislators, senior officials and managers.....	23.16	54
Research quality		
6.1.6 Quality of scientific research institutions.....	43.30	58
6.1.7 Scientific and technical journal articles.....	53.21	21
6.2 Talent impact	32.46	46
Innovation		
6.2.1 Innovation output.....	29.04	67
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	50.00	29
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	18.35	53

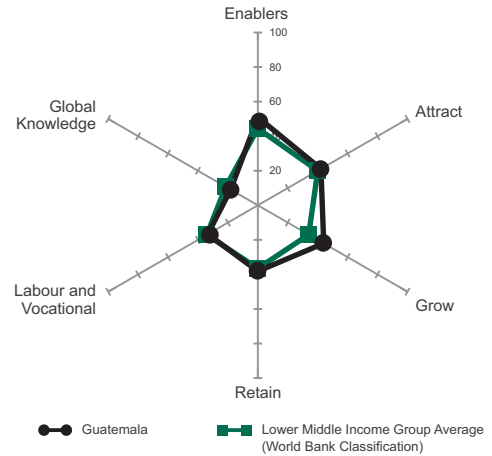
GUATEMALA

Lower Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

69

Population (millions) **15.47**
 GDP per capita (PPP\$) **7,294**
 GDP (US\$ billions) **53.80**
 GTCI Score **37.83**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	50.98	54
1.1 Regulatory landscape	42.24	72
Government efficiency		
1.1.1 Government effectiveness.....	14.68	83
1.1.2 Business-government relations.....	62.32	29
1.1.3 Political stability.....	49.72	70
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	44.10	46
Competition climate		
1.2.1 Intensity of local competition.....	70.00	42
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	70.29	33
1.2.4 R&D expenditure.....	0.20	85
Connectivity		
1.2.5 ICT access.....	n/a	n/a
Ease of doing business		
1.2.6 Ease of doing business.....	35.90	60
1.3 Business landscape	66.61	42
Labour market flexibility		
1.3.1 Difficulty of hiring.....	44.33	74
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	68.69	19
Ownership and governance		
1.3.4 Reliance on professional management.....	53.42	52
2 Attract	42.16	66
2.1 External openness	33.78	59
Industrial openness		
2.1.1 FDI inflow.....	21.36	49
2.1.2 FDI and technology transfer.....	64.04	38
2.1.3 Prevalence of foreign ownership.....	65.35	42
Migration openness		
2.1.4 Male adult migrants.....	1.45	78
2.1.5 Female adult migrants.....	1.43	73
2.1.6 Brain gain.....	34.17	57
2.1.7 Brain drain.....	48.67	34
2.2 Internal openness	50.53	68
Diversity		
2.2.1 Tolerance to minorities.....	77.22	34
2.2.2 Tolerance to immigrants.....	37.32	81
Gender mobility		
2.2.3 Female graduates.....	45.19	66
2.2.4 Female-to-male earnings ratio.....	33.33	74
Social mobility		
2.2.5 Social mobility.....	59.61	40
3 Grow	44.04	43
3.1 Formal education	23.97	57
Education climate		
3.1.1 Vocational enrolment.....	57.66	19
3.1.2 Tertiary enrolment.....	14.26	74
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	58.00	37
Further education		
3.2.1 Quality of management schools.....	62.50	32
3.2.2 Extent of staff training.....	59.15	25
Continuous development		
3.2.3 Firms offering formal training.....	52.34	29

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	50.15	43
Networks		
3.3.1 Use of virtual social networks.....	76.25	56
3.3.2 Number of LinkedIn users.....	8.57	53
Learning through experience		
3.3.3 Willingness to delegate authority.....	50.40	33
Voice		
3.3.4 Voicing concern to officials.....	65.39	17
4 Retain	38.16	73
4.1 Sustainability	28.53	78
Social protection		
4.1.1 Pension system.....	19.89	73
Taxation		
4.1.2 Extent and effect of taxation.....	43.64	44
Pay		
4.1.3 Pay level – head of organisation.....	30.01	29
4.1.4 Pay level – head of information technology.....	20.58	42
4.2 Lifestyle	47.80	63
Quality of life		
4.2.1 Environmental performance.....	36.17	74
4.2.2 Safety at night.....	41.27	67
4.2.3 Female part-time workers.....	70.52	15
Access to services		
4.2.4 Physician density.....	13.93	69
4.2.5 Sanitation.....	77.11	64
5 Labour and Vocational Skills	33.44	74
5.1 Employable skills	30.06	74
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	27.54	67
5.1.2 Secondary-educated population.....	10.60	79
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	52.03	38
5.2 Labour productivity	36.82	61
Labour productivity		
5.2.1 Labour productivity per employee.....	11.34	62
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	52.60	41
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	46.52	44
6 Global Knowledge	18.18	81
6.1 Higher skills and competencies	8.56	91
Educated workforce		
6.1.1 Tertiary-educated workforce.....	6.40	82
6.1.2 Tertiary-educated population.....	0.00	80
Knowledge workers		
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	0.09	72
6.1.5 Legislators, senior officials and managers.....	n/a	n/a
Research quality		
6.1.6 Quality of scientific research institutions.....	35.66	79
6.1.7 Scientific and technical journal articles.....	0.68	88
6.2 Talent impact	27.80	55
Innovation		
6.2.1 Innovation output.....	25.12	71
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	70.27	7
6.2.3 New business density.....	2.29	65
High-value exports		
6.2.4 Sophisticated exports.....	13.53	68

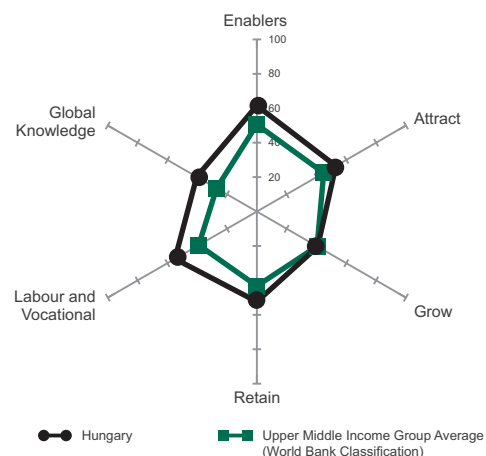
HUNGARY

Upper Middle Income
Europe

RANK
(out of 93)

33

Population (millions) **9.90**
 GDP per capita (PPP\$) **22,189**
 GDP (US\$ billions) **124.60**
 GTCI Score **50.49**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	61.52	30
1.1 Regulatory landscape	57.26	42
Government efficiency		
1.1.1 Government effectiveness.....	54.29	37
1.1.2 Business-government relations.....	35.45	88
1.1.3 Political stability.....	82.03	29
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	55.92	30
Competition climate		
1.2.1 Intensity of local competition.....	71.34	36
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	61.45	53
1.2.4 R&D expenditure.....	26.64	30
Connectivity		
1.2.5 ICT access.....	66.85	37
Ease of doing business		
1.2.6 Ease of doing business.....	53.30	44
1.3 Business landscape	71.40	27
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	52.81	55
Ownership and governance		
1.3.4 Reliance on professional management.....	43.78	78
2 Attract	52.99	32
2.1 External openness	42.23	27
Industrial openness		
2.1.1 FDI inflow.....	77.17	8
2.1.2 FDI and technology transfer.....	71.14	13
2.1.3 Prevalence of foreign ownership.....	75.61	14
Migration openness		
2.1.4 Male adult migrants.....	10.41	48
2.1.5 Female adult migrants.....	9.43	47
2.1.6 Brain gain.....	26.00	68
2.1.7 Brain drain.....	25.83	79
2.2 Internal openness	63.75	37
Diversity		
2.2.1 Tolerance to minorities.....	71.40	44
2.2.2 Tolerance to immigrants.....	63.72	38
Gender mobility		
2.2.3 Female graduates.....	82.95	13
2.2.4 Female-to-male earnings ratio.....	59.52	31
Social mobility		
2.2.5 Social mobility.....	41.17	81
3 Grow	40.79	53
3.1 Formal education	37.29	38
Education climate		
3.1.1 Vocational enrolment.....	32.44	39
3.1.2 Tertiary enrolment.....	57.30	36
Internationalisation of education		
3.1.3 International student inflow.....	19.83	27
Performance of education system		
3.1.4 Reading, maths and science scores.....	52.50	30
3.1.5 University ranking.....	24.40	45
3.2 Lifelong learning	37.42	82
Further education		
3.2.1 Quality of management schools.....	55.11	51
3.2.2 Extent of staff training.....	43.63	75
Continuous development		
3.2.3 Firms offering formal training.....	13.52	62

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	47.67	50
Networks		
3.3.1 Use of virtual social networks.....	76.21	58
3.3.2 Number of LinkedIn users.....	14.33	47
Learning through experience		
3.3.3 Willingness to delegate authority.....	32.43	90
Voice		
3.3.4 Voicing concern to officials.....	67.71	16
4 Retain	52.36	39
4.1 Sustainability	38.28	55
Social protection		
4.1.1 Pension system.....	91.96	12
Taxation		
4.1.2 Extent and effect of taxation.....	28.78	79
Pay		
4.1.3 Pay level – head of organisation.....	18.43	53
4.1.4 Pay level – head of information technology.....	13.96	47
4.2 Lifestyle	66.43	31
Quality of life		
4.2.1 Environmental performance.....	71.98	28
4.2.2 Safety at night.....	49.63	53
4.2.3 Female part-time workers.....	55.92	27
Access to services		
4.2.4 Physician density.....	54.64	23
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	54.92	17
5.1 Employable skills	66.08	8
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	81.69	9
5.1.2 Secondary-educated population.....	77.59	9
Technical professions		
5.1.3 Technicians and associate professionals.....	67.16	22
Employment quality		
5.1.4 State of cluster development.....	37.87	77
5.2 Labour productivity	43.76	39
Labour productivity		
5.2.1 Labour productivity per employee.....	27.49	37
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	46.61	63
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	57.18	25
6 Global Knowledge	40.35	27
6.1 Higher skills and competencies	40.78	30
Educated workforce		
6.1.1 Tertiary-educated workforce.....	37.04	39
6.1.2 Tertiary-educated population.....	34.96	37
Knowledge workers		
6.1.3 Professionals.....	47.56	26
6.1.4 Researchers.....	25.11	30
6.1.5 Legislators, senior officials and managers.....	31.64	40
Research quality		
6.1.6 Quality of scientific research institutions.....	69.32	20
6.1.7 Scientific and technical journal articles.....	39.86	29
6.2 Talent impact	39.92	29
Innovation		
6.2.1 Innovation output.....	59.11	20
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	21.62	65
6.2.3 New business density.....	22.49	17
High-value exports		
6.2.4 Sophisticated exports.....	56.44	8

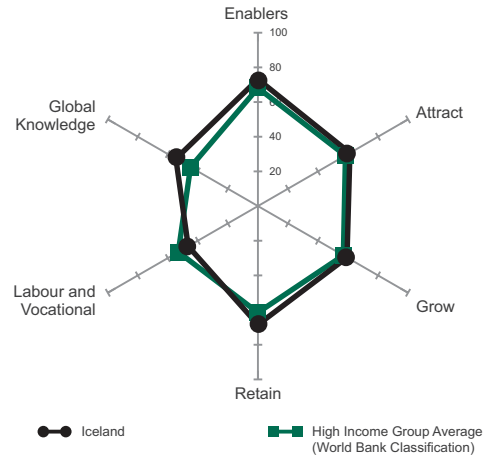
ICELAND

High Income
Europe

RANK
(out of 93)

17

Population (millions) **0.32**
 GDP per capita (PPP\$) **39,996**
 GDP (US\$ billions) **14.62**
 GTCI Score **60.54**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	73.14	16
1.1 Regulatory landscape	73.69	20
Government efficiency		
1.1.1 Government effectiveness.....	79.12	18
1.1.2 Business-government relations.....	46.46	62
1.1.3 Political stability.....	95.51	8
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	70.26	13
Competition climate		
1.2.1 Intensity of local competition.....	63.96	63
Innovation climate		
1.2.2 Venture capital deals.....	24.09	14
1.2.3 Firm-level technology absorption.....	86.51	2
1.2.4 R&D expenditure.....	59.95	11
Connectivity		
1.2.5 ICT access.....	97.85	2
Ease of doing business		
1.2.6 Ease of doing business.....	89.20	11
1.3 Business landscape	75.45	19
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	74.42	11
Ownership and governance		
1.3.4 Reliance on professional management.....	71.71	22
2 Attract	61.28	17
2.1 External openness	35.86	50
Industrial openness		
2.1.1 FDI inflow.....	30.45	32
2.1.2 FDI and technology transfer.....	46.25	83
2.1.3 Prevalence of foreign ownership.....	35.43	91
Migration openness		
2.1.4 Male adult migrants.....	20.34	34
2.1.5 Female adult migrants.....	21.05	29
2.1.6 Brain gain.....	40.17	45
2.1.7 Brain drain.....	57.33	19
2.2 Internal openness	86.70	4
Diversity		
2.2.1 Tolerance to minorities.....	96.01	3
2.2.2 Tolerance to immigrants.....	96.41	3
Gender mobility		
2.2.3 Female graduates.....	90.76	3
2.2.4 Female-to-male earnings ratio.....	69.05	17
Social mobility		
2.2.5 Social mobility.....	81.26	10
3 Grow	59.32	18
3.1 Formal education	40.46	33
Education climate		
3.1.1 Vocational enrolment.....	44.52	25
3.1.2 Tertiary enrolment.....	79.47	8
Internationalisation of education		
3.1.3 International student inflow.....	26.82	22
Performance of education system		
3.1.4 Reading, maths and science scores.....	51.51	31
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	65.54	20
Further education		
3.2.1 Quality of management schools.....	70.16	19
3.2.2 Extent of staff training.....	60.92	22
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	71.96	7
Networks		
3.3.1 Use of virtual social networks.....	94.46	1
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	67.52	10
Voice		
3.3.4 Voicing concern to officials.....	53.89	23
4 Retain	68.42	8
4.1 Sustainability	59.83	11
Social protection		
4.1.1 Pension system.....	86.68	26
Taxation		
4.1.2 Extent and effect of taxation.....	32.98	68
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	77.01	12
Quality of life		
4.2.1 Environmental performance.....	82.00	14
4.2.2 Safety at night.....	88.37	7
4.2.3 Female part-time workers.....	59.23	24
Access to services		
4.2.4 Physician density.....	55.43	21
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	46.43	36
5.1 Employable skills	51.41	41
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	39.44	57
5.1.2 Secondary-educated population.....	37.05	47
Technical professions		
5.1.3 Technicians and associate professionals.....	78.61	13
Employment quality		
5.1.4 State of cluster development.....	50.56	44
5.2 Labour productivity	41.45	48
Labour productivity		
5.2.1 Labour productivity per employee.....	51.05	16
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	51.18	48
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	22.11	71
6 Global Knowledge	54.64	9
6.1 Higher skills and competencies	64.15	6
Educated workforce		
6.1.1 Tertiary-educated workforce.....	47.98	26
6.1.2 Tertiary-educated population.....	45.84	22
Knowledge workers		
6.1.3 Professionals.....	69.21	5
6.1.4 Researchers.....	100.00	1
6.1.5 Legislators, senior officials and managers.....	50.28	12
Research quality		
6.1.6 Quality of scientific research institutions.....	64.62	27
6.1.7 Scientific and technical journal articles.....	71.13	11
6.2 Talent impact	45.12	19
Innovation		
6.2.1 Innovation output.....	74.04	6
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	52.70	25
6.2.3 New business density.....	38.83	9
High-value exports		
6.2.4 Sophisticated exports.....	14.92	62

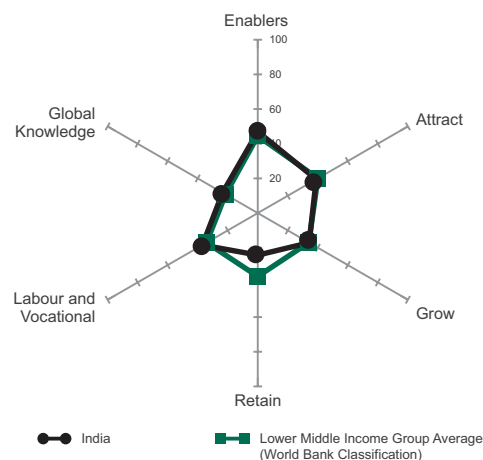
INDIA

Low Income
Central and Southern Asia

RANK
(out of 93)

78

Population (millions) **1252.14**
GDP per capita (PPP\$) **5,410**
GDP (US\$ billions) **1,876.80**
GTCI Score **34.12**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	46.96	69
1.1 Regulatory landscape	47.07	62
Government efficiency		
1.1.1 Government effectiveness.....	31.36	63
1.1.2 Business-government relations.....	57.33	44
1.1.3 Political stability.....	35.17	85
FDI climate		
1.1.4 Starting a foreign business.....	64.42	10
1.2 Market landscape	32.22	78
Competition climate		
1.2.1 Intensity of local competition.....	75.86	20
Innovation climate		
1.2.2 Venture capital deals.....	12.01	23
1.2.3 Firm-level technology absorption.....	67.48	39
1.2.4 R&D expenditure.....	16.59	40
Connectivity		
1.2.5 ICT access.....	13.69	86
Ease of doing business		
1.2.6 Ease of doing business.....	7.70	86
1.3 Business landscape	61.60	56
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	30.00	88
1.3.3 Labour-employer cooperation.....	56.63	41
Ownership and governance		
1.3.4 Reliance on professional management.....	59.76	38
2 Attract	38.95	82
2.1 External openness	33.01	63
Industrial openness		
2.1.1 FDI inflow.....	14.27	65
2.1.2 FDI and technology transfer.....	67.37	27
2.1.3 Prevalence of foreign ownership.....	55.23	63
Migration openness		
2.1.4 Male adult migrants.....	1.30	81
2.1.5 Female adult migrants.....	1.24	77
2.1.6 Brain gain.....	45.33	38
2.1.7 Brain drain.....	46.33	36
2.2 Internal openness	44.89	80
Diversity		
2.2.1 Tolerance to minorities.....	79.05	28
2.2.2 Tolerance to immigrants.....	26.47	84
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	13.10	84
Social mobility		
2.2.5 Social mobility.....	60.95	34
3 Grow	34.22	75
3.1 Formal education	16.94	73
Education climate		
3.1.1 Vocational enrolment.....	1.67	84
3.1.2 Tertiary enrolment.....	19.84	71
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	46.24	26
3.2 Lifelong learning	45.02	66
Further education		
3.2.1 Quality of management schools.....	67.09	26
3.2.2 Extent of staff training.....	52.71	40
Continuous development		
3.2.3 Firms offering formal training.....	15.26	61

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	40.70	71
Networks		
3.3.1 Use of virtual social networks.....	72.56	70
3.3.2 Number of LinkedIn users.....	7.55	58
Learning through experience		
3.3.3 Willingness to delegate authority.....	47.80	42
Voice		
3.3.4 Voicing concern to officials.....	34.91	49
4 Retain	24.25	89
4.1 Sustainability	23.55	90
Social protection		
4.1.1 Pension system.....	9.87	78
Taxation		
4.1.2 Extent and effect of taxation.....	45.22	38
Pay		
4.1.3 Pay level – head of organisation.....	25.71	37
4.1.4 Pay level – head of information technology.....	13.39	48
4.2 Lifestyle	24.95	87
Quality of life		
4.2.1 Environmental performance.....	9.06	90
4.2.2 Safety at night.....	56.51	46
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	9.27	74
4.2.5 Sanitation.....	24.97	86
5 Labour and Vocational Skills	36.88	66
5.1 Employable skills	38.59	65
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	39.12	58
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	11.94	79
Employment quality		
5.1.4 State of cluster development.....	64.70	14
5.2 Labour productivity	35.17	63
Labour productivity		
5.2.1 Labour productivity per employee.....	4.64	78
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	51.21	47
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	49.68	38
6 Global Knowledge	23.45	64
6.1 Higher skills and competencies	21.82	67
Educated workforce		
6.1.1 Tertiary-educated workforce.....	12.29	76
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	10.98	76
6.1.4 Researchers.....	1.32	63
6.1.5 Legislators, senior officials and managers.....	31.07	42
Research quality		
6.1.6 Quality of scientific research institutions.....	58.14	35
6.1.7 Scientific and technical journal articles.....	17.10	50
6.2 Talent impact	25.08	59
Innovation		
6.2.1 Innovation output.....	42.18	38
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	36.49	47
6.2.3 New business density.....	0.38	72
High-value exports		
6.2.4 Sophisticated exports.....	21.26	47

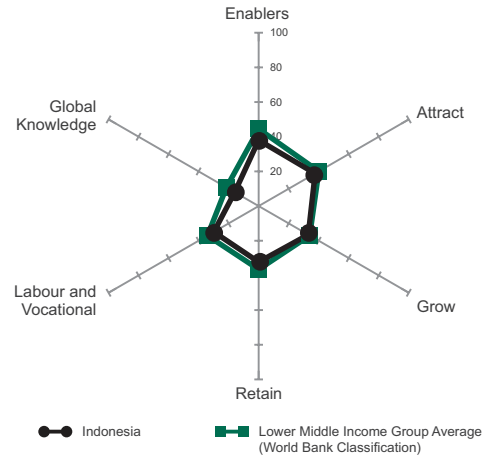
INDONESIA

Lower Middle Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

86

Population (millions) **249.87**
 GDP per capita (PPP\$) **9,558**
 GDP (US\$ billions) **868.35**
 GTCI Score **31.13**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	38.01	87
1.1 Regulatory landscape	35.87	82
Government efficiency		
1.1.1 Government effectiveness.....	28.22	68
1.1.2 Business-government relations.....	63.64	26
1.1.3 Political stability.....	51.64	68
FDI climate		
1.1.4 Starting a foreign business.....	0.00	36
1.2 Market landscape	30.05	86
Competition climate		
1.2.1 Intensity of local competition.....	67.09	50
Innovation climate		
1.2.2 Venture capital deals.....	0.06	57
1.2.3 Firm-level technology absorption.....	68.02	37
1.2.4 R&D expenditure.....	1.11	79
Connectivity		
1.2.5 ICT access.....	28.72	74
Ease of doing business		
1.2.6 Ease of doing business.....	15.30	79
1.3 Business landscape	48.10	84
Labour market flexibility		
1.3.1 Difficulty of hiring.....	27.67	84
1.3.2 Difficulty of redundancy.....	40.00	82
1.3.3 Labour-employer cooperation.....	59.38	32
Ownership and governance		
1.3.4 Reliance on professional management.....	65.35	28
2 Attract	37.61	85
2.1 External openness	36.14	49
Industrial openness		
2.1.1 FDI inflow.....	20.29	50
2.1.2 FDI and technology transfer.....	65.98	31
2.1.3 Prevalence of foreign ownership.....	60.12	51
Migration openness		
2.1.4 Male adult migrants.....	0.19	91
2.1.5 Female adult migrants.....	0.07	91
2.1.6 Brain gain.....	55.17	19
2.1.7 Brain drain.....	51.17	27
2.2 Internal openness	39.08	87
Diversity		
2.2.1 Tolerance to minorities.....	58.19	66
2.2.2 Tolerance to immigrants.....	8.69	88
Gender mobility		
2.2.3 Female graduates.....	41.00	70
2.2.4 Female-to-male earnings ratio.....	32.14	76
Social mobility		
2.2.5 Social mobility.....	55.38	51
3 Grow	33.05	79
3.1 Formal education	19.43	68
Education climate		
3.1.1 Vocational enrolment.....	36.96	33
3.1.2 Tertiary enrolment.....	23.90	67
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	4.36	55
3.1.5 University ranking.....	31.92	39
3.2 Lifelong learning	39.26	78
Further education		
3.2.1 Quality of management schools.....	57.45	43
3.2.2 Extent of staff training.....	59.95	23
Continuous development		
3.2.3 Firms offering formal training.....	0.40	67

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	40.46	73
Networks		
3.3.1 Use of virtual social networks.....	82.02	36
3.3.2 Number of LinkedIn users.....	3.28	66
Learning through experience		
3.3.3 Willingness to delegate authority.....	57.04	28
Voice		
3.3.4 Voicing concern to officials.....	19.49	71
4 Retain	32.28	82
4.1 Sustainability	28.44	79
Social protection		
4.1.1 Pension system.....	10.60	76
Taxation		
4.1.2 Extent and effect of taxation.....	54.43	16
Pay		
4.1.3 Pay level – head of organisation.....	25.98	36
4.1.4 Pay level – head of information technology.....	22.76	38
4.2 Lifestyle	36.11	80
Quality of life		
4.2.1 Environmental performance.....	30.21	78
4.2.2 Safety at night.....	96.14	2
4.2.3 Female part-time workers.....	0.00	64
Access to services		
4.2.4 Physician density.....	1.96	83
4.2.5 Sanitation.....	52.25	79
5 Labour and Vocational Skills	29.86	84
5.1 Employable skills	26.21	81
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	18.47	73
5.1.2 Secondary-educated population.....	22.80	61
Technical professions		
5.1.3 Technicians and associate professionals.....	6.47	83
Employment quality		
5.1.4 State of cluster development.....	57.10	25
5.2 Labour productivity	33.52	69
Labour productivity		
5.2.1 Labour productivity per employee.....	6.50	73
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	57.27	24
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	36.79	58
6 Global Knowledge	15.95	83
6.1 Higher skills and competencies	13.48	84
Educated workforce		
6.1.1 Tertiary-educated workforce.....	7.74	80
6.1.2 Tertiary-educated population.....	13.11	72
Knowledge workers		
6.1.3 Professionals.....	10.98	76
6.1.4 Researchers.....	0.79	68
6.1.5 Legislators, senior officials and managers.....	9.04	76
Research quality		
6.1.6 Quality of scientific research institutions.....	52.20	42
6.1.7 Scientific and technical journal articles.....	0.49	89
6.2 Talent impact	18.43	75
Innovation		
6.2.1 Innovation output.....	34.51	53
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	16.22	72
6.2.3 New business density.....	1.19	70
High-value exports		
6.2.4 Sophisticated exports.....	21.78	44

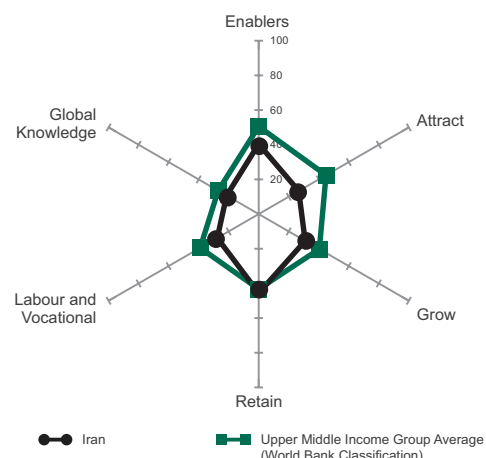
IRAN

Upper Middle Income
Central and Southern Asia

RANK
(out of 93)

82

Population (millions) **77.45**
GDP per capita (PPP\$) **15,586**
GDP (US\$ billions) **368.90**
GTCI Score **32.09**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	40.40	84
1.1 Regulatory landscape	31.63	88
Government efficiency		
1.1.1 Government effectiveness.....	21.04	75
1.1.2 Business-government relations.....	40.54	73
1.1.3 Political stability.....	33.32	86
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	33.80	75
Competition climate		
1.2.1 Intensity of local competition.....	55.62	84
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	49.81	85
1.2.4 R&D expenditure.....	17.29	38
Connectivity		
1.2.5 ICT access.....	42.95	57
Ease of doing business		
1.2.6 Ease of doing business.....	3.30	90
1.3 Business landscape	55.77	67
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	50.00	75
1.3.3 Labour-employer cooperation.....	44.53	82
Ownership and governance		
1.3.4 Reliance on professional management.....	39.54	86
2 Attract	26.65	91
2.1 External openness	18.16	92
Industrial openness		
2.1.1 FDI inflow.....	10.99	78
2.1.2 FDI and technology transfer.....	46.94	82
2.1.3 Prevalence of foreign ownership.....	19.29	93
Migration openness		
2.1.4 Male adult migrants.....	8.96	52
2.1.5 Female adult migrants.....	5.27	58
2.1.6 Brain gain.....	13.33	90
2.1.7 Brain drain.....	22.33	82
2.2 Internal openness	35.13	91
Diversity		
2.2.1 Tolerance to minorities.....	61.70	60
2.2.2 Tolerance to immigrants.....	46.76	68
Gender mobility		
2.2.3 Female graduates.....	15.31	76
2.2.4 Female-to-male earnings ratio.....	5.95	88
Social mobility		
2.2.5 Social mobility.....	45.93	71
3 Grow	30.94	86
3.1 Formal education	22.97	60
Education climate		
3.1.1 Vocational enrolment.....	23.48	54
3.1.2 Tertiary enrolment.....	52.81	40
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	15.60	55
3.2 Lifelong learning	40.43	76
Further education		
3.2.1 Quality of management schools.....	47.39	67
3.2.2 Extent of staff training.....	33.46	93
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	29.41	89
Networks		
3.3.1 Use of virtual social networks.....	38.83	93
3.3.2 Number of LinkedIn users.....	6.43	60
Learning through experience		
3.3.3 Willingness to delegate authority.....	34.38	88
Voice		
3.3.4 Voicing concern to officials.....	38.02	44
4 Retain	45.58	55
4.1 Sustainability	41.19	47
Social protection		
4.1.1 Pension system.....	40.22	54
Taxation		
4.1.2 Extent and effect of taxation.....	42.16	50
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	49.96	58
Quality of life		
4.2.1 Environmental performance.....	41.04	63
4.2.2 Safety at night.....	46.04	61
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	13.24	71
4.2.5 Sanitation.....	99.54	29
5 Labour and Vocational Skills	27.58	86
5.1 Employable skills	28.23	78
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	23.16	70
5.1.2 Secondary-educated population.....	28.23	55
Technical professions		
5.1.3 Technicians and associate professionals.....	20.90	70
Employment quality		
5.1.4 State of cluster development.....	40.63	69
5.2 Labour productivity	26.92	82
Labour productivity		
5.2.1 Labour productivity per employee.....	24.54	40
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	35.61	85
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	20.63	76
6 Global Knowledge	21.39	71
6.1 Higher skills and competencies	26.65	57
Educated workforce		
6.1.1 Tertiary-educated workforce.....	27.44	59
6.1.2 Tertiary-educated population.....	33.23	42
Knowledge workers		
6.1.3 Professionals.....	23.17	59
6.1.4 Researchers.....	8.02	46
6.1.5 Legislators, senior officials and managers.....	12.99	70
Research quality		
6.1.6 Quality of scientific research institutions.....	54.02	40
6.1.7 Scientific and technical journal articles.....	27.71	35
6.2 Talent impact	16.13	81
Innovation		
6.2.1 Innovation output.....	14.58	86
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	21.62	65
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.18	82

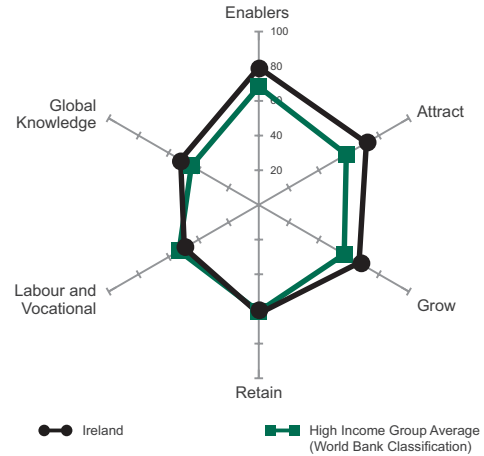
IRELAND

High Income
Europe

RANK
(out of 93)

10

Population (millions) **4.60**
 GDP per capita (PPP\$) **43,304**
 GDP (US\$ billions) **217.82**
 GTCI Score **63.67**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	79.27	6
1.1 Regulatory landscape	81.44	11
Government efficiency		
1.1.1 Government effectiveness.....	80.39	15
1.1.2 Business-government relations.....	75.58	9
1.1.3 Political stability.....	88.35	20
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	74.09	8
Competition climate		
1.2.1 Intensity of local competition.....	71.55	35
Innovation climate		
1.2.2 Venture capital deals.....	87.58	4
1.2.3 Firm-level technology absorption.....	76.96	22
1.2.4 R&D expenditure.....	39.43	22
Connectivity		
1.2.5 ICT access.....	82.01	20
Ease of doing business		
1.2.6 Ease of doing business.....	87.00	13
1.3 Business landscape	82.27	11
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	90.00	30
1.3.3 Labour-employer cooperation.....	72.57	12
Ownership and governance		
1.3.4 Reliance on professional management.....	77.51	13
2 Attract	71.68	6
2.1 External openness	65.08	5
Industrial openness		
2.1.1 FDI inflow.....	100.00	1
2.1.2 FDI and technology transfer.....	88.71	1
2.1.3 Prevalence of foreign ownership.....	81.68	5
Migration openness		
2.1.4 Male adult migrants.....	33.86	17
2.1.5 Female adult migrants.....	33.29	19
2.1.6 Brain gain.....	67.17	10
2.1.7 Brain drain.....	50.83	28
2.2 Internal openness	78.28	14
Diversity		
2.2.1 Tolerance to minorities.....	95.84	5
2.2.2 Tolerance to immigrants.....	89.55	11
Gender mobility		
2.2.3 Female graduates.....	58.95	57
2.2.4 Female-to-male earnings ratio.....	71.43	15
Social mobility		
2.2.5 Social mobility.....	75.64	20
3 Grow	66.79	11
3.1 Formal education	56.58	16
Education climate		
3.1.1 Vocational enrolment.....	32.81	37
3.1.2 Tertiary enrolment.....	71.74	19
Internationalisation of education		
3.1.3 International student inflow.....	49.23	12
Performance of education system		
3.1.4 Reading, maths and science scores.....	66.14	12
3.1.5 University ranking.....	62.99	15
3.2 Lifelong learning	75.54	3
Further education		
3.2.1 Quality of management schools.....	71.12	17
3.2.2 Extent of staff training.....	63.52	19
Continuous development		
3.2.3 Firms offering formal training.....	91.97	3

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	68.24	10
Networks		
3.3.1 Use of virtual social networks.....	85.35	23
3.3.2 Number of LinkedIn users.....	80.70	3
Learning through experience		
3.3.3 Willingness to delegate authority.....	66.34	12
Voice		
3.3.4 Voicing concern to officials.....	40.57	41
4 Retain	62.68	19
4.1 Sustainability	51.49	23
Social protection		
4.1.1 Pension system.....	88.82	20
Taxation		
4.1.2 Extent and effect of taxation.....	41.12	55
Pay		
4.1.3 Pay level – head of organisation.....	42.03	15
4.1.4 Pay level – head of information technology.....	34.00	21
4.2 Lifestyle	73.86	19
Quality of life		
4.2.1 Environmental performance.....	79.05	19
4.2.2 Safety at night.....	72.61	26
4.2.3 Female part-time workers.....	68.04	19
Access to services		
4.2.4 Physician density.....	50.77	28
4.2.5 Sanitation.....	98.84	31
5 Labour and Vocational Skills	49.58	32
5.1 Employable skills	48.84	45
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	41.63	53
5.1.2 Secondary-educated population.....	41.12	45
Technical professions		
5.1.3 Technicians and associate professionals.....	49.25	41
Employment quality		
5.1.4 State of cluster development.....	63.34	19
5.2 Labour productivity	50.32	19
Labour productivity		
5.2.1 Labour productivity per employee.....	60.95	6
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	55.33	32
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	34.69	61
6 Global Knowledge	52.05	15
6.1 Higher skills and competencies	56.46	17
Educated workforce		
6.1.1 Tertiary-educated workforce.....	65.66	6
6.1.2 Tertiary-educated population.....	50.44	16
Knowledge workers		
6.1.3 Professionals.....	65.55	10
6.1.4 Researchers.....	37.37	22
6.1.5 Legislators, senior officials and managers.....	41.81	23
Research quality		
6.1.6 Quality of scientific research institutions.....	76.32	14
6.1.7 Scientific and technical journal articles.....	58.11	17
6.2 Talent impact	47.63	13
Innovation		
6.2.1 Innovation output.....	71.33	10
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	51.35	27
6.2.3 New business density.....	21.30	19
High-value exports		
6.2.4 Sophisticated exports.....	46.56	18

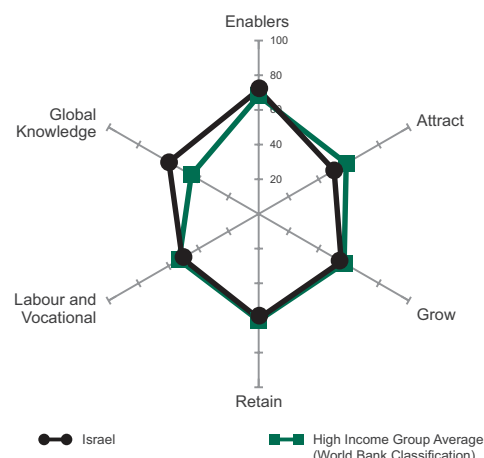
ISRAEL

High Income
Northern Africa and Western Asia

RANK
(out of 93)

21

Population (millions) **8.06**
GDP per capita (PPP\$) **32,760**
GDP (US\$ billions) **291.36**
GTCI Score **58.00**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	71.64	21
1.1 Regulatory landscape	55.96	43
Government efficiency		
1.1.1 Government effectiveness.....	72.42	22
1.1.2 Business-government relations.....	55.88	47
1.1.3 Political stability.....	39.58	81
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	82.71	2
Competition climate		
1.2.1 Intensity of local competition.....	61.49	69
Innovation climate		
1.2.2 Venture capital deals.....	100.00	1
1.2.3 Firm-level technology absorption.....	84.50	5
1.2.4 R&D expenditure.....	100.00	1
Connectivity		
1.2.5 ICT access.....	81.74	21
Ease of doing business		
1.2.6 Ease of doing business.....	68.50	30
1.3 Business landscape	76.27	18
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	57.46	38
Ownership and governance		
1.3.4 Reliance on professional management.....	58.62	40
2 Attract	50.26	36
2.1 External openness	58.57	8
Industrial openness		
2.1.1 FDI inflow.....	34.43	27
2.1.2 FDI and technology transfer.....	71.29	12
2.1.3 Prevalence of foreign ownership.....	66.55	39
Migration openness		
2.1.4 Male adult migrants.....	70.45	6
2.1.5 Female adult migrants.....	78.10	5
2.1.6 Brain gain.....	42.00	41
2.1.7 Brain drain.....	47.17	35
2.2 Internal openness	41.95	82
Diversity		
2.2.1 Tolerance to minorities.....	33.53	83
2.2.2 Tolerance to immigrants.....	18.87	85
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	58.33	34
Social mobility		
2.2.5 Social mobility.....	57.06	45
3 Grow	54.98	23
3.1 Formal education	50.52	22
Education climate		
3.1.1 Vocational enrolment.....	38.52	31
3.1.2 Tertiary enrolment.....	60.27	30
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	46.62	36
3.1.5 University ranking.....	56.66	20
3.2 Lifelong learning	57.72	38
Further education		
3.2.1 Quality of management schools.....	61.41	35
3.2.2 Extent of staff training.....	54.02	36
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	56.72	27
Networks		
3.3.1 Use of virtual social networks.....	84.63	25
3.3.2 Number of LinkedIn users.....	45.43	15
Learning through experience		
3.3.3 Willingness to delegate authority.....	56.81	29
Voice		
3.3.4 Voicing concern to officials.....	39.99	43
4 Retain	60.31	24
4.1 Sustainability	52.61	19
Social protection		
4.1.1 Pension system.....	89.05	19
Taxation		
4.1.2 Extent and effect of taxation.....	45.66	37
Pay		
4.1.3 Pay level – head of organisation.....	23.12	46
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	68.01	27
Quality of life		
4.2.1 Environmental performance.....	64.73	34
4.2.2 Safety at night.....	57.05	43
4.2.3 Female part-time workers.....	68.60	18
Access to services		
4.2.4 Physician density.....	49.70	29
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	50.99	29
5.1 Employable skills	57.45	28
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	47.42	41
5.1.2 Secondary-educated population.....	44.99	36
Technical professions		
5.1.3 Technicians and associate professionals.....	84.58	9
Employment quality		
5.1.4 State of cluster development.....	52.81	32
5.2 Labour productivity	44.54	36
Labour productivity		
5.2.1 Labour productivity per employee.....	44.77	25
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	50.64	50
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	38.21	54
6 Global Knowledge	59.80	3
6.1 Higher skills and competencies	68.98	2
Educated workforce		
6.1.1 Tertiary-educated workforce.....	71.72	5
6.1.2 Tertiary-educated population.....	73.98	3
Knowledge workers		
6.1.3 Professionals.....	47.56	26
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	43.50	21
Research quality		
6.1.6 Quality of scientific research institutions.....	89.20	1
6.1.7 Scientific and technical journal articles.....	87.93	4
6.2 Talent impact	50.62	6
Innovation		
6.2.1 Innovation output.....	72.12	8
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	62.16	15
6.2.3 New business density.....	13.94	30
High-value exports		
6.2.4 Sophisticated exports.....	54.26	11

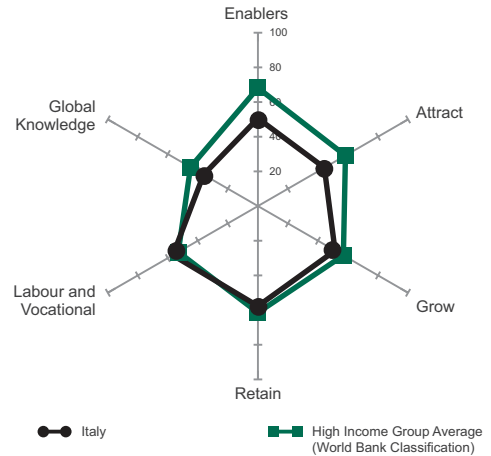
ITALY

High Income
Europe

RANK
(out of 93)

36

Population (millions) **59.83**
 GDP per capita (PPP\$) **34,302**
 GDP (US\$ billions) **2,071.31**
 GTCI Score **49.47**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	50.59	55
1.1 Regulatory landscape	52.44	52
Government efficiency		
1.1.1 Government effectiveness.....	48.30	41
1.1.2 Business-government relations.....	30.99	91
1.1.3 Political stability.....	78.03	35
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	45.59	42
Competition climate		
1.2.1 Intensity of local competition.....	65.85	55
Innovation climate		
1.2.2 Venture capital deals.....	2.65	37
1.2.3 Firm-level technology absorption.....	53.12	78
1.2.4 R&D expenditure.....	27.91	29
Connectivity		
1.2.5 ICT access.....	76.11	26
Ease of doing business		
1.2.6 Ease of doing business.....	47.90	49
1.3 Business landscape	53.74	71
Labour market flexibility		
1.3.1 Difficulty of hiring.....	72.33	43
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	40.13	87
Ownership and governance		
1.3.4 Reliance on professional management.....	42.49	84
2 Attract	44.26	58
2.1 External openness	25.98	84
Industrial openness		
2.1.1 FDI inflow.....	8.17	85
2.1.2 FDI and technology transfer.....	44.50	85
2.1.3 Prevalence of foreign ownership.....	41.26	86
Migration openness		
2.1.4 Male adult migrants.....	17.84	37
2.1.5 Female adult migrants.....	19.26	33
2.1.6 Brain gain.....	23.17	77
2.1.7 Brain drain.....	27.67	73
2.2 Internal openness	62.54	38
Diversity		
2.2.1 Tolerance to minorities.....	78.03	30
2.2.2 Tolerance to immigrants.....	73.05	30
Gender mobility		
2.2.3 Female graduates.....	73.97	27
2.2.4 Female-to-male earnings ratio.....	44.05	60
Social mobility		
2.2.5 Social mobility.....	43.61	79
3 Grow	51.37	30
3.1 Formal education	52.09	21
Education climate		
3.1.1 Vocational enrolment.....	75.69	6
3.1.2 Tertiary enrolment.....	61.80	28
Internationalisation of education		
3.1.3 International student inflow.....	17.20	34
Performance of education system		
3.1.4 Reading, maths and science scores.....	53.88	28
3.1.5 University ranking.....	51.87	23
3.2 Lifelong learning	51.52	53
Further education		
3.2.1 Quality of management schools.....	66.27	27
3.2.2 Extent of staff training.....	36.77	87
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	50.50	41
Networks		
3.3.1 Use of virtual social networks.....	79.88	51
3.3.2 Number of LinkedIn users.....	40.21	19
Learning through experience		
3.3.3 Willingness to delegate authority.....	34.90	87
Voice		
3.3.4 Voicing concern to officials.....	47.00	32
4 Retain	57.70	28
4.1 Sustainability	44.42	35
Social protection		
4.1.1 Pension system.....	90.01	17
Taxation		
4.1.2 Extent and effect of taxation.....	17.09	92
Pay		
4.1.3 Pay level – head of organisation.....	34.26	23
4.1.4 Pay level – head of information technology.....	36.31	16
4.2 Lifestyle	70.98	24
Quality of life		
4.2.1 Environmental performance.....	78.55	22
4.2.2 Safety at night.....	63.22	38
4.2.3 Female part-time workers.....	86.23	8
Access to services		
4.2.4 Physician density.....	55.92	20
4.2.5 Sanitation.....	n/a	n/a
5 Labour and Vocational Skills	56.69	14
5.1 Employable skills	64.53	11
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	56.65	28
5.1.2 Secondary-educated population.....	43.56	40
Technical professions		
5.1.3 Technicians and associate professionals.....	83.08	10
Employment quality		
5.1.4 State of cluster development.....	74.81	1
5.2 Labour productivity	48.86	24
Labour productivity		
5.2.1 Labour productivity per employee.....	47.35	23
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	29.26	91
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	69.98	7
6 Global Knowledge	36.22	40
6.1 Higher skills and competencies	33.35	40
Educated workforce		
6.1.1 Tertiary-educated workforce.....	25.93	61
6.1.2 Tertiary-educated population.....	21.22	61
Knowledge workers		
6.1.3 Professionals.....	39.63	39
6.1.4 Researchers.....	19.14	34
6.1.5 Legislators, senior officials and managers.....	21.47	58
Research quality		
6.1.6 Quality of scientific research institutions.....	57.08	37
6.1.7 Scientific and technical journal articles.....	48.97	26
6.2 Talent impact	39.10	31
Innovation		
6.2.1 Innovation output.....	53.34	26
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	68.92	9
6.2.3 New business density.....	8.93	42
High-value exports		
6.2.4 Sophisticated exports.....	25.20	39

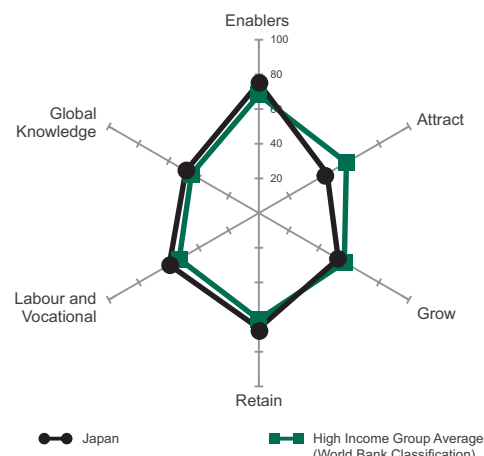
JAPAN

High Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

20

Population (millions) **127.34**
GDP per capita (PPP\$) **36,315**
GDP (US\$ billions) **4,901.53**
GTCI Score **58.01**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	74.97	13
1.1 Regulatory landscape	78.67	14
Government efficiency		
1.1.1 Government effectiveness.....	76.57	19
1.1.2 Business-government relations.....	70.80	15
1.1.3 Political stability.....	88.63	19
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	68.73	14
Competition climate		
1.2.1 Intensity of local competition.....	87.37	1
Innovation climate		
1.2.2 Venture capital deals.....	6.63	28
1.2.3 Firm-level technology absorption.....	84.40	6
1.2.4 R&D expenditure.....	74.00	5
Connectivity		
1.2.5 ICT access.....	83.89	13
Ease of doing business		
1.2.6 Ease of doing business.....	76.10	23
1.3 Business landscape	77.51	14
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	76.10	8
Ownership and governance		
1.3.4 Reliance on professional management.....	74.95	17
2 Attract	45.46	54
2.1 External openness	33.62	61
Industrial openness		
2.1.1 FDI inflow.....	5.12	90
2.1.2 FDI and technology transfer.....	63.03	42
2.1.3 Prevalence of foreign ownership.....	66.65	38
Migration openness		
2.1.4 Male adult migrants.....	3.11	70
2.1.5 Female adult migrants.....	3.61	66
2.1.6 Brain gain.....	38.67	48
2.1.7 Brain drain.....	55.17	23
2.2 Internal openness	57.29	52
Diversity		
2.2.1 Tolerance to minorities.....	58.21	65
2.2.2 Tolerance to immigrants.....	60.65	43
Gender mobility		
2.2.3 Female graduates.....	41.88	69
2.2.4 Female-to-male earnings ratio.....	48.81	52
Social mobility		
2.2.5 Social mobility.....	76.93	16
3 Grow	52.85	27
3.1 Formal education	52.17	20
Education climate		
3.1.1 Vocational enrolment.....	24.18	51
3.1.2 Tertiary enrolment.....	57.74	34
Internationalisation of education		
3.1.3 International student inflow.....	17.95	31
Performance of education system		
3.1.4 Reading, maths and science scores.....	77.84	4
3.1.5 University ranking.....	83.15	6
3.2 Lifelong learning	61.53	28
Further education		
3.2.1 Quality of management schools.....	50.59	61
3.2.2 Extent of staff training.....	72.46	4
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	44.86	58
Networks		
3.3.1 Use of virtual social networks.....	78.72	53
3.3.2 Number of LinkedIn users.....	1.91	69
Learning through experience		
3.3.3 Willingness to delegate authority.....	57.87	27
Voice		
3.3.4 Voicing concern to officials.....	40.94	39
4 Retain	66.45	11
4.1 Sustainability	60.72	10
Social protection		
4.1.1 Pension system.....	95.35	4
Taxation		
4.1.2 Extent and effect of taxation.....	43.51	45
Pay		
4.1.3 Pay level – head of organisation.....	48.38	12
4.1.4 Pay level – head of information technology.....	55.64	7
4.2 Lifestyle	72.18	20
Quality of life		
4.2.1 Environmental performance.....	75.31	26
4.2.2 Safety at night.....	78.75	20
4.2.3 Female part-time workers.....	73.00	14
Access to services		
4.2.4 Physician density.....	33.82	47
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	59.66	8
5.1 Employable skills	61.07	20
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	51.84	29
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	70.30	6
5.2 Labour productivity	58.24	4
Labour productivity		
5.2.1 Labour productivity per employee.....	46.08	24
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	61.46	10
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	67.19	9
6 Global Knowledge	48.68	17
6.1 Higher skills and competencies	57.15	14
Educated workforce		
6.1.1 Tertiary-educated workforce.....	65.49	7
6.1.2 Tertiary-educated population.....	49.71	17
Knowledge workers		
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	56.41	8
6.1.5 Legislators, senior officials and managers.....	n/a	n/a
Research quality		
6.1.6 Quality of scientific research institutions.....	78.21	9
6.1.7 Scientific and technical journal articles.....	35.93	30
6.2 Talent impact	40.20	28
Innovation		
6.2.1 Innovation output.....	51.94	30
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	59.46	18
6.2.3 New business density.....	0.38	72
High-value exports		
6.2.4 Sophisticated exports.....	49.03	17

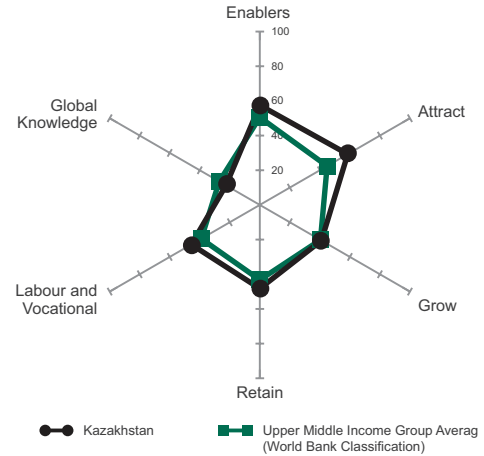
KAZAKHSTAN

Upper Middle Income
Central and Southern Asia

RANK
(out of 93)

40

Population (millions) **17.04**
 GDP per capita (PPP\$) **23,205**
 GDP (US\$ billions) **224.41**
 GTCI Score **45.59**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	57.49	41
1.1 Regulatory landscape	51.97	54
Government efficiency		
1.1.1 Government effectiveness.....	23.91	73
1.1.2 Business-government relations.....	65.92	22
1.1.3 Political stability.....	56.51	61
FDI climate		
1.1.4 Starting a foreign business.....	61.54	12
1.2 Market landscape	49.10	39
Competition climate		
1.2.1 Intensity of local competition.....	55.78	83
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	60.46	56
1.2.4 R&D expenditure.....	2.81	70
Connectivity		
1.2.5 ICT access.....	68.72	34
Ease of doing business		
1.2.6 Ease of doing business.....	57.70	40
1.3 Business landscape	71.41	26
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	61.32	27
Ownership and governance		
1.3.4 Reliance on professional management.....	54.33	50
2 Attract	58.55	22
2.1 External openness	51.53	16
Industrial openness		
2.1.1 FDI inflow.....	52.62	16
2.1.2 FDI and technology transfer.....	55.98	66
2.1.3 Prevalence of foreign ownership.....	49.50	75
Migration openness		
2.1.4 Male adult migrants.....	62.42	9
2.1.5 Female adult migrants.....	53.38	8
2.1.6 Brain gain.....	49.00	29
2.1.7 Brain drain.....	37.83	53
2.2 Internal openness	65.58	32
Diversity		
2.2.1 Tolerance to minorities.....	79.68	26
2.2.2 Tolerance to immigrants.....	78.25	21
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	53.57	43
Social mobility		
2.2.5 Social mobility.....	50.81	58
3 Grow	41.06	52
3.1 Formal education	23.02	59
Education climate		
3.1.1 Vocational enrolment.....	13.76	63
3.1.2 Tertiary enrolment.....	41.81	51
Internationalisation of education		
3.1.3 International student inflow.....	6.34	56
Performance of education system		
3.1.4 Reading, maths and science scores.....	19.45	47
3.1.5 University ranking.....	33.74	37
3.2 Lifelong learning	49.73	56
Further education		
3.2.1 Quality of management schools.....	46.96	68
3.2.2 Extent of staff training.....	52.43	41
Continuous development		
3.2.3 Firms offering formal training.....	49.80	31

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	50.43	42
Networks		
3.3.1 Use of virtual social networks.....	71.31	73
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	48.03	40
Voice		
3.3.4 Voicing concern to officials.....	31.94	54
4 Retain	48.23	48
4.1 Sustainability	35.68	60
Social protection		
4.1.1 Pension system.....	62.30	42
Taxation		
4.1.2 Extent and effect of taxation.....	47.49	30
Pay		
4.1.3 Pay level – head of organisation.....	23.23	45
4.1.4 Pay level – head of information technology.....	9.73	49
4.2 Lifestyle	60.77	38
Quality of life		
4.2.1 Environmental performance.....	41.02	64
4.2.2 Safety at night.....	43.43	63
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	61.74	9
4.2.5 Sanitation.....	96.88	39
5 Labour and Vocational Skills	45.64	39
5.1 Employable skills	57.11	31
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	52.43	30
5.1.2 Secondary-educated population.....	99.46	2
Technical professions		
5.1.3 Technicians and associate professionals.....	42.29	46
Employment quality		
5.1.4 State of cluster development.....	34.25	84
5.2 Labour productivity	34.18	65
Labour productivity		
5.2.1 Labour productivity per employee.....	16.67	53
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	64.39	7
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	21.48	73
6 Global Knowledge	22.54	65
6.1 Higher skills and competencies	34.47	36
Educated workforce		
6.1.1 Tertiary-educated workforce.....	79.97	3
6.1.2 Tertiary-educated population.....	42.40	28
Knowledge workers		
6.1.3 Professionals.....	38.41	43
6.1.4 Researchers.....	6.97	49
6.1.5 Legislators, senior officials and managers.....	35.59	32
Research quality		
6.1.6 Quality of scientific research institutions.....	36.90	75
6.1.7 Scientific and technical journal articles.....	1.05	87
6.2 Talent impact	10.61	89
Innovation		
6.2.1 Innovation output.....	19.45	79
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	1.35	77
6.2.3 New business density.....	7.98	44
High-value exports		
6.2.4 Sophisticated exports.....	13.67	66

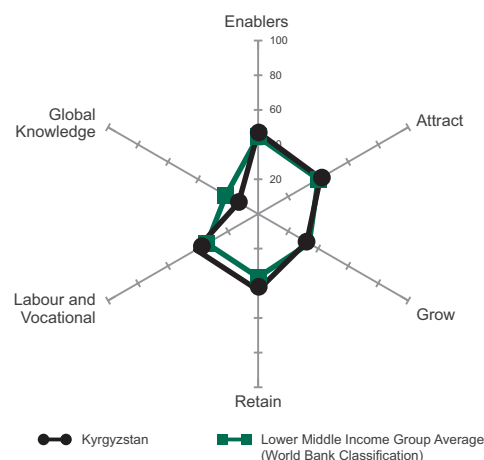
KYRGYZSTAN

Lower Middle Income
Central and Southern Asia

RANK
(out of 93)

74

Population (millions) **5.72**
GDP per capita (PPP\$) **3,212**
GDP (US\$ billions) **7.23**
GTCI Score **36.55**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	47.12	65
1.1 Regulatory landscape	40.82	76
Government efficiency		
1.1.1 Government effectiveness.....	17.68	82
1.1.2 Business-government relations.....	40.17	75
1.1.3 Political stability.....	43.90	78
FDI climate		
1.1.4 Starting a foreign business.....	61.54	12
1.2 Market landscape	36.76	69
Competition climate		
1.2.1 Intensity of local competition.....	54.68	85
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	44.97	92
1.2.4 R&D expenditure.....	2.79	73
Connectivity		
1.2.5 ICT access.....	n/a	n/a
Ease of doing business		
1.2.6 Ease of doing business.....	44.60	52
1.3 Business landscape	63.79	54
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	52.10	60
Ownership and governance		
1.3.4 Reliance on professional management.....	36.39	90
2 Attract	41.41	68
2.1 External openness	27.69	82
Industrial openness		
2.1.1 FDI inflow.....	45.85	20
2.1.2 FDI and technology transfer.....	42.72	90
2.1.3 Prevalence of foreign ownership.....	48.58	77
Migration openness		
2.1.4 Male adult migrants.....	12.45	41
2.1.5 Female adult migrants.....	13.93	40
2.1.6 Brain gain.....	15.17	87
2.1.7 Brain drain.....	15.17	90
2.2 Internal openness	55.13	59
Diversity		
2.2.1 Tolerance to minorities.....	63.14	57
2.2.2 Tolerance to immigrants.....	46.93	67
Gender mobility		
2.2.3 Female graduates.....	76.47	19
2.2.4 Female-to-male earnings ratio.....	45.24	58
Social mobility		
2.2.5 Social mobility.....	43.88	76
3 Grow	32.43	81
3.1 Formal education	21.43	65
Education climate		
3.1.1 Vocational enrolment.....	18.20	59
3.1.2 Tertiary enrolment.....	38.53	54
Internationalisation of education		
3.1.3 International student inflow.....	28.99	20
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	32.92	88
Further education		
3.2.1 Quality of management schools.....	28.40	92
3.2.2 Extent of staff training.....	36.63	88
Continuous development		
3.2.3 Firms offering formal training.....	33.73	48

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	42.93	62
Networks		
3.3.1 Use of virtual social networks.....	65.77	86
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	32.83	89
Voice		
3.3.4 Voicing concern to officials.....	30.19	59
4 Retain	43.98	59
4.1 Sustainability	39.17	52
Social protection		
4.1.1 Pension system.....	40.10	55
Taxation		
4.1.2 Extent and effect of taxation.....	38.24	60
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	48.80	61
Quality of life		
4.2.1 Environmental performance.....	24.20	83
4.2.2 Safety at night.....	39.53	69
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	39.20	44
4.2.5 Sanitation.....	92.25	48
5 Labour and Vocational Skills	41.35	51
5.1 Employable skills	56.66	32
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	69.80	20
5.1.2 Secondary-educated population.....	98.67	3
Technical professions		
5.1.3 Technicians and associate professionals.....	29.85	59
Employment quality		
5.1.4 State of cluster development.....	28.31	90
5.2 Labour productivity	26.04	85
Labour productivity		
5.2.1 Labour productivity per employee.....	3.18	81
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	55.67	30
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	19.28	78
6 Global Knowledge	13.01	89
6.1 Higher skills and competencies	16.09	80
Educated workforce		
6.1.1 Tertiary-educated workforce.....	0.00	85
6.1.2 Tertiary-educated population.....	29.76	49
Knowledge workers		
6.1.3 Professionals.....	28.05	51
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	12.43	71
Research quality		
6.1.6 Quality of scientific research institutions.....	22.14	91
6.1.7 Scientific and technical journal articles.....	4.15	72
6.2 Talent impact	9.93	91
Innovation		
6.2.1 Innovation output.....	9.17	89
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	4.20	54
High-value exports		
6.2.4 Sophisticated exports.....	16.42	57

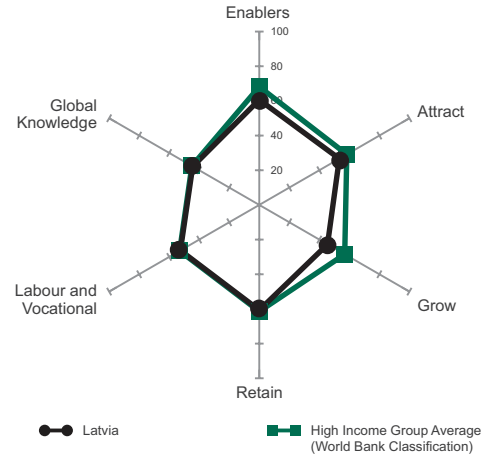
LATVIA

High Income
Europe

RANK
(out of 93)

28

Population (millions) **2.01**
 GDP per capita (PPP\$) **21,380**
 GDP (US\$ billions) **28.37**
 GTCI Score **52.84**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	60.65	32
1.1 Regulatory landscape	60.58	38
Government efficiency		
1.1.1 Government effectiveness.....	60.33	32
1.1.2 Business-government relations.....	45.16	65
1.1.3 Political stability.....	76.24	37
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	58.74	28
Competition climate		
1.2.1 Intensity of local competition.....	73.25	29
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	61.72	49
1.2.4 R&D expenditure.....	15.31	44
Connectivity		
1.2.5 ICT access.....	64.03	42
Ease of doing business		
1.2.6 Ease of doing business.....	79.40	20
1.3 Business landscape	62.62	55
Labour market flexibility		
1.3.1 Difficulty of hiring.....	50.00	73
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	58.81	34
Ownership and governance		
1.3.4 Reliance on professional management.....	61.66	34
2 Attract	53.32	30
2.1 External openness	40.81	32
Industrial openness		
2.1.1 FDI inflow.....	28.58	35
2.1.2 FDI and technology transfer.....	58.18	60
2.1.3 Prevalence of foreign ownership.....	70.66	27
Migration openness		
2.1.4 Male adult migrants.....	30.73	20
2.1.5 Female adult migrants.....	36.51	14
2.1.6 Brain gain.....	27.67	65
2.1.7 Brain drain.....	33.33	62
2.2 Internal openness	65.83	30
Diversity		
2.2.1 Tolerance to minorities.....	63.50	54
2.2.2 Tolerance to immigrants.....	38.47	78
Gender mobility		
2.2.3 Female graduates.....	99.79	2
2.2.4 Female-to-male earnings ratio.....	64.29	23
Social mobility		
2.2.5 Social mobility.....	63.09	28
3 Grow	45.47	41
3.1 Formal education	36.10	40
Education climate		
3.1.1 Vocational enrolment.....	50.51	22
3.1.2 Tertiary enrolment.....	65.35	25
Internationalisation of education		
3.1.3 International student inflow.....	8.76	44
Performance of education system		
3.1.4 Reading, maths and science scores.....	55.90	24
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	53.42	46
Further education		
3.2.1 Quality of management schools.....	56.31	44
3.2.2 Extent of staff training.....	54.57	34
Continuous development		
3.2.3 Firms offering formal training.....	49.40	32

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	46.89	51
Networks		
3.3.1 Use of virtual social networks.....	81.15	42
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	49.23	35
Voice		
3.3.4 Voicing concern to officials.....	10.29	82
4 Retain	60.72	22
4.1 Sustainability	63.33	8
Social protection		
4.1.1 Pension system.....	91.69	13
Taxation		
4.1.2 Extent and effect of taxation.....	34.98	67
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	58.11	43
Quality of life		
4.2.1 Environmental performance.....	61.94	35
4.2.2 Safety at night.....	55.59	47
4.2.3 Female part-time workers.....	51.52	29
Access to services		
4.2.4 Physician density.....	46.27	32
4.2.5 Sanitation.....	75.26	65
5 Labour and Vocational Skills	52.54	27
5.1 Employable skills	63.34	14
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	75.43	13
5.1.2 Secondary-educated population.....	81.06	8
Technical professions		
5.1.3 Technicians and associate professionals.....	56.72	31
Employment quality		
5.1.4 State of cluster development.....	40.16	72
5.2 Labour productivity	41.74	46
Labour productivity		
5.2.1 Labour productivity per employee.....	24.01	41
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	60.25	16
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	40.97	53
6 Global Knowledge	44.35	23
6.1 Higher skills and competencies	41.17	29
Educated workforce		
6.1.1 Tertiary-educated workforce.....	48.15	25
6.1.2 Tertiary-educated population.....	45.27	23
Knowledge workers		
6.1.3 Professionals.....	50.00	24
6.1.4 Researchers.....	20.73	31
6.1.5 Legislators, senior officials and managers.....	55.93	9
Research quality		
6.1.6 Quality of scientific research institutions.....	48.28	49
6.1.7 Scientific and technical journal articles.....	19.80	44
6.2 Talent impact	47.54	15
Innovation		
6.2.1 Innovation output.....	47.58	33
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	55.41	20
6.2.3 New business density.....	55.35	6
High-value exports		
6.2.4 Sophisticated exports.....	31.83	30

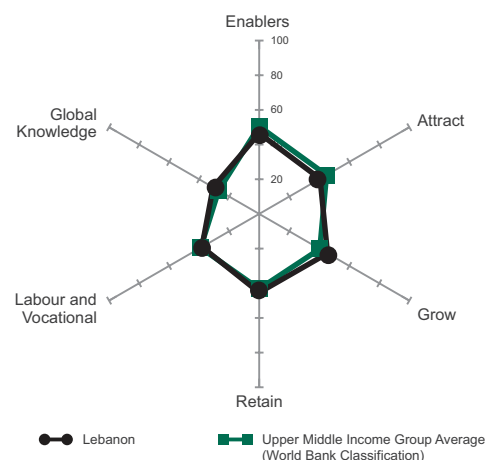
LEBANON

Upper Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

57

Population (millions) **4.47**
GDP per capita (PPP\$) **17,169**
GDP (US\$ billions) **44.35**
GTCI Score **41.13**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	46.49	72
1.1 Regulatory landscape	30.47	89
Government efficiency		
1.1.1 Government effectiveness.....	26.77	70
1.1.2 Business-government relations.....	39.34	79
1.1.3 Political stability.....	25.32	91
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	53.94	35
Competition climate		
1.2.1 Intensity of local competition.....	75.62	21
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	58.22	61
1.2.4 R&D expenditure.....	n/a	n/a
Connectivity		
1.2.5 ICT access.....	61.21	44
Ease of doing business		
1.2.6 Ease of doing business.....	20.70	74
1.3 Business landscape	55.05	69
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	52.77	56
Ownership and governance		
1.3.4 Reliance on professional management.....	41.77	85
2 Attract	40.55	74
2.1 External openness	40.35	33
Industrial openness		
2.1.1 FDI inflow.....	67.06	10
2.1.2 FDI and technology transfer.....	43.78	87
2.1.3 Prevalence of foreign ownership.....	47.46	79
Migration openness		
2.1.4 Male adult migrants.....	38.64	12
2.1.5 Female adult migrants.....	33.82	16
2.1.6 Brain gain.....	23.67	75
2.1.7 Brain drain.....	28.00	71
2.2 Internal openness	40.76	84
Diversity		
2.2.1 Tolerance to minorities.....	28.62	86
2.2.2 Tolerance to immigrants.....	48.76	63
Gender mobility		
2.2.3 Female graduates.....	62.64	52
2.2.4 Female-to-male earnings ratio.....	13.10	84
Social mobility		
2.2.5 Social mobility.....	50.69	59
3 Grow	45.50	40
3.1 Formal education	38.88	34
Education climate		
3.1.1 Vocational enrolment.....	29.99	46
3.1.2 Tertiary enrolment.....	43.61	48
Internationalisation of education		
3.1.3 International student inflow.....	58.94	10
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	22.99	48
3.2 Lifelong learning	60.79	30
Further education		
3.2.1 Quality of management schools.....	73.43	13
3.2.2 Extent of staff training.....	44.82	68
Continuous development		
3.2.3 Firms offering formal training.....	64.12	16

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	36.81	82
Networks		
3.3.1 Use of virtual social networks.....	77.76	54
3.3.2 Number of LinkedIn users.....	28.70	26
Learning through experience		
3.3.3 Willingness to delegate authority.....	37.59	81
Voice		
3.3.4 Voicing concern to officials.....	3.22	89
4 Retain	45.33	56
4.1 Sustainability	28.35	80
Social protection		
4.1.1 Pension system.....	8.21	83
Taxation		
4.1.2 Extent and effect of taxation.....	48.49	28
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	62.32	35
Quality of life		
4.2.1 Environmental performance.....	39.54	70
4.2.2 Safety at night.....	54.89	49
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	56.81	18
4.2.5 Sanitation.....	98.03	35
5 Labour and Vocational Skills	38.16	61
5.1 Employable skills	27.90	79
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	12.05	79
5.1.2 Secondary-educated population.....	17.36	68
Technical professions		
5.1.3 Technicians and associate professionals.....	45.27	43
Employment quality		
5.1.4 State of cluster development.....	36.93	80
5.2 Labour productivity	48.42	26
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	51.67	45
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	45.17	45
6 Global Knowledge	30.73	47
6.1 Higher skills and competencies	33.44	39
Educated workforce		
6.1.1 Tertiary-educated workforce.....	36.53	41
6.1.2 Tertiary-educated population.....	25.50	56
Knowledge workers		
6.1.3 Professionals.....	30.79	47
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	66.67	6
Research quality		
6.1.6 Quality of scientific research institutions.....	27.44	87
6.1.7 Scientific and technical journal articles.....	13.73	54
6.2 Talent impact	28.01	54
Innovation		
6.2.1 Innovation output.....	26.17	70
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	35.14	50
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	22.71	41

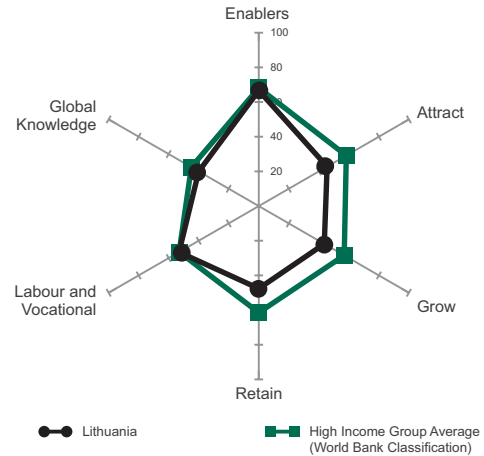
LITHUANIA

High Income
Europe

RANK
(out of 93)

37

Population (millions) **2.96**
 GDP per capita (PPP\$) **23,876**
 GDP (US\$ billions) **42.34**
 GTCI Score **49.42**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	66.66	25
1.1 Regulatory landscape	63.29	33
Government efficiency		
1.1.1 Government effectiveness.....	60.28	33
1.1.2 Business-government relations.....	45.58	64
1.1.3 Political stability.....	84.01	26
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	63.29	23
Competition climate		
1.2.1 Intensity of local competition.....	73.04	30
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	70.22	34
1.2.4 R&D expenditure.....	20.30	35
Connectivity		
1.2.5 ICT access.....	66.98	36
Ease of doing business		
1.2.6 Ease of doing business.....	85.90	14
1.3 Business landscape	73.41	24
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	54.22	48
Ownership and governance		
1.3.4 Reliance on professional management.....	59.44	39
2 Attract	45.53	52
2.1 External openness	30.62	70
Industrial openness		
2.1.1 FDI inflow.....	18.40	56
2.1.2 FDI and technology transfer.....	72.44	9
2.1.3 Prevalence of foreign ownership.....	55.73	61
Migration openness		
2.1.4 Male adult migrants.....	11.28	46
2.1.5 Female adult migrants.....	11.98	44
2.1.6 Brain gain.....	19.00	84
2.1.7 Brain drain.....	25.50	80
2.2 Internal openness	60.45	44
Diversity		
2.2.1 Tolerance to minorities.....	53.10	74
2.2.2 Tolerance to immigrants.....	39.97	76
Gender mobility		
2.2.3 Female graduates.....	84.91	7
2.2.4 Female-to-male earnings ratio.....	64.29	23
Social mobility		
2.2.5 Social mobility.....	59.95	37
3 Grow	43.64	45
3.1 Formal education	34.97	42
Education climate		
3.1.1 Vocational enrolment.....	23.49	53
3.1.2 Tertiary enrolment.....	74.98	12
Internationalisation of education		
3.1.3 International student inflow.....	7.38	52
Performance of education system		
3.1.4 Reading, maths and science scores.....	51.25	32
3.1.5 University ranking.....	17.76	53
3.2 Lifelong learning	54.97	42
Further education		
3.2.1 Quality of management schools.....	56.13	45
3.2.2 Extent of staff training.....	52.16	43
Continuous development		
3.2.3 Firms offering formal training.....	56.63	24

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	40.98	70
Networks		
3.3.1 Use of virtual social networks.....	87.15	15
3.3.2 Number of LinkedIn users.....	17.39	40
Learning through experience		
3.3.3 Willingness to delegate authority.....	48.54	37
Voice		
3.3.4 Voicing concern to officials.....	10.85	81
4 Retain	47.58	49
4.1 Sustainability	38.51	54
Social protection		
4.1.1 Pension system.....	82.80	28
Taxation		
4.1.2 Extent and effect of taxation.....	32.73	70
Pay		
4.1.3 Pay level – head of organisation.....	0.00	66
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	56.65	45
Quality of life		
4.2.1 Environmental performance.....	57.44	41
4.2.2 Safety at night.....	34.52	72
4.2.3 Female part-time workers.....	48.21	33
Access to services		
4.2.4 Physician density.....	58.47	17
4.2.5 Sanitation.....	84.62	58
5 Labour and Vocational Skills	53.13	24
5.1 Employable skills	59.49	26
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	73.87	15
5.1.2 Secondary-educated population.....	70.80	17
Technical professions		
5.1.3 Technicians and associate professionals.....	54.73	32
Employment quality		
5.1.4 State of cluster development.....	38.56	76
5.2 Labour productivity	46.77	31
Labour productivity		
5.2.1 Labour productivity per employee.....	30.34	36
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	61.42	11
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	48.56	40
6 Global Knowledge	40.00	28
6.1 Higher skills and competencies	49.14	23
Educated workforce		
6.1.1 Tertiary-educated workforce.....	58.25	14
6.1.2 Tertiary-educated population.....	48.81	20
Knowledge workers		
6.1.3 Professionals.....	66.77	8
6.1.4 Researchers.....	30.10	29
6.1.5 Legislators, senior officials and managers.....	50.85	11
Research quality		
6.1.6 Quality of scientific research institutions.....	64.10	30
6.1.7 Scientific and technical journal articles.....	25.13	38
6.2 Talent impact	30.85	49
Innovation		
6.2.1 Innovation output.....	36.95	48
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	43.24	41
6.2.3 New business density.....	22.30	18
High-value exports		
6.2.4 Sophisticated exports.....	20.91	48

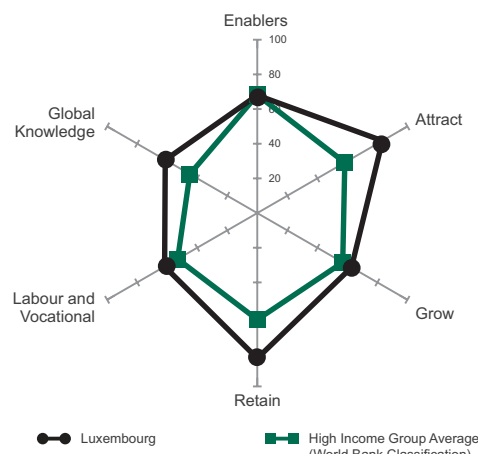
LUXEMBOURG

High Income
Europe

RANK
(out of 93)

3

Population (millions) **0.54**
 GDP per capita (PPP\$) **90,789**
 GDP (US\$ billions) **60.38**
 GTCI Score **70.15**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	67.97	24
1.1 Regulatory landscape	87.29	6
Government efficiency		
1.1.1 Government effectiveness.....	84.08	10
1.1.2 Business-government relations.....	79.34	5
1.1.3 Political stability.....	98.44	5
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	57.29	29
Competition climate		
1.2.1 Intensity of local competition.....	68.75	44
Innovation climate		
1.2.2 Venture capital deals.....	12.33	22
1.2.3 Firm-level technology absorption.....	81.71	11
1.2.4 R&D expenditure.....	31.94	26
Connectivity		
1.2.5 ICT access.....	100.00	1
Ease of doing business		
1.2.6 Ease of doing business.....	49.00	48
1.3 Business landscape	59.34	62
Labour market flexibility		
1.3.1 Difficulty of hiring.....	22.33	85
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	68.94	18
Ownership and governance		
1.3.4 Reliance on professional management.....	76.09	16
2 Attract	83.38	2
2.1 External openness	85.23	2
Industrial openness		
2.1.1 FDI inflow.....	100.00	1
2.1.2 FDI and technology transfer.....	75.03	7
2.1.3 Prevalence of foreign ownership.....	88.43	1
Migration openness		
2.1.4 Male adult migrants.....	100.00	1
2.1.5 Female adult migrants.....	91.67	4
2.1.6 Brain gain.....	73.83	6
2.1.7 Brain drain.....	67.67	9
2.2 Internal openness	81.53	9
Diversity		
2.2.1 Tolerance to minorities.....	92.65	9
2.2.2 Tolerance to immigrants.....	89.61	10
Gender mobility		
2.2.3 Female graduates.....	44.51	67
2.2.4 Female-to-male earnings ratio.....	100.00	1
Social mobility		
2.2.5 Social mobility.....	80.87	12
3 Grow	62.72	16
3.1 Formal education	46.31	27
Education climate		
3.1.1 Vocational enrolment.....	63.04	14
3.1.2 Tertiary enrolment.....	14.60	73
Internationalisation of education		
3.1.3 International student inflow.....	100.00	1
Performance of education system		
3.1.4 Reading, maths and science scores.....	53.92	26
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	65.29	21
Further education		
3.2.1 Quality of management schools.....	57.51	41
3.2.2 Extent of staff training.....	73.08	3
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	76.55	4
Networks		
3.3.1 Use of virtual social networks.....	85.21	24
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	62.33	19
Voice		
3.3.4 Voicing concern to officials.....	82.10	5
4 Retain	83.80	1
4.1 Sustainability	85.15	1
Social protection		
4.1.1 Pension system.....	100.00	1
Taxation		
4.1.2 Extent and effect of taxation.....	70.29	3
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	82.46	6
Quality of life		
4.2.1 Environmental performance.....	92.94	2
4.2.2 Safety at night.....	75.32	23
4.2.3 Female part-time workers.....	99.72	2
Access to services		
4.2.4 Physician density.....	44.29	36
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	61.72	6
5.1 Employable skills	61.03	21
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	42.57	51
5.1.2 Secondary-educated population.....	51.19	30
Technical professions		
5.1.3 Technicians and associate professionals.....	88.06	7
Employment quality		
5.1.4 State of cluster development.....	62.32	20
5.2 Labour productivity	62.41	1
Labour productivity		
5.2.1 Labour productivity per employee.....	67.36	4
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	53.30	38
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	66.58	10
6 Global Knowledge	61.30	1
6.1 Higher skills and competencies	55.19	19
Educated workforce		
6.1.1 Tertiary-educated workforce.....	65.15	8
6.1.2 Tertiary-educated population.....	61.17	7
Knowledge workers		
6.1.3 Professionals.....	100.00	1
6.1.4 Researchers.....	55.91	9
6.1.5 Legislators, senior officials and managers.....	23.16	54
Research quality		
6.1.6 Quality of scientific research institutions.....	64.34	29
6.1.7 Scientific and technical journal articles.....	16.57	51
6.2 Talent impact	67.41	1
Innovation		
6.2.1 Innovation output.....	74.15	5
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	70.27	7
6.2.3 New business density.....	100.00	1
High-value exports		
6.2.4 Sophisticated exports.....	25.21	38

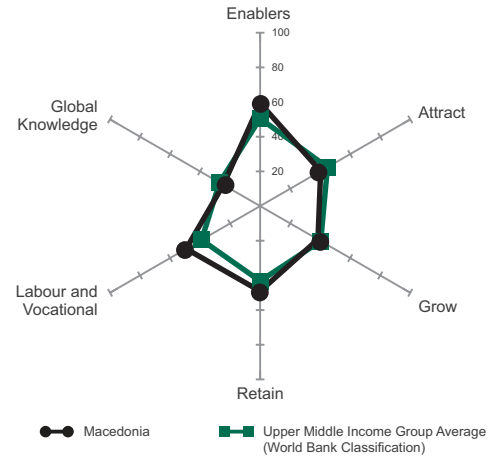
MACEDONIA

Upper Middle Income
Europe

RANK
(out of 93)

47

Population (millions) **2.11**
 GDP per capita (PPP\$) **11,802**
 GDP (US\$ billions) **10.22**
 GTCI Score **43.51**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	59.37	35
1.1 Regulatory landscape	53.92	48
Government efficiency		
1.1.1 Government effectiveness.....	34.45	59
1.1.2 Business-government relations.....	60.06	35
1.1.3 Political stability.....	54.81	62
FDI climate		
1.1.4 Starting a foreign business.....	66.35	8
1.2 Market landscape	50.34	37
Competition climate		
1.2.1 Intensity of local competition.....	63.26	64
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	49.78	86
1.2.4 R&D expenditure.....	4.37	65
Connectivity		
1.2.5 ICT access.....	55.97	49
Ease of doing business		
1.2.6 Ease of doing business.....	78.30	21
1.3 Business landscape	73.86	23
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	51.16	66
Ownership and governance		
1.3.4 Reliance on professional management.....	44.28	75
2 Attract	40.32	76
2.1 External openness	27.97	81
Industrial openness		
2.1.1 FDI inflow.....	14.65	63
2.1.2 FDI and technology transfer.....	56.04	65
2.1.3 Prevalence of foreign ownership.....	50.54	72
Migration openness		
2.1.4 Male adult migrants.....	12.02	42
2.1.5 Female adult migrants.....	17.38	35
2.1.6 Brain gain.....	19.17	83
2.1.7 Brain drain.....	26.00	77
2.2 Internal openness	52.68	63
Diversity		
2.2.1 Tolerance to minorities.....	57.26	68
2.2.2 Tolerance to immigrants.....	59.13	46
Gender mobility		
2.2.3 Female graduates.....	62.11	53
2.2.4 Female-to-male earnings ratio.....	38.10	71
Social mobility		
2.2.5 Social mobility.....	46.79	69
3 Grow	38.50	62
3.1 Formal education	27.55	52
Education climate		
3.1.1 Vocational enrolment.....	60.28	17
3.1.2 Tertiary enrolment.....	37.92	55
Internationalisation of education		
3.1.3 International student inflow.....	12.00	41
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	36.73	84
Further education		
3.2.1 Quality of management schools.....	46.49	71
3.2.2 Extent of staff training.....	44.30	72
Continuous development		
3.2.3 Firms offering formal training.....	19.41	59

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	51.22	40
Networks		
3.3.1 Use of virtual social networks.....	86.52	18
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	36.48	82
Voice		
3.3.4 Voicing concern to officials.....	30.66	58
4 Retain	49.08	46
4.1 Sustainability	51.60	22
Social protection		
4.1.1 Pension system.....	52.05	51
Taxation		
4.1.2 Extent and effect of taxation.....	51.15	20
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	46.55	66
Quality of life		
4.2.1 Environmental performance.....	39.96	68
4.2.2 Safety at night.....	59.95	41
4.2.3 Female part-time workers.....	1.10	63
Access to services		
4.2.4 Physician density.....	41.80	42
4.2.5 Sanitation.....	89.94	51
5 Labour and Vocational Skills	49.29	33
5.1 Employable skills	50.68	43
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	68.08	22
5.1.2 Secondary-educated population.....	45.15	35
Technical professions		
5.1.3 Technicians and associate professionals.....	47.76	42
Employment quality		
5.1.4 State of cluster development.....	41.74	66
5.2 Labour productivity	47.90	27
Labour productivity		
5.2.1 Labour productivity per employee.....	20.03	46
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	52.77	40
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	70.88	6
6 Global Knowledge	24.51	61
6.1 Higher skills and competencies	28.12	53
Educated workforce		
6.1.1 Tertiary-educated workforce.....	31.99	46
6.1.2 Tertiary-educated population.....	20.35	63
Knowledge workers		
6.1.3 Professionals.....	38.72	42
6.1.4 Researchers.....	4.88	52
6.1.5 Legislators, senior officials and managers.....	32.20	38
Research quality		
6.1.6 Quality of scientific research institutions.....	40.57	65
6.1.7 Scientific and technical journal articles.....	n/a	n/a
6.2 Talent impact	20.90	66
Innovation		
6.2.1 Innovation output.....	33.15	56
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	20.27	68
6.2.3 New business density.....	17.00	27
High-value exports		
6.2.4 Sophisticated exports.....	13.20	72

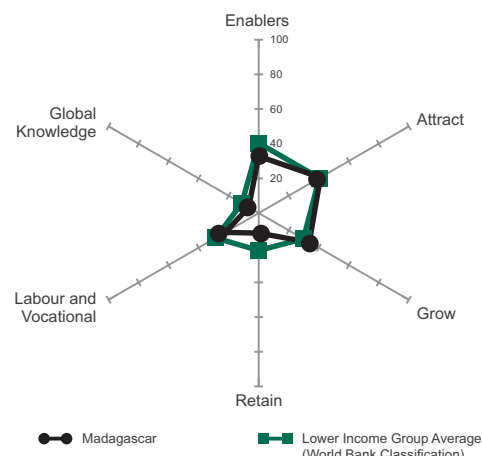
MADAGASCAR

Low Income
Sub-Saharan Africa

RANK
(out of 93)

92

Population (millions) **22.92**
GDP per capita (PPP\$) **1,394**
GDP (US\$ billions) **10.80**
GTCI Score **24.69**
GTCI Score (Income Group Average) **28.67**



VARIABLE	SCORE	RANK
1 Enablers	32.78	90
1.1 Regulatory landscape	31.63	87
Government efficiency		
1.1.1 Government effectiveness.....	5.51	91
1.1.2 Business-government relations.....	37.60	84
1.1.3 Political stability.....	51.79	67
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	22.32	92
Competition climate		
1.2.1 Intensity of local competition.....	64.15	62
Innovation climate		
1.2.2 Venture capital deals.....	9.37	26
1.2.3 Firm-level technology absorption.....	54.35	74
1.2.4 R&D expenditure.....	1.62	77
Connectivity		
1.2.5 ICT access.....	0.00	91
Ease of doing business		
1.2.6 Ease of doing business.....	4.40	89
1.3 Business landscape	44.38	88
Labour market flexibility		
1.3.1 Difficulty of hiring.....	11.00	92
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	56.16	43
Ownership and governance		
1.3.4 Reliance on professional management.....	50.37	59
2 Attract	41.09	72
2.1 External openness	34.90	55
Industrial openness		
2.1.1 FDI inflow.....	65.74	11
2.1.2 FDI and technology transfer.....	52.01	70
2.1.3 Prevalence of foreign ownership.....	58.81	54
Migration openness		
2.1.4 Male adult migrants.....	0.38	88
2.1.5 Female adult migrants.....	0.23	89
2.1.6 Brain gain.....	33.67	58
2.1.7 Brain drain.....	33.50	61
2.2 Internal openness	47.28	76
Diversity		
2.2.1 Tolerance to minorities.....	n/a	n/a
2.2.2 Tolerance to immigrants.....	n/a	n/a
Gender mobility		
2.2.3 Female graduates.....	38.89	72
2.2.4 Female-to-male earnings ratio.....	66.67	21
Social mobility		
2.2.5 Social mobility.....	36.29	87
3 Grow	33.71	77
3.1 Formal education	3.02	93
Education climate		
3.1.1 Vocational enrolment.....	4.08	80
3.1.2 Tertiary enrolment.....	0.00	88
Internationalisation of education		
3.1.3 International student inflow.....	7.99	51
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	41.82	74
Further education		
3.2.1 Quality of management schools.....	50.32	62
3.2.2 Extent of staff training.....	44.47	70
Continuous development		
3.2.3 Firms offering formal training.....	30.66	51

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	56.29	30
Networks		
3.3.1 Use of virtual social networks.....	69.44	76
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	43.14	63
Voice		
3.3.4 Voicing concern to officials.....	n/a	n/a
4 Retain	11.56	93
4.1 Sustainability	22.04	91
Social protection		
4.1.1 Pension system.....	4.87	85
Taxation		
4.1.2 Extent and effect of taxation.....	39.21	57
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	1.08	93
Quality of life		
4.2.1 Environmental performance.....	1.76	92
4.2.2 Safety at night.....	n/a	n/a
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	1.25	85
4.2.5 Sanitation.....	0.23	90
5 Labour and Vocational Skills	22.34	90
5.1 Employable skills	13.38	93
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	6.89	81
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	0.00	84
Employment quality		
5.1.4 State of cluster development.....	33.25	85
5.2 Labour productivity	31.30	71
Labour productivity		
5.2.1 Labour productivity per employee.....	0.00	85
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	52.37	44
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	41.52	52
6 Global Knowledge	6.67	93
6.1 Higher skills and competencies	7.93	93
Educated workforce		
6.1.1 Tertiary-educated workforce.....	1.52	83
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	3.96	85
6.1.4 Researchers.....	0.37	70
6.1.5 Legislators, senior officials and managers.....	0.56	85
Research quality		
6.1.6 Quality of scientific research institutions.....	36.06	77
6.1.7 Scientific and technical journal articles.....	5.10	68
6.2 Talent impact	5.42	93
Innovation		
6.2.1 Innovation output.....	4.71	91
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	0.05	75
High-value exports		
6.2.4 Sophisticated exports.....	11.50	89

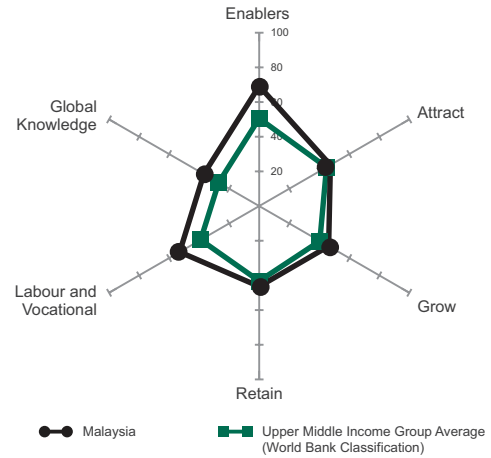
MALAYSIA

Upper Middle Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

35

Population (millions) **29.72**
 GDP per capita (PPP\$) **23,297**
 GDP (US\$ billions) **312.44**
 GTCI Score **49.86**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	69.20	22
1.1 Regulatory landscape	68.97	25
Government efficiency		
1.1.1 Government effectiveness.....	65.49	28
1.1.2 Business-government relations.....	75.55	10
1.1.3 Political stability.....	65.61	52
FDI climate		
1.1.4 Starting a foreign business.....	69.23	6
1.2 Market landscape	55.29	31
Competition climate		
1.2.1 Intensity of local competition.....	73.94	27
Innovation climate		
1.2.2 Venture capital deals.....	2.15	40
1.2.3 Firm-level technology absorption.....	74.29	27
1.2.4 R&D expenditure.....	23.75	34
Connectivity		
1.2.5 ICT access.....	61.88	43
Ease of doing business		
1.2.6 Ease of doing business.....	95.70	5
1.3 Business landscape	83.34	10
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	90.00	30
1.3.3 Labour-employer cooperation.....	69.90	16
Ownership and governance		
1.3.4 Reliance on professional management.....	73.46	20
2 Attract	47.42	44
2.1 External openness	46.83	21
Industrial openness		
2.1.1 FDI inflow.....	27.49	36
2.1.2 FDI and technology transfer.....	71.37	11
2.1.3 Prevalence of foreign ownership.....	67.85	35
Migration openness		
2.1.4 Male adult migrants.....	25.03	30
2.1.5 Female adult migrants.....	15.05	39
2.1.6 Brain gain.....	60.50	15
2.1.7 Brain drain.....	60.50	16
2.2 Internal openness	48.01	75
Diversity		
2.2.1 Tolerance to minorities.....	66.52	50
2.2.2 Tolerance to immigrants.....	0.00	91
Gender mobility		
2.2.3 Female graduates.....	72.14	34
2.2.4 Female-to-male earnings ratio.....	28.57	80
Social mobility		
2.2.5 Social mobility.....	72.84	24
3 Grow	46.26	38
3.1 Formal education	27.68	51
Education climate		
3.1.1 Vocational enrolment.....	12.75	66
3.1.2 Tertiary enrolment.....	34.17	59
Internationalisation of education		
3.1.3 International student inflow.....	28.05	21
Performance of education system		
3.1.4 Reading, maths and science scores.....	17.71	48
3.1.5 University ranking.....	45.70	27
3.2 Lifelong learning	64.27	23
Further education		
3.2.1 Quality of management schools.....	64.20	30
3.2.2 Extent of staff training.....	67.56	11
Continuous development		
3.2.3 Firms offering formal training.....	61.04	20

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	46.85	53
Networks		
3.3.1 Use of virtual social networks.....	83.21	31
3.3.2 Number of LinkedIn users.....	20.06	34
Learning through experience		
3.3.3 Willingness to delegate authority.....	66.02	13
Voice		
3.3.4 Voicing concern to officials.....	18.09	74
4 Retain	46.40	52
4.1 Sustainability	42.92	42
Social protection		
4.1.1 Pension system.....	53.26	50
Taxation		
4.1.2 Extent and effect of taxation.....	66.55	4
Pay		
4.1.3 Pay level – head of organisation.....	23.77	41
4.1.4 Pay level – head of information technology.....	28.09	27
4.2 Lifestyle	49.88	59
Quality of life		
4.2.1 Environmental performance.....	54.30	43
4.2.2 Safety at night.....	31.88	76
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	18.30	62
4.2.5 Sanitation.....	95.03	41
5 Labour and Vocational Skills	52.97	26
5.1 Employable skills	63.11	15
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	70.89	19
5.1.2 Secondary-educated population.....	43.56	41
Technical professions		
5.1.3 Technicians and associate professionals.....	70.65	20
Employment quality		
5.1.4 State of cluster development.....	67.34	12
5.2 Labour productivity	42.83	41
Labour productivity		
5.2.1 Labour productivity per employee.....	21.79	44
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	70.76	1
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	35.93	59
6 Global Knowledge	36.90	38
6.1 Higher skills and competencies	31.74	42
Educated workforce		
6.1.1 Tertiary-educated workforce.....	36.87	40
6.1.2 Tertiary-educated population.....	27.24	52
Knowledge workers		
6.1.3 Professionals.....	18.60	64
6.1.4 Researchers.....	17.86	36
6.1.5 Legislators, senior officials and managers.....	41.81	23
Research quality		
6.1.6 Quality of scientific research institutions.....	64.65	26
6.1.7 Scientific and technical journal articles.....	15.15	53
6.2 Talent impact	42.06	24
Innovation		
6.2.1 Innovation output.....	52.88	27
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	29.73	57
6.2.3 New business density.....	10.70	38
High-value exports		
6.2.4 Sophisticated exports.....	74.94	5

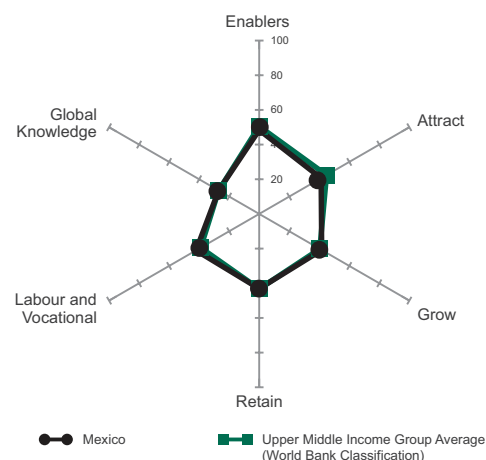
MEXICO

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

60

Population (millions) **122.33**
GDP per capita (PPP\$) **16,463**
GDP (US\$ billions) **1,260.91**
GTCI Score **40.59**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	48.44	63
1.1 Regulatory landscape	54.28	45
Government efficiency		
1.1.1 Government effectiveness.....	45.77	45
1.1.2 Business-government relations.....	67.89	18
1.1.3 Political stability.....	49.17	71
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	38.55	65
Competition climate		
1.2.1 Intensity of local competition.....	67.45	49
Innovation climate		
1.2.2 Venture capital deals.....	1.76	42
1.2.3 Firm-level technology absorption.....	62.71	48
1.2.4 R&D expenditure.....	9.68	53
Connectivity		
1.2.5 ICT access.....	35.30	66
Ease of doing business		
1.2.6 Ease of doing business.....	54.40	43
1.3 Business landscape	52.49	76
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	30.00	88
1.3.3 Labour-employer cooperation.....	60.51	30
Ownership and governance		
1.3.4 Reliance on professional management.....	52.80	54
2 Attract	41.25	70
2.1 External openness	33.97	58
Industrial openness		
2.1.1 FDI inflow.....	12.25	72
2.1.2 FDI and technology transfer.....	70.89	14
2.1.3 Prevalence of foreign ownership.....	71.14	25
Migration openness		
2.1.4 Male adult migrants.....	1.03	82
2.1.5 Female adult migrants.....	0.78	81
2.1.6 Brain gain.....	38.67	48
2.1.7 Brain drain.....	43.00	41
2.2 Internal openness	48.53	73
Diversity		
2.2.1 Tolerance to minorities.....	59.62	62
2.2.2 Tolerance to immigrants.....	42.01	73
Gender mobility		
2.2.3 Female graduates.....	56.31	60
2.2.4 Female-to-male earnings ratio.....	32.14	76
Social mobility		
2.2.5 Social mobility.....	52.56	54
3 Grow	41.63	50
3.1 Formal education	23.69	58
Education climate		
3.1.1 Vocational enrolment.....	32.74	38
3.1.2 Tertiary enrolment.....	24.40	66
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	19.84	46
3.1.5 University ranking.....	41.49	32
3.2 Lifelong learning	53.26	47
Further education		
3.2.1 Quality of management schools.....	55.43	48
3.2.2 Extent of staff training.....	50.00	51
Continuous development		
3.2.3 Firms offering formal training.....	54.35	26

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	47.93	48
Networks		
3.3.1 Use of virtual social networks.....	74.05	65
3.3.2 Number of LinkedIn users.....	16.96	42
Learning through experience		
3.3.3 Willingness to delegate authority.....	46.53	46
Voice		
3.3.4 Voicing concern to officials.....	54.17	22
4 Retain	43.11	61
4.1 Sustainability	38.54	53
Social protection		
4.1.1 Pension system.....	27.44	62
Taxation		
4.1.2 Extent and effect of taxation.....	39.10	58
Pay		
4.1.3 Pay level – head of organisation.....	52.27	9
4.1.4 Pay level – head of information technology.....	35.35	17
4.2 Lifestyle	47.68	64
Quality of life		
4.2.1 Environmental performance.....	47.41	50
4.2.2 Safety at night.....	43.72	62
4.2.3 Female part-time workers.....	34.16	50
Access to services		
4.2.4 Physician density.....	30.81	51
4.2.5 Sanitation.....	82.31	60
5 Labour and Vocational Skills	42.07	48
5.1 Employable skills	42.80	53
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	53.99	29
5.1.2 Secondary-educated population.....	17.29	69
Technical professions		
5.1.3 Technicians and associate professionals.....	45.27	43
Employment quality		
5.1.4 State of cluster development.....	54.66	30
5.2 Labour productivity	41.33	49
Labour productivity		
5.2.1 Labour productivity per employee.....	21.06	45
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	46.22	65
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	56.72	27
6 Global Knowledge	27.02	56
6.1 Higher skills and competencies	22.33	66
Educated workforce		
6.1.1 Tertiary-educated workforce.....	35.02	42
6.1.2 Tertiary-educated population.....	27.13	53
Knowledge workers		
6.1.3 Professionals.....	20.12	61
6.1.4 Researchers.....	4.05	54
6.1.5 Legislators, senior officials and managers.....	10.73	74
Research quality		
6.1.6 Quality of scientific research institutions.....	49.97	47
6.1.7 Scientific and technical journal articles.....	9.32	57
6.2 Talent impact	31.70	47
Innovation		
6.2.1 Innovation output.....	35.15	51
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	31.08	54
6.2.3 New business density.....	4.01	56
High-value exports		
6.2.4 Sophisticated exports.....	56.58	7

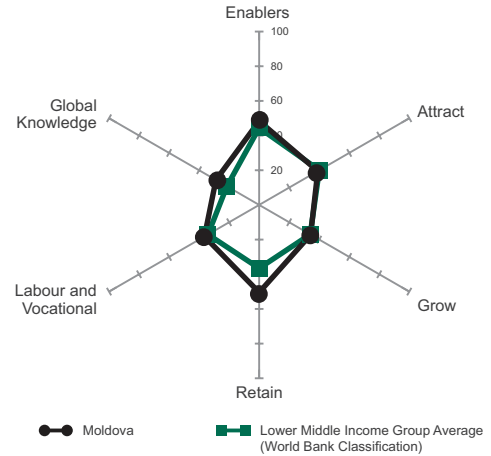
MOLDOVA

Lower Middle Income
Europe

RANK
(out of 93)

62

Population (millions) **3.56**
 GDP per capita (PPP\$) **4,669**
 GDP (US\$ billions) **7.94**
 GTCI Score **39.57**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	48.36	64
1.1 Regulatory landscape	49.97	57
Government efficiency		
1.1.1 Government effectiveness.....	20.73	77
1.1.2 Business-government relations.....	41.72	71
1.1.3 Political stability.....	66.26	51
FDI climate		
1.1.4 Starting a foreign business.....	71.15	5
1.2 Market landscape	41.75	53
Competition climate		
1.2.1 Intensity of local competition.....	55.92	82
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	49.21	87
1.2.4 R&D expenditure.....	8.52	57
Connectivity		
1.2.5 ICT access.....	58.12	46
Ease of doing business		
1.2.6 Ease of doing business.....	37.00	59
1.3 Business landscape	53.35	72
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	53.53	51
Ownership and governance		
1.3.4 Reliance on professional management.....	44.20	76
2 Attract	39.05	80
2.1 External openness	28.29	80
Industrial openness		
2.1.1 FDI inflow.....	19.66	54
2.1.2 FDI and technology transfer.....	50.89	74
2.1.3 Prevalence of foreign ownership.....	47.50	78
Migration openness		
2.1.4 Male adult migrants.....	26.37	25
2.1.5 Female adult migrants.....	26.64	24
2.1.6 Brain gain.....	12.33	91
2.1.7 Brain drain.....	14.67	91
2.2 Internal openness	49.81	71
Diversity		
2.2.1 Tolerance to minorities.....	41.12	81
2.2.2 Tolerance to immigrants.....	39.19	77
Gender mobility		
2.2.3 Female graduates.....	71.34	35
2.2.4 Female-to-male earnings ratio.....	59.52	31
Social mobility		
2.2.5 Social mobility.....	37.88	85
3 Grow	34.30	74
3.1 Formal education	16.73	74
Education climate		
3.1.1 Vocational enrolment.....	24.50	50
3.1.2 Tertiary enrolment.....	35.28	57
Internationalisation of education		
3.1.3 International student inflow.....	7.13	53
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	37.09	83
Further education		
3.2.1 Quality of management schools.....	36.65	87
3.2.2 Extent of staff training.....	37.28	84
Continuous development		
3.2.3 Firms offering formal training.....	37.35	40

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	49.09	46
Networks		
3.3.1 Use of virtual social networks.....	75.08	61
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	39.34	76
Voice		
3.3.4 Voicing concern to officials.....	32.84	53
4 Retain	50.46	42
4.1 Sustainability	49.09	26
Social protection		
4.1.1 Pension system.....	70.87	37
Taxation		
4.1.2 Extent and effect of taxation.....	27.30	83
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	51.84	55
Quality of life		
4.2.1 Environmental performance.....	44.71	57
4.2.2 Safety at night.....	33.21	75
4.2.3 Female part-time workers.....	38.84	47
Access to services		
4.2.4 Physician density.....	58.50	16
4.2.5 Sanitation.....	83.93	59
5 Labour and Vocational Skills	36.43	67
5.1 Employable skills	51.88	39
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	68.86	21
5.1.2 Secondary-educated population.....	76.14	11
Technical professions		
5.1.3 Technicians and associate professionals.....	40.30	52
Employment quality		
5.1.4 State of cluster development.....	22.24	93
5.2 Labour productivity	20.98	90
Labour productivity		
5.2.1 Labour productivity per employee.....	6.75	72
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	56.20	29
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	0.00	93
6 Global Knowledge	28.79	53
6.1 Higher skills and competencies	30.50	47
Educated workforce		
6.1.1 Tertiary-educated workforce.....	37.54	38
6.1.2 Tertiary-educated population.....	31.38	44
Knowledge workers		
6.1.3 Professionals.....	44.21	31
6.1.4 Researchers.....	8.39	45
6.1.5 Legislators, senior officials and managers.....	44.07	20
Research quality		
6.1.6 Quality of scientific research institutions.....	26.53	89
6.1.7 Scientific and technical journal articles.....	21.38	41
6.2 Talent impact	27.09	57
Innovation		
6.2.1 Innovation output.....	53.77	25
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	7.59	45
High-value exports		
6.2.4 Sophisticated exports.....	19.90	50

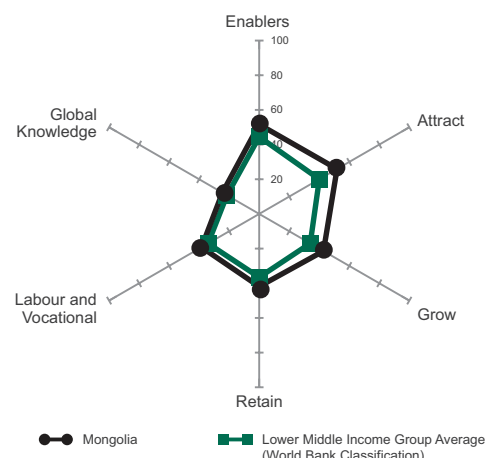
MONGOLIA

Lower Middle Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

53

Population (millions) **2.84**
GDP per capita (PPP\$) **9,432**
GDP (US\$ billions) **11.52**
GTCI Score **41.85**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	51.60	53
1.1 Regulatory landscape	44.89	65
Government efficiency		
1.1.1 Government effectiveness.....	18.44	81
1.1.2 Business-government relations.....	39.55	78
1.1.3 Political stability.....	76.67	36
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	39.67	62
Competition climate		
1.2.1 Intensity of local competition.....	60.06	70
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	60.33	57
1.2.4 R&D expenditure.....	5.49	60
Connectivity		
1.2.5 ICT access.....	34.36	67
Ease of doing business		
1.2.6 Ease of doing business.....	38.10	58
1.3 Business landscape	70.25	30
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	49.44	74
Ownership and governance		
1.3.4 Reliance on professional management.....	42.57	83
2 Attract	51.84	35
2.1 External openness	39.49	36
Industrial openness		
2.1.1 FDI inflow.....	100.00	1
2.1.2 FDI and technology transfer.....	61.13	52
2.1.3 Prevalence of foreign ownership.....	64.21	44
Migration openness		
2.1.4 Male adult migrants.....	2.62	73
2.1.5 Female adult migrants.....	0.66	82
2.1.6 Brain gain.....	20.17	79
2.1.7 Brain drain.....	27.67	73
2.2 Internal openness	64.18	35
Diversity		
2.2.1 Tolerance to minorities.....	63.23	56
2.2.2 Tolerance to immigrants.....	45.46	70
Gender mobility		
2.2.3 Female graduates.....	83.08	12
2.2.4 Female-to-male earnings ratio.....	72.62	14
Social mobility		
2.2.5 Social mobility.....	56.51	47
3 Grow	42.83	47
3.1 Formal education	22.84	61
Education climate		
3.1.1 Vocational enrolment.....	29.59	47
3.1.2 Tertiary enrolment.....	58.95	32
Internationalisation of education		
3.1.3 International student inflow.....	2.80	61
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	52.22	52
Further education		
3.2.1 Quality of management schools.....	31.07	90
3.2.2 Extent of staff training.....	49.95	52
Continuous development		
3.2.3 Firms offering formal training.....	75.64	6

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	53.43	36
Networks		
3.3.1 Use of virtual social networks.....	76.22	57
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	34.96	86
Voice		
3.3.4 Voicing concern to officials.....	49.11	27
4 Retain	41.87	64
4.1 Sustainability	44.67	34
Social protection		
4.1.1 Pension system.....	46.95	52
Taxation		
4.1.2 Extent and effect of taxation.....	42.38	47
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	39.08	76
Quality of life		
4.2.1 Environmental performance.....	30.71	77
4.2.2 Safety at night.....	35.89	71
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	44.03	38
4.2.5 Sanitation.....	45.66	81
5 Labour and Vocational Skills	38.44	58
5.1 Employable skills	39.38	62
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	49.77	35
5.1.2 Secondary-educated population.....	57.93	24
Technical professions		
5.1.3 Technicians and associate professionals.....	19.90	72
Employment quality		
5.1.4 State of cluster development.....	29.93	89
5.2 Labour productivity	37.50	59
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	56.92	25
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	18.07	81
6 Global Knowledge	24.50	62
6.1 Higher skills and competencies	30.20	48
Educated workforce		
6.1.1 Tertiary-educated workforce.....	39.90	35
6.1.2 Tertiary-educated population.....	39.46	31
Knowledge workers		
6.1.3 Professionals.....	34.45	46
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	23.16	54
Research quality		
6.1.6 Quality of scientific research institutions.....	38.18	72
6.1.7 Scientific and technical journal articles.....	6.07	63
6.2 Talent impact	18.80	72
Innovation		
6.2.1 Innovation output.....	24.75	73
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.86	75

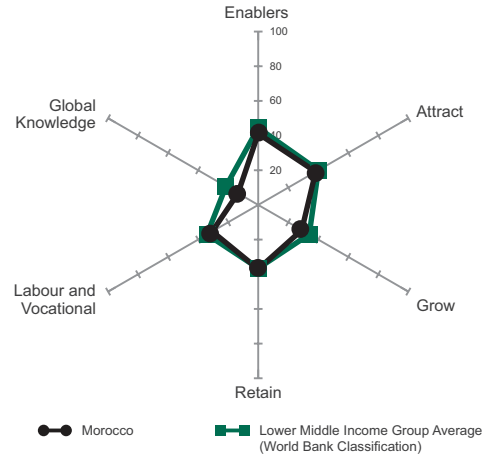
MOROCCO

Lower Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

85

Population (millions) **33.01**
 GDP per capita (PPP\$) **7,200**
 GDP (US\$ billions) **104.37**
 GTCI Score **31.60**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	41.16	82
1.1 Regulatory landscape	49.27	58
Government efficiency		
1.1.1 Government effectiveness	35.27	57
1.1.2 Business-government relations	60.29	33
1.1.3 Political stability	54.42	64
FDI climate		
1.1.4 Starting a foreign business	47.12	23
1.2 Market landscape	36.42	71
Competition climate		
1.2.1 Intensity of local competition	68.67	45
Innovation climate		
1.2.2 Venture capital deals	0.71	48
1.2.3 Firm-level technology absorption	56.56	66
1.2.4 R&D expenditure	16.04	42
Connectivity		
1.2.5 ICT access	42.82	58
Ease of doing business		
1.2.6 Ease of doing business	33.70	62
1.3 Business landscape	37.80	91
Labour market flexibility		
1.3.1 Difficulty of hiring	0.00	93
1.3.2 Difficulty of redundancy	50.00	75
1.3.3 Labour-employer cooperation	51.70	62
Ownership and governance		
1.3.4 Reliance on professional management	49.52	62
2 Attract	38.28	83
2.1 External openness	35.60	52
Industrial openness		
2.1.1 FDI inflow	24.61	40
2.1.2 FDI and technology transfer	62.31	48
2.1.3 Prevalence of foreign ownership	70.14	31
Migration openness		
2.1.4 Male adult migrants	0.26	90
2.1.5 Female adult migrants	0.21	90
2.1.6 Brain gain	48.00	31
2.1.7 Brain drain	43.67	39
2.2 Internal openness	40.97	83
Diversity		
2.2.1 Tolerance to minorities	56.45	69
2.2.2 Tolerance to immigrants	41.67	75
Gender mobility		
2.2.3 Female graduates	38.91	71
2.2.4 Female-to-male earnings ratio	14.29	83
Social mobility		
2.2.5 Social mobility	53.52	53
3 Grow	29.01	89
3.1 Formal education	8.46	84
Education climate		
3.1.1 Vocational enrolment	12.50	67
3.1.2 Tertiary enrolment	12.48	76
Internationalisation of education		
3.1.3 International student inflow	8.87	43
Performance of education system		
3.1.4 Reading, maths and science scores	n/a	n/a
3.1.5 University ranking	0.00	63
3.2 Lifelong learning	44.12	68
Further education		
3.2.1 Quality of management schools	59.94	36
3.2.2 Extent of staff training	45.39	65
Continuous development		
3.2.3 Firms offering formal training	27.04	53

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	34.44	85
Networks		
3.3.1 Use of virtual social networks	73.97	66
3.3.2 Number of LinkedIn users	10.42	51
Learning through experience		
3.3.3 Willingness to delegate authority	39.36	75
Voice		
3.3.4 Voicing concern to officials	14.01	77
4 Retain	37.01	74
4.1 Sustainability	33.06	67
Social protection		
4.1.1 Pension system	28.78	61
Taxation		
4.1.2 Extent and effect of taxation	49.90	26
Pay		
4.1.3 Pay level – head of organisation	26.61	34
4.1.4 Pay level – head of information technology	26.94	33
4.2 Lifestyle	40.96	73
Quality of life		
4.2.1 Environmental performance	42.35	62
4.2.2 Safety at night	47.62	57
4.2.3 Female part-time workers	n/a	n/a
Access to services		
4.2.4 Physician density	8.80	75
4.2.5 Sanitation	65.09	76
5 Labour and Vocational Skills	30.65	82
5.1 Employable skills	23.39	87
Vocationally trained workforce		
5.1.1 Secondary-educated workforce	1.72	83
5.1.2 Secondary-educated population	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals	18.91	73
Employment quality		
5.1.4 State of cluster development	49.54	46
5.2 Labour productivity	37.92	58
Labour productivity		
5.2.1 Labour productivity per employee	7.30	71
Pay and productivity		
5.2.2 Relationship of pay to productivity	49.26	51
Mid-value exports		
5.2.3 Vocational skill-intensive exports	57.20	24
6 Global Knowledge	13.46	88
6.1 Higher skills and competencies	12.23	87
Educated workforce		
6.1.1 Tertiary-educated workforce	11.28	77
6.1.2 Tertiary-educated population	n/a	n/a
Knowledge workers		
6.1.3 Professionals	4.88	83
6.1.4 Researchers	9.31	44
6.1.5 Legislators, senior officials and managers	3.39	80
Research quality		
6.1.6 Quality of scientific research institutions	36.78	76
6.1.7 Scientific and technical journal articles	7.77	59
6.2 Talent impact	14.68	85
Innovation		
6.2.1 Innovation output	22.75	77
Entrepreneurship		
6.2.2 New product entrepreneurial activity	8.11	74
6.2.3 New business density	5.83	50
High-value exports		
6.2.4 Sophisticated exports	22.04	43

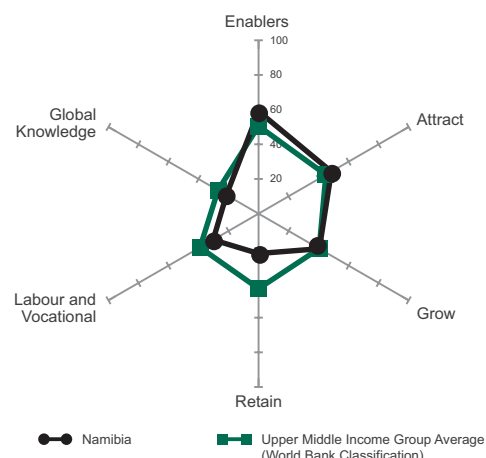
NAMIBIA

Upper Middle Income
Sub-Saharan Africa

RANK
(out of 93)

73

Population (millions) **2.30**
GDP per capita (PPP\$) **9,684**
GDP (US\$ billions) **12.58**
GTCI Score **37.11**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	59.01	36
1.1 Regulatory landscape	62.72	34
Government efficiency		
1.1.1 Government effectiveness.....	40.12	50
1.1.2 Business-government relations.....	59.26	37
1.1.3 Political stability.....	88.79	18
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	43.37	50
Competition climate		
1.2.1 Intensity of local competition.....	59.90	71
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	64.78	45
1.2.4 R&D expenditure.....	n/a	n/a
Connectivity		
1.2.5 ICT access.....	21.61	83
Ease of doing business		
1.2.6 Ease of doing business.....	27.20	68
1.3 Business landscape	70.93	28
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	50.38	69
Ownership and governance		
1.3.4 Reliance on professional management.....	53.33	53
2 Attract	48.47	40
2.1 External openness	35.36	53
Industrial openness		
2.1.1 FDI inflow.....	24.51	41
2.1.2 FDI and technology transfer.....	58.92	58
2.1.3 Prevalence of foreign ownership.....	68.18	33
Migration openness		
2.1.4 Male adult migrants.....	7.87	55
2.1.5 Female adult migrants.....	6.01	54
2.1.6 Brain gain.....	41.00	44
2.1.7 Brain drain.....	41.00	47
2.2 Internal openness	61.58	41
Diversity		
2.2.1 Tolerance to minorities.....	77.60	32
2.2.2 Tolerance to immigrants.....	50.26	59
Gender mobility		
2.2.3 Female graduates.....	68.40	43
2.2.4 Female-to-male earnings ratio.....	53.57	43
Social mobility		
2.2.5 Social mobility.....	58.07	44
3 Grow	40.49	54
3.1 Formal education	17.40	72
Education climate		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	5.42	85
Internationalisation of education		
3.1.3 International student inflow.....	46.76	13
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	48.06	59
Further education		
3.2.1 Quality of management schools.....	40.33	83
3.2.2 Extent of staff training.....	50.30	49
Continuous development		
3.2.3 Firms offering formal training.....	53.55	27

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	56.01	31
Networks		
3.3.1 Use of virtual social networks.....	74.53	64
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	44.46	58
Voice		
3.3.4 Voicing concern to officials.....	49.03	28
4 Retain	23.01	91
4.1 Sustainability	29.49	76
Social protection		
4.1.1 Pension system.....	9.16	80
Taxation		
4.1.2 Extent and effect of taxation.....	49.83	27
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	16.53	92
Quality of life		
4.2.1 Environmental performance.....	29.17	81
4.2.2 Safety at night.....	10.47	89
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	4.75	77
4.2.5 Sanitation.....	21.73	89
5 Labour and Vocational Skills	30.25	83
5.1 Employable skills	29.90	75
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	20.19	72
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	25.37	67
Employment quality		
5.1.4 State of cluster development.....	44.14	58
5.2 Labour productivity	30.61	75
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	43.08	73
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	18.13	80
6 Global Knowledge	21.43	70
6.1 Higher skills and competencies	19.84	73
Educated workforce		
6.1.1 Tertiary-educated workforce.....	7.07	81
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	26.22	57
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	22.03	57
Research quality		
6.1.6 Quality of scientific research institutions.....	41.39	63
6.1.7 Scientific and technical journal articles.....	2.49	79
6.2 Talent impact	23.02	64
Innovation		
6.2.1 Innovation output.....	7.48	90
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	68.92	9
6.2.3 New business density.....	3.87	59
High-value exports		
6.2.4 Sophisticated exports.....	11.83	86

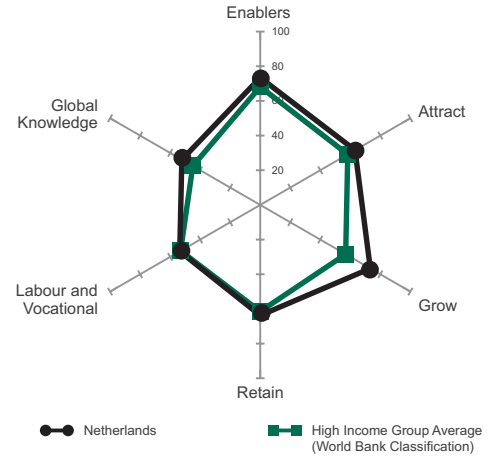
NETHERLANDS

High Income
Europe

RANK
(out of 93)

12

Population (millions) **16.80**
 GDP per capita (PPP\$) **43,403**
 GDP (US\$ billions) **800.17**
 GTCI Score **63.25**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	73.43	15
1.1 Regulatory landscape	85.56	8
Government efficiency		
1.1.1 Government effectiveness.....	88.12	7
1.1.2 Business-government relations.....	74.23	13
1.1.3 Political stability.....	94.33	10
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	65.84	20
Competition climate		
1.2.1 Intensity of local competition.....	83.41	3
Innovation climate		
1.2.2 Venture capital deals.....	21.26	16
1.2.3 Firm-level technology absorption.....	78.04	20
1.2.4 R&D expenditure.....	46.08	18
Connectivity		
1.2.5 ICT access.....	91.28	8
Ease of doing business		
1.2.6 Ease of doing business.....	75.00	24
1.3 Business landscape	68.87	35
Labour market flexibility		
1.3.1 Difficulty of hiring.....	83.33	39
1.3.2 Difficulty of redundancy.....	30.00	88
1.3.3 Labour-employer cooperation.....	77.95	5
Ownership and governance		
1.3.4 Reliance on professional management.....	84.21	5
2 Attract	63.16	14
2.1 External openness	45.98	23
Industrial openness		
2.1.1 FDI inflow.....	4.70	91
2.1.2 FDI and technology transfer.....	66.15	30
2.1.3 Prevalence of foreign ownership.....	72.83	19
Migration openness		
2.1.4 Male adult migrants.....	25.80	27
2.1.5 Female adult migrants.....	26.23	25
2.1.6 Brain gain.....	62.17	12
2.1.7 Brain drain.....	64.00	12
2.2 Internal openness	80.35	11
Diversity		
2.2.1 Tolerance to minorities.....	84.76	18
2.2.2 Tolerance to immigrants.....	86.19	14
Gender mobility		
2.2.3 Female graduates.....	64.55	48
2.2.4 Female-to-male earnings ratio.....	84.52	9
Social mobility		
2.2.5 Social mobility.....	81.70	9
3 Grow	73.33	1
3.1 Formal education	67.97	5
Education climate		
3.1.1 Vocational enrolment.....	100.00	1
3.1.2 Tertiary enrolment.....	74.79	13
Internationalisation of education		
3.1.3 International student inflow.....	22.62	26
Performance of education system		
3.1.4 Reading, maths and science scores.....	67.64	9
3.1.5 University ranking.....	74.79	11
3.2 Lifelong learning	73.38	7
Further education		
3.2.1 Quality of management schools.....	77.68	9
3.2.2 Extent of staff training.....	69.08	9
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	78.65	3
Networks		
3.3.1 Use of virtual social networks.....	92.86	4
3.3.2 Number of LinkedIn users.....	86.04	2
Learning through experience		
3.3.3 Willingness to delegate authority.....	75.98	5
Voice		
3.3.4 Voicing concern to officials.....	59.71	21
4 Retain	63.74	13
4.1 Sustainability	49.96	24
Social protection		
4.1.1 Pension system.....	90.67	15
Taxation		
4.1.2 Extent and effect of taxation.....	46.63	34
Pay		
4.1.3 Pay level – head of organisation.....	29.65	31
4.1.4 Pay level – head of information technology.....	32.89	22
4.2 Lifestyle	77.51	11
Quality of life		
4.2.1 Environmental performance.....	84.02	11
4.2.2 Safety at night.....	82.45	14
4.2.3 Female part-time workers.....	75.48	12
Access to services		
4.2.4 Physician density.....	45.61	33
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	53.60	22
5.1 Employable skills	60.83	22
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	48.04	38
5.1.2 Secondary-educated population.....	48.09	33
Technical professions		
5.1.3 Technicians and associate professionals.....	77.61	16
Employment quality		
5.1.4 State of cluster development.....	69.57	8
5.2 Labour productivity	46.37	32
Labour productivity		
5.2.1 Labour productivity per employee.....	50.48	17
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	47.08	58
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	41.54	51
6 Global Knowledge	52.22	13
6.1 Higher skills and competencies	56.69	16
Educated workforce		
6.1.1 Tertiary-educated workforce.....	49.83	23
6.1.2 Tertiary-educated population.....	48.28	21
Knowledge workers		
6.1.3 Professionals.....	67.99	7
6.1.4 Researchers.....	35.17	24
6.1.5 Legislators, senior officials and managers.....	40.68	28
Research quality		
6.1.6 Quality of scientific research institutions.....	79.28	7
6.1.7 Scientific and technical journal articles.....	75.61	9
6.2 Talent impact	47.75	11
Innovation		
6.2.1 Innovation output.....	83.55	2
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	44.59	40
6.2.3 New business density.....	21.01	20
High-value exports		
6.2.4 Sophisticated exports.....	41.85	21

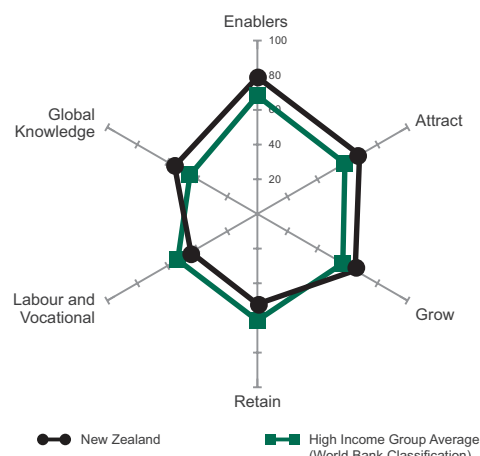
NEW ZEALAND

High Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

16

Population (millions) **4.47**
GDP per capita (PPP\$) **34,227**
GDP (US\$ billions) **182.59**
GTCI Score **60.58**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	78.91	7
1.1 Regulatory landscape	88.67	5
Government efficiency		
1.1.1 Government effectiveness.....	87.84	8
1.1.2 Business-government relations.....	79.12	6
1.1.3 Political stability.....	99.04	3
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	62.37	24
Competition climate		
1.2.1 Intensity of local competition.....	73.98	26
Innovation climate		
1.2.2 Venture capital deals.....	9.81	25
1.2.3 Firm-level technology absorption.....	78.99	17
1.2.4 R&D expenditure.....	29.08	28
Connectivity		
1.2.5 ICT access.....	83.36	15
Ease of doing business		
1.2.6 Ease of doing business.....	99.00	2
1.3 Business landscape	85.70	5
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	90.00	30
1.3.3 Labour-employer cooperation.....	75.02	10
Ownership and governance		
1.3.4 Reliance on professional management.....	88.76	1
2 Attract	68.06	12
2.1 External openness	52.45	14
Industrial openness		
2.1.1 FDI inflow.....	16.46	58
2.1.2 FDI and technology transfer.....	69.56	18
2.1.3 Prevalence of foreign ownership.....	79.38	8
Migration openness		
2.1.4 Male adult migrants.....	56.06	10
2.1.5 Female adult migrants.....	52.68	9
2.1.6 Brain gain.....	55.17	19
2.1.7 Brain drain.....	37.83	53
2.2 Internal openness	83.68	6
Diversity		
2.2.1 Tolerance to minorities.....	96.85	2
2.2.2 Tolerance to immigrants.....	97.14	2
Gender mobility		
2.2.3 Female graduates.....	70.75	36
2.2.4 Female-to-male earnings ratio.....	65.48	22
Social mobility		
2.2.5 Social mobility.....	88.18	3
3 Grow	65.14	14
3.1 Formal education	60.75	11
Education climate		
3.1.1 Vocational enrolment.....	30.98	45
3.1.2 Tertiary enrolment.....	79.30	9
Internationalisation of education		
3.1.3 International student inflow.....	71.65	9
Performance of education system		
3.1.4 Reading, maths and science scores.....	63.14	16
3.1.5 University ranking.....	58.71	18
3.2 Lifelong learning	67.57	16
Further education		
3.2.1 Quality of management schools.....	69.27	21
3.2.2 Extent of staff training.....	65.87	15
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	67.10	12
Networks		
3.3.1 Use of virtual social networks.....	87.56	14
3.3.2 Number of LinkedIn users.....	70.71	8
Learning through experience		
3.3.3 Willingness to delegate authority.....	74.88	6
Voice		
3.3.4 Voicing concern to officials.....	35.22	48
4 Retain	51.99	40
4.1 Sustainability	37.08	58
Social protection		
4.1.1 Pension system.....	n/a	n/a
Taxation		
4.1.2 Extent and effect of taxation.....	63.38	6
Pay		
4.1.3 Pay level – head of organisation.....	21.46	50
4.1.4 Pay level – head of information technology.....	26.39	34
4.2 Lifestyle	66.90	30
Quality of life		
4.2.1 Environmental performance.....	81.86	16
4.2.2 Safety at night.....	61.16	39
4.2.3 Female part-time workers.....	80.99	10
Access to services		
4.2.4 Physician density.....	43.57	40
4.2.5 Sanitation.....	n/a	n/a
5 Labour and Vocational Skills	44.29	44
5.1 Employment skills	47.85	46
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	48.04	38
5.1.2 Secondary-educated population.....	37.91	46
Technical professions		
5.1.3 Technicians and associate professionals.....	58.71	30
Employment quality		
5.1.4 State of cluster development.....	46.75	53
5.2 Labour productivity	40.73	51
Labour productivity		
5.2.1 Labour productivity per employee.....	38.93	29
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	61.19	13
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	22.06	72
6 Global Knowledge	55.12	8
6.1 Higher skills and competencies	64.21	5
Educated workforce		
6.1.1 Tertiary-educated workforce.....	56.73	16
6.1.2 Tertiary-educated population.....	57.83	11
Knowledge workers		
6.1.3 Professionals.....	50.61	22
6.1.4 Researchers.....	42.00	18
6.1.5 Legislators, senior officials and managers.....	76.84	4
Research quality		
6.1.6 Quality of scientific research institutions.....	71.55	18
6.1.7 Scientific and technical journal articles.....	93.87	3
6.2 Talent impact	46.03	17
Innovation		
6.2.1 Innovation output.....	60.61	17
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	36.49	47
6.2.3 New business density.....	71.78	2
High-value exports		
6.2.4 Sophisticated exports.....	15.23	60

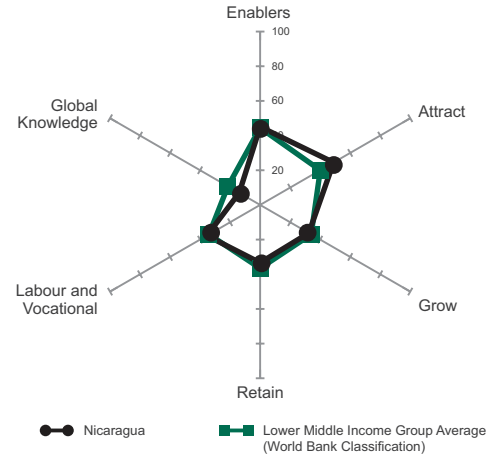
NICARAGUA

Lower Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

77

Population (millions) **6.08**
 GDP per capita (PPP\$) **4,570**
 GDP (US\$ billions) **11.26**
 GTCI Score **34.86**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	45.06	74
1.1 Regulatory landscape	41.04	75
Government efficiency		
1.1.1 Government effectiveness.....	11.07	89
1.1.2 Business-government relations.....	55.33	49
1.1.3 Political stability.....	56.73	60
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	25.88	89
Competition climate		
1.2.1 Intensity of local competition.....	47.29	89
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	47.62	90
1.2.4 R&D expenditure.....	0.00	86
Connectivity		
1.2.5 ICT access.....	20.27	84
Ease of doing business		
1.2.6 Ease of doing business.....	14.20	80
1.3 Business landscape	68.25	37
Labour market flexibility		
1.3.1 Difficulty of hiring.....	77.67	42
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	52.06	61
Ownership and governance		
1.3.4 Reliance on professional management.....	43.27	80
2 Attract	48.94	38
2.1 External openness	36.76	47
Industrial openness		
2.1.1 FDI inflow.....	75.09	9
2.1.2 FDI and technology transfer.....	51.97	71
2.1.3 Prevalence of foreign ownership.....	51.26	70
Migration openness		
2.1.4 Male adult migrants.....	1.31	80
2.1.5 Female adult migrants.....	1.02	78
2.1.6 Brain gain.....	39.00	46
2.1.7 Brain drain.....	37.67	56
2.2 Internal openness	61.12	42
Diversity		
2.2.1 Tolerance to minorities.....	78.68	29
2.2.2 Tolerance to immigrants.....	70.42	31
Gender mobility		
2.2.3 Female graduates.....	76.42	20
2.2.4 Female-to-male earnings ratio.....	35.71	73
Social mobility		
2.2.5 Social mobility.....	44.38	75
3 Grow	32.41	82
3.1 Formal education	5.76	90
Education climate		
3.1.1 Vocational enrolment.....	3.04	81
3.1.2 Tertiary enrolment.....	14.24	7
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	44.61	67
Further education		
3.2.1 Quality of management schools.....	45.27	73
3.2.2 Extent of staff training.....	47.45	58
Continuous development		
3.2.3 Firms offering formal training.....	41.10	37

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	46.87	52
Networks		
3.3.1 Use of virtual social networks.....	59.83	89
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	42.88	64
Voice		
3.3.4 Voicing concern to officials.....	37.89	45
4 Retain	33.36	81
4.1 Sustainability	31.45	73
Social protection		
4.1.1 Pension system.....	21.39	70
Taxation		
4.1.2 Extent and effect of taxation.....	41.51	53
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	35.27	81
Quality of life		
4.2.1 Environmental performance.....	39.82	69
4.2.2 Safety at night.....	46.39	60
4.2.3 Female part-time workers.....	40.77	45
Access to services		
4.2.4 Physician density.....	4.75	77
4.2.5 Sanitation.....	44.62	83
5 Labour and Vocational Skills	35.45	71
5.1 Employable skills	39.81	57
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	38.03	59
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	40.80	50
Employment quality		
5.1.4 State of cluster development.....	40.60	70
5.2 Labour productivity	31.09	72
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	44.89	66
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	17.30	83
6 Global Knowledge	13.93	86
6.1 Higher skills and competencies	15.60	81
Educated workforce		
6.1.1 Tertiary-educated workforce.....	17.51	73
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	10.06	78
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	14.12	67
Research quality		
6.1.6 Quality of scientific research institutions.....	34.29	80
6.1.7 Scientific and technical journal articles.....	2.02	81
6.2 Talent impact	12.25	86
Innovation		
6.2.1 Innovation output.....	11.74	88
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.76	77

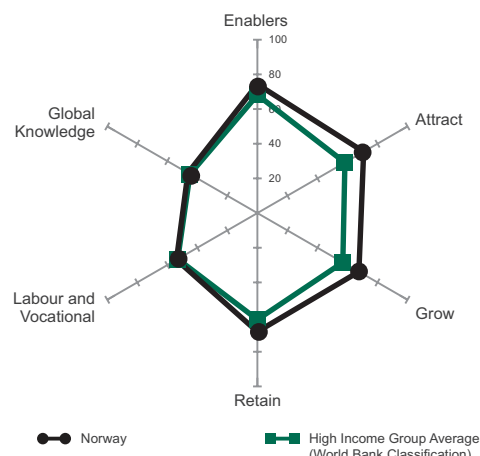
NORWAY

High Income
Europe

RANK
(out of 93)

11

Population (millions) **5.08**
 GDP per capita (PPP\$) **65,461**
 GDP (US\$ billions) **512.58**
 GTCI Score **63.55**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	74.30	14
1.1 Regulatory landscape	88.84	4
Government efficiency		
1.1.1 Government effectiveness.....	90.77	5
1.1.2 Business-government relations.....	78.00	8
1.1.3 Political stability.....	97.74	7
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	65.16	22
Competition climate		
1.2.1 Intensity of local competition.....	72.34	33
Innovation climate		
1.2.2 Venture capital deals.....	20.48	17
1.2.3 Firm-level technology absorption.....	83.51	8
1.2.4 R&D expenditure.....	37.35	24
Connectivity		
1.2.5 ICT access.....	83.76	14
Ease of doing business		
1.2.6 Ease of doing business.....	93.50	7
1.3 Business landscape	68.90	34
Labour market flexibility		
1.3.1 Difficulty of hiring.....	39.00	78
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	79.26	4
Ownership and governance		
1.3.4 Reliance on professional management.....	87.33	3
2 Attract	70.78	8
2.1 External openness	51.22	17
Industrial openness		
2.1.1 FDI inflow.....	22.41	46
2.1.2 FDI and technology transfer.....	63.11	41
2.1.3 Prevalence of foreign ownership.....	70.10	32
Migration openness		
2.1.4 Male adult migrants.....	31.22	19
2.1.5 Female adult migrants.....	27.21	21
2.1.6 Brain gain.....	67.50	9
2.1.7 Brain drain.....	77.00	5
2.2 Internal openness	90.33	1
Diversity		
2.2.1 Tolerance to minorities.....	95.90	4
2.2.2 Tolerance to immigrants.....	94.64	5
Gender mobility		
2.2.3 Female graduates.....	75.47	24
2.2.4 Female-to-male earnings ratio.....	100.00	1
Social mobility		
2.2.5 Social mobility.....	85.66	4
3 Grow	67.62	10
3.1 Formal education	56.18	17
Education climate		
3.1.1 Vocational enrolment.....	60.47	16
3.1.2 Tertiary enrolment.....	71.34	20
Internationalisation of education		
3.1.3 International student inflow.....	33.28	19
Performance of education system		
3.1.4 Reading, maths and science scores.....	56.90	23
3.1.5 University ranking.....	58.91	17
3.2 Lifelong learning	70.36	11
Further education		
3.2.1 Quality of management schools.....	70.70	18
3.2.2 Extent of staff training.....	70.02	8
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	76.31	6
Networks		
3.3.1 Use of virtual social networks.....	92.92	3
3.3.2 Number of LinkedIn users.....	61.92	11
Learning through experience		
3.3.3 Willingness to delegate authority.....	81.58	3
Voice		
3.3.4 Voicing concern to officials.....	68.80	15
4 Retain	68.44	7
4.1 Sustainability	53.77	17
Social protection		
4.1.1 Pension system.....	93.17	7
Taxation		
4.1.2 Extent and effect of taxation.....	54.86	15
Pay		
4.1.3 Pay level – head of organisation.....	31.87	27
4.1.4 Pay level – head of information technology.....	35.18	18
4.2 Lifestyle	83.11	5
Quality of life		
4.2.1 Environmental performance.....	84.48	10
4.2.2 Safety at night.....	94.93	4
4.2.3 Female part-time workers.....	69.15	17
Access to services		
4.2.4 Physician density.....	66.98	4
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational Skills	53.88	19
5.1 Employable skills	63.03	16
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	50.70	33
5.1.2 Secondary-educated population.....	56.05	25
Technical professions		
5.1.3 Technicians and associate professionals.....	78.61	13
Employment quality		
5.1.4 State of cluster development.....	66.77	13
5.2 Labour productivity	44.72	35
Labour productivity		
5.2.1 Labour productivity per employee.....	64.30	5
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	46.69	62
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	23.17	69
6 Global Knowledge	46.27	19
6.1 Higher skills and competencies	57.76	13
Educated workforce		
6.1.1 Tertiary-educated workforce.....	58.75	12
6.1.2 Tertiary-educated population.....	52.27	14
Knowledge workers		
6.1.3 Professionals.....	66.77	8
6.1.4 Researchers.....	60.29	5
6.1.5 Legislators, senior officials and managers.....	36.16	31
Research quality		
6.1.6 Quality of scientific research institutions.....	68.41	21
6.1.7 Scientific and technical journal articles.....	61.67	16
6.2 Talent impact	34.79	42
Innovation		
6.2.1 Innovation output.....	63.93	14
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	20.27	68
6.2.3 New business density.....	37.20	12
High-value exports		
6.2.4 Sophisticated exports.....	17.74	55

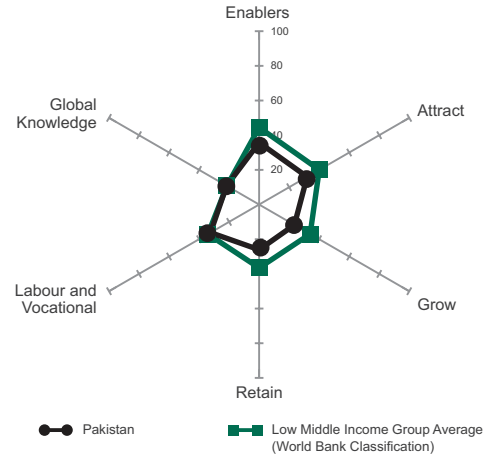
PAKISTAN

Lower Middle Income
Central and Southern Asia

RANK
(out of 93)

89

Population (millions) **182.14**
 GDP per capita (PPP\$) **4,698**
 GDP (US\$ billions) **236.62**
 GTCI Score **28.56**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	35.75	88
1.1 Regulatory landscape	28.91	91
Government efficiency		
1.1.1 Government effectiveness.....	13.95	86
1.1.2 Business-government relations.....	39.18	81
1.1.3 Political stability.....	0.00	93
FDI climate		
1.1.4 Starting a foreign business.....	62.50	11
1.2 Market landscape	28.09	87
Competition climate		
1.2.1 Intensity of local competition.....	64.83	60
Innovation climate		
1.2.2 Venture capital deals.....	0.51	50
1.2.3 Firm-level technology absorption.....	60.03	58
1.2.4 R&D expenditure.....	6.86	59
Connectivity		
1.2.5 ICT access.....	14.50	85
Ease of doing business		
1.2.6 Ease of doing business.....	21.80	73
1.3 Business landscape	50.26	80
Labour market flexibility		
1.3.1 Difficulty of hiring.....	33.33	81
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	50.37	70
Ownership and governance		
1.3.4 Reliance on professional management.....	47.35	70
2 Attract	31.98	89
2.1 External openness	24.48	85
Industrial openness		
2.1.1 FDI inflow.....	7.51	86
2.1.2 FDI and technology transfer.....	50.21	75
2.1.3 Prevalence of foreign ownership.....	47.32	80
Migration openness		
2.1.4 Male adult migrants.....	4.03	66
2.1.5 Female adult migrants.....	2.95	68
2.1.6 Brain gain.....	27.67	65
2.1.7 Brain drain.....	31.67	65
2.2 Internal openness	39.49	86
Diversity		
2.2.1 Tolerance to minorities.....	70.24	46
2.2.2 Tolerance to immigrants.....	32.42	82
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	5.95	88
Social mobility		
2.2.5 Social mobility.....	49.35	63
3 Grow	23.49	91
3.1 Formal education	8.22	85
Education climate		
3.1.1 Vocational enrolment.....	7.46	75
3.1.2 Tertiary enrolment.....	5.63	84
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	19.78	51
3.2 Lifelong learning	30.53	90
Further education		
3.2.1 Quality of management schools.....	54.45	53
3.2.2 Extent of staff training.....	37.16	86
Continuous development		
3.2.3 Firms offering formal training.....	0.00	68

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	31.72	87
Networks		
3.3.1 Use of virtual social networks.....	65.91	85
3.3.2 Number of LinkedIn users.....	4.55	64
Learning through experience		
3.3.3 Willingness to delegate authority.....	36.47	83
Voice		
3.3.4 Voicing concern to officials.....	19.95	70
4 Retain	26.07	86
4.1 Sustainability	30.07	74
Social protection		
4.1.1 Pension system.....	n/a	n/a
Taxation		
4.1.2 Extent and effect of taxation.....	42.09	51
Pay		
4.1.3 Pay level – head of organisation.....	20.58	51
4.1.4 Pay level – head of information technology.....	27.53	30
4.2 Lifestyle	22.07	89
Quality of life		
4.2.1 Environmental performance.....	14.45	88
4.2.2 Safety at night.....	23.25	85
4.2.3 Female part-time workers.....	21.49	58
Access to services		
4.2.4 Physician density.....	11.97	72
4.2.5 Sanitation.....	39.19	84
5 Labour and Vocational	32.39	78
5.1 Employable skills	22.62	89
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	1.72	83
5.1.2 Secondary-educated population.....	16.22	71
Technical professions		
5.1.3 Technicians and associate professionals.....	23.38	69
Employment quality		
5.1.4 State of cluster development.....	49.16	48
5.2 Labour productivity	42.16	43
Labour productivity		
5.2.1 Labour productivity per employee.....	4.92	76
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	46.40	64
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	75.15	2
6 Global Knowledge	21.66	69
6.1 Higher skills and competencies	25.46	59
Educated workforce		
6.1.1 Tertiary-educated workforce.....	38.05	37
6.1.2 Tertiary-educated population.....	12.26	73
Knowledge workers		
6.1.3 Professionals.....	3.96	85
6.1.4 Researchers.....	1.44	61
6.1.5 Legislators, senior officials and managers.....	71.19	5
Research quality		
6.1.6 Quality of scientific research institutions.....	42.77	60
6.1.7 Scientific and technical journal articles.....	8.57	58
6.2 Talent impact	17.85	76
Innovation		
6.2.1 Innovation output.....	16.10	82
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	43.24	41
6.2.3 New business density.....	0.00	76
High-value exports		
6.2.4 Sophisticated exports.....	12.05	83

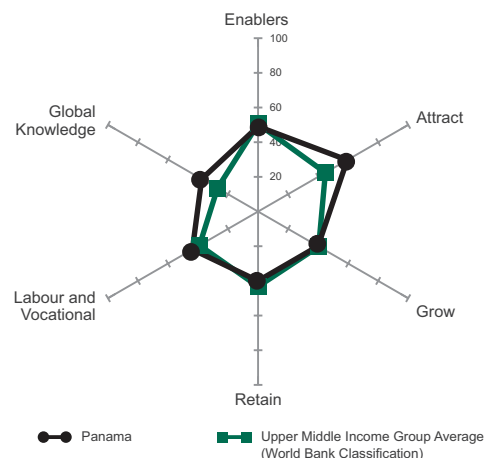
PANAMA

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

42

Population (millions) **3.86**
GDP per capita (PPP\$) **1,9411**
GDP (US\$ billions) **42.65**
GTCI Score **44.94**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	49.07	61
1.1 Regulatory landscape	55.75	44
Government efficiency		
1.1.1 Government effectiveness.....	45.53	46
1.1.2 Business-government relations.....	59.79	36
1.1.3 Political stability.....	61.94	57
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	50.40	36
Competition climate		
1.2.1 Intensity of local competition.....	66.17	54
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	75.89	24
1.2.4 R&D expenditure.....	3.65	67
Connectivity		
1.2.5 ICT access.....	54.09	52
Ease of doing business		
1.2.6 Ease of doing business.....	52.20	45
1.3 Business landscape	41.06	90
Labour market flexibility		
1.3.1 Difficulty of hiring.....	22.33	85
1.3.2 Difficulty of redundancy.....	40.00	82
1.3.3 Labour-employer cooperation.....	57.32	39
Ownership and governance		
1.3.4 Reliance on professional management.....	44.60	74
2 Attract	59.38	19
2.1 External openness	53.16	12
Industrial openness		
2.1.1 FDI inflow.....	62.84	12
2.1.2 FDI and technology transfer.....	80.82	3
2.1.3 Prevalence of foreign ownership.....	77.96	10
Migration openness		
2.1.4 Male adult migrants.....	11.28	45
2.1.5 Female adult migrants.....	10.42	45
2.1.6 Brain gain.....	68.67	7
2.1.7 Brain drain.....	60.17	17
2.2 Internal openness	65.60	31
Diversity		
2.2.1 Tolerance to minorities.....	76.45	36
2.2.2 Tolerance to immigrants.....	61.42	42
Gender mobility		
2.2.3 Female graduates.....	82.44	14
2.2.4 Female-to-male earnings ratio.....	46.43	57
Social mobility		
2.2.5 Social mobility.....	61.25	31
3 Grow	39.92	58
3.1 Formal education	22.59	62
Education climate		
3.1.1 Vocational enrolment.....	28.80	48
3.1.2 Tertiary enrolment.....	38.98	53
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	38.87	79
Further education		
3.2.1 Quality of management schools.....	55.68	46
3.2.2 Extent of staff training.....	55.43	31
Continuous development		
3.2.3 Firms offering formal training.....	5.49	65

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	58.29	23
Networks		
3.3.1 Use of virtual social networks.....	85.51	21
3.3.2 Number of LinkedIn users.....	24.47	31
Learning through experience		
3.3.3 Willingness to delegate authority.....	43.88	61
Voice		
3.3.4 Voicing concern to officials.....	79.30	6
4 Retain	40.01	71
4.1 Sustainability	39.69	50
Social protection		
4.1.1 Pension system.....	n/a	n/a
Taxation		
4.1.2 Extent and effect of taxation.....	50.13	25
Pay		
4.1.3 Pay level – head of organisation.....	29.25	33
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	40.33	75
Quality of life		
4.2.1 Environmental performance.....	50.32	48
4.2.2 Safety at night.....	34.11	73
4.2.3 Female part-time workers.....	10.19	61
Access to services		
4.2.4 Physician density.....	n/a	n/a
4.2.5 Sanitation.....	66.71	72
5 Labour and Vocational	43.74	45
5.1 Employable skills	38.71	64
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	43.97	48
5.1.2 Secondary-educated population.....	23.52	59
Technical professions		
5.1.3 Technicians and associate professionals.....	37.31	53
Employment quality		
5.1.4 State of cluster development.....	50.05	45
5.2 Labour productivity	48.76	25
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	41.17	78
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	56.35	28
6 Global Knowledge	37.55	36
6.1 Higher skills and competencies	30.56	46
Educated workforce		
6.1.1 Tertiary-educated workforce.....	57.91	15
6.1.2 Tertiary-educated population.....	35.46	36
Knowledge workers		
6.1.3 Professionals.....	29.27	50
6.1.4 Researchers.....	1.03	65
6.1.5 Legislators, senior officials and managers.....	32.20	38
Research quality		
6.1.6 Quality of scientific research institutions.....	53.86	41
6.1.7 Scientific and technical journal articles.....	4.20	71
6.2 Talent impact	44.54	21
Innovation		
6.2.1 Innovation output.....	18.10	80
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	17.57	71
6.2.3 New business density.....	67.14	3
High-value exports		
6.2.4 Sophisticated exports.....	75.35	4

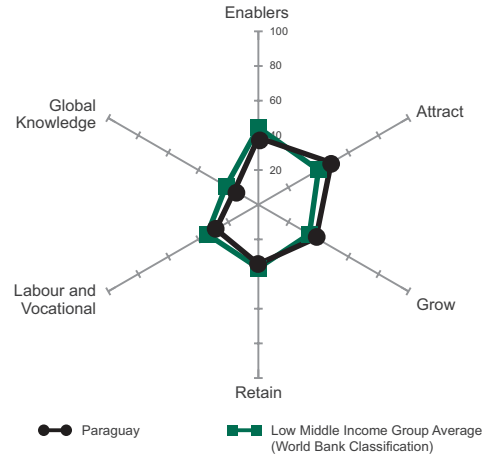
PARAGUAY

Lower Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

79

Population (millions) **6.80**
 GDP per capita (PPP\$) **8,043**
 GDP (US\$ billions) **29.95**
 GTCI Score **34.00**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	38.62	85
1.1 Regulatory landscape	33.58	86
Government efficiency		
1.1.1 Government effectiveness.....	10.79	90
1.1.2 Business-government relations.....	44.83	68
1.1.3 Political stability.....	45.11	76
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	35.27	72
Competition climate		
1.2.1 Intensity of local competition.....	69.69	43
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	54.73	72
1.2.4 R&D expenditure.....	0.57	82
Connectivity		
1.2.5 ICT access.....	28.46	75
Ease of doing business		
1.2.6 Ease of doing business.....	22.90	72
1.3 Business landscape	47.02	86
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	40.00	82
1.3.3 Labour-employer cooperation.....	54.85	47
Ownership and governance		
1.3.4 Reliance on professional management.....	37.56	89
2 Attract	48.48	39
2.1 External openness	28.97	78
Industrial openness		
2.1.1 FDI inflow.....	14.49	64
2.1.2 FDI and technology transfer.....	51.61	72
2.1.3 Prevalence of foreign ownership.....	57.57	56
Migration openness		
2.1.4 Male adult migrants.....	8.22	54
2.1.5 Female adult migrants.....	7.06	52
2.1.6 Brain gain.....	28.33	64
2.1.7 Brain drain.....	35.50	59
2.2 Internal openness	68.00	25
Diversity		
2.2.1 Tolerance to minorities.....	69.55	47
2.2.2 Tolerance to immigrants.....	94.22	6
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	55.95	38
Social mobility		
2.2.5 Social mobility.....	52.28	55
3 Grow	38.42	63
3.1 Formal education	17.42	71
Education climate		
3.1.1 Vocational enrolment.....	20.80	56
3.1.2 Tertiary enrolment.....	31.46	61
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	47.84	62
Further education		
3.2.1 Quality of management schools.....	36.86	86
3.2.2 Extent of staff training.....	43.46	76
Continuous development		
3.2.3 Firms offering formal training.....	63.19	18

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	50.02	44
Networks		
3.3.1 Use of virtual social networks.....	72.21	71
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	32.03	91
Voice		
3.3.4 Voicing concern to officials.....	45.82	35
4 Retain	34.25	78
4.1 Sustainability	34.61	62
Social protection		
4.1.1 Pension system.....	12.03	74
Taxation		
4.1.2 Extent and effect of taxation.....	57.20	11
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	33.88	84
Quality of life		
4.2.1 Environmental performance.....	21.98	84
4.2.2 Safety at night.....	27.48	82
4.2.3 Female part-time workers.....	36.91	49
Access to services		
4.2.4 Physician density.....	16.80	66
4.2.5 Sanitation.....	66.24	73
5 Labour and Vocational	28.23	85
5.1 Employable skills	25.96	82
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	28.64	64
5.1.2 Secondary-educated population.....	18.38	67
Technical professions		
5.1.3 Technicians and associate professionals.....	20.90	70
Employment quality		
5.1.4 State of cluster development.....	35.95	82
5.2 Labour productivity	30.50	77
Labour productivity		
5.2.1 Labour productivity per employee.....	n/a	n/a
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	41.38	77
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	19.62	77
6 Global Knowledge	15.98	82
6.1 Higher skills and competencies	13.51	83
Educated workforce		
6.1.1 Tertiary-educated workforce.....	23.57	67
6.1.2 Tertiary-educated population.....	17.33	70
Knowledge workers		
6.1.3 Professionals.....	17.38	66
6.1.4 Researchers.....	0.34	71
6.1.5 Legislators, senior officials and managers.....	18.08	61
Research quality		
6.1.6 Quality of scientific research institutions.....	17.40	92
6.1.7 Scientific and technical journal articles.....	0.44	90
6.2 Talent impact	18.45	74
Innovation		
6.2.1 Innovation output.....	24.48	74
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.42	80

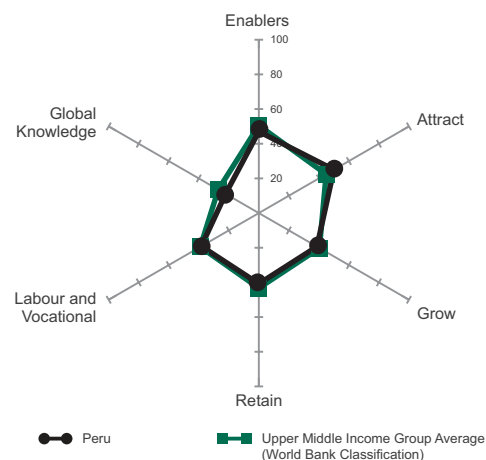
PERU

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

63

Population (millions) **30.38**
GDP per capita (PPP\$) **11,775**
GDP (US\$ billions) **202.30**
GTCI Score **39.50**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	47.05	67
1.1 Regulatory landscape	43.99	67
Government efficiency		
1.1.1 Government effectiveness.....	32.04	62
1.1.2 Business-government relations.....	55.37	48
1.1.3 Political stability.....	44.57	77
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	45.04	45
Competition climate		
1.2.1 Intensity of local competition.....	68.31	46
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	59.33	60
1.2.4 R&D expenditure.....	2.62	75
Connectivity		
1.2.5 ICT access.....	31.81	72
Ease of doing business		
1.2.6 Ease of doing business.....	63.10	35
1.3 Business landscape	52.13	78
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	40.00	82
1.3.3 Labour-employer cooperation.....	53.00	53
Ownership and governance		
1.3.4 Reliance on professional management.....	59.84	37
2 Attract	50.01	37
2.1 External openness	41.15	31
Industrial openness		
2.1.1 FDI inflow.....	46.09	19
2.1.2 FDI and technology transfer.....	69.17	20
2.1.3 Prevalence of foreign ownership.....	70.43	28
Migration openness		
2.1.4 Male adult migrants.....	0.87	83
2.1.5 Female adult migrants.....	0.81	80
2.1.6 Brain gain.....	51.00	27
2.1.7 Brain drain.....	49.67	30
2.2 Internal openness	58.88	47
Diversity		
2.2.1 Tolerance to minorities.....	61.62	61
2.2.2 Tolerance to immigrants.....	64.22	37
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	54.76	40
Social mobility		
2.2.5 Social mobility.....	54.92	52
3 Grow	38.71	61
3.1 Formal education	15.17	76
Education climate		
3.1.1 Vocational enrolment.....	0.00	87
3.1.2 Tertiary enrolment.....	39.86	52
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	0.00	57
3.1.5 University ranking.....	20.83	49
3.2 Lifelong learning	57.24	39
Further education		
3.2.1 Quality of management schools.....	55.15	50
3.2.2 Extent of staff training.....	46.30	61
Continuous development		
3.2.3 Firms offering formal training.....	70.28	10

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	43.72	61
Networks		
3.3.1 Use of virtual social networks.....	70.32	75
3.3.2 Number of LinkedIn users.....	19.93	35
Learning through experience		
3.3.3 Willingness to delegate authority.....	44.49	57
Voice		
3.3.4 Voicing concern to officials.....	40.11	42
4 Retain	40.78	68
4.1 Sustainability	43.82	37
Social protection		
4.1.1 Pension system.....	21.32	71
Taxation		
4.1.2 Extent and effect of taxation.....	42.19	49
Pay		
4.1.3 Pay level – head of organisation.....	67.96	6
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	37.74	78
Quality of life		
4.2.1 Environmental performance.....	31.32	76
4.2.2 Safety at night.....	31.83	77
4.2.3 Female part-time workers.....	44.63	38
Access to services		
4.2.4 Physician density.....	13.73	70
4.2.5 Sanitation.....	67.17	71
5 Labour and Vocational	38.30	59
5.1 Employable skills	49.22	44
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	72.77	16
5.1.2 Secondary-educated population.....	42.46	42
Technical professions		
5.1.3 Technicians and associate professionals.....	41.29	49
Employment quality		
5.1.4 State of cluster development.....	40.36	71
5.2 Labour productivity	27.37	81
Labour productivity		
5.2.1 Labour productivity per employee.....	11.87	61
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	47.57	56
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	22.67	70
6 Global Knowledge	22.15	68
6.1 Higher skills and competencies	20.14	72
Educated workforce		
6.1.1 Tertiary-educated workforce.....	21.21	71
6.1.2 Tertiary-educated population.....	36.84	33
Knowledge workers		
6.1.3 Professionals.....	26.83	56
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	3.39	80
Research quality		
6.1.6 Quality of scientific research institutions.....	31.09	82
6.1.7 Scientific and technical journal articles.....	1.50	85
6.2 Talent impact	24.15	62
Innovation		
6.2.1 Innovation output.....	32.24	60
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	33.78	52
6.2.3 New business density.....	18.10	25
High-value exports		
6.2.4 Sophisticated exports.....	12.49	79

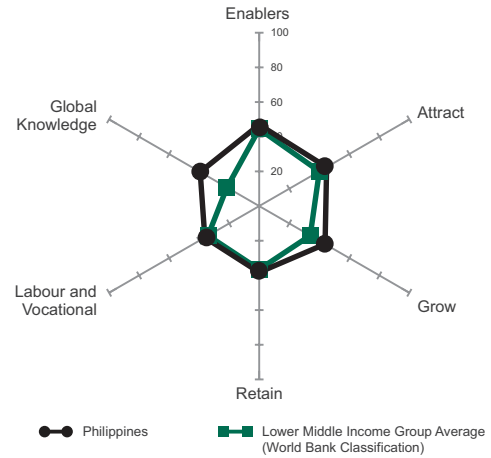
PHILIPPINES

Lower Middle Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

54

Population (millions) **98.39**
 GDP per capita (PPP\$) **6,532**
 GDP (US\$ billions) **272.02**
 GTCI Score **41.57**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	46.90	70
1.1 Regulatory landscape	47.64	60
Government efficiency		
1.1.1 Government effectiveness.....	38.77	51
1.1.2 Business-government relations.....	66.88	20
1.1.3 Political stability.....	37.26	82
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	32.02	79
Competition climate		
1.2.1 Intensity of local competition.....	67.84	47
Innovation climate		
1.2.2 Venture capital deals.....	2.37	39
1.2.3 Firm-level technology absorption.....	70.30	32
1.2.4 R&D expenditure.....	1.72	76
Connectivity		
1.2.5 ICT access.....	25.91	78
Ease of doing business		
1.2.6 Ease of doing business.....	24.00	71
1.3 Business landscape	61.03	57
Labour market flexibility		
1.3.1 Difficulty of hiring.....	44.33	74
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	63.43	23
Ownership and governance		
1.3.4 Reliance on professional management.....	66.35	26
2 Attract	44.92	57
2.1 External openness	31.31	68
Industrial openness		
2.1.1 FDI inflow.....	12.52	70
2.1.2 FDI and technology transfer.....	65.28	33
2.1.3 Prevalence of foreign ownership.....	62.86	45
Migration openness		
2.1.4 Male adult migrants.....	0.36	89
2.1.5 Female adult migrants.....	0.30	86
2.1.6 Brain gain.....	37.33	52
2.1.7 Brain drain.....	40.50	48
2.2 Internal openness	58.54	50
Diversity		
2.2.1 Tolerance to minorities.....	54.10	73
2.2.2 Tolerance to immigrants.....	59.53	44
Gender mobility		
2.2.3 Female graduates.....	65.95	45
2.2.4 Female-to-male earnings ratio.....	52.38	48
Social mobility		
2.2.5 Social mobility.....	60.72	35
3 Grow	43.87	44
3.1 Formal education	17.76	70
Education climate		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	24.93	65
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	28.35	44
3.2 Lifelong learning	52.42	51
Further education		
3.2.1 Quality of management schools.....	62.42	33
3.2.2 Extent of staff training.....	59.22	24
Continuous development		
3.2.3 Firms offering formal training.....	35.61	44

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	61.43	18
Networks		
3.3.1 Use of virtual social networks.....	86.59	17
3.3.2 Number of LinkedIn users.....	8.10	55
Learning through experience		
3.3.3 Willingness to delegate authority.....	59.34	23
Voice		
3.3.4 Voicing concern to officials.....	91.71	2
4 Retain	38.21	72
4.1 Sustainability	31.90	72
Social protection		
4.1.1 Pension system.....	25.92	66
Taxation		
4.1.2 Extent and effect of taxation.....	50.92	21
Pay		
4.1.3 Pay level – head of organisation.....	16.53	56
4.1.4 Pay level – head of information technology.....	34.22	19
4.2 Lifestyle	44.53	68
Quality of life		
4.2.1 Environmental performance.....	29.66	79
4.2.2 Safety at night.....	60.73	40
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	17.56	64
4.2.5 Sanitation.....	70.17	68
5 Labour and Vocational	36.23	69
5.1 Employable skills	39.97	56
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	44.91	46
5.1.2 Secondary-educated population.....	52.94	28
Technical professions		
5.1.3 Technicians and associate professionals.....	11.44	80
Employment quality		
5.1.4 State of cluster development.....	50.57	43
5.2 Labour productivity	32.49	70
Labour productivity		
5.2.1 Labour productivity per employee.....	6.12	74
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	53.92	35
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	37.43	55
6 Global Knowledge	39.30	29
6.1 Higher skills and competencies	31.04	45
Educated workforce		
6.1.1 Tertiary-educated workforce.....	42.93	33
6.1.2 Tertiary-educated population.....	40.27	30
Knowledge workers		
6.1.3 Professionals.....	14.33	71
6.1.4 Researchers.....	0.67	69
6.1.5 Legislators, senior officials and managers.....	77.40	3
Research quality		
6.1.6 Quality of scientific research institutions.....	39.94	67
6.1.7 Scientific and technical journal articles.....	1.78	83
6.2 Talent impact	47.55	14
Innovation		
6.2.1 Innovation output.....	29.63	65
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	59.46	18
6.2.3 New business density.....	1.10	71
High-value exports		
6.2.4 Sophisticated exports.....	100.00	1

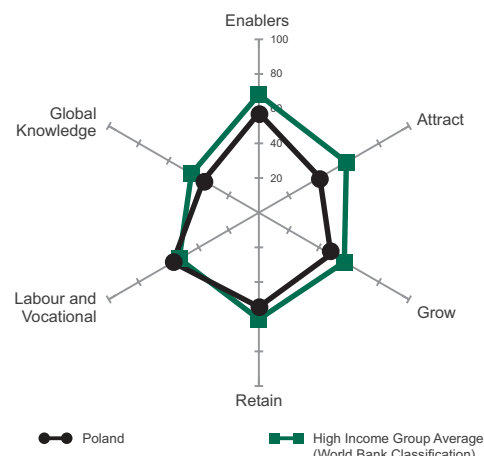
POLAND

High Income
Europe

RANK
(out of 93)

39

Population (millions) **38.53**
 GDP per capita (PPP\$) **23,274**
 GDP (US\$ billions) **517.54**
 GTCI Score **49.11**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	57.46	42
1.1 Regulatory landscape	61.34	36
Government efficiency		
1.1.1 Government effectiveness.....	55.58	36
1.1.2 Business-government relations.....	46.96	60
1.1.3 Political stability.....	90.92	16
FDI climate		
1.1.4 Starting a foreign business.....	51.92	21
1.2 Market landscape	45.17	44
Competition climate		
1.2.1 Intensity of local competition.....	72.46	32
Innovation climate		
1.2.2 Venture capital deals.....	1.52	45
1.2.3 Firm-level technology absorption.....	52.48	80
1.2.4 R&D expenditure.....	16.80	39
Connectivity		
1.2.5 ICT access.....	66.85	37
Ease of doing business		
1.2.6 Ease of doing business.....	60.90	37
1.3 Business landscape	65.86	45
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	52.17	59
Ownership and governance		
1.3.4 Reliance on professional management.....	52.26	57
2 Attract	40.60	73
2.1 External openness	27.18	83
Industrial openness		
2.1.1 FDI inflow.....	9.60	83
2.1.2 FDI and technology transfer.....	59.65	56
2.1.3 Prevalence of foreign ownership.....	62.84	46
Migration openness		
2.1.4 Male adult migrants.....	2.83	72
2.1.5 Female adult migrants.....	3.85	64
2.1.6 Brain gain.....	24.00	73
2.1.7 Brain drain.....	27.50	75
2.2 Internal openness	54.01	60
Diversity		
2.2.1 Tolerance to minorities.....	43.45	80
2.2.2 Tolerance to immigrants.....	38.34	79
Gender mobility		
2.2.3 Female graduates.....	88.92	4
2.2.4 Female-to-male earnings ratio.....	48.81	52
Social mobility		
2.2.5 Social mobility.....	50.54	60
3 Grow	47.98	34
3.1 Formal education	47.43	25
Education climate		
3.1.1 Vocational enrolment.....	60.01	18
3.1.2 Tertiary enrolment.....	71.78	18
Internationalisation of education		
3.1.3 International student inflow.....	4.58	58
Performance of education system		
3.1.4 Reading, maths and science scores.....	68.47	8
3.1.5 University ranking.....	32.29	38
3.2 Lifelong learning	58.05	36
Further education		
3.2.1 Quality of management schools.....	49.39	63
3.2.2 Extent of staff training.....	49.80	53
Continuous development		
3.2.3 Firms offering formal training.....	74.97	7

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	38.47	79
Networks		
3.3.1 Use of virtual social networks.....	67.59	81
3.3.2 Number of LinkedIn users.....	9.20	52
Learning through experience		
3.3.3 Willingness to delegate authority.....	46.12	49
Voice		
3.3.4 Voicing concern to officials.....	30.97	56
4 Retain	54.38	36
4.1 Sustainability	43.37	39
Social protection		
4.1.1 Pension system.....	81.31	29
Taxation		
4.1.2 Extent and effect of taxation.....	38.27	59
Pay		
4.1.3 Pay level – head of organisation.....	29.25	32
4.1.4 Pay level – head of information technology.....	24.65	36
4.2 Lifestyle	65.39	32
Quality of life		
4.2.1 Environmental performance.....	70.77	30
4.2.2 Safety at night.....	71.77	27
4.2.3 Female part-time workers.....	64.19	20
Access to services		
4.2.4 Physician density.....	32.60	49
4.2.5 Sanitation.....	87.63	57
5 Labour and Vocational	57.28	12
5.1 Employable skills	64.95	10
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	84.19	5
5.1.2 Secondary-educated population.....	83.25	6
Technical professions		
5.1.3 Technicians and associate professionals.....	52.24	37
Employment quality		
5.1.4 State of cluster development.....	40.13	73
5.2 Labour productivity	49.61	20
Labour productivity		
5.2.1 Labour productivity per employee.....	31.21	33
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	53.70	36
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	63.92	14
6 Global Knowledge	36.96	37
6.1 Higher skills and competencies	38.15	33
Educated workforce		
6.1.1 Tertiary-educated workforce.....	43.27	31
6.1.2 Tertiary-educated population.....	36.26	34
Knowledge workers		
6.1.3 Professionals.....	52.13	20
6.1.4 Researchers.....	18.25	35
6.1.5 Legislators, senior officials and managers.....	33.90	35
Research quality		
6.1.6 Quality of scientific research institutions.....	49.94	48
6.1.7 Scientific and technical journal articles.....	33.33	33
6.2 Talent impact	35.77	40
Innovation		
6.2.1 Innovation output.....	34.22	54
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	72.97	6
6.2.3 New business density.....	2.34	63
High-value exports		
6.2.4 Sophisticated exports.....	33.54	28

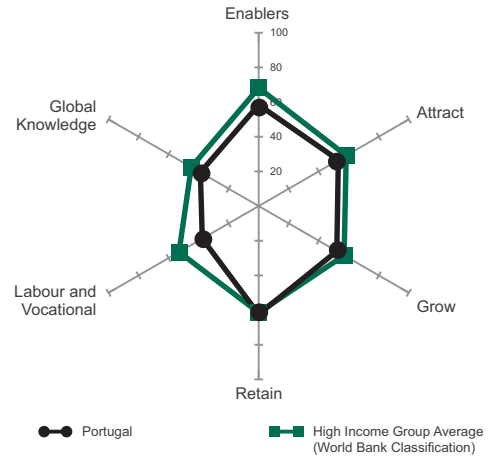
PORTUGAL

High Income
Europe

RANK
(out of 93)

34

Population (millions) **10.46**
 GDP per capita (PPP\$) **25,892**
 GDP (US\$ billions) **219.96**
 GTCI Score **50.38**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	58.39	38
1.1 Regulatory landscape	69.61	22
Government efficiency		
1.1.1 Government effectiveness.....	66.18	26
1.1.2 Business-government relations.....	58.63	39
1.1.3 Political stability.....	84.01	27
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	54.62	33
Competition climate		
1.2.1 Intensity of local competition.....	65.04	58
Innovation climate		
1.2.2 Venture capital deals.....	7.64	27
1.2.3 Firm-level technology absorption.....	75.62	25
1.2.4 R&D expenditure.....	33.55	25
Connectivity		
1.2.5 ICT access.....	74.09	29
Ease of doing business		
1.2.6 Ease of doing business.....	71.80	27
1.3 Business landscape	50.95	79
Labour market flexibility		
1.3.1 Difficulty of hiring.....	39.00	78
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	51.31	65
Ownership and governance		
1.3.4 Reliance on professional management.....	53.49	51
2 Attract	53.06	31
2.1 External openness	36.86	45
Industrial openness		
2.1.1 FDI inflow.....	33.48	30
2.1.2 FDI and technology transfer.....	68.14	25
2.1.3 Prevalence of foreign ownership.....	55.58	62
Migration openness		
2.1.4 Male adult migrants.....	16.88	39
2.1.5 Female adult migrants.....	17.27	37
2.1.6 Brain gain.....	36.50	54
2.1.7 Brain drain.....	30.17	69
2.2 Internal openness	69.26	24
Diversity		
2.2.1 Tolerance to minorities.....	82.95	20
2.2.2 Tolerance to immigrants.....	84.12	17
Gender mobility		
2.2.3 Female graduates.....	73.75	29
2.2.4 Female-to-male earnings ratio.....	50.00	50
Social mobility		
2.2.5 Social mobility.....	55.49	50
3 Grow	52.03	29
3.1 Formal education	43.89	28
Education climate		
3.1.1 Vocational enrolment.....	52.23	21
3.1.2 Tertiary enrolment.....	63.96	26
Internationalisation of education		
3.1.3 International student inflow.....	13.23	40
Performance of education system		
3.1.4 Reading, maths and science scores.....	53.17	29
3.1.5 University ranking.....	36.84	35
3.2 Lifelong learning	54.02	44
Further education		
3.2.1 Quality of management schools.....	75.25	11
3.2.2 Extent of staff training.....	50.12	50
Continuous development		
3.2.3 Firms offering formal training.....	36.68	42

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	58.18	25
Networks		
3.3.1 Use of virtual social networks.....	81.69	40
3.3.2 Number of LinkedIn users.....	46.43	14
Learning through experience		
3.3.3 Willingness to delegate authority.....	40.36	68
Voice		
3.3.4 Voicing concern to officials.....	64.23	18
4 Retain	62.40	20
4.1 Sustainability	57.07	14
Social protection		
4.1.1 Pension system.....	91.97	11
Taxation		
4.1.2 Extent and effect of taxation.....	23.23	86
Pay		
4.1.3 Pay level – head of organisation.....	81.98	3
4.1.4 Pay level – head of information technology.....	31.11	24
4.2 Lifestyle	67.73	29
Quality of life		
4.2.1 Environmental performance.....	80.87	17
4.2.2 Safety at night.....	57.03	44
4.2.3 Female part-time workers.....	38.57	48
Access to services		
4.2.4 Physician density.....	62.20	7
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	37.56	63
5.1 Employable skills	31.29	71
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	18.00	74
5.1.2 Secondary-educated population.....	13.64	77
Technical professions		
5.1.3 Technicians and associate professionals.....	40.80	50
Employment quality		
5.1.4 State of cluster development.....	52.72	33
5.2 Labour productivity	43.83	38
Labour productivity		
5.2.1 Labour productivity per employee.....	30.88	34
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	39.35	81
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	61.25	19
6 Global Knowledge	38.85	31
6.1 Higher skills and competencies	44.78	27
Educated workforce		
6.1.1 Tertiary-educated workforce.....	29.12	53
6.1.2 Tertiary-educated population.....	25.60	55
Knowledge workers		
6.1.3 Professionals.....	42.68	32
6.1.4 Researchers.....	48.85	11
6.1.5 Legislators, senior officials and managers.....	34.46	34
Research quality		
6.1.6 Quality of scientific research institutions.....	69.69	19
6.1.7 Scientific and technical journal articles.....	63.06	14
6.2 Talent impact	32.92	45
Innovation		
6.2.1 Innovation output.....	45.14	35
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	47.30	34
6.2.3 New business density.....	17.10	26
High-value exports		
6.2.4 Sophisticated exports.....	22.17	42

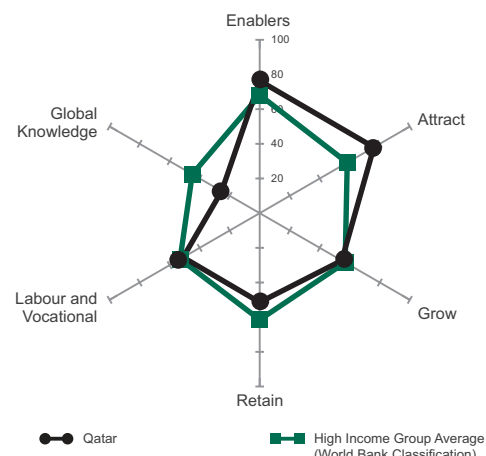
QATAR

High Income
Northern Africa and Western Asia

RANK
(out of 93)

25

Population (millions) **2.17**
GDP per capita (PPP\$) **13,1757**
GDP (US\$ billions) **202.45**
GTCI Score **55.80**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	76.33	12
1.1 Regulatory landscape	81.34	12
Government efficiency		
1.1.1 Government effectiveness.....	63.64	30
1.1.2 Business-government relations.....	84.99	2
1.1.3 Political stability.....	95.37	9
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	59.37	27
Competition climate		
1.2.1 Intensity of local competition.....	79.33	12
Innovation climate		
1.2.2 Venture capital deals.....	0.50	51
1.2.3 Firm-level technology absorption.....	81.77	10
1.2.4 R&D expenditure.....	n/a	n/a
Connectivity		
1.2.5 ICT access.....	75.44	27
Ease of doing business		
1.2.6 Ease of doing business.....	59.80	38
1.3 Business landscape	88.28	4
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	76.27	7
Ownership and governance		
1.3.4 Reliance on professional management.....	76.86	14
2 Attract	76.03	3
2.1 External openness	73.46	4
Industrial openness		
2.1.1 FDI inflow.....	6.13	89
2.1.2 FDI and technology transfer.....	80.21	4
2.1.3 Prevalence of foreign ownership.....	61.87	47
Migration openness		
2.1.4 Male adult migrants.....	100.00	1
2.1.5 Female adult migrants.....	100.00	1
2.1.6 Brain gain.....	83.17	3
2.1.7 Brain drain.....	82.83	1
2.2 Internal openness	78.60	13
Diversity		
2.2.1 Tolerance to minorities.....	n/a	n/a
2.2.2 Tolerance to immigrants.....	n/a	n/a
Gender mobility		
2.2.3 Female graduates.....	73.43	32
2.2.4 Female-to-male earnings ratio.....	79.76	11
Social mobility		
2.2.5 Social mobility.....	82.60	7
3 Grow	54.66	25
3.1 Formal education	24.33	56
Education climate		
3.1.1 Vocational enrolment.....	1.39	86
3.1.2 Tertiary enrolment.....	8.33	81
Internationalisation of education		
3.1.3 International student inflow.....	100.00	1
Performance of education system		
3.1.4 Reading, maths and science scores.....	3.49	56
3.1.5 University ranking.....	8.43	56
3.2 Lifelong learning	74.43	5
Further education		
3.2.1 Quality of management schools.....	77.73	8
3.2.2 Extent of staff training.....	71.13	5
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	65.23	14
Networks		
3.3.1 Use of virtual social networks.....	88.23	13
3.3.2 Number of LinkedIn users.....	33.02	23
Learning through experience		
3.3.3 Willingness to delegate authority.....	74.44	7
Voice		
3.3.4 Voicing concern to officials.....	n/a	n/a
4 Retain	51.42	41
4.1 Sustainability	34.77	61
Social protection		
4.1.1 Pension system.....	2.83	86
Taxation		
4.1.2 Extent and effect of taxation.....	89.29	1
Pay		
4.1.3 Pay level – head of organisation.....	25.12	39
4.1.4 Pay level – head of information technology.....	21.84	41
4.2 Lifestyle	68.08	26
Quality of life		
4.2.1 Environmental performance.....	60.30	38
4.2.2 Safety at night.....	n/a	n/a
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	43.93	39
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	50.99	30
5.1 Employable skills	39.68	61
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	21.88	62
Technical professions		
5.1.3 Technicians and associate professionals.....	27.86	63
Employment quality		
5.1.4 State of cluster development.....	69.29	9
5.2 Labour productivity	62.30	2
Labour productivity		
5.2.1 Labour productivity per employee.....	100.00	1
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	70.29	4
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	16.62	87
6 Global Knowledge	25.36	59
6.1 Higher skills and competencies	31.57	43
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	34.75	40
Knowledge workers		
6.1.3 Professionals.....	27.74	54
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	16.95	62
Research quality		
6.1.6 Quality of scientific research institutions.....	76.53	12
6.1.7 Scientific and technical journal articles.....	1.87	82
6.2 Talent impact	19.16	71
Innovation		
6.2.1 Innovation output.....	37.59	45
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	8.12	43
High-value exports		
6.2.4 Sophisticated exports.....	11.76	87

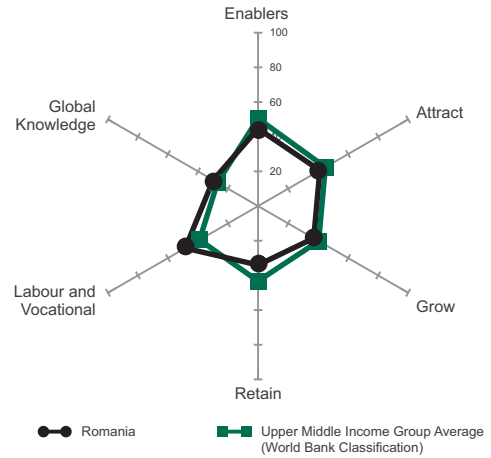
ROMANIA

Upper Middle Income
Europe

RANK
(out of 93)

64

Population (millions) **19.96**
 GDP per capita (PPP\$) **18,634**
 GDP (US\$ billions) **189.64**
 GTCI Score **39.22**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	44.65	76
1.1 Regulatory landscape	43.99	68
Government efficiency		
1.1.1 Government effectiveness.....	27.55	69
1.1.2 Business-government relations.....	37.02	85
1.1.3 Political stability.....	67.40	48
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	36.69	70
Competition climate		
1.2.1 Intensity of local competition.....	56.65	80
Innovation climate		
1.2.2 Venture capital deals.....	0.25	55
1.2.3 Firm-level technology absorption.....	54.57	73
1.2.4 R&D expenditure.....	10.26	50
Connectivity		
1.2.5 ICT access.....	58.12	46
Ease of doing business		
1.2.6 Ease of doing business.....	40.30	56
1.3 Business landscape	53.28	73
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	38.54	90
Ownership and governance		
1.3.4 Reliance on professional management.....	37.90	88
2 Attract	41.12	71
2.1 External openness	23.16	87
Industrial openness		
2.1.1 FDI inflow.....	13.58	67
2.1.2 FDI and technology transfer.....	56.79	63
2.1.3 Prevalence of foreign ownership.....	51.51	69
Migration openness		
2.1.4 Male adult migrants.....	1.45	77
2.1.5 Female adult migrants.....	1.29	75
2.1.6 Brain gain.....	19.50	81
2.1.7 Brain drain.....	18.00	85
2.2 Internal openness	59.08	46
Diversity		
2.2.1 Tolerance to minorities.....	73.25	40
2.2.2 Tolerance to immigrants.....	49.87	61
Gender mobility		
2.2.3 Female graduates.....	77.05	18
2.2.4 Female-to-male earnings ratio.....	63.10	27
Social mobility		
2.2.5 Social mobility.....	32.14	91
3 Grow	37.07	66
3.1 Formal education	34.36	44
Education climate		
3.1.1 Vocational enrolment.....	67.20	11
3.1.2 Tertiary enrolment.....	49.13	44
Internationalisation of education		
3.1.3 International student inflow.....	8.48	48
Performance of education system		
3.1.4 Reading, maths and science scores.....	30.70	42
3.1.5 University ranking.....	16.28	54
3.2 Lifelong learning	36.54	85
Further education		
3.2.1 Quality of management schools.....	45.24	74
3.2.2 Extent of staff training.....	35.73	89
Continuous development		
3.2.3 Firms offering formal training.....	28.65	52

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	40.30	74
Networks		
3.3.1 Use of virtual social networks.....	74.72	63
3.3.2 Number of LinkedIn users.....	18.98	37
Learning through experience		
3.3.3 Willingness to delegate authority.....	40.26	69
Voice		
3.3.4 Voicing concern to officials.....	27.26	61
4 Retain	34.02	79
4.1 Sustainability	26.96	84
Social protection		
4.1.1 Pension system.....	67.79	39
Taxation		
4.1.2 Extent and effect of taxation.....	18.91	90
Pay		
4.1.3 Pay level – head of organisation.....	14.12	60
4.1.4 Pay level – head of information technology.....	7.01	51
4.2 Lifestyle	41.07	71
Quality of life		
4.2.1 Environmental performance.....	40.14	66
4.2.2 Safety at night.....	47.83	56
4.2.3 Female part-time workers.....	11.85	60
Access to services		
4.2.4 Physician density.....	37.82	46
4.2.5 Sanitation.....	67.75	70
5 Labour and Vocational	48.52	34
5.1 Employable skills	55.10	35
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	76.84	11
5.1.2 Secondary-educated population.....	71.37	15
Technical professions		
5.1.3 Technicians and associate professionals.....	30.85	57
Employment quality		
5.1.4 State of cluster development.....	41.33	67
5.2 Labour productivity	41.95	45
Labour productivity		
5.2.1 Labour productivity per employee.....	15.88	54
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	44.37	68
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	65.59	12
6 Global Knowledge	29.92	50
6.1 Higher skills and competencies	24.98	61
Educated workforce		
6.1.1 Tertiary-educated workforce.....	25.42	62
6.1.2 Tertiary-educated population.....	22.05	59
Knowledge workers		
6.1.3 Professionals.....	42.07	35
6.1.4 Researchers.....	7.91	47
6.1.5 Legislators, senior officials and managers.....	11.30	73
Research quality		
6.1.6 Quality of scientific research institutions.....	45.63	53
6.1.7 Scientific and technical journal articles.....	20.50	42
6.2 Talent impact	34.86	41
Innovation		
6.2.1 Innovation output.....	44.64	36
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	48.65	33
6.2.3 New business density.....	19.48	24
High-value exports		
6.2.4 Sophisticated exports.....	26.66	35

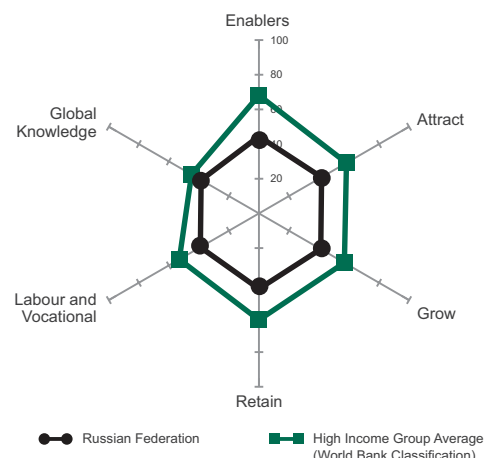
RUSSIA

High Income
Europe

RANK
(out of 93)

55

Population (millions) **143.50**
 GDP per capita (PPP\$) **24,120**
 GDP (US\$ billions) **2,096.78**
 GTCI Score **41.40**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	44.45	78
1.1 Regulatory landscape	38.58	81
Government efficiency		
1.1.1 Government effectiveness.....	24.36	72
1.1.2 Business-government relations.....	42.09	70
1.1.3 Political stability.....	45.55	75
FDI climate		
1.1.4 Starting a foreign business.....	42.31	27
1.2 Market landscape	39.21	63
Competition climate		
1.2.1 Intensity of local competition.....	58.10	78
Innovation climate		
1.2.2 Venture capital deals.....	3.44	35
1.2.3 Firm-level technology absorption.....	48.96	89
1.2.4 R&D expenditure.....	24.87	32
Connectivity		
1.2.5 ICT access.....	70.47	31
Ease of doing business		
1.2.6 Ease of doing business.....	29.40	66
1.3 Business landscape	55.56	68
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	48.59	75
Ownership and governance		
1.3.4 Reliance on professional management.....	46.98	72
2 Attract	41.73	67
2.1 External openness	29.53	74
Industrial openness		
2.1.1 FDI inflow.....	22.60	45
2.1.2 FDI and technology transfer.....	45.53	84
2.1.3 Prevalence of foreign ownership.....	39.84	88
Migration openness		
2.1.4 Male adult migrants.....	19.68	35
2.1.5 Female adult migrants.....	15.92	38
2.1.6 Brain gain.....	33.33	60
2.1.7 Brain drain.....	29.83	70
2.2 Internal openness	53.93	61
Diversity		
2.2.1 Tolerance to minorities.....	54.54	71
2.2.2 Tolerance to immigrants.....	57.87	50
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	54.76	40
Social mobility		
2.2.5 Social mobility.....	48.55	64
3 Grow	41.18	51
3.1 Formal education	42.65	29
Education climate		
3.1.1 Vocational enrolment.....	33.28	36
3.1.2 Tertiary enrolment.....	73.81	14
Internationalisation of education		
3.1.3 International student inflow.....	6.39	55
Performance of education system		
3.1.4 Reading, maths and science scores.....	49.96	35
3.1.5 University ranking.....	49.81	24
3.2 Lifelong learning	48.01	60
Further education		
3.2.1 Quality of management schools.....	43.92	80
3.2.2 Extent of staff training.....	46.83	60
Continuous development		
3.2.3 Firms offering formal training.....	53.28	28

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	32.88	86
Networks		
3.3.1 Use of virtual social networks.....	73.40	68
3.3.2 Number of LinkedIn users.....	5.00	63
Learning through experience		
3.3.3 Willingness to delegate authority.....	41.19	67
Voice		
3.3.4 Voicing concern to officials.....	11.92	79
4 Retain	43.51	60
4.1 Sustainability	34.50	63
Social protection		
4.1.1 Pension system.....	64.98	41
Taxation		
4.1.2 Extent and effect of taxation.....	32.59	72
Pay		
4.1.3 Pay level – head of organisation.....	22.86	47
4.1.4 Pay level – head of information technology.....	17.55	44
4.2 Lifestyle	52.53	53
Quality of life		
4.2.1 Environmental performance.....	44.86	56
4.2.2 Safety at night.....	26.93	83
4.2.3 Female part-time workers.....	55.65	28
Access to services		
4.2.4 Physician density.....	69.45	3
4.2.5 Sanitation.....	65.78	74
5 Labour and Vocational	39.02	57
5.1 Employable skills	44.49	49
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	46.79	42
5.1.2 Secondary-educated population.....	24.14	57
Technical professions		
5.1.3 Technicians and associate professionals.....	72.64	19
Employment quality		
5.1.4 State of cluster development.....	34.38	83
5.2 Labour productivity	33.55	68
Labour productivity		
5.2.1 Labour productivity per employee.....	22.91	43
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	53.50	37
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	24.26	68
6 Global Knowledge	38.51	32
6.1 Higher skills and competencies	54.38	20
Educated workforce		
6.1.1 Tertiary-educated workforce.....	86.70	2
6.1.2 Tertiary-educated population.....	100.00	1
Knowledge workers		
6.1.3 Professionals.....	55.79	16
6.1.4 Researchers.....	34.10	25
6.1.5 Legislators, senior officials and managers.....	38.98	30
Research quality		
6.1.6 Quality of scientific research institutions.....	45.08	54
6.1.7 Scientific and technical journal articles.....	20.00	43
6.2 Talent impact	22.64	65
Innovation		
6.2.1 Innovation output.....	30.76	62
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	24.32	63
6.2.3 New business density.....	20.34	23
High-value exports		
6.2.4 Sophisticated exports.....	15.13	61

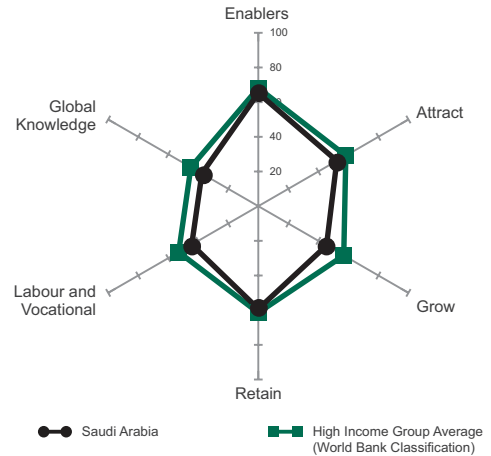
SAUDI ARABIA

High Income
Northern Africa and Western Asia

RANK
(out of 93)

32

Population (millions) **28.83**
 GDP per capita (PPP\$) **53,780**
 GDP (US\$ billions) **745.27**
 GTCI Score **50.69**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	65.21	27
1.1 Regulatory landscape	53.93	47
Government efficiency		
1.1.1 Government effectiveness.....	37.29	52
1.1.2 Business-government relations.....	69.99	16
1.1.3 Political stability.....	54.49	63
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	61.39	26
Competition climate		
1.2.1 Intensity of local competition.....	78.09	14
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	79.68	14
1.2.4 R&D expenditure.....	1.12	78
Connectivity		
1.2.5 ICT access.....	70.87	30
Ease of doing business		
1.2.6 Ease of doing business.....	77.20	22
1.3 Business landscape	80.31	12
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	58.75	35
Ownership and governance		
1.3.4 Reliance on professional management.....	62.51	32
2 Attract	52.30	34
2.1 External openness	58.05	9
Industrial openness		
2.1.1 FDI inflow.....	17.69	57
2.1.2 FDI and technology transfer.....	74.92	8
2.1.3 Prevalence of foreign ownership.....	53.55	65
Migration openness		
2.1.4 Male adult migrants.....	94.00	4
2.1.5 Female adult migrants.....	41.04	12
2.1.6 Brain gain.....	64.50	11
2.1.7 Brain drain.....	60.67	14
2.2 Internal openness	46.54	78
Diversity		
2.2.1 Tolerance to minorities.....	28.77	85
2.2.2 Tolerance to immigrants.....	73.25	28
Gender mobility		
2.2.3 Female graduates.....	53.94	62
2.2.4 Female-to-male earnings ratio.....	3.57	90
Social mobility		
2.2.5 Social mobility.....	73.18	23
3 Grow	45.43	42
3.1 Formal education	29.38	47
Education climate		
3.1.1 Vocational enrolment.....	7.36	77
3.1.2 Tertiary enrolment.....	48.44	46
Internationalisation of education		
3.1.3 International student inflow.....	17.76	33
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	43.95	30
3.2 Lifelong learning	53.98	45
Further education		
3.2.1 Quality of management schools.....	55.67	47
3.2.2 Extent of staff training.....	52.30	42
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	52.94	37
Networks		
3.3.1 Use of virtual social networks.....	84.52	26
3.3.2 Number of LinkedIn users.....	19.05	36
Learning through experience		
3.3.3 Willingness to delegate authority.....	60.36	20
Voice		
3.3.4 Voicing concern to officials.....	47.84	29
4 Retain	59.27	26
4.1 Sustainability	53.80	16
Social protection		
4.1.1 Pension system.....	n/a	n/a
Taxation		
4.1.2 Extent and effect of taxation.....	65.80	5
Pay		
4.1.3 Pay level – head of organisation.....	41.93	16
4.1.4 Pay level – head of information technology.....	53.67	8
4.2 Lifestyle	64.73	33
Quality of life		
4.2.1 Environmental performance.....	66.15	32
4.2.2 Safety at night.....	78.73	21
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	14.04	68
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	44.33	43
5.1 Employable skills	44.26	50
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	28.01	66
5.1.2 Secondary-educated population.....	33.35	52
Technical professions		
5.1.3 Technicians and associate professionals.....	54.23	34
Employment quality		
5.1.4 State of cluster development.....	61.43	21
5.2 Labour productivity	44.41	37
Labour productivity		
5.2.1 Labour productivity per employee.....	57.74	9
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	58.68	21
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	16.81	85
6 Global Knowledge	37.58	35
6.1 Higher skills and competencies	29.87	49
Educated workforce		
6.1.1 Tertiary-educated workforce.....	30.64	48
6.1.2 Tertiary-educated population.....	34.91	38
Knowledge workers		
6.1.3 Professionals.....	30.49	49
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	19.77	60
Research quality		
6.1.6 Quality of scientific research institutions.....	57.58	36
6.1.7 Scientific and technical journal articles.....	5.80	64
6.2 Talent impact	45.30	18
Innovation		
6.2.1 Innovation output.....	42.10	40
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	82.43	3
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	11.35	90

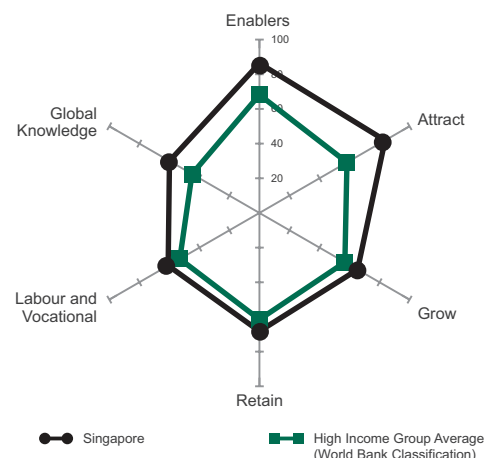
SINGAPORE

High Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

2

Population (millions) **5.40**
GDP per capita (PPP\$) **78,744**
GDP (US\$ billions) **297.94**
GTCI Score **70.72**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	86.31	1
1.1 Regulatory landscape	94.84	1
Government efficiency		
1.1.1 Government effectiveness.....	98.21	2
1.1.2 Business-government relations.....	87.75	1
1.1.3 Political stability.....	98.57	4
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	72.68	11
Competition climate		
1.2.1 Intensity of local competition.....	77.40	15
Innovation climate		
1.2.2 Venture capital deals.....	39.16	10
1.2.3 Firm-level technology absorption.....	80.56	12
1.2.4 R&D expenditure.....	47.25	16
Connectivity		
1.2.5 ICT access.....	91.68	7
Ease of doing business		
1.2.6 Ease of doing business.....	100.00	1
1.3 Business landscape	91.40	2
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	83.83	2
Ownership and governance		
1.3.4 Reliance on professional management.....	81.77	8
2 Attract	83.66	1
2.1 External openness	86.35	1
Industrial openness		
2.1.1 FDI inflow.....	100.00	1
2.1.2 FDI and technology transfer.....	80.09	5
2.1.3 Prevalence of foreign ownership.....	85.02	2
Migration openness		
2.1.4 Male adult migrants.....	86.81	5
2.1.5 Female adult migrants.....	100.00	1
2.1.6 Brain gain.....	83.50	2
2.1.7 Brain drain.....	69.00	6
2.2 Internal openness	80.98	10
Diversity		
2.2.1 Tolerance to minorities.....	79.92	24
2.2.2 Tolerance to immigrants.....	61.46	41
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	100.00	1
Social mobility		
2.2.5 Social mobility.....	82.54	8
3 Grow	65.37	13
3.1 Formal education	66.57	6
Education climate		
3.1.1 Vocational enrolment.....	23.77	52
3.1.2 Tertiary enrolment.....	n/a	n/a
Internationalisation of education		
3.1.3 International student inflow.....	100.00	1
Performance of education system		
3.1.4 Reading, maths and science scores.....	85.05	2
3.1.5 University ranking.....	57.47	19
3.2 Lifelong learning	74.82	4
Further education		
3.2.1 Quality of management schools.....	79.14	6
3.2.2 Extent of staff training.....	70.50	6
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	54.73	34
Networks		
3.3.1 Use of virtual social networks.....	88.80	12
3.3.2 Number of LinkedIn users.....	67.36	9
Learning through experience		
3.3.3 Willingness to delegate authority.....	60.23	21
Voice		
3.3.4 Voicing concern to officials.....	2.53	90
4 Retain	68.25	9
4.1 Sustainability	57.43	13
Social protection		
4.1.1 Pension system.....	61.89	44
Taxation		
4.1.2 Extent and effect of taxation.....	83.68	2
Pay		
4.1.3 Pay level – head of organisation.....	33.53	25
4.1.4 Pay level – head of information technology.....	50.63	9
4.2 Lifestyle	79.07	8
Quality of life		
4.2.1 Environmental performance.....	90.51	4
4.2.2 Safety at night.....	95.57	3
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	30.19	53
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	60.80	7
5.1 Employable skills	66.34	7
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	61.66	24
5.1.2 Secondary-educated population.....	33.72	50
Technical professions		
5.1.3 Technicians and associate professionals.....	100.00	1
Employment quality		
5.1.4 State of cluster development.....	69.97	7
5.2 Labour productivity	55.25	7
Labour productivity		
5.2.1 Labour productivity per employee.....	60.30	7
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	70.62	3
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	34.84	60
6 Global Knowledge	59.93	2
6.1 Higher skills and competencies	63.90	7
Educated workforce		
6.1.1 Tertiary-educated workforce.....	45.29	27
6.1.2 Tertiary-educated population.....	65.82	6
Knowledge workers		
6.1.3 Professionals.....	41.16	36
6.1.4 Researchers.....	69.11	4
6.1.5 Legislators, senior officials and managers.....	100.00	1
Research quality		
6.1.6 Quality of scientific research institutions.....	77.01	11
6.1.7 Scientific and technical journal articles.....	48.90	27
6.2 Talent impact	55.96	3
Innovation		
6.2.1 Innovation output.....	61.40	16
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	39.19	45
6.2.3 New business density.....	38.20	10
High-value exports		
6.2.4 Sophisticated exports.....	85.05	2

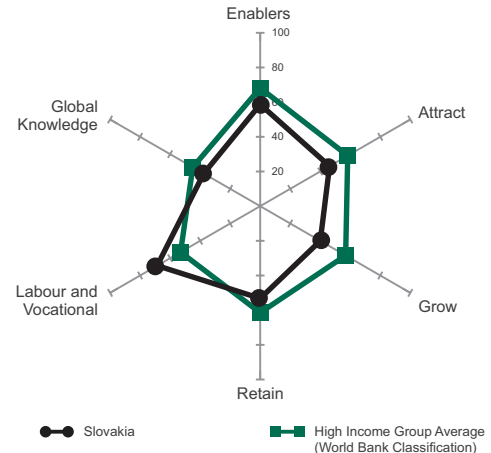
SLOVAKIA

High Income
Europe

RANK
(out of 93)

31

Population (millions) **5.41**
 GDP per capita (PPP\$) **25,333**
 GDP (US\$ billions) **91.35**
 GTCI Score **50.73**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	58.68	37
1.1 Regulatory landscape	61.42	35
Government efficiency		
1.1.1 Government effectiveness.....	60.23	34
1.1.2 Business-government relations.....	32.34	90
1.1.3 Political stability.....	91.67	14
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	54.78	32
Competition climate		
1.2.1 Intensity of local competition.....	74.54	25
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	61.46	52
1.2.4 R&D expenditure.....	14.77	45
Connectivity		
1.2.5 ICT access.....	64.43	41
Ease of doing business		
1.2.6 Ease of doing business.....	58.70	39
1.3 Business landscape	59.86	60
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	50.09	71
Ownership and governance		
1.3.4 Reliance on professional management.....	52.66	55
2 Attract	46.20	49
2.1 External openness	33.70	60
Industrial openness		
2.1.1 FDI inflow.....	25.87	37
2.1.2 FDI and technology transfer.....	68.59	23
2.1.3 Prevalence of foreign ownership.....	81.55	6
Migration openness		
2.1.4 Male adult migrants.....	5.51	59
2.1.5 Female adult migrants.....	5.86	55
2.1.6 Brain gain.....	25.33	71
2.1.7 Brain drain.....	23.17	81
2.2 Internal openness	58.70	48
Diversity		
2.2.1 Tolerance to minorities.....	54.90	70
2.2.2 Tolerance to immigrants.....	49.09	62
Gender mobility		
2.2.3 Female graduates.....	83.28	10
2.2.4 Female-to-male earnings ratio.....	50.00	50
Social mobility		
2.2.5 Social mobility.....	56.25	48
3 Grow	40.02	56
3.1 Formal education	37.55	37
Education climate		
3.1.1 Vocational enrolment.....	71.71	8
3.1.2 Tertiary enrolment.....	52.72	41
Internationalisation of education		
3.1.3 International student inflow.....	17.78	32
Performance of education system		
3.1.4 Reading, maths and science scores.....	45.56	37
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	43.23	71
Further education		
3.2.1 Quality of management schools.....	44.19	78
3.2.2 Extent of staff training.....	46.28	62
Continuous development		
3.2.3 Firms offering formal training.....	39.22	39

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	39.29	77
Networks		
3.3.1 Use of virtual social networks.....	81.08	45
3.3.2 Number of LinkedIn users.....	12.69	48
Learning through experience		
3.3.3 Willingness to delegate authority.....	41.48	66
Voice		
3.3.4 Voicing concern to officials.....	21.90	66
4 Retain	53.21	38
4.1 Sustainability	43.13	40
Social protection		
4.1.1 Pension system.....	78.79	31
Taxation		
4.1.2 Extent and effect of taxation.....	28.90	78
Pay		
4.1.3 Pay level – head of organisation.....	21.71	48
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	63.29	34
Quality of life		
4.2.1 Environmental performance.....	78.70	21
4.2.2 Safety at night.....	48.56	55
4.2.3 Female part-time workers.....	41.60	43
Access to services		
4.2.4 Physician density.....	47.93	30
4.2.5 Sanitation.....	99.65	28
5 Labour and Vocational	68.63	2
5.1 Employable skills	83.56	2
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	100.00	1
5.1.2 Secondary-educated population.....	95.43	4
Technical professions		
5.1.3 Technicians and associate professionals.....	91.54	5
Employment quality		
5.1.4 State of cluster development.....	47.27	52
5.2 Labour productivity	53.69	12
Labour productivity		
5.2.1 Labour productivity per employee.....	35.21	31
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	59.95	18
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	65.92	11
6 Global Knowledge	37.62	34
6.1 Higher skills and competencies	32.19	41
Educated workforce		
6.1.1 Tertiary-educated workforce.....	29.12	53
6.1.2 Tertiary-educated population.....	28.58	51
Knowledge workers		
6.1.3 Professionals.....	34.76	45
6.1.4 Researchers.....	30.76	27
6.1.5 Legislators, senior officials and managers.....	29.38	45
Research quality		
6.1.6 Quality of scientific research institutions.....	43.39	57
6.1.7 Scientific and technical journal articles.....	29.35	34
6.2 Talent impact	43.04	23
Innovation		
6.2.1 Innovation output.....	41.43	41
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	54.05	23
6.2.3 New business density.....	24.21	16
High-value exports		
6.2.4 Sophisticated exports.....	52.46	12

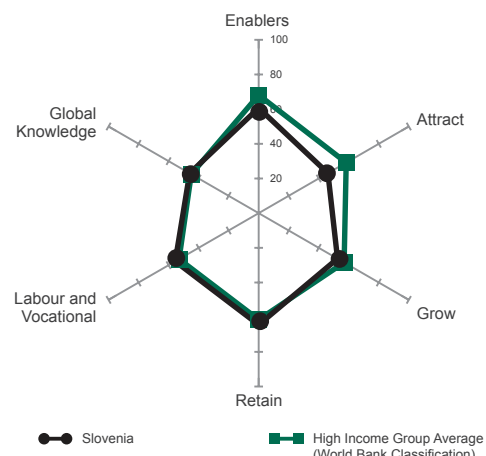
SLOVENIA

High Income
Europe

RANK
(out of 93)

26

Population (millions) **2.06**
 GDP per capita (PPP\$) **27,915**
 GDP (US\$ billions) **45.38**
 GTCI Score **54.21**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	60.67	31
1.1 Regulatory landscape	64.73	30
Government efficiency		
1.1.1 Government effectiveness.....	65.74	27
1.1.2 Business-government relations.....	40.36	24
1.1.3 Political stability.....	88.09	71
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	67.77	15
Competition climate		
1.2.1 Intensity of local competition.....	70.53	39
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	63.62	47
1.2.4 R&D expenditure.....	56.81	12
Connectivity		
1.2.5 ICT access.....	77.18	25
Ease of doing business		
1.2.6 Ease of doing business.....	70.70	28
1.3 Business landscape	49.50	82
Labour market flexibility		
1.3.1 Difficulty of hiring.....	22.33	85
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	47.15	79
Ownership and governance		
1.3.4 Reliance on professional management.....	48.53	63
2 Attract	46.13	51
2.1 External openness	28.37	79
Industrial openness		
2.1.1 FDI inflow.....	7.08	87
2.1.2 FDI and technology transfer.....	48.19	79
2.1.3 Prevalence of foreign ownership.....	36.76	90
Migration openness		
2.1.4 Male adult migrants.....	29.89	21
2.1.5 Female adult migrants.....	20.51	31
2.1.6 Brain gain.....	25.00	72
2.1.7 Brain drain.....	31.17	66
2.2 Internal openness	63.89	36
Diversity		
2.2.1 Tolerance to minorities.....	73.65	39
2.2.2 Tolerance to immigrants.....	55.12	53
Gender mobility		
2.2.3 Female graduates.....	73.71	30
2.2.4 Female-to-male earnings ratio.....	57.14	36
Social mobility		
2.2.5 Social mobility.....	59.82	38
3 Grow	52.51	28
3.1 Formal education	46.47	26
Education climate		
3.1.1 Vocational enrolment.....	73.64	7
3.1.2 Tertiary enrolment.....	83.76	5
Internationalisation of education		
3.1.3 International student inflow.....	8.48	47
Performance of education system		
3.1.4 Reading, maths and science scores.....	58.27	21
3.1.5 University ranking.....	8.19	57
3.2 Lifelong learning	52.43	50
Further education		
3.2.1 Quality of management schools.....	54.16	54
3.2.2 Extent of staff training.....	44.08	73
Continuous development		
3.2.3 Firms offering formal training.....	59.04	22

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	58.64	22
Networks		
3.3.1 Use of virtual social networks.....	80.09	50
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	48.63	36
Voice		
3.3.4 Voicing concern to officials.....	47.21	30
4 Retain	64.39	12
4.1 Sustainability	57.88	12
Social protection		
4.1.1 Pension system.....	87.36	22
Taxation		
4.1.2 Extent and effect of taxation.....	28.40	81
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	70.89	25
Quality of life		
4.2.1 Environmental performance.....	81.89	15
4.2.2 Safety at night.....	90.31	5
4.2.3 Female part-time workers.....	41.87	42
Access to services		
4.2.4 Physician density.....	40.40	43
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	55.59	16
5.1 Employable skills	65.16	9
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	76.37	12
5.1.2 Secondary-educated population.....	75.84	12
Technical professions		
5.1.3 Technicians and associate professionals.....	66.67	23
Employment quality		
5.1.4 State of cluster development.....	41.75	65
5.2 Labour productivity	46.01	33
Labour productivity		
5.2.1 Labour productivity per employee.....	36.30	30
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	41.82	74
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	59.92	20
6 Global Knowledge	45.98	20
6.1 Higher skills and competencies	53.28	21
Educated workforce		
6.1.1 Tertiary-educated workforce.....	44.78	28
6.1.2 Tertiary-educated population.....	39.38	32
Knowledge workers		
6.1.3 Professionals.....	58.84	14
6.1.4 Researchers.....	46.57	15
6.1.5 Legislators, senior officials and managers.....	46.33	15
Research quality		
6.1.6 Quality of scientific research institutions.....	64.45	28
6.1.7 Scientific and technical journal articles.....	72.61	10
6.2 Talent impact	38.68	32
Innovation		
6.2.1 Innovation output.....	51.50	31
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	50.00	29
6.2.3 New business density.....	20.63	21
High-value exports		
6.2.4 Sophisticated exports.....	32.61	29

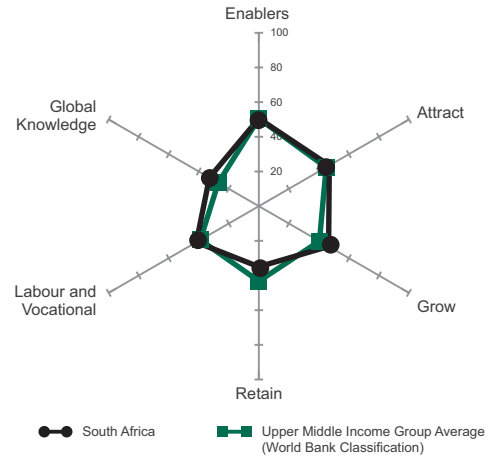
SOUTH AFRICA

Upper Middle Income
Sub-Saharan Africa

RANK
(out of 93)

51

Population (millions) **52.98**
 GDP per capita (PPP\$) **12,503**
 GDP (US\$ billions) **350.63**
 GTCI Score **42.24**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	50.57	56
1.1 Regulatory landscape	53.04	50
Government efficiency		
1.1.1 Government effectiveness.....	45.87	44
1.1.2 Business-government relations.....	43.01	69
1.1.3 Political stability.....	65.57	53
FDI climate		
1.1.4 Starting a foreign business.....	57.69	18
1.2 Market landscape	44.03	47
Competition climate		
1.2.1 Intensity of local competition.....	71.07	37
Innovation climate		
1.2.2 Venture capital deals.....	0.83	47
1.2.3 Firm-level technology absorption.....	73.10	29
1.2.4 R&D expenditure.....	19.26	36
Connectivity		
1.2.5 ICT access.....	35.70	64
Ease of doing business		
1.2.6 Ease of doing business.....	64.20	34
1.3 Business landscape	54.65	70
Labour market flexibility		
1.3.1 Difficulty of hiring.....	44.33	74
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	26.68	93
Ownership and governance		
1.3.4 Reliance on professional management.....	77.59	12
2 Attract	46.95	46
2.1 External openness	38.05	41
Industrial openness		
2.1.1 FDI inflow.....	12.89	68
2.1.2 FDI and technology transfer.....	65.85	32
2.1.3 Prevalence of foreign ownership.....	71.10	26
Migration openness		
2.1.4 Male adult migrants.....	15.84	40
2.1.5 Female adult migrants.....	9.16	49
2.1.6 Brain gain.....	45.33	38
2.1.7 Brain drain.....	46.17	37
2.2 Internal openness	55.85	56
Diversity		
2.2.1 Tolerance to minorities.....	72.45	42
2.2.2 Tolerance to immigrants.....	48.38	64
Gender mobility		
2.2.3 Female graduates.....	n/a	n/a
2.2.4 Female-to-male earnings ratio.....	42.86	63
Social mobility		
2.2.5 Social mobility.....	59.73	39
3 Grow	46.48	37
3.1 Formal education	27.71	50
Education climate		
3.1.1 Vocational enrolment.....	10.46	71
3.1.2 Tertiary enrolment.....	n/a	n/a
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	44.96	29
3.2 Lifelong learning	60.32	32
Further education		
3.2.1 Quality of management schools.....	69.50	20
3.2.2 Extent of staff training.....	65.68	17
Continuous development		
3.2.3 Firms offering formal training.....	45.78	35

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	51.39	39
Networks		
3.3.1 Use of virtual social networks.....	75.04	62
3.3.2 Number of LinkedIn users.....	25.75	28
Learning through experience		
3.3.3 Willingness to delegate authority.....	58.37	25
Voice		
3.3.4 Voicing concern to officials.....	46.40	33
4 Retain	34.94	76
4.1 Sustainability	32.80	69
Social protection		
4.1.1 Pension system.....	6.25	84
Taxation		
4.1.2 Extent and effect of taxation.....	61.67	8
Pay		
4.1.3 Pay level – head of organisation.....	36.15	18
4.1.4 Pay level – head of information technology.....	27.11	32
4.2 Lifestyle	37.08	79
Quality of life		
4.2.1 Environmental performance.....	44.96	55
4.2.2 Safety at night.....	1.30	90
4.2.3 Female part-time workers.....	58.13	25
Access to services		
4.2.4 Physician density.....	11.07	73
4.2.5 Sanitation.....	69.94	69
5 Labour and Vocational	41.61	49
5.1 Employable skills	52.71	37
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	32.08	61
5.1.2 Secondary-educated population.....	73.98	13
Technical professions		
5.1.3 Technicians and associate professionals.....	52.24	37
Employment quality		
5.1.4 State of cluster development.....	52.52	35
5.2 Labour productivity	30.50	76
Labour productivity		
5.2.1 Labour productivity per employee.....	18.82	48
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	29.56	90
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	43.13	49
6 Global Knowledge	32.91	43
6.1 Higher skills and competencies	26.32	58
Educated workforce		
6.1.1 Tertiary-educated workforce.....	23.57	67
6.1.2 Tertiary-educated population.....	10.58	75
Knowledge workers		
6.1.3 Professionals.....	16.77	68
6.1.4 Researchers.....	4.08	53
6.1.5 Legislators, senior officials and managers.....	47.46	14
Research quality		
6.1.6 Quality of scientific research institutions.....	62.91	33
6.1.7 Scientific and technical journal articles.....	18.88	47
6.2 Talent impact	39.51	30
Innovation		
6.2.1 Innovation output.....	31.99	61
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	77.03	4
6.2.3 New business density.....	31.04	13
High-value exports		
6.2.4 Sophisticated exports.....	17.96	54

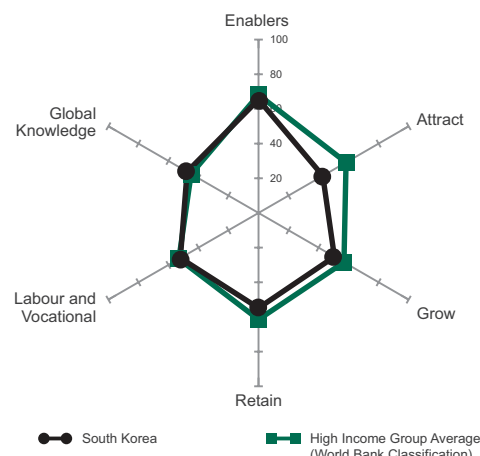
SOUTH KOREA

High Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

29

Population (millions) **50.22**
GDP per capita (PPP\$) **33,139**
GDP (US\$ billions) **1,304.55**
GTCI Score **52.21**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	65.42	26
1.1 Regulatory landscape	66.23	28
Government efficiency		
1.1.1 Government effectiveness.....	70.90	23
1.1.2 Business-government relations.....	57.92	43
1.1.3 Political stability.....	69.73	44
FDI climate		
1.1.4 Starting a foreign business.....	66.35	8
1.2 Market landscape	72.75	10
Competition climate		
1.2.1 Intensity of local competition.....	81.43	5
Innovation climate		
1.2.2 Venture capital deals.....	5.72	30
1.2.3 Firm-level technology absorption.....	78.48	19
1.2.4 R&D expenditure.....	85.02	3
Connectivity		
1.2.5 ICT access.....	91.28	8
Ease of doing business		
1.2.6 Ease of doing business.....	94.60	6
1.3 Business landscape	57.27	66
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	41.87	83
Ownership and governance		
1.3.4 Reliance on professional management.....	61.55	35
2 Attract	42.83	65
2.1 External openness	34.67	56
Industrial openness		
2.1.1 FDI inflow.....	10.75	79
2.1.2 FDI and technology transfer.....	58.23	59
2.1.3 Prevalence of foreign ownership.....	54.11	64
Migration openness		
2.1.4 Male adult migrants.....	6.10	58
2.1.5 Female adult migrants.....	4.14	63
2.1.6 Brain gain.....	52.33	22
2.1.7 Brain drain.....	57.00	20
2.2 Internal openness	50.99	66
Diversity		
2.2.1 Tolerance to minorities.....	71.05	45
2.2.2 Tolerance to immigrants.....	58.47	48
Gender mobility		
2.2.3 Female graduates.....	46.01	64
2.2.4 Female-to-male earnings ratio.....	33.33	74
Social mobility		
2.2.5 Social mobility.....	46.08	70
3 Grow	50.54	31
3.1 Formal education	57.23	15
Education climate		
3.1.1 Vocational enrolment.....	22.12	55
3.1.2 Tertiary enrolment.....	100.00	1
Internationalisation of education		
3.1.3 International student inflow.....	8.59	45
Performance of education system		
3.1.4 Reading, maths and science scores.....	78.80	3
3.1.5 University ranking.....	76.64	10
3.2 Lifelong learning	52.63	48
Further education		
3.2.1 Quality of management schools.....	57.50	42
3.2.2 Extent of staff training.....	53.53	38
Continuous development		
3.2.3 Firms offering formal training.....	46.85	33

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	41.76	67
Networks		
3.3.1 Use of virtual social networks.....	81.10	44
3.3.2 Number of LinkedIn users.....	4.34	65
Learning through experience		
3.3.3 Willingness to delegate authority.....	48.09	39
Voice		
3.3.4 Voicing concern to officials.....	33.49	52
4 Retain	54.84	35
4.1 Sustainability	48.92	27
Social protection		
4.1.1 Pension system.....	79.78	30
Taxation		
4.1.2 Extent and effect of taxation.....	37.25	64
Pay		
4.1.3 Pay level – head of organisation.....	29.75	30
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	60.76	39
Quality of life		
4.2.1 Environmental performance.....	61.52	37
4.2.2 Safety at night.....	64.38	35
4.2.3 Female part-time workers.....	46.01	36
Access to services		
4.2.4 Physician density.....	31.88	50
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	52.06	28
5.1 Employable skills	51.40	42
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	49.30	37
5.1.2 Secondary-educated population.....	47.96	34
Technical professions		
5.1.3 Technicians and associate professionals.....	50.75	40
Employment quality		
5.1.4 State of cluster development.....	57.62	24
5.2 Labour productivity	52.71	14
Labour productivity		
5.2.1 Labour productivity per employee.....	39.72	27
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	60.04	17
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	58.36	23
6 Global Knowledge	47.57	18
6.1 Higher skills and competencies	47.95	25
Educated workforce		
6.1.1 Tertiary-educated workforce.....	54.71	17
6.1.2 Tertiary-educated population.....	58.77	9
Knowledge workers		
6.1.3 Professionals.....	28.05	51
6.1.4 Researchers.....	59.71	6
6.1.5 Legislators, senior officials and managers.....	12.43	71
Research quality		
6.1.6 Quality of scientific research institutions.....	65.81	23
6.1.7 Scientific and technical journal articles.....	56.17	18
6.2 Talent impact	47.19	16
Innovation		
6.2.1 Innovation output.....	57.49	21
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	52.70	25
6.2.3 New business density.....	9.50	40
High-value exports		
6.2.4 Sophisticated exports.....	69.04	6

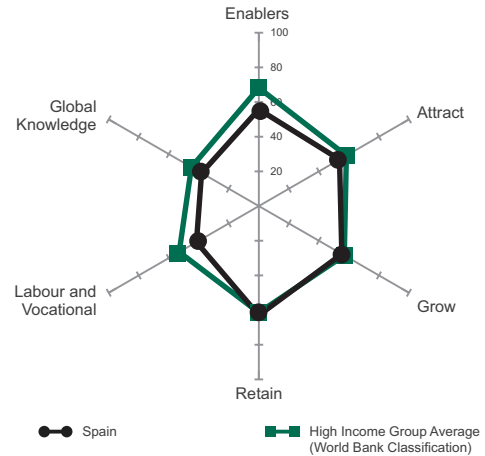
SPAIN

High Income
Europe

RANK
(out of 93)

30

Population (millions) **46.65**
 GDP per capita (PPP\$) **32,103**
 GDP (US\$ billions) **1,358.26**
 GTCI Score **51.25**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	55.77	45
1.1 Regulatory landscape	60.55	39
Government efficiency		
1.1.1 Government effectiveness.....	68.30	25
1.1.2 Business-government relations.....	61.39	30
1.1.3 Political stability.....	65.40	54
FDI climate		
1.1.4 Starting a foreign business.....	47.12	23
1.2 Market landscape	54.05	34
Competition climate		
1.2.1 Intensity of local competition.....	74.61	24
Innovation climate		
1.2.2 Venture capital deals.....	22.19	15
1.2.3 Firm-level technology absorption.....	67.41	40
1.2.4 R&D expenditure.....	29.82	27
Connectivity		
1.2.5 ICT access.....	74.77	28
Ease of doing business		
1.2.6 Ease of doing business.....	55.50	42
1.3 Business landscape	52.71	75
Labour market flexibility		
1.3.1 Difficulty of hiring.....	22.33	85
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	49.94	72
Ownership and governance		
1.3.4 Reliance on professional management.....	58.57	41
2 Attract	53.74	29
2.1 External openness	38.01	42
Industrial openness		
2.1.1 FDI inflow.....	18.89	55
2.1.2 FDI and technology transfer.....	63.39	40
2.1.3 Prevalence of foreign ownership.....	66.41	41
Migration openness		
2.1.4 Male adult migrants.....	28.82	22
2.1.5 Female adult migrants.....	26.73	22
2.1.6 Brain gain.....	30.83	62
2.1.7 Brain drain.....	31.00	67
2.2 Internal openness	69.48	23
Diversity		
2.2.1 Tolerance to minorities.....	83.28	19
2.2.2 Tolerance to immigrants.....	85.58	16
Gender mobility		
2.2.3 Female graduates.....	65.85	46
2.2.4 Female-to-male earnings ratio.....	51.19	49
Social mobility		
2.2.5 Social mobility.....	61.47	30
3 Grow	55.29	22
3.1 Formal education	48.18	24
Education climate		
3.1.1 Vocational enrolment.....	35.86	35
3.1.2 Tertiary enrolment.....	81.20	7
Internationalisation of education		
3.1.3 International student inflow.....	14.77	38
Performance of education system		
3.1.4 Reading, maths and science scores.....	53.90	27
3.1.5 University ranking.....	55.17	21
3.2 Lifelong learning	62.84	26
Further education		
3.2.1 Quality of management schools.....	80.49	4
3.2.2 Extent of staff training.....	45.38	66
Continuous development		
3.2.3 Firms offering formal training.....	62.65	19

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	54.85	33
Networks		
3.3.1 Use of virtual social networks.....	82.06	35
3.3.2 Number of LinkedIn users.....	38.37	21
Learning through experience		
3.3.3 Willingness to delegate authority.....	45.88	51
Voice		
3.3.4 Voicing concern to officials.....	53.07	24
4 Retain	63.00	16
4.1 Sustainability	42.06	43
Social protection		
4.1.1 Pension system.....	69.24	38
Taxation		
4.1.2 Extent and effect of taxation.....	32.63	71
Pay		
4.1.3 Pay level – head of organisation.....	34.40	21
4.1.4 Pay level – head of information technology.....	31.96	23
4.2 Lifestyle	83.93	4
Quality of life		
4.2.1 Environmental performance.....	87.30	7
4.2.2 Safety at night.....	80.76	18
4.2.3 Female part-time workers.....	87.88	7
Access to services		
4.2.4 Physician density.....	63.73	6
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	41.56	50
5.1 Employable skills	35.84	67
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	20.50	71
5.1.2 Secondary-educated population.....	19.06	66
Technical professions		
5.1.3 Technicians and associate professionals.....	51.24	39
Employment quality		
5.1.4 State of cluster development.....	52.57	34
5.2 Labour productivity	47.27	29
Labour productivity		
5.2.1 Labour productivity per employee.....	49.78	18
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	35.14	87
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	56.90	26
6 Global Knowledge	38.15	33
6.1 Higher skills and competencies	45.81	26
Educated workforce		
6.1.1 Tertiary-educated workforce.....	54.38	18
6.1.2 Tertiary-educated population.....	44.83	24
Knowledge workers		
6.1.3 Professionals.....	48.17	25
6.1.4 Researchers.....	30.58	28
6.1.5 Legislators, senior officials and managers.....	27.68	47
Research quality		
6.1.6 Quality of scientific research institutions.....	59.46	34
6.1.7 Scientific and technical journal articles.....	55.59	20
6.2 Talent impact	30.49	51
Innovation		
6.2.1 Innovation output.....	50.65	32
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	31.08	54
6.2.3 New business density.....	12.75	34
High-value exports		
6.2.4 Sophisticated exports.....	27.46	33

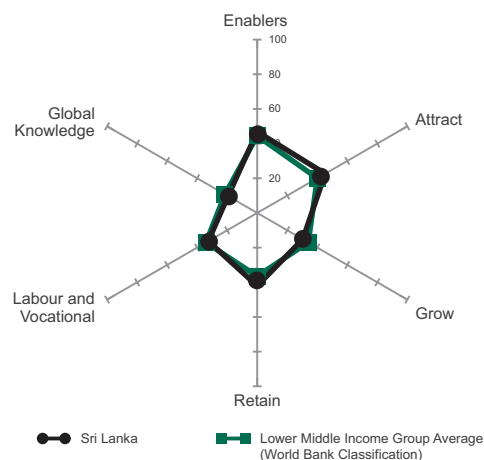
SRI LANKA

Lower Middle Income
Central and Southern Asia

RANK
(out of 93)

76

Population (millions) **20.48**
 GDP per capita (PPP\$) **9,735**
 GDP (US\$ billions) **67.18**
 GTCI Score **36.09**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	46.87	71
1.1 Regulatory landscape	39.56	80
Government efficiency		
1.1.1 Government effectiveness.....	29.78	64
1.1.2 Business-government relations.....	65.64	23
1.1.3 Political stability.....	48.39	73
FDI climate		
1.1.4 Starting a foreign business.....	14.42	35
1.2 Market landscape	34.79	73
Competition climate		
1.2.1 Intensity of local competition.....	76.89	16
Innovation climate		
1.2.2 Venture capital deals.....	0.99	46
1.2.3 Firm-level technology absorption.....	68.02	38
1.2.4 R&D expenditure.....	2.79	72
Connectivity		
1.2.5 ICT access.....	25.23	79
Ease of doing business		
1.2.6 Ease of doing business.....	34.80	61
1.3 Business landscape	66.25	43
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	40.00	82
1.3.3 Labour-employer cooperation.....	58.74	36
Ownership and governance		
1.3.4 Reliance on professional management.....	66.27	27
2 Attract	45.26	55
2.1 External openness	29.46	76
Industrial openness		
2.1.1 FDI inflow.....	13.79	66
2.1.2 FDI and technology transfer.....	62.80	44
2.1.3 Prevalence of foreign ownership.....	65.22	43
Migration openness		
2.1.4 Male adult migrants.....	3.46	68
2.1.5 Female adult migrants.....	2.94	69
2.1.6 Brain gain.....	25.83	70
2.1.7 Brain drain.....	32.17	64
2.2 Internal openness	61.07	43
Diversity		
2.2.1 Tolerance to minorities.....	87.47	14
2.2.2 Tolerance to immigrants.....	49.97	60
Gender mobility		
2.2.3 Female graduates.....	74.43	26
2.2.4 Female-to-male earnings ratio.....	23.81	81
Social mobility		
2.2.5 Social mobility.....	69.66	25
3 Grow	30.34	87
3.1 Formal education	6.83	89
Education climate		
3.1.1 Vocational enrolment.....	12.04	68
3.1.2 Tertiary enrolment.....	10.66	78
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	4.62	62
3.2 Lifelong learning	42.43	73
Further education		
3.2.1 Quality of management schools.....	62.88	31
3.2.2 Extent of staff training.....	52.88	39
Continuous development		
3.2.3 Firms offering formal training.....	11.51	63

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	41.78	66
Networks		
3.3.1 Use of virtual social networks.....	66.72	84
3.3.2 Number of LinkedIn users.....	7.60	57
Learning through experience		
3.3.3 Willingness to delegate authority.....	50.99	31
Voice		
3.3.4 Voicing concern to officials.....	41.81	38
4 Retain	42.07	63
4.1 Sustainability	28.30	81
Social protection		
4.1.1 Pension system.....	23.76	67
Taxation		
4.1.2 Extent and effect of taxation.....	47.58	29
Pay		
4.1.3 Pay level – head of organisation.....	13.56	61
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	55.85	47
Quality of life		
4.2.1 Environmental performance.....	45.55	53
4.2.2 Safety at night.....	81.44	17
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	6.69	76
4.2.5 Sanitation.....	89.71	52
5 Labour and Vocational	32.59	77
5.1 Employable skills	24.35	84
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	8.92	80
5.1.2 Secondary-educated population.....	14.30	74
Technical professions		
5.1.3 Technicians and associate professionals.....	24.88	68
Employment quality		
5.1.4 State of cluster development.....	49.29	47
5.2 Labour productivity	40.82	50
Labour productivity		
5.2.1 Labour productivity per employee.....	8.68	70
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	54.92	33
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	58.87	22
6 Global Knowledge	19.43	77
6.1 Higher skills and competencies	23.64	63
Educated workforce		
6.1.1 Tertiary-educated workforce.....	24.07	65
6.1.2 Tertiary-educated population.....	23.47	57
Knowledge workers		
6.1.3 Professionals.....	17.07	67
6.1.4 Researchers.....	0.94	66
6.1.5 Legislators, senior officials and managers.....	46.33	15
Research quality		
6.1.6 Quality of scientific research institutions.....	50.07	46
6.1.7 Scientific and technical journal articles.....	3.50	74
6.2 Talent impact	15.23	84
Innovation		
6.2.1 Innovation output.....	30.13	64
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	2.24	66
High-value exports		
6.2.4 Sophisticated exports.....	13.31	70

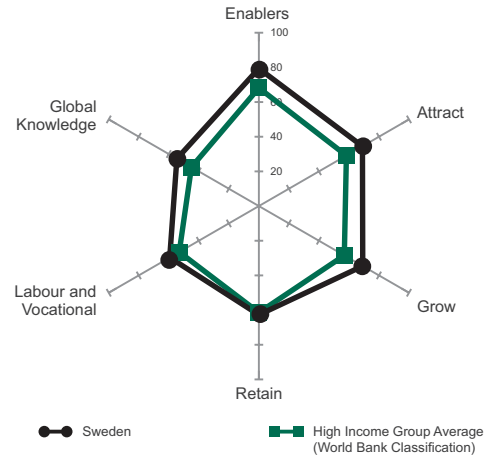
SWEDEN

High Income
Europe

RANK
(out of 93)

6

Population (millions) **9.59**
 GDP per capita (PPP\$) **43,454**
 GDP (US\$ billions) **557.94**
 GTCI Score **65.71**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	79.37	5
1.1 Regulatory landscape	86.94	7
Government efficiency		
1.1.1 Government effectiveness.....	92.18	4
1.1.2 Business-government relations.....	74.49	12
1.1.3 Political stability.....	94.15	11
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	78.92	3
Competition climate		
1.2.1 Intensity of local competition.....	76.10	19
Innovation climate		
1.2.2 Venture capital deals.....	52.97	7
1.2.3 Firm-level technology absorption.....	87.24	1
1.2.4 R&D expenditure.....	76.61	4
Connectivity		
1.2.5 ICT access.....	92.48	6
Ease of doing business		
1.2.6 Ease of doing business.....	88.10	12
1.3 Business landscape	72.25	25
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	60.00	63
1.3.3 Labour-employer cooperation.....	77.54	6
Ownership and governance		
1.3.4 Reliance on professional management.....	84.81	4
2 Attract	69.00	10
2.1 External openness	51.11	18
Industrial openness		
2.1.1 FDI inflow.....	22.68	44
2.1.2 FDI and technology transfer.....	67.27	28
2.1.3 Prevalence of foreign ownership.....	72.81	20
Migration openness		
2.1.4 Male adult migrants.....	34.96	15
2.1.5 Female adult migrants.....	35.06	15
2.1.6 Brain gain.....	56.83	17
2.1.7 Brain drain.....	68.17	7
2.2 Internal openness	86.89	2
Diversity		
2.2.1 Tolerance to minorities.....	92.66	8
2.2.2 Tolerance to immigrants.....	93.16	7
Gender mobility		
2.2.3 Female graduates.....	80.52	15
2.2.4 Female-to-male earnings ratio.....	91.67	6
Social mobility		
2.2.5 Social mobility.....	76.43	18
3 Grow	69.19	6
3.1 Formal education	59.32	12
Education climate		
3.1.1 Vocational enrolment.....	66.64	12
3.1.2 Tertiary enrolment.....	72.23	16
Internationalisation of education		
3.1.3 International student inflow.....	36.23	16
Performance of education system		
3.1.4 Reading, maths and science scores.....	50.40	34
3.1.5 University ranking.....	71.12	13
3.2 Lifelong learning	71.76	9
Further education		
3.2.1 Quality of management schools.....	73.05	14
3.2.2 Extent of staff training.....	70.46	7
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	76.48	5
Networks		
3.3.1 Use of virtual social networks.....	92.39	5
3.3.2 Number of LinkedIn users.....	54.81	12
Learning through experience		
3.3.3 Willingness to delegate authority.....	82.30	2
Voice		
3.3.4 Voicing concern to officials.....	76.40	8
4 Retain	62.73	18
4.1 Sustainability	49.21	25
Social protection		
4.1.1 Pension system.....	88.76	21
Taxation		
4.1.2 Extent and effect of taxation.....	56.54	12
Pay		
4.1.3 Pay level – head of organisation.....	23.88	40
4.1.4 Pay level – head of information technology.....	27.67	29
4.2 Lifestyle	76.25	14
Quality of life		
4.2.1 Environmental performance.....	84.56	9
4.2.2 Safety at night.....	87.35	9
4.2.3 Female part-time workers.....	48.76	32
Access to services		
4.2.4 Physician density.....	60.59	11
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	59.38	9
5.1 Employable skills	66.81	6
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	60.09	26
5.1.2 Secondary-educated population.....	64.77	20
Technical professions		
5.1.3 Technicians and associate professionals.....	78.61	13
Employment quality		
5.1.4 State of cluster development.....	63.77	17
5.2 Labour productivity	51.94	15
Labour productivity		
5.2.1 Labour productivity per employee.....	53.68	12
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	48.52	55
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	53.63	29
6 Global Knowledge	54.62	10
6.1 Higher skills and competencies	60.73	12
Educated workforce		
6.1.1 Tertiary-educated workforce.....	53.03	20
6.1.2 Tertiary-educated population.....	48.94	19
Knowledge workers		
6.1.3 Professionals.....	76.22	2
6.1.4 Researchers.....	56.85	7
6.1.5 Legislators, senior officials and managers.....	30.51	44
Research quality		
6.1.6 Quality of scientific research institutions.....	74.68	15
6.1.7 Scientific and technical journal articles.....	84.87	6
6.2 Talent impact	48.50	9
Innovation		
6.2.1 Innovation output.....	77.34	3
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	47.30	34
6.2.3 New business density.....	30.42	14
High-value exports		
6.2.4 Sophisticated exports.....	38.94	23

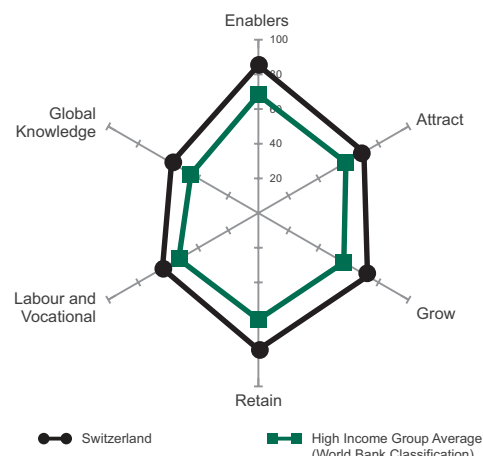
SWITZERLAND

High Income
Europe

RANK
(out of 93)

1

Population (millions) **8.08**
GDP per capita (PPP\$) **53,705**
GDP (US\$ billions) **650.78**
GTCI Score **71.46**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	85.26	2
1.1 Regulatory landscape	89.50	3
Government efficiency		
1.1.1 Government effectiveness.....	90.33	6
1.1.2 Business-government relations.....	78.16	7
1.1.3 Political stability.....	100.00	1
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	74.66	7
Competition climate		
1.2.1 Intensity of local competition.....	76.82	17
Innovation climate		
1.2.2 Venture capital deals.....	49.38	8
1.2.3 Firm-level technology absorption.....	85.32	3
1.2.4 R&D expenditure.....	65.10	7
Connectivity		
1.2.5 ICT access.....	97.32	3
Ease of doing business		
1.2.6 Ease of doing business.....	74.00	25
1.3 Business landscape	91.63	1
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	84.10	1
Ownership and governance		
1.3.4 Reliance on professional management.....	82.42	7
2 Attract	70.29	9
2.1 External openness	62.39	6
Industrial openness		
2.1.1 FDI inflow.....	8.77	84
2.1.2 FDI and technology transfer.....	63.02	43
2.1.3 Prevalence of foreign ownership.....	71.18	24
Migration openness		
2.1.4 Male adult migrants.....	65.60	8
2.1.5 Female adult migrants.....	63.16	6
2.1.6 Brain gain.....	84.67	1
2.1.7 Brain drain.....	80.33	3
2.2 Internal openness	78.19	15
Diversity		
2.2.1 Tolerance to minorities.....	81.98	21
2.2.2 Tolerance to immigrants.....	75.41	26
Gender mobility		
2.2.3 Female graduates.....	44.43	68
2.2.4 Female-to-male earnings ratio.....	100.00	1
Social mobility		
2.2.5 Social mobility.....	89.10	2
3 Grow	72.72	3
3.1 Formal education	70.31	3
Education climate		
3.1.1 Vocational enrolment.....	70.36	9
3.1.2 Tertiary enrolment.....	51.96	43
Internationalisation of education		
3.1.3 International student inflow.....	74.60	8
Performance of education system		
3.1.4 Reading, maths and science scores.....	67.49	10
3.1.5 University ranking.....	87.13	4
3.2 Lifelong learning	80.55	1
Further education		
3.2.1 Quality of management schools.....	84.85	1
3.2.2 Extent of staff training.....	76.25	1
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	67.30	11
Networks		
3.3.1 Use of virtual social networks.....	86.46	19
3.3.2 Number of LinkedIn users.....	40.40	18
Learning through experience		
3.3.3 Willingness to delegate authority.....	71.74	8
Voice		
3.3.4 Voicing concern to officials.....	70.62	12
4 Retain	78.72	2
4.1 Sustainability	68.24	5
Social protection		
4.1.1 Pension system.....	95.36	3
Taxation		
4.1.2 Extent and effect of taxation.....	63.30	7
Pay		
4.1.3 Pay level – head of organisation.....	42.30	14
4.1.4 Pay level – head of information technology.....	72.01	3
4.2 Lifestyle	89.20	2
Quality of life		
4.2.1 Environmental performance.....	100.00	1
4.2.2 Safety at night.....	81.94	16
4.2.3 Female part-time workers.....	98.35	4
Access to services		
4.2.4 Physician density.....	65.72	5
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	63.91	5
5.1 Employable skills	71.02	5
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	60.72	25
5.1.2 Secondary-educated population.....	64.47	21
Technical professions		
5.1.3 Technicians and associate professionals.....	87.56	8
Employment quality		
5.1.4 State of cluster development.....	71.34	4
5.2 Labour productivity	56.79	5
Labour productivity		
5.2.1 Labour productivity per employee.....	48.38	20
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	70.67	2
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	51.33	33
6 Global Knowledge	57.85	5
6.1 Higher skills and competencies	63.56	9
Educated workforce		
6.1.1 Tertiary-educated workforce.....	53.54	19
6.1.2 Tertiary-educated population.....	57.93	10
Knowledge workers		
6.1.3 Professionals.....	69.21	5
6.1.4 Researchers.....	35.91	23
6.1.5 Legislators, senior officials and managers.....	43.50	21
Research quality		
6.1.6 Quality of scientific research institutions.....	87.95	2
6.1.7 Scientific and technical journal articles.....	96.90	2
6.2 Talent impact	52.13	4
Innovation		
6.2.1 Innovation output.....	100.00	1
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	45.95	37
6.2.3 New business density.....	11.89	35
High-value exports		
6.2.4 Sophisticated exports.....	50.68	14

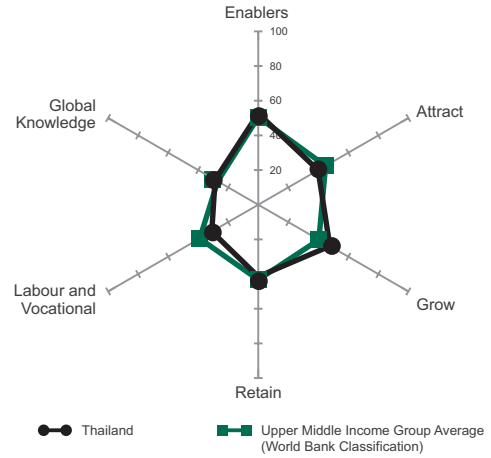
THAILAND

Upper Middle Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

61

Population (millions) **67.01**
 GDP per capita (PPP\$) **14,390**
 GDP (US\$ billions) **387.25**
 GTCI Score **40.23**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	52.65	47
1.1 Regulatory landscape	45.28	64
Government efficiency		
1.1.1 Government effectiveness.....	42.49	48
1.1.2 Business-government relations.....	57.25	45
1.1.3 Political stability.....	36.16	84
FDI climate		
1.1.4 Starting a foreign business.....	45.19	25
1.2 Market landscape	43.81	49
Competition climate		
1.2.1 Intensity of local competition.....	71.94	34
Innovation climate		
1.2.2 Venture capital deals.....	0.38	53
1.2.3 Firm-level technology absorption.....	66.95	41
1.2.4 R&D expenditure.....	4.95	63
Connectivity		
1.2.5 ICT access.....	33.83	69
Ease of doing business		
1.2.6 Ease of doing business.....	84.80	15
1.3 Business landscape	68.87	36
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	62.92	25
Ownership and governance		
1.3.4 Reliance on professional management.....	56.89	42
2 Attract	39.87	78
2.1 External openness	39.28	38
Industrial openness		
2.1.1 FDI inflow.....	19.89	51
2.1.2 FDI and technology transfer.....	66.37	29
2.1.3 Prevalence of foreign ownership.....	61.80	48
Migration openness		
2.1.4 Male adult migrants.....	10.42	47
2.1.5 Female adult migrants.....	9.11	50
2.1.6 Brain gain.....	51.83	23
2.1.7 Brain drain.....	55.50	22
2.2 Internal openness	40.47	85
Diversity		
2.2.1 Tolerance to minorities.....	20.67	89
2.2.2 Tolerance to immigrants.....	4.87	90
Gender mobility		
2.2.3 Female graduates.....	64.39	49
2.2.4 Female-to-male earnings ratio.....	53.57	43
Social mobility		
2.2.5 Social mobility.....	58.85	42
3 Grow	47.70	35
3.1 Formal education	30.31	46
Education climate		
3.1.1 Vocational enrolment.....	31.74	42
3.1.2 Tertiary enrolment.....	48.93	45
Internationalisation of education		
3.1.3 International student inflow.....	3.84	59
Performance of education system		
3.1.4 Reading, maths and science scores.....	29.29	43
3.1.5 University ranking.....	37.75	34
3.2 Lifelong learning	69.02	12
Further education		
3.2.1 Quality of management schools.....	58.26	39
3.2.2 Extent of staff training.....	54.01	37
Continuous development		
3.2.3 Firms offering formal training.....	94.78	2

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	43.77	60
Networks		
3.3.1 Use of virtual social networks.....	81.90	37
3.3.2 Number of LinkedIn users.....	2.44	67
Learning through experience		
3.3.3 Willingness to delegate authority.....	50.05	34
Voice		
3.3.4 Voicing concern to officials.....	40.70	40
4 Retain	41.48	66
4.1 Sustainability	29.70	75
Social protection		
4.1.1 Pension system.....	22.15	69
Taxation		
4.1.2 Extent and effect of taxation.....	50.62	24
Pay		
4.1.3 Pay level – head of organisation.....	23.30	43
4.1.4 Pay level – head of information technology.....	22.75	39
4.2 Lifestyle	53.25	50
Quality of life		
4.2.1 Environmental performance.....	43.86	60
4.2.2 Safety at night.....	72.93	25
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	3.85	81
4.2.5 Sanitation.....	92.37	47
5 Labour and Vocational	30.94	80
5.1 Employable skills	22.39	90
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	6.26	82
5.1.2 Secondary-educated population.....	13.74	76
Technical professions		
5.1.3 Technicians and associate professionals.....	13.93	76
Employment quality		
5.1.4 State of cluster development.....	55.64	28
5.2 Labour productivity	39.48	53
Labour productivity		
5.2.1 Labour productivity per employee.....	10.62	66
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	56.68	26
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	51.15	34
6 Global Knowledge	28.77	54
6.1 Higher skills and competencies	19.41	74
Educated workforce		
6.1.1 Tertiary-educated workforce.....	24.58	64
6.1.2 Tertiary-educated population.....	19.62	64
Knowledge workers		
6.1.3 Professionals.....	14.02	72
6.1.4 Researchers.....	3.46	55
6.1.5 Legislators, senior officials and managers.....	14.12	67
Research quality		
6.1.6 Quality of scientific research institutions.....	47.30	50
6.1.7 Scientific and technical journal articles.....	12.81	55
6.2 Talent impact	38.12	34
Innovation		
6.2.1 Innovation output.....	34.53	52
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	64.86	14
6.2.3 New business density.....	3.92	58
High-value exports		
6.2.4 Sophisticated exports.....	49.16	16

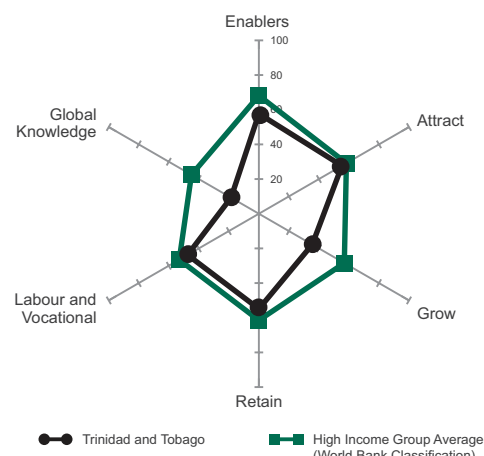
TRINIDAD AND TOBAGO

High Income
Latin, Central America and Caribbean

RANK
(out of 93)

43

Population (millions) **1.34**
GDP per capita (PPP\$) **30,438**
GDP (US\$ billions) **24.64**
GTCI Score **44.92**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	57.69	40
1.1 Regulatory landscape	58.18	41
Government efficiency		
1.1.1 Government effectiveness.....	48.09	43
1.1.2 Business-government relations.....	58.10	41
1.1.3 Political stability.....	68.34	45
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	45.44	43
Competition climate		
1.2.1 Intensity of local competition.....	62.40	67
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	61.38	54
1.2.4 R&D expenditure.....	0.36	83
Connectivity		
1.2.5 ICT access.....	56.24	48
Ease of doing business		
1.2.6 Ease of doing business.....	46.80	50
1.3 Business landscape	69.46	32
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	80.00	38
1.3.3 Labour-employer cooperation.....	41.45	85
Ownership and governance		
1.3.4 Reliance on professional management.....	56.38	45
2 Attract	55.36	27
2.1 External openness	43.01	26
Industrial openness		
2.1.1 FDI inflow.....	77.92	7
2.1.2 FDI and technology transfer.....	61.56	50
2.1.3 Prevalence of foreign ownership.....	59.57	53
Migration openness		
2.1.4 Male adult migrants.....	4.84	61
2.1.5 Female adult migrants.....	5.49	57
2.1.6 Brain gain.....	51.67	24
2.1.7 Brain drain.....	40.00	50
2.2 Internal openness	67.71	26
Diversity		
2.2.1 Tolerance to minorities.....	81.37	23
2.2.2 Tolerance to immigrants.....	76.78	23
Gender mobility		
2.2.3 Female graduates.....	73.93	28
2.2.4 Female-to-male earnings ratio.....	47.62	56
Social mobility		
2.2.5 Social mobility.....	58.86	41
3 Grow	35.55	72
3.1 Formal education	9.12	83
Education climate		
3.1.1 Vocational enrolment.....	1.74	83
3.1.2 Tertiary enrolment.....	8.13	82
Internationalisation of education		
3.1.3 International student inflow.....	26.60	23
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	50.81	55
Further education		
3.2.1 Quality of management schools.....	64.47	29
3.2.2 Extent of staff training.....	51.81	44
Continuous development		
3.2.3 Firms offering formal training.....	36.14	43

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	46.73	54
Networks		
3.3.1 Use of virtual social networks.....	80.25	49
3.3.2 Number of LinkedIn users.....	47.22	13
Learning through experience		
3.3.3 Willingness to delegate authority.....	38.67	79
Voice		
3.3.4 Voicing concern to officials.....	20.77	67
4 Retain	54.88	34
4.1 Sustainability	65.85	6
Social protection		
4.1.1 Pension system.....	75.98	34
Taxation		
4.1.2 Extent and effect of taxation.....	55.72	13
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	43.90	70
Quality of life		
4.2.1 Environmental performance.....	42.97	61
4.2.2 Safety at night.....	66.08	34
4.2.3 Female part-time workers.....	1.65	62
Access to services		
4.2.4 Physician density.....	17.92	63
4.2.5 Sanitation.....	90.87	50
5 Labour and Vocational	47.49	35
5.1 Employable skills	60.12	24
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	82.16	8
5.1.2 Secondary-educated population.....	62.57	23
Technical professions		
5.1.3 Technicians and associate professionals.....	53.73	36
Employment quality		
5.1.4 State of cluster development.....	42.00	64
5.2 Labour productivity	34.87	64
Labour productivity		
5.2.1 Labour productivity per employee.....	39.15	28
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	38.39	82
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	27.07	66
6 Global Knowledge	18.53	80
6.1 Higher skills and competencies	21.65	68
Educated workforce		
6.1.1 Tertiary-educated workforce.....	14.48	75
6.1.2 Tertiary-educated population.....	15.91	71
Knowledge workers		
6.1.3 Professionals.....	9.45	80
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	44.63	19
Research quality		
6.1.6 Quality of scientific research institutions.....	37.86	73
6.1.7 Scientific and technical journal articles.....	7.57	60
6.2 Talent impact	15.40	83
Innovation		
6.2.1 Innovation output.....	26.40	69
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	8.11	74
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	11.70	88

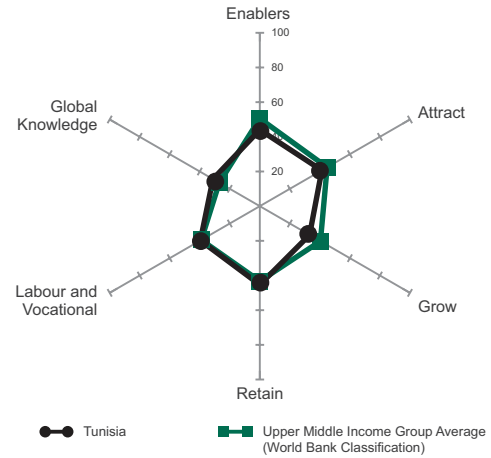
TUNISIA

Upper Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

65

Population (millions) **10.89**
 GDP per capita (PPP\$) **11,092**
 GDP (US\$ billions) **47.13**
 GTCI Score **39.11**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	44.07	79
1.1 Regulatory landscape	42.20	73
Government efficiency		
1.1.1 Government effectiveness.....	36.12	55
1.1.2 Business-government relations.....	47.30	59
1.1.3 Political stability.....	47.90	74
FDI climate		
1.1.4 Starting a foreign business.....	37.50	28
1.2 Market landscape	40.37	58
Competition climate		
1.2.1 Intensity of local competition.....	64.42	61
Innovation climate		
1.2.2 Venture capital deals.....	2.03	41
1.2.3 Firm-level technology absorption.....	61.53	50
1.2.4 R&D expenditure.....	24.50	33
Connectivity		
1.2.5 ICT access.....	33.15	70
Ease of doing business		
1.2.6 Ease of doing business.....	56.60	41
1.3 Business landscape	49.62	81
Labour market flexibility		
1.3.1 Difficulty of hiring.....	83.33	39
1.3.2 Difficulty of redundancy.....	20.00	91
1.3.3 Labour-employer cooperation.....	47.20	78
Ownership and governance		
1.3.4 Reliance on professional management.....	47.94	67
2 Attract	41.31	69
2.1 External openness	32.31	66
Industrial openness		
2.1.1 FDI inflow.....	33.61	29
2.1.2 FDI and technology transfer.....	60.46	53
2.1.3 Prevalence of foreign ownership.....	60.78	49
Migration openness		
2.1.4 Male adult migrants.....	0.69	86
2.1.5 Female adult migrants.....	0.62	83
2.1.6 Brain gain.....	30.33	63
2.1.7 Brain drain.....	39.67	51
2.2 Internal openness	50.32	69
Diversity		
2.2.1 Tolerance to minorities.....	26.08	87
2.2.2 Tolerance to immigrants.....	61.84	40
Gender mobility		
2.2.3 Female graduates.....	61.67	54
2.2.4 Female-to-male earnings ratio.....	n/a	n/a
Social mobility		
2.2.5 Social mobility.....	51.69	56
3 Grow	33.15	78
3.1 Formal education	14.69	78
Education climate		
3.1.1 Vocational enrolment.....	28.69	49
3.1.2 Tertiary enrolment.....	32.17	60
Internationalisation of education		
3.1.3 International student inflow.....	2.45	63
Performance of education system		
3.1.4 Reading, maths and science scores.....	10.14	52
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	49.08	58
Further education		
3.2.1 Quality of management schools.....	55.17	49
3.2.2 Extent of staff training.....	42.99	77
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	35.69	84
Networks		
3.3.1 Use of virtual social networks.....	83.34	30
3.3.2 Number of LinkedIn users.....	15.95	45
Learning through experience		
3.3.3 Willingness to delegate authority.....	39.68	72
Voice		
3.3.4 Voicing concern to officials.....	3.79	88
4 Retain	45.32	57
4.1 Sustainability	37.62	56
Social protection		
4.1.1 Pension system.....	65.32	40
Taxation		
4.1.2 Extent and effect of taxation.....	44.52	41
Pay		
4.1.3 Pay level – head of organisation.....	23.47	42
4.1.4 Pay level – head of information technology.....	17.16	45
4.2 Lifestyle	53.03	52
Quality of life		
4.2.1 Environmental performance.....	53.79	44
4.2.2 Safety at night.....	51.43	52
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	18.69	60
4.2.5 Sanitation.....	88.21	56
5 Labour and Vocational	39.58	54
5.1 Employable skills	39.79	58
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	42.88	50
5.1.2 Secondary-educated population.....	31.64	54
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	44.87	56
5.2 Labour productivity	39.37	54
Labour productivity		
5.2.1 Labour productivity per employee.....	14.83	57
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	41.79	76
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	61.49	18
6 Global Knowledge	31.21	46
6.1 Higher skills and competencies	28.57	50
Educated workforce		
6.1.1 Tertiary-educated workforce.....	28.45	57
6.1.2 Tertiary-educated population.....	20.77	62
Knowledge workers		
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	19.99	33
6.1.5 Legislators, senior officials and managers.....	n/a	n/a
Research quality		
6.1.6 Quality of scientific research institutions.....	39.11	68
6.1.7 Scientific and technical journal articles.....	34.55	32
6.2 Talent impact	33.84	44
Innovation		
6.2.1 Innovation output.....	36.32	50
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	55.41	20
6.2.3 New business density.....	7.07	47
High-value exports		
6.2.4 Sophisticated exports.....	36.57	25

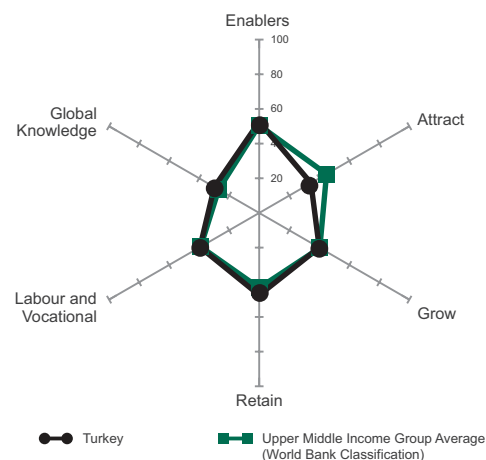
TURKEY

Upper Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

59

Population (millions) **74.93**
GDP per capita (PPP\$) **18,975**
GDP (US\$ billions) **820.21**
GTCI Score **40.63**
GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	52.56	49
1.1 Regulatory landscape	47.66	59
Government efficiency		
1.1.1 Government effectiveness.....	48.12	42
1.1.2 Business-government relations.....	62.77	28
1.1.3 Political stability.....	36.49	83
FDI climate		
1.1.4 Starting a foreign business.....	43.27	26
1.2 Market landscape	43.89	48
Competition climate		
1.2.1 Intensity of local competition.....	79.86	11
Innovation climate		
1.2.2 Venture capital deals.....	0.29	54
1.2.3 Firm-level technology absorption.....	72.39	31
1.2.4 R&D expenditure.....	18.56	37
Connectivity		
1.2.5 ICT access.....	48.72	56
Ease of doing business		
1.2.6 Ease of doing business.....	43.50	53
1.3 Business landscape	66.12	44
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	90.00	30
1.3.3 Labour-employer cooperation.....	52.90	54
Ownership and governance		
1.3.4 Reliance on professional management.....	54.92	48
2 Attract	34.48	88
2.1 External openness	31.06	69
Industrial openness		
2.1.1 FDI inflow.....	15.59	61
2.1.2 FDI and technology transfer.....	64.50	36
2.1.3 Prevalence of foreign ownership.....	50.80	71
Migration openness		
2.1.4 Male adult migrants.....	6.58	56
2.1.5 Female adult migrants.....	5.61	56
2.1.6 Brain gain.....	36.50	54
2.1.7 Brain drain.....	37.83	53
2.2 Internal openness	37.90	88
Diversity		
2.2.1 Tolerance to minorities.....	38.30	82
2.2.2 Tolerance to immigrants.....	44.36	72
Gender mobility		
2.2.3 Female graduates.....	34.68	73
2.2.4 Female-to-male earnings ratio.....	15.48	82
Social mobility		
2.2.5 Social mobility.....	56.71	46
3 Grow	39.98	57
3.1 Formal education	36.30	39
Education climate		
3.1.1 Vocational enrolment.....	47.47	24
3.1.2 Tertiary enrolment.....	58.52	33
Internationalisation of education		
3.1.3 International student inflow.....	3.75	60
Performance of education system		
3.1.4 Reading, maths and science scores.....	41.05	39
3.1.5 University ranking.....	30.70	40
3.2 Lifelong learning	43.54	69
Further education		
3.2.1 Quality of management schools.....	46.07	72
3.2.2 Extent of staff training.....	50.81	46
Continuous development		
3.2.3 Firms offering formal training.....	33.73	48

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	40.10	75
Networks		
3.3.1 Use of virtual social networks.....	80.67	47
3.3.2 Number of LinkedIn users.....	17.39	41
Learning through experience		
3.3.3 Willingness to delegate authority.....	43.60	62
Voice		
3.3.4 Voicing concern to officials.....	18.74	73
4 Retain	47.39	50
4.1 Sustainability	44.14	36
Social protection		
4.1.1 Pension system.....	58.42	46
Taxation		
4.1.2 Extent and effect of taxation.....	38.06	62
Pay		
4.1.3 Pay level – head of organisation.....	35.87	19
4.1.4 Pay level – head of information technology.....	44.19	12
4.2 Lifestyle	50.64	57
Quality of life		
4.2.1 Environmental performance.....	47.21	51
4.2.2 Safety at night.....	46.40	59
4.2.3 Female part-time workers.....	43.25	40
Access to services		
4.2.4 Physician density.....	26.73	56
4.2.5 Sanitation.....	89.60	53
5 Labour and Vocational	39.46	55
5.1 Employable skills	29.48	76
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	15.34	78
5.1.2 Secondary-educated population.....	19.21	65
Technical professions		
5.1.3 Technicians and associate professionals.....	26.37	65
Employment quality		
5.1.4 State of cluster development.....	56.99	26
5.2 Labour productivity	49.45	21
Labour productivity		
5.2.1 Labour productivity per employee.....	24.94	39
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	51.04	49
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	72.37	3
6 Global Knowledge	29.90	51
6.1 Higher skills and competencies	28.16	52
Educated workforce		
6.1.1 Tertiary-educated workforce.....	26.60	60
6.1.2 Tertiary-educated population.....	21.49	60
Knowledge workers		
6.1.3 Professionals.....	21.04	60
6.1.4 Researchers.....	9.61	43
6.1.5 Legislators, senior officials and managers.....	46.33	15
Research quality		
6.1.6 Quality of scientific research institutions.....	45.79	52
6.1.7 Scientific and technical journal articles.....	26.24	37
6.2 Talent impact	31.64	48
Innovation		
6.2.1 Innovation output.....	37.39	46
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	66.22	12
6.2.3 New business density.....	3.58	60
High-value exports		
6.2.4 Sophisticated exports.....	19.36	52

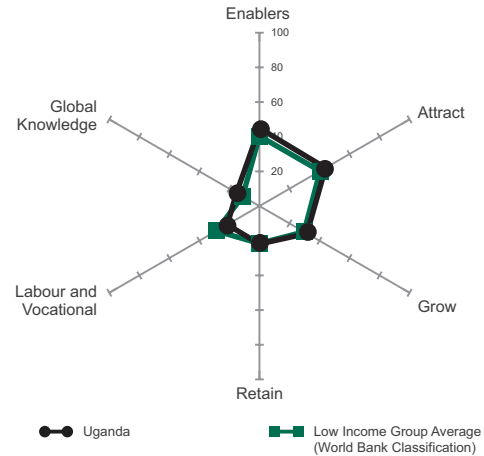
UGANDA

Low Income
Sub-Saharan Africa

RANK
(out of 93)

88

Population (millions) **37.58**
 GDP per capita (PPP\$) **1,410**
 GDP (US\$ billions) **21.48**
 GTCI Score **29.86**
 GTCI Score (Income Group Average) **28.67**



VARIABLE	SCORE	RANK
1 Enablers	44.97	75
1.1 Regulatory landscape	35.14	84
Government efficiency		
1.1.1 Government effectiveness.....	20.28	79
1.1.2 Business-government relations.....	53.33	54
1.1.3 Political stability.....	43.88	79
FDI climate		
1.1.4 Starting a foreign business.....	23.08	32
1.2 Market landscape	24.82	91
Competition climate		
1.2.1 Intensity of local competition.....	67.03	51
Innovation climate		
1.2.2 Venture capital deals.....	5.41	31
1.2.3 Firm-level technology absorption.....	51.72	82
1.2.4 R&D expenditure.....	8.65	56
Connectivity		
1.2.5 ICT access.....	6.31	90
Ease of doing business		
1.2.6 Ease of doing business.....	9.80	84
1.3 Business landscape	74.96	21
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	51.66	63
Ownership and governance		
1.3.4 Reliance on professional management.....	48.16	66
2 Attract	44.04	59
2.1 External openness	36.82	46
Industrial openness		
2.1.1 FDI inflow.....	54.57	15
2.1.2 FDI and technology transfer.....	62.57	46
2.1.3 Prevalence of foreign ownership.....	70.23	30
Migration openness		
2.1.4 Male adult migrants.....	5.13	60
2.1.5 Female adult migrants.....	4.76	61
2.1.6 Brain gain.....	32.67	61
2.1.7 Brain drain.....	27.83	72
2.2 Internal openness	51.26	65
Diversity		
2.2.1 Tolerance to minorities.....	68.27	48
2.2.2 Tolerance to immigrants.....	59.24	45
Gender mobility		
2.2.3 Female graduates.....	13.62	77
2.2.4 Female-to-male earnings ratio.....	67.86	18
Social mobility		
2.2.5 Social mobility.....	47.30	67
3 Grow	31.64	84
3.1 Formal education	10.60	82
Education climate		
3.1.1 Vocational enrolment.....	13.37	64
3.1.2 Tertiary enrolment.....	5.14	86
Internationalisation of education		
3.1.3 International student inflow.....	23.88	24
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	43.25	70
Further education		
3.2.1 Quality of management schools.....	46.56	70
3.2.2 Extent of staff training.....	42.37	80
Continuous development		
3.2.3 Firms offering formal training.....	40.83	38

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	41.08	69
Networks		
3.3.1 Use of virtual social networks.....	54.13	91
3.3.2 Number of LinkedIn users.....	2.32	68
Learning through experience		
3.3.3 Willingness to delegate authority.....	38.86	78
Voice		
3.3.4 Voicing concern to officials.....	69.01	13
4 Retain	21.87	92
4.1 Sustainability	26.09	87
Social protection		
4.1.1 Pension system.....	9.86	79
Taxation		
4.1.2 Extent and effect of taxation.....	42.32	48
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	17.65	91
Quality of life		
4.2.1 Environmental performance.....	21.87	85
4.2.2 Safety at night.....	23.36	84
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	0.53	87
4.2.5 Sanitation.....	24.86	87
5 Labour and Vocational	21.39	93
5.1 Employable skills	19.13	91
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	2.21	80
Technical professions		
5.1.3 Technicians and associate professionals.....	15.42	75
Employment quality		
5.1.4 State of cluster development.....	39.77	74
5.2 Labour productivity	23.65	86
Labour productivity		
5.2.1 Labour productivity per employee.....	1.24	84
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	37.42	83
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	32.29	63
6 Global Knowledge	15.26	84
6.1 Higher skills and competencies	12.96	86
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	4.91	78
Knowledge workers		
6.1.3 Professionals.....	6.40	82
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	0.00	87
Research quality		
6.1.6 Quality of scientific research institutions.....	42.58	61
6.1.7 Scientific and technical journal articles.....	10.90	56
6.2 Talent impact	17.57	77
Innovation		
6.2.1 Innovation output.....	30.44	63
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	5.41	76
6.2.3 New business density.....	5.40	51
High-value exports		
6.2.4 Sophisticated exports.....	29.04	31

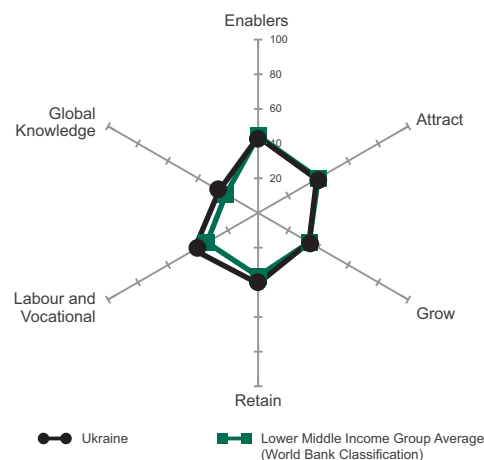
UKRAINE

Lower Middle Income
Europe

RANK
(out of 93)

71

Population (millions) **45.49**
GDP per capita (PPP\$) **8,787**
GDP (US\$ billions) **177.43**
GTCI Score **37.69**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	43.84	80
1.1 Regulatory landscape	43.77	70
Government efficiency		
1.1.1 Government effectiveness.....	19.84	80
1.1.2 Business-government relations.....	35.24	89
1.1.3 Political stability.....	63.25	55
FDI climate		
1.1.4 Starting a foreign business.....	56.73	19
1.2 Market landscape	40.20	60
Competition climate		
1.2.1 Intensity of local competition.....	58.95	75
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	55.68	69
1.2.4 R&D expenditure.....	15.92	43
Connectivity		
1.2.5 ICT access.....	50.87	54
Ease of doing business		
1.2.6 Ease of doing business.....	19.60	75
1.3 Business landscape	47.56	85
Labour market flexibility		
1.3.1 Difficulty of hiring.....	55.67	58
1.3.2 Difficulty of redundancy.....	50.00	75
1.3.3 Labour-employer cooperation.....	45.50	81
Ownership and governance		
1.3.4 Reliance on professional management.....	39.07	87
2 Attract	38.96	81
2.1 External openness	29.51	75
Industrial openness		
2.1.1 FDI inflow.....	34.78	26
2.1.2 FDI and technology transfer.....	43.44	88
2.1.3 Prevalence of foreign ownership.....	42.79	84
Migration openness		
2.1.4 Male adult migrants.....	25.12	29
2.1.5 Female adult migrants.....	24.80	28
2.1.6 Brain gain.....	18.83	85
2.1.7 Brain drain.....	16.83	88
2.2 Internal openness	48.41	74
Diversity		
2.2.1 Tolerance to minorities.....	52.26	75
2.2.2 Tolerance to immigrants.....	45.91	69
Gender mobility		
2.2.3 Female graduates.....	58.60	58
2.2.4 Female-to-male earnings ratio.....	53.57	43
Social mobility		
2.2.5 Social mobility.....	31.72	92
3 Grow	33.95	76
3.1 Formal education	31.99	45
Education climate		
3.1.1 Vocational enrolment.....	18.21	58
3.1.2 Tertiary enrolment.....	78.18	10
Internationalisation of education		
3.1.3 International student inflow.....	8.39	49
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	23.15	47
3.2 Lifelong learning	38.23	81
Further education		
3.2.1 Quality of management schools.....	43.36	81
3.2.2 Extent of staff training.....	44.41	71
Continuous development		
3.2.3 Firms offering formal training.....	26.91	54

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	31.64	88
Networks		
3.3.1 Use of virtual social networks.....	71.98	72
3.3.2 Number of LinkedIn users.....	5.58	62
Learning through experience		
3.3.3 Willingness to delegate authority.....	35.83	85
Voice		
3.3.4 Voicing concern to officials.....	13.16	78
4 Retain	40.71	69
4.1 Sustainability	25.11	89
Social protection		
4.1.1 Pension system.....	61.96	43
Taxation		
4.1.2 Extent and effect of taxation.....	22.83	87
Pay		
4.1.3 Pay level – head of organisation.....	15.64	58
4.1.4 Pay level – head of information technology.....	0.00	53
4.2 Lifestyle	56.32	46
Quality of life		
4.2.1 Environmental performance.....	37.71	73
4.2.2 Safety at night.....	37.72	70
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	56.43	19
4.2.5 Sanitation.....	93.41	44
5 Labour and Vocational	42.71	46
5.1 Employable skills	42.95	52
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	54.73	32
Employment quality		
5.1.4 State of cluster development.....	31.18	87
5.2 Labour productivity	42.46	42
Labour productivity		
5.2.1 Labour productivity per employee.....	9.97	69
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	58.37	22
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	59.04	21
6 Global Knowledge	25.95	57
6.1 Higher skills and competencies	31.11	44
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	39.02	40
6.1.4 Researchers.....	13.58	40
6.1.5 Legislators, senior officials and managers.....	41.81	23
Research quality		
6.1.6 Quality of scientific research institutions.....	43.45	56
6.1.7 Scientific and technical journal articles.....	17.69	49
6.2 Talent impact	20.78	68
Innovation		
6.2.1 Innovation output.....	36.59	49
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	n/a	n/a
6.2.3 New business density.....	4.20	54
High-value exports		
6.2.4 Sophisticated exports.....	21.56	45

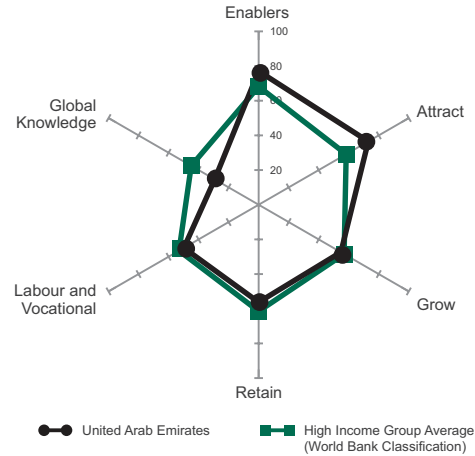
UNITED ARAB EMIRATES

High Income
Northern Africa and Western Asia

RANK
(out of 93)

22

Population (millions) **9.35**
 GDP per capita (PPP\$) **58,041**
 GDP (US\$ billions) **383.80**
 GTCI Score **56.70**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	77.07	11
1.1 Regulatory landscape	79.33	13
Government efficiency		
1.1.1 Government effectiveness.....	69.16	24
1.1.2 Business-government relations.....	81.60	4
1.1.3 Political stability.....	87.24	24
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	66.39	19
Competition climate		
1.2.1 Intensity of local competition.....	78.49	13
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	84.63	4
1.2.4 R&D expenditure.....	10.06	52
Connectivity		
1.2.5 ICT access.....	78.26	22
Ease of doing business		
1.2.6 Ease of doing business.....	80.50	19
1.3 Business landscape	85.49	6
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	70.74	14
Ownership and governance		
1.3.4 Reliance on professional management.....	71.21	23
2 Attract	73.03	4
2.1 External openness	76.07	3
Industrial openness		
2.1.1 FDI inflow.....	23.41	42
2.1.2 FDI and technology transfer.....	81.47	2
2.1.3 Prevalence of foreign ownership.....	75.45	15
Migration openness		
2.1.4 Male adult migrants.....	100.00	1
2.1.5 Female adult migrants.....	100.00	1
2.1.6 Brain gain.....	n/a	n/a
2.1.7 Brain drain.....	n/a	n/a
2.2 Internal openness	69.99	21
Diversity		
2.2.1 Tolerance to minorities.....	66.23	51
2.2.2 Tolerance to immigrants.....	92.41	8
Gender mobility		
2.2.3 Female graduates.....	79.16	16
2.2.4 Female-to-male earnings ratio.....	30.95	78
Social mobility		
2.2.5 Social mobility.....	81.19	11
3 Grow	54.78	24
3.1 Formal education	40.64	32
Education climate		
3.1.1 Vocational enrolment.....	2.30	82
3.1.2 Tertiary enrolment.....	n/a	n/a
Internationalisation of education		
3.1.3 International student inflow.....	100.00	1
Performance of education system		
3.1.4 Reading, maths and science scores.....	31.19	40
3.1.5 University ranking.....	29.09	41
3.2 Lifelong learning	67.07	18
Further education		
3.2.1 Quality of management schools.....	68.12	24
3.2.2 Extent of staff training.....	66.01	13
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	56.62	28
Networks		
3.3.1 Use of virtual social networks.....	89.18	10
3.3.2 Number of LinkedIn users.....	42.59	17
Learning through experience		
3.3.3 Willingness to delegate authority.....	63.10	18
Voice		
3.3.4 Voicing concern to officials.....	31.60	55
4 Retain	56.24	32
4.1 Sustainability	36.57	59
Social protection		
4.1.1 Pension system.....	n/a	n/a
Taxation		
4.1.2 Extent and effect of taxation.....	n/a	n/a
Pay		
4.1.3 Pay level – head of organisation.....	32.64	26
4.1.4 Pay level – head of information technology.....	40.50	14
4.2 Lifestyle	75.92	15
Quality of life		
4.2.1 Environmental performance.....	76.22	25
4.2.2 Safety at night.....	100.00	1
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	30.34	52
4.2.5 Sanitation.....	97.11	38
5 Labour and Vocational	49.83	31
5.1 Employable skills	51.82	40
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	28.64	64
5.1.2 Secondary-educated population.....	35.26	48
Technical professions		
5.1.3 Technicians and associate professionals.....	69.15	21
Employment quality		
5.1.4 State of cluster development.....	74.23	2
5.2 Labour productivity	47.85	28
Labour productivity		
5.2.1 Labour productivity per employee.....	74.69	2
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	66.49	5
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	2.37	92
6 Global Knowledge	29.28	52
6.1 Higher skills and competencies	34.14	38
Educated workforce		
6.1.1 Tertiary-educated workforce.....	23.74	66
6.1.2 Tertiary-educated population.....	29.87	48
Knowledge workers		
6.1.3 Professionals.....	42.38	33
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	41.81	23
Research quality		
6.1.6 Quality of scientific research institutions.....	63.05	32
6.1.7 Scientific and technical journal articles.....	3.99	73
6.2 Talent impact	24.42	60
Innovation		
6.2.1 Innovation output.....	29.11	66
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	62.16	15
6.2.3 New business density.....	6.40	48
High-value exports		
6.2.4 Sophisticated exports.....	0.00	93

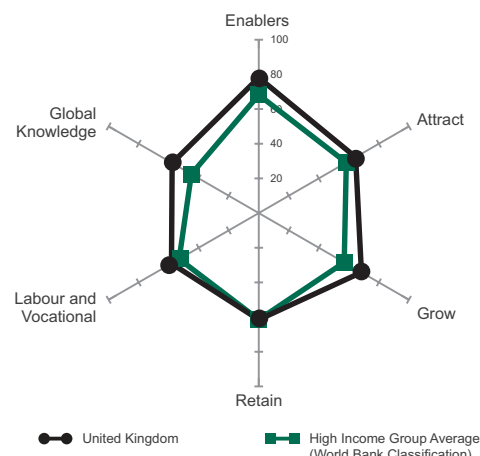
UNITED KINGDOM

High Income
Europe

RANK
(out of 93)

7

Population (millions) **64.10**
 GDP per capita (PPP\$) **36,209**
 GDP (US\$ billions) **2,522.26**
 GTCI Score **64.72**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	78.10	10
1.1 Regulatory landscape	76.12	16
Government efficiency		
1.1.1 Government effectiveness.....	80.31	16
1.1.2 Business-government relations.....	67.70	19
1.1.3 Political stability.....	75.71	38
FDI climate		
1.1.4 Starting a foreign business.....	80.77	2
1.2 Market landscape	73.79	9
Competition climate		
1.2.1 Intensity of local competition.....	83.97	2
Innovation climate		
1.2.2 Venture capital deals.....	55.21	6
1.2.3 Firm-level technology absorption.....	77.56	21
1.2.4 R&D expenditure.....	39.93	21
Connectivity		
1.2.5 ICT access.....	93.69	5
Ease of doing business		
1.2.6 Ease of doing business.....	92.40	8
1.3 Business landscape	84.39	7
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	67.25	20
Ownership and governance		
1.3.4 Reliance on professional management.....	81.30	9
2 Attract	64.51	13
2.1 External openness	53.80	11
Industrial openness		
2.1.1 FDI inflow.....	22.35	47
2.1.2 FDI and technology transfer.....	69.18	19
2.1.3 Prevalence of foreign ownership.....	84.11	3
Migration openness		
2.1.4 Male adult migrants.....	26.95	24
2.1.5 Female adult migrants.....	26.70	23
2.1.6 Brain gain.....	80.50	4
2.1.7 Brain drain.....	66.83	11
2.2 Internal openness	75.22	19
Diversity		
2.2.1 Tolerance to minorities.....	89.33	11
2.2.2 Tolerance to immigrants.....	81.36	18
Gender mobility		
2.2.3 Female graduates.....	62.96	51
2.2.4 Female-to-male earnings ratio.....	67.86	18
Social mobility		
2.2.5 Social mobility.....	74.60	22
3 Grow	68.38	8
3.1 Formal education	63.00	10
Education climate		
3.1.1 Vocational enrolment.....	18.54	57
3.1.2 Tertiary enrolment.....	59.02	31
Internationalisation of education		
3.1.3 International student inflow.....	77.49	7
Performance of education system		
3.1.4 Reading, maths and science scores.....	59.97	17
3.1.5 University ranking.....	100.00	1
3.2 Lifelong learning	71.81	8
Further education		
3.2.1 Quality of management schools.....	81.46	3
3.2.2 Extent of staff training.....	62.15	20
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	70.34	8
Networks		
3.3.1 Use of virtual social networks.....	93.88	2
3.3.2 Number of LinkedIn users.....	75.00	6
Learning through experience		
3.3.3 Willingness to delegate authority.....	65.28	14
Voice		
3.3.4 Voicing concern to officials.....	47.20	31
4 Retain	61.49	21
4.1 Sustainability	45.99	30
Social protection		
4.1.1 Pension system.....	93.14	8
Taxation		
4.1.2 Extent and effect of taxation.....	50.82	22
Pay		
4.1.3 Pay level – head of organisation.....	15.84	57
4.1.4 Pay level – head of information technology.....	24.14	37
4.2 Lifestyle	76.99	13
Quality of life		
4.2.1 Environmental performance.....	83.37	12
4.2.2 Safety at night.....	76.23	22
4.2.3 Female part-time workers.....	81.27	9
Access to services		
4.2.4 Physician density.....	44.06	37
4.2.5 Sanitation.....	100.00	1
5 Labour and Vocational	58.14	10
5.1 Employable skills	61.16	19
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	50.70	33
5.1.2 Secondary-educated population.....	72.04	14
Technical professions		
5.1.3 Technicians and associate professionals.....	54.23	34
Employment quality		
5.1.4 State of cluster development.....	67.64	11
5.2 Labour productivity	55.13	9
Labour productivity		
5.2.1 Labour productivity per employee.....	51.35	15
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	63.30	8
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	50.75	35
6 Global Knowledge	57.70	6
6.1 Higher skills and competencies	63.70	8
Educated workforce		
6.1.1 Tertiary-educated workforce.....	59.93	11
6.1.2 Tertiary-educated population.....	55.01	12
Knowledge workers		
6.1.3 Professionals.....	71.95	4
6.1.4 Researchers.....	45.98	16
6.1.5 Legislators, senior officials and managers.....	57.06	8
Research quality		
6.1.6 Quality of scientific research institutions.....	87.36	3
6.1.7 Scientific and technical journal articles.....	68.60	12
6.2 Talent impact	51.70	5
Innovation		
6.2.1 Innovation output.....	76.27	4
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	43.24	41
6.2.3 New business density.....	52.53	7
High-value exports		
6.2.4 Sophisticated exports.....	34.74	27

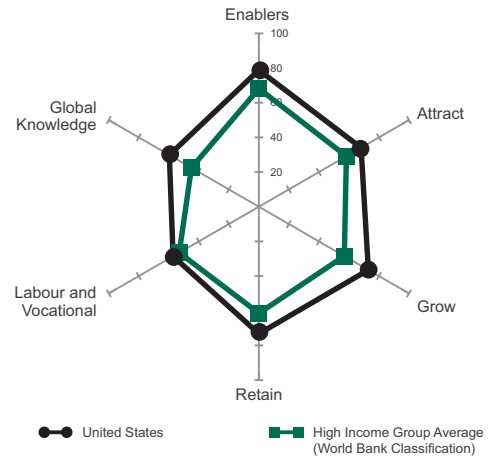
UNITED STATES

High Income
North America

RANK
(out of 93)

4

Population (millions) **316.13**
 GDP per capita (PPP\$) **53,142**
 GDP (US\$ billions) **16,800.00**
 GTCI Score **68.32**
 GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	78.87	9
1.1 Regulatory landscape	69.07	24
Government efficiency		
1.1.1 Government effectiveness.....	79.85	17
1.1.2 Business-government relations.....	53.69	52
1.1.3 Political stability.....	81.21	30
FDI climate		
1.1.4 Starting a foreign business.....	61.54	12
1.2 Market landscape	83.26	1
Competition climate		
1.2.1 Intensity of local competition.....	80.31	10
Innovation climate		
1.2.2 Venture capital deals.....	98.02	3
1.2.3 Firm-level technology absorption.....	83.23	9
1.2.4 R&D expenditure.....	62.79	9
Connectivity		
1.2.5 ICT access.....	77.32	24
Ease of doing business		
1.2.6 Ease of doing business.....	97.90	3
1.3 Business landscape	84.27	8
Labour market flexibility		
1.3.1 Difficulty of hiring.....	100.00	1
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	60.98	28
Ownership and governance		
1.3.4 Reliance on professional management.....	76.10	15
2 Attract	68.07	11
2.1 External openness	52.79	13
Industrial openness		
2.1.1 FDI inflow.....	12.18	73
2.1.2 FDI and technology transfer.....	64.51	35
2.1.3 Prevalence of foreign ownership.....	67.43	36
Migration openness		
2.1.4 Male adult migrants.....	34.94	16
2.1.5 Female adult migrants.....	33.49	18
2.1.6 Brain gain.....	79.00	5
2.1.7 Brain drain.....	78.00	4
2.2 Internal openness	83.35	7
Diversity		
2.2.1 Tolerance to minorities.....	88.96	12
2.2.2 Tolerance to immigrants.....	87.25	13
Gender mobility		
2.2.3 Female graduates.....	68.84	40
2.2.4 Female-to-male earnings ratio.....	95.24	5
Social mobility		
2.2.5 Social mobility.....	76.46	17
3 Grow	72.93	2
3.1 Formal education	66.18	7
Education climate		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	94.35	3
Internationalisation of education		
3.1.3 International student inflow.....	15.53	37
Performance of education system		
3.1.4 Reading, maths and science scores.....	55.10	25
3.1.5 University ranking.....	99.76	2
3.2 Lifelong learning	70.44	10
Further education		
3.2.1 Quality of management schools.....	74.80	12
3.2.2 Extent of staff training.....	66.08	12
Continuous development		
3.2.3 Firms offering formal training.....	n/a	n/a

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	82.18	2
Networks		
3.3.1 Use of virtual social networks.....	89.80	8
3.3.2 Number of LinkedIn users.....	100.00	1
Learning through experience		
3.3.3 Willingness to delegate authority.....	69.97	9
Voice		
3.3.4 Voicing concern to officials.....	68.95	14
4 Retain	73.26	3
4.1 Sustainability	78.52	2
Social protection		
4.1.1 Pension system.....	92.13	10
Taxation		
4.1.2 Extent and effect of taxation.....	52.02	19
Pay		
4.1.3 Pay level – head of organisation.....	69.93	5
4.1.4 Pay level – head of information technology.....	100.00	1
4.2 Lifestyle	67.99	28
Quality of life		
4.2.1 Environmental performance.....	67.53	31
4.2.2 Safety at night.....	73.59	24
4.2.3 Female part-time workers.....	60.88	23
Access to services		
4.2.4 Physician density.....	38.42	45
4.2.5 Sanitation.....	99.54	29
5 Labour and Vocational	57.14	13
5.1 Employable skills	54.05	36
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	28.79	63
5.1.2 Secondary-educated population.....	62.79	22
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	70.57	5
5.2 Labour productivity	60.23	3
Labour productivity		
5.2.1 Labour productivity per employee.....	69.56	3
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	63.22	9
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	47.92	41
6 Global Knowledge	59.64	4
6.1 Higher skills and competencies	71.58	1
Educated workforce		
6.1.1 Tertiary-educated workforce.....	100.00	1
6.1.2 Tertiary-educated population.....	67.66	5
Knowledge workers		
6.1.3 Professionals.....	63.72	12
6.1.4 Researchers.....	50.91	10
6.1.5 Legislators, senior officials and managers.....	85.31	2
Research quality		
6.1.6 Quality of scientific research institutions.....	82.58	5
6.1.7 Scientific and technical journal articles.....	50.89	22
6.2 Talent impact	47.70	12
Innovation		
6.2.1 Innovation output.....	70.73	11
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	45.95	37
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	26.43	36

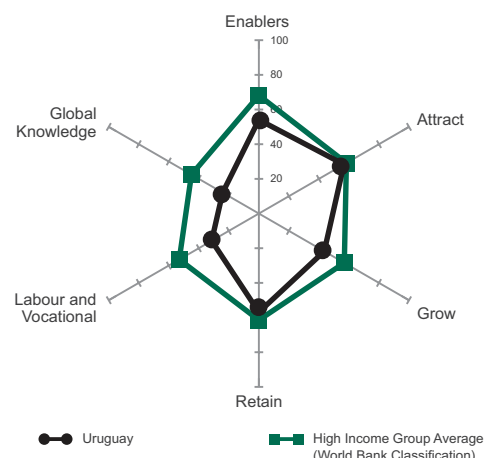
URUGUAY

High Income
Latin, Central America and Caribbean

RANK
(out of 93)

44

Population (millions) **3.41**
GDP per capita (PPP\$) **19,589**
GDP (US\$ billions) **55.71**
GTCI Score **44.46**
GTCI Score (Income Group Average) **57.13**



VARIABLE	SCORE	RANK
1 Enablers	54.09	46
1.1 Regulatory landscape	60.63	37
Government efficiency		
1.1.1 Government effectiveness.....	49.30	39
1.1.2 Business-government relations.....	49.49	58
1.1.3 Political stability.....	83.10	28
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	37.65	67
Competition climate		
1.2.1 Intensity of local competition.....	57.74	79
Innovation climate		
1.2.2 Venture capital deals.....	4.17	33
1.2.3 Firm-level technology absorption.....	57.02	65
1.2.4 R&D expenditure.....	8.47	58
Connectivity		
1.2.5 ICT access.....	65.77	39
Ease of doing business		
1.2.6 Ease of doing business.....	32.70	63
1.3 Business landscape	64.00	52
Labour market flexibility		
1.3.1 Difficulty of hiring.....	66.67	44
1.3.2 Difficulty of redundancy.....	100.00	1
1.3.3 Labour-employer cooperation.....	38.99	89
Ownership and governance		
1.3.4 Reliance on professional management.....	50.34	60
2 Attract	56.67	26
2.1 External openness	37.75	44
Industrial openness		
2.1.1 FDI inflow.....	42.23	22
2.1.2 FDI and technology transfer.....	70.12	16
2.1.3 Prevalence of foreign ownership.....	76.65	13
Migration openness		
2.1.4 Male adult migrants.....	4.82	62
2.1.5 Female adult migrants.....	5.25	60
2.1.6 Brain gain.....	27.00	67
2.1.7 Brain drain.....	38.17	52
2.2 Internal openness	75.59	18
Diversity		
2.2.1 Tolerance to minorities.....	92.77	7
2.2.2 Tolerance to immigrants.....	91.42	9
Gender mobility		
2.2.3 Female graduates.....	83.82	8
2.2.4 Female-to-male earnings ratio.....	48.81	52
Social mobility		
2.2.5 Social mobility.....	61.14	32
3 Grow	43.55	46
3.1 Formal education	29.30	48
Education climate		
3.1.1 Vocational enrolment.....	31.42	43
3.1.2 Tertiary enrolment.....	61.07	29
Internationalisation of education		
3.1.3 International student inflow.....	n/a	n/a
Performance of education system		
3.1.4 Reading, maths and science scores.....	17.44	49
3.1.5 University ranking.....	7.28	59
3.2 Lifelong learning	45.36	65
Further education		
3.2.1 Quality of management schools.....	52.83	58
3.2.2 Extent of staff training.....	46.03	63
Continuous development		
3.2.3 Firms offering formal training.....	37.22	41

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	55.99	32
Networks		
3.3.1 Use of virtual social networks.....	80.46	48
3.3.2 Number of LinkedIn users.....	32.52	24
Learning through experience		
3.3.3 Willingness to delegate authority.....	39.46	74
Voice		
3.3.4 Voicing concern to officials.....	71.50	11
4 Retain	56.89	31
4.1 Sustainability	53.61	18
Social protection		
4.1.1 Pension system.....	78.36	33
Taxation		
4.1.2 Extent and effect of taxation.....	32.84	69
Pay		
4.1.3 Pay level – head of organisation.....	49.63	11
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	60.17	40
Quality of life		
4.2.1 Environmental performance.....	45.12	54
4.2.2 Safety at night.....	40.25	68
4.2.3 Female part-time workers.....	56.75	26
Access to services		
4.2.4 Physician density.....	60.03	13
4.2.5 Sanitation.....	98.73	32
5 Labour and Vocational	31.43	79
5.1 Employable skills	39.24	63
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	72.61	18
5.1.2 Secondary-educated population.....	16.03	72
Technical professions		
5.1.3 Technicians and associate professionals.....	27.36	64
Employment quality		
5.1.4 State of cluster development.....	40.96	68
5.2 Labour productivity	23.62	87
Labour productivity		
5.2.1 Labour productivity per employee.....	18.12	51
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	22.82	93
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	29.91	64
6 Global Knowledge	24.12	63
6.1 Higher skills and competencies	25.14	60
Educated workforce		
6.1.1 Tertiary-educated workforce.....	28.96	55
6.1.2 Tertiary-educated population.....	18.11	68
Knowledge workers		
6.1.3 Professionals.....	28.05	51
6.1.4 Researchers.....	5.66	50
6.1.5 Legislators, senior officials and managers.....	32.77	36
Research quality		
6.1.6 Quality of scientific research institutions.....	43.22	59
6.1.7 Scientific and technical journal articles.....	19.24	46
6.2 Talent impact	23.10	63
Innovation		
6.2.1 Innovation output.....	39.09	42
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	25.68	60
6.2.3 New business density.....	14.04	29
High-value exports		
6.2.4 Sophisticated exports.....	13.61	67

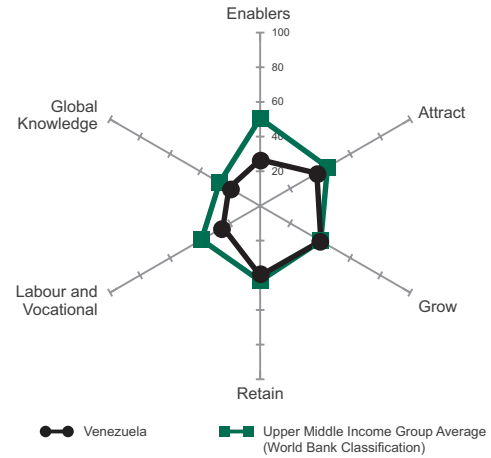
VENEZUELA

Upper Middle Income
Latin, Central America and Caribbean

RANK
(out of 93)

84

Population (millions) **30.41**
 GDP per capita (PPP\$) **18,193**
 GDP (US\$ billions) **438.28**
 GTCI Score **31.76**
 GTCI Score (Income Group Average) **40.84**



VARIABLE	SCORE	RANK
1 Enablers	26.63	93
1.1 Regulatory landscape	18.94	92
Government efficiency		
1.1.1 Government effectiveness.....	3.98	92
1.1.2 Business-government relations.....	11.42	93
1.1.3 Political stability.....	41.42	80
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	30.31	84
Competition climate		
1.2.1 Intensity of local competition.....	34.06	93
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	51.61	83
1.2.4 R&D expenditure.....	n/a	n/a
Connectivity		
1.2.5 ICT access.....	35.57	65
Ease of doing business		
1.2.6 Ease of doing business.....	0.00	93
1.3 Business landscape	30.63	92
Labour market flexibility		
1.3.1 Difficulty of hiring.....	33.33	81
1.3.2 Difficulty of redundancy.....	0.00	92
1.3.3 Labour-employer cooperation.....	32.77	92
Ownership and governance		
1.3.4 Reliance on professional management.....	56.41	44
2 Attract	37.75	84
2.1 External openness	19.14	90
Industrial openness		
2.1.1 FDI inflow.....	10.67	80
2.1.2 FDI and technology transfer.....	38.53	92
2.1.3 Prevalence of foreign ownership.....	40.20	87
Migration openness		
2.1.4 Male adult migrants.....	9.92	50
2.1.5 Female adult migrants.....	13.17	42
2.1.6 Brain gain.....	8.00	92
2.1.7 Brain drain.....	13.50	92
2.2 Internal openness	56.36	54
Diversity		
2.2.1 Tolerance to minorities.....	64.25	53
2.2.2 Tolerance to immigrants.....	67.36	35
Gender mobility		
2.2.3 Female graduates.....	73.60	31
2.2.4 Female-to-male earnings ratio.....	40.48	67
Social mobility		
2.2.5 Social mobility.....	36.12	88
3 Grow	40.46	55
3.1 Formal education	27.87	49
Education climate		
3.1.1 Vocational enrolment.....	11.00	70
3.1.2 Tertiary enrolment.....	76.33	11
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	24.13	46
3.2 Lifelong learning	47.94	61
Further education		
3.2.1 Quality of management schools.....	53.64	55
3.2.2 Extent of staff training.....	44.01	74
Continuous development		
3.2.3 Firms offering formal training.....	46.18	34

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	45.56	57
Networks		
3.3.1 Use of virtual social networks.....	80.71	46
3.3.2 Number of LinkedIn users.....	16.88	43
Learning through experience		
3.3.3 Willingness to delegate authority.....	39.15	77
Voice		
3.3.4 Voicing concern to officials.....	45.50	36
4 Retain	40.21	70
4.1 Sustainability	34.34	64
Social protection		
4.1.1 Pension system.....	33.57	58
Taxation		
4.1.2 Extent and effect of taxation.....	41.67	52
Pay		
4.1.3 Pay level – head of organisation.....	34.37	22
4.1.4 Pay level – head of information technology.....	27.75	28
4.2 Lifestyle	46.08	67
Quality of life		
4.2.1 Environmental performance.....	51.87	47
4.2.2 Safety at night.....	0.00	91
4.2.3 Female part-time workers.....	42.98	41
Access to services		
4.2.4 Physician density.....	n/a	n/a
4.2.5 Sanitation.....	89.48	54
5 Labour and Vocational	24.77	88
5.1 Employable skills	28.70	77
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	26.45	68
5.1.2 Secondary-educated population.....	31.99	53
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	27.67	91
5.2 Labour productivity	20.83	91
Labour productivity		
5.2.1 Labour productivity per employee.....	16.77	52
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	29.62	89
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	16.09	88
6 Global Knowledge	20.74	73
6.1 Higher skills and competencies	20.61	71
Educated workforce		
6.1.1 Tertiary-educated workforce.....	43.43	30
6.1.2 Tertiary-educated population.....	26.45	54
Knowledge workers		
6.1.3 Professionals.....	n/a	n/a
6.1.4 Researchers.....	1.81	57
6.1.5 Legislators, senior officials and managers.....	n/a	n/a
Research quality		
6.1.6 Quality of scientific research institutions.....	28.92	84
6.1.7 Scientific and technical journal articles.....	2.44	80
6.2 Talent impact	20.86	67
Innovation		
6.2.1 Innovation output.....	24.87	72
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	25.68	60
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	12.04	84

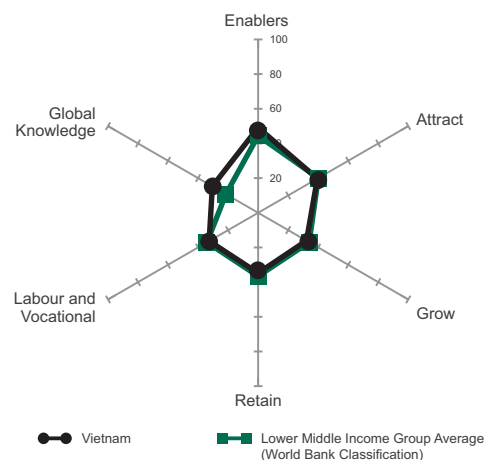
VIETNAM

Lower Middle Income
Eastern, Southeastern Asia and Oceania

RANK
(out of 93)

75

Population (millions) **89.71**
GDP per capita (PPP\$) **5,293**
GDP (US\$ billions) **171.39**
GTCI Score **36.45**
GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	49.13	60
1.1 Regulatory landscape	52.78	51
Government efficiency		
1.1.1 Government effectiveness.....	28.22	67
1.1.2 Business-government relations.....	59.13	38
1.1.3 Political stability.....	71.83	41
FDI climate		
1.1.4 Starting a foreign business.....	51.92	21
1.2 Market landscape	30.06	85
Competition climate		
1.2.1 Intensity of local competition.....	70.10	40
Innovation climate		
1.2.2 Venture capital deals.....	0.06	56
1.2.3 Firm-level technology absorption.....	46.08	91
1.2.4 R&D expenditure.....	3.62	68
Connectivity		
1.2.5 ICT access.....	34.36	67
Ease of doing business		
1.2.6 Ease of doing business.....	26.10	69
1.3 Business landscape	64.56	49
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	56.36	42
Ownership and governance		
1.3.4 Reliance on professional management.....	42.87	82
2 Attract	39.46	79
2.1 External openness	32.37	65
Industrial openness		
2.1.1 FDI inflow.....	45.39	21
2.1.2 FDI and technology transfer.....	52.03	69
2.1.3 Prevalence of foreign ownership.....	53.53	66
Migration openness		
2.1.4 Male adult migrants.....	0.10	92
2.1.5 Female adult migrants.....	0.02	92
2.1.6 Brain gain.....	41.67	43
2.1.7 Brain drain.....	33.83	60
2.2 Internal openness	46.56	77
Diversity		
2.2.1 Tolerance to minorities.....	65.65	52
2.2.2 Tolerance to immigrants.....	47.26	65
Gender mobility		
2.2.3 Female graduates.....	11.45	78
2.2.4 Female-to-male earnings ratio.....	63.10	27
Social mobility		
2.2.5 Social mobility.....	45.33	73
3 Grow	32.21	83
3.1 Formal education	21.89	63
Education climate		
3.1.1 Vocational enrolment.....	n/a	n/a
3.1.2 Tertiary enrolment.....	21.21	68
Internationalisation of education		
3.1.3 International student inflow.....	0.00	64
Performance of education system		
3.1.4 Reading, maths and science scores.....	66.34	11
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	45.39	64
Further education		
3.2.1 Quality of management schools.....	38.64	84
3.2.2 Extent of staff training.....	45.18	67
Continuous development		
3.2.3 Firms offering formal training.....	52.34	29

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	29.36	90
Networks		
3.3.1 Use of virtual social networks.....	68.35	79
3.3.2 Number of LinkedIn users.....	1.28	70
Learning through experience		
3.3.3 Willingness to delegate authority.....	39.51	73
Voice		
3.3.4 Voicing concern to officials.....	8.30	84
4 Retain	34.79	77
4.1 Sustainability	25.45	88
Social protection		
4.1.1 Pension system.....	20.34	72
Taxation		
4.1.2 Extent and effect of taxation.....	39.35	56
Pay		
4.1.3 Pay level – head of organisation.....	16.68	55
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	44.12	69
Quality of life		
4.2.1 Environmental performance.....	20.24	86
4.2.2 Safety at night.....	66.64	33
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	18.73	59
4.2.5 Sanitation.....	70.87	67
5 Labour and Vocational	32.64	76
5.1 Employable skills	26.86	80
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	n/a	n/a
5.1.2 Secondary-educated population.....	19.61	63
Technical professions		
5.1.3 Technicians and associate professionals.....	12.94	78
Employment quality		
5.1.4 State of cluster development.....	48.05	50
5.2 Labour productivity	38.41	56
Labour productivity		
5.2.1 Labour productivity per employee.....	3.46	79
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	61.19	12
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	50.57	36
6 Global Knowledge	30.49	48
6.1 Higher skills and competencies	11.71	88
Educated workforce		
6.1.1 Tertiary-educated workforce.....	n/a	n/a
6.1.2 Tertiary-educated population.....	11.14	74
Knowledge workers		
6.1.3 Professionals.....	10.06	78
6.1.4 Researchers.....	1.05	64
6.1.5 Legislators, senior officials and managers.....	3.39	80
Research quality		
6.1.6 Quality of scientific research institutions.....	40.00	66
6.1.7 Scientific and technical journal articles.....	4.60	70
6.2 Talent impact	49.28	7
Innovation		
6.2.1 Innovation output.....	37.34	47
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	54.05	23
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	56.44	9

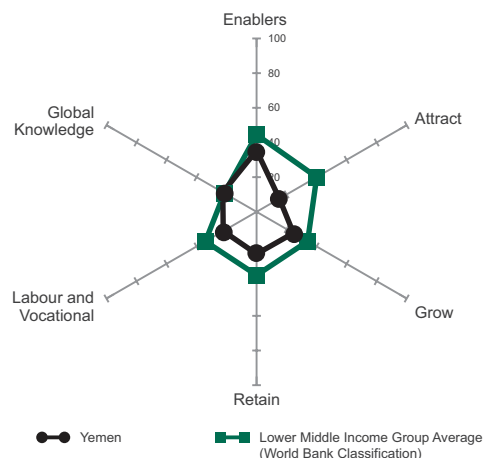
YEMEN

Lower Middle Income
Northern Africa and Western Asia

RANK
(out of 93)

93

Population (millions) **24.41**
 GDP per capita (PPP\$) **3,958**
 GDP (US\$ billions) **35.95**
 GTCI Score **24.03**
 GTCI Score (Income Group Average) **35.11**



VARIABLE	SCORE	RANK
1 Enablers	35.41	89
1.1 Regulatory landscape	14.64	93
Government efficiency		
1.1.1 Government effectiveness.....	0.00	93
1.1.2 Business-government relations.....	37.79	83
1.1.3 Political stability.....	6.15	92
FDI climate		
1.1.4 Starting a foreign business.....	n/a	n/a
1.2 Market landscape	31.02	82
Competition climate		
1.2.1 Intensity of local competition.....	55.96	81
Innovation climate		
1.2.2 Venture capital deals.....	n/a	n/a
1.2.3 Firm-level technology absorption.....	51.25	84
1.2.4 R&D expenditure.....	n/a	n/a
Connectivity		
1.2.5 ICT access.....	8.19	88
Ease of doing business		
1.2.6 Ease of doing business.....	8.70	85
1.3 Business landscape	60.57	58
Labour market flexibility		
1.3.1 Difficulty of hiring.....	89.00	22
1.3.2 Difficulty of redundancy.....	70.00	47
1.3.3 Labour-employer cooperation.....	52.67	57
Ownership and governance		
1.3.4 Reliance on professional management.....	30.63	92
2 Attract	15.18	93
2.1 External openness	18.01	93
Industrial openness		
2.1.1 FDI inflow.....	11.99	74
2.1.2 FDI and technology transfer.....	41.29	91
2.1.3 Prevalence of foreign ownership.....	28.79	92
Migration openness		
2.1.4 Male adult migrants.....	4.02	67
2.1.5 Female adult migrants.....	2.48	70
2.1.6 Brain gain.....	19.50	81
2.1.7 Brain drain.....	18.00	85
2.2 Internal openness	12.34	93
Diversity		
2.2.1 Tolerance to minorities.....	0.00	91
2.2.2 Tolerance to immigrants.....	9.41	86
Gender mobility		
2.2.3 Female graduates.....	1.60	79
2.2.4 Female-to-male earnings ratio.....	13.10	84
Social mobility		
2.2.5 Social mobility.....	37.60	86
3 Grow	24.54	90
3.1 Formal education	6.87	88
Education climate		
3.1.1 Vocational enrolment.....	1.50	85
3.1.2 Tertiary enrolment.....	6.41	83
Internationalisation of education		
3.1.3 International student inflow.....	19.59	28
Performance of education system		
3.1.4 Reading, maths and science scores.....	n/a	n/a
3.1.5 University ranking.....	0.00	63
3.2 Lifelong learning	24.16	93
Further education		
3.2.1 Quality of management schools.....	30.25	91
3.2.2 Extent of staff training.....	38.48	83
Continuous development		
3.2.3 Firms offering formal training.....	3.75	66

VARIABLE	SCORE	RANK
3.3 Access to growth opportunities	42.58	64
Networks		
3.3.1 Use of virtual social networks.....	60.58	88
3.3.2 Number of LinkedIn users.....	n/a	n/a
Learning through experience		
3.3.3 Willingness to delegate authority.....	46.54	45
Voice		
3.3.4 Voicing concern to officials.....	20.62	68
4 Retain	24.30	88
4.1 Sustainability	20.07	92
Social protection		
4.1.1 Pension system.....	10.04	77
Taxation		
4.1.2 Extent and effect of taxation.....	30.10	75
Pay		
4.1.3 Pay level – head of organisation.....	n/a	n/a
4.1.4 Pay level – head of information technology.....	n/a	n/a
4.2 Lifestyle	28.53	85
Quality of life		
4.2.1 Environmental performance.....	7.33	91
4.2.2 Safety at night.....	59.29	42
4.2.3 Female part-time workers.....	n/a	n/a
Access to services		
4.2.4 Physician density.....	1.84	84
4.2.5 Sanitation.....	45.66	81
5 Labour and Vocational	22.22	92
5.1 Employable skills	23.66	86
Vocationally trained workforce		
5.1.1 Secondary-educated workforce.....	17.06	76
5.1.2 Secondary-educated population.....	n/a	n/a
Technical professions		
5.1.3 Technicians and associate professionals.....	n/a	n/a
Employment quality		
5.1.4 State of cluster development.....	30.26	88
5.2 Labour productivity	20.78	92
Labour productivity		
5.2.1 Labour productivity per employee.....	4.86	77
Pay and productivity		
5.2.2 Relationship of pay to productivity.....	44.10	69
Mid-value exports		
5.2.3 Vocational skill-intensive exports.....	13.39	91
6 Global Knowledge	22.50	66
6.1 Higher skills and competencies	16.42	79
Educated workforce		
6.1.1 Tertiary-educated workforce.....	9.76	78
6.1.2 Tertiary-educated population.....	n/a	n/a
Knowledge workers		
6.1.3 Professionals.....	40.55	37
6.1.4 Researchers.....	n/a	n/a
6.1.5 Legislators, senior officials and managers.....	14.12	67
Research quality		
6.1.6 Quality of scientific research institutions.....	16.05	93
6.1.7 Scientific and technical journal articles.....	1.64	84
6.2 Talent impact	28.59	53
Innovation		
6.2.1 Innovation output.....	0.35	92
Entrepreneurship		
6.2.2 New product entrepreneurial activity.....	74.32	5
6.2.3 New business density.....	n/a	n/a
High-value exports		
6.2.4 Sophisticated exports.....	11.09	91

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 second edition of the Global Talent Competitiveness Index (GTCI), the GTCI development team engaged the JRC to conduct an audit.¹ This exercise has provided external validation and improved the statistical methods to ensure consistency and rigour in the model.

In May 2014, an earlier version of the GTCI 2014 was submitted to the JRC team. The results from the preliminary audit were taken into account and reflected in the final version of the GTCI model, as appropriate. The final audit was then performed end of August 2014 based on the latest model, the results of which can be found in Chapter 7.

Composite indicators

The GTCI framework builds on six pillars: Enablers, Attract, Grow, Retain, Labour and Vocational Skills, and Global Knowledge Skills. Each pillar consists of two to three sub-pillars. Each sub-pillar is composed of three to eight 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, the 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.²

In addition to the overall index scores, economy rankings are provided for each indicator, sub-pillar, pillar and sub-index in the Country Profiles.

Individual indicators

The GTCI 2014 model includes 65 indicators, which fall within the following categories:

1. Hard/quantitative data (31 indicators)
2. Index/composite indicator data (10 indicators)
3. Survey/qualitative data (24 indicators)³

Hard data

The 31 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 the 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 economy coverage.

Country/economy coverage and missing data

The 93 economies covered in the GTCI 2014 were selected based on an aggregate data availability threshold of at least 80% (52 out of 65 indicators) and a sub-pillar level data availability threshold of at least 40%.⁴ The most recent data points for each economy were considered in the calculation, with 2002 as the cut-off year. Meanwhile, each indicator had to pass a country-based availability threshold of 50% (47 out of 93 economies). In order to provide transparency and replicability, there was no imputation effort to fill in missing values in the data set. Missing values were noted with “n/a” and were not considered in the calculation of sub-pillar scores.

Treatment of series with outliers

Inclusion of series with outliers can be problematic and potentially bias the rankings. Outliers were detected based on an absolute value of skewness greater than two and kurtosis greater than 3.5.⁵ 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:⁶

$$\text{LN} (\text{max} \times \text{factor} - 1) \times \frac{(\text{value} - \text{min})}{(\text{max} - \text{min})} + 1$$

Normalisation

To adjust for differences in units of measurement and ranges of variation, all 93 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 Executive Opinion Survey questions, where the original range of [1, 7] was kept as minimum and maximum values. Additionally, for the 1.2.6. Ease of doing business indicator, which is based on percent ranks, percent ranks were recalibrated for the sample of 93 economies.

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:⁷

$$-100 \times \frac{(\text{value} - \text{min})}{(\text{max} - \text{min})}$$

NOTES

- ¹ The 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).
- ² 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 the GTCI a balanced structure.
- ³ To compare this to the first edition of the GTCI, there were 48 variables in total with 19 hard/quantitative, nine index/composite and 20 survey/qualitative variables.
- ⁴ Given the increase in variables from 48 to 65, this data coverage is deemed sufficient to draw conclusions.
- ⁵ Adopted from Groeneveld and Meeden (1984). This selection rule is also used by INSEAD-WIPO's The Global Innovation Index (GII).
- ⁶ The formula ensures that natural logarithms are positive and starting at zero. This approach is also used by INSEAD-WIPO's GI.
- ⁷ The reverse normalisation only affects two indicators, namely 1.3.1 Difficulty of hiring and 1.3.2 Difficulty of redundancy.

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APPENDIX II

SOURCES AND DEFINITIONS

SOURCES AND DEFINITIONS

1. Enablers

1.1 Regulatory Landscape

Government efficiency

1.1.1 Government effectiveness

Government effectiveness index | 2012

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, 2013 Update*. (info.worldbank.org/governance/wgi)

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] | 2013

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 2012–2013*. (wefsurvey.org)

1.1.3 Political stability

Political stability and absence of violence index | 2012

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, 2013 Update*. (info.worldbank.org/governance/wgi)

FDI climate

1.1.4 Starting a foreign business

Ease of establishment index | 2012

The ease of establishment index evaluates the characteristics of regulatory regimes for business start-up. The index takes values from zero 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 (counsel, notary, investment promotion agency) during the establishment process; (3) Possibility of expediting establishment procedures through an official channel (availability of fast-track procedures); (4) Requirement of an investment approval (nature of investment approval requirement, possibility of appeal, minimum required amount of investment, period of validity); (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)

1.2 Market Landscape

Competition climate

1.2.1 Intensity of local competition

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] | 2013

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 2012–2013*. (wefsurvey.org)

Innovation climate

1.2.2 Venture capital deals

Number of deals (per billion PPP\$ GDP) | 2013

Venture capital deals refer to Thomson ONE data on venture capital deals. The series corresponds to a query on venture capital deals from 1 January 2013 to 31 December 2013, with the data collected by investment location, for a total of 8,337 deals in 77 countries in 2013. The data is reported per billion PPP\$ GDP (current US\$).

Source: Thomson Reuters, *Thomson ONE – Deals database*; World Bank, *World Development Indicators*. (banker.thomsonib.com; data.worldbank.org)

1.2.3 Firm-level technology absorption

Average answer to the question: To what extent do businesses in your country absorb new technology? [1 = not at all; 7 = aggressively absorb] | 2013

The World Economic Forum's Executive 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 2012–2013. (wefsurvey.org)

1.2.4 R&D expenditure

Gross expenditure on R&D (%) | 2011

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)

Connectivity

1.2.5 ICT access

ICT access index | 2012

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 2013, ICT Development Index 2011–2012*. (itu.int/ITU-D/ict/publications/idi)

Ease of doing business

1.2.6 Ease of doing business

Ease of doing business index | 2014

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 include starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading

across borders, enforcing contracts, and resolving insolvency. A high ranking indicates that the regulatory environment is more conducive to setting up business.

Source: World Bank, *Doing Business – Measuring Business Regulations, Doing Business 2014*. (doingbusiness.org)

1.3 Business Landscape

Labour market flexibility

1.3.1 Difficulty of hiring

Difficulty of hiring index | 2014

The difficulty 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 zero and 100, with higher values indicating more rigid regulation.

Source: World Bank, *Doing Business – Measuring Business Regulations, Doing Business 2014*. (doingbusiness.org)

1.3.2 Difficulty of redundancy

Difficulty of redundancy index | 2014

The difficulty 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 zero and 100, with higher values indicating more rigid regulation.

Source: World Bank, *Doing Business – Measuring Business Regulations, Doing Business 2014*. (doingbusiness.org)

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] | 2013

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 2012–2013. (wefsurvey.org)

Ownership and governance

1.3.4 Reliance on 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] | 2013

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 2012–2013. (wefsurvey.org)

2. Attract

2.1 External Openness

Industrial openness

2.1.1 FDI inflow

FDI inflows (%) | 2012

FDI inflows refer to the capital provided (either directly or through other related enterprises) by a foreign direct investor to an FDI enterprise as a percentage of GDP. FDI includes the following three components: equity capital, reinvested earnings and intra-company loans. Data on FDI flows are presented on net bases (capital transactions' credits less debits between direct investors and their foreign affiliates). Net decreases in assets or net increases in liabilities are recorded as credits, while net increases in assets or net decreases in liabilities are recorded as debits.

Source: United Nations Conference on Trade and Development (UNCTAD) Division on Investment and Enterprise, UNCTAD STAT. (unctadstat.unctad.org)

2.1.2 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] | 2013

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 2012–2013. (wefsurvey.org)

2.1.3 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] | 2013

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 2012–2013. (wefsurvey.org)

Migration openness

2.1.4 Male adult migrants

Adult male migrant stock (%) | 2013

Adult male migrant stock refers to the percentage of male migrant stock (above 25 years old) out of its male population in the respective age group, based on 2013 estimation.

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex. (esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm)

2.1.5 Female adult migrants

Adult female migrant stock (%) | 2013

Adult female migrant stock refers to the percentage of female migrant stock (above 25 years old) out of its female population in the respective age group, based on 2013 estimation.

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex. (esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm)

2.1.6 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] | 2013

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 2012–2013. (wefsurvey.org)

2.1.7 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] | 2013

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 2012–2013. (wefsurvey.org)

2.2 Internal Openness

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 for racial and ethnic minorities to live? | 2012

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 2013 based on Gallup World Poll. (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 for immigrants to live? | 2012

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 2013 based on Gallup World Poll. (prosperity.com)

Gender mobility

2.2.3 Female graduates

Female tertiary graduates (%) | 2012

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)

2.2.4 Female-to-male earnings ratio

Estimated earned income ratio | 2013

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 2013. (weforum.org/reports/global-gender-gap-report-2013)

Social mobility

2.2.5 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] | 2013

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 2012–2013. (wefsurvey.org)

3. Grow

3.1 Formal Education

Education climate

3.1.1 Vocational enrolment

Vocational enrolment (%) | 2012

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)

3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2012

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)

Internationalisation of education

3.1.3 International student inflow

Tertiary inbound mobility ratio (%) | 2012

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)

Performance of the education system

3.1.4 Reading, maths and science scores

PISA average scales in reading, mathematics and science | 2012

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). (pisa.oecd.org)

3.1.5 University ranking

QS world university ranking | 2013

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 2013/2014, Top Universities. (topuniversities.com/university-rankings/world-universityrankings/2013)

3.2 Lifelong Learning

Further education

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] | 2013

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 2012–2013. (wefsurvey.org)

3.2.2 Extent of staff training

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] | 2013

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 2012–2013. (wefsurvey.org)

Continuous development

3.2.3 Firms offering formal training

Proportion of firms offering formal training (%) | 2013

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. (enterprisesurveys.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] | 2013

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 2012–2013. (wefsurvey.org)

3.3.2 Number of LinkedIn users

LinkedIn users (per 1,000 labour force) | 2013

LinkedIn users refer to the number of registered LinkedIn accounts per 1,000 labour force.

Source: LinkedIn, LinkedIn Campaign Manager and International Labour Organization, Key Indicators of the Labour Market, 8th edition. (linkedin.com/ads; ilo.org/kilm)

Learning through experience

3.3.3 Willingness to delegate 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] | 2013

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 2012–2013. (wefsurvey.org)

Voice

3.3.4 Voicing concern to officials

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 2013 based on Gallup World Poll. (prosperity.com)

4. Retain

4.1 Sustainability

Social protection

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 active workforce contributing to the pension system.

Source: World Bank, International Patterns of Pension Provision II: A Worldwide Overview of Facts and Figures. (openknowledge.worldbank.org/handle/10986/13560)

Taxation

4.1.2 Extent and effect of 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] | 2013

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 2012–2013. (wefsurvey.org)

Pay

4.1.3 Pay level – head of organisation

Pay level (deflated by retail price index) | 2013

Pay level refers to total cash compensation (mid value) for the head of an organisation in US\$. Salary figures are drawn from Mercer's 2013 Total Remuneration Surveys and their compensation databases. Mercer applies globally consistent methodology of defining pay and positions, and its vast, country-by-country database of compensation data. Pay data within each country matches its core benchmark position structure, using Mercer's International Position Evaluation (IPE) methodology. The IPE methodology ensures that position levels are consistently and accurately matched, regardless of the country or industry. The figure is deflated by retail price index which is based on data collected through place-to-place surveys covering prices of a basket of representative goods and services (e.g., food and non-alcoholic beverage, alcoholic beverages and tobacco, clothing and footwear, housing, water, electricity, gas and fuels, furniture, household

equipment and routine maintenance of the house, health, transport, communication, recreation and culture, education, restaurants and hotels, etc.) as well as expenditures of United Nations staff, calculated using the Modified Walsh index formula. The index compares the US\$ costs between a duty station and New York City, the base of the UN Common System. These indexes are updated to reflect price changes over time at the duty station and New York, movements in the exchange rate of the local currency vis-à-vis the US\$, and to adjust for expenditures made by the staff outside the duty station. Most of the duty stations are the capital city, except those in Australia (Sydney), Benin (Cotonou), Canada (Montreal), Switzerland (Geneva), Germany (Bonn), Kazakhstan (Almaty), Moldova (Kishinev), Netherlands (The Hague) and New Zealand (Auckland).

Source: Mercer, *Mercer Global Pay Summary 2013 Edition*; United Nation International Civil Service Commission, *Monthly Bulletin of Statistics Online*. (imercer.com/products/2014/global-pay-summary.aspx; unstats.un.org/unsd/mbs)

4.1.4 Pay level – head of information technology Pay level (deflated by retail price index) | 2013

Pay level refers to total cash compensation (mid value) for the head of information technology of an organisation in US\$. See indicator 4.1.3 “Pay level – head of organisation” for details.

Source: Mercer, *Mercer Global Pay Summary 2013 Edition*; United Nation International Civil Service Commission, *Monthly Bulletin of Statistics Online*. (imercer.com/products/2014/global-pay-summary.aspx; unstats.un.org/unsd/mbs)

4.2 Lifestyle

Quality of life

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)

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 2013 based on Gallup World Poll*. (prosperity.com)

4.2.3 Female part-time workers 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. (ilo.org/kilm)

Access to services

4.2.4 Physician density Physicians (per 1,000 people) | 2012

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)

4.2.5 Improved sanitation Population with access to improved sanitation facilities (%) | 2011

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)

5. Labour and Vocational Skills

5.1 Employable Skills

Vocationally trained workforce

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. (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)

Technical professions

5.1.3 Technicians and associate professionals Technicians and associate professionals (%) | 2012

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. (ilo.org/kilm)

Employment quality

5.1.4 State of 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] | 2013

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 2012–2013*. (wefsurvey.org)

5.2 Labour Productivity

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*. (conference-board.org/data/economydatabase)

Pay and productivity

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] | 2013

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 2012–2013*. (wefsurvey.org)

Mid-value exports

5.2.3 Vocational skill-intensive 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); 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

6.1 Higher Skills and Competencies

Educated workforce

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. (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)

Knowledge workers

6.1.3 Professionals

Professionals (%) | 2012

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. (ilo.org/kilm)

6.1.4 Researchers

Full-time equivalent researchers (per million population) | 2011

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)

6.1.5 Legislators, senior officials and managers

Legislators, senior officials and managers (%) | 2012

Legislators, senior officials and managers refer to the percentage of legislators, senior officials and managers out 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. (ilo.org/kilm)

Research quality

6.1.6 Quality of scientific research institutions

Average answer to the question: How would you assess the quality of scientific research institutions in your country? [1 = very poor; 7 = the best in their field internationally] | 2013

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 2012–2013*. (wefsurvey.org)

6.1.7 Scientific and technical 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; imf.org/external/pubs/ft/weo/2013/01/weodata/index.aspx)

6.2 Talent Impact

Innovation

6.2.1 Innovation output

Innovation output sub-index | 2013

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 2013*. (globalinnovationindex.org)

Entrepreneurship

6.2.2 New product entrepreneurial activity

New product entrepreneurial activity (%) | 2013

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*. (gemconsortium.org/data)

6.2.3 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*. (doingbusiness.org/data/exploretopics/entrepreneurship)

High-value exports

6.2.4 Sophisticated 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).

Source: World Bank, *World Integrated Trade Solutions database*. (wits.worldbank.org); Lall, S. (2000), *The Technological Structure and Performance of Developing Country Manufactured Exports*, *Oxford Development Studies*, Vol. 28, No. 3, 1985–89)

APPENDIX III

DATA TABLES

How to read the data tables

DATA TABLES

1 1.2.3 Firm-level technology absorption

2 Average answer to the question: To what extent do businesses in your country absorb new technology? [1 = not at all; 7 = aggressively absorb] | 2013

3

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Sweden	6.23	87.24	54	Trinidad and Tobago	4.68	61.38
2	Iceland	6.19	86.51	55	Croatia	4.65	60.88
3	Switzerland	6.12	85.32	56	Kazakhstan	4.63	60.46
4	United Arab Emirates	6.08	84.83	57	Mongolia	4.62	60.33
5	Israel	6.07	84.50	58	Pakistan	4.60	60.03
6	Japan	6.06	84.40	59	Cambodia	4.59	59.82
7	Finland	6.03	83.87	60	Peru	4.56	59.33
8	Norway	6.01	83.51	61	Lebanon	4.49	59.22
9	United States	5.99	83.23	62	Ecuador	4.49	58.18
10	Qatar	5.91	81.77	63	Greece	4.48	58.06
11	Luxembourg	5.90	81.71	64	Ghana	4.43	57.19
12	Singapore	5.93	80.56	65	Uruguay	4.42	57.02
13	Australia	5.82	80.32	66	Morocco	4.39	56.56
14	Saudi Arabia	5.78	79.68	67	Colombia	4.36	56.00
15	Germany	5.77	79.58	68	Armenia	4.36	56.00
16	Austria	5.76	79.32	69	Ukraine	4.34	55.69
17	New Zealand	5.74	78.99	70	Botswana	4.34	55.67
18	Denmark	5.72	78.74	71	El Salvador	4.29	54.75
19	South Korea	5.71	78.48	72	Paraguay	4.28	54.73
20	Netherlands	5.68	78.04	73	Romania	4.27	54.57
21	United Kingdom	5.65	77.56	74	Madagascar	4.26	54.35
22	Ireland	5.62	76.96	75	Albania	4.24	54.07
23	Belgium	5.59	76.55	76	Egypt	4.20	53.40
24	Panama	5.55	75.89	77	Bangladesh	4.20	53.37
25	Portugal	5.54	75.62	78	Italy	4.19	53.12
26	France	5.48	74.34	79	Bulgaria	4.16	52.61
27	Malaysia	5.46	74.29	80	Poland	4.15	52.48
28	Canada	5.45	74.14	81	Argentina	4.11	51.77
29	South Africa	5.39	73.10	82	Uganda	4.10	51.72
30	Estonia	5.38	73.01	83	Venezuela	4.10	51.51
31	Turkey	5.34	72.39	84	Yemen	4.08	51.25
32	Philippines	5.22	70.30	85	Iran	3.99	49.81
33	Guatemala	5.22	70.29	86	Macedonia	3.99	49.78
34	Lithuania	5.21	70.22	87	Moldova	3.95	49.21
35	Costa Rica	5.19	69.98	88	Bolivia	3.94	49.04
36	Chile	5.10	68.26	89	Russia	3.94	48.96
37	Indonesia	5.08	68.02	90	Nicaragua	3.86	47.62
38	Sri Lanka	5.08	68.02	91	Vietnam	3.76	46.08
39	India	5.05	67.48	92	Kyrgyzstan	3.70	44.97
40	Spain	5.04	67.41	93	Algeria	3.17	36.13
41	Thailand	5.02	66.95				
42	Brazil	5.00	66.86				
43	Czech Republic	4.95	65.83				
44	Dominican Republic	4.90	65.00				
45	Namibia	4.89	64.78				
46	Azerbaijan	4.87	64.49				
47	Slovenia	4.82	63.62				
48	Mexico	4.76	62.71				
49	Latvia	4.70	61.72				
50	Tunisia	4.69	61.53				
51	China	4.69	61.49				
52	Slovakia	4.69	61.46				
53	Hungary	4.69	61.45				

4 Source: World Economic Forum, Executive Opinion Survey 2012-2013. (wefsurvey.org)

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The appendix provides insights into the country rankings under each of the 65 variables that make up the Global Talent Competitiveness Index 2014 (GTCI).

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 the 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 Firm-level technology absorption” 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 exact 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 1.2.2 Venture capital deals, 2.1.1 FDI inflow, 2.1.4 Male adult migrants, 2.1.5 Female adult migrants and 3.1.3 International student inflow. 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.

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PILLAR 1:

ENABLERS

1.1.1 Government effectiveness

Government effectiveness index | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Finland.....	2.21	100.00	54	China.....	-0.01	36.73
2	Singapore.....	2.15	98.21	55	Tunisia.....	-0.02	36.12
3	Denmark.....	1.97	92.86	56	Armenia.....	-0.04	35.51
4	Sweden.....	1.94	92.18	57	Morocco.....	-0.04	35.27
5	Norway.....	1.89	90.77	58	Ghana.....	-0.07	34.46
6	Switzerland.....	1.88	90.33	59	Macedonia.....	-0.07	34.45
7	Netherlands.....	1.80	88.12	60	Brazil.....	-0.12	32.99
8	New Zealand.....	1.79	87.84	61	El Salvador.....	-0.14	32.45
9	Canada.....	1.75	86.80	62	Peru.....	-0.16	32.04
10	Luxembourg.....	1.66	84.08	63	India.....	-0.18	31.36
11	Australia.....	1.61	82.74	64	Sri Lanka.....	-0.24	29.78
12	Belgium.....	1.59	82.13	65	Argentina.....	-0.25	29.25
13	Germany.....	1.57	81.68	66	Albania.....	-0.28	28.52
14	Austria.....	1.56	81.17	67	Vietnam.....	-0.29	28.22
15	Ireland.....	1.53	80.39	68	Indonesia.....	-0.29	28.22
16	United Kingdom.....	1.53	80.31	69	Romania.....	-0.31	27.55
17	United States.....	1.51	79.85	70	Lebanon.....	-0.34	26.77
18	Iceland.....	1.49	79.12	71	Bolivia.....	-0.37	25.84
19	Japan.....	1.40	76.57	72	Russia.....	-0.43	24.36
20	France.....	1.33	74.64	73	Kazakhstan.....	-0.44	23.91
21	Chile.....	1.25	72.43	74	Ecuador.....	-0.51	21.94
22	Israel.....	1.25	72.42	75	Iran.....	-0.54	21.04
23	South Korea.....	1.20	70.90	76	Dominican Republic.....	-0.55	20.79
24	United Arab Emirates.....	1.14	69.16	77	Moldova.....	-0.55	20.73
25	Spain.....	1.11	68.30	78	Algeria.....	-0.55	20.71
26	Portugal.....	1.03	66.18	79	Uganda.....	-0.57	20.28
27	Slovenia.....	1.02	65.74	80	Ukraine.....	-0.58	19.84
28	Malaysia.....	1.01	65.49	81	Mongolia.....	-0.63	18.44
29	Estonia.....	0.96	64.08	82	Kyrgyzstan.....	-0.66	17.68
30	Qatar.....	0.95	63.64	83	Guatemala.....	-0.76	14.68
31	Czech Republic.....	0.92	62.84	84	Egypt.....	-0.77	14.52
32	Latvia.....	0.83	60.33	85	Azerbaijan.....	-0.78	14.26
33	Lithuania.....	0.83	60.28	86	Pakistan.....	-0.79	13.95
34	Slovakia.....	0.83	60.23	87	Bangladesh.....	-0.83	12.91
35	Croatia.....	0.70	56.48	88	Cambodia.....	-0.83	12.74
36	Poland.....	0.66	55.58	89	Nicaragua.....	-0.89	11.07
37	Hungary.....	0.62	54.29	90	Paraguay.....	-0.90	10.79
38	Costa Rica.....	0.49	50.52	91	Madagascar.....	-1.08	5.51
39	Uruguay.....	0.44	49.30	92	Venezuela.....	-1.14	3.98
40	Botswana.....	0.44	49.13	93	Yemen.....	-1.28	0.00
41	Italy.....	0.41	48.30				
42	Turkey.....	0.40	48.12				
43	Trinidad and Tobago.....	0.40	48.09				
44	South Africa.....	0.33	45.87				
45	Mexico.....	0.32	45.77				
46	Panama.....	0.31	45.53				
47	Greece.....	0.31	45.36				
48	Thailand.....	0.21	42.49				
49	Bulgaria.....	0.14	40.46				
50	Namibia.....	0.12	40.12				
51	Philippines.....	0.08	38.77				
52	Saudi Arabia.....	0.03	37.29				
53	Colombia.....	0.01	36.86				

Source: World Bank, The Worldwide Governance Indicators, 2013 Update. (info.worldbank.org/governance/wgi)

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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Singapore	6.26	87.75	54	Uganda	4.20	53.33
2	Qatar	6.10	84.99	55	Cambodia	4.16	52.63
3	Finland	5.91	81.80	56	Belgium	4.04	50.60
4	United Arab Emirates	5.90	81.60	57	Australia	4.01	50.10
5	Luxembourg	5.76	79.34	58	Uruguay	3.97	49.49
6	New Zealand	5.75	79.12	59	Tunisia	3.84	47.30
7	Switzerland	5.69	78.16	60	Poland	3.82	46.96
8	Norway	5.68	78.00	61	Ecuador	3.79	46.55
9	Ireland	5.53	75.58	62	Iceland	3.79	46.46
10	Malaysia	5.53	75.55	63	France	3.77	46.14
11	Chile	5.49	74.83	64	Lithuania	3.74	45.58
12	Sweden	5.47	74.49	65	Latvia	3.71	45.16
13	Netherlands	5.45	74.23	66	Albania	3.71	45.12
14	Canada	5.33	72.12	67	Czech Republic	3.69	44.90
15	Japan	5.25	70.80	68	Paraguay	3.69	44.83
16	Saudi Arabia	5.20	69.99	69	South Africa	3.58	43.01
17	Germany	5.10	68.31	70	Russia	3.53	42.09
18	Mexico	5.07	67.89	71	Moldova	3.50	41.72
19	United Kingdom	5.06	67.70	72	Croatia	3.46	40.98
20	Philippines	5.01	66.88	73	Iran	3.43	40.54
21	Denmark	5.00	66.71	74	Slovenia	3.42	40.36
22	Kazakhstan	4.96	65.92	75	Kyrgyzstan	3.41	40.17
23	Sri Lanka	4.94	65.64	76	Bolivia	3.40	40.03
24	Austria	4.90	65.03	77	Algeria	3.38	39.68
25	Botswana	4.86	64.28	78	Mongolia	3.37	39.55
26	Indonesia	4.82	63.64	79	Lebanon	3.36	39.34
27	Estonia	4.77	62.83	80	El Salvador	3.35	39.23
28	Turkey	4.77	62.77	81	Pakistan	3.35	39.18
29	Guatemala	4.74	62.32	82	Bulgaria	3.30	38.30
30	Spain	4.68	61.39	83	Yemen	3.27	37.79
31	China	4.68	61.36	84	Madagascar	3.26	37.60
32	Costa Rica	4.65	60.87	85	Romania	3.22	37.02
33	Morocco	4.62	60.29	86	Egypt	3.16	36.00
34	Colombia	4.61	60.10	87	Greece	3.14	35.73
35	Macedonia	4.60	60.06	88	Hungary	3.13	35.45
36	Panama	4.59	59.79	89	Ukraine	3.11	35.24
37	Namibia	4.56	59.26	90	Slovakia	2.94	32.34
38	Vietnam	4.55	59.13	91	Italy	2.86	30.99
39	Portugal	4.52	58.63	92	Argentina	2.16	19.25
40	Azerbaijan	4.51	58.42	93	Venezuela	1.69	11.42
41	Trinidad and Tobago	4.49	58.10				
42	Dominican Republic	4.48	57.95				
43	South Korea	4.48	57.92				
44	India	4.44	57.33				
45	Thailand	4.44	57.25				
46	Brazil	4.41	56.87				
47	Israel	4.35	55.88				
48	Peru	4.32	55.37				
49	Nicaragua	4.32	55.33				
50	Bangladesh	4.30	54.92				
51	Armenia	4.26	54.33				
52	United States	4.22	53.69				
53	Ghana	4.21	53.44				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

1.1.3 Political stability

Political stability and absence of violence index | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	1.40	100.00	54	Spain	-0.01	65.40
2	Finland	1.38	99.53	55	Ukraine	-0.10	63.25
3	New Zealand	1.36	99.04	56	Cambodia	-0.14	62.36
4	Singapore	1.34	98.57	57	Panama	-0.15	61.94
5	Luxembourg	1.34	98.44	58	Albania	-0.16	61.81
6	Austria	1.33	98.16	59	Greece	-0.23	60.10
7	Norway	1.31	97.74	60	Nicaragua	-0.37	56.73
8	Iceland	1.22	95.51	61	Kazakhstan	-0.37	56.51
9	Qatar	1.21	95.37	62	Macedonia	-0.44	54.81
10	Netherlands	1.17	94.33	63	Saudi Arabia	-0.46	54.49
11	Sweden	1.16	94.15	64	Morocco	-0.46	54.42
12	Botswana	1.11	92.75	65	Bolivia	-0.50	53.43
13	Canada	1.09	92.41	66	China	-0.54	52.35
14	Slovakia	1.06	91.67	67	Madagascar	-0.57	51.79
15	Czech Republic	1.04	91.18	68	Indonesia	-0.57	51.64
16	Poland	1.03	90.92	69	Ecuador	-0.60	50.94
17	Australia	1.00	90.08	70	Guatemala	-0.65	49.72
18	Namibia	0.94	88.79	71	Mexico	-0.67	49.17
19	Japan	0.94	88.63	72	Azerbaijan	-0.69	48.85
20	Ireland	0.93	88.35	73	Sri Lanka	-0.71	48.39
21	Slovenia	0.92	88.09	74	Tunisia	-0.73	47.90
22	Denmark	0.90	87.84	75	Russia	-0.82	45.55
23	Belgium	0.90	87.74	76	Paraguay	-0.84	45.11
24	United Arab Emirates	0.88	87.24	77	Peru	-0.86	44.57
25	Germany	0.77	84.64	78	Kyrgyzstan	-0.89	43.90
26	Lithuania	0.75	84.01	79	Uganda	-0.89	43.88
27	Portugal	0.75	84.01	80	Venezuela	-0.99	41.42
28	Uruguay	0.71	83.10	81	Israel	-1.07	39.58
29	Hungary	0.67	82.03	82	Philippines	-1.16	37.26
30	United States	0.63	81.21	83	Turkey	-1.19	36.49
31	Costa Rica	0.63	81.12	84	Thailand	-1.21	36.16
32	Estonia	0.60	80.37	85	India	-1.25	35.17
33	Croatia	0.58	79.79	86	Iran	-1.32	33.32
34	France	0.55	79.17	87	Algeria	-1.34	32.84
35	Italy	0.50	78.03	88	Bangladesh	-1.35	32.60
36	Mongolia	0.45	76.67	89	Colombia	-1.40	31.31
37	Latvia	0.43	76.24	90	Egypt	-1.48	29.41
38	United Kingdom	0.41	75.71	91	Lebanon	-1.65	25.32
39	Chile	0.35	74.17	92	Yemen	-2.43	6.15
40	Bulgaria	0.33	73.81	93	Pakistan	-2.68	0.00
41	Vietnam	0.25	71.83				
42	Dominican Republic	0.23	71.40				
43	El Salvador	0.21	70.81				
44	South Korea	0.17	69.73				
45	Trinidad and Tobago	0.11	68.34				
46	Armenia	0.11	68.33				
47	Ghana	0.10	68.13				
48	Romania	0.07	67.40				
49	Argentina	0.07	67.30				
50	Brazil	0.07	67.28				
51	Moldova	0.02	66.26				
52	Malaysia	0.00	65.61				
53	South Africa	0.00	65.57				

Source: World Bank, The Worldwide Governance Indicators, 2013 Update. (info.worldbank.org/governance/wgi)

1.1.4 Starting a foreign business

Ease of establishment index | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Armenia	89.47	100.00	n/a	Estonia	n/a	n/a
2	Albania	78.95	80.77	n/a	Finland	n/a	n/a
2	Bulgaria	78.95	80.77	n/a	Greece	n/a	n/a
2	United Kingdom	78.95	80.77	n/a	Guatemala	n/a	n/a
5	Moldova	73.68	71.15	n/a	Hungary	n/a	n/a
6	France	72.63	69.23	n/a	Ireland	n/a	n/a
6	Malaysia	72.63	69.23	n/a	Iran	n/a	n/a
8	South Korea	71.05	66.35	n/a	Iceland	n/a	n/a
8	Macedonia	71.05	66.35	n/a	Israel	n/a	n/a
10	India	70.00	64.42	n/a	Italy	n/a	n/a
11	Pakistan	68.95	62.50	n/a	Japan	n/a	n/a
12	Czech Republic	68.42	61.54	n/a	Lebanon	n/a	n/a
12	Egypt	68.42	61.54	n/a	Lithuania	n/a	n/a
12	Kazakhstan	68.42	61.54	n/a	Luxembourg	n/a	n/a
12	Kyrgyzstan	68.42	61.54	n/a	Latvia	n/a	n/a
12	United States	68.42	61.54	n/a	Madagascar	n/a	n/a
17	Argentina	67.37	59.62	n/a	Mexico	n/a	n/a
18	South Africa	66.32	57.69	n/a	Mongolia	n/a	n/a
19	Austria	65.79	56.73	n/a	Namibia	n/a	n/a
19	Ukraine	65.79	56.73	n/a	Nicaragua	n/a	n/a
21	Poland	63.16	51.92	n/a	Netherlands	n/a	n/a
21	Vietnam	63.16	51.92	n/a	Norway	n/a	n/a
23	Spain	60.53	47.12	n/a	New Zealand	n/a	n/a
23	Morocco	60.53	47.12	n/a	Panama	n/a	n/a
25	Thailand	59.47	45.19	n/a	Peru	n/a	n/a
26	Turkey	58.42	43.27	n/a	Philippines	n/a	n/a
27	Russia	57.89	42.31	n/a	Portugal	n/a	n/a
28	Bangladesh	55.26	37.50	n/a	Paraguay	n/a	n/a
28	Croatia	55.26	37.50	n/a	Qatar	n/a	n/a
28	Cambodia	55.26	37.50	n/a	Romania	n/a	n/a
28	Tunisia	55.26	37.50	n/a	Saudi Arabia	n/a	n/a
32	Algeria	47.37	23.08	n/a	Singapore	n/a	n/a
32	Uganda	47.37	23.08	n/a	El Salvador	n/a	n/a
34	Ghana	46.32	21.15	n/a	Slovakia	n/a	n/a
35	Sri Lanka	42.63	14.42	n/a	Slovenia	n/a	n/a
36	Indonesia	34.74	0.00	n/a	Sweden	n/a	n/a
n/a	United Arab Emirates	n/a	n/a	n/a	Trinidad and Tobago	n/a	n/a
n/a	Australia	n/a	n/a	n/a	Uruguay	n/a	n/a
n/a	Azerbaijan	n/a	n/a	n/a	Venezuela	n/a	n/a
n/a	Belgium	n/a	n/a	n/a	Yemen	n/a	n/a
n/a	Bolivia	n/a	n/a				
n/a	Brazil	n/a	n/a				
n/a	Botswana	n/a	n/a				
n/a	Canada	n/a	n/a				
n/a	Switzerland	n/a	n/a				
n/a	Chile	n/a	n/a				
n/a	China	n/a	n/a				
n/a	Colombia	n/a	n/a				
n/a	Costa Rica	n/a	n/a				
n/a	Germany	n/a	n/a				
n/a	Denmark	n/a	n/a				
n/a	Dominican Republic	n/a	n/a				
n/a	Ecuador	n/a	n/a				

Source: World Bank, Investing Across Borders.
(iab.worldbank.org/)

1.2.1 Intensity of local competition

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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Japan	6.24	87.37	54	Panama	4.97	66.17
2	United Kingdom	6.04	83.97	55	Italy	4.95	65.85
3	Netherlands	6.00	83.41	56	Bangladesh	4.93	65.43
4	Belgium	5.97	82.88	57	Dominican Republic	4.92	65.34
5	South Korea	5.89	81.43	58	Portugal	4.90	65.04
6	Germany	5.86	80.95	59	Cambodia	4.90	64.95
7	Austria	5.83	80.50	60	Pakistan	4.89	64.83
8	Czech Republic	5.83	80.44	61	Tunisia	4.87	64.42
9	Australia	5.82	80.36	62	Madagascar	4.85	64.15
10	United States	5.82	80.31	63	Iceland	4.84	63.96
11	Turkey	5.79	79.86	64	Macedonia	4.80	63.26
12	Qatar	5.76	79.33	65	Finland	4.78	63.04
13	United Arab Emirates	5.71	78.49	66	Greece	4.75	62.57
14	Saudi Arabia	5.69	78.09	67	Trinidad and Tobago	4.74	62.40
15	Singapore	5.64	77.40	68	Botswana	4.73	62.14
16	Sri Lanka	5.61	76.89	69	Israel	4.69	61.49
17	Switzerland	5.61	76.82	70	Mongolia	4.60	60.06
18	Estonia	5.59	76.54	71	Namibia	4.59	59.90
19	Sweden	5.57	76.10	72	Bulgaria	4.58	59.69
20	India	5.55	75.86	73	Armenia	4.58	59.69
21	Lebanon	5.54	75.62	74	El Salvador	4.55	59.21
22	France	5.52	75.31	75	Ukraine	4.54	58.95
23	Denmark	5.48	74.62	76	Croatia	4.52	58.73
24	Spain	5.48	74.61	77	Ecuador	4.49	58.17
25	Slovakia	5.47	74.54	78	Russia	4.49	58.10
26	New Zealand	5.44	73.98	79	Uruguay	4.46	57.74
27	Malaysia	5.44	73.94	80	Romania	4.40	56.65
28	Canada	5.43	73.89	81	Yemen	4.36	55.96
29	Latvia	5.40	73.25	82	Moldova	4.35	55.92
30	Lithuania	5.38	73.04	83	Kazakhstan	4.35	55.78
31	Chile	5.38	72.92	84	Iran	4.34	55.62
32	Poland	5.35	72.46	85	Kyrgyzstan	4.28	54.68
33	Norway	5.34	72.34	86	Azerbaijan	4.17	52.83
34	Thailand	5.32	71.94	87	Egypt	4.06	51.08
35	Ireland	5.29	71.55	88	Argentina	4.01	50.15
36	Hungary	5.28	71.34	89	Nicaragua	3.84	47.29
37	South Africa	5.26	71.07	90	Bolivia	3.83	47.22
38	China	5.26	71.05	91	Algeria	3.56	42.72
39	Slovenia	5.23	70.53	92	Albania	3.42	40.30
40	Vietnam	5.21	70.10	93	Venezuela	3.04	34.06
41	Costa Rica	5.20	70.06				
42	Guatemala	5.20	70.00				
43	Paraguay	5.18	69.69				
44	Luxembourg	5.12	68.75				
45	Morocco	5.12	68.67				
46	Peru	5.10	68.31				
47	Philippines	5.07	67.84				
48	Colombia	5.06	67.67				
49	Mexico	5.05	67.45				
50	Indonesia	5.03	67.09				
51	Uganda	5.02	67.03				
52	Ghana	5.02	66.94				
53	Brazil	4.98	66.37				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

1.2.2 Venture capital deals

Venture capital per investment location: Number of deals (per billion PPP \$ GDP) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Canada	0.32	100.00	54	Turkey	0.00	0.29
1	Israel	0.32	100.00	55	Romania	0.00	0.25
3	United States	0.31	98.02	56	Vietnam	0.00	0.06
4	Ireland	0.28	87.58	57	Indonesia	0.00	0.06
5	Finland	0.18	56.13	58	Algeria	0.00	0.00
6	United Kingdom	0.17	55.21	n/a	Albania	n/a	n/a
7	Sweden	0.17	52.97	n/a	United Arab Emirates	n/a	n/a
8	Switzerland	0.16	49.38	n/a	Argentina	n/a	n/a
9	Denmark	0.12	39.24	n/a	Azerbaijan	n/a	n/a
10	Singapore	0.12	39.16	n/a	Bangladesh	n/a	n/a
11	France	0.12	39.06	n/a	Bolivia	n/a	n/a
12	Estonia	0.12	37.86	n/a	Botswana	n/a	n/a
13	Germany	0.09	27.70	n/a	Costa Rica	n/a	n/a
14	Iceland	0.08	24.09	n/a	Dominican Republic	n/a	n/a
15	Spain	0.07	22.19	n/a	Ecuador	n/a	n/a
16	Netherlands	0.07	21.26	n/a	Guatemala	n/a	n/a
17	Norway	0.07	20.48	n/a	Hungary	n/a	n/a
18	Austria	0.06	18.14	n/a	Iran	n/a	n/a
19	Belgium	0.06	17.76	n/a	Kazakhstan	n/a	n/a
20	Australia	0.05	14.28	n/a	Kyrgyzstan	n/a	n/a
21	Armenia	0.04	13.18	n/a	Cambodia	n/a	n/a
22	Luxembourg	0.04	12.33	n/a	Lebanon	n/a	n/a
23	India	0.04	12.01	n/a	Lithuania	n/a	n/a
24	Bulgaria	0.03	10.41	n/a	Latvia	n/a	n/a
25	New Zealand	0.03	9.81	n/a	Moldova	n/a	n/a
26	Madagascar	0.03	9.37	n/a	Macedonia	n/a	n/a
27	Portugal	0.03	7.64	n/a	Mongolia	n/a	n/a
28	Japan	0.02	6.63	n/a	Namibia	n/a	n/a
29	Chile	0.02	6.00	n/a	Nicaragua	n/a	n/a
30	South Korea	0.02	5.72	n/a	Panama	n/a	n/a
31	Uganda	0.02	5.41	n/a	Peru	n/a	n/a
32	China	0.02	4.70	n/a	Paraguay	n/a	n/a
33	Uruguay	0.01	4.17	n/a	Saudi Arabia	n/a	n/a
34	Brazil	0.01	3.94	n/a	El Salvador	n/a	n/a
35	Russia	0.01	3.44	n/a	Slovakia	n/a	n/a
36	Croatia	0.01	2.98	n/a	Slovenia	n/a	n/a
37	Italy	0.01	2.65	n/a	Trinidad and Tobago	n/a	n/a
38	Ghana	0.01	2.49	n/a	Ukraine	n/a	n/a
39	Philippines	0.01	2.37	n/a	Venezuela	n/a	n/a
40	Malaysia	0.01	2.15	n/a	Yemen	n/a	n/a
41	Tunisia	0.01	2.03				
42	Mexico	0.01	1.76				
43	Czech Republic	0.01	1.61				
44	Colombia	0.01	1.52				
45	Poland	0.01	1.52				
46	Sri Lanka	0.01	0.99				
47	South Africa	0.00	0.83				
48	Morocco	0.00	0.71				
49	Greece	0.00	0.52				
50	Pakistan	0.00	0.51				
51	Qatar	0.00	0.50				
52	Egypt	0.00	0.44				
53	Thailand	0.00	0.38				

Source: Thomson Reuters, Thomson ONE
 – Deals database; World Bank, World Development Indicators.
 (banker.thomsonib.com; data.worldbank.org)

1.2.3 Firm-level technology absorption

Average answer to the question: To what extent do businesses in your country absorb new technology? [1 = not at all; 7 = aggressively absorb] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Sweden	6.23	87.24	54	Trinidad and Tobago	4.68	61.38
2	Iceland	6.19	86.51	55	Croatia	4.65	60.88
3	Switzerland	6.12	85.32	56	Kazakhstan	4.63	60.46
4	United Arab Emirates	6.08	84.63	57	Mongolia	4.62	60.33
5	Israel	6.07	84.50	58	Pakistan	4.60	60.03
6	Japan	6.06	84.40	59	Cambodia	4.59	59.82
7	Finland	6.03	83.87	60	Peru	4.56	59.33
8	Norway	6.01	83.51	61	Lebanon	4.49	58.22
9	United States	5.99	83.23	62	Ecuador	4.49	58.18
10	Qatar	5.91	81.77	63	Greece	4.48	58.06
11	Luxembourg	5.90	81.71	64	Ghana	4.43	57.19
12	Singapore	5.83	80.56	65	Uruguay	4.42	57.02
13	Australia	5.82	80.32	66	Morocco	4.39	56.56
14	Saudi Arabia	5.78	79.68	67	Colombia	4.36	56.00
15	Germany	5.77	79.58	68	Armenia	4.36	56.00
16	Austria	5.76	79.32	69	Ukraine	4.34	55.68
17	New Zealand	5.74	78.99	70	Botswana	4.34	55.67
18	Denmark	5.72	78.74	71	El Salvador	4.29	54.75
19	South Korea	5.71	78.48	72	Paraguay	4.28	54.73
20	Netherlands	5.68	78.04	73	Romania	4.27	54.57
21	United Kingdom	5.65	77.56	74	Madagascar	4.26	54.35
22	Ireland	5.62	76.96	75	Albania	4.24	54.07
23	Belgium	5.59	76.55	76	Egypt	4.20	53.40
24	Panama	5.55	75.89	77	Bangladesh	4.20	53.37
25	Portugal	5.54	75.62	78	Italy	4.19	53.12
26	France	5.46	74.34	79	Bulgaria	4.16	52.61
27	Malaysia	5.46	74.29	80	Poland	4.15	52.48
28	Canada	5.45	74.14	81	Argentina	4.11	51.77
29	South Africa	5.39	73.10	82	Uganda	4.10	51.72
30	Estonia	5.38	73.01	83	Venezuela	4.10	51.61
31	Turkey	5.34	72.39	84	Yemen	4.08	51.25
32	Philippines	5.22	70.30	85	Iran	3.99	49.81
33	Guatemala	5.22	70.29	86	Macedonia	3.99	49.78
34	Lithuania	5.21	70.22	87	Moldova	3.95	49.21
35	Costa Rica	5.19	69.88	88	Bolivia	3.94	49.04
36	Chile	5.10	68.26	89	Russia	3.94	48.96
37	Indonesia	5.08	68.02	90	Nicaragua	3.86	47.62
38	Sri Lanka	5.08	68.02	91	Vietnam	3.76	46.08
39	India	5.05	67.48	92	Kyrgyzstan	3.70	44.97
40	Spain	5.04	67.41	93	Algeria	3.17	36.13
41	Thailand	5.02	66.95				
42	Brazil	5.00	66.66				
43	Czech Republic	4.95	65.83				
44	Dominican Republic	4.90	65.00				
45	Namibia	4.89	64.78				
46	Azerbaijan	4.87	64.49				
47	Slovenia	4.82	63.62				
48	Mexico	4.76	62.71				
49	Latvia	4.70	61.72				
50	Tunisia	4.69	61.53				
51	China	4.69	61.49				
52	Slovakia	4.69	61.46				
53	Hungary	4.69	61.45				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

1.2.4 R&D expenditure

Gross expenditure on R&D (% of GDP) | 2011

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Israel	4.39	100.00	54	Egypt	0.43	9.08
2	Finland	3.78	86.05	55	Chile (2010)	0.42	8.83
3	South Korea (2010)	3.74	85.02	56	Uganda (2009)	0.41	8.65
4	Sweden	3.37	76.61	57	Moldova	0.41	8.52
5	Japan (2010)	3.26	74.00	58	Uruguay (2010)	0.40	8.47
6	Denmark	3.09	70.21	59	Pakistan	0.33	6.86
7	Switzerland (2008)	2.87	65.10	60	Mongolia	0.27	5.49
8	Germany	2.84	64.46	61	Armenia	0.27	5.34
9	United States	2.77	62.79	62	Ecuador (2008)	0.26	5.16
10	Austria	2.75	62.29	63	Thailand (2009)	0.25	4.95
11	Iceland (2008)	2.65	59.95	64	Ghana (2007)	0.23	4.51
12	Slovenia	2.51	56.81	65	Macedonia (2008)	0.23	4.37
13	Australia (2010)	2.38	53.93	66	Azerbaijan	0.22	4.23
14	Estonia	2.38	53.76	67	Panama (2010)	0.19	3.65
15	France	2.25	50.86	68	Vietnam (2002)	0.19	3.62
16	Singapore (2010)	2.09	47.25	69	Colombia	0.18	3.38
17	Belgium	2.04	46.11	70	Kazakhstan	0.16	2.81
18	Netherlands	2.04	46.08	71	Bolivia (2009)	0.16	2.80
19	Czech Republic	1.84	41.45	72	Sri Lanka (2010)	0.16	2.79
20	China	1.84	41.38	73	Kyrgyzstan	0.16	2.79
21	United Kingdom	1.77	39.93	74	Albania (2008)	0.15	2.71
22	Ireland	1.75	39.43	75	Peru (2004)	0.15	2.62
23	Canada	1.74	39.21	76	Philippines (2007)	0.11	1.72
24	Norway	1.66	37.35	77	Madagascar	0.11	1.62
25	Portugal	1.50	33.55	78	Saudi Arabia (2009)	0.08	1.12
26	Luxembourg	1.43	31.94	79	Indonesia (2009)	0.08	1.11
27	Spain	1.33	29.82	80	El Salvador (2010)	0.07	0.74
28	New Zealand (2009)	1.30	29.08	81	Algeria (2005)	0.07	0.73
29	Italy	1.25	27.91	82	Paraguay	0.06	0.57
30	Hungary	1.20	26.64	83	Trinidad and Tobago (2010)	0.05	0.36
31	Brazil (2010)	1.16	25.84	84	Cambodia (2002)	0.05	0.34
32	Russia	1.12	24.87	85	Guatemala (2010)	0.04	0.20
33	Tunisia (2009)	1.10	24.50	86	Nicaragua (2002)	0.03	0.00
34	Malaysia	1.07	23.75	n/a	Bangladesh	n/a	n/a
35	Lithuania	0.92	20.30	n/a	Dominican Republic	n/a	n/a
36	South Africa (2009)	0.87	19.26	n/a	Lebanon	n/a	n/a
37	Turkey (2010)	0.84	18.56	n/a	Namibia	n/a	n/a
38	Iran (2008)	0.79	17.29	n/a	Qatar	n/a	n/a
39	Poland	0.77	16.80	n/a	Venezuela	n/a	n/a
40	India (2007)	0.76	16.59	n/a	Yemen	n/a	n/a
41	Croatia	0.75	16.40				
42	Morocco (2010)	0.73	16.04				
43	Ukraine	0.73	15.92				
44	Latvia	0.70	15.31				
45	Slovakia	0.68	14.77				
46	Argentina (2010)	0.62	13.37				
47	Greece (2007)	0.60	13.00				
48	Bulgaria	0.57	12.30				
49	Botswana (2005)	0.52	11.05				
50	Romania	0.48	10.26				
51	Costa Rica	0.48	10.18				
52	United Arab Emirates	0.47	10.06				
53	Mexico	0.46	9.68				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

1.2.5 ICT access

ICT access index | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg	8.93	100.00	54	Ukraine	5.27	50.87
2	Iceland	8.77	97.85	55	Azerbaijan	5.17	49.53
3	Switzerland	8.73	97.32	56	Turkey	5.11	48.72
4	Germany	8.51	94.36	57	Iran	4.68	42.95
5	United Kingdom	8.46	93.69	58	Morocco	4.67	42.82
6	Sweden	8.37	92.48	59	Armenia	4.52	40.81
7	Singapore	8.31	91.68	60	China	4.36	38.66
8	South Korea	8.28	91.28	61	Colombia	4.35	38.52
8	Netherlands	8.28	91.28	62	Ecuador	4.34	38.39
10	Denmark	8.18	89.93	63	Egypt	4.20	36.51
11	Austria	7.96	86.98	64	South Africa	4.14	35.70
12	France	7.95	86.85	65	Venezuela	4.13	35.57
13	Japan	7.73	83.89	66	Mexico	4.11	35.30
14	Norway	7.72	83.76	67	Mongolia	4.04	34.36
15	New Zealand	7.69	83.36	67	Vietnam	4.04	34.36
16	Belgium	7.67	83.09	69	Thailand	4.00	33.83
17	Finland	7.66	82.95	70	El Salvador	3.95	33.15
18	Canada	7.65	82.82	70	Tunisia	3.95	33.15
19	Australia	7.64	82.68	72	Peru	3.85	31.81
20	Ireland	7.59	82.01	73	Albania	3.73	30.20
21	Israel	7.57	81.74	74	Indonesia	3.62	28.72
22	United Arab Emirates	7.31	78.26	75	Algeria	3.60	28.46
23	Estonia	7.27	77.72	75	Paraguay	3.60	28.46
24	United States	7.24	77.32	77	Botswana	3.58	28.19
25	Slovenia	7.23	77.18	78	Philippines	3.41	25.91
26	Italy	7.15	76.11	79	Sri Lanka	3.36	25.23
27	Qatar	7.10	75.44	80	Dominican Republic	3.35	25.10
28	Spain	7.05	74.77	81	Bolivia	3.27	24.03
29	Portugal	7.00	74.09	82	Cambodia	3.14	22.28
30	Saudi Arabia	6.76	70.87	83	Namibia	3.09	21.61
31	Russia	6.73	70.47	84	Nicaragua	2.99	20.27
32	Greece	6.69	69.93	85	Pakistan	2.56	14.50
33	Croatia	6.66	69.53	86	India	2.50	13.69
34	Czech Republic	6.60	68.72	87	Ghana	2.40	12.35
34	Kazakhstan	6.60	68.72	88	Yemen	2.09	8.19
36	Lithuania	6.47	66.98	89	Bangladesh	2.03	7.38
37	Hungary	6.46	66.85	90	Uganda	1.95	6.31
37	Poland	6.46	66.85	91	Madagascar	1.48	0.00
39	Uruguay	6.38	65.77	n/a	Guatemala	n/a	n/a
40	Bulgaria	6.33	65.10	n/a	Kyrgyzstan	n/a	n/a
41	Slovakia	6.28	64.43				
42	Latvia	6.25	64.03				
43	Malaysia	6.09	61.88				
44	Lebanon	6.04	61.21				
45	Argentina	5.88	59.06				
46	Moldova	5.81	58.12				
46	Romania	5.81	58.12				
48	Trinidad and Tobago	5.67	56.24				
49	Chile	5.65	55.97				
49	Macedonia	5.65	55.97				
51	Costa Rica	5.53	54.36				
52	Panama	5.51	54.09				
53	Brazil	5.49	53.83				

Source: International Telecommunication Union, Measuring the Information Society 2013, ICT Development Index 2011–2012. (itu.int/ITU-D/ict/publications/idi)

1.2.6 Ease of doing business

Ease of doing business index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Singapore	1.00	100.00	54	Azerbaijan	70.00	42.40
2	New Zealand	3.00	99.00	55	Greece	72.00	41.40
3	United States	4.00	97.90	56	Romania	73.00	40.30
4	Denmark	5.00	96.80	57	Czech Republic	75.00	39.20
5	Malaysia	6.00	95.70	58	Mongolia	76.00	38.10
6	South Korea	7.00	94.60	59	Moldova	78.00	37.00
7	Norway	9.00	93.50	60	Guatemala	79.00	35.90
8	United Kingdom	10.00	92.40	61	Sri Lanka	85.00	34.80
9	Australia	11.00	91.40	62	Morocco	87.00	33.70
10	Finland	12.00	90.30	63	Uruguay	88.00	32.70
11	Iceland	13.00	89.20	64	Croatia	89.00	31.60
12	Sweden	14.00	88.10	65	Albania	90.00	30.50
13	Ireland	15.00	87.00	66	Russia	92.00	29.40
14	Lithuania	17.00	85.90	67	China	96.00	28.30
15	Thailand	18.00	84.80	68	Namibia	98.00	27.20
16	Canada	19.00	83.70	69	Vietnam	99.00	26.10
17	Germany	21.00	82.70	70	Costa Rica	102.00	25.00
18	Estonia	22.00	81.60	71	Philippines	108.00	24.00
19	United Arab Emirates	23.00	80.50	72	Paraguay	109.00	22.90
20	Latvia	24.00	79.40	73	Pakistan	110.00	21.80
21	Macedonia	25.00	78.30	74	Lebanon	111.00	20.70
22	Saudi Arabia	26.00	77.20	75	Ukraine	112.00	19.60
23	Japan	27.00	76.10	76	Brazil	116.00	18.50
24	Netherlands	28.00	75.00	77	Dominican Republic	117.00	17.40
25	Switzerland	29.00	74.00	78	El Salvador	118.00	16.40
26	Austria	30.00	72.90	79	Indonesia	120.00	15.30
27	Portugal	31.00	71.80	80	Nicaragua	124.00	14.20
28	Slovenia	33.00	70.70	81	Argentina	126.00	13.10
29	Chile	34.00	69.60	82	Egypt	128.00	12.00
30	Israel	35.00	68.50	83	Bangladesh	130.00	10.90
31	Belgium	36.00	67.40	84	Uganda	132.00	9.80
32	Armenia	37.00	66.40	85	Yemen	133.00	8.70
33	France	38.00	65.30	86	India	134.00	7.70
34	South Africa	41.00	64.20	87	Ecuador	135.00	6.60
35	Peru	42.00	63.10	88	Cambodia	137.00	5.50
36	Colombia	43.00	62.00	89	Madagascar	148.00	4.40
37	Poland	45.00	60.90	90	Iran	152.00	3.30
38	Qatar	48.00	59.80	91	Algeria	153.00	2.20
39	Slovakia	49.00	58.70	92	Bolivia	162.00	1.10
40	Kazakhstan	50.00	57.70	93	Venezuela	181.00	0.00
41	Tunisia	51.00	56.60				
42	Spain	52.00	55.50				
43	Mexico	53.00	54.40				
44	Hungary	54.00	53.30				
45	Panama	55.00	52.20				
46	Botswana	56.00	51.10				
47	Bulgaria	58.00	50.00				
48	Luxembourg	60.00	49.00				
49	Italy	65.00	47.90				
50	Trinidad and Tobago	66.00	46.80				
51	Ghana	67.00	45.70				
52	Kyrgyzstan	68.00	44.60				
53	Turkey	69.00	43.50				

Source: World Bank, Doing Business – Measuring Business Regulations, Doing Business 2014. (doingbusiness.org)

1.3.1 Difficulty of hiring

Difficulty of hiring index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Austria	0.00	100.00	44	Slovakia	33.33	66.67
1	Azerbaijan	0.00	100.00	44	Sweden	33.33	66.67
1	Botswana	0.00	100.00	44	Turkey	33.33	66.67
1	Switzerland	0.00	100.00	44	Uruguay	33.33	66.67
1	Czech Republic	0.00	100.00	58	Albania	44.33	55.67
1	Denmark	0.00	100.00	58	Bangladesh	44.33	55.67
1	Ghana	0.00	100.00	58	Dominican Republic	44.33	55.67
1	India	0.00	100.00	58	Algeria	44.33	55.67
1	Kazakhstan	0.00	100.00	58	Ecuador	44.33	55.67
1	Sri Lanka	0.00	100.00	58	Finland	44.33	55.67
1	Lithuania	0.00	100.00	58	Iceland	44.33	55.67
1	Macedonia	0.00	100.00	58	Cambodia	44.33	55.67
1	Malaysia	0.00	100.00	58	South Korea	44.33	55.67
1	Namibia	0.00	100.00	58	Lebanon	44.33	55.67
1	Qatar	0.00	100.00	58	Moldova	44.33	55.67
1	Saudi Arabia	0.00	100.00	58	Peru	44.33	55.67
1	Singapore	0.00	100.00	58	Paraguay	44.33	55.67
1	Trinidad and Tobago	0.00	100.00	58	Thailand	44.33	55.67
1	Uganda	0.00	100.00	58	Ukraine	44.33	55.67
1	United Arab Emirates	0.00	100.00	73	Latvia	50.00	50.00
1	United States	0.00	100.00	74	Argentina	55.67	44.33
22	Australia	11.00	89.00	74	Guatemala	55.67	44.33
22	Belgium	11.00	89.00	74	Philippines	55.67	44.33
22	Canada	11.00	89.00	74	South Africa	55.67	44.33
22	China	11.00	89.00	78	Croatia	61.00	39.00
22	Colombia	11.00	89.00	78	Norway	61.00	39.00
22	Egypt	11.00	89.00	78	Portugal	61.00	39.00
22	United Kingdom	11.00	89.00	81	France	66.67	33.33
22	Hungary	11.00	89.00	81	Pakistan	66.67	33.33
22	Ireland	11.00	89.00	81	Venezuela	66.67	33.33
22	Iran	11.00	89.00	84	Indonesia	72.33	27.67
22	Israel	11.00	89.00	85	Bolivia	77.67	22.33
22	Japan	11.00	89.00	85	Brazil	77.67	22.33
22	Mongolia	11.00	89.00	85	Costa Rica	77.67	22.33
22	New Zealand	11.00	89.00	85	Spain	77.67	22.33
22	Poland	11.00	89.00	85	Luxembourg	77.67	22.33
22	Vietnam	11.00	89.00	85	Panama	77.67	22.33
22	Yemen	11.00	89.00	85	Slovenia	77.67	22.33
39	Bulgaria	16.67	83.33	92	Madagascar	89.00	11.00
39	Netherlands	16.67	83.33	93	Morocco	100.00	0.00
39	Tunisia	16.67	83.33				
42	Nicaragua	22.33	77.67				
43	Italy	27.67	72.33				
44	Armenia	33.33	66.67				
44	Chile	33.33	66.67				
44	Germany	33.33	66.67				
44	Estonia	33.33	66.67				
44	Greece	33.33	66.67				
44	Kyrgyzstan	33.33	66.67				
44	Mexico	33.33	66.67				
44	Romania	33.33	66.67				
44	Russia	33.33	66.67				
44	El Salvador	33.33	66.67				

Source: World Bank, Doing Business – Measuring Business Regulations, Doing Business 2014. (doingbusiness.org)

1.3.2 Difficulty of redundancy

Difficulty of redundancy index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Argentina	0.00	100.00	47	Norway	30.00	70.00
1	Belgium	0.00	100.00	47	Pakistan	30.00	70.00
1	Bulgaria	0.00	100.00	47	Philippines	30.00	70.00
1	Brazil	0.00	100.00	47	Poland	30.00	70.00
1	Canada	0.00	100.00	47	Romania	30.00	70.00
1	Switzerland	0.00	100.00	47	Slovakia	30.00	70.00
1	Colombia	0.00	100.00	47	Vietnam	30.00	70.00
1	Costa Rica	0.00	100.00	47	Yemen	30.00	70.00
1	Czech Republic	0.00	100.00	47	South Africa	30.00	70.00
1	Denmark	0.00	100.00	63	Austria	40.00	60.00
1	Dominican Republic	0.00	100.00	63	Bangladesh	40.00	60.00
1	United Kingdom	0.00	100.00	63	Botswana	40.00	60.00
1	Guatemala	0.00	100.00	63	Germany	40.00	60.00
1	Hungary	0.00	100.00	63	Algeria	40.00	60.00
1	Iceland	0.00	100.00	63	France	40.00	60.00
1	Israel	0.00	100.00	63	Italy	40.00	60.00
1	Kyrgyzstan	0.00	100.00	63	Moldova	40.00	60.00
1	Macedonia	0.00	100.00	63	Madagascar	40.00	60.00
1	Mongolia	0.00	100.00	63	Portugal	40.00	60.00
1	Nicaragua	0.00	100.00	63	Russia	40.00	60.00
1	Qatar	0.00	100.00	63	Sweden	40.00	60.00
1	Saudi Arabia	0.00	100.00	75	China	50.00	50.00
1	Singapore	0.00	100.00	75	Finland	50.00	50.00
1	El Salvador	0.00	100.00	75	Ghana	50.00	50.00
1	Thailand	0.00	100.00	75	Croatia	50.00	50.00
1	Uganda	0.00	100.00	75	Iran	50.00	50.00
1	Uruguay	0.00	100.00	75	Morocco	50.00	50.00
1	United Arab Emirates	0.00	100.00	75	Ukraine	50.00	50.00
1	United States	0.00	100.00	82	Egypt	60.00	40.00
30	Albania	10.00	90.00	82	Indonesia	60.00	40.00
30	Armenia	10.00	90.00	82	Sri Lanka	60.00	40.00
30	Australia	10.00	90.00	82	Panama	60.00	40.00
30	Azerbaijan	10.00	90.00	82	Peru	60.00	40.00
30	Ireland	10.00	90.00	82	Paraguay	60.00	40.00
30	Malaysia	10.00	90.00	88	India	70.00	30.00
30	New Zealand	10.00	90.00	88	Mexico	70.00	30.00
30	Turkey	10.00	90.00	88	Netherlands	70.00	30.00
38	Chile	20.00	80.00	91	Tunisia	80.00	20.00
38	Ecuador	20.00	80.00	92	Bolivia	100.00	0.00
38	Spain	20.00	80.00	92	Venezuela	100.00	0.00
38	Estonia	20.00	80.00				
38	Lithuania	20.00	80.00				
38	Latvia	20.00	80.00				
38	Namibia	20.00	80.00				
38	Slovenia	20.00	80.00				
38	Trinidad and Tobago	20.00	80.00				
47	Greece	30.00	70.00				
47	Japan	30.00	70.00				
47	Kazakhstan	30.00	70.00				
47	Cambodia	30.00	70.00				
47	South Korea	30.00	70.00				
47	Lebanon	30.00	70.00				
47	Luxembourg	30.00	70.00				

Source: World Bank, Doing Business – Measuring Business Regulations, Doing Business 2014. (doingbusiness.org)

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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	6.05	84.10	54	Turkey	4.17	52.90
2	Singapore	6.03	83.83	55	Hungary	4.17	52.81
3	Denmark	5.84	80.71	56	Lebanon	4.17	52.77
4	Norway	5.76	79.26	57	Yemen	4.16	52.67
5	Netherlands	5.68	77.95	58	Brazil	4.14	52.28
6	Sweden	5.65	77.54	59	Poland	4.13	52.17
7	Qatar	5.58	76.27	60	Kyrgyzstan	4.13	52.10
8	Japan	5.57	76.10	61	Nicaragua	4.12	52.06
9	Austria	5.54	75.61	62	Morocco	4.10	51.70
10	New Zealand	5.50	75.02	63	Uganda	4.10	51.66
11	Iceland	5.47	74.42	64	Bangladesh	4.08	51.39
12	Ireland	5.35	72.57	65	Portugal	4.08	51.31
13	Costa Rica	5.34	72.32	66	Macedonia	4.07	51.16
14	United Arab Emirates	5.24	70.74	67	Bulgaria	4.06	51.04
15	Germany	5.20	70.04	68	Australia	4.03	50.55
16	Malaysia	5.19	69.90	69	Namibia	4.02	50.38
17	Finland	5.15	69.21	70	Pakistan	4.02	50.37
18	Luxembourg	5.14	68.94	71	Slovakia	4.01	50.09
19	Guatemala	5.12	68.69	72	Spain	4.00	49.94
20	United Kingdom	5.04	67.25	73	Botswana	3.99	49.84
21	Estonia	4.94	65.64	74	Mongolia	3.97	49.44
22	Canada	4.93	65.43	75	Russia	3.92	48.59
23	Philippines	4.81	63.43	76	Bolivia	3.86	47.66
24	Armenia	4.79	63.21	77	Egypt	3.85	47.47
25	Thailand	4.78	62.92	78	Tunisia	3.83	47.20
26	Albania	4.73	62.19	79	Slovenia	3.83	47.15
27	Kazakhstan	4.68	61.32	80	Greece	3.73	45.51
28	United States	4.66	60.98	81	Ukraine	3.73	45.50
29	Chile	4.64	60.68	82	Iran	3.67	44.53
30	Mexico	4.63	60.51	83	South Korea	3.51	41.87
31	Azerbaijan	4.60	59.95	84	Croatia	3.49	41.56
32	Indonesia	4.56	59.38	85	Trinidad and Tobago	3.49	41.45
33	Dominican Republic	4.55	59.16	86	France	3.44	40.66
34	Latvia	4.53	58.81	87	Italy	3.41	40.13
35	Saudi Arabia	4.52	58.75	88	Algeria	3.35	39.21
36	Sri Lanka	4.52	58.74	89	Uruguay	3.34	38.99
37	Colombia	4.46	57.68	90	Romania	3.31	38.54
38	Israel	4.45	57.46	91	Argentina	3.31	38.50
39	Panama	4.44	57.32	92	Venezuela	2.97	32.77
40	China	4.40	56.69	93	South Africa	2.60	26.68
41	India	4.40	56.63				
42	Vietnam	4.38	56.36				
43	Madagascar	4.37	56.16				
44	Cambodia	4.34	55.63				
45	Ghana	4.31	55.23				
46	Ecuador	4.30	55.07				
47	Paraguay	4.29	54.85				
48	Lithuania	4.25	54.22				
49	Czech Republic	4.23	53.82				
50	El Salvador	4.22	53.64				
51	Moldova	4.21	53.53				
52	Belgium	4.19	53.17				
53	Peru	4.18	53.00				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

1.3.4 Reliance on 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	New Zealand	6.33	88.76	54	Mexico	4.17	52.80
2	Finland	6.31	88.45	55	Slovakia	4.16	52.66
3	Norway	6.24	87.33	56	Cambodia	4.14	52.36
4	Sweden	6.09	84.81	57	Poland	4.14	52.26
5	Netherlands	6.05	84.21	58	Ecuador	4.03	50.52
6	Denmark	5.95	82.52	59	Madagascar	4.02	50.37
7	Switzerland	5.95	82.42	60	Uruguay	4.02	50.34
8	Singapore	5.91	81.77	61	El Salvador	3.98	49.63
9	United Kingdom	5.88	81.30	62	Morocco	3.97	49.52
10	Canada	5.86	81.07	63	Slovenia	3.91	48.53
11	Australia	5.72	78.67	64	Albania	3.90	48.28
12	South Africa	5.66	77.59	65	Armenia	3.89	48.23
13	Ireland	5.65	77.51	66	Uganda	3.89	48.16
14	Qatar	5.61	76.86	67	Tunisia	3.88	47.94
15	United States	5.57	76.10	68	Azerbaijan	3.85	47.55
16	Luxembourg	5.57	76.09	69	Croatia	3.85	47.48
17	Japan	5.50	74.95	70	Pakistan	3.84	47.35
18	Germany	5.49	74.81	71	Greece	3.83	47.22
19	Belgium	5.47	74.53	72	Russia	3.82	46.98
20	Malaysia	5.41	73.46	73	Bolivia	3.81	46.88
21	Austria	5.36	72.74	74	Panama	3.68	44.60
22	Iceland	5.30	71.71	75	Macedonia	3.66	44.28
23	United Arab Emirates	5.27	71.21	76	Moldova	3.65	44.20
24	Estonia	5.24	70.71	77	Bulgaria	3.65	44.18
25	Botswana	5.04	67.41	78	Hungary	3.63	43.78
26	Philippines	4.98	66.35	79	Dominican Republic	3.62	43.71
27	Sri Lanka	4.98	66.27	80	Nicaragua	3.60	43.27
28	Indonesia	4.92	65.35	81	Bangladesh	3.57	42.89
29	Chile	4.80	63.36	82	Vietnam	3.57	42.87
30	France	4.77	62.90	83	Mongolia	3.55	42.57
31	Brazil	4.76	62.75	84	Italy	3.55	42.49
32	Saudi Arabia	4.75	62.51	85	Lebanon	3.51	41.77
33	Costa Rica	4.71	61.79	86	Iran	3.37	39.54
34	Latvia	4.70	61.66	87	Ukraine	3.34	39.07
35	South Korea	4.69	61.55	88	Romania	3.27	37.90
36	China	4.60	60.08	89	Paraguay	3.25	37.56
37	Peru	4.59	59.84	90	Kyrgyzstan	3.18	36.39
38	India	4.59	59.76	91	Egypt	3.13	35.51
39	Lithuania	4.57	59.44	92	Yemen	2.84	30.63
40	Israel	4.52	58.62	93	Algeria	2.30	21.59
41	Spain	4.51	58.57				
42	Thailand	4.41	56.89				
43	Ghana	4.39	56.49				
44	Venezuela	4.38	56.41				
45	Trinidad and Tobago	4.38	56.38				
46	Czech Republic	4.36	55.92				
47	Argentina	4.35	55.91				
48	Turkey	4.30	54.92				
49	Colombia	4.28	54.64				
50	Kazakhstan	4.26	54.33				
51	Portugal	4.21	53.49				
52	Guatemala	4.21	53.42				
53	Namibia	4.20	53.33				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

PILLAR 2:

ATTRACT

2.1.1 FDI inflow

FDI inflows (% of GDP) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Ireland	13.98	100.00	54	Moldova	2.17	19.66
1	Luxembourg	13.98	100.00	55	Spain	2.05	18.89
1	Mongolia	13.98	100.00	56	Lithuania	1.98	18.40
1	Singapore	13.98	100.00	57	Saudi Arabia	1.88	17.69
5	Chile	11.40	82.46	58	New Zealand	1.70	16.46
6	Cambodia	11.00	79.71	59	Botswana	1.62	15.96
7	Trinidad and Tobago	10.73	77.92	60	Austria	1.59	15.70
8	Hungary	10.62	77.17	61	Turkey	1.57	15.59
9	Nicaragua	10.32	75.09	62	China	1.50	15.09
10	Lebanon	9.14	67.06	63	Macedonia	1.43	14.65
11	Madagascar	8.94	65.74	64	Paraguay	1.41	14.49
12	Panama	8.52	62.84	65	India	1.38	14.27
13	Ghana	8.37	61.84	66	Sri Lanka	1.30	13.79
14	Albania	7.64	56.85	67	Romania	1.27	13.58
15	Uganda	7.30	54.57	68	South Africa	1.17	12.89
16	Kazakhstan	7.01	52.62	69	Greece	1.15	12.72
17	Estonia	6.73	50.72	70	Philippines	1.12	12.52
18	Dominican Republic	6.13	46.63	71	Egypt	1.11	12.44
19	Peru	6.05	46.09	72	Mexico	1.08	12.25
20	Kyrgyzstan	6.02	45.85	73	United States	1.07	12.18
21	Vietnam	5.95	45.39	74	Yemen	1.04	11.99
22	Uruguay	5.49	42.23	75	France	0.96	11.45
23	Czech Republic	5.41	41.68	76	Denmark	0.92	11.20
24	Costa Rica	5.03	39.09	77	Bangladesh	0.90	11.04
25	Armenia	4.94	38.51	78	Iran	0.89	10.99
26	Ukraine	4.39	34.78	79	South Korea	0.86	10.75
27	Israel	4.34	34.43	80	Venezuela	0.85	10.67
28	Colombia	4.32	34.31	81	Ecuador	0.80	10.35
29	Tunisia	4.22	33.61	82	Algeria	0.71	9.75
30	Portugal	4.20	33.48	83	Poland	0.69	9.60
31	Bolivia	3.91	31.53	84	Switzerland	0.57	8.77
32	Iceland	3.75	30.45	85	Italy	0.48	8.17
33	Bulgaria	3.73	30.27	86	Pakistan	0.38	7.51
34	Australia	3.64	29.68	87	Slovenia	0.32	7.08
35	Latvia	3.48	28.58	88	Germany	0.19	6.23
36	Malaysia	3.32	27.49	89	Qatar	0.18	6.13
37	Slovakia	3.08	25.87	90	Japan	0.03	5.12
38	Azerbaijan	2.98	25.19	91	Netherlands	-0.03	4.70
39	Brazil	2.90	24.61	92	Belgium	-0.33	2.65
40	Morocco	2.90	24.61	93	Finland	-0.72	0.00
41	Namibia	2.88	24.51				
42	United Arab Emirates	2.72	23.41				
43	Argentina	2.63	22.81				
44	Sweden	2.61	22.68				
45	Russia	2.60	22.60				
46	Norway	2.57	22.41				
47	United Kingdom	2.56	22.35				
48	Canada	2.56	22.32				
49	Guatemala	2.42	21.36				
50	Indonesia	2.26	20.29				
51	Thailand	2.20	19.89				
52	Croatia	2.19	19.80				
53	El Salvador	2.17	19.67				

Source: United Nations Conference on Trade and Development (UNCTAD) Division on Investment and Enterprise, UNCTAD STAT. (unctadstat.unctad.org)

2.1.2 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Ireland	6.32	88.71	54	Colombia	4.62	60.35
2	United Arab Emirates	5.89	81.47	55	France	4.60	60.01
3	Panama	5.85	80.82	56	Poland	4.58	59.65
4	Qatar	5.81	80.21	57	China	4.54	59.02
5	Singapore	5.81	80.09	58	Namibia	4.53	58.92
6	Costa Rica	5.70	78.29	59	South Korea	4.49	58.23
7	Luxembourg	5.50	75.03	60	Latvia	4.49	58.18
8	Saudi Arabia	5.50	74.92	61	Finland	4.44	57.31
9	Lithuania	5.35	72.44	62	Ghana	4.42	57.07
10	Dominican Republic	5.31	71.75	63	Romania	4.41	56.79
11	Malaysia	5.28	71.37	64	Albania	4.37	56.16
12	Israel	5.28	71.29	65	Macedonia	4.36	56.04
13	Hungary	5.27	71.14	66	Kazakhstan	4.36	55.98
14	Mexico	5.25	70.89	67	Egypt	4.19	53.10
15	Australia	5.23	70.42	68	Botswana	4.13	52.18
16	Uruguay	5.21	70.12	69	Vietnam	4.12	52.03
17	Chile	5.19	69.78	70	Madagascar	4.12	52.01
18	New Zealand	5.17	69.56	71	Nicaragua	4.12	51.97
19	United Kingdom	5.15	69.18	72	Paraguay	4.10	51.61
20	Peru	5.15	69.17	73	Bulgaria	4.06	51.08
21	Belgium	5.15	69.11	74	Moldova	4.05	50.89
22	Brazil	5.15	69.10	75	Pakistan	4.01	50.21
23	Slovakia	5.12	68.59	76	Greece	4.01	50.11
24	Czech Republic	5.10	68.27	77	Croatia	4.00	50.06
25	Portugal	5.09	68.14	78	Ecuador	3.99	49.77
26	Estonia	5.07	67.84	79	Slovenia	3.89	48.19
27	India	5.04	67.37	80	Bangladesh	3.88	48.06
28	Sweden	5.04	67.27	81	El Salvador	3.86	47.72
29	Thailand	4.98	66.37	82	Iran	3.82	46.94
30	Netherlands	4.97	66.15	83	Iceland	3.77	46.25
31	Indonesia	4.96	65.98	84	Russia	3.73	45.53
32	South Africa	4.95	65.85	85	Italy	3.67	44.50
33	Philippines	4.92	65.28	86	Algeria	3.63	43.82
34	Cambodia	4.89	64.80	87	Lebanon	3.63	43.78
35	United States	4.87	64.51	88	Ukraine	3.61	43.44
36	Turkey	4.87	64.50	89	Bolivia	3.59	43.14
37	Armenia	4.85	64.19	90	Kyrgyzstan	3.56	42.72
38	Guatemala	4.84	64.04	91	Yemen	3.48	41.29
39	Canada	4.81	63.49	92	Venezuela	3.31	38.53
40	Spain	4.80	63.39	93	Argentina	3.12	35.38
41	Norway	4.79	63.11				
42	Japan	4.78	63.03				
43	Switzerland	4.78	63.02				
44	Sri Lanka	4.77	62.80				
45	Germany	4.76	62.61				
46	Uganda	4.75	62.57				
47	Denmark	4.74	62.38				
48	Morocco	4.74	62.31				
49	Austria	4.70	61.63				
50	Trinidad and Tobago	4.69	61.56				
51	Azerbaijan	4.69	61.54				
52	Mongolia	4.67	61.13				
53	Tunisia	4.63	60.46				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

2.1.3 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg	6.31	88.43	54	Madagascar	4.53	58.81
2	Singapore	6.10	85.02	55	Brazil	4.46	57.63
3	United Kingdom	6.05	84.11	56	Paraguay	4.45	57.57
4	Czech Republic	5.96	82.71	57	Colombia	4.44	57.28
5	Ireland	5.90	81.68	58	Armenia	4.38	56.38
6	Slovakia	5.89	81.55	59	Greece	4.38	56.29
7	Australia	5.83	80.56	60	China	4.37	56.17
8	New Zealand	5.76	79.38	61	Lithuania	4.34	55.73
9	Estonia	5.75	79.24	62	Portugal	4.33	55.58
10	Panama	5.68	77.96	63	India	4.31	55.23
11	Canada	5.62	77.01	64	South Korea	4.25	54.11
12	Chile	5.61	76.77	65	Saudi Arabia	4.21	53.55
13	Uruguay	5.60	76.65	66	Vietnam	4.21	53.53
14	Hungary	5.54	75.61	67	Croatia	4.15	52.57
15	United Arab Emirates	5.53	75.45	68	Ecuador	4.10	51.65
16	Belgium	5.51	75.23	69	Romania	4.09	51.51
17	Costa Rica	5.51	75.17	70	Nicaragua	4.08	51.26
18	France	5.43	73.80	71	Turkey	4.05	50.80
19	Netherlands	5.37	72.83	72	Macedonia	4.03	50.54
20	Sweden	5.37	72.81	73	Bulgaria	4.01	50.12
21	Botswana	5.34	72.29	74	El Salvador	3.99	49.82
22	Finland	5.30	71.59	75	Kazakhstan	3.97	49.50
23	Ghana	5.29	71.53	76	Azerbaijan	3.93	48.90
24	Switzerland	5.27	71.18	77	Kyrgyzstan	3.91	48.58
25	Mexico	5.27	71.14	78	Moldova	3.85	47.50
26	South Africa	5.27	71.10	79	Lebanon	3.85	47.46
27	Latvia	5.24	70.66	80	Pakistan	3.84	47.32
28	Peru	5.23	70.43	81	Bangladesh	3.74	45.74
29	Denmark	5.22	70.32	82	Egypt	3.65	44.11
30	Uganda	5.21	70.23	83	Bolivia	3.62	43.72
31	Morocco	5.21	70.14	84	Ukraine	3.57	42.79
32	Norway	5.21	70.10	85	Albania	3.56	42.68
33	Namibia	5.09	68.18	86	Italy	3.48	41.26
34	Germany	5.08	67.98	87	Venezuela	3.41	40.20
35	Malaysia	5.07	67.85	88	Russia	3.39	39.84
36	United States	5.05	67.43	89	Algeria	3.22	36.95
37	Dominican Republic	5.01	66.80	90	Slovenia	3.21	36.76
38	Japan	5.00	66.65	91	Iceland	3.13	35.43
39	Israel	4.99	66.55	92	Yemen	2.73	28.79
40	Austria	4.99	66.54	93	Iran	2.16	19.29
41	Spain	4.98	66.41				
42	Guatemala	4.92	65.35				
43	Sri Lanka	4.91	65.22				
44	Mongolia	4.85	64.21				
45	Philippines	4.77	62.86				
46	Poland	4.77	62.84				
47	Qatar	4.71	61.87				
48	Thailand	4.71	61.80				
49	Tunisia	4.65	60.78				
50	Cambodia	4.61	60.13				
51	Indonesia	4.61	60.12				
52	Argentina	4.60	60.02				
53	Trinidad and Tobago	4.57	59.57				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

2.1.4 Male adult migrants

Adult male migrant stock (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg	52.17	100.00	54	Paraguay	4.34	8.22
1	Qatar	52.17	100.00	55	Namibia	4.16	7.87
1	United Arab Emirates	52.17	100.00	56	Turkey	3.49	6.58
4	Saudi Arabia	49.04	94.00	57	Albania	3.37	6.35
5	Singapore	45.30	86.81	58	South Korea	3.24	6.10
6	Israel	36.77	70.45	59	Slovakia	2.93	5.51
7	Australia	34.56	66.21	60	Uganda	2.73	5.13
8	Switzerland	34.24	65.60	61	Trinidad and Tobago	2.59	4.84
9	Kazakhstan	32.59	62.42	62	Uruguay	2.58	4.82
10	New Zealand	29.27	56.06	63	Ecuador	2.31	4.31
11	Canada	23.64	45.25	64	Chile	2.26	4.21
12	Lebanon	20.20	38.64	65	Bolivia	2.20	4.10
13	Croatia	19.16	36.64	66	Pakistan	2.16	4.03
14	Estonia	19.05	36.45	67	Yemen	2.16	4.02
15	Sweden	18.28	34.96	68	Sri Lanka	1.86	3.46
16	United States	18.27	34.94	69	Ghana	1.78	3.29
17	Ireland	17.71	33.86	70	Japan	1.68	3.11
18	Austria	17.59	33.64	71	Bangladesh	1.68	3.10
19	Norway	16.33	31.22	72	Poland	1.54	2.83
20	Latvia	16.08	30.73	73	Mongolia	1.43	2.62
21	Slovenia	15.64	29.89	74	Bulgaria	1.03	1.85
22	Spain	15.08	28.82	75	Algeria	0.95	1.71
23	France	14.78	28.24	76	El Salvador	0.84	1.49
24	United Kingdom	14.10	26.95	77	Romania	0.82	1.45
25	Moldova	13.80	26.37	78	Guatemala	0.82	1.45
26	Armenia	13.65	26.08	79	Cambodia	0.80	1.41
27	Netherlands	13.50	25.80	80	Nicaragua	0.74	1.31
28	Germany	13.38	25.57	81	India	0.74	1.30
29	Ukraine	13.15	25.12	82	Mexico	0.60	1.03
30	Malaysia	13.11	25.03	83	Peru	0.51	0.87
31	Botswana	12.67	24.20	84	Egypt	0.50	0.84
32	Belgium	11.52	21.99	85	Brazil	0.47	0.78
33	Denmark	10.90	20.80	86	Tunisia	0.42	0.69
34	Iceland	10.66	20.34	87	Colombia	0.28	0.43
35	Russia	10.32	19.68	88	Madagascar	0.26	0.38
36	Costa Rica	10.09	19.25	89	Philippines	0.25	0.36
37	Italy	9.36	17.84	90	Morocco	0.20	0.26
38	Greece	9.31	17.76	91	Indonesia	0.16	0.19
39	Portugal	8.86	16.88	92	Vietnam	0.12	0.10
40	South Africa	8.32	15.84	93	China	0.06	0.00
41	Kyrgyzstan	6.55	12.45				
42	Macedonia	6.32	12.02				
43	Argentina	6.23	11.84				
44	Finland	6.08	11.56				
45	Panama	5.94	11.28				
46	Lithuania	5.94	11.28				
47	Thailand	5.49	10.42				
48	Hungary	5.49	10.41				
49	Czech Republic	5.24	9.94				
50	Venezuela	5.23	9.92				
51	Azerbaijan	4.83	9.14				
52	Iran	4.73	8.96				
53	Dominican Republic	4.65	8.80				

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex. (esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm)

2.1.5 Female adult migrants

Adult female migrant stock (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Qatar	54.13	100.00	54	Namibia	3.31	6.01
1	Singapore	54.13	100.00	55	Slovakia	3.23	5.86
1	United Arab Emirates	54.13	100.00	56	Turkey	3.10	5.61
4	Luxembourg	49.63	91.67	57	Trinidad and Tobago	3.03	5.49
5	Israel	42.29	78.10	58	Iran	2.91	5.27
6	Switzerland	34.21	63.16	59	Dominican Republic	2.91	5.26
7	Australia	34.08	62.91	60	Uruguay	2.90	5.25
8	Kazakhstan	28.92	53.38	61	Uganda	2.63	4.76
9	New Zealand	28.55	52.68	62	Chile	2.49	4.48
10	Canada	25.15	46.40	63	South Korea	2.30	4.14
11	Estonia	23.17	42.73	64	Poland	2.14	3.85
12	Saudi Arabia	22.25	41.04	65	Ecuador	2.08	3.73
13	Croatia	20.34	37.50	66	Japan	2.01	3.61
14	Latvia	19.80	36.51	67	Bolivia	1.86	3.33
15	Sweden	19.02	35.06	68	Pakistan	1.65	2.95
16	Lebanon	18.35	33.82	69	Sri Lanka	1.65	2.94
17	Austria	18.18	33.51	70	Yemen	1.40	2.48
18	United States	18.17	33.49	71	Bulgaria	1.30	2.29
19	Ireland	18.06	33.29	72	Ghana	1.29	2.28
20	Armenia	16.02	29.52	73	Guatemala	0.83	1.43
21	Norway	14.77	27.21	74	Algeria	0.81	1.39
22	Spain	14.52	26.73	75	Romania	0.76	1.29
23	United Kingdom	14.50	26.70	76	El Salvador	0.73	1.24
24	Moldova	14.47	26.64	77	India	0.73	1.24
25	Netherlands	14.24	26.23	78	Nicaragua	0.61	1.02
26	France	14.04	25.85	79	Cambodia	0.57	0.95
27	Germany	13.86	25.51	80	Peru	0.50	0.81
28	Ukraine	13.47	24.80	81	Mexico	0.48	0.78
29	Iceland	11.44	21.05	82	Mongolia	0.42	0.66
30	Denmark	11.30	20.79	83	Tunisia	0.39	0.62
31	Slovenia	11.15	20.51	84	Egypt	0.37	0.57
32	Costa Rica	11.12	20.46	85	Brazil	0.36	0.55
33	Italy	10.47	19.26	86	Philippines	0.22	0.30
34	Belgium	10.29	18.92	87	Colombia	0.21	0.28
35	Macedonia	9.46	17.38	88	Bangladesh	0.21	0.27
36	Botswana	9.46	17.38	89	Madagascar	0.18	0.23
37	Portugal	9.40	17.27	90	Morocco	0.17	0.21
38	Russia	8.67	15.92	91	Indonesia	0.10	0.07
39	Malaysia	8.20	15.05	92	Vietnam	0.07	0.02
40	Kyrgyzstan	7.59	13.93	93	China	0.06	0.00
41	Greece	7.38	13.54				
42	Venezuela	7.18	13.17				
43	Argentina	6.76	12.38				
44	Lithuania	6.54	11.98				
45	Panama	5.70	10.42				
46	Finland	5.56	10.16				
47	Hungary	5.16	9.43				
48	Azerbaijan	5.13	9.37				
49	South Africa	5.01	9.16				
50	Thailand	4.99	9.11				
51	Albania	4.33	7.89				
52	Paraguay	3.88	7.06				
53	Czech Republic	3.44	6.26				

Source: United Nations Population Division, Trends in International Migrant Stock: Migrants by Age and Sex. (esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm)

2.1.6 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	6.08	84.67	54	Portugal	3.19	36.50
2	Singapore	6.01	83.50	54	Turkey	3.19	36.50
3	Qatar	5.99	83.17	56	Colombia	3.11	35.17
4	United Kingdom	5.83	80.50	57	Guatemala	3.05	34.17
5	United States	5.74	79.00	58	Madagascar	3.02	33.67
6	Luxembourg	5.43	73.83	59	Estonia	3.01	33.50
7	Canada	5.12	68.67	60	Russia	3.00	33.33
7	Panama	5.12	68.67	61	Uganda	2.96	32.67
9	Norway	5.05	67.50	62	Spain	2.85	30.83
10	Ireland	5.03	67.17	63	Tunisia	2.82	30.33
11	Saudi Arabia	4.87	64.50	64	Paraguay	2.70	28.33
12	Australia	4.73	62.17	65	Latvia	2.66	27.67
12	Netherlands	4.73	62.17	65	Pakistan	2.66	27.67
14	Germany	4.69	61.50	67	Uruguay	2.62	27.00
15	Malaysia	4.63	60.50	68	Armenia	2.56	26.00
16	Chile	4.50	58.33	68	Hungary	2.56	26.00
17	Sweden	4.41	56.83	70	Sri Lanka	2.55	25.83
18	China	4.39	56.50	71	Slovakia	2.52	25.33
19	Indonesia	4.31	55.17	72	Slovenia	2.50	25.00
19	New Zealand	4.31	55.17	73	Poland	2.44	24.00
21	Austria	4.25	54.17	74	Bangladesh	2.43	23.83
22	South Korea	4.14	52.33	75	Lebanon	2.42	23.67
23	Thailand	4.11	51.83	76	Argentina	2.41	23.50
24	Azerbaijan	4.10	51.67	77	Italy	2.39	23.17
24	Ecuador	4.10	51.67	78	Greece	2.26	21.00
24	Trinidad and Tobago	4.10	51.67	79	Mongolia	2.21	20.17
27	Peru	4.06	51.00	80	Egypt	2.18	19.67
28	Costa Rica	3.98	49.67	81	Romania	2.17	19.50
29	Ghana	3.94	49.00	81	Yemen	2.17	19.50
29	Kazakhstan	3.94	49.00	83	Macedonia	2.15	19.17
31	France	3.88	48.00	84	Lithuania	2.14	19.00
31	Morocco	3.88	48.00	85	Ukraine	2.13	18.83
33	Belgium	3.85	47.50	86	Algeria	1.96	16.00
34	El Salvador	3.81	46.83	87	Kyrgyzstan	1.91	15.17
35	Cambodia	3.80	46.67	88	Bulgaria	1.89	14.83
36	Denmark	3.77	46.17	88	Croatia	1.89	14.83
37	Brazil	3.73	45.50	90	Iran	1.80	13.33
38	India	3.72	45.33	91	Moldova	1.74	12.33
38	South Africa	3.72	45.33	92	Venezuela	1.48	8.00
40	Albania	3.59	43.17	n/a	United Arab Emirates	n/a	n/a
41	Israel	3.52	42.00				
42	Finland	3.51	41.83				
43	Vietnam	3.50	41.67				
44	Namibia	3.46	41.00				
45	Iceland	3.41	40.17				
46	Botswana	3.34	39.00				
46	Nicaragua	3.34	39.00				
48	Japan	3.32	38.67				
48	Mexico	3.32	38.67				
50	Bolivia	3.30	38.33				
51	Dominican Republic	3.29	38.17				
52	Philippines	3.24	37.33				
53	Czech Republic	3.20	36.67				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

2.1.7 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Qatar	5.97	82.83	53	New Zealand	3.27	37.83
2	Finland	5.83	80.50	53	Turkey	3.27	37.83
3	Switzerland	5.82	80.33	56	Nicaragua	3.26	37.67
4	United States	5.68	78.00	57	Argentina	3.22	37.00
5	Norway	5.62	77.00	58	Greece	3.15	35.83
6	Singapore	5.14	69.00	59	Paraguay	3.13	35.50
7	Germany	5.09	68.17	60	Vietnam	3.03	33.83
7	Sweden	5.09	68.17	61	Madagascar	3.01	33.50
9	Luxembourg	5.06	67.67	62	Estonia	3.00	33.33
10	Chile	5.04	67.33	62	Latvia	3.00	33.33
11	United Kingdom	5.01	66.83	64	Sri Lanka	2.93	32.17
12	Netherlands	4.84	64.00	65	Pakistan	2.90	31.67
13	Costa Rica	4.82	63.67	66	Slovenia	2.87	31.17
14	Canada	4.64	60.67	67	Spain	2.86	31.00
14	Saudi Arabia	4.64	60.67	68	Czech Republic	2.83	30.50
16	Malaysia	4.63	60.50	69	Portugal	2.81	30.17
17	Panama	4.61	60.17	70	Russia	2.79	29.83
18	Austria	4.54	59.00	71	Lebanon	2.68	28.00
19	Iceland	4.44	57.33	72	Uganda	2.67	27.83
20	South Korea	4.42	57.00	73	Italy	2.66	27.67
21	Belgium	4.38	56.33	73	Mongolia	2.66	27.67
22	Thailand	4.33	55.50	75	Poland	2.65	27.50
23	Japan	4.31	55.17	76	Armenia	2.62	27.00
24	China	4.28	54.67	77	Bangladesh	2.56	26.00
25	Australia	4.11	51.83	77	Macedonia	2.56	26.00
25	Brazil	4.11	51.83	79	Hungary	2.55	25.83
27	Indonesia	4.07	51.17	80	Lithuania	2.53	25.50
28	Ireland	4.05	50.83	81	Slovakia	2.39	23.17
29	Ecuador	4.04	50.67	82	Iran	2.34	22.33
30	Peru	3.98	49.67	83	Egypt	2.30	21.67
31	Denmark	3.95	49.17	84	Croatia	2.27	21.17
32	Cambodia	3.94	49.00	85	Algeria	2.08	18.00
33	Bolivia	3.93	48.83	85	Romania	2.08	18.00
34	Guatemala	3.92	48.67	85	Yemen	2.08	18.00
35	Israel	3.83	47.17	88	Ukraine	2.01	16.83
36	India	3.78	46.33	89	Bulgaria	1.93	15.50
37	South Africa	3.77	46.17	90	Kyrgyzstan	1.91	15.17
38	Ghana	3.68	44.67	91	Moldova	1.88	14.67
39	Morocco	3.62	43.67	92	Venezuela	1.81	13.50
40	Botswana	3.60	43.33	n/a	United Arab Emirates	n/a	n/a
41	Mexico	3.58	43.00				
42	France	3.57	42.83				
43	Albania	3.54	42.33				
44	Azerbaijan	3.50	41.67				
44	Colombia	3.50	41.67				
46	El Salvador	3.47	41.17				
47	Namibia	3.46	41.00				
48	Philippines	3.43	40.50				
49	Dominican Republic	3.42	40.33				
50	Trinidad and Tobago	3.40	40.00				
51	Tunisia	3.38	39.67				
52	Uruguay	3.29	38.17				
53	Kazakhstan	3.27	37.83				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

2.2.1 Tolerance to minorities

Percentage of respondents who answered yes for the question: Is the area where you live a good place for racial and ethnic minorities to live? | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Canada	0.93	100.00	54	Latvia	0.65	63.50
2	New Zealand	0.91	96.85	55	Dominican Republic	0.65	63.42
3	Iceland	0.90	96.01	56	Mongolia	0.65	63.23
4	Norway	0.90	95.90	57	Kyrgyzstan	0.65	63.14
5	Ireland	0.90	95.84	58	Croatia	0.64	62.35
6	Australia	0.89	93.94	59	Azerbaijan	0.64	62.18
7	Uruguay	0.88	92.77	60	Iran (2011)	0.63	61.70
8	Sweden	0.88	92.66	61	Peru	0.63	61.62
9	Luxembourg	0.88	92.65	62	Mexico	0.62	59.62
10	Denmark	0.85	89.61	63	China	0.61	59.01
11	United Kingdom	0.85	89.33	64	Armenia	0.61	58.66
12	United States	0.85	88.96	65	Japan (2011)	0.61	58.21
13	Bangladesh	0.84	88.60	66	Indonesia	0.61	58.19
14	Sri Lanka	0.84	87.47	67	El Salvador	0.60	57.81
15	Brazil	0.83	86.12	68	Macedonia	0.60	57.26
16	Costa Rica	0.82	85.92	69	Morocco (2011)	0.59	56.45
17	Germany	0.82	85.40	70	Slovakia	0.58	54.90
18	Netherlands	0.81	84.76	71	Russia	0.58	54.54
19	Spain	0.80	83.28	72	Estonia	0.58	54.46
20	Portugal	0.80	82.95	73	Philippines	0.57	54.10
21	Switzerland	0.79	81.98	74	Lithuania	0.57	53.10
22	Belgium	0.79	81.51	75	Ukraine	0.56	52.26
23	Trinidad and Tobago (2011)	0.79	81.37	76	Czech Republic	0.56	51.61
24	Singapore (2011)	0.78	79.92	77	Ghana	0.55	51.05
25	Argentina	0.78	79.72	78	Albania	0.52	47.13
26	Kazakhstan	0.77	79.68	79	Cambodia	0.51	45.74
27	France	0.77	79.51	80	Poland	0.49	43.45
28	India	0.77	79.05	81	Moldova	0.47	41.12
29	Nicaragua	0.77	78.68	82	Turkey	0.45	38.30
30	Italy	0.76	78.03	83	Israel	0.41	33.53
31	Chile	0.76	77.70	84	Greece	0.38	29.24
32	Namibia (2007)	0.76	77.60	85	Saudi Arabia (2009)	0.38	28.77
33	Finland	0.76	77.22	86	Lebanon	0.38	28.62
34	Guatemala	0.76	77.22	87	Tunisia	0.36	26.08
35	Austria	0.75	76.51	88	Algeria	0.31	20.84
36	Panama	0.75	76.45	89	Thailand	0.31	20.67
37	Bulgaria	0.73	74.24	90	Egypt (2011)	0.22	8.78
38	Ecuador	0.73	74.00	91	Yemen	0.15	0.00
39	Slovenia	0.73	73.65	n/a	Madagascar	n/a	n/a
40	Romania	0.72	73.25	n/a	Qatar	n/a	n/a
41	Bolivia	0.72	73.13				
42	South Africa	0.72	72.45				
43	Colombia	0.71	71.93				
44	Hungary	0.71	71.40				
45	South Korea (2011)	0.71	71.05				
46	Pakistan	0.70	70.24				
47	Paraguay	0.70	69.55				
48	Uganda	0.69	68.27				
49	Botswana	0.68	67.58				
50	Malaysia	0.67	66.52				
51	United Arab Emirates (2009)	0.67	66.23				
52	Vietnam	0.67	65.65				
53	Venezuela	0.65	64.25				

Source: Legatum Institute, Legatum Prosperity Index 2013 based on Gallup World Poll. (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 for immigrants to live? | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Canada	0.94	100.00	54	Botswana	0.61	54.82
2	New Zealand	0.92	97.14	55	Ghana	0.59	52.25
3	Iceland	0.91	96.41	56	Czech Republic	0.59	51.67
4	Australia	0.90	94.75	57	Armenia	0.59	51.43
5	Norway	0.90	94.64	58	Croatia	0.58	50.51
6	Paraguay	0.90	94.22	59	Namibia (2007)	0.58	50.26
7	Sweden	0.89	93.16	60	Sri Lanka	0.57	49.97
8	United Arab Emirates	0.89	92.41	61	Romania	0.57	49.87
9	Uruguay	0.88	91.42	62	Slovakia	0.57	49.09
10	Luxembourg	0.86	89.61	63	Lebanon	0.57	48.76
11	Ireland	0.86	89.55	64	South Africa	0.56	48.38
12	Denmark	0.85	88.15	65	Vietnam	0.55	47.26
13	United States	0.85	87.25	66	China	0.55	47.05
14	Netherlands	0.84	86.19	67	Kyrgyzstan	0.55	46.93
15	Germany	0.84	85.90	68	Iran (2011)	0.55	46.76
16	Spain	0.84	85.58	69	Ukraine	0.54	45.91
17	Portugal	0.82	84.12	70	Mongolia	0.54	45.46
18	United Kingdom	0.80	81.36	71	Algeria	0.54	44.64
19	Costa Rica	0.80	81.18	72	Turkey	0.53	44.36
20	Belgium	0.79	80.00	73	Mexico	0.52	42.01
21	Kazakhstan	0.78	78.25	74	Albania	0.52	41.89
22	Finland	0.78	78.18	75	Morocco	0.51	41.67
23	Trinidad and Tobago (2011)	0.77	76.78	76	Lithuania	0.50	39.97
24	Argentina	0.76	75.96	77	Moldova	0.50	39.19
25	Brazil	0.76	75.90	78	Latvia	0.49	38.47
26	Switzerland	0.76	75.41	79	Poland	0.49	38.34
27	France	0.75	73.84	80	Estonia	0.48	37.69
28	Saudi Arabia	0.74	73.25	81	Guatemala	0.48	37.32
29	Chile	0.74	73.16	82	Pakistan	0.45	32.42
30	Italy	0.74	73.05	83	Greece	0.41	27.98
31	Nicaragua	0.72	70.42	84	India	0.40	26.47
32	Bolivia	0.72	70.33	85	Israel	0.35	18.87
33	Colombia	0.72	69.50	86	Yemen	0.28	9.41
34	Austria	0.72	69.40	87	Cambodia	0.27	8.71
35	Venezuela	0.70	67.36	88	Indonesia	0.27	8.69
36	Bangladesh	0.69	66.08	89	Egypt	0.26	7.11
37	Peru	0.68	64.22	90	Thailand	0.24	4.87
38	Hungary	0.68	63.72	91	Malaysia	0.21	0.00
39	Dominican Republic	0.67	62.35	n/a	Madagascar	n/a	n/a
40	Tunisia	0.66	61.84	n/a	Qatar	n/a	n/a
41	Singapore (2011)	0.66	61.46				
42	Panama	0.66	61.42				
43	Japan (2011)	0.65	60.65				
44	Philippines	0.64	59.53				
45	Uganda	0.64	59.24				
46	Macedonia	0.64	59.13				
47	Azerbaijan	0.64	59.09				
48	South Korea (2011)	0.64	58.47				
49	Bulgaria	0.63	58.15				
50	Russia	0.63	57.87				
51	El Salvador	0.63	57.59				
52	Ecuador	0.62	56.51				
53	Slovenia	0.61	55.12				

Source: Legatum Institute, Legatum Prosperity Index 2013 based on Gallup World Poll. (prosperity.com)

2.2.3 Female graduates

Female tertiary graduates (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Estonia (2010)	70.18	100.00	54	Tunisia	55.83	61.67
2	Latvia (2011)	70.10	99.79	55	France (2009)	55.22	60.03
3	Iceland (2010)	66.72	90.76	56	Chile (2010)	55.15	59.85
4	Poland (2011)	66.03	88.92	57	Ireland (2010)	54.82	58.95
5	Albania	65.55	87.63	58	Ukraine	54.69	58.60
6	Argentina (2010)	64.80	85.61	59	Colombia	53.99	56.75
7	Lithuania (2011)	64.53	84.91	60	Mexico (2011)	53.83	56.31
8	Uruguay (2010)	64.12	83.82	61	Austria (2011)	53.10	54.36
9	Algeria	63.99	83.47	62	Saudi Arabia	52.94	53.94
10	Slovakia (2011)	63.92	83.28	63	Azerbaijan	52.10	51.70
11	Costa Rica	63.88	83.16	64	South Korea (2011)	49.97	46.01
12	Mongolia (2011)	63.85	83.08	65	China (2011)	49.73	45.36
13	Hungary (2011)	63.80	82.95	66	Guatemala (2007)	49.66	45.19
14	Panama (2011)	63.61	82.44	67	Luxembourg (2008)	49.41	44.51
15	Sweden (2011)	62.89	80.52	68	Switzerland (2010)	49.38	44.43
16	United Arab Emirates	62.38	79.16	69	Japan (2011)	48.42	41.88
17	Czech Republic (2011)	62.20	78.69	70	Indonesia (2004)	48.09	41.00
18	Romania (2011)	61.59	77.05	71	Morocco (2010)	47.31	38.91
19	Kyrgyzstan	61.37	76.47	72	Madagascar	47.31	38.89
20	Nicaragua (2002)	61.35	76.42	73	Turkey (2011)	45.73	34.68
21	Finland (2011)	61.26	76.16	74	Cambodia (2011)	41.50	23.39
22	Armenia	61.12	75.80	75	Ghana	39.37	17.70
23	Bulgaria (2011)	61.10	75.73	76	Iran	38.48	15.31
24	Norway (2011)	61.00	75.47	77	Uganda (2004)	37.85	13.62
25	Brazil (2011)	60.72	74.74	78	Vietnam	37.03	11.45
26	Sri Lanka (2011)	60.61	74.43	79	Yemen (2007)	33.35	1.60
27	Italy (2011)	60.44	73.97	80	Bangladesh (2003)	32.75	0.00
28	Trinidad and Tobago (2004)	60.42	73.93	n/a	Bolivia	n/a	n/a
29	Portugal (2011)	60.36	73.75	n/a	Botswana	n/a	n/a
30	Slovenia (2011)	60.34	73.71	n/a	Dominican Republic	n/a	n/a
31	Venezuela (2002)	60.30	73.60	n/a	Egypt	n/a	n/a
32	Qatar	60.23	73.43	n/a	India	n/a	n/a
33	Greece (2010)	59.86	72.42	n/a	Israel	n/a	n/a
34	Malaysia (2010)	59.75	72.14	n/a	Kazakhstan	n/a	n/a
35	Moldova	59.45	71.34	n/a	Pakistan	n/a	n/a
36	New Zealand (2011)	59.23	70.75	n/a	Peru	n/a	n/a
37	Belgium (2011)	59.02	70.18	n/a	Paraguay	n/a	n/a
38	Ecuador (2008)	58.77	69.52	n/a	Russia	n/a	n/a
39	El Salvador (2011)	58.73	69.41	n/a	Singapore	n/a	n/a
40	United States (2010)	58.52	68.84	n/a	South Africa	n/a	n/a
41	Croatia (2011)	58.42	68.59				
42	Canada (2002)	58.37	68.46				
43	Namibia (2008)	58.35	68.40				
44	Denmark (2011)	57.87	67.12				
45	Philippines (2009)	57.44	65.95				
46	Spain (2011)	57.40	65.85				
47	Germany (2011)	57.25	65.45				
48	Netherlands (2011)	56.91	64.55				
49	Thailand (2010)	56.85	64.39				
50	Australia (2010)	56.57	63.64				
51	United Kingdom (2011)	56.32	62.96				
52	Lebanon	56.20	62.64				
53	Macedonia (2011)	56.00	62.11				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

2.2.4 Female-to-male earnings ratio

Estimated earned income ratio | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	1.00	100.00	52	Poland	0.57	48.81
1	Luxembourg	1.00	100.00	52	Uruguay	0.57	48.81
1	Norway	1.00	100.00	56	Trinidad and Tobago	0.56	47.62
1	Singapore	1.00	100.00	57	Panama	0.55	46.43
5	United States	0.96	95.24	58	Albania	0.54	45.24
6	Sweden	0.93	91.67	58	Kyrgyzstan	0.54	45.24
7	Australia	0.92	90.48	60	Armenia	0.53	44.05
8	Denmark	0.89	86.90	60	Greece	0.53	44.05
9	Netherlands	0.87	84.52	60	Italy	0.53	44.05
10	Canada	0.85	82.14	63	Azerbaijan	0.52	42.86
11	Qatar	0.83	79.76	63	Bangladesh	0.52	42.86
12	Bolivia	0.82	78.57	63	South Africa	0.52	42.86
13	Finland	0.80	76.19	66	Ecuador	0.51	41.67
14	Mongolia	0.77	72.62	67	Venezuela	0.50	40.48
15	Germany	0.76	71.43	68	Argentina	0.49	39.29
15	Ireland	0.76	71.43	68	Chile	0.49	39.29
17	Iceland	0.74	69.05	68	Czech Republic	0.49	39.29
18	Belgium	0.73	67.86	71	Macedonia	0.48	38.10
18	United Kingdom	0.73	67.86	72	Botswana	0.47	36.90
18	Uganda	0.73	67.86	73	Nicaragua	0.46	35.71
21	Madagascar	0.72	66.67	74	Guatemala	0.44	33.33
22	New Zealand	0.71	65.48	74	South Korea	0.44	33.33
23	Croatia	0.70	64.29	76	Indonesia	0.43	32.14
23	Cambodia	0.70	64.29	76	Mexico	0.43	32.14
23	Lithuania	0.70	64.29	78	United Arab Emirates	0.42	30.95
23	Latvia	0.70	64.29	78	El Salvador	0.42	30.95
27	Bulgaria	0.69	63.10	80	Malaysia	0.40	28.57
27	France	0.69	63.10	81	Sri Lanka	0.36	23.81
27	Romania	0.69	63.10	82	Turkey	0.29	15.48
27	Vietnam	0.69	63.10	83	Morocco	0.28	14.29
31	Ghana	0.66	59.52	84	India	0.27	13.10
31	Hungary	0.66	59.52	84	Lebanon	0.27	13.10
31	Moldova	0.66	59.52	84	Yemen	0.27	13.10
34	Estonia	0.65	58.33	87	Egypt	0.26	11.90
34	Israel	0.65	58.33	88	Iran	0.21	5.95
36	China	0.64	57.14	88	Pakistan	0.21	5.95
36	Slovenia	0.64	57.14	90	Saudi Arabia	0.19	3.57
38	Austria	0.63	55.95	91	Algeria	0.16	0.00
38	Paraguay	0.63	55.95	n/a	Dominican Republic	n/a	n/a
40	Colombia	0.62	54.76	n/a	Tunisia	n/a	n/a
40	Peru	0.62	54.76				
40	Russia	0.62	54.76				
43	Brazil	0.61	53.57				
43	Kazakhstan	0.61	53.57				
43	Namibia	0.61	53.57				
43	Thailand	0.61	53.57				
43	Ukraine	0.61	53.57				
48	Philippines	0.60	52.38				
49	Spain	0.59	51.19				
50	Portugal	0.58	50.00				
50	Slovakia	0.58	50.00				
52	Costa Rica	0.57	48.81				
52	Japan	0.57	48.81				

Source: World Economic Forum, The Global Gender Gap Report 2013. (weforum.org/reports/global-gender-gap-report-2013)

2.2.5 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Finland.....	6.36	89.30	54	Mexico.....	4.15	52.56
2	Switzerland.....	6.35	89.10	55	Paraguay.....	4.14	52.28
3	New Zealand.....	6.29	88.18	56	Tunisia.....	4.10	51.69
4	Norway.....	6.14	85.66	57	Ecuador.....	4.08	51.39
5	Denmark.....	6.08	84.66	58	Kazakhstan.....	4.05	50.81
6	Canada.....	5.99	83.19	59	Lebanon.....	4.04	50.69
7	Qatar.....	5.96	82.60	60	Poland.....	4.03	50.54
8	Singapore.....	5.95	82.54	61	Bangladesh.....	4.02	50.35
9	Netherlands.....	5.90	81.70	62	Armenia.....	3.97	49.51
10	Iceland.....	5.88	81.26	63	Pakistan.....	3.96	49.35
11	United Arab Emirates.....	5.87	81.19	64	Russia.....	3.91	48.55
12	Luxembourg.....	5.85	80.87	65	Ghana.....	3.88	48.04
13	Australia.....	5.81	80.25	66	Greece.....	3.84	47.31
14	Austria.....	5.81	80.21	67	Uganda.....	3.84	47.30
15	Belgium.....	5.75	79.22	68	Azerbaijan.....	3.82	46.99
16	Japan.....	5.62	76.93	69	Macedonia.....	3.81	46.79
17	United States.....	5.59	76.46	70	South Korea.....	3.76	46.08
18	Sweden.....	5.59	76.43	71	Iran.....	3.76	45.93
19	Germany.....	5.56	76.05	72	Cambodia.....	3.74	45.74
20	Ireland.....	5.54	75.64	73	Vietnam.....	3.72	45.33
21	Estonia.....	5.49	74.77	74	Colombia.....	3.69	44.87
22	United Kingdom.....	5.48	74.60	75	Nicaragua.....	3.66	44.38
23	Saudi Arabia.....	5.39	73.18	76	Kyrgyzstan.....	3.63	43.88
24	Malaysia.....	5.37	72.84	77	Argentina.....	3.62	43.65
25	Sri Lanka.....	5.18	69.66	78	Bolivia.....	3.62	43.62
26	Costa Rica.....	5.06	67.65	79	Italy.....	3.62	43.61
27	Botswana.....	4.84	64.01	80	Croatia.....	3.60	43.27
28	Latvia.....	4.79	63.09	81	Hungary.....	3.47	41.17
29	Czech Republic.....	4.72	61.93	82	Egypt.....	3.47	41.17
30	Spain.....	4.69	61.47	83	Dominican Republic.....	3.42	40.26
31	Panama.....	4.67	61.25	84	Bulgaria.....	3.38	39.73
32	Uruguay.....	4.67	61.14	85	Moldova.....	3.27	37.88
33	Chile.....	4.66	60.98	86	Yemen.....	3.26	37.60
34	India.....	4.66	60.95	87	Madagascar.....	3.18	36.29
35	Philippines.....	4.64	60.72	88	Venezuela.....	3.17	36.12
36	France.....	4.60	60.00	89	Algeria.....	3.13	35.56
37	Lithuania.....	4.60	59.95	90	El Salvador.....	3.13	35.48
38	Slovenia.....	4.59	59.82	91	Romania.....	2.93	32.14
39	South Africa.....	4.58	59.73	92	Ukraine.....	2.90	31.72
40	Guatemala.....	4.58	59.61	93	Albania.....	2.85	30.83
41	Trinidad and Tobago.....	4.53	58.86				
42	Thailand.....	4.53	58.85				
43	Brazil.....	4.52	58.72				
44	Namibia.....	4.48	58.07				
45	Israel.....	4.42	57.06				
46	Turkey.....	4.40	56.71				
47	Mongolia.....	4.39	56.51				
48	Slovakia.....	4.38	56.25				
49	China.....	4.35	55.79				
50	Portugal.....	4.33	55.49				
51	Indonesia.....	4.32	55.38				
52	Peru.....	4.30	54.92				
53	Morocco.....	4.21	53.52				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

PILLAR 3:

GROW

3.1.1 Vocational enrolment

Vocational enrolment (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Netherlands (2011)	48.66	100.00	54	Iran	11.42	23.48
2	Belgium (2011)	39.59	81.35	55	South Korea (2011)	10.77	22.12
3	Czech Republic (2011)	39.55	81.28	56	Paraguay (2010)	10.12	20.80
4	Austria (2011)	39.34	80.85	57	United Kingdom (2011)	9.02	18.54
5	Croatia (2011)	37.15	76.34	58	Ukraine	8.86	18.21
6	Italy (2011)	36.83	75.69	59	Kyrgyzstan (2011)	8.86	18.20
7	Slovenia (2011)	35.84	73.64	60	Algeria (2011)	8.33	17.12
8	Slovakia (2011)	34.89	71.71	61	Armenia	7.98	16.40
9	Switzerland (2011)	34.24	70.36	62	Argentina (2010)	7.74	15.90
10	Australia (2011)	33.77	69.40	63	Kazakhstan	6.70	13.76
11	Romania (2011)	32.70	67.20	64	Uganda (2009)	6.50	13.37
12	Sweden (2011)	32.43	66.64	65	Colombia	6.50	13.35
13	Finland (2011)	31.71	65.16	66	Malaysia (2010)	6.20	12.75
14	Luxembourg (2011)	30.68	63.04	67	Morocco	6.09	12.50
15	Bulgaria (2011)	30.25	62.16	68	Sri Lanka (2011)	5.86	12.04
16	Norway (2011)	29.43	60.47	69	Albania	5.49	11.29
17	Macedonia (2010)	29.33	60.28	70	Venezuela	5.35	11.00
18	Poland (2011)	29.20	60.01	71	South Africa	5.09	10.46
19	Guatemala (2011)	28.06	57.66	72	Botswana (2008)	4.88	10.03
20	Denmark (2010)	26.17	53.78	73	Bolivia (2003)	4.73	9.72
21	Portugal (2010)	25.41	52.23	74	Dominican Republic (2011)	4.38	9.00
22	Latvia (2011)	24.58	50.51	75	Pakistan	3.63	7.46
23	Chile (2011)	23.72	48.74	76	Ghana	3.61	7.42
24	Turkey (2011)	23.10	47.47	77	Saudi Arabia (2008)	3.58	7.36
25	Iceland (2011)	21.66	44.52	78	Bangladesh (2011)	3.15	6.48
26	Ecuador	21.15	43.46	79	Cambodia (2008)	2.28	4.68
27	China (2011)	20.83	42.81	80	Madagascar	1.98	4.08
28	France (2011)	20.00	41.10	81	Nicaragua (2010)	1.48	3.04
29	Estonia (2010)	19.60	40.28	82	United Arab Emirates	1.12	2.30
30	Germany (2011)	19.37	39.80	83	Trinidad and Tobago (2004)	0.85	1.74
31	Israel (2010)	18.75	38.52	84	India (2008)	0.81	1.67
32	Azerbaijan	18.28	37.57	85	Yemen	0.73	1.50
33	Indonesia (2011)	17.99	36.96	86	Qatar	0.67	1.39
34	Egypt (2010)	17.56	36.10	87	Peru (2011)	0.00	0.00
35	Spain (2011)	17.45	35.86	n/a	Brazil	n/a	n/a
36	Russia (2009)	16.19	33.28	n/a	Canada	n/a	n/a
37	Ireland (2011)	15.97	32.81	n/a	Namibia	n/a	n/a
38	Mexico (2011)	15.93	32.74	n/a	Philippines	n/a	n/a
39	Hungary (2011)	15.79	32.44	n/a	United States	n/a	n/a
40	Greece (2010)	15.59	32.04	n/a	Vietnam	n/a	n/a
41	El Salvador (2011)	15.53	31.92				
42	Thailand	15.44	31.74				
43	Uruguay (2010)	15.29	31.42				
44	Costa Rica (2011)	15.16	31.16				
45	New Zealand (2011)	15.07	30.98				
46	Lebanon	14.59	29.99				
47	Mongolia	14.40	29.59				
48	Panama	14.01	28.80				
49	Tunisia (2011)	13.96	28.69				
50	Moldova	11.92	24.50				
51	Japan (2011)	11.76	24.18				
52	Singapore (2009)	11.57	23.77				
53	Lithuania (2011)	11.43	23.49				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

3.1.2 Tertiary enrolment

Tertiary enrolment (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	South Korea (2011)	100.80	100.00	54	Kyrgyzstan (2011)	41.35	38.53
2	Finland (2011)	95.54	94.56	55	Macedonia (2011)	40.76	37.92
3	United States (2011)	95.33	94.35	56	Ecuador (2008)	38.92	36.02
4	Greece (2007)	91.39	90.27	57	Moldova	38.20	35.28
5	Slovenia (2011)	85.09	83.76	58	Bolivia (2007)	37.69	34.74
6	Australia (2011)	83.24	81.85	59	Malaysia (2010)	37.13	34.17
7	Spain (2011)	82.62	81.20	60	Tunisia	35.20	32.17
8	Iceland (2011)	80.94	79.47	61	Paraguay (2010)	34.51	31.46
9	New Zealand (2011)	80.78	79.30	62	Dominican Republic (2003)	33.33	30.24
10	Ukraine	79.70	78.18	63	Algeria	31.46	28.31
11	Venezuela (2009)	77.91	76.33	64	Egypt (2011)	28.75	25.51
12	Lithuania (2011)	76.60	74.98	65	Philippines (2009)	28.20	24.93
13	Netherlands (2011)	76.42	74.79	66	Mexico (2011)	27.69	24.40
14	Russia (2009)	75.47	73.81	67	Indonesia (2011)	27.20	23.90
15	Argentina (2010)	74.83	73.15	68	Vietnam	24.60	21.21
16	Sweden (2011)	73.95	72.23	69	El Salvador (2011)	24.52	21.13
17	Denmark (2010)	73.58	71.86	70	China (2011)	24.33	20.93
18	Poland (2011)	73.51	71.78	71	India (2011)	23.27	19.84
19	Ireland (2011)	73.47	71.74	72	Azerbaijan (2011)	19.65	16.09
20	Norway (2011)	73.09	71.34	73	Luxembourg (2010)	18.21	14.60
21	Estonia (2010)	71.65	69.86	74	Guatemala (2007)	17.88	14.26
22	Austria (2011)	71.00	69.19	75	Nicaragua (2003)	17.86	14.24
23	Chile (2011)	70.52	68.69	76	Morocco (2011)	16.16	12.48
24	Belgium (2011)	69.26	67.39	77	Cambodia (2011)	15.83	12.15
25	Latvia (2011)	67.28	65.35	78	Sri Lanka (2011)	14.40	10.66
26	Portugal (2010)	65.95	63.96	79	Bangladesh (2011)	13.15	9.38
27	Czech Republic (2011)	64.58	62.55	80	Ghana	12.20	8.39
28	Italy (2011)	63.86	61.80	81	Qatar	12.15	8.33
29	Uruguay (2010)	63.15	61.07	82	Trinidad and Tobago (2004)	11.95	8.13
30	Israel (2009)	62.38	60.27	83	Yemen (2011)	10.29	6.41
31	United Kingdom (2011)	61.17	59.02	84	Pakistan	9.53	5.63
32	Mongolia	61.10	58.95	85	Namibia (2008)	9.33	5.42
33	Turkey (2011)	60.68	58.52	86	Uganda (2011)	9.06	5.14
34	Japan (2011)	59.92	57.74	87	Botswana (2006)	7.43	3.46
35	Bulgaria (2011)	59.63	57.43	88	Madagascar	4.09	0.00
36	Hungary (2011)	59.51	57.30	n/a	United Arab Emirates	n/a	n/a
37	Croatia (2011)	58.81	56.58	n/a	Brazil	n/a	n/a
38	France (2011)	57.06	54.78	n/a	Canada	n/a	n/a
39	Germany (2011)	56.53	54.22	n/a	Singapore	n/a	n/a
40	Iran	55.16	52.81	n/a	South Africa	n/a	n/a
41	Slovakia (2011)	55.07	52.72				
42	Albania	54.85	52.49				
43	Switzerland (2011)	54.34	51.96				
44	Romania (2011)	51.60	49.13				
45	Thailand	51.40	48.93				
46	Saudi Arabia	50.94	48.44				
47	Costa Rica	46.74	44.10				
48	Lebanon	46.26	43.61				
49	Armenia	46.04	43.38				
50	Colombia	45.02	42.32				
51	Kazakhstan	44.53	41.81				
52	Peru (2010)	42.64	39.86				
53	Panama (2011)	41.78	38.98				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

3.1.3 International student inflow

Tertiary inbound mobility ratio (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg (2010)	21.74	100.00	54	Costa Rica (2004)	1.43	6.60
1	Qatar	21.74	100.00	55	Russia (2009)	1.39	6.39
1	Singapore	21.74	100.00	56	Kazakhstan	1.38	6.34
1	United Arab Emirates	21.74	100.00	57	Albania	1.32	6.05
5	Australia (2011)	19.83	91.19	58	Poland (2011)	1.00	4.58
6	Austria (2011)	19.50	89.69	59	Thailand	0.84	3.84
7	United Kingdom (2011)	16.85	77.49	60	Turkey (2011)	0.82	3.75
8	Switzerland (2011)	16.22	74.60	61	Mongolia	0.61	2.80
9	New Zealand (2011)	15.58	71.65	62	Algeria (2011)	0.55	2.53
10	Lebanon	12.82	58.94	63	Tunisia	0.53	2.45
11	France (2011)	11.87	54.59	64	Bangladesh (2009)	0.00	0.00
12	Ireland (2011)	10.71	49.23	64	Brazil (2011)	0.00	0.00
13	Namibia (2008)	10.17	46.76	64	Chile (2011)	0.00	0.00
14	Czech Republic (2011)	8.53	39.21	64	China (2011)	0.00	0.00
15	Belgium (2011)	8.19	37.66	64	Croatia (2011)	0.00	0.00
16	Sweden (2011)	7.88	36.23	64	Indonesia (2010)	0.00	0.00
17	Denmark (2010)	7.54	34.66	64	India (2011)	0.00	0.00
18	Germany (2011)	7.52	34.58	64	Iran	0.00	0.00
19	Norway (2011)	7.24	33.28	64	Cambodia (2006)	0.00	0.00
20	Kyrgyzstan (2010)	6.30	28.99	64	Sri Lanka (2011)	0.00	0.00
21	Malaysia (2010)	6.10	28.05	64	Pakistan (2003)	0.00	0.00
22	Iceland (2011)	5.83	26.82	64	Philippines (2008)	0.00	0.00
23	Trinidad and Tobago (2004)	5.78	26.60	64	El Salvador (2011)	0.00	0.00
24	Uganda (2011)	5.19	23.88	64	Venezuela (2008)	0.00	0.00
25	Finland (2011)	5.09	23.43	64	Vietnam	0.00	0.00
26	Netherlands (2011)	4.92	22.62	n/a	Argentina	n/a	n/a
27	Hungary (2011)	4.31	19.83	n/a	Bolivia	n/a	n/a
28	Yemen (2011)	4.26	19.59	n/a	Canada	n/a	n/a
29	Greece (2010)	4.18	19.23	n/a	Colombia	n/a	n/a
30	Botswana (2005)	4.16	19.14	n/a	Dominican Republic	n/a	n/a
31	Japan (2011)	3.90	17.95	n/a	Ecuador	n/a	n/a
32	Slovakia (2011)	3.87	17.78	n/a	Guatemala	n/a	n/a
33	Saudi Arabia	3.86	17.76	n/a	Israel	n/a	n/a
34	Italy (2011)	3.74	17.20	n/a	Mexico	n/a	n/a
35	Bulgaria (2011)	3.63	16.68	n/a	Nicaragua	n/a	n/a
36	Armenia	3.43	15.79	n/a	Panama	n/a	n/a
37	United States (2011)	3.38	15.53	n/a	Peru	n/a	n/a
38	Spain (2011)	3.21	14.77	n/a	Paraguay	n/a	n/a
39	Ghana	3.09	14.22	n/a	Uruguay	n/a	n/a
40	Portugal (2010)	2.88	13.23	n/a	South Africa	n/a	n/a
41	Macedonia (2011)	2.61	12.00				
42	Azerbaijan	2.50	11.51				
43	Morocco (2010)	1.93	8.87				
44	Latvia (2011)	1.91	8.76				
45	South Korea (2011)	1.87	8.59				
46	Egypt (2010)	1.85	8.52				
47	Slovenia (2011)	1.84	8.48				
48	Romania (2011)	1.84	8.48				
49	Ukraine	1.82	8.39				
50	Estonia (2010)	1.78	8.20				
51	Madagascar	1.74	7.99				
52	Lithuania (2011)	1.61	7.38				
53	Moldova	1.55	7.13				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

3.1.4 Reading, maths and science scores

PISA average scales in reading, mathematics and science | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	China	587.46	100.00	54	Colombia	392.86	8.35
2	Singapore	555.73	85.05	55	Indonesia	384.38	4.36
3	South Korea	542.45	78.80	56	Qatar	382.53	3.49
4	Japan	540.40	77.84	57	Peru	375.12	0.00
5	Finland	529.40	72.66	n/a	Armenia	n/a	n/a
6	Estonia	526.08	71.09	n/a	Azerbaijan	n/a	n/a
7	Canada	522.22	69.27	n/a	Bangladesh	n/a	n/a
8	Poland	520.50	68.47	n/a	Bolivia	n/a	n/a
9	Netherlands	518.75	67.64	n/a	Botswana	n/a	n/a
10	Switzerland	518.42	67.49	n/a	Dominican Republic	n/a	n/a
11	Vietnam	515.99	66.34	n/a	Algeria	n/a	n/a
12	Ireland	515.56	66.14	n/a	Ecuador	n/a	n/a
13	Germany	515.11	65.93	n/a	Egypt	n/a	n/a
14	Australia	512.48	64.69	n/a	Ghana	n/a	n/a
15	Belgium	509.34	63.21	n/a	Guatemala	n/a	n/a
16	New Zealand	509.19	63.14	n/a	India	n/a	n/a
17	United Kingdom	502.46	59.97	n/a	Iran	n/a	n/a
18	Austria	500.31	58.96	n/a	Kyrgyzstan	n/a	n/a
19	Czech Republic	500.05	58.83	n/a	Cambodia	n/a	n/a
20	France	499.81	58.72	n/a	Lebanon	n/a	n/a
21	Slovenia	498.86	58.27	n/a	Sri Lanka	n/a	n/a
22	Denmark	498.21	57.97	n/a	Morocco	n/a	n/a
23	Norway	495.94	56.90	n/a	Moldova	n/a	n/a
24	Latvia	493.82	55.90	n/a	Madagascar	n/a	n/a
25	United States	492.12	55.10	n/a	Macedonia	n/a	n/a
26	Luxembourg	489.62	53.92	n/a	Mongolia	n/a	n/a
27	Spain	489.57	53.90	n/a	Namibia	n/a	n/a
28	Italy	489.54	53.88	n/a	Nicaragua	n/a	n/a
29	Portugal	488.03	53.17	n/a	Pakistan	n/a	n/a
30	Hungary	486.60	52.50	n/a	Panama	n/a	n/a
31	Iceland	484.49	51.51	n/a	Philippines	n/a	n/a
32	Lithuania	483.94	51.25	n/a	Paraguay	n/a	n/a
33	Croatia	482.35	50.50	n/a	Saudi Arabia	n/a	n/a
34	Sweden	482.13	50.40	n/a	El Salvador	n/a	n/a
35	Russia	481.20	49.96	n/a	Trinidad and Tobago	n/a	n/a
36	Israel	474.12	46.62	n/a	Uganda	n/a	n/a
37	Slovakia	471.87	45.56	n/a	Ukraine	n/a	n/a
38	Greece	465.63	42.62	n/a	Venezuela	n/a	n/a
39	Turkey	462.30	41.05	n/a	Yemen	n/a	n/a
40	United Arab Emirates	441.36	31.19	n/a	South Africa	n/a	n/a
41	Bulgaria	440.44	30.76				
42	Romania	440.31	30.70				
43	Thailand	437.32	29.29				
44	Chile	436.32	28.82				
45	Costa Rica	425.63	23.79				
46	Mexico	417.25	19.84				
47	Kazakhstan	416.41	19.45				
48	Malaysia	412.74	17.71				
49	Uruguay	412.16	17.44				
50	Brazil	402.10	12.70				
51	Argentina	396.68	10.15				
52	Tunisia	396.65	10.14				
53	Albania	395.22	9.47				

Source: OECD Programme for International Student Assessment (PISA). (pisa.oecd.org)

3.1.5 University ranking

QS world university ranking | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United Kingdom	98.90	100.00	54	Romania	16.10	16.28
2	United States	98.67	99.76	55	Iran	15.43	15.60
3	Canada	87.10	88.07	56	Qatar	8.33	8.43
4	Switzerland	86.17	87.13	57	Slovenia	8.10	8.19
5	Australia	85.80	86.75	58	Croatia	7.70	7.79
6	Japan	82.23	83.15	59	Uruguay	7.20	7.28
7	France	78.27	79.14	60	Bulgaria	6.73	6.81
8	Germany	77.40	78.26	61	Bangladesh	5.70	5.76
9	China	76.83	77.69	62	Sri Lanka	4.57	4.62
10	South Korea	75.80	76.64	63	Albania	0.00	0.00
11	Netherlands	73.97	74.79	63	Armenia	0.00	0.00
12	Denmark	70.87	71.65	63	Bolivia	0.00	0.00
13	Sweden	70.33	71.12	63	Botswana	0.00	0.00
14	Belgium	66.00	66.73	63	Costa Rica	0.00	0.00
15	Ireland	62.30	62.99	63	Dominican Republic	0.00	0.00
16	Finland	59.37	60.03	63	Algeria	0.00	0.00
17	Norway	58.27	58.91	63	Ecuador	0.00	0.00
18	New Zealand	58.07	58.71	63	Ghana	0.00	0.00
19	Singapore	56.83	57.47	63	Guatemala	0.00	0.00
20	Israel	56.03	56.66	63	Iceland	0.00	0.00
21	Spain	54.57	55.17	63	Kyrgyzstan	0.00	0.00
22	Brazil	51.53	52.11	63	Cambodia	0.00	0.00
23	Italy	51.30	51.87	63	Luxembourg	0.00	0.00
24	Russia	49.27	49.81	63	Latvia	0.00	0.00
25	Austria	47.40	47.93	63	Morocco	0.00	0.00
26	India	45.73	46.24	63	Moldova	0.00	0.00
27	Chile	45.20	45.70	63	Madagascar	0.00	0.00
27	Malaysia	45.20	45.70	63	Macedonia	0.00	0.00
29	South Africa	44.47	44.96	63	Mongolia	0.00	0.00
30	Saudi Arabia	43.47	43.95	63	Namibia	0.00	0.00
31	Argentina	42.73	43.21	63	Nicaragua	0.00	0.00
32	Mexico	41.03	41.49	63	Panama	0.00	0.00
33	Colombia	39.13	39.57	63	Paraguay	0.00	0.00
34	Thailand	37.33	37.75	63	El Salvador	0.00	0.00
35	Portugal	36.43	36.84	63	Slovakia	0.00	0.00
36	Czech Republic	33.97	34.34	63	Trinidad and Tobago	0.00	0.00
37	Kazakhstan	33.37	33.74	63	Tunisia	0.00	0.00
38	Poland	31.93	32.29	63	Uganda	0.00	0.00
39	Indonesia	31.57	31.92	63	Vietnam	0.00	0.00
40	Turkey	30.37	30.70	63	Yemen	0.00	0.00
41	United Arab Emirates	28.77	29.09				
42	Greece	28.33	28.65				
43	Egypt	28.23	28.55				
44	Philippines	28.03	28.35				
45	Hungary	24.13	24.40				
46	Venezuela	23.87	24.13				
47	Ukraine	22.90	23.15				
48	Lebanon	22.73	22.99				
49	Peru	20.60	20.83				
50	Estonia	19.97	20.19				
51	Pakistan	19.57	19.78				
52	Azerbaijan	19.23	19.45				
53	Lithuania	17.57	17.76				

Source: Quacquarelli Symonds Ltd (QS), QS World University Ranking 2013/2014, Top Universities. (topuniversities.com/university-rankings/world-universityrankings/2013)

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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	6.09	84.85	54	Slovenia	4.25	54.16
2	Belgium	5.95	82.56	55	Venezuela	4.22	53.64
3	United Kingdom	5.89	81.46	56	Ecuador	4.22	53.59
4	Spain	5.83	80.49	57	Croatia	4.20	53.28
5	France	5.80	80.01	58	Uruguay	4.17	52.83
6	Singapore	5.75	79.14	59	China	4.11	51.90
7	Canada	5.69	78.20	60	Albania	4.10	51.60
8	Qatar	5.66	77.73	61	Japan	4.04	50.59
9	Netherlands	5.66	77.68	62	Madagascar	4.02	50.32
10	Finland	5.64	77.27	63	Poland	3.96	49.39
11	Portugal	5.52	75.25	64	Czech Republic	3.95	49.22
12	United States	5.49	74.80	65	El Salvador	3.85	47.48
13	Lebanon	5.41	73.43	66	Greece	3.85	47.44
14	Sweden	5.38	73.05	67	Iran	3.84	47.39
15	Chile	5.35	72.44	68	Kazakhstan	3.82	46.96
16	Costa Rica	5.35	72.42	69	Botswana	3.81	46.82
17	Ireland	5.27	71.12	70	Uganda	3.79	46.56
18	Norway	5.24	70.70	71	Macedonia	3.79	46.49
19	Iceland	5.21	70.16	72	Turkey	3.76	46.07
20	South Africa	5.17	69.50	73	Nicaragua	3.72	45.27
21	New Zealand	5.16	69.27	74	Romania	3.71	45.24
22	Denmark	5.15	69.22	75	Bangladesh	3.71	45.14
23	Germany	5.10	68.28	76	Dominican Republic	3.71	45.10
24	United Arab Emirates	5.09	68.12	77	Cambodia	3.67	44.55
25	Australia	5.05	67.57	78	Slovakia	3.65	44.19
26	India	5.03	67.09	79	Bulgaria	3.64	44.03
27	Italy	4.98	66.27	80	Russia	3.64	43.92
28	Argentina	4.91	65.24	81	Ukraine	3.60	43.36
29	Trinidad and Tobago	4.87	64.47	82	Armenia	3.43	40.47
30	Malaysia	4.85	64.20	83	Namibia	3.42	40.33
31	Sri Lanka	4.77	62.88	84	Vietnam	3.32	38.64
32	Guatemala	4.75	62.50	85	Bolivia	3.31	38.58
33	Philippines	4.75	62.42	86	Paraguay	3.21	36.86
34	Austria	4.74	62.32	87	Moldova	3.20	36.65
35	Israel	4.68	61.41	88	Azerbaijan	3.12	35.26
36	Morocco	4.60	59.94	89	Algeria	3.00	33.33
37	Brazil	4.54	59.04	90	Mongolia	2.86	31.07
38	Ghana	4.52	58.58	91	Yemen	2.82	30.25
39	Thailand	4.50	58.26	92	Kyrgyzstan	2.70	28.40
40	Estonia	4.48	58.06	93	Egypt	2.29	21.58
41	Luxembourg	4.45	57.51				
42	South Korea	4.45	57.50				
43	Indonesia	4.45	57.45				
44	Latvia	4.38	56.31				
45	Lithuania	4.37	56.13				
46	Panama	4.34	55.68				
47	Saudi Arabia	4.34	55.67				
48	Mexico	4.33	55.43				
49	Tunisia	4.31	55.17				
50	Peru	4.31	55.15				
51	Hungary	4.31	55.11				
52	Colombia	4.28	54.69				
53	Pakistan	4.27	54.45				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

3.2.2 Extent of staff training

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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	5.57	76.25	54	Dominican Republic	3.96	49.33
2	Finland	5.52	75.34	55	Ghana	3.93	48.77
3	Luxembourg	5.38	73.08	56	Azerbaijan	3.92	48.64
4	Japan	5.35	72.46	57	El Salvador	3.91	48.58
5	Qatar	5.27	71.13	58	Nicaragua	3.85	47.45
6	Singapore	5.23	70.50	59	Botswana	3.83	47.20
7	Sweden	5.23	70.46	60	Russia	3.81	46.83
8	Norway	5.20	70.02	61	Peru	3.78	46.30
9	Netherlands	5.14	69.08	62	Slovakia	3.78	46.28
10	Germany	5.12	68.66	63	Uruguay	3.76	46.03
11	Malaysia	5.05	67.56	64	Colombia	3.74	45.64
12	United States	4.96	66.08	65	Morocco	3.72	45.39
13	United Arab Emirates	4.96	66.01	66	Spain	3.72	45.38
14	Denmark	4.95	65.88	67	Vietnam	3.71	45.18
15	New Zealand	4.95	65.87	68	Lebanon	3.69	44.82
16	Austria	4.95	65.79	69	Argentina	3.69	44.82
17	South Africa	4.94	65.68	70	Madagascar	3.67	44.47
18	Belgium	4.89	64.90	71	Ukraine	3.66	44.41
19	Ireland	4.81	63.52	72	Macedonia	3.66	44.30
20	United Kingdom	4.73	62.15	73	Slovenia	3.64	44.08
21	Costa Rica	4.70	61.63	74	Venezuela	3.64	44.01
22	Iceland	4.66	60.92	75	Hungary	3.62	43.63
23	Indonesia	4.60	59.95	76	Paraguay	3.61	43.46
24	Philippines	4.55	59.22	77	Tunisia	3.58	42.99
25	Guatemala	4.55	59.15	78	Bolivia	3.57	42.84
26	Australia	4.51	58.50	79	Armenia	3.56	42.72
27	Canada	4.45	57.53	80	Uganda	3.54	42.37
28	Albania	4.39	56.50	81	Greece	3.47	41.24
29	Estonia	4.38	56.35	82	Croatia	3.32	38.68
30	France	4.33	55.54	83	Yemen	3.31	38.48
31	Panama	4.33	55.43	84	Moldova	3.24	37.28
32	Brazil	4.30	55.07	85	Bulgaria	3.24	37.27
33	Chile	4.29	54.75	86	Pakistan	3.23	37.16
34	Latvia	4.27	54.57	87	Italy	3.21	36.77
35	China	4.26	54.26	88	Kyrgyzstan	3.20	36.63
36	Israel	4.24	54.02	89	Romania	3.14	35.73
37	Thailand	4.24	54.01	90	Bangladesh	3.11	35.19
38	South Korea	4.21	53.53	91	Egypt	3.08	34.68
39	Sri Lanka	4.17	52.88	92	Algeria	3.04	34.06
40	India	4.16	52.71	93	Iran	3.01	33.46
41	Kazakhstan	4.15	52.43				
42	Saudi Arabia	4.14	52.30				
43	Lithuania	4.13	52.16				
44	Trinidad and Tobago	4.11	51.81				
45	Ecuador	4.07	51.12				
46	Turkey	4.05	50.81				
47	Cambodia	4.04	50.60				
48	Czech Republic	4.03	50.57				
49	Namibia	4.02	50.30				
50	Portugal	4.01	50.12				
51	Mexico	4.00	50.00				
52	Mongolia	4.00	49.95				
53	Poland	3.99	49.80				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

3.2.3 Firms offering formal training

Proportion of firms offering formal training (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	China (2012)	79.20	100.00	54	Ukraine (2008)	24.60	26.91
2	Thailand (2006)	75.30	94.78	55	Bangladesh	21.90	23.29
3	Ireland (2005)	73.20	91.97	56	Egypt (2008)	21.70	23.03
4	Czech Republic (2009)	69.60	87.15	57	Greece (2005)	20.00	20.75
5	Estonia (2009)	69.30	86.75	58	Albania (2007)	19.90	20.62
6	Mongolia (2009)	61.00	75.64	59	Macedonia (2009)	19.00	19.41
7	Poland (2009)	60.50	74.97	60	Algeria (2007)	17.30	17.14
8	El Salvador (2010)	60.40	74.83	61	India (2006)	15.90	15.26
9	Argentina (2010)	58.10	71.75	62	Hungary (2009)	14.60	13.52
10	Peru (2010)	57.00	70.28	63	Sri Lanka (2011)	13.10	11.51
11	Colombia (2010)	56.70	69.88	64	Azerbaijan (2009)	10.50	8.03
12	Ecuador (2010)	56.40	69.48	65	Panama (2010)	8.60	5.49
13	Dominican Republic (2010)	55.90	68.81	66	Yemen (2010)	7.30	3.75
14	Bolivia (2010)	54.10	66.40	67	Indonesia (2009)	4.80	0.40
15	Brazil (2009)	52.70	64.52	68	Pakistan (2007)	4.50	0.00
16	Lebanon (2009)	52.40	64.12	n/a	United Arab Emirates	n/a	n/a
17	Botswana (2010)	51.80	63.32	n/a	Australia	n/a	n/a
18	Paraguay (2010)	51.70	63.19	n/a	Austria	n/a	n/a
19	Spain (2005)	51.30	62.65	n/a	Belgium	n/a	n/a
20	Malaysia (2007)	50.10	61.04	n/a	Canada	n/a	n/a
21	Costa Rica (2010)	48.90	59.44	n/a	Switzerland	n/a	n/a
22	Slovenia (2009)	48.60	59.04	n/a	Denmark	n/a	n/a
23	Cambodia (2007)	48.40	58.77	n/a	Finland	n/a	n/a
24	Lithuania (2009)	46.80	56.63	n/a	France	n/a	n/a
25	Chile (2010)	45.90	55.42	n/a	United Kingdom	n/a	n/a
26	Mexico (2010)	45.10	54.35	n/a	Iran	n/a	n/a
27	Namibia (2006)	44.50	53.55	n/a	Iceland	n/a	n/a
28	Russia (2012)	44.30	53.28	n/a	Israel	n/a	n/a
29	Guatemala (2010)	43.60	52.34	n/a	Italy	n/a	n/a
29	Vietnam (2009)	43.60	52.34	n/a	Japan	n/a	n/a
31	Kazakhstan (2009)	41.70	49.80	n/a	Luxembourg	n/a	n/a
32	Latvia (2009)	41.40	49.40	n/a	Netherlands	n/a	n/a
33	South Korea (2005)	39.50	46.85	n/a	Norway	n/a	n/a
34	Venezuela (2010)	39.00	46.18	n/a	New Zealand	n/a	n/a
35	South Africa (2007)	38.70	45.78	n/a	Qatar	n/a	n/a
36	Germany (2005)	35.40	41.37	n/a	Saudi Arabia	n/a	n/a
37	Nicaragua (2010)	35.20	41.10	n/a	Singapore	n/a	n/a
38	Uganda (2006)	35.00	40.83	n/a	Sweden	n/a	n/a
39	Slovakia (2009)	33.80	39.22	n/a	Tunisia	n/a	n/a
40	Moldova (2009)	32.40	37.35	n/a	United States	n/a	n/a
41	Uruguay (2010)	32.30	37.22				
42	Portugal (2005)	31.90	36.68				
43	Trinidad and Tobago (2010)	31.50	36.14				
44	Ghana (2007)	31.10	35.61				
44	Philippines (2009)	31.10	35.61				
46	Bulgaria (2009)	30.80	35.21				
47	Armenia (2009)	30.40	34.67				
48	Kyrgyzstan (2009)	29.70	33.73				
48	Turkey (2008)	29.70	33.73				
50	Croatia (2007)	28.90	32.66				
51	Madagascar (2009)	27.40	30.66				
52	Romania (2009)	25.90	28.65				
53	Morocco (2007)	24.70	27.04				

Source: World Bank, Enterprise Surveys. (enterprisesurveys.org)

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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Iceland	6.67	94.46	54	Lebanon	5.67	77.76
2	United Kingdom	6.63	93.88	55	Croatia	5.62	76.92
3	Norway	6.58	92.92	56	Guatemala	5.57	76.25
4	Netherlands	6.57	92.86	57	Mongolia	5.57	76.22
5	Sweden	6.54	92.39	58	Hungary	5.57	76.21
6	Finland	6.43	90.57	59	Bulgaria	5.56	75.96
7	Estonia	6.41	90.18	60	Colombia	5.55	75.91
8	United States	6.39	89.80	61	Moldova	5.50	75.08
9	Australia	6.39	89.75	62	South Africa	5.50	75.04
10	United Arab Emirates	6.35	89.18	63	Romania	5.48	74.72
11	Canada	6.34	88.96	64	Namibia	5.47	74.53
12	Singapore	6.33	88.80	65	Mexico	5.44	74.05
13	Qatar	6.29	88.23	66	Morocco	5.44	73.97
14	New Zealand	6.25	87.56	67	Botswana	5.43	73.80
15	Lithuania	6.23	87.15	68	Russia	5.40	73.40
16	Austria	6.23	87.13	69	Greece	5.40	73.34
17	Philippines	6.20	86.59	70	India	5.35	72.56
18	Macedonia	6.19	86.52	71	Paraguay	5.33	72.21
19	Switzerland	6.19	86.46	72	Ukraine	5.32	71.98
20	Chile	6.14	85.67	73	Kazakhstan	5.28	71.31
21	Panama	6.13	85.51	74	Ghana	5.24	70.65
22	Belgium	6.13	85.48	75	Peru	5.22	70.32
23	Ireland	6.12	85.35	76	Madagascar	5.17	69.44
24	Luxembourg	6.11	85.21	77	Ecuador	5.12	68.64
25	Israel	6.08	84.63	78	Algeria	5.11	68.46
26	Saudi Arabia	6.07	84.52	79	Vietnam	5.10	68.35
27	Costa Rica	6.04	83.99	80	Cambodia	5.06	67.74
28	Brazil	6.03	83.87	81	Poland	5.06	67.59
29	Azerbaijan	6.03	83.83	82	Albania	5.05	67.52
30	Tunisia	6.00	83.34	83	El Salvador	5.03	67.21
31	Malaysia	5.99	83.21	84	Sri Lanka	5.00	66.72
32	Czech Republic	5.98	82.99	85	Pakistan	4.95	65.91
33	Argentina	5.97	82.78	86	Kyrgyzstan	4.95	65.77
34	Denmark	5.93	82.12	87	China	4.73	62.15
35	Spain	5.92	82.06	88	Yemen	4.63	60.58
36	Indonesia	5.92	82.02	89	Nicaragua	4.59	59.83
37	Thailand	5.91	81.90	90	Bangladesh	4.36	56.07
38	Egypt	5.91	81.85	91	Uganda	4.25	54.13
39	Dominican Republic	5.90	81.69	92	Bolivia	3.78	46.32
40	Portugal	5.90	81.69	93	Iran	3.33	38.83
41	France	5.87	81.16				
42	Latvia	5.87	81.15				
43	Germany	5.87	81.12				
44	South Korea	5.87	81.10				
45	Slovakia	5.86	81.08				
46	Venezuela	5.84	80.71				
47	Turkey	5.84	80.67				
48	Uruguay	5.83	80.46				
49	Trinidad and Tobago	5.81	80.25				
50	Slovenia	5.81	80.09				
51	Italy	5.79	79.88				
52	Armenia	5.77	79.56				
53	Japan	5.72	78.72				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

3.3.2 Number of LinkedIn users

LinkedIn users (per 1,000 labour force) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United States	670.77	100.00	54	Algeria	60.89	8.24
2	Netherlands	577.95	86.04	55	Philippines	59.94	8.10
3	Ireland	542.50	80.70	56	Bolivia	59.53	8.04
4	Denmark	527.75	78.48	57	Sri Lanka	56.63	7.60
5	Canada	524.70	78.02	58	India	56.29	7.55
6	United Kingdom	504.61	75.00	59	Ghana	50.04	6.61
7	Australia	493.53	73.33	60	Iran	48.83	6.43
8	New Zealand	476.11	70.71	61	Egypt	45.42	5.91
9	Singapore	453.80	67.36	62	Ukraine	43.21	5.58
10	Belgium	418.19	62.00	63	Russia	39.35	5.00
11	Norway	417.67	61.92	64	Pakistan	36.33	4.55
12	Sweden	370.41	54.81	65	South Korea	34.97	4.34
13	Trinidad and Tobago	319.96	47.22	66	Indonesia	27.91	3.28
14	Portugal	314.72	46.43	67	Thailand	22.35	2.44
15	Israel	308.09	45.43	68	Uganda	21.53	2.32
16	Chile	303.53	44.75	69	Japan	18.80	1.91
17	United Arab Emirates	289.18	42.59	70	Vietnam	14.61	1.28
18	Switzerland	274.62	40.40	71	Bangladesh	9.75	0.55
19	Italy	273.37	40.21	72	China	6.12	0.00
20	France	261.46	38.42	n/a	Albania	n/a	n/a
21	Spain	261.13	38.37	n/a	Armenia	n/a	n/a
22	Finland	238.32	34.94	n/a	Azerbaijan	n/a	n/a
23	Qatar	225.59	33.02	n/a	Botswana	n/a	n/a
24	Uruguay	222.28	32.52	n/a	Estonia	n/a	n/a
25	Argentina	204.09	29.79	n/a	Iceland	n/a	n/a
26	Lebanon	196.85	28.70	n/a	Kazakhstan	n/a	n/a
27	Costa Rica	194.61	28.36	n/a	Kyrgyzstan	n/a	n/a
28	South Africa	177.28	25.75	n/a	Cambodia	n/a	n/a
29	Croatia	171.65	24.90	n/a	Luxembourg	n/a	n/a
30	Brazil	170.91	24.79	n/a	Latvia	n/a	n/a
31	Panama	168.75	24.47	n/a	Moldova	n/a	n/a
32	Greece	161.87	23.43	n/a	Madagascar	n/a	n/a
33	Colombia	154.92	22.39	n/a	Macedonia	n/a	n/a
34	Malaysia	139.47	20.06	n/a	Mongolia	n/a	n/a
35	Peru	138.61	19.93	n/a	Namibia	n/a	n/a
36	Saudi Arabia	132.71	19.05	n/a	Nicaragua	n/a	n/a
37	Romania	132.27	18.98	n/a	Paraguay	n/a	n/a
38	Ecuador	128.47	18.41	n/a	El Salvador	n/a	n/a
39	Czech Republic	124.89	17.87	n/a	Slovenia	n/a	n/a
40	Lithuania	121.72	17.39	n/a	Yemen	n/a	n/a
41	Turkey	121.69	17.39				
42	Mexico	118.86	16.96				
43	Venezuela	118.31	16.88				
44	Bulgaria	113.15	16.10				
45	Tunisia	112.13	15.95				
46	Austria	107.42	15.24				
47	Hungary	101.35	14.33				
48	Slovakia	90.47	12.69				
49	Dominican Republic	86.74	12.13				
50	Germany	77.79	10.78				
51	Morocco	75.36	10.42				
52	Poland	67.29	9.20				
53	Guatemala	63.08	8.57				

Source: LinkedIn, LinkedIn Campaign Manager and International Labour Organization, Key Indicators of the Labour Market, 8th edition. (linkedin.com/ads; ilo.org/kilm)

3.3.3 Willingness to delegate 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Denmark	6.01	83.48	54	Cambodia	3.74	45.62
2	Sweden	5.94	82.30	55	France	3.68	44.69
3	Norway	5.89	81.58	56	Azerbaijan	3.67	44.51
4	Finland	5.74	79.01	57	Peru	3.67	44.49
5	Netherlands	5.56	75.98	58	Namibia	3.67	44.46
6	New Zealand	5.49	74.88	59	Bolivia	3.66	44.33
7	Qatar	5.47	74.44	60	Ghana	3.64	43.95
8	Switzerland	5.30	71.74	61	Panama	3.63	43.88
9	United States	5.20	69.97	62	Turkey	3.62	43.60
10	Iceland	5.05	67.52	63	Madagascar	3.59	43.14
11	Canada	5.02	66.98	64	Nicaragua	3.57	42.88
12	Ireland	4.98	66.34	65	Argentina	3.55	42.49
13	Malaysia	4.96	66.02	66	Slovakia	3.49	41.48
14	United Kingdom	4.92	65.28	67	Russia	3.47	41.19
15	Australia	4.90	65.07	68	Portugal	3.42	40.36
16	Germany	4.90	64.94	69	Romania	3.42	40.26
17	Belgium	4.85	64.13	70	Croatia	3.41	40.14
18	United Arab Emirates	4.79	63.10	71	Greece	3.39	39.77
19	Luxembourg	4.74	62.33	72	Tunisia	3.38	39.68
20	Saudi Arabia	4.62	60.36	73	Vietnam	3.37	39.51
21	Singapore	4.61	60.23	74	Uruguay	3.37	39.46
22	Austria	4.58	59.64	75	Morocco	3.36	39.36
23	Philippines	4.56	59.34	76	Moldova	3.36	39.34
24	Costa Rica	4.52	58.61	77	Venezuela	3.35	39.15
25	South Africa	4.50	58.37	78	Uganda	3.33	38.86
26	Estonia	4.48	57.92	79	Trinidad and Tobago	3.32	38.67
27	Japan	4.47	57.87	80	Armenia	3.28	38.05
28	Indonesia	4.42	57.04	81	Lebanon	3.26	37.59
29	Israel	4.41	56.81	82	Macedonia	3.19	36.48
30	Brazil	4.30	55.04	83	Pakistan	3.19	36.47
31	Sri Lanka	4.06	50.99	84	Bulgaria	3.18	36.26
32	Egypt	4.06	50.95	85	Ukraine	3.15	35.83
33	Guatemala	4.02	50.40	86	Mongolia	3.10	34.96
34	Thailand	4.00	50.05	87	Italy	3.09	34.90
35	Latvia	3.95	49.23	88	Iran	3.06	34.38
36	Slovenia	3.92	48.63	89	Kyrgyzstan	2.97	32.83
37	Lithuania	3.91	48.54	90	Hungary	2.95	32.43
38	Colombia	3.89	48.13	91	Paraguay	2.92	32.03
39	South Korea	3.89	48.09	92	Bangladesh	2.71	28.55
40	Kazakhstan	3.88	48.03	93	Algeria	2.63	27.18
41	Czech Republic	3.87	47.89				
42	India	3.87	47.80				
43	China	3.86	47.63				
44	Ecuador	3.82	47.04				
45	Yemen	3.79	46.54				
46	Mexico	3.79	46.53				
47	El Salvador	3.78	46.37				
48	Chile	3.78	46.27				
49	Poland	3.77	46.12				
50	Botswana	3.75	45.90				
51	Spain	3.75	45.88				
52	Albania	3.75	45.87				
53	Dominican Republic	3.75	45.81				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

3.3.4 Voicing concern to officials

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	0.42	100.00	54	Kazakhstan	0.17	31.94
2	Philippines	0.39	91.71	55	United Arab Emirates (2010)	0.17	31.60
3	Costa Rica	0.38	91.42	56	Poland	0.16	30.97
4	Colombia	0.37	86.70	57	Australia	0.16	30.72
5	Luxembourg	0.35	82.10	58	Macedonia	0.16	30.66
6	Panama	0.34	79.30	59	Kyrgyzstan	0.16	30.19
7	Bolivia	0.33	76.54	60	Belgium	0.15	28.18
8	Sweden	0.33	76.40	61	Romania	0.15	27.26
9	Austria	0.32	72.96	62	Armenia	0.14	25.77
10	Chile	0.31	72.08	63	Estonia	0.14	25.74
11	Uruguay	0.31	71.50	64	El Salvador	0.14	24.14
12	Switzerland	0.31	70.62	65	Dominican Republic	0.13	22.70
13	Uganda	0.30	69.01	66	Slovakia	0.13	21.90
14	United States	0.30	68.95	67	Trinidad and Tobago (2008)	0.13	20.77
15	Norway	0.30	68.80	68	Yemen	0.13	20.62
16	Hungary	0.30	67.71	69	Brazil	0.12	20.12
17	Guatemala	0.29	65.39	70	Pakistan	0.12	19.95
18	Portugal	0.29	64.23	71	Indonesia	0.12	19.49
19	France	0.27	61.18	72	Bulgaria	0.12	19.03
20	Germany	0.27	61.13	73	Turkey	0.12	18.74
21	Netherlands	0.27	59.71	74	Malaysia	0.12	18.09
22	Mexico	0.25	54.17	75	Croatia	0.11	15.91
23	Iceland	0.25	53.89	76	Cambodia	0.10	14.20
24	Spain	0.24	53.07	77	Morocco	0.10	14.01
25	Finland	0.24	52.49	78	Ukraine	0.10	13.16
26	Azerbaijan	0.23	49.64	79	Russia	0.09	11.92
27	Mongolia	0.23	49.11	80	Egypt	0.09	11.58
28	Namibia (2007)	0.23	49.03	81	Lithuania	0.09	10.85
29	Saudi Arabia (2008)	0.23	47.84	82	Latvia	0.09	10.29
30	Slovenia	0.22	47.21	83	Argentina	0.09	9.86
31	United Kingdom	0.22	47.20	84	Vietnam	0.08	8.30
32	Italy	0.22	47.00	85	Bangladesh	0.08	6.90
33	South Africa	0.22	46.40	86	Greece	0.07	6.49
34	Czech Republic	0.22	46.11	87	Algeria	0.07	5.56
35	Paraguay	0.22	45.82	88	Tunisia	0.06	3.79
36	Venezuela	0.22	45.50	89	Lebanon	0.06	3.22
37	Canada	0.21	43.25	90	Singapore (2010)	0.06	2.53
38	Sri Lanka	0.20	41.81	91	China	0.05	0.00
39	Japan (2010)	0.20	40.94	n/a	Madagascar	n/a	n/a
40	Thailand	0.20	40.70	n/a	Qatar	n/a	n/a
41	Ireland	0.20	40.57				
42	Peru	0.20	40.11				
43	Israel	0.20	39.99				
44	Iran (2008)	0.19	38.02				
45	Nicaragua	0.19	37.89				
46	Ecuador	0.19	37.29				
47	Botswana	0.18	36.33				
48	New Zealand	0.18	35.22				
49	India	0.18	34.91				
50	Albania	0.18	34.66				
51	Ghana	0.17	33.62				
52	South Korea (2010)	0.17	33.49				
53	Moldova	0.17	32.84				

Source: Legatum Institute, Legatum Prosperity Index 2013 based on Gallup World Poll. (prosperity.com)

PILLAR 4:

RETAIN

4.1.1 Pension system

Workforce contributing to pension system (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg (2005)	100.00	100.00	54	Iran (2010)	40.49	40.22
2	Czech Republic (2007)	95.40	95.38	55	Kyrgyzstan (2008)	40.37	40.10
3	Switzerland (2005)	95.38	95.36	56	Albania (2008)	37.88	37.60
4	Japan (2005)	95.37	95.35	57	Azerbaijan (2007)	35.39	35.10
5	Estonia (2004)	94.45	94.43	58	Venezuela (2009)	33.87	33.57
6	Austria (2005)	93.70	93.67	59	China (2010)	33.53	33.23
7	Norway (2005)	93.20	93.17	60	Armenia (2008)	32.11	31.80
8	United Kingdom (2005)	93.17	93.14	61	Morocco (2011)	29.11	28.78
9	Denmark (2007)	92.87	92.83	62	Mexico (2010)	27.77	27.44
10	United States (2005)	92.16	92.13	63	Colombia (2010)	27.75	27.43
11	Portugal (2005)	92.01	91.97	64	Dominican Republic (2010)	26.85	26.52
12	Hungary (2008)	92.00	91.96	65	Ecuador (2007)	26.41	26.08
13	Latvia (2009)	91.72	91.69	66	Philippines (2011)	26.25	25.92
14	Belgium (2005)	91.42	91.39	67	Sri Lanka (2006)	24.10	23.76
15	Netherlands (2005)	90.71	90.67	68	El Salvador (2010)	22.88	22.53
16	Australia (2005)	90.71	90.66	69	Thailand (2009)	22.50	22.15
17	Italy (2005)	90.06	90.01	70	Nicaragua (2008)	21.75	21.39
18	Finland (2005)	89.71	89.66	71	Peru (2009)	21.67	21.32
19	Israel (2008)	89.10	89.05	72	Vietnam (2010)	20.70	20.34
20	Ireland (2005)	88.87	88.82	73	Guatemala (2008)	20.25	19.89
21	Sweden (2005)	88.81	88.76	74	Paraguay (2004)	12.43	12.03
22	Slovenia (2008)	87.42	87.36	75	Bolivia (2009)	12.23	11.83
23	Canada (2009)	87.36	87.30	76	Indonesia (2010)	11.00	10.60
24	France (2005)	87.30	87.24	77	Yemen (2006)	10.45	10.04
25	Germany (2005)	86.88	86.82	78	India (2006)	10.28	9.87
26	Iceland (2005)	86.74	86.68	79	Uganda (2004)	10.27	9.86
27	Greece (2005)	85.97	85.90	80	Namibia (2008)	9.57	9.16
28	Lithuania (2009)	82.88	82.80	81	Botswana (2006)	9.01	8.60
29	Poland (2008)	81.39	81.31	82	Ghana	8.69	8.27
30	South Korea (2011)	79.87	79.78	83	Lebanon (2003)	8.63	8.21
31	Slovakia (2003)	78.88	78.79	84	South Africa (2010)	6.68	6.25
32	Bulgaria (2008)	78.66	78.56	85	Madagascar (2009)	5.30	4.87
33	Uruguay (2009)	78.46	78.36	86	Qatar (2011)	3.27	2.83
34	Trinidad and Tobago (2011)	76.08	75.98	87	Bangladesh (2004)	2.51	2.07
35	Croatia (2010)	76.01	75.90	88	Cambodia (2010)	0.45	0.00
36	Algeria (2007)	74.65	74.53	n/a	United Arab Emirates	n/a	n/a
37	Moldova (2011)	71.00	70.87	n/a	New Zealand	n/a	n/a
38	Spain (2005)	69.38	69.24	n/a	Pakistan	n/a	n/a
39	Romania (2008)	67.94	67.79	n/a	Panama	n/a	n/a
40	Tunisia (2011)	65.48	65.32	n/a	Saudi Arabia	n/a	n/a
41	Russia (2011)	65.14	64.98				
42	Kazakhstan (2009)	62.47	62.30				
43	Ukraine (2010)	62.13	61.96				
44	Singapore (2009)	62.06	61.89				
45	Brazil (2010)	59.29	59.10				
46	Turkey (2008)	58.61	58.42				
47	Costa Rica (2010)	58.56	58.38				
48	Chile (2010)	57.67	57.48				
49	Egypt (2009)	55.07	54.87				
50	Malaysia (2010)	53.47	53.26				
51	Macedonia (2009)	52.27	52.05				
52	Mongolia (2009)	47.19	46.95				
53	Argentina (2010)	47.04	46.80				

Source: World Bank, International Patterns of Pension Provision II: A Worldwide Overview of Facts and Figures. (openknowledge.worldbank.org/handle/10986/13560)

4.1.2 Extent and effect of 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Qatar	6.36	89.29	54	Bolivia	3.49	41.50
2	Singapore	6.02	83.68	55	Ireland	3.47	41.12
3	Luxembourg	5.22	70.29	56	Vietnam	3.36	39.35
4	Malaysia	4.99	66.55	57	Madagascar	3.35	39.21
5	Saudi Arabia	4.95	65.80	58	Mexico	3.35	39.10
6	New Zealand	4.80	63.38	59	Poland	3.30	38.27
7	Switzerland	4.80	63.30	60	Kyrgyzstan	3.29	38.24
8	South Africa	4.70	61.67	61	Algeria	3.29	38.17
9	Chile	4.56	59.34	62	Turkey	3.28	38.06
10	Botswana	4.56	59.29	63	Bulgaria	3.25	37.54
11	Paraguay	4.43	57.20	64	South Korea	3.23	37.25
12	Sweden	4.39	56.54	65	Austria	3.20	36.66
13	Trinidad and Tobago	4.34	55.72	66	El Salvador	3.19	36.43
14	Estonia	4.31	55.10	67	Latvia	3.10	34.98
15	Norway	4.29	54.86	68	Iceland	2.98	32.98
16	Indonesia	4.27	54.43	69	Uruguay	2.97	32.84
17	Canada	4.25	54.19	70	Lithuania	2.96	32.73
18	Cambodia	4.24	54.05	71	Spain	2.96	32.63
19	United States	4.12	52.02	72	Russia	2.96	32.59
20	Macedonia	4.07	51.15	73	Colombia	2.95	32.47
21	Philippines	4.06	50.92	74	Egypt	2.83	30.44
22	United Kingdom	4.05	50.82	75	Yemen	2.81	30.10
23	China	4.05	50.79	76	France	2.78	29.66
24	Thailand	4.04	50.62	77	Denmark	2.78	29.59
25	Panama	4.01	50.13	78	Slovakia	2.73	28.90
26	Morocco	3.99	49.90	79	Hungary	2.73	28.78
27	Namibia	3.99	49.83	80	Czech Republic	2.72	28.73
28	Lebanon	3.91	48.49	81	Slovenia	2.70	28.40
29	Sri Lanka	3.85	47.58	82	Dominican Republic	2.67	27.76
30	Kazakhstan	3.85	47.49	83	Moldova	2.64	27.30
31	Finland	3.84	47.37	84	Greece	2.54	25.64
32	Ecuador	3.84	47.32	85	Brazil	2.52	25.26
33	Australia	3.82	47.02	86	Portugal	2.39	23.23
34	Netherlands	3.80	46.63	87	Ukraine	2.37	22.83
35	Costa Rica	3.79	46.56	88	Belgium	2.31	21.83
36	Germany	3.75	45.75	89	Croatia	2.31	21.75
37	Israel	3.74	45.66	90	Romania	2.13	18.91
38	India	3.71	45.22	91	Argentina	2.08	18.05
39	Albania	3.70	44.97	92	Italy	2.03	17.09
40	Azerbaijan	3.67	44.53	n/a	United Arab Emirates	n/a	n/a
41	Tunisia	3.67	44.52				
42	Ghana	3.66	44.35				
43	Bangladesh	3.62	43.70				
44	Guatemala	3.62	43.64				
45	Japan	3.61	43.51				
46	Armenia	3.55	42.51				
47	Mongolia	3.54	42.38				
48	Uganda	3.54	42.32				
49	Peru	3.53	42.19				
50	Iran	3.53	42.16				
51	Pakistan	3.53	42.09				
52	Venezuela	3.50	41.67				
53	Nicaragua	3.49	41.51				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

4.1.3 Pay level – head of organisation

Pay level (deflated by retail price index) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Chile	652636.25	100.00	54	Finland	185173.82	17.40
2	Brazil	624054.66	94.95	55	Vietnam	181102.63	16.68
3	Portugal	550646.33	81.98	56	Philippines	180278.30	16.53
4	Colombia	511375.74	75.04	57	United Kingdom	176393.57	15.84
5	United States	482484.23	69.93	58	Ukraine	175217.75	15.64
6	Peru	471294.65	67.96	59	Algeria	168681.98	14.48
7	Argentina	440158.37	62.45	60	Romania	166639.23	14.12
8	Canada	436295.41	61.77	61	Sri Lanka	163478.47	13.56
9	Mexico	382536.89	52.27	62	Bangladesh	163003.52	13.48
10	Ecuador	381773.90	52.14	63	Croatia	151619.31	11.47
11	Uruguay	367586.52	49.63	64	Bulgaria	140941.10	9.58
12	Japan	360541.48	48.38	65	Estonia	116957.18	5.34
13	Australia	346821.28	45.96	66	Lithuania	86729.54	0.00
14	Switzerland	326093.46	42.30	n/a	Albania	n/a	n/a
15	Ireland	324605.46	42.03	n/a	Armenia	n/a	n/a
16	Saudi Arabia	324024.36	41.93	n/a	Azerbaijan	n/a	n/a
17	Belgium	294900.41	36.79	n/a	Bolivia	n/a	n/a
18	South Africa	291296.79	36.15	n/a	Botswana	n/a	n/a
19	Turkey	289743.44	35.87	n/a	Costa Rica	n/a	n/a
20	Germany	289340.55	35.80	n/a	Dominican Republic	n/a	n/a
21	Spain	281426.72	34.40	n/a	Ghana	n/a	n/a
22	Venezuela	281251.71	34.37	n/a	Iran	n/a	n/a
23	Italy	280590.16	34.26	n/a	Iceland	n/a	n/a
24	Egypt	278675.22	33.92	n/a	Kyrgyzstan	n/a	n/a
25	Singapore	276494.21	33.53	n/a	Cambodia	n/a	n/a
26	United Arab Emirates	271447.92	32.64	n/a	Lebanon	n/a	n/a
27	Norway	267071.98	31.87	n/a	Luxembourg	n/a	n/a
28	Greece	263247.62	31.19	n/a	Latvia	n/a	n/a
29	Guatemala	256531.55	30.01	n/a	Moldova	n/a	n/a
30	South Korea	255077.76	29.75	n/a	Madagascar	n/a	n/a
31	Netherlands	254541.26	29.65	n/a	Macedonia	n/a	n/a
32	Poland	252284.15	29.25	n/a	Mongolia	n/a	n/a
33	Panama	252235.29	29.25	n/a	Namibia	n/a	n/a
34	Morocco	237334.19	26.61	n/a	Nicaragua	n/a	n/a
35	Austria	236824.80	26.52	n/a	Paraguay	n/a	n/a
36	Indonesia	233733.17	25.98	n/a	El Salvador	n/a	n/a
37	India	232233.94	25.71	n/a	Slovenia	n/a	n/a
38	Denmark	230626.07	25.43	n/a	Trinidad and Tobago	n/a	n/a
39	Qatar	228884.92	25.12	n/a	Uganda	n/a	n/a
40	Sweden	221840.52	23.88	n/a	Yemen	n/a	n/a
41	Malaysia	221247.46	23.77				
42	Tunisia	219553.28	23.47				
43	Thailand	218571.60	23.30				
44	Czech Republic	218192.76	23.23				
45	Kazakhstan	218163.93	23.23				
46	Israel	217579.94	23.12				
47	Russia	216081.61	22.86				
48	Slovakia	209607.82	21.71				
49	France	208257.14	21.47				
50	New Zealand	208192.46	21.46				
51	Pakistan	203198.98	20.58				
52	China	191462.89	18.51				
53	Hungary	191020.05	18.43				

Source: Mercer, Mercer Global Pay Summary 2013 Edition; United Nation International Civil Service Commission, Monthly Bulletin of Statistics Online. (imercer.com/products/2014/global-pay-summary.aspx; unstats.un.org/unsd/mbs)

4.1.4 Pay level – head of information technology

Pay level (deflated by retail price index) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United States	391050.68	100.00	n/a	Albania	n/a	n/a
2	Australia	311311.70	75.71	n/a	Armenia	n/a	n/a
3	Switzerland	299159.73	72.01	n/a	Azerbaijan	n/a	n/a
4	Canada	291646.14	69.72	n/a	Bangladesh	n/a	n/a
5	Brazil	277797.57	65.50	n/a	Bolivia	n/a	n/a
6	Argentina	254923.37	58.53	n/a	Botswana	n/a	n/a
7	Japan	245421.05	55.64	n/a	Chile	n/a	n/a
8	Saudi Arabia	238981.44	53.67	n/a	Costa Rica	n/a	n/a
9	Singapore	229000.00	50.63	n/a	Dominican Republic	n/a	n/a
10	Germany	227930.52	50.31	n/a	Ecuador	n/a	n/a
11	Colombia	222791.91	48.74	n/a	Estonia	n/a	n/a
12	Turkey	207859.19	44.19	n/a	Ghana	n/a	n/a
13	Belgium	198915.98	41.47	n/a	Iran	n/a	n/a
14	United Arab Emirates	195743.75	40.50	n/a	Iceland	n/a	n/a
15	Egypt	188460.85	38.28	n/a	Israel	n/a	n/a
16	Italy	181977.46	36.31	n/a	Kyrgyzstan	n/a	n/a
17	Mexico	178817.25	35.35	n/a	Cambodia	n/a	n/a
18	Norway	178265.83	35.18	n/a	South Korea	n/a	n/a
19	Philippines	175126.18	34.22	n/a	Lebanon	n/a	n/a
20	Denmark	174858.23	34.14	n/a	Sri Lanka	n/a	n/a
21	Ireland	174409.84	34.00	n/a	Lithuania	n/a	n/a
22	Netherlands	170754.56	32.89	n/a	Luxembourg	n/a	n/a
23	Spain	167699.35	31.96	n/a	Latvia	n/a	n/a
24	Portugal	164900.56	31.11	n/a	Moldova	n/a	n/a
25	Greece	160366.67	29.73	n/a	Madagascar	n/a	n/a
26	France	157759.61	28.93	n/a	Macedonia	n/a	n/a
27	Malaysia	155000.00	28.09	n/a	Mongolia	n/a	n/a
28	Venezuela	153891.58	27.75	n/a	Namibia	n/a	n/a
29	Sweden	153607.82	27.67	n/a	Nicaragua	n/a	n/a
30	Pakistan	153173.47	27.53	n/a	Panama	n/a	n/a
31	China	152319.12	27.27	n/a	Peru	n/a	n/a
32	South Africa	151774.06	27.11	n/a	Paraguay	n/a	n/a
33	Morocco	151215.11	26.94	n/a	El Salvador	n/a	n/a
34	New Zealand	149413.44	26.39	n/a	Slovakia	n/a	n/a
35	Austria	149201.84	26.32	n/a	Slovenia	n/a	n/a
36	Poland	143693.90	24.65	n/a	Trinidad and Tobago	n/a	n/a
37	United Kingdom	142045.18	24.14	n/a	Uganda	n/a	n/a
38	Indonesia	137508.73	22.76	n/a	Uruguay	n/a	n/a
39	Thailand	137474.18	22.75	n/a	Vietnam	n/a	n/a
40	Croatia	136805.86	22.55	n/a	Yemen	n/a	n/a
41	Qatar	134492.06	21.84				
42	Guatemala	130331.31	20.58				
43	Finland	128729.04	20.09				
44	Russia	120405.25	17.55				
45	Tunisia	119114.75	17.16				
46	Czech Republic	113507.01	15.45				
47	Hungary	108611.53	13.96				
48	India	106747.88	13.39				
49	Kazakhstan	94711.94	9.73				
50	Algeria	88819.83	7.93				
51	Romania	85799.73	7.01				
52	Bulgaria	76267.61	4.11				
53	Ukraine	62788.17	0.00				

Source: Mercer, Mercer Global Pay Summary 2013 Edition; United Nation International Civil Service Commission, Monthly Bulletin of Statistics Online. (imercer.com/products/2014/global-pay-summary.aspx; unstats.un.org/unsd/mbs)

4.2.1 Environmental performance

Environmental performance index | 2014

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	87.67	100.00	54	Uruguay	53.61	45.12
2	Luxembourg	83.29	92.94	55	South Africa	53.51	44.96
3	Australia	82.40	91.51	56	Russia	53.45	44.86
4	Singapore	81.78	90.51	57	Moldova	53.36	44.71
5	Czech Republic	81.47	90.01	58	Dominican Republic	53.24	44.52
6	Germany	80.47	88.40	59	Brazil	52.97	44.09
7	Spain	79.79	87.30	60	Thailand	52.83	43.86
8	Austria	78.32	84.93	61	Trinidad and Tobago	52.28	42.97
9	Sweden	78.09	84.56	62	Morocco	51.89	42.35
10	Norway	78.04	84.48	63	Iran	51.08	41.04
11	Netherlands	77.75	84.02	64	Kazakhstan	51.07	41.02
12	United Kingdom	77.35	83.37	65	Colombia	50.77	40.54
13	Denmark	76.92	82.68	66	Romania	50.52	40.14
14	Iceland	76.50	82.00	67	Bolivia	50.48	40.07
15	Slovenia	76.43	81.89	68	Macedonia	50.41	39.96
16	New Zealand	76.41	81.86	69	Nicaragua	50.32	39.82
17	Portugal	75.80	80.87	70	Lebanon	50.15	39.54
18	Finland	75.72	80.74	71	Algeria	50.08	39.43
19	Ireland	74.67	79.05	72	Argentina	49.55	38.58
20	Estonia	74.66	79.04	73	Ukraine	49.01	37.71
21	Slovakia	74.45	78.70	74	Guatemala	48.06	36.17
22	Italy	74.36	78.55	75	Botswana	47.60	35.43
23	Greece	73.28	76.81	76	Peru	45.05	31.32
24	Canada	73.14	76.59	77	Mongolia	44.67	30.71
25	United Arab Emirates	72.91	76.22	78	Indonesia	44.36	30.21
26	Japan	72.35	75.31	79	Philippines	44.02	29.66
27	France	71.05	73.22	80	El Salvador	43.79	29.29
28	Hungary	70.28	71.98	81	Namibia	43.71	29.17
29	Chile	69.93	71.41	82	China	43.00	28.02
30	Poland	69.53	70.77	83	Kyrgyzstan	40.63	24.20
31	United States	67.52	67.53	84	Paraguay	39.25	21.98
32	Saudi Arabia	66.66	66.15	85	Uganda	39.18	21.87
33	Belgium	66.61	66.07	86	Vietnam	38.17	20.24
34	Israel	65.78	64.73	87	Cambodia	35.44	15.84
35	Latvia	64.05	61.94	88	Pakistan	34.58	14.45
36	Bulgaria	64.01	61.88	89	Ghana	32.07	10.41
37	South Korea	63.79	61.52	90	India	31.23	9.06
38	Qatar	63.03	60.30	91	Yemen	30.16	7.33
39	Croatia	62.23	59.01	92	Madagascar	26.70	1.76
40	Armenia	61.67	58.11	93	Bangladesh	25.61	0.00
41	Lithuania	61.26	57.44				
42	Egypt	61.11	57.20				
43	Malaysia	59.31	54.30				
44	Tunisia	58.99	53.79				
45	Ecuador	58.54	53.06				
46	Costa Rica	58.53	53.05				
47	Venezuela	57.80	51.87				
48	Panama	56.84	50.32				
49	Azerbaijan	55.47	48.11				
50	Mexico	55.03	47.41				
51	Turkey	54.91	47.21				
52	Albania	54.73	46.92				
53	Sri Lanka	53.88	45.55				

Source: The 2014 Environmental Performance Index, Yale Center for Environmental Law and Policy. (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

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	United Arab Emirates	0.92	100.00	54	Chile	0.59	49.12
2	Indonesia	0.90	96.14	55	Slovakia	0.58	48.56
3	Singapore	0.89	95.57	56	Romania	0.58	47.83
4	Norway	0.89	94.93	57	Morocco	0.58	47.62
5	Slovenia	0.86	90.31	58	Egypt	0.57	47.11
6	Austria	0.85	89.40	59	Turkey	0.57	46.40
7	Iceland	0.85	88.37	60	Nicaragua	0.57	46.39
8	Canada	0.84	87.96	61	Iran	0.57	46.04
9	Sweden	0.84	87.35	62	Mexico	0.55	43.72
10	China	0.84	86.99	63	Kazakhstan	0.55	43.43
11	Denmark	0.83	86.65	64	Algeria	0.54	41.57
12	Bangladesh	0.82	85.15	65	El Salvador	0.53	41.49
13	Germany	0.82	84.03	66	Costa Rica	0.53	41.45
14	Netherlands	0.81	82.45	67	Guatemala	0.53	41.27
15	Armenia	0.81	82.29	68	Uruguay	0.53	40.25
16	Switzerland	0.80	81.94	69	Kyrgyzstan	0.52	39.53
17	Sri Lanka	0.80	81.44	70	Ukraine	0.51	37.72
18	Spain	0.80	80.76	71	Mongolia	0.50	35.89
19	Finland	0.79	80.37	72	Lithuania	0.49	34.52
20	Japan	0.78	78.75	73	Panama	0.49	34.11
21	Saudi Arabia	0.78	78.73	74	Ecuador	0.48	33.63
22	United Kingdom	0.77	76.23	75	Moldova	0.48	33.21
23	Luxembourg	0.76	75.32	76	Malaysia	0.47	31.88
24	United States	0.75	73.59	77	Peru	0.47	31.83
25	Thailand	0.74	72.93	78	Greece	0.47	31.24
26	Ireland	0.74	72.61	79	Brazil	0.46	30.67
27	Poland	0.74	71.77	80	Colombia	0.45	29.16
28	Ghana	0.73	70.93	81	Argentina	0.45	29.12
29	Belgium	0.72	70.08	82	Paraguay	0.44	27.48
30	France	0.72	69.82	83	Russia	0.44	26.93
31	Azerbaijan	0.72	69.47	84	Uganda	0.41	23.36
32	Croatia	0.71	68.66	85	Pakistan	0.41	23.25
33	Vietnam	0.70	66.64	86	Bolivia	0.41	22.10
34	Trinidad and Tobago	0.70	66.08	87	Dominican Republic	0.40	20.45
35	South Korea	0.69	64.38	88	Botswana	0.35	12.91
36	Estonia	0.68	63.78	89	Namibia	0.33	10.47
37	Australia	0.68	63.39	90	South Africa	0.27	1.30
38	Italy	0.68	63.22	91	Venezuela	0.26	0.00
39	New Zealand	0.67	61.16	n/a	Madagascar	n/a	n/a
40	Philippines	0.66	60.73	n/a	Qatar	n/a	n/a
41	Macedonia	0.66	59.95				
42	Yemen	0.65	59.29				
43	Israel	0.64	57.05				
44	Portugal	0.64	57.03				
45	Cambodia	0.64	56.82				
46	India	0.63	56.51				
47	Latvia	0.63	55.59				
48	Czech Republic	0.62	54.99				
49	Lebanon	0.62	54.89				
50	Albania	0.61	52.45				
51	Bulgaria	0.60	51.67				
52	Tunisia	0.60	51.43				
53	Hungary	0.59	49.63				

Source: Legatum Institute, Legatum Prosperity Index 2013 based on Gallup World Poll. (prosperity.com)

4.2.3 Female part-time workers

Female share of part-time employment (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Austria	80.60	100.00	54	Costa Rica	54.90	29.20
2	Luxembourg	80.50	99.72	55	Botswana (2006)	54.70	28.65
3	France	80.10	98.62	56	Croatia	54.30	27.55
4	Switzerland	80.00	98.35	57	Bulgaria	53.20	24.52
5	Belgium	79.80	97.80	58	Pakistan (2003)	52.10	21.49
6	Germany	78.70	94.77	59	Dominican Republic (2010)	50.50	17.08
7	Spain	76.20	87.88	60	Romania	48.60	11.85
8	Italy	75.60	86.23	61	Panama	48.00	10.19
9	United Kingdom	73.80	81.27	62	Trinidad and Tobago (2002)	44.90	1.65
10	New Zealand	73.70	80.99	63	Macedonia	44.70	1.10
11	Estonia	72.20	76.86	64	Indonesia (2003)	44.30	0.00
12	Netherlands	71.70	75.48	n/a	Albania	n/a	n/a
13	Australia	71.10	73.83	n/a	United Arab Emirates	n/a	n/a
14	Japan	70.80	73.00	n/a	Bangladesh	n/a	n/a
15	Guatemala (2003)	69.90	70.52	n/a	China	n/a	n/a
16	Czech Republic	69.70	69.97	n/a	Algeria	n/a	n/a
17	Norway	69.40	69.15	n/a	Egypt	n/a	n/a
18	Israel	69.20	68.60	n/a	Ghana	n/a	n/a
19	Ireland	69.00	68.04	n/a	India	n/a	n/a
20	Poland	67.60	64.19	n/a	Iran	n/a	n/a
21	Brazil (2009)	67.50	63.91	n/a	Kazakhstan	n/a	n/a
22	Canada	67.00	62.53	n/a	Kyrgyzstan	n/a	n/a
23	United States	66.40	60.88	n/a	Cambodia	n/a	n/a
24	Iceland	65.80	59.23	n/a	Lebanon	n/a	n/a
25	South Africa	65.40	58.13	n/a	Sri Lanka	n/a	n/a
26	Uruguay (2010)	64.90	56.75	n/a	Morocco	n/a	n/a
27	Hungary	64.60	55.92	n/a	Madagascar	n/a	n/a
28	Russia	64.50	55.65	n/a	Mongolia	n/a	n/a
29	Greece	63.00	51.52	n/a	Malaysia	n/a	n/a
29	Latvia	63.00	51.52	n/a	Namibia	n/a	n/a
31	Argentina	62.80	50.96	n/a	Philippines	n/a	n/a
32	Sweden	62.00	48.76	n/a	Qatar	n/a	n/a
33	Lithuania	61.80	48.21	n/a	Saudi Arabia	n/a	n/a
34	Finland	61.70	47.93	n/a	Singapore	n/a	n/a
35	Colombia	61.30	46.83	n/a	Thailand	n/a	n/a
36	South Korea	61.00	46.01	n/a	Tunisia	n/a	n/a
37	Denmark	60.90	45.73	n/a	Uganda	n/a	n/a
38	Peru (2009)	60.50	44.63	n/a	Ukraine	n/a	n/a
39	El Salvador	60.30	44.08	n/a	Vietnam	n/a	n/a
40	Turkey	60.00	43.25	n/a	Yemen	n/a	n/a
41	Venezuela (2011)	59.90	42.98				
42	Slovenia	59.50	41.87				
43	Slovakia	59.40	41.60				
44	Chile	59.20	41.05				
45	Nicaragua (2010)	59.10	40.77				
46	Bolivia (2009)	58.90	40.22				
47	Moldova	58.40	38.84				
48	Portugal	58.30	38.57				
49	Paraguay	57.70	36.91				
50	Mexico	56.70	34.16				
51	Azerbaijan (2003)	56.60	33.88				
52	Ecuador	56.40	33.33				
53	Armenia (2008)	56.20	32.78				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. (ilo.org/kilm)

4.2.4 Physician density

Physicians (per 1,000 people) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Greece (2010)	6.17	100.00	54	China (2011)	1.82	28.53
2	Austria (2010)	4.86	78.54	55	Brazil (2010)	1.76	27.61
3	Russia (2010)	4.31	69.45	56	Turkey (2011)	1.71	26.73
4	Norway (2010)	4.16	66.98	57	Ecuador (2010)	1.69	26.34
5	Switzerland (2010)	4.08	65.72	58	El Salvador (2010)	1.60	24.84
6	Spain (2011)	3.96	63.73	59	Vietnam (2010)	1.22	18.73
7	Portugal (2010)	3.87	62.20	60	Tunisia (2010)	1.22	18.69
8	Australia (2010)	3.85	61.92	61	Algeria (2010)	1.21	18.45
9	Kazakhstan (2011)	3.84	61.74	62	Malaysia (2010)	1.20	18.30
10	Belgium (2010)	3.78	60.79	63	Trinidad and Tobago (2010)	1.18	17.92
11	Sweden (2010)	3.77	60.59	64	Philippines (2004)	1.15	17.56
12	Bulgaria (2010)	3.76	60.42	65	Albania (2011)	1.11	16.90
13	Uruguay (2010)	3.74	60.03	66	Paraguay (2002)	1.11	16.80
14	Czech Republic (2010)	3.71	59.57	67	Chile (2010)	1.03	15.47
15	Germany (2010)	3.69	59.26	68	Saudi Arabia (2010)	0.94	14.04
16	Moldova (2011)	3.64	58.50	69	Guatemala (2009)	0.93	13.93
17	Lithuania (2010)	3.64	58.47	70	Peru (2010)	0.92	13.73
18	Lebanon (2010)	3.54	56.81	71	Iran (2010)	0.89	13.24
19	Ukraine (2011)	3.52	56.43	72	Pakistan (2010)	0.81	11.97
20	Italy (2010)	3.49	55.92	73	South Africa (2011)	0.76	11.07
21	Iceland (2011)	3.46	55.43	74	India (2010)	0.65	9.27
22	Denmark (2010)	3.42	54.90	75	Morocco (2010)	0.62	8.80
23	Hungary (2010)	3.41	54.64	76	Sri Lanka (2010)	0.49	6.69
24	France (2011)	3.38	54.19	77	Namibia (2010)	0.37	4.75
25	Azerbaijan (2011)	3.38	54.16	77	Nicaragua (2003)	0.37	4.75
26	Estonia (2010)	3.34	53.57	79	Bangladesh (2011)	0.36	4.46
27	Argentina (2010)	3.21	51.38	80	Botswana (2010)	0.34	4.13
28	Ireland (2010)	3.17	50.77	81	Thailand (2010)	0.32	3.85
29	Israel (2011)	3.11	49.70	82	Cambodia (2010)	0.23	2.38
30	Slovakia (2010)	3.00	47.93	83	Indonesia	0.20	1.96
31	Finland (2010)	2.91	46.37	84	Yemen (2010)	0.20	1.84
32	Latvia (2010)	2.90	46.27	85	Madagascar (2010)	0.16	1.25
33	Netherlands (2010)	2.86	45.61	86	Colombia (2010)	0.15	1.02
34	Armenia (2011)	2.85	45.38	87	Uganda (2010)	0.12	0.53
35	Egypt (2010)	2.83	45.13	88	Ghana (2010)	0.09	0.00
36	Luxembourg (2011)	2.78	44.29	n/a	Bolivia	n/a	n/a
37	United Kingdom (2011)	2.77	44.06	n/a	Costa Rica	n/a	n/a
38	Mongolia (2010)	2.76	44.03	n/a	Dominican Republic	n/a	n/a
39	Qatar (2010)	2.76	43.93	n/a	Panama	n/a	n/a
40	New Zealand (2010)	2.74	43.57	n/a	Venezuela	n/a	n/a
41	Croatia (2010)	2.72	43.24				
42	Macedonia (2010)	2.63	41.80				
43	Slovenia (2010)	2.54	40.40				
44	Kyrgyzstan (2011)	2.47	39.20				
45	United States (2010)	2.42	38.42				
46	Romania (2010)	2.39	37.82				
47	Japan (2010)	2.14	33.82				
48	Canada (2010)	2.07	32.62				
49	Poland (2010)	2.07	32.60				
50	South Korea (2010)	2.02	31.88				
51	Mexico (2010)	1.96	30.81				
52	United Arab Emirates (2010)	1.93	30.34				
53	Singapore (2010)	1.92	30.19				

Source: World Bank, World Development Indicators based on World Health Organization, Global Atlas of the Health Workforce. (data.worldbank.org)

4.2.5 Improved sanitation

Population with access to improved sanitation facilities (%) | 2011

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Australia	100.00	100.00	54	Venezuela (2007)	90.90	89.48
1	Austria	100.00	100.00	55	Armenia	90.40	88.90
1	Belgium	100.00	100.00	56	Tunisia	89.80	88.21
1	Bulgaria	100.00	100.00	57	Poland (2008)	89.30	87.63
1	Switzerland	100.00	100.00	58	Lithuania (2009)	86.70	84.62
1	Czech Republic	100.00	100.00	59	Moldova	86.10	83.93
1	Germany	100.00	100.00	60	Mexico	84.70	82.31
1	Denmark	100.00	100.00	61	Dominican Republic	82.30	79.54
1	Spain	100.00	100.00	62	Azerbaijan	82.00	79.19
1	Finland	100.00	100.00	63	Brazil	80.80	77.80
1	France	100.00	100.00	64	Guatemala	80.20	77.11
1	United Kingdom	100.00	100.00	65	Latvia (2009)	78.60	75.26
1	Hungary	100.00	100.00	66	Colombia	78.10	74.68
1	Iceland	100.00	100.00	67	Vietnam	74.80	70.87
1	Israel	100.00	100.00	68	Philippines	74.20	70.17
1	Japan	100.00	100.00	69	South Africa	74.00	69.94
1	South Korea	100.00	100.00	70	Romania (2008)	72.10	67.75
1	Luxembourg	100.00	100.00	71	Peru	71.60	67.17
1	Netherlands	100.00	100.00	72	Panama	71.20	66.71
1	Norway	100.00	100.00	73	Paraguay (2010)	70.80	66.24
1	Portugal	100.00	100.00	74	Russia	70.40	65.78
1	Qatar	100.00	100.00	75	El Salvador	70.00	65.32
1	Saudi Arabia	100.00	100.00	76	Morocco	69.80	65.09
1	Singapore	100.00	100.00	77	China	65.10	59.65
1	Slovenia	100.00	100.00	78	Botswana	64.00	58.38
1	Sweden	100.00	100.00	79	Indonesia	58.70	52.25
27	Canada	99.80	99.77	80	Bangladesh	54.70	47.63
28	Slovakia	99.70	99.65	81	Mongolia	53.00	45.66
29	Iran	99.60	99.54	81	Yemen	53.00	45.66
29	United States	99.60	99.54	83	Nicaragua	52.10	44.62
31	Ireland	99.00	98.84	84	Pakistan	47.40	39.19
32	Uruguay	98.90	98.73	85	Bolivia	46.30	37.92
33	Chile	98.70	98.50	86	India	35.10	24.97
34	Greece	98.60	98.38	87	Uganda	35.00	24.86
35	Lebanon (2005)	98.30	98.03	88	Cambodia	33.10	22.66
36	Croatia	98.20	97.92	89	Namibia	32.30	21.73
37	Estonia	97.90	97.57	90	Madagascar	13.70	0.23
38	United Arab Emirates	97.50	97.11	91	Ghana	13.50	0.00
39	Kazakhstan	97.30	96.88	n/a	Italy	n/a	n/a
40	Argentina	96.30	95.72	n/a	New Zealand	n/a	n/a
41	Malaysia	95.70	95.03				
42	Algeria	95.10	94.34				
43	Egypt	95.00	94.22				
44	Ukraine	94.30	93.41				
45	Albania	93.90	92.95				
46	Costa Rica	93.70	92.72				
47	Thailand	93.40	92.37				
48	Kyrgyzstan	93.30	92.25				
49	Ecuador	92.90	91.79				
50	Trinidad and Tobago	92.10	90.87				
51	Macedonia	91.30	89.94				
52	Sri Lanka	91.10	89.71				
53	Turkey	91.00	89.60				

Source: World Bank, World Development Indicators based on WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation. (data.worldbank.org)

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	54	Costa Rica (2011)	37.00	41.47
1	Slovakia	74.40	100.00	55	Brazil (2011)	36.40	40.53
3	Azerbaijan	71.00	94.68	56	Ecuador (2011)	36.30	40.38
4	Armenia (2011)	66.80	88.11	57	Iceland	35.70	39.44
5	Poland	64.30	84.19	58	India (2010)	35.50	39.12
6	Austria	64.00	83.72	59	Nicaragua (2010)	34.80	38.03
7	Croatia	63.50	82.94	60	Dominican Republic (2011)	34.10	36.93
8	Trinidad and Tobago (2008)	63.00	82.16	61	South Africa (2011)	31.00	32.08
9	Hungary	62.70	81.69	62	Albania (2002)	29.90	30.36
10	Bulgaria	60.10	77.62	63	United States (2008)	28.90	28.79
11	Romania	59.60	76.84	64	United Arab Emirates (2005)	28.80	28.64
12	Slovenia	59.30	76.37	64	Paraguay (2011)	28.80	28.64
13	Latvia	58.70	75.43	66	Saudi Arabia (2009)	28.40	28.01
14	Germany	57.80	74.02	67	Guatemala (2011)	28.10	27.54
15	Lithuania	57.70	73.87	68	Venezuela (2011)	27.40	26.45
16	Chile (2011)	57.00	72.77	69	Botswana (2006)	26.40	24.88
16	Peru (2011)	57.00	72.77	70	Iran (2008)	25.30	23.16
18	Uruguay (2011)	56.90	72.61	71	Spain	23.60	20.50
19	Malaysia	55.80	70.89	72	Namibia	23.40	20.19
20	Kyrgyzstan (2006)	55.10	69.80	73	Indonesia (2008)	22.30	18.47
21	Moldova	54.50	68.86	74	Portugal	22.00	18.00
22	Macedonia	54.00	68.08	75	Algeria (2011)	21.50	17.21
23	Estonia	53.00	66.51	76	Yemen (2010)	21.40	17.06
24	Singapore	49.90	61.66	77	Cambodia	20.50	15.65
25	Switzerland	49.30	60.72	78	Turkey	20.30	15.34
26	Sweden	48.90	60.09	79	Lebanon (2007)	18.20	12.05
27	Finland	47.20	57.43	80	Sri Lanka (2008)	16.20	8.92
28	Italy	46.70	56.65	81	Madagascar (2005)	14.90	6.89
29	Mexico (2011)	45.00	53.99	82	Thailand	14.50	6.26
30	Colombia (2011)	44.00	52.43	83	Morocco	11.60	1.72
30	Kazakhstan (2004)	44.00	52.43	83	Pakistan (2008)	11.60	1.72
32	France	43.60	51.80	85	El Salvador (2011)	10.50	0.00
33	United Kingdom	42.90	50.70	n/a	Bangladesh	n/a	n/a
33	Norway	42.90	50.70	n/a	China	n/a	n/a
35	Mongolia (2011)	42.30	49.77	n/a	Ghana	n/a	n/a
36	Denmark	42.10	49.45	n/a	Japan	n/a	n/a
37	South Korea (2007)	42.00	49.30	n/a	Qatar	n/a	n/a
38	Greece	41.20	48.04	n/a	Uganda	n/a	n/a
38	Netherlands	41.20	48.04	n/a	Ukraine	n/a	n/a
38	New Zealand (2008)	41.20	48.04	n/a	Vietnam	n/a	n/a
41	Israel (2008)	40.80	47.42				
42	Russia (2008)	40.40	46.79				
43	Canada (2008)	40.00	46.17				
44	Argentina	39.70	45.70				
45	Belgium	39.30	45.07				
46	Philippines (2008)	39.20	44.91				
47	Australia (2008)	38.90	44.44				
48	Panama (2011)	38.60	43.97				
49	Bolivia (2009)	38.10	43.19				
50	Tunisia (2011)	37.90	42.88				
51	Luxembourg	37.70	42.57				
52	Egypt (2011)	37.20	41.78				
53	Ireland	37.10	41.63				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. (ilo.org/kilm)

5.1.2 Secondary-educated population

Population with secondary education (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Czech Republic (2012)	71.17	100.00	54	Tunisia (2010)	26.79	31.64
2	Kazakhstan (2007)	70.82	99.46	55	Iran (2012)	24.58	28.23
3	Kyrgyzstan (2009)	70.31	98.67	56	Colombia (2011)	22.09	24.39
4	Slovakia (2012)	68.21	95.43	57	Russia (2010)	21.93	24.14
5	Azerbaijan (2009)	63.55	88.26	58	Dominican Republic (2012)	21.82	23.98
6	Poland (2012)	60.30	83.25	59	Panama (2010)	21.52	23.52
7	Austria (2012)	58.97	81.20	60	Ecuador (2010)	21.44	23.39
8	Latvia (2012)	58.88	81.06	61	Indonesia (2011)	21.05	22.80
9	Hungary (2012)	56.62	77.59	62	Qatar (2012)	20.46	21.88
10	Germany (2012)	56.38	77.21	63	Vietnam (2009)	18.98	19.61
11	Moldova (2012)	55.68	76.14	64	China (2010)	18.74	19.23
12	Slovenia (2012)	55.49	75.84	65	Turkey (2012)	18.73	19.21
13	South Africa (2012)	54.28	73.98	66	Spain (2012)	18.63	19.06
14	United Kingdom (2011)	53.02	72.04	67	Paraguay (2008)	18.19	18.38
15	Romania (2012)	52.59	71.37	68	Lebanon (2007)	17.52	17.36
16	Croatia (2011)	52.32	70.95	69	Mexico (2012)	17.48	17.29
17	Lithuania (2012)	52.22	70.80	70	Ghana (2010)	17.43	17.22
18	Estonia (2012)	51.21	69.25	71	Pakistan (2011)	16.79	16.22
19	Bulgaria (2012)	50.97	68.88	72	Uruguay (2012)	16.66	16.03
20	Sweden (2012)	48.31	64.77	73	Costa Rica (2012)	16.33	15.52
21	Switzerland (2012)	48.10	64.47	74	Sri Lanka (2009)	15.54	14.30
22	United States (2012)	47.02	62.79	75	El Salvador (2012)	15.36	14.02
23	Trinidad and Tobago (2009)	46.87	62.57	76	Thailand (2010)	15.18	13.74
24	Mongolia (2010)	43.86	57.93	77	Portugal (2012)	15.11	13.64
25	Norway (2011)	42.64	56.05	78	Bolivia (2012)	14.94	13.38
26	Denmark (2012)	42.15	55.30	79	Guatemala (2012)	13.14	10.60
27	Albania (2011)	41.80	54.76	80	Uganda (2010)	7.69	2.21
28	Philippines (2008)	40.62	52.94	81	Algeria (2006)	7.64	2.13
29	Japan (2010)	39.91	51.84	82	Cambodia (2009)	6.25	0.00
30	Luxembourg (2012)	39.49	51.19	n/a	Armenia	n/a	n/a
31	Finland (2011)	38.61	49.83	n/a	Bangladesh	n/a	n/a
32	France (2012)	37.79	48.58	n/a	Botswana	n/a	n/a
33	Netherlands (2012)	37.47	48.09	n/a	Egypt	n/a	n/a
34	South Korea (2010)	37.39	47.96	n/a	India	n/a	n/a
35	Macedonia (2002)	35.57	45.15	n/a	Morocco	n/a	n/a
36	Israel (2012)	35.46	44.99	n/a	Madagascar	n/a	n/a
37	Australia (2012)	35.20	44.59	n/a	Namibia	n/a	n/a
38	Canada (2011)	35.07	44.39	n/a	Nicaragua	n/a	n/a
39	Chile (2010)	34.65	43.74	n/a	Ukraine	n/a	n/a
40	Italy (2012)	34.53	43.56	n/a	Yemen	n/a	n/a
41	Malaysia (2010)	34.53	43.56				
42	Peru (2012)	33.82	42.46				
43	Greece (2010)	33.63	42.17				
44	Belgium (2011)	32.95	41.13				
45	Ireland (2011)	32.95	41.12				
46	New Zealand (2011)	30.87	37.91				
47	Iceland (2005)	30.31	37.05				
48	United Arab Emirates (2005)	29.14	35.26				
49	Argentina (2003)	28.42	34.14				
50	Singapore (2012)	28.14	33.72				
51	Brazil (2011)	27.91	33.36				
52	Saudi Arabia	27.91	33.35				
53	Venezuela (2009)	27.02	31.99				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

5.1.3 Technicians and associate professionals

Technicians and associate professionals (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Singapore (2011)	20.70	100.00	54	Bulgaria (2011)	7.90	36.32
2	Germany (2011)	20.20	97.51	55	Greece (2011)	7.80	35.82
3	France (2011)	20.10	97.01	56	Brazil (2007)	7.70	35.32
4	Czech Republic (2011)	19.30	93.03	57	Romania (2011)	6.80	30.85
5	Slovakia (2011)	19.00	91.54	57	El Salvador (2010)	6.80	30.85
6	Austria (2011)	18.60	89.55	59	Ecuador (2006)	6.60	29.85
7	Luxembourg (2011)	18.30	88.06	59	Kyrgyzstan (2006)	6.60	29.85
8	Switzerland (2011)	18.20	87.56	61	Botswana (2006)	6.50	29.35
9	Israel (2008)	17.60	84.58	61	Dominican Republic (2007)	6.50	29.35
10	Italy (2011)	17.30	83.08	63	Qatar (2009)	6.20	27.86
11	Finland (2011)	16.80	80.60	64	Uruguay (2007)	6.10	27.36
12	Denmark (2011)	16.50	79.10	65	Turkey (2010)	5.90	26.37
13	Iceland (2011)	16.40	78.61	66	Bolivia (2007)	5.80	25.87
13	Norway (2011)	16.40	78.61	67	Namibia (2011)	5.70	25.37
13	Sweden (2011)	16.40	78.61	68	Sri Lanka (2008)	5.60	24.88
16	Netherlands (2011)	16.20	77.61	69	Pakistan (2008)	5.30	23.38
17	Belgium (2011)	15.90	76.12	70	Iran (2008)	4.80	20.90
18	Canada (2008)	15.50	74.13	70	Paraguay (2008)	4.80	20.90
19	Russia (2008)	15.20	72.64	72	Mongolia (2008)	4.60	19.90
20	Malaysia (2010)	14.80	70.65	73	Morocco (2011)	4.40	18.91
21	United Arab Emirates (2008)	14.50	69.15	74	Azerbaijan (2008)	3.90	16.42
22	Hungary (2011)	14.10	67.16	75	Uganda (2009)	3.70	15.42
23	Slovenia (2011)	14.00	66.67	76	Bangladesh (2003)	3.40	13.93
24	Australia (2008)	13.70	65.17	76	Thailand (2011)	3.40	13.93
25	Argentina (2006)	13.50	64.18	78	Vietnam (2004)	3.20	12.94
25	Costa Rica (2011)	13.50	64.18	79	India (2010)	3.00	11.94
27	Chile (2002)	13.00	61.69	80	Philippines	2.90	11.44
28	Estonia (2011)	12.90	61.19	81	Cambodia (2008)	2.30	8.46
29	Croatia (2011)	12.50	59.20	82	Ghana (2006)	2.00	6.97
30	New Zealand (2008)	12.40	58.71	83	Indonesia (2008)	1.90	6.47
31	Latvia (2011)	12.00	56.72	84	Madagascar (2005)	0.60	0.00
32	Lithuania (2011)	11.60	54.73	n/a	Albania	n/a	n/a
32	Ukraine (2008)	11.60	54.73	n/a	China	n/a	n/a
34	United Kingdom (2011)	11.50	54.23	n/a	Colombia	n/a	n/a
34	Saudi Arabia	11.50	54.23	n/a	Guatemala	n/a	n/a
36	Trinidad and Tobago (2005)	11.40	53.73	n/a	Japan	n/a	n/a
37	Poland (2011)	11.10	52.24	n/a	Tunisia	n/a	n/a
37	South Africa (2011)	11.10	52.24	n/a	United States	n/a	n/a
39	Spain (2011)	10.90	51.24	n/a	Venezuela	n/a	n/a
40	South Korea (2008)	10.80	50.75	n/a	Yemen	n/a	n/a
41	Ireland (2011)	10.50	49.25				
42	Macedonia (2011)	10.20	47.76				
43	Lebanon (2007)	9.70	45.27				
43	Mexico (2008)	9.70	45.27				
45	Armenia (2008)	9.30	43.28				
46	Algeria (2004)	9.10	42.29				
46	Egypt (2007)	9.10	42.29				
46	Kazakhstan (2008)	9.10	42.29				
49	Peru (2008)	8.90	41.29				
50	Nicaragua (2006)	8.80	40.80				
50	Portugal (2011)	8.80	40.80				
52	Moldova	8.70	40.30				
53	Panama (2011)	8.10	37.31				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. (ilo.org/kilm)

5.1.4 State of 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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Italy	5.49	74.81	54	Colombia	3.79	46.42
2	United Arab Emirates	5.45	74.23	55	Azerbaijan	3.78	46.29
3	Germany	5.38	73.01	56	Tunisia	3.69	44.87
4	Switzerland	5.28	71.34	57	Estonia	3.68	44.66
5	United States	5.23	70.57	58	Namibia	3.65	44.14
6	Japan	5.22	70.30	59	Ghana	3.65	44.09
7	Singapore	5.20	69.97	60	Armenia	3.63	43.76
8	Netherlands	5.17	69.57	61	Dominican Republic	3.61	43.53
9	Qatar	5.16	69.29	62	Botswana	3.58	42.93
10	Finland	5.08	68.05	63	Bolivia	3.55	42.44
11	United Kingdom	5.06	67.64	64	Trinidad and Tobago	3.52	42.00
12	Malaysia	5.04	67.34	65	Slovenia	3.50	41.75
13	Norway	5.01	66.77	66	Macedonia	3.50	41.74
14	India	4.88	64.70	67	Romania	3.48	41.33
15	Austria	4.85	64.10	68	Uruguay	3.46	40.96
16	Canada	4.84	63.95	69	Iran	3.44	40.63
17	Sweden	4.83	63.77	70	Nicaragua	3.44	40.60
18	Belgium	4.81	63.48	71	Peru	3.42	40.36
19	Ireland	4.80	63.34	72	Latvia	3.41	40.16
20	Luxembourg	4.74	62.32	73	Poland	3.41	40.13
21	Saudi Arabia	4.69	61.43	74	Uganda	3.39	39.77
22	China	4.61	60.21	75	Bulgaria	3.33	38.83
23	Brazil	4.53	58.75	76	Lithuania	3.31	38.56
24	South Korea	4.46	57.62	77	Hungary	3.27	37.87
25	Indonesia	4.43	57.10	78	Croatia	3.23	37.23
26	Turkey	4.42	56.99	79	Argentina	3.22	36.95
27	France	4.41	56.79	80	Lebanon	3.22	36.93
28	Thailand	4.34	55.64	81	Algeria	3.19	36.45
29	Denmark	4.30	55.01	82	Paraguay	3.16	35.95
30	Mexico	4.28	54.66	83	Russia	3.06	34.38
31	Australia	4.27	54.44	84	Kazakhstan	3.05	34.25
32	Israel	4.17	52.81	85	Madagascar	2.99	33.25
33	Portugal	4.16	52.72	86	Greece	2.98	33.01
34	Spain	4.15	52.57	87	Ukraine	2.87	31.18
35	South Africa	4.15	52.52	88	Yemen	2.82	30.26
36	Cambodia	4.14	52.34	89	Mongolia	2.80	29.93
37	Czech Republic	4.14	52.31	90	Kyrgyzstan	2.70	28.31
38	Guatemala	4.12	52.03	91	Venezuela	2.66	27.67
39	Costa Rica	4.12	52.00	92	Albania	2.49	24.84
40	Egypt	4.09	51.49	93	Moldova	2.33	22.24
41	Chile	4.08	51.27				
42	El Salvador	4.07	51.13				
43	Philippines	4.03	50.57				
44	Iceland	4.03	50.56				
45	Panama	4.00	50.05				
46	Morocco	3.97	49.54				
47	Sri Lanka	3.96	49.29				
48	Pakistan	3.95	49.16				
49	Bangladesh	3.89	48.22				
50	Vietnam	3.88	48.05				
51	Ecuador	3.85	47.52				
52	Slovakia	3.84	47.27				
53	New Zealand	3.81	46.75				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

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	164454.15	100.00	54	Romania	27611.78	15.88
2	United Arab Emirates	123288.72	74.69	55	Bulgaria	27107.52	15.57
3	United States	114929.76	69.56	56	Algeria	26333.08	15.09
4	Luxembourg	111353.30	67.36	57	Tunisia	25915.06	14.83
5	Norway	106386.84	64.30	58	Albania	24853.59	14.18
6	Ireland	100923.80	60.95	59	Ecuador	24141.86	13.74
7	Singapore	99880.05	60.30	60	Azerbaijan	21388.51	12.05
8	Australia	96180.27	58.03	61	Peru	21089.97	11.87
9	Saudi Arabia	95716.49	57.74	62	Guatemala	20238.60	11.34
10	Belgium	95589.96	57.67	63	Colombia	20092.84	11.25
11	Austria	89291.09	53.79	64	Brazil	19821.10	11.09
12	Sweden	89101.81	53.68	65	China	19654.10	10.99
13	France	87508.79	52.70	66	Thailand	19053.81	10.62
14	Canada	86216.17	51.90	67	Egypt	19048.00	10.61
15	United Kingdom	85323.32	51.35	68	Armenia	18420.71	10.23
16	Iceland	84833.81	51.05	69	Ukraine	18002.72	9.97
17	Netherlands	83895.80	50.48	70	Sri Lanka	15903.56	8.68
18	Spain	82765.85	49.78	71	Morocco	13659.86	7.30
19	Finland	81156.87	48.79	72	Moldova	12761.00	6.75
20	Switzerland	80481.87	48.38	73	Indonesia	12354.49	6.50
21	Germany	79848.18	47.99	74	Philippines	11734.08	6.12
22	Denmark	79522.06	47.79	75	Bolivia	10779.77	5.53
23	Italy	78804.71	47.35	76	Pakistan	9786.40	4.92
24	Japan	76740.63	46.08	77	Yemen	9684.96	4.86
25	Israel	74609.60	44.77	78	India	9332.54	4.64
26	Greece	66659.50	39.88	79	Vietnam	7419.43	3.46
27	South Korea	66396.99	39.72	80	Ghana	7116.37	3.28
28	Trinidad and Tobago	65465.12	39.15	81	Kyrgyzstan	6963.15	3.18
29	New Zealand	65116.90	38.93	82	Cambodia	5475.52	2.27
30	Slovenia	60841.12	36.30	83	Bangladesh	5300.38	2.16
31	Slovakia	59063.83	35.21	84	Uganda	3799.75	1.24
32	Czech Republic	55019.31	32.73	85	Madagascar	1784.44	0.00
33	Poland	52550.48	31.21	n/a	Botswana	n/a	n/a
34	Portugal	52013.92	30.88	n/a	Lebanon	n/a	n/a
35	Croatia	51828.31	30.76	n/a	Mongolia	n/a	n/a
36	Lithuania	51130.65	30.34	n/a	Namibia	n/a	n/a
37	Hungary	46494.67	27.49	n/a	Nicaragua	n/a	n/a
38	Estonia	43941.65	25.92	n/a	Panama	n/a	n/a
39	Turkey	42358.04	24.94	n/a	Paraguay	n/a	n/a
40	Iran	41699.75	24.54	n/a	El Salvador	n/a	n/a
41	Latvia	40835.06	24.01				
42	Chile	39659.87	23.28				
43	Russia	39046.86	22.91				
44	Malaysia	37236.10	21.79				
45	Mexico	36041.56	21.06				
46	Macedonia	34372.15	20.03				
47	Argentina	33643.61	19.59				
48	South Africa	32403.54	18.82				
49	Dominican Republic	32262.44	18.74				
50	Costa Rica	31444.23	18.23				
51	Uruguay	31265.99	18.12				
52	Venezuela	29070.35	16.77				
53	Kazakhstan	28902.48	16.67				

Source: The Conference Board, Total Economy Database.
(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] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Malaysia	5.25	70.76	54	Botswana	3.92	48.62
2	Switzerland	5.24	70.67	55	Sweden	3.91	48.52
3	Singapore	5.24	70.62	56	Peru	3.85	47.57
4	Qatar	5.22	70.29	57	France	3.83	47.19
5	United Arab Emirates	4.99	66.49	58	Netherlands	3.82	47.08
6	Estonia	4.92	65.36	59	Ecuador	3.81	46.85
7	Kazakhstan	4.86	64.39	60	Croatia	3.81	46.78
8	United Kingdom	4.80	63.30	61	Bolivia	3.80	46.74
9	United States	4.79	63.22	62	Norway	3.80	46.69
10	Japan	4.69	61.46	63	Hungary	3.80	46.61
11	Lithuania	4.69	61.42	64	Pakistan	3.78	46.40
12	Vietnam	4.67	61.19	65	Mexico	3.77	46.22
13	New Zealand	4.67	61.19	66	Nicaragua	3.69	44.89
14	China	4.66	61.01	67	Belgium	3.68	44.69
15	Czech Republic	4.62	60.40	68	Romania	3.66	44.37
16	Latvia	4.61	60.25	69	Yemen	3.65	44.10
17	South Korea	4.60	60.04	70	Brazil	3.63	43.90
18	Slovakia	4.60	59.95	71	Bangladesh	3.61	43.51
19	Azerbaijan	4.60	59.92	72	Colombia	3.59	43.19
20	Albania	4.52	58.73	73	Namibia	3.58	43.08
21	Saudi Arabia	4.52	58.68	74	Slovenia	3.51	41.82
22	Ukraine	4.50	58.37	75	Dominican Republic	3.51	41.82
23	Canada	4.48	58.01	76	Tunisia	3.51	41.79
24	Indonesia	4.44	57.27	77	Paraguay	3.48	41.38
25	Mongolia	4.42	56.92	78	Panama	3.47	41.17
26	Thailand	4.40	56.68	79	Australia	3.46	40.94
27	Cambodia	4.40	56.65	80	El Salvador	3.45	40.83
28	Chile	4.39	56.58	81	Portugal	3.36	39.35
29	Moldova	4.37	56.20	82	Trinidad and Tobago	3.30	38.39
30	Kyrgyzstan	4.34	55.67	83	Uganda	3.25	37.42
31	Armenia	4.33	55.55	84	Greece	3.18	36.33
32	Ireland	4.32	55.33	85	Iran	3.14	35.61
33	Sri Lanka	4.30	54.92	86	Egypt	3.13	35.47
34	Germany	4.26	54.34	87	Spain	3.11	35.14
35	Philippines	4.24	53.92	88	Algeria	2.82	30.29
36	Poland	4.22	53.70	89	Venezuela	2.78	29.62
37	Russia	4.21	53.50	90	South Africa	2.77	29.56
38	Luxembourg	4.20	53.30	91	Italy	2.76	29.26
39	Bulgaria	4.19	53.24	92	Argentina	2.75	29.18
40	Macedonia	4.17	52.77	93	Uruguay	2.37	22.82
41	Guatemala	4.16	52.60				
42	Denmark	4.15	52.46				
43	Costa Rica	4.15	52.44				
44	Madagascar	4.14	52.37				
45	Lebanon	4.10	51.67				
46	Finland	4.07	51.24				
47	India	4.07	51.21				
48	Iceland	4.07	51.18				
49	Turkey	4.06	51.04				
50	Israel	4.04	50.64				
51	Morocco	3.96	49.26				
52	Austria	3.94	49.05				
53	Ghana	3.93	48.87				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

5.2.3 Vocational skill-intensive exports

Low and medium technology manufactures (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Cambodia (2012)	92.37	100.00	54	Israel (2012)	25.76	38.21
2	Pakistan (2012)	65.57	75.15	55	Philippines	24.91	37.43
3	Turkey	62.58	72.37	56	Brazil	24.27	36.84
4	Bangladesh (2007)	62.31	72.12	57	Argentina (2012)	24.24	36.81
5	El Salvador	62.23	72.04	58	Indonesia	24.22	36.79
6	Macedonia (2012)	60.98	70.88	59	Malaysia	23.29	35.93
7	Italy (2012)	60.00	69.98	60	Singapore (2012)	22.12	34.84
8	Czech Republic	57.99	68.12	61	Ireland	21.96	34.69
9	Japan	57.00	67.19	62	Greece (2012)	20.67	33.49
10	Luxembourg	56.34	66.58	63	Uganda (2012)	19.37	32.29
11	Slovakia	55.62	65.92	64	Uruguay	16.80	29.91
12	Romania	55.27	65.59	65	Armenia	13.90	27.22
13	Dominican Republic (2012)	53.90	64.32	66	Trinidad and Tobago (2010)	13.74	27.07
14	Poland (2012)	53.47	63.92	67	Colombia	11.66	25.13
15	Austria (2012)	52.06	62.61	68	Russia (2012)	10.71	24.26
16	Germany (2012)	51.73	62.31	69	Norway (2012)	9.54	23.17
17	China (2012)	51.60	62.18	70	Peru (2012)	9.00	22.67
18	Tunisia (2011)	50.85	61.49	71	Iceland	8.40	22.11
19	Portugal	50.59	61.25	72	New Zealand	8.34	22.06
20	Slovenia	49.15	59.92	73	Kazakhstan (2012)	7.72	21.48
21	Ukraine (2012)	48.21	59.04	74	Chile	7.26	21.06
22	Sri Lanka (2012)	48.03	58.87	75	Australia (2012)	6.82	20.64
23	South Korea	47.48	58.36	76	Iran (2011)	6.80	20.63
24	Morocco (2012)	46.22	57.20	77	Paraguay	5.71	19.62
25	Hungary	46.20	57.18	78	Kyrgyzstan (2012)	5.34	19.28
26	Spain	45.90	56.90	79	Botswana (2012)	5.10	19.05
27	Mexico (2012)	45.71	56.72	80	Namibia (2012)	4.11	18.13
28	Panama (2011)	45.31	56.35	81	Mongolia (2007)	4.04	18.07
29	Sweden	42.38	53.63	82	Ecuador	4.01	18.04
30	France	42.31	53.57	83	Nicaragua (2012)	3.21	17.30
31	Croatia (2012)	42.08	53.35	84	Ghana (2012)	2.87	16.99
32	Albania (2012)	42.05	53.33	85	Saudi Arabia (2012)	2.68	16.81
33	Switzerland (2012)	39.90	51.33	86	Bolivia (2012)	2.60	16.74
34	Thailand (2012)	39.71	51.15	87	Qatar (2012)	2.47	16.62
35	United Kingdom (2012)	39.27	50.75	88	Venezuela (2011)	1.91	16.09
36	Vietnam (2012)	39.08	50.57	89	Azerbaijan (2012)	1.01	15.26
37	Estonia	38.25	49.81	90	Algeria	0.25	14.55
38	India (2012)	38.12	49.68	91	Yemen (2012)	-1.00	13.39
39	Belgium	36.99	48.64	92	United Arab Emirates (2011)	-12.89	2.37
40	Lithuania (2012)	36.91	48.56	93	Moldova (2012)	-15.44	0.00
41	United States	36.22	47.92				
42	Finland (2012)	35.64	47.38				
43	Denmark (2012)	34.73	46.53				
44	Guatemala	34.72	46.52				
45	Lebanon	33.25	45.17				
46	Egypt (2012)	32.26	44.25				
47	Costa Rica (2012)	32.15	44.15				
48	Bulgaria (2012)	31.15	43.21				
49	South Africa	31.06	43.13				
50	Canada	29.50	41.68				
51	Netherlands (2012)	29.34	41.54				
52	Madagascar (2012)	29.32	41.52				
53	Latvia	28.73	40.97				

Source: World Bank, World Integrated Trade Solutions database. (wits.worldbank.org; Lall, S. (2000), The Technological Structure and Performance of Developing Country Manufactured Exports, Oxford Development Studies, Vol. 28, No. 3, 1985–89)

PILLAR 6:

GLOBAL KNOWLEDGE

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	53	Slovakia	19.80	29.12
2	Russia (2008)	54.00	86.70	55	Chile (2011)	19.70	28.96
3	Kazakhstan (2004)	50.00	79.97	55	Uruguay (2011)	19.70	28.96
4	Canada (2008)	46.50	74.07	57	Tunisia (2011)	19.40	28.45
5	Israel (2008)	45.10	71.72	58	Egypt (2011)	19.20	28.11
6	Ireland	41.50	65.66	59	Iran (2008)	18.80	27.44
7	Japan (2008)	41.40	65.49	60	Turkey	18.30	26.60
8	Luxembourg	41.20	65.15	61	Italy	17.90	25.93
9	Belgium	39.80	62.79	62	Romania	17.60	25.42
10	Finland	38.20	60.10	63	Brazil (2011)	17.20	24.75
11	United Kingdom	38.10	59.93	64	Thailand	17.10	24.58
12	Norway	37.40	58.75	65	Sri Lanka (2008)	16.80	24.07
13	Estonia	37.20	58.42	66	United Arab Emirates (2005)	16.60	23.74
14	Lithuania	37.10	58.25	67	Paraguay (2011)	16.50	23.57
15	Panama (2011)	36.90	57.91	67	South Africa (2011)	16.50	23.57
16	New Zealand (2008)	36.20	56.73	69	Azerbaijan	16.30	23.23
17	South Korea (2007)	35.00	54.71	70	Algeria (2011)	15.20	21.38
18	Spain	34.80	54.38	71	Peru (2011)	15.10	21.21
19	Switzerland	34.30	53.54	72	Bolivia (2009)	14.50	20.20
20	Sweden	34.00	53.03	73	Nicaragua (2010)	12.90	17.51
21	Australia (2008)	33.80	52.69	74	El Salvador (2011)	11.80	15.66
22	France	33.70	52.53	75	Trinidad and Tobago (2008)	11.10	14.48
23	Netherlands	32.10	49.83	76	India (2010)	9.80	12.29
24	Denmark	31.60	48.99	77	Morocco	9.20	11.28
25	Latvia	31.10	48.15	78	Yemen (2010)	8.30	9.76
26	Iceland	31.00	47.98	79	Albania (2002)	7.90	9.09
27	Singapore	29.40	45.29	80	Indonesia (2008)	7.10	7.74
28	Greece	29.10	44.78	81	Namibia	6.70	7.07
28	Slovenia	29.10	44.78	82	Guatemala (2011)	6.30	6.40
30	Venezuela (2011)	28.30	43.43	83	Madagascar (2005)	3.40	1.52
31	Poland	28.20	43.27	84	Cambodia	2.80	0.51
32	Germany	28.10	43.10	85	Kyrgyzstan (2006)	2.50	0.00
33	Philippines (2008)	28.00	42.93	n/a	Bangladesh	n/a	n/a
34	Bulgaria	26.60	40.57	n/a	Botswana	n/a	n/a
35	Mongolia (2011)	26.20	39.90	n/a	China	n/a	n/a
36	Armenia (2011)	25.40	38.55	n/a	Ghana	n/a	n/a
37	Pakistan (2008)	25.10	38.05	n/a	Qatar	n/a	n/a
38	Moldova	24.80	37.54	n/a	Uganda	n/a	n/a
39	Hungary	24.50	37.04	n/a	Ukraine	n/a	n/a
40	Malaysia	24.40	36.87	n/a	Vietnam	n/a	n/a
41	Lebanon (2007)	24.20	36.53				
42	Costa Rica (2011)	23.30	35.02				
42	Mexico (2011)	23.30	35.02				
44	Colombia (2011)	22.60	33.84				
45	Croatia	21.60	32.15				
46	Macedonia	21.50	31.99				
47	Ecuador (2011)	20.80	30.81				
48	Saudi Arabia (2009)	20.70	30.64				
49	Argentina	20.60	30.47				
50	Dominican Republic (2011)	20.20	29.80				
51	Austria	20.00	29.46				
51	Czech Republic	20.00	29.46				
53	Portugal	19.80	29.12				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. (ilo.org/kilm)

6.1.2 Tertiary-educated population

Population with tertiary education (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Russia (2010)	60.10	100.00	54	Venezuela (2009)	15.90	26.45
2	Canada (2011)	47.67	79.32	55	Portugal (2012)	15.38	25.60
3	Israel (2012)	44.46	73.98	56	Lebanon (2007)	15.32	25.50
4	Australia (2012)	41.28	68.68	57	Sri Lanka (2009)	14.11	23.47
5	United States (2012)	40.66	67.66	58	Argentina (2003)	13.66	22.72
6	Singapore (2012)	39.56	65.82	59	Romania (2012)	13.25	22.05
7	Luxembourg (2012)	36.76	61.17	60	Turkey (2012)	12.92	21.49
8	Estonia (2012)	36.04	59.97	61	Italy (2012)	12.75	21.22
9	South Korea (2010)	35.32	58.77	62	Tunisia (2010)	12.48	20.77
10	Switzerland (2012)	34.82	57.93	63	Macedonia (2002)	12.23	20.35
11	New Zealand (2011)	34.76	57.83	64	Thailand (2010)	11.79	19.62
12	United Kingdom (2011)	33.06	55.01	65	Ecuador (2010)	11.55	19.22
13	Finland (2011)	32.59	54.23	66	Brazil (2011)	11.45	19.05
14	Norway (2011)	31.41	52.27	67	El Salvador (2012)	11.22	18.67
15	Denmark (2012)	31.13	51.79	68	Uruguay (2012)	10.88	18.11
16	Ireland (2011)	30.31	50.44	69	Dominican Republic (2012)	10.79	17.95
17	Japan (2010)	29.88	49.71	70	Paraguay (2008)	10.42	17.33
18	Belgium (2011)	29.81	49.59	71	Trinidad and Tobago (2009)	9.56	15.91
19	Sweden (2012)	29.42	48.94	72	Indonesia (2011)	7.88	13.11
20	Lithuania (2012)	29.33	48.81	73	Pakistan (2011)	7.37	12.26
21	Netherlands (2012)	29.02	48.28	74	Vietnam (2009)	6.70	11.14
22	Iceland (2005)	27.55	45.84	75	South Africa (2012)	6.36	10.58
23	Latvia (2012)	27.21	45.27	76	China (2010)	3.58	5.95
24	Spain (2012)	26.94	44.83	77	Ghana (2010)	3.13	5.21
25	France (2012)	25.95	43.17	78	Uganda (2010)	2.95	4.91
26	Bolivia (2012)	25.63	42.65	79	Albania (2011)	1.45	2.41
27	Germany (2012)	25.60	42.59	80	Guatemala (2012)	0.00	0.00
28	Kazakhstan (2007)	25.48	42.40	n/a	Armenia	n/a	n/a
29	Azerbaijan (2009)	25.06	41.69	n/a	Bangladesh	n/a	n/a
30	Philippines (2008)	24.20	40.27	n/a	Botswana	n/a	n/a
31	Mongolia (2010)	23.71	39.46	n/a	Algeria	n/a	n/a
32	Slovenia (2012)	23.67	39.38	n/a	Egypt	n/a	n/a
33	Peru (2012)	22.14	36.84	n/a	India	n/a	n/a
34	Poland (2012)	21.79	36.26	n/a	Cambodia	n/a	n/a
35	Bulgaria (2012)	21.51	35.79	n/a	Morocco	n/a	n/a
36	Panama (2010)	21.31	35.46	n/a	Madagascar	n/a	n/a
37	Hungary (2012)	21.01	34.96	n/a	Namibia	n/a	n/a
38	Saudi Arabia	20.98	34.91	n/a	Nicaragua	n/a	n/a
39	Costa Rica (2012)	20.90	34.77	n/a	Ukraine	n/a	n/a
40	Qatar (2012)	20.88	34.75	n/a	Yemen	n/a	n/a
41	Greece (2010)	20.03	33.33				
42	Iran (2012)	19.97	33.23				
43	Colombia (2011)	19.75	32.85				
44	Moldova (2012)	18.86	31.38				
45	Croatia (2011)	18.26	30.38				
46	Chile (2010)	18.01	29.97				
47	Austria (2012)	18.01	29.96				
48	United Arab Emirates (2005)	17.95	29.87				
49	Kyrgyzstan (2009)	17.89	29.76				
50	Czech Republic (2012)	17.34	28.85				
51	Slovakia (2012)	17.17	28.58				
52	Malaysia (2010)	16.37	27.24				
53	Mexico (2012)	16.30	27.13				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

6.1.3 Professionals

Professionals (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg (2011)	33.00	100.00	54	Chile (2002)	9.30	27.74
2	Sweden (2011)	25.20	76.22	54	Qatar (2009)	9.30	27.74
3	Denmark (2011)	24.90	75.30	56	Peru (2008)	9.00	26.83
4	United Kingdom (2011)	23.80	71.95	57	Namibia (2011)	8.80	26.22
5	Switzerland (2011)	22.90	69.21	58	Ecuador (2006)	8.40	25.00
5	Iceland (2011)	22.90	69.21	59	Iran (2008)	7.80	23.17
7	Netherlands (2011)	22.50	67.99	60	Turkey (2010)	7.10	21.04
8	Lithuania (2011)	22.10	66.77	61	Mexico (2008)	6.80	20.12
8	Norway (2011)	22.10	66.77	62	Bolivia (2007)	6.70	19.82
10	Ireland (2011)	21.70	65.55	62	Brazil (2007)	6.70	19.82
11	Finland (2011)	21.30	64.33	64	Dominican Republic (2007)	6.30	18.60
12	United States (2008)	21.10	63.72	64	Malaysia (2010)	6.30	18.60
13	Belgium (2011)	20.40	61.59	66	Paraguay (2008)	5.90	17.38
14	Estonia (2011)	19.50	58.84	67	Sri Lanka (2008)	5.80	17.07
14	Slovenia (2011)	19.50	58.84	68	China (2005)	5.70	16.77
16	Russia (2008)	18.50	55.79	68	South Africa (2011)	5.70	16.77
17	Australia (2008)	18.10	54.57	70	Botswana (2006)	5.00	14.63
18	Greece (2011)	17.70	53.35	71	Philippines	4.90	14.33
19	Canada (2008)	17.60	53.05	72	Thailand (2011)	4.80	14.02
20	Germany (2011)	17.30	52.13	73	Algeria (2004)	4.10	11.89
20	Poland (2011)	17.30	52.13	73	El Salvador (2010)	4.10	11.89
22	New Zealand (2008)	16.80	50.61	75	Argentina (2006)	4.00	11.59
23	France (2011)	16.70	50.30	76	Indonesia (2008)	3.80	10.98
24	Latvia (2011)	16.60	50.00	76	India (2010)	3.80	10.98
25	Spain (2011)	16.00	48.17	78	Nicaragua (2006)	3.50	10.06
26	Hungary (2011)	15.80	47.56	78	Vietnam (2004)	3.50	10.06
26	Israel (2008)	15.80	47.56	80	Trinidad and Tobago (2005)	3.30	9.45
28	Bulgaria (2011)	15.40	46.34	81	Ghana (2006)	2.80	7.93
29	Armenia (2008)	15.10	45.43	82	Uganda (2009)	2.30	6.40
29	Azerbaijan (2008)	15.10	45.43	83	Morocco (2011)	1.80	4.88
31	Moldova	14.70	44.21	84	Cambodia (2008)	1.70	4.57
32	Portugal (2011)	14.20	42.68	85	Madagascar (2005)	1.50	3.96
33	United Arab Emirates (2008)	14.10	42.38	85	Pakistan (2008)	1.50	3.96
33	Austria (2011)	14.10	42.38	87	Bangladesh (2003)	0.20	0.00
35	Romania (2011)	14.00	42.07	n/a	Albania	n/a	n/a
36	Singapore (2011)	13.70	41.16	n/a	Colombia	n/a	n/a
37	Yemen (2010)	13.50	40.55	n/a	Guatemala	n/a	n/a
38	Croatia (2011)	13.40	40.24	n/a	Japan	n/a	n/a
39	Italy (2011)	13.20	39.63	n/a	Tunisia	n/a	n/a
40	Egypt (2007)	13.00	39.02	n/a	Venezuela	n/a	n/a
40	Ukraine (2008)	13.00	39.02				
42	Macedonia (2011)	12.90	38.72				
43	Kazakhstan (2008)	12.80	38.41				
44	Czech Republic (2011)	12.70	38.11				
45	Slovakia (2011)	11.60	34.76				
46	Mongolia (2008)	11.50	34.45				
47	Costa Rica (2011)	10.30	30.79				
47	Lebanon (2007)	10.30	30.79				
49	Saudi Arabia	10.20	30.49				
50	Panama (2011)	9.80	29.27				
51	Kyrgyzstan (2006)	9.40	28.05				
51	South Korea (2008)	9.40	28.05				
51	Uruguay (2007)	9.40	28.05				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. (ilo.org/kilm)

6.1.4 Researchers

Full-time equivalent researchers (per million population) | 2011

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Iceland (2009)	9117.79	100.00	54	Mexico	386.43	4.05
2	Finland	7422.90	81.38	55	Thailand (2009)	331.94	3.46
3	Denmark	6722.64	73.68	56	Chile (2010)	317.19	3.29
4	Singapore (2010)	6306.51	69.11	57	Venezuela (2009)	182.24	1.81
5	Norway	5504.32	60.29	58	Algeria (2005)	164.69	1.62
6	South Korea (2010)	5450.91	59.71	59	Bolivia (2010)	162.06	1.59
7	Sweden	5191.36	56.85	60	Colombia (2010)	154.17	1.50
8	Japan (2010)	5151.29	56.41	61	Pakistan	148.85	1.44
9	Luxembourg	5105.08	55.91	62	Albania (2008)	147.94	1.43
10	United States (2007)	4650.10	50.91	63	India (2005)	137.36	1.32
11	Portugal	4463.38	48.85	64	Vietnam (2002)	113.00	1.05
12	Austria	4397.50	48.13	65	Panama (2010)	111.47	1.03
13	Canada (2010)	4367.90	47.81	66	Sri Lanka (2010)	103.09	0.94
14	Australia (2008)	4280.36	46.84	67	Ecuador (2008)	102.77	0.94
15	Slovenia	4255.19	46.57	68	Indonesia (2009)	89.58	0.79
16	United Kingdom	4201.75	45.98	69	Philippines (2007)	78.28	0.67
17	Germany (2010)	3950.41	43.22	70	Madagascar	51.02	0.37
18	New Zealand (2009)	3839.98	42.00	71	Paraguay	48.23	0.34
19	France (2010)	3789.49	41.45	72	Guatemala (2010)	25.31	0.09
20	Belgium	3679.42	40.24	73	Cambodia (2002)	17.54	0.00
21	Estonia	3427.58	37.47	74	Ghana (2007)	17.42	0.00
22	Ireland	3418.11	37.37	n/a	United Arab Emirates	n/a	n/a
23	Switzerland (2008)	3285.18	35.91	n/a	Armenia	n/a	n/a
24	Netherlands	3218.07	35.17	n/a	Azerbaijan	n/a	n/a
25	Russia	3120.36	34.10	n/a	Bangladesh	n/a	n/a
26	Czech Republic	2891.48	31.58	n/a	Botswana	n/a	n/a
27	Slovakia	2817.13	30.76	n/a	Dominican Republic	n/a	n/a
28	Spain	2799.90	30.58	n/a	Israel	n/a	n/a
29	Lithuania	2756.26	30.10	n/a	Kyrgyzstan	n/a	n/a
30	Hungary	2302.77	25.11	n/a	Lebanon	n/a	n/a
31	Latvia	1903.65	20.73	n/a	Mongolia	n/a	n/a
32	Greece (2007)	1898.76	20.67	n/a	Namibia	n/a	n/a
33	Tunisia (2008)	1836.70	19.99	n/a	Nicaragua	n/a	n/a
34	Italy	1759.42	19.14	n/a	Peru	n/a	n/a
35	Poland	1678.67	18.25	n/a	Qatar	n/a	n/a
36	Malaysia	1642.69	17.86	n/a	Saudi Arabia	n/a	n/a
37	Bulgaria	1623.05	17.64	n/a	El Salvador	n/a	n/a
38	Croatia	1583.55	17.21	n/a	Trinidad and Tobago	n/a	n/a
39	Costa Rica	1289.03	13.97	n/a	Uganda	n/a	n/a
40	Ukraine	1252.91	13.58	n/a	Yemen	n/a	n/a
41	Argentina (2010)	1178.47	12.76				
42	China	963.20	10.39				
43	Turkey (2010)	891.92	9.61				
44	Morocco	864.46	9.31				
45	Moldova	780.99	8.39				
46	Iran (2008)	746.87	8.02				
47	Romania	737.31	7.91				
48	Brazil (2010)	710.28	7.61				
49	Kazakhstan	651.82	6.97				
50	Uruguay	532.29	5.66				
51	Egypt	523.58	5.56				
52	Macedonia (2008)	461.22	4.88				
53	South Africa (2009)	388.94	4.08				

Source: UNESCO Institute for Statistics, UIS online database.
(stats.uis.unesco.org)

6.1.5 Legislators, senior officials and managers

Legislators, senior officials and managers (%) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Singapore (2011)	17.80	100.00	54	Greece (2011)	4.20	23.16
2	United States (2008)	15.20	85.31	54	Luxembourg (2011)	4.20	23.16
3	Philippines	13.80	77.40	54	Mongolia (2008)	4.20	23.16
4	New Zealand (2008)	13.70	76.84	57	Namibia (2011)	4.00	22.03
5	Pakistan (2008)	12.70	71.19	58	Bangladesh (2003)	3.90	21.47
6	Lebanon (2007)	11.90	66.67	58	Italy (2011)	3.90	21.47
7	Australia (2008)	11.10	62.15	60	Saudi Arabia	3.60	19.77
8	United Kingdom (2011)	10.20	57.06	61	Paraguay (2008)	3.30	18.08
9	Latvia (2011)	10.00	55.93	62	Qatar (2009)	3.10	16.95
10	Canada (2008)	9.30	51.98	63	Dominican Republic (2007)	3.00	16.38
11	Lithuania (2011)	9.10	50.85	63	Ecuador (2006)	3.00	16.38
12	Estonia (2011)	9.00	50.28	65	Costa Rica (2011)	2.80	15.25
12	Iceland (2011)	9.00	50.28	66	Denmark (2011)	2.70	14.69
14	South Africa (2011)	8.50	47.46	67	Nicaragua (2006)	2.60	14.12
15	Sri Lanka (2008)	8.30	46.33	67	Thailand (2011)	2.60	14.12
15	Slovenia (2011)	8.30	46.33	67	Yemen (2010)	2.60	14.12
15	Turkey (2010)	8.30	46.33	70	Iran (2008)	2.40	12.99
18	Egypt (2007)	8.20	45.76	71	Kyrgyzstan (2006)	2.30	12.43
19	Trinidad and Tobago (2005)	8.00	44.63	71	South Korea (2008)	2.30	12.43
20	Moldova	7.90	44.07	73	Romania (2011)	2.10	11.30
21	Switzerland (2011)	7.80	43.50	74	Mexico (2008)	2.00	10.73
21	Israel (2008)	7.80	43.50	75	Bolivia (2007)	1.90	10.17
23	United Arab Emirates (2008)	7.50	41.81	76	China (2005)	1.70	9.04
23	Ireland (2011)	7.50	41.81	76	Indonesia (2008)	1.70	9.04
23	Malaysia (2010)	7.50	41.81	78	Azerbaijan (2008)	1.20	6.21
23	Ukraine (2008)	7.50	41.81	79	El Salvador (2010)	1.00	5.08
27	France (2011)	7.40	41.24	80	Morocco (2011)	0.70	3.39
28	Netherlands (2011)	7.30	40.68	80	Peru (2008)	0.70	3.39
29	Belgium (2011)	7.20	40.11	80	Vietnam (2004)	0.70	3.39
30	Russia (2008)	7.00	38.98	83	Cambodia (2008)	0.60	2.82
31	Norway (2011)	6.50	36.16	84	Ghana (2006)	0.40	1.69
32	Bulgaria (2011)	6.40	35.59	85	Argentina (2006)	0.20	0.56
32	Kazakhstan (2008)	6.40	35.59	85	Madagascar (2005)	0.20	0.56
34	Portugal (2011)	6.20	34.46	87	Uganda (2003)	0.10	0.00
35	Poland (2011)	6.10	33.90	n/a	Albania	n/a	n/a
36	Algeria (2004)	5.90	32.77	n/a	Colombia	n/a	n/a
36	Uruguay (2007)	5.90	32.77	n/a	Guatemala	n/a	n/a
38	Macedonia (2011)	5.80	32.20	n/a	Japan	n/a	n/a
38	Panama (2011)	5.80	32.20	n/a	Tunisia	n/a	n/a
40	Chile (2002)	5.70	31.64	n/a	Venezuela	n/a	n/a
40	Hungary (2011)	5.70	31.64				
42	Botswana (2006)	5.60	31.07				
42	India (2010)	5.60	31.07				
44	Sweden (2011)	5.50	30.51				
45	Slovakia (2011)	5.30	29.38				
46	Finland (2011)	5.20	28.81				
47	Austria (2011)	5.00	27.68				
47	Spain (2011)	5.00	27.68				
49	Brazil (2007)	4.90	27.12				
49	Germany (2011)	4.90	27.12				
51	Czech Republic (2011)	4.70	25.99				
52	Armenia (2008)	4.50	24.86				
53	Croatia (2011)	4.30	23.73				

Source: International Labour Organization, Key Indicators of the Labour Market, 8th edition. (ilo.org/kilm)

6.1.6 Quality of scientific research institutions

Average answer to the question: How would you assess the quality of scientific research institutions in your country? [1 = very poor; 7 = the best in their field internationally] | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Israel	6.35	89.20	54	Russia	3.70	45.08
2	Switzerland	6.28	87.95	55	Bulgaria	3.61	43.52
3	United Kingdom	6.24	87.36	56	Ukraine	3.61	43.45
4	Belgium	6.00	83.30	57	Slovakia	3.60	43.39
5	United States	5.95	82.58	58	Greece	3.60	43.30
6	Germany	5.78	79.67	59	Uruguay	3.59	43.22
7	Netherlands	5.76	79.28	60	Pakistan	3.57	42.77
8	Australia	5.74	79.02	61	Uganda	3.55	42.58
9	Japan	5.69	78.21	62	Azerbaijan	3.55	42.53
10	Finland	5.69	78.17	63	Namibia	3.48	41.39
11	Singapore	5.62	77.01	64	Ecuador	3.44	40.69
12	Qatar	5.59	76.53	65	Macedonia	3.43	40.57
13	France	5.59	76.51	66	Vietnam	3.40	40.00
14	Ireland	5.58	76.32	67	Philippines	3.40	39.94
15	Sweden	5.48	74.68	68	Tunisia	3.35	39.11
16	Canada	5.47	74.44	69	Colombia	3.33	38.80
17	Denmark	5.35	72.46	70	Bolivia	3.32	38.60
18	New Zealand	5.29	71.55	71	Botswana	3.31	38.57
19	Portugal	5.18	69.69	72	Mongolia	3.29	38.18
20	Hungary	5.16	69.32	73	Trinidad and Tobago	3.27	37.86
21	Norway	5.10	68.41	74	Cambodia	3.23	37.18
22	Austria	5.04	67.34	75	Kazakhstan	3.21	36.90
23	South Korea	4.95	65.81	76	Morocco	3.21	36.78
24	Estonia	4.93	65.56	77	Madagascar	3.16	36.06
25	Czech Republic	4.88	64.70	78	Armenia	3.14	35.73
26	Malaysia	4.88	64.65	79	Guatemala	3.14	35.66
27	Iceland	4.88	64.62	80	Nicaragua	3.06	34.29
28	Slovenia	4.87	64.45	81	El Salvador	2.95	32.53
29	Luxembourg	4.86	64.34	82	Peru	2.87	31.09
30	Lithuania	4.85	64.10	83	Albania	2.82	30.38
31	Costa Rica	4.80	63.29	84	Venezuela	2.74	28.92
32	United Arab Emirates	4.78	63.05	85	Dominican Republic	2.68	28.05
33	South Africa	4.77	62.91	86	Egypt	2.67	27.81
34	Spain	4.57	59.46	87	Lebanon	2.65	27.44
35	India	4.49	58.14	88	Bangladesh	2.65	27.42
36	Saudi Arabia	4.45	57.58	89	Moldova	2.59	26.53
37	Italy	4.43	57.08	90	Algeria	2.51	25.23
38	China	4.30	55.06	91	Kyrgyzstan	2.33	22.14
39	Brazil	4.26	54.30	92	Paraguay	2.04	17.40
40	Iran	4.24	54.02	93	Yemen	1.96	16.05
41	Panama	4.23	53.86				
42	Indonesia	4.13	52.20				
43	Chile	4.13	52.18				
44	Argentina	4.05	50.77				
45	Croatia	4.03	50.50				
46	Sri Lanka	4.00	50.07				
47	Mexico	4.00	49.97				
48	Poland	4.00	49.94				
49	Latvia	3.90	48.28				
50	Thailand	3.84	47.30				
51	Ghana	3.79	46.44				
52	Turkey	3.75	45.79				
53	Romania	3.74	45.63				

Source: World Economic Forum, Executive Opinion Survey 2012–2013. (wefsurvey.org)

6.1.7 Scientific and technical 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	54	Lebanon	4099.49	13.73
2	Switzerland	28335.71	96.90	55	Thailand	3829.27	12.81
3	New Zealand	27454.83	93.87	56	Uganda	3274.55	10.90
4	Israel	25722.39	87.93	57	Mexico (2009)	2812.32	9.32
5	Finland	25088.99	85.76	58	Pakistan	2596.18	8.57
6	Sweden	24831.64	84.87	59	Morocco	2361.97	7.77
7	Australia	22375.86	76.45	60	Trinidad and Tobago	2304.66	7.57
8	Canada (2009)	22132.40	75.61	61	Algeria	2292.17	7.53
9	Netherlands	22131.86	75.61	62	Costa Rica	1933.28	6.30
10	Slovenia	21257.65	72.61	63	Mongolia	1865.78	6.07
11	Iceland	20827.29	71.13	64	Saudi Arabia	1787.80	5.80
12	United Kingdom	20090.25	68.60	65	Botswana	1665.16	5.38
13	Estonia	18573.91	63.40	66	Ghana	1600.67	5.16
14	Portugal	18475.97	63.06	67	Azerbaijan	1598.00	5.15
15	Belgium	18088.15	61.73	68	Madagascar	1584.53	5.10
16	Norway	18070.78	61.67	69	Colombia	1529.64	4.91
17	Ireland	17031.38	58.11	70	Vietnam	1438.43	4.60
18	South Korea	16467.65	56.17	71	Panama	1320.33	4.20
19	Croatia	16399.62	55.94	72	Kyrgyzstan	1306.59	4.15
20	Spain	16297.10	55.59	73	United Arab Emirates	1261.12	3.99
21	Greece	15604.75	53.21	74	Sri Lanka	1117.53	3.50
22	United States (2009)	14928.15	50.89	75	Albania	1062.32	3.31
23	Germany	14855.44	50.64	76	Bangladesh	1025.86	3.19
24	Austria	14581.07	49.70	77	Cambodia	961.00	2.96
25	Czech Republic	14454.86	49.27	78	Bolivia	909.67	2.79
26	Italy	14369.74	48.97	79	Namibia	821.74	2.49
27	Singapore	14349.11	48.90	80	Venezuela	807.53	2.44
28	France	14312.85	48.78	81	Nicaragua	686.72	2.02
29	Hungary	11713.99	39.86	82	Qatar	642.46	1.87
30	Japan	10567.60	35.93	83	Philippines	616.95	1.78
31	Armenia	10249.86	34.84	84	Yemen	574.47	1.64
32	Tunisia	10165.27	34.55	85	Peru	535.50	1.50
33	Poland	9809.78	33.33	86	Ecuador	419.07	1.10
34	Slovakia	8651.90	29.35	87	Kazakhstan	403.17	1.05
35	Iran	8172.23	27.71	88	Guatemala	295.82	0.68
36	China	7951.20	26.95	89	Indonesia	239.85	0.49
37	Turkey	7743.96	26.24	90	Paraguay	226.36	0.44
38	Lithuania	7420.39	25.13	91	El Salvador	191.97	0.32
39	Chile	6628.98	22.41	92	Dominican Republic	97.45	0.00
40	Bulgaria	6425.51	21.71	n/a	Macedonia	n/a	n/a
41	Moldova	6328.38	21.38				
42	Romania	6072.93	20.50				
43	Russia	5926.01	20.00				
44	Latvia	5867.60	19.80				
45	Brazil	5731.07	19.33				
46	Uruguay	5704.52	19.24				
47	South Africa	5600.28	18.88				
48	Argentina	5391.58	18.17				
49	Ukraine	5252.40	17.69				
50	India	5079.60	17.10				
51	Luxembourg	4925.55	16.57				
52	Egypt	4845.96	16.29				
53	Malaysia	4512.08	15.15				

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; imf.org/external/pubs/ft/weo/2013/01/weodata/index.aspx)

6.2.1 Innovation output

Innovation output sub-index | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Switzerland	66.65	100.00	54	Poland	32.42	34.22
2	Netherlands	58.09	83.55	55	Colombia	32.26	33.92
3	Sweden	54.86	77.34	56	Macedonia	31.86	33.15
4	United Kingdom	54.30	76.27	57	Ecuador	31.83	33.09
5	Luxembourg	53.20	74.15	58	Brazil	31.81	33.05
6	Iceland	53.14	74.04	59	Dominican Republic	31.58	32.61
7	Finland	52.35	72.52	60	Peru	31.39	32.24
8	Israel	52.14	72.12	61	South Africa	31.26	31.99
9	Germany	51.88	71.62	62	Russia	30.62	30.76
10	Ireland	51.73	71.33	63	Uganda	30.45	30.44
11	United States	51.42	70.73	64	Sri Lanka	30.29	30.13
12	Canada	50.45	68.87	65	Philippines	30.03	29.63
13	Denmark	50.35	68.68	66	United Arab Emirates	29.76	29.11
14	Norway	47.88	63.93	67	Greece	29.72	29.04
15	France	46.64	61.55	68	Bolivia	28.47	26.63
16	Singapore	46.56	61.40	69	Trinidad and Tobago	28.35	26.40
17	New Zealand	46.15	60.61	70	Lebanon	28.23	26.17
18	Estonia	45.52	59.40	71	Guatemala	27.68	25.12
19	Belgium	45.48	59.32	72	Venezuela	27.55	24.87
20	Hungary	45.37	59.11	73	Mongolia	27.49	24.75
21	South Korea	44.53	57.49	74	Paraguay	27.35	24.48
22	China	44.12	56.71	75	Ghana	27.26	24.31
23	Czech Republic	43.28	55.09	76	El Salvador	27.01	23.83
24	Austria	43.18	54.90	77	Morocco	26.45	22.75
25	Moldova	42.59	53.77	78	Cambodia	26.13	22.14
26	Italy	42.37	53.34	79	Kazakhstan	24.73	19.45
27	Malaysia	42.13	52.88	80	Panama	24.03	18.10
28	Costa Rica	42.00	52.63	81	Egypt	23.15	16.41
29	Australia	41.99	52.61	82	Pakistan	22.99	16.10
30	Japan	41.64	51.94	83	Azerbaijan	22.91	15.95
31	Slovenia	41.41	51.50	84	Albania	22.66	15.47
32	Spain	40.97	50.65	85	Bangladesh	22.45	15.07
33	Latvia	39.37	47.58	86	Iran	22.20	14.58
34	Bulgaria	38.71	46.31	87	Botswana	21.11	12.49
35	Portugal	38.10	45.14	88	Nicaragua	20.72	11.74
36	Romania	37.84	44.64	89	Kyrgyzstan	19.38	9.17
37	Croatia	37.77	44.50	90	Namibia	18.50	7.48
38	India	36.56	42.18	91	Madagascar	17.06	4.71
39	Argentina	36.55	42.16	92	Yemen	14.79	0.35
40	Saudi Arabia	36.52	42.10	93	Algeria	14.61	0.00
41	Slovakia	36.17	41.43				
42	Uruguay	34.95	39.09				
43	Armenia	34.78	38.76				
44	Chile	34.43	38.09				
45	Qatar	34.17	37.59				
46	Turkey	34.07	37.39				
47	Vietnam	34.04	37.34				
48	Lithuania	33.84	36.95				
49	Ukraine	33.65	36.59				
50	Tunisia	33.51	36.32				
51	Mexico	32.90	35.15				
52	Thailand	32.58	34.53				
53	Indonesia	32.57	34.51				

Source: INSEAD, Cornell University and World Intellectual Property Organization, The Global Innovation Index 2013. (globalinnovationindex.org)

6.2.2 New product entrepreneurial activity

New product entrepreneurial activity (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Chile	85.00	100.00	54	Germany (2011)	34.00	31.08
2	Colombia	83.00	97.30	54	Spain	34.00	31.08
3	Saudi Arabia (2009)	72.00	82.43	54	Mexico	34.00	31.08
4	South Africa	68.00	77.03	57	Botswana	33.00	29.73
5	Yemen (2009)	66.00	74.32	57	Malaysia	33.00	29.73
6	Poland	65.00	72.97	59	Algeria	32.00	28.38
7	Guatemala	63.00	70.27	60	Croatia	30.00	25.68
7	Luxembourg	63.00	70.27	60	Uruguay (2011)	30.00	25.68
9	Italy	62.00	68.92	60	Venezuela (2011)	30.00	25.68
9	Namibia (2012)	62.00	68.92	63	Russia	29.00	24.32
11	Denmark (2012)	61.00	67.57	64	Egypt (2012)	28.00	22.97
12	China (2011)	60.00	66.22	65	Costa Rica (2012)	27.00	21.62
12	Turkey (2012)	60.00	66.22	65	Hungary	27.00	21.62
14	Thailand	59.00	64.86	65	Iran	27.00	21.62
15	United Arab Emirates (2011)	57.00	62.16	68	Macedonia	26.00	20.27
15	Israel	57.00	62.16	68	Norway	26.00	20.27
17	El Salvador (2012)	56.00	60.81	70	Argentina	25.00	18.92
18	Japan	55.00	59.46	71	Panama	24.00	17.57
18	Philippines	55.00	59.46	72	Indonesia	23.00	16.22
20	Czech Republic	52.00	55.41	73	Ghana	22.00	14.86
20	Latvia	52.00	55.41	74	Morocco (2009)	17.00	8.11
20	Tunisia (2012)	52.00	55.41	74	Trinidad and Tobago	17.00	8.11
23	Slovakia	51.00	54.05	76	Uganda	15.00	5.41
23	Vietnam	51.00	54.05	77	Kazakhstan (2007)	12.00	1.35
25	Iceland (2010)	50.00	52.70	78	Bangladesh (2011)	11.00	0.00
25	South Korea	50.00	52.70	78	Brazil (2011)	11.00	0.00
27	Estonia	49.00	51.35	n/a	Albania	n/a	n/a
27	Ireland (2011)	49.00	51.35	n/a	Armenia	n/a	n/a
29	Austria (2012)	48.00	50.00	n/a	Azerbaijan	n/a	n/a
29	Canada	48.00	50.00	n/a	Bulgaria	n/a	n/a
29	Greece	48.00	50.00	n/a	Kyrgyzstan	n/a	n/a
29	Slovenia	48.00	50.00	n/a	Cambodia	n/a	n/a
33	Romania	47.00	48.65	n/a	Sri Lanka	n/a	n/a
34	Finland	46.00	47.30	n/a	Moldova	n/a	n/a
34	Portugal	46.00	47.30	n/a	Madagascar	n/a	n/a
34	Sweden	46.00	47.30	n/a	Mongolia	n/a	n/a
37	Switzerland	45.00	45.95	n/a	Nicaragua	n/a	n/a
37	Ecuador	45.00	45.95	n/a	Paraguay	n/a	n/a
37	United States	45.00	45.95	n/a	Qatar	n/a	n/a
40	Netherlands	44.00	44.59	n/a	Ukraine	n/a	n/a
41	United Kingdom	43.00	43.24				
41	Lithuania	43.00	43.24				
41	Pakistan (2011)	43.00	43.24				
44	Australia (2011)	41.00	40.54				
45	Singapore (2011)	40.00	39.19				
46	Dominican Republic (2009)	39.00	37.84				
47	Belgium	38.00	36.49				
47	India	38.00	36.49				
47	New Zealand (2005)	38.00	36.49				
50	France	37.00	35.14				
50	Lebanon (2009)	37.00	35.14				
52	Bolivia (2010)	36.00	33.78				
52	Peru	36.00	33.78				

Source: Global Entrepreneurship Research Association, Global Entrepreneurship Monitor database. (gemconsortium.org/data)

6.2.3 New business density

New corporate registrations (per 1,000 working-age population) | 2012

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Luxembourg	20.98	100.00	54	Kyrgyzstan	0.92	4.20
2	New Zealand	15.07	71.78	54	Ukraine	0.92	4.20
3	Panama	14.10	67.14	56	Albania	0.88	4.01
4	Botswana	12.30	58.55	56	Mexico	0.88	4.01
5	Australia	12.16	57.88	58	Thailand	0.86	3.92
6	Latvia	11.63	55.35	59	Namibia	0.85	3.87
7	United Kingdom	11.04	52.53	60	Turkey	0.79	3.58
8	Bulgaria	9.03	42.93	61	Azerbaijan	0.70	3.15
9	Iceland	8.17	38.83	62	Bolivia	0.56	2.48
10	Singapore	8.04	38.20	63	Algeria	0.53	2.34
11	Estonia (2007)	7.92	37.63	63	Poland (2009)	0.53	2.34
12	Norway	7.83	37.20	65	Guatemala	0.52	2.29
13	South Africa	6.54	31.04	66	Sri Lanka	0.51	2.24
14	Sweden	6.41	30.42	67	Austria	0.50	2.20
15	Chile	5.69	26.98	68	El Salvador	0.48	2.10
16	Slovakia	5.11	24.21	69	Argentina	0.47	2.05
17	Hungary	4.75	22.49	70	Indonesia	0.29	1.19
18	Lithuania	4.71	22.30	71	Philippines	0.27	1.10
19	Ireland	4.50	21.30	72	India	0.12	0.38
20	Netherlands	4.44	21.01	72	Japan	0.12	0.38
21	Denmark	4.36	20.63	74	Bangladesh	0.09	0.24
21	Slovenia	4.36	20.63	75	Madagascar	0.05	0.05
23	Russia	4.30	20.34	76	Pakistan	0.04	0.00
24	Romania	4.12	19.48	n/a	China	n/a	n/a
25	Peru	3.83	18.10	n/a	Ecuador	n/a	n/a
26	Portugal (2010)	3.62	17.10	n/a	Egypt	n/a	n/a
27	Macedonia	3.60	17.00	n/a	Ghana	n/a	n/a
28	Costa Rica	3.55	16.76	n/a	Greece	n/a	n/a
29	Uruguay	2.98	14.04	n/a	Iran	n/a	n/a
30	Czech Republic	2.96	13.94	n/a	Cambodia	n/a	n/a
30	Israel	2.96	13.94	n/a	Lebanon	n/a	n/a
32	France	2.88	13.56	n/a	Mongolia	n/a	n/a
33	Croatia	2.82	13.28	n/a	Nicaragua	n/a	n/a
34	Spain	2.71	12.75	n/a	Paraguay	n/a	n/a
35	Switzerland	2.53	11.89	n/a	Saudi Arabia	n/a	n/a
36	Belgium	2.48	11.65	n/a	Trinidad and Tobago	n/a	n/a
37	Finland	2.32	10.89	n/a	United States	n/a	n/a
38	Malaysia	2.28	10.70	n/a	Venezuela	n/a	n/a
39	Brazil	2.17	10.17	n/a	Vietnam	n/a	n/a
40	South Korea	2.03	9.50	n/a	Yemen	n/a	n/a
41	Colombia	2.00	9.36				
42	Italy	1.91	8.93				
43	Qatar	1.74	8.12				
44	Kazakhstan	1.71	7.98				
45	Moldova (2009)	1.63	7.59				
46	Armenia	1.55	7.21				
47	Tunisia (2011)	1.52	7.07				
48	United Arab Emirates	1.38	6.40				
49	Germany	1.29	5.97				
50	Morocco (2009)	1.26	5.83				
51	Uganda	1.17	5.40				
52	Canada	1.07	4.92				
53	Dominican Republic	1.05	4.82				

Source: World Bank, Doing Business. (doingbusiness.org/data/exploretopics/entrepreneurship)

6.2.4 Sophisticated exports

High technology manufactures (%) | 2013

RANK	COUNTRY	VALUE	SCORE	RANK	COUNTRY	VALUE	SCORE
1	Philippines	43.56	100.00	54	South Africa	2.99	17.96
2	Singapore (2012)	36.17	85.05	55	Norway (2012)	2.88	17.74
3	China (2012)	32.83	78.29	56	Australia (2012)	2.28	16.54
4	Panama (2011)	31.37	75.35	57	Kyrgyzstan (2012)	2.23	16.42
5	Malaysia	31.17	74.94	58	Albania (2012)	1.95	15.87
6	South Korea	28.25	69.04	59	Argentina (2012)	1.95	15.87
7	Mexico (2012)	22.09	56.58	60	New Zealand	1.64	15.23
8	Hungary	22.02	56.44	61	Russia (2012)	1.59	15.13
9	Vietnam (2012)	22.02	56.44	62	Iceland	1.49	14.92
10	Costa Rica (2012)	21.93	56.25	63	Botswana (2012)	1.41	14.77
11	Israel (2012)	20.94	54.26	64	Bolivia (2012)	1.03	14.00
12	Slovakia	20.05	52.46	65	Bangladesh (2007)	0.98	13.91
13	France	19.57	51.49	66	Kazakhstan (2012)	0.86	13.67
14	Switzerland (2012)	19.17	50.68	67	Uruguay	0.83	13.61
15	Czech Republic	19.13	50.60	68	Guatemala	0.79	13.53
16	Thailand (2012)	18.42	49.16	69	Colombia	0.72	13.38
17	Japan	18.35	49.03	70	Sri Lanka (2012)	0.69	13.31
18	Ireland	17.13	46.56	71	Chile	0.64	13.21
19	Estonia	15.87	44.01	72	Macedonia (2012)	0.63	13.20
20	Germany (2012)	15.59	43.44	73	Ecuador	0.50	12.93
21	Netherlands (2012)	14.80	41.85	74	Egypt (2012)	0.48	12.88
22	Denmark (2012)	13.55	39.32	75	Mongolia (2007)	0.46	12.86
23	Sweden	13.36	38.94	76	Cambodia (2012)	0.44	12.80
24	Austria (2012)	12.53	37.25	77	Nicaragua (2012)	0.42	12.76
25	Tunisia (2011)	12.19	36.57	78	Ghana (2012)	0.36	12.65
26	Finland (2012)	11.86	35.89	79	Peru (2012)	0.28	12.49
27	United Kingdom (2012)	11.29	34.74	80	Paraguay	0.25	12.42
28	Poland (2012)	10.69	33.54	81	Azerbaijan (2012)	0.24	12.40
29	Slovenia	10.23	32.61	82	Iran (2011)	0.13	12.18
30	Latvia	9.85	31.83	83	Pakistan (2012)	0.06	12.05
31	Uganda (2012)	8.47	29.04	84	Venezuela (2011)	0.06	12.04
32	Belgium	7.92	27.94	85	Algeria	0.01	11.95
33	Spain	7.69	27.46	86	Namibia (2012)	-0.04	11.83
34	Croatia (2012)	7.48	27.04	87	Qatar (2012)	-0.08	11.76
35	Romania	7.29	26.66	88	Trinidad and Tobago (2010)	-0.11	11.70
36	United States	7.17	26.43	89	Madagascar (2012)	-0.21	11.50
37	Canada	6.59	25.24	90	Saudi Arabia (2012)	-0.28	11.35
38	Luxembourg	6.57	25.21	91	Yemen (2012)	-0.41	11.09
39	Italy (2012)	6.57	25.20	92	Armenia	-1.19	9.51
40	Bulgaria (2012)	5.71	23.46	93	United Arab Emirates (2011)	-5.90	0.00
41	Lebanon	5.34	22.71				
42	Portugal	5.07	22.17				
43	Morocco (2012)	5.00	22.04				
44	Indonesia	4.88	21.78				
45	Ukraine (2012)	4.77	21.56				
46	Dominican Republic (2012)	4.70	21.42				
47	India (2012)	4.62	21.26				
48	Lithuania (2012)	4.45	20.91				
49	El Salvador	4.07	20.15				
50	Moldova (2012)	3.95	19.90				
51	Brazil	3.89	19.79				
52	Turkey	3.68	19.36				
53	Greece (2012)	3.18	18.35				

Source: World Bank, World Integrated Trade Solutions database. (wits.worldbank.org; Lall, S. (2000), The Technological Structure and Performance of Developing Country Manufactured Exports, Oxford Development Studies, Vol. 28, No. 3, 1985–89)

APPENDIX IV

ABOUT THE CONTRIBUTORS
AND PARTNERS

ABOUT THE CONTRIBUTORS

Paul Brennan

Paul Brennan is the Vice-President, International Partnerships, at Colleges and Institutes Canada (CICan, formerly ACCC). CICan champions the innovations, applied research, international development, and the employment or entrepreneurial opportunities that are created by its member institutions and partners – across Canada and internationally. Mr Brennan is responsible for the development and administration of all of CICan's international partnership programmes, such as the Education for Employment programmes in Africa, Latin America and the Caribbean, and the Asian Development Bank-funded projects to help countries in Asia design and reform networks of colleges into responsive institutions, preparing learners for the jobs of tomorrow. He also leads CICan's initiatives to support colleges and students to internationalise.

Brennan has Bachelor's and Master's degrees specialising in modern Asian and African History and Management, focusing on Leadership of National Not-for-profit Associations. He has studied, lived and worked in China, Indonesia and Zimbabwe during his career.

Patrick De Maeseneire

Patrick De Maeseneire joined the Adecco Group as CEO in June 2009. He trained as a commercial engineer at the Solvay Brussels School of Economics and Management, Belgium, and studied marketing management at Ghent University. Mr De Maeseneire also completed studies in Business Management at the London Business School and INSEAD, Fontainebleau, France. From 1980 to 1997, he held executive positions at Sun International and Apple Computer, as well as senior positions at Wang in Belgium and Arthur Andersen Consulting. He held leading positions within the Adecco Group between 1998 and 2002, starting as country manager for the Benelux region before leading the Adecco Group's worldwide professional staffing business from New York. He served as CEO of Barry Callebaut from June 2002 to May 2009. In 2007, he was granted the title of Baron by King Albert II of Belgium.

Paul Evans

Paul Evans is the Academic Director of the Global Talent Competitiveness Index, Emeritus Professor of Organisational Behaviour at INSEAD and the Shell Chair Professor of Human Resources and Organisational Development, Emeritus. His research and teaching focuses on three domains: (1) leadership and talent development, building on his pioneering research into executive lifestyles (*Must Success Cost So Much?*, translated into eight languages); (2) international human resource management where his most recent book is *The Global Challenge: International Human Resource Management*; and (3) multinational organisational development. He has launched and directed many executive programmes at INSEAD, and has taught courses as a visiting professor at universities in North America, Europe, Russia, Brazil and China, winning awards for his teaching and research.

Dr Evans was titular professor at the European Institute for Advanced Studies in Management in Brussels in recognition for his work in building scholarly networks in 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.

John Garrity

John Garrity is Policy Advisor for Cisco's Global Technology Policy arm, managing research and engagements, and is responsible for data-driven analysis on technology issues related to the potential of ICT and network connectivity for economic growth, competitiveness and social inclusion. His research covers the expansion of fixed and wireless broadband, national broadband agendas, municipal strategies for ICT use, Internet protocol network traffic demand, and Internet governance. Previously he was a manager in Cisco's Strategy and Economics group, guiding strategic direction for the Emerging Markets organisation, a business unit with geographic market coverage across 130 countries. Prior to Cisco, Mr Garrity worked at the World Bank in the Corporate Strategy Group and at the US Federal Trade Commission. He holds a Master's degree in Applied Economics from the Ohio State University.

Sjoerd Hardeman

Sjoerd Hardeman is a researcher at the Econometrics and Applied Statistics Unit of the Joint Research Centre (JRC) of the European Commission. He works on the economics of science and innovation, publishing in the interdisciplinary field of science and technology studies. His research focuses on the quantitative analysis of research and innovation systems and theories of sustainable development indicators. After his undergraduate studies in International Economics and Economic Geography at Utrecht University, he completed his doctoral thesis at Eindhoven University of Technology titled, *The Distributed Organisation of Science*. At present he primarily works on the construction of composite indicators in the field of science, innovation and sustainable development.

Shinyoung Jeon

Shinyoung Jeon is a Policy Analyst in the Education and Skills Directorate of the Organisation for Economic Cooperation and Development (OECD). She manages and coordinates country projects for the OECD Skills Strategy. Prior to joining the OECD, she worked with the International Labour Organisation in both Geneva and Jakarta, and co-authored *Skills for green jobs – A global view* based on research across 21 countries. Dr Jeon holds a PhD and a Master's degree in Development Economics from the Graduate Institute of International and Development Studies, Geneva, and a Bachelor's degree in Education from Seoul National University. Having conducted research into education, skills and the labour market in Asia, her PhD thesis was titled *Agricultural Transformation of a Middle-income Country: Indonesian Farmers' Choices in a Time of Green Restructuring*. Dr Jeon was a visiting scholar at the Center on Food Security and the Environment, Stanford University in 2012 with support from the Swiss National Science Foundation.

Leah Jurkovic

Leah Jurkovic is the Manager, Applied Research and Knowledge Dissemination at CICan, the national, membership organisation representing public colleges, institutes, cégeps and polytechnics in Canada and internationally. She is responsible for leading the development and implementation of international research, communication and knowledge exchange strategies. Prior to joining CICan, Ms Jurkovic worked for a number of national organisations, including the Canadian Institutes of Health Research (CIHR) as Associate Scientific Director for CIHR's Institute of Health Services and Policy Research, and international organisations, including the International Development Research Centre, UNICEF and Micronutrient Initiative, where she led research agendas and the use of research and evidence for policy and practice in a variety of areas. She holds a Master's degree in Cognitive Studies and an undergraduate degree with joint concentration in Biology and Philosophy.

Kwan Chee Wei

Kwan Chee Wei joined the Human Capital Leadership Institute (HCLI) as its Executive Director in February 2010 when the Institute was set up by Singapore's Ministry of Manpower in collaboration with the Singapore Management University. He is currently the CEO of the Institute. Before joining HCLI, Mr Kwan was the Chief Human Resources Officer at IMC Corp Limited, where he was responsible for all HR matters spanning the entire operations across the IMC Corp group of companies. Between 1997 and 2007, he gained his HR consulting experience with SHL and Watson Wyatt. After seven years, he left Watson Wyatt as the Regional Director for the Human Capital Group, Asia Pacific. He was also the Managing Director for Southeast Asia at SHL from 1997 to 2000. Mr Kwan worked extensively across the Asia Pacific with clients on various operational and strategic HR issues, including recruitment and selection, competency modelling and development, performance management, promotion, and career and succession planning. He started his career as an organisational psychologist in the Singapore Ministry of Defence and over a period of 10 years, and led many signature leadership and organisation-development projects. Mr Kwan has a BSc in Psychology from Leeds University (UK) and an MBA from the University of Leicester (UK).

Bruno Lanvin

Bruno Lanvin is the Executive Director of INSEAD's European Competitiveness Initiative, and of Global Indices projects 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. Since 2010, he has been a Broadband Commissioner (broadbandcommission.org). In 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.

Nurina Merdikawati

Nurina Merdikawati led the data management, collection, and analysis for INSEAD eLab projects and the Global Talent Competitiveness Index. Her work included firm-level studies on building business performance and competitiveness with new information and communications technologies, country-level studies on payment systems, and talent competitiveness. Prior to INSEAD, she was a visiting researcher in the Islamic Banking Division of the Central Bank of Indonesia, where she developed policy options to accelerate human capital development for the Islamic banking industry in Indonesia. She also worked at the Asia Competitiveness Institute, where she was involved in a study of Competitiveness Analysis and Development Strategies for 33 Indonesian provinces. Ms Merdikawati holds a Master's degree in Public Policy from the Lee Kuan Yew School of Public Policy at the National University of Singapore, where she specialised in Economic Policy and Analysis and was a Mochtar Riady Scholar. She received her Bachelor's degree in Economics from Nanyang Technological University, with a minor in Business.

Martina Mettgenberg Lemièrè

Martina Mettgenberg Lemièrè led the research for the Global Talent Competitiveness Index from its inception in August 2012 until autumn 2014. Her role included intellectual direction, project delivery, stakeholder collaboration and team leadership. Dr Mettgenberg Lemièrè's expertise includes human capital/talent, financial services, migration/mobility and social entrepreneurship/venture philanthropy, as well as a wide analytical skillset ranging from ethnography and case studies to composite indicators and impact assessment. Prior to INSEAD, she was a senior research associate at the Human Capital Leadership Institute in Singapore and worked in business and financial services research in Gurgaon in India. She also taught at the Universities of Manchester and Sussex. Dr Mettgenberg Lemièrè completed her PhD at Manchester Business School and holds an MSc and BA (Hons) in Anthropology from the University of Sussex and the University of Manchester respectively.

Robert Pepper

Robert Pepper is Vice-President of Cisco's Global Technology Policy team, and works with governments and business leaders across the world in areas such as broadband, IP-enabled services, wireless and spectrum policy, security, privacy, Internet governance, and ICT development. He joined Cisco in July 2005 from the FCC, where he served as Chief of the Office of Plans and Policy and Chief of Policy Development beginning in 1989. There he led teams developing policies promoting the development of the Internet, implementing telecommunications legislation, planning for the transition to digital television, and designing and implementing the first US spectrum auctions. Dr Pepper serves on the board of the US Telecommunications Training Institute (USTTI) and advisory boards for Columbia University and Michigan State University, and is a Communications Program Fellow at the Aspen Institute. He is a member of the US Department of Commerce's Spectrum Management Advisory Committee, the UK's Ofcom Spectrum Advisory Board, and the US Department of State's Advisory Committee on International Communications and Information Policy. He received his BA and PhD from the University of Wisconsin-Madison.

Sunil Puri

Sunil Puri joined the Human Capital Leadership Institute (HCLI) as the Head of Research and Insights in February 2014. Prior to that, Mr Puri was a Senior Director with CEB's India office, with the key responsibility of engaging and advising heads of HR in top 100 organisations in diverse strategic HR areas such as employee engagement and retention, performance management, HiPO development, succession planning, organisation design, L&D, and recruiting strategies. He also led several CHRO roundtables, workshops, and webinars. Previously, Mr Puri worked as a programme manager with Winrock International, a US-based non-profit company engaged in clean energy and sustainability. He also headed research operations at India Infrastructure, an information service provider in the physical infrastructure space. He commenced his career in 1998 as a financial analyst with Power Finance Corporation, a Government of India-owned financial institution dedicated to power sector financing. Mr Puri holds a Master's degree in Technology in Energy Studies from the Indian Institute of Technology, Delhi, where he was a gold medallist; and a Post-Graduate Diploma in Management from the Indian Institute of Management, Ahmedabad.

Nabil Rasheed

Nabil Rasheed is a Research Assistant for Professor Ilian Mihov, Dean of INSEAD, and the Economics and Political Science department at large. His research covers areas such as the analysis of business cycles and economic recoveries, institutional quality and its effects on long-term economic growth, role of exchange rates as instruments of monetary policy, and empirical research into the performance, competition and cost efficiency of banks, in addition to special data analytics projects for the Research and Development Committee. Mr Rasheed currently works with the Executive Development Programme department to optimise resource allocation within its Marketing Operations division, oversees project management and stakeholder collaboration for the Global Talent Competitiveness Index, and has been leading the quarterly Thomson Reuters/INSEAD Asia Business Sentiment Survey since its inception in January 2012. Mr Rasheed holds a Bachelor of Business Management with a Major in Quantitative Finance from Singapore Management University, where he assisted faculty-led research into asset pricing, high-frequency trading and quantitative asset management. In his stint as a Research Assistant with the Quantitative Finance Unit, he authored technical papers on short-term momentum and statistical arbitrage trading strategies.

Michaela Saisana

Michaela Saisana is a Senior Scientific Officer at the JRC of the European Commission. She conducts, coordinates and supervises research on multidimensional measures and socio-economic indicators for policymaking. Between 2005 and 2014, she has assessed the statistical soundness of over 60 composite indicators, upon invitation of their developers, including the Human Development Index for the UNDP; the Corruption Perceptions Index for Transparency International; the Environmental Performance Index for Yale and Columbia Universities; the National Country Resilience Index for the World Economic Forum; the Ibrahim Index of African Governance for the Mo Ibrahim Foundation and the Harvard School of Economics; the Global Innovation Index for INSEAD, the World Intellectual Property Organization, and Cornell University; and the European Systemic Risk Board Country Heat maps for the European Central Bank. Dr Saisana offers regular courses on the development and robustness assessment of composite indicators and on multi-criteria analysis to academia, international organisations, and the European Commission (over 1,000 participants in the last 10 years). She is a principal author of the *OECD Handbook on Composite Indicators*, co-author of the book *Global Sensitivity Analysis: The Primer*, and developer and moderator of the JRC Information server on composite indicators. She has a steady flow of publications on composite indicators, multi-criteria analysis, multivariate analysis, sensitivity analysis, multi-objective optimisation, and mathematical modelling and forecasting (20 peer-reviewed publications, 50 working papers). In 2004 Dr Saisana was awarded the European Commission – 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.

Rebecca Siow

Rebecca Siow is a senior manager at Human Capital Leadership Institute (HCLI). Since joining HCLI in November 2011, she has co-designed the Institute's flagship executive development programme, the Singapore Business Leaders Programme, and continues to do so for HCLI's inaugural breakthrough programmes and events. As part of the Research and Insights team at HCLI, her key responsibilities also include steering joint research initiatives with partners (past collaborators include Deloitte Consulting and INSEAD), and spearheading HCLI's propriety research, one of which is *Leadership Mosaics Across Asia*. Prior to her time with HCLI, Ms Siow was at Deutsche Bank where she engaged in numerous change-management projects for its finance division. She was also with the Singapore Economic Development Board, specifically looking at the development of new industry frontiers such as performing arts and music in Singapore. Ms Siow holds an MA in Management and Organisational Analysis from the University of Warwick, as well as a Bachelor of Business Management (Finance) and Bachelor of Accountancy from the Singapore Management University.

Aung Myint Thein

Aung Myint Thein was a Research Programmer at INSEAD eLab in Singapore. He was involved in data management, collection, programming and analysis for INSEAD eLab projects and the Global Talent Competitiveness Index. His work included reproducible research using R, country-level studies on payment security, and talent competitiveness. He was also responsible for leading the creation, design, and implementation of data visualisation across eLab projects. Mr Thein has a BSc in Information Systems Management from Singapore Management University where he focused on Business Intelligence and Analytics systems and tools. His work focused on helping businesses identify innovative ways to transform information technology and analytics into insights for improving business models and processes.

Tae Yoo

Tae Yoo is the Senior Vice-President, Corporate Affairs at Cisco. Ms Yoo drives Cisco's corporate social responsibility (CSR) programmes through public-private partnerships that use technology to create positive, sustainable change in economic and workforce development, education, health care and critical human needs. As the steward of Cisco's CSR vision, she directs Cisco's business, technical and financial assets to make a positive impact for people and communities around the world. She has been with Cisco for more than 20 years. Ms Yoo has built an effective CSR programme that is helping people thrive in the new, technology-driven economy. Under her leadership, the Cisco Networking Academy programme has become one of the largest ICT education programmes in the world, helping 1.2 million people get jobs between 2005 and 2013.

Ms Yoo envisions a world where everyone will be able to participate and succeed in the global economy. She writes and speaks often about the need for better broadband access in developing countries, for education programmes that lead to jobs, and for women to have easier access to education. She also spearheaded Cisco's involvement in the new Service Year programme. This initiative will give one million young Americans each year the opportunity to gain valuable career skills while supporting non-profits, schools or other community-oriented organisations.

Previously at Cisco, Ms Yoo was influential in creating new markets for the company by co-founding the Business Development group, where she was responsible for growing partnerships with other technology companies for joint product and market development. She is a trustee of the Cisco Foundation, sits on the board of Business for Social Responsibility, and is a past co-chair of the World Economic Forum's Global Agenda Council on Education Systems. Ms Yoo holds a degree in Communications from Virginia Tech.

ABOUT THE PARTNERS

INSEAD – The Business School for the World – 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 its research and teaching. INSEAD became a pioneer of international business education with the opening of the Fontainebleau campus in Europe in 1959. 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.

With campuses in Europe (France), Asia (Singapore) and Abu Dhabi (Middle East), INSEAD's business education and research spans three continents. Our 150 renowned Faculty members from 34 countries inspire more than 1,400 degree participants annually in our MBA, Executive MBA, Specialised Master's degrees and PhD programmes. Furthermore, more than 11,000 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 in the US, Brazil and China, and is a founding member in the multidisciplinary Sorbonne University created in 2012.

Around the world and over the decades, INSEAD continues to conduct leading-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 INSEAD to become truly "The Business School for the World".

Human Capital Leadership Institute – 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).

Adecco Group – adecco.com

The Adecco Group, based in Zurich, Switzerland, is the world's leading provider of HR solutions. With approximately 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 more than 650,000 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).



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