The Africa Competitiveness Report 2017

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Insight Report

The Africa Competitiveness Report 2017

Addressing Africa's Demographic Dividend

The Africa Competitiveness Report 2017 is a special project within the framework of the World Economic Forum's Global Competitiveness and Risks Team. It is the result of collaboration between the World Economic Forum, the International Bank for Reconstruction and Development/ the World Bank, and the African Development Bank.

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Preface

Akinwumi Adesina
President, African Development Bank Group

Jim Yong Kim
President, World Bank Group

Klaus Schwab
Executive Chairman, World Economic Forum

The 2017 edition of *The Africa Competitiveness Report* comes out at a challenging time for the continent. In recent years, growth in several African countries has been subdued after more than a decade of solid expansion. The slowdown is largely due to the protracted low commodity prices as well as the reduced growth in emerging markets such as China, and in advanced economies. However, this situation has also given impetus to reforms and economic diversification. The strong economic performance of a number of African countries demonstrates Africa's resilience and brings optimism about Africa's future growth prospects.

Looking ahead, the continent's young and increasing population presents an unprecedented opportunity to spur rapid development. A growing labor force and a large and emerging consumer market hold the promise of significant growth opportunities. Yet challenges to reaping these potential gains and achieving greater shared prosperity remain. Most economies in the region still need to promote more productive activities that generate quality employment opportunities for their growing populations and contribute to improving the livelihoods of African people. Africa can make this happen, and decisions and actions taken today will determine whether governments and the private sector in the region can meet the growing economic and social aspirations of its population.

Published on a biennial basis, *The Africa Competitiveness Report* highlights areas requiring policy action and investment to ensure that Africa lays a solid foundation for sustained and inclusive growth. The *Report,* which is the result of a long-standing collaboration, leverages the knowledge and expertise of the African Development Bank, the World Bank Group, and the World Economic Forum to present a joint policy vision that can help Africa transform its economies.

By conducting a comprehensive analysis of Africa's most pressing competitiveness challenges, the *Report* discusses the barriers and challenges to putting Africa's economies onto a solid footing and helping them to achieve sustainable, broad-based growth, taking into account rapid demographic changes. Africa's working-age population is expected to soar by 450 million people, or close to 70 percent, by 2035. The *Report* examines how this population growth can either help to achieve broader shared prosperity and improve the livelihood of African people or become a source of fragility, social tension, and economic hardships. It does so by examining the potential of Africa's fast-growing youth population to catalyze economic development through accelerating rates of job creation. It also discusses the potential of cities to transform, strengthen, and diversify Africa's economies by creating more dynamic urban manufacturing and service sectors. The *Report* emphasizes the importance of ensuring that the youth of today and tomorrow possess the skills they need to build vibrant and inclusive economies. It further delivers detailed competitiveness profiles for 35 African countries, and provides a comprehensive summary of the drivers of productivity and competitiveness within the continent.

We hope that this year's *Report* will stimulate discussion among development stakeholders to bring about sustained growth and shared prosperity in Africa. Well-targeted investments in physical and human capital will be key factors that need to be further reinforced by a sound institutional framework and an enabling business environment. Businesses can advocate for reforms that enhance firm productivity and engage in a dialogue with policymakers about the type of reforms required for firms to prosper. Governments can ensure sustained investments in infrastructure, health, and education; provide the legal and regulatory framework for a sound business environment for trade and investment; and, most importantly, ensure that policies and their implementation are consistent across time and national boundaries.

Africa's growing young population offers the prospect of transforming the continent. The analysis in the 2017 *Africa Competitiveness Report* aims to contribute toward seizing this opportunity for Africa's current and future generations.

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The work was carried out under the general direction of Richard Samans, Managing Director at the World Economic Forum; Anabel Gonzales, Senior Director of Global Trade and Competitiveness Practice; Shantayanan Devarajan, Chief Economist for the Middle East and North Africa Region, and Albert Zeufack, Chief Economist for sub-Saharan Africa at the World Bank; and Abebe Shimeles, Acting Director Macroeconomic Policy, Forecasting and Research Department at the African Development Bank.

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Contributors

The Africa Competitiveness Report 2017 is the result of collaboration between the World Economic Forum, the World Bank, and the African Development Bank.

AT THE WORLD ECONOMIC FORUM

Richard Samans
Head of the Centre for the Global Agenda, Member of the Managing Board

Margareta Drzeniek Hanouz
Head of Global Competitiveness and Risks, Member of the Executive Committee

Ciara Browne
Head of Partnerships, Global Competitiveness and Risks

Roberto Crotti
Economist, Global Competitiveness and Risks Team

Elsie Kanza
Head of Africa, Member of the Executive Committee

Liana Melchenko
Acting Head of Partnerships, Economic Growth and Social Inclusion, Global Competitiveness and Risks

AT THE WORLD BANK GROUP

Anabel Gonzalez
Senior Director, Trade and Competitiveness Global Practice

Klaus Tilmes
Director, Trade and Competitiveness Global Practice

Shantayanan Devarajan
Chief Economist, Middle East and North Africa Region

Albert Zeufack
Chief Economist, Sub-Saharan Africa Region

Jean Michel Marchat
Lead Economist, Trade and Competitiveness Global Practice

Barak Hoffman
Consultant, Trade and Competitiveness Global Practice

AT THE AFRICAN DEVELOPMENT BANK

Abebe Shimeles
Acting Director, Macroeconomic Policy, Forecasting and Research Department

Issa Faye
Officer in Charge, African Development Institute & Manager, Microeconomic, Institutional & Development Impact Division

John Anyanwu
Lead Research Economist, Macroeconomic Policy, Forecasting and Research Department

Audrey Verdier-Chouchane
Chief Research Economist, Microeconomic, Institutional & Development Impact Division

El-hadj Mamadou Bah
Principal Research Economist, Microeconomic, Institutional & Development Impact Division

Partner Institutes

The World Economic Forum's Global Competitiveness and Risks Team is pleased to acknowledge and thank the following organizations as valued Partner Institutes, without which the realization of *The Africa Competitiveness Report 2017* would not have been feasible:

Algeria
Centre de Recherche en Economie Appliquée pour le Développement (CREAD)
Mohamed Yassine Ferfera, Director
Khaled Menna, Research Fellow

Benin
Institut de Recherche Empirique en Economie Politique (IREEP)
Richard Houessou, Research Associate
Romaric Samson, Research Assistant
Léonard Wantchekon, Director

Botswana
Botswana National Productivity Centre
Letsogile Batsetswe, Research Consultant and Statistician
Baeti Molake, Executive Director
Phumzile Thobokwe, Manager, Information and Research Services Department

Burundi
Faculty of Economics and Management, Research Centre for Economic and Social Development (CURDES), National University of Burundi
Ferdinand Bararuzunza, Director of the Centre
Gilbert Niyongabo, Head of Department
Léonidas Ndayizeye, Dean of the Faculty

Cameroon
Comité de Compétitivité (SELPI)
Lucien Sanzouango, Permanent Secretary
Guy Yakana, Expert Junior
Samuel Znoumsi, Expert Senior

Cape Verde
Center for Applied Statistics and Econometrics Research – INOVE
Júlio Delgado, Director
Jerónimo Freire, Project Manager
José Mendes, Chief Executive Officer

Chad
Groupe de Recherches Alternatives et de Monitoring du Projet Pétrole-Tchad-Cameroun (GRAMP-TC)
Antoine Doudjidingao, Researcher
Gilbert Maoundonodji, Director
Celine Nénodji Mbaipeur, Programme Officer

Congo, Democratic Republic of
Congo-Invest Consulting (CIC)
Teza Bila, Managing Director
Alphonse Mande, Project Coordinator
Daddy Nsiku, Project Coordinator

Côte d'Ivoire
Chamber of Commerce and Industry of Côte d'Ivoire
Marie-Gabrielle Boka Varlet, General Manager
Anzoumane Diabakate, Head of Communication
Jean-Rock Kouadio-Kirine, Head of Territories and sustainable development

Egypt
The Egyptian Center for Economic Studies (ECES)
Abla Abdel Latif, Executive Director and Director of Research
Mohsen Adel, Consultant
Maye Ehab, Economist

Ethiopia
African Institute of Management, Development and Governance
Tegegne Teka, Senior ExpertAdugna Girma, Operations Manager

Gabon
Confédération Patronale Gabonaise
Madeleine E. Berre, President
Regis Loussou Kiki, General Secretary
Gina Eyama Ondo, Assistant General Secretary

Gambia, The
Gambia Economic and Social Development Research Institute (GESDRI)
Makaireh A. Njie, Director

Ghana
Association of Ghana Industries (AGI)
James Asare-Adjei, President
John Defor, Senior Policy Officer
Seth Twum-Akwaboah, Chief Executive Officer

Kenya
Institute for Development Studies, University of Nairobi
Paul Kamau, Senior Research Fellow
Dorothy McCormick, Research Professor
Winnie Mitullah, Director and Associate Research Professor

Lesotho
Private Sector Foundation of Lesotho
Nthati Mapitsi, Researcher
Thabo Qhesi, Chief Executive Officer
Kutloano Sello, President, Researcher

Madagascar
Centre of Economic Studies, University of Antananarivo
Ravelomanana Mamy Raoul, Director
Razato Rarijaona Simon, Executive Secretary

Malawi
Malawi Confederation of Chambers of Commerce and Industry
Hope Chavula, Manager, Head, Public Private Dialogue
Chancellor L. Kaferapanjira, Chief Executive Officer

Mali
Groupe de Recherche en Economie Appliquée et Théorique (GREAT)
Massa Coulibaly, Executive Director

Mauritania
Mauritania Bicom-Service Commercial
Oumou El Khairy Youssouf, Administrative Financial Director
Ousmane Samb, Technical and Marketing Director
Habib Sy, Analyst

Mauritius
Board of Investment, Mauritius
Manaesha Fowdar, Investment Executive, Competitiveness
Ken Poonoosamy, Managing Director

Business Mauritius
Raj Makoond, Director

Morocco
Confédération Générale des Entreprises du Maroc (CGEM)
Meriem Bensalah Cheqroun, President
Si Mohamed Elkhatib, Project Head, Commission Climat des Affaires et Partenariat Public Privé
Ahmed Rahhou, President, Commission Climat des Affaires et Partenariat Public Privé

Mozambique
EconPolicy Research Group, Lda.
Peter Coughlin, Director
Mwikali Kieti, Project Coordinator

Namibia
Institute for Public Policy Research (IPPR)
Graham Hopwood, Executive Director
Leon Kufa, Research Associate
Lizaan van Wyk, Research Associate

Nigeria
Nigerian Economic Summit Group (NESG)
Olaoye Jaiyeola, Chief Executive Officer
Olajiire Onatade-Abati, Research Analyst
Wilson Erumebor, Research Analyst

Rwanda
Private Sector Federation (PSF)
Benjamin Gasamagera, Chairman
Fiona Uwera, Head of Research and Policy Analysis

Senegal
Centre de Recherches Economiques Appliquées (CREA), University of Dakar
Ahmadou Aly Mbaye, Director
Ndiack Fall, Deputy Director
Youssou Camara, Administrative Staff

South Africa
Business Leadership South Africa
Friede Dowie, General Manager
Thero Setiloane, Chief Executive Officer

Business Unity South Africa
Khanyisile Kweyama, Chief Executive Officer
Olivier Serrao, Director, Economic Policy

Tanzania
Policy Research for Development, REPOA
Cornel Jahari, Assistant Researcher
Blandina Kilama, Senior Researcher
Donald Mmari, Executive Director

Tunisia
Institut Arabe des Chefs d'Entreprises
Ahmed Bouzguenda, President
Majdi Hassen, Executive Counsellor

Uganda
Kabano Research and Development Centre
Robert Apunyo, Program Manager
Delius Asiimwe, Executive Director
Anna Namboonze, Research Associate

Zambia
Institute of Economic and Social Research (INESOR), University of Zambia
Patricia Funjika, Research Fellow
Jolly Kamwanga, Senior Research Fellow and Project Coordinator
Mubiana Macwan'gi, Director and Professor

Zimbabwe
Fulham Economics, Harare
A. M. Hawkins, Chairman

Liberia and Sierra Leone
FJP Development and Management Consultants
Omodele R. N. Jones, Chief Executive Officer

Overview

The 2017 edition of *The Africa Competitiveness Report* comes out at a transitional time for the region. Low commodity prices and reduced growth in emerging markets and advanced economies have contributed to slow growth in the majority of African countries, following a decade of sustained GDP growth (above 5 percent).[1] However, slower GDP growth has also given impetus to reforms and economic diversification in some countries. Such reforms continue to be necessary because of the demographic changes the continent is undergoing. Africa is expected to double its population over the next 25 years, and it is the only region in the world where the working-age population is projected to continue expanding beyond 2035.[2] Africa is also urbanizing rapidly, and more than half of its population will live in cities over the same period. Such rapid growth of Africa's working-age population has been hailed as a possible boost to regional economic growth. However, there is no teleology leading from population growth to job creation. The incidence of unemployment and underemployment among African youth is high.[3] Absent a policy environment that supports rapid job creation, large youth and working-age cohorts can constitute a potential source of social and political vulnerability.

Economists, policymakers, and business leaders largely agree that slow progress in raising competitiveness and productivity are at the heart of the limited ability of African economies to offer better employment opportunities. A significant body of analysis has identified the main bottlenecks to improving these factors. These have also been identified and discussed in previous editions of *The Africa Competitiveness Report.* The 2011 edition focused on how to reinforce managerial skills and higher education, the 2013 edition discussed export diversification, and the 2015 edition examined constraints to structural transformation. This year's *Report* leverages the research and expertise in job creation and urbanization that have been carried out by its partner organizations—the African Development Bank, the World Bank, and the World Economic Forum—to explore what policies need to be implemented to enable Africa to reap its potential demographic dividend.

In this *Report, competitiveness* constitutes the factors, institutions, and policies that determine a country's level of productivity. *Productivity,* in turn, sets the sustainable level and path of prosperity that a country can achieve.

Tracking Progress in Africa's Competitiveness

Chapter 1.1 provides an update of Africa's competitiveness performance, based on 2015 and 2016 data. This analysis is conducted at both the aggregate and country levels as assessed by the Global Competitiveness Index (GCI). Trends in Africa's competitiveness remain largely stagnant: the overall Africa GCI score is substantially the same as the one reported in 2015 and has only improved by 5 percent since 2008. Most competitiveness challenges highlighted in the *Africa Competitiveness Report* series since its first publication, almost 10 years ago, persist. These include large infrastructure deficits, significant skill mismatches, slow adoption of new technologies, and weak institutions. These factors, in addition to weak financial sector development and low levels of regional trade and integration, emerge as the main bottlenecks that prevent African economies from offering an environment that facilitates better employment and entrepreneurship opportunities to its citizens as well.[4]

These broad trends notwithstanding, Africa has made significant progress on a number of crucial competitiveness dimensions over the past decade. The positive trends on governance and the business environment, highlighted by the 2015 edition of *The Africa Competitiveness Report,* for the most part, are continuing, especially in areas such as the quality of macroeconomic policy and human capital development. Progress on health and literacy has been particularly remarkable: in a decade, child mortality sharply declined from 83 to 47 percent, and primary school enrollment has grown to above 80 percent. Moreover, a number of countries in Africa are making impressive progress in improving their competitiveness: Côte d'Ivoire, Ethiopia, Rwanda, and Tanzania, for example, have all improved their competitiveness ranking by five places or more since 2015, and their real GDP is forecasted to grow close to or above 7 percent over the next few years. Not surprisingly, these countries are also those that are trying to diversify their economies more, relative to others in the region. Diverging country trajectories reinforce wide regional competitiveness disparities: the most competitive African economy, Mauritius, at 45th globally, is ranked more than 90 places higher than the lowest one, Mauritania, at 137th. Similar patterns are identified across the 12 pillars, looking both at performance level and changes over time.

Jobs in Africa: Designing Better Policies Tailored to Countries' Circumstances

The working-age population in Africa is expected to grow by close to 70 percent, or by approximately 450 million people, between 2015 and 2035. If current trends continue, only about 100 million of them can expect to find stable employment opportunities. Countries that are able to enact policies conducive to job creation are likely to reap significant benefits from this rapid population growth. Those that fail to implement such policies are likely to suffer demographic vulnerabilities resulting from large numbers of unemployed and/or underemployed youth.

New research is providing governments in the region with insights into how they can address the coming rise in the working-age populations. African countries will need to find ways to expand aggregate demand for labor and improve supply-side factors at the same time. Beyond the traditional prescriptions—such as stable macroeconomic policy, a supportive investment climate, and improving the quality of human and physical capital—countries can facilitate more rapid and better job creation as well as accelerate the development of their manufacturing sector by implementing policies suited to their specific circumstances. Since almost all new jobs in Africa today are in agriculture and microenterprises, improving the business environment in these sectors is a high priority. Fragile countries can create jobs as well as promote growth and stability through targeted support to vulnerable regions and/or populations. Open trade policies and developing value chain links to extractive sectors are crucial for encouraging diversification and job creation in resource-rich countries. Finally, policies that foster regional trade and integration can be a major source of new jobs as well as improve firm-level productivity and economic competitiveness.

Competitive African Cities for Better Living Standards

Rapid population growth and urbanization are putting significant pressure on the urban infrastructure of African cities. The demographic transition, characterized by the youth bulge, requires sharp increases in job creation and infrastructure, including affordable housing in urban centers. For cities to play their role as poles of economic growth and providers of quality jobs, they need to become more competitive. This chapter focuses on the constraints and opportunities for creating competitive African cities and eventually improving the living standards of urban dwellers. In other words, it focuses on policy options for improving the livelihood of African people in a context of population and urban growth and highly resonate with the African Development Bank's High 5s.[5]

Comparing African cities along several indicators of economic progress—namely population dynamics, income and growth performance, employment, and the costs of housing and utilities—reveals interesting findings. For instance, over 2000–16, cities in economies dominated by natural resources experienced very fast growth in per capita GDP, yet they were less successful in improving households' disposable incomes. In addition, high employment growth has not necessarily translated into higher household disposable income, indicating a slow growth in wages and/or a fast increase in the number of households. A number of cities witnessed an explosion of slums and large housing backlogs that not only undermines household welfare but also increases matching costs between employers and employees and hinders labor productivity. The negative effects of housing shortages are compounded by shortages of other urban infrastructure such as electricity, transport networks, and water and sewerage systems. A key factor contributing to those shortages is the outdated and inadequate urban plans that fail to take into account the social, political, economic, and environmental contexts of urban development in Africa.

Beyond the standard recommendations to reduce the infrastructure deficit; improve the business environment though better institutions, governance, and regulatory frameworks; and increase the availability of skills, this chapter makes three specific recommendations to improve competitiveness of African cities. First, governments or city officials need to update their cities' urban plans to reflect local realities. Second, investment in housing construction is critical to reduce the large housing backlogs in various cities and improve the lives of urban dwellers. Finally, creating special economic zones can be an effective tool to jump start manufacturing, increase exports, and create jobs. However, strategic planning with special attention to comparative advantage and linkages with the rest of the economy is necessary for achieving the potential benefits of industrial parks.

The need for faster policy implementation

Echoing the recommendations from the series of consultations that culminated with the "Competitiveness Action Agenda",[6] following the launch of the 2015 *Africa Competitiveness Report,* the main roadblocks for Africa's economic development remain slow progress in improving education quality, building infrastructure (especially in cities), adopting new technologies, deepening capital markets, and accelerating the rate of structural change.

All these factors, however, require long processes to be modified and will manifest their impact only many years from now, while the need to offer better opportunities to the large and growing cohorts of young African people is imminent. Therefore, this *Report* reinforces the urgency of starting the reform process right away to ensure better prospects for the next generation.

More efforts and emphasis should be put on policy implementation, rather than policy definition, to circumvent one of the main weaknesses of Africa's development programs. Strengthening institutions is therefore a necessary pre-condition to enable faster and incisive policy implementation and to spark private-sector action. Despite progress that has been made in some countries, the average quality of public and private institutions remains low and represents an overarching hindrance to the implementation of reforms. More specifically, as discussed in Chapter 1.2, development programs in Africa in general, and particularly in fragile and conflict-affected states, take a long time to be executed. Against this backdrop, better public and private institutions as well as coordination and dialogue is needed to speed up the reform process.

In addition, the *Report* provides some specific short-term policies recommendations.

First, it proposes adopting sector-specific policies to increase labor demand. Chapters 1.2 and 1.3 emphasize the need to focus on labor-intensive sectors, such as agribusiness and construction, in order to speed up job creation. With improved access to finance, stronger linkages and coordination among actors in their value chains, and training, these sectors have the potential to create a large number of skilled and unskilled jobs. Agribusiness development also will help accelerate the growth of Africa's manufacturing sector.

Moreover, because small and micro-businesses represent the most important source of labor demand, policies tailored to the needs of this segment of the private sector is particularly necessary. Specifically, those firms require better access to finance, capacity building, and linkages to value chains.

Second, it suggests improving the competitiveness of cities through better urban planning. Outdated and inadequate urban plans are preventing African cities from benefiting from rapid urbanization and associated economies of scale. New urban planning should take into account recent economic, demographic, and urban developments. Advanced planning can lower infrastructure costs and increasing density can help address the issue of urban gridlock with its associated productivity costs, and can reduce the urban sprawl that is putting pressure on agricultural land and the environment. Moreover, the creation of special economic zones with better linkages to the rest of the economy can promote job creation and increased productivity through the higher growth of firms. However, the creation of these zones should be an integral part of the urban planning efforts in order to maximize the competitiveness outcomes, including job creation.

Third, it recommends reducing the housing backlog to improve the lives of urban dwellers, create jobs, and enhance productivity. Because of its extensive linkages with manufacturing, financial sector, and other service subsectors, residential housing construction in developing countries is very labor intensive and has high output multiplier effects. To address bottlenecks in the sector, better urban planning with adapted building codes, efficient regulation with reduced procedures and costs, improved governance, and better coordination between stakeholders will be necessary. Moreover, capacity building and financing for small and medium-sized developers can improve their productivity and their ability to deliver large-scale housing programs.

Fourth, it advises reducing the growing skills mismatch through effective technical vocational education and training (TVET) programs and better regional cooperation. Policies, cited above, aimed at increasing labor demand will not be effective at increasing youth employment if the supply of skills is not adequately addressed. There is a growing shortage of technicians, engineers, and other high-skilled workers. This can be addressed through better emphasis and reforms of TVET programs that can supply the skills demanded by the labor market. Moreover, the upcoming increased demand for education services due to larger populations will require more trained teachers. Regional coordination among African countries to adopt common standards and recognition of qualifications, as well as reforms of immigration policies for skilled workers, can help the continent prevent shortages of teachers in the short run.

Following the discussions above, the final section of the *Report* provides detailed competitiveness profiles for the 35 African countries included in the World Economic Forum's Global Competitiveness Index that allow for a detailed assessment country-specific context and unique challenges. These profiles present the detailed rankings that underlie the broader global competitiveness rankings.

Notes

1 AfDB 2016.

2 UN DESA 2015.

3 In Northern Africa unemployment is at 29.3 percent. In sub-Saharan Africa unemployment is at 10.8 percent, but the vast majority of new job creation is in self-employment or in microenterprises. ILO 2016.

4 For example, although the use of mobile phones grew to 94 subscriptions per 100 people in 2015, broadband mobile subscriptions are still as low as 26 per 100 people.

5 The AfDB five priority areas, referred to as the *High 5s* are: (1) Light up and Power Africa, (2) Feed Africa; (3) Industrialize Africa; (4) Integrate Africa; and (5) Improve the Livelihood of African People.

6 World Economic Forum, AfDB, OECD, and World Bank 2016.

References

AfDB. 2016. *African Economic Outlook 2016: Sustainable Cities and Structural Transformation.* Available at http://www.africaneconomicoutlook.org/en/home.

ILO (International Labour Organization). 2016. "World Employment and Social Outlook Trends 2016: Africa Briefing Note." Available at http://www.ilo.org/wcmsp5/groups/public/---africa/---ro-addis_ababa/documents/genericdocument/wcms_444480.pdf

UN DESA (United Nations Department of Economic and Social Affairs). 2015. *World Population Prospects, the 2015 Revision.* Population Division. Available at https://esa.un.org/unpd/wpp/

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Part 1

Addressing Africa's Demographic Dividend

Chapter 1.1

Tracking Progress in Africa's Competitiveness: Removing Obstacles to Reap the Demographic Dividend

Roberto Crotti
Margareta Drzeniek Hanouz
World Economic Forum

El-hadj M. Bah
Audrey Verdier-Chouchane
African Development Bank

Barak Hoffman
World Bank

This edition of *The Africa Competitiveness Report* comes out at a time of reduced enthusiasm about African growth prospects. The robust expansion experienced by the region over the past two decades may not continue over the next few years, reducing expectations about the continent's employment outlook. Since the publication of the last *Africa Competitiveness Report* in 2015, the region's growth prospects have been affected by multiple external shocks: for example, oil exporters such as Nigeria have begun to be affected by lower oil prices over the past few years, and other mineral exporters,[1] such as South Africa, have been hit by the slowdown of emerging economies, especially China. From 2004 to 2014, the region as a whole averaged a growth above 5 percent a year, but it is now about 2.2 percent. Growth is expected to pick up in 2018 but will most likely remain below 4 percent over the next few years. Over that same period, growth of GDP *per capita,* however—the main indicator of economic development—was well above 5 percent only between 2004 and 2007.[2] Relatively few jobs have been added to African economies over almost 20 years of strong output expansion, mainly because of an overreliance on the primary sector (mineral extraction and agricultural products), little diversification, and low productivity. From 2004 to 2014, employment grew by only 1.7 percent in total—an average of less than 0.2 percent a year.[3] This level of job creation has been barely sufficient to absorb the approximately 100 million additional African workers aged 20–59 who entered the job market in this period,[4] which meant that the formal unemployment rate remained virtually unchanged amid continuing high rates of informal and vulnerable employment.

Over the next decade, both GDP and the working-age population are expected to increase by about 3 percent per year.[5] If it was possible to increase employment by only 1 percent in the past decade, when GDP growth was higher, it could be harder to add jobs over the next few years when economic performance is expected to be softer. Looking ahead, the main question for Africa will be how to improve its competitiveness while absorbing a continuously expanding labor force in a scenario of lower growth.

Moving toward a demographic dividend or social fragility?

The phrase *demographic dividend* captures how a population structure characterized by more people of working age and fewer dependents (children and elders) can boost economic growth simply because a larger share of the population is productive. However, even when the demographics are suitable for such a scenario, in the context of a weaker economic outlook, questions remain about the ability of African economies to provide such opportunities. If the low GDP growth and low employment expectations are confirmed, African economies could face the risk that a larger unemployed young population could become a source of instability in already fragile societies.

The capacity to offer African people greater opportunities and better living conditions will largely depend on how successful the region is at increasing competitiveness. Persistently low productivity levels and stagnant competitiveness—issues that this *Report* has been raising for almost a decade—are underlying causes of insufficient private-sector development and structural transformation that are at the root of Africa's limited ability to offer higher paid jobs. Although the current picture for the region as a whole looks

Box 1: An Action Agenda for Africa's competitiveness challenge

International organizations, nongovernmental organizations, and academic research agree that improving competitiveness and productivity in Africa is needed to improve living standards. Previous editions of *The Africa Competitiveness Report* have tracked progress made on the drivers of competitiveness and discussed various ways to boost the continent's competitiveness. For example, the 2011 *Report* examined Africa's human resources—in particular, considering how to reinforce managerial skills and higher education to increase the capacity to generate, transfer, and utilize new knowledge, especially among women. The 2013 *Report* looked at how export diversification would be important to reduce vulnerability to commodity price swings—tightening regional integration was identified as instrumental to diversification, along with simplifying import-export procedures and investing in upgrading information and communication technologies (ICTs), energy, and transportation infrastructure.

The 2015 *Report* discussed the sustainability of Africa de-industrializing and becoming more reliant on a service-driven development model. It suggested that to increase sectoral productivity and structural change, African economies should start by developing agri-value chains and increasing access to land through land reform. At the same time, tapping into global value chains and creating backward linkages would depend on trade facilitation, investment policies, better infrastructure, and finance.

This analysis was complemented by a year of public-private consultations on how to improve competitiveness in the region. This process, called the *Action Agenda for Africa's Competitiveness,*[1] resulted in specific recommendations in eight areas:

1. Strengthen institutions and governance by using more effectively government services online to raise efficiency, and simplifying administrative procedures to reduce corruption and increase transparency.
2. Develop a common regional infrastructure strategy by increasing air travel coordination, standardizing railway systems and water supply systems, and creating autonomous funds that ensure infrastructure maintenance.
3. Improve skills development by reforming and harmonizing curricula to match demand for skills; establishing regional training centers of excellence; increasing technical vocational education and training; and supporting the school-to-market transition by creating linkages between training, education, and the business sector.
4. Facilitate the movement of goods, services, and people by introducing common business and single-entry tourist visas, establishing an information-sharing and revenue collection mechanism, and harmonizing standards.
5. Champion small and medium-sized enterprises (SMEs), investing in building their capacity to formalize, adopt accounting standards, and integrate in regional value chains.
6. Improve access to financing and integrate financial markets by enabling the cross-listing of firms in different stock markets, developing non-banking finance (e.g., venture capital funds, private equity), and establishing credit reference bureaus to reduce information asymmetry.
7. Promote regional trade through regional and global value chains by identifying sectors with comparative advantages and regional complementarities and developing export support services.
8. Improve productivity and profitability in the agriculture sector by developing rural infrastructure, removing restrictions on the acquisition and transfer of land property and bank lending; promote mechanization through credit, subsidies, and tax relief to facilitate the acquisition of machinery; increase the development of high-yield seeds through regional R&D and improve extension services to facilitate the adoption of new seeds and farming technologies and techniques; and develop support mechanisms for small farmers' organizations, cooperatives, and associations to give them greater voice in the market.

Note

1 For the full list of recommendations and details of the program, see http://www3.weforum.org/docs/Africa_Competitiveness_2016.pdf.

Source: World Economic Forum et al. 2016.

challenging, there are wide variations among countries: some have made great strides in some important dimensions of competitiveness—such as better health conditions; sounder macroeconomic policies; more efficient and open goods markets; and, in some cases, stronger institutions, which have started to build the foundations for more resilient economies and better opportunities for the next generation.

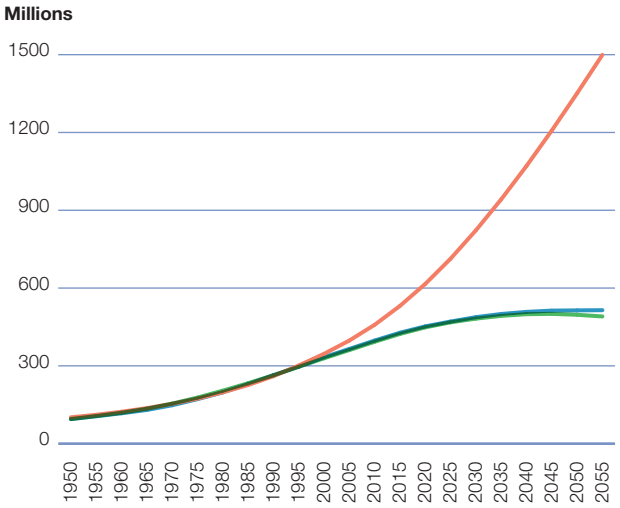
The advent of the Fourth Industrial Revolution (4IR) is adding complexity to the future of African economies and their employment outcomes.[6] On one hand, Africa could capture the opportunities offered by the new economy, leapfrogging directly to a more digital and service-based development model. On the other hand, Africa could find it harder to develop a manufacturing sector because automatization may reduce the relevance of low labor cost advantages, while at the same time the new production systems will require greater coordination and sophistication to participate in global value chains.[7] The combination of reduced relevance of low labor costs (enhanced by automatization) and African technological backwardness may prevent Africa from linking into value chains and hinder its structural transformation.

Previous editions of this *Report* have looked at diversification and regional transformation, and demonstrated how Africa's diversification from agriculture is occurring mainly via the service sector, often in lower-value-added segments, rather than by building a solid manufacturing sector. This year's edition focuses on how the minor and incomplete structural change that has taken place in Africa so far has resulted in limited employment opportunities and the promise of a demographic dividend has not yet been realized.

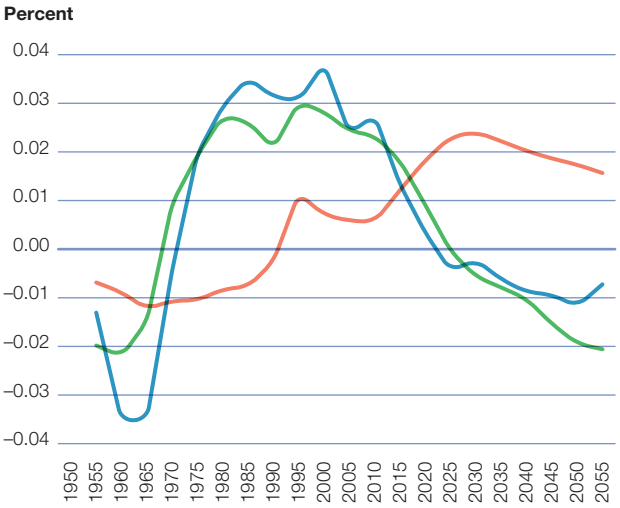
After providing a working understanding of the concept of the demographic dividend, this chapter analyzes the competitiveness landscape at the regional and subregional levels, comparing trends and highlighting variations across countries and over time, while taking into account demographic changes and related challenges. This analysis will inform the process of further developing the Action Agenda for Africa's Competitiveness, which aims to make concrete recommendations from public-private consultations on how to improve specific channels of competitiveness (see Box 1 for a summary of this Action Agenda).

Figure 1: Trend in working-age population (15–64) in Africa

1a: Working-age population (total)



1b: Change in working-age population share



Key

- Sub-Saharan Africa
- Southeast Asia
- Latin America

Source: Author's calculations, based on UN DESA, Population Division, 2015.

Although the analysis in this *Report* is conducted at the Africa level, (including both sub-Saharan Africa and North Africa), Figures 1a and 1b show only sub-Saharan Africa because it drives most of projected population growth after 2020.

The demographic dividend in Africa

Over the past 30 years, Africa's population has almost doubled, growing from about 550 million in 1985 to 1.2 billion in 2015.[8] Going forward, the United Nation's *World Population Prospects, the 2015 Revision* estimates that East and West Africa will continue growing at a similar rate in the future, bringing these two areas to almost double their population every 25 years.[9] In almost all regions of Africa (except the Southern part), all segments of populations grow, but with a faster increase of the 15- to 39-year old cohort. The Southern Africa region instead will see a relative aging of the population, with an increase of the cohort aged 40+ and little growth of the younger cohorts. Overall, Africa's population is expanding at a fast rate and its working-age population (15–64) has been increasing more than its total population since the 1990s. The upshot is that today Africa is the only region in the world where the working-age population is expected to continue expanding well beyond 2035, especially sub-Saharan Africa (see Figures 1a and 1b).

These trends in population have been sustained by improving health conditions with declining but still high fertility rates. One of the most successful Millennium Development Goals has been the reduction in child mortality by two-thirds between 1990 and 2015. Although more needs to be done, Africa has seen significant progress in reducing child mortality, which fell from 140 infant deaths per 1,000 live births to 56 between 1970 and 2014 (Figure 2a).

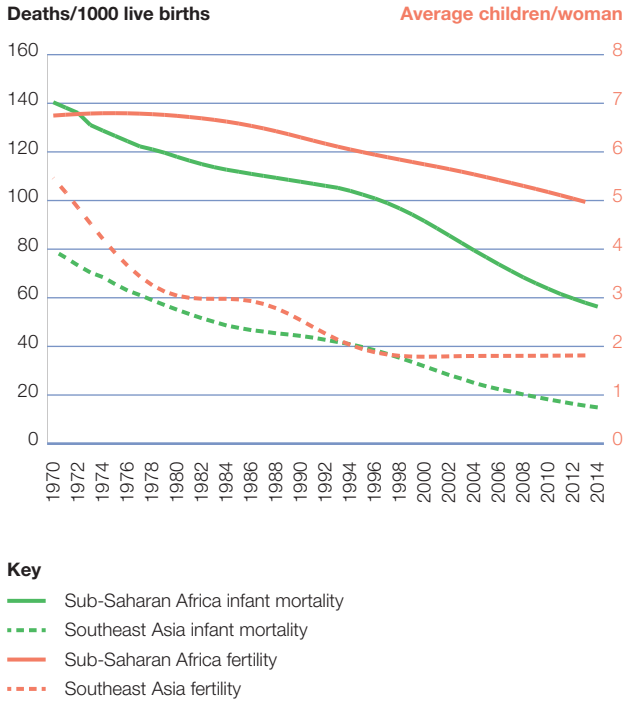
Fertility has also declined in Africa, from an average of about seven children per woman in 1970 to under five in 2015. However, this decline has been slow enough that—combined with the reduction in mortality—population growth in Africa has remained the fastest in the world. In economies where the demographic dividend has taken place, fertility fell to fewer than three children per woman, so that dependency ratios (the share of children and elders to the working-age population) fell to less than 60 percent. In Africa, the persistently high fertility rate and dependency ratios that remain about 80 percent raise questions about the actual status of the demographic transition in Africa.

Assuming that such demographic change is taking place, the demographic dividend can generate competitiveness and additional growth through four main channels:[10]

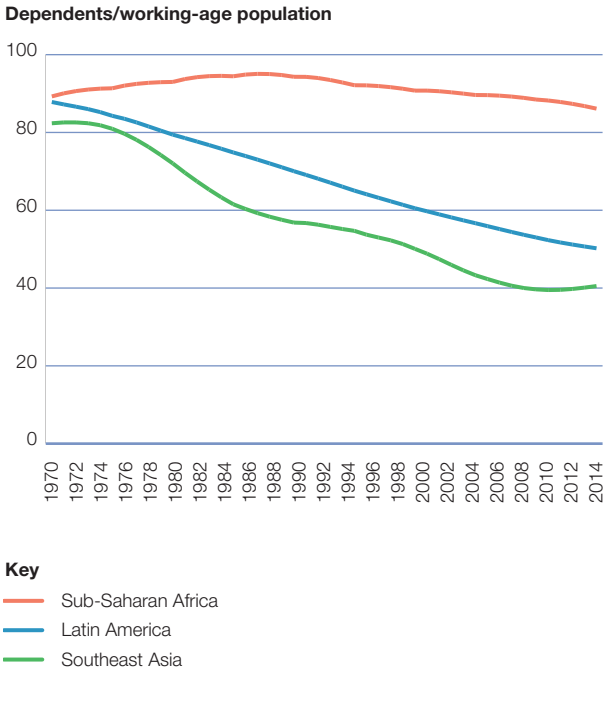
- Output per capita can increase simply because a larger share of people is working. Since GDP per capita equals (Productivity) × (Employed workers)/[(Employed workers) + (Non-employed)], if the number of employed workers is proportional to the number of working-age population, the growth in GDP per capita is equal to the change in productivity plus the change in the share of employed workers to total population. Even if productivity remains constant, GDP per capita growth will be equal to the change in the share of employed workers.
- As birth rates decrease, families can invest more funds on education and health for each child, who will in turn become more skilled and productive once they enter the labor force.
- Because younger individuals tend to be more productive than older individuals, a larger share of young adults in the employed labor force tends to generate some productivity gain.[11]

Figure 2: Drivers of the demographic dividend

2a: Trends in infant mortality and fertility



2b: Trend in dependency ratio



Source: World Bank, World Development Indicators.

Although the analysis of this *Report* is conducted at the Africa level, Figures 2a and 2b show only sub-Saharan Africa because these statistics are not readily available for all of Africa.

- If more people are working and can save, the aggregate pool of savings in the economy will increase and more investments can take place, which in turn can generate more growth because the capital stock increases and/or the investments generate productivity gains.

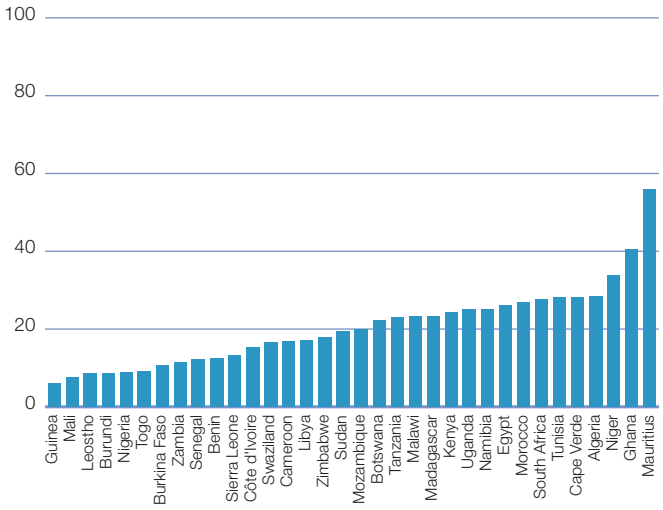
All these channels are amplified if they are accompanied by a contemporaneous sectoral transformation that leads to more people being employed in higher-productivity sectors.

The concrete possibility of "reaping the demographic dividend" depends crucially on the extent to which the working-age population is actually employed. High unemployment rates counterbalance the potential benefits of larger shares of the working-age population, and consequently limit the possible increase in GDP per capita. Benefitting from the change in demographics also depends on the extent to which workers are employed in occupations that generate above-subsistence incomes. If employment is low, informal, or provides only subsistence levels of income, there is no "demographic dividend" and an increasing population can actually become a burden to development: it may reduce the availability of resources for investment; become a source of social instability and institutional fragility; and create additional pressure on infrastructure, especially in urban context (as described in Chapter 1.3).

Despite the significant progress already made on health conditions and markets efficiency, and while acknowledging large differences across countries, Africa as a region does not yet seem to be in the best position to reap the demographic dividend. Employment rates remain low and many people who are not formally unemployed are nonetheless engaged in vulnerable occupations, the informal sector, or subsistence jobs. Official statistics show an incidence of about 13 percent unemployment among young (15 to 24 years old) males and 15 percent among young women across the continent; in South Africa, about 30 percent of youth are NEET (Not in Education, Employment or Training).[12] Statistical measurements are, however, inaccurate in Africa, and these estimates are the best efforts to monitor the labor market in a reality where a large share of the population is engaged in informal activities and therefore does not appear in labor force statistics. According to more direct household surveys, such as the Afrobarometer Survey,[13] most people do not have a full-time job that pays cash income; and in some countries, fewer than 10 percent of respondents received an income from a formal job (Figure 3).

One important driver of the demand for highly skilled and well-paid jobs is the economic structure and competitiveness. In 2011, agriculture was still Africa's largest employer by far—and although the growth of employment in agriculture has diminished in the past decade compared to growth in other sectors, almost 100 million Africans still depend on small-scale farming to make a living. Looking more specifically at youth employment, the situation is similar: about 40 percent of African youth work in the agriculture sector, another 33 percent in services and sales, 13 percent are owners of a business of any size, and 8 percent work in the construction and manufacturing sector (Figure 4).[14] Across all sectors, the share of youth (age 15–24) who earn less than US$2 a day shrank dramatically from 43 percent to 30 percent—but still, a third of youth are

Figure 3: Respondents with a full-time job that pays cash income



Source: Afrobarometer, Round 5 (2011–13).

poor and almost 60 percent of them earn less than US$3 a day.[15]

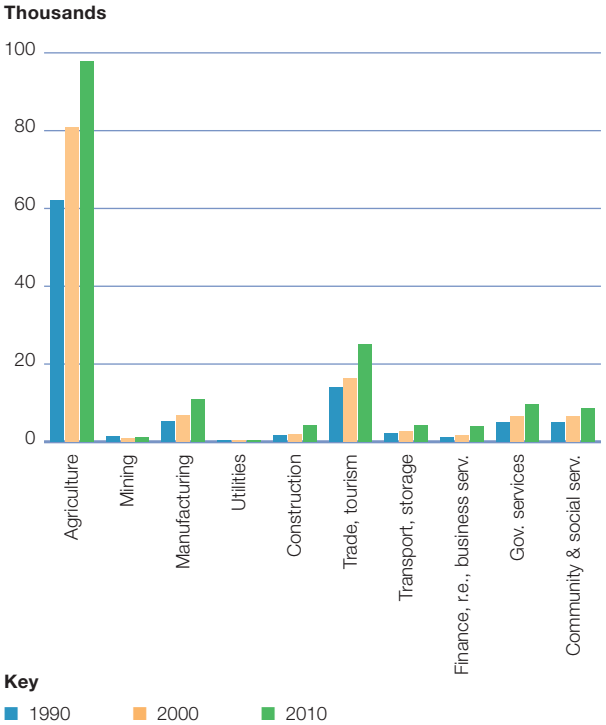
Employment growth in manufacturing, finance, tourism, and logistics are encouraging but not yet creating sufficient jobs to realize the demographic dividend. Migration statistics also show how young Africans under 30 are looking for better opportunities than their economies can offer. **Migration of this cohort increased from around 24.3 million in 2005 to 32.6 million in 2015.[16] Most of these people are searching for better job opportunities.** About two-thirds (16.4 million) moved within Africa, especially to Côte d'Ivoire, Ethiopia, Kenya, Nigeria, and South Africa; another third (9.2 million) moved to Europe.[17]

How can more and better employment opportunities be created? And can it be done quickly enough to reap a demographic dividend, especially when growth is low? Based on the experience of Southeast Asia and Latin America, the *demographic dividend window*—the period during which the share of working-age population grows—is expected to last approximately 50 years. For Africa, given its still-high fertility levels, it may last longer. However, the first generation that could determine a demographic dividend scenario has already been born.

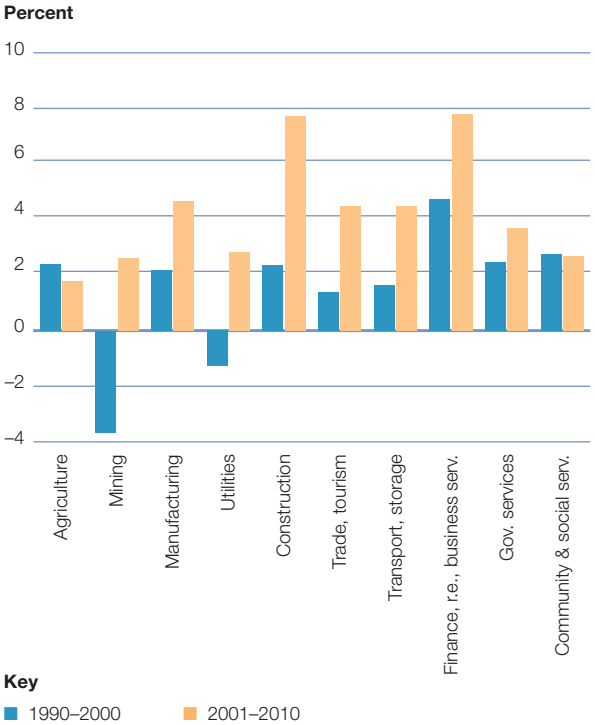
Africa needs to act now to put in place the structural changes necessary to build the foundations of more resilient and prosperous societies. It will not be possible to create employment and increase living standards without first boosting productivity, which in turn will allow economies to become more sophisticated and diversified across value chains. To make this happen, Africa needs to develop a

Figure 4: Employment by sector

4a: Number of workers

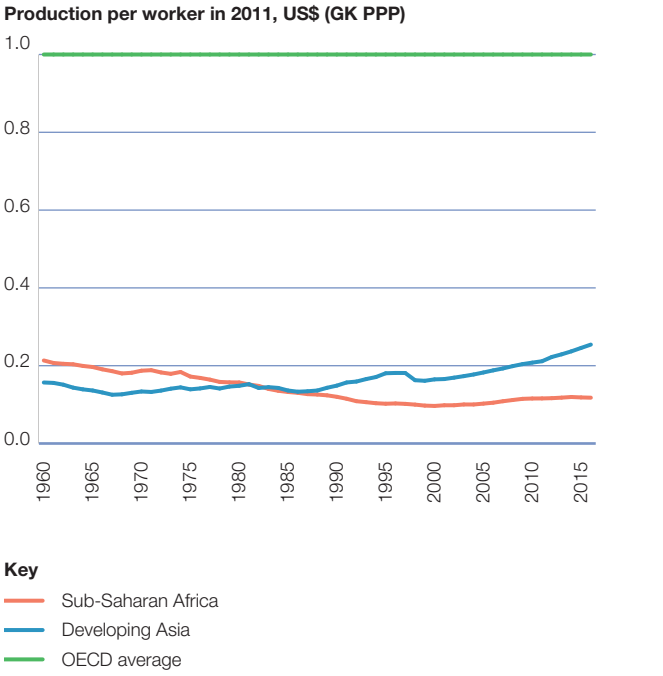


4b: Growth in workers



Sources: The Groningen Growth and Development Centre (GGDC) 10-Sector Database, http://www.rug.nl/ggdc/productivity/10-sector/; de Vries et al. 2013.

Figure 5: Trends in productivity, by region



Source: The Conference Board, Total Economy Database™ - Output, Labor and Labor Productivity, 1950–2016 (Adjusted version).

stronger ecosystem where the private sector can develop on the basis of effective institutional coordination, sound infrastructure, well-educated human capital, efficient markets, and modern technological uptake. In other words, Africa's path toward offering a better future to its youth passes through improving competitiveness.

Benchmarking productivity drivers: The Global Competitiveness Index in a context of changing demographics

Economic theory suggests that growth is linked to productivity: in other words, countries become richer only if the factors of production generate proportionally more output. This, in turn, depends on factors such as improvements in technology and how well markets work, among others. Measuring productivity is important because it explains how efficiently capital and labor are used—and consequently how much additional income they can generate.

Productivity has grown far less in Africa than it has in more advanced economies: its relative labor productivity decreased between 1960 and the late 1990s, and since then it has remained stagnant. Meanwhile, Southeast Asia has managed to increase its labor productivity faster than advanced economies, starting to close the gap with them (Figure 5). If this trend continues, Southeast Asia will reach similar standards of living as more advanced economies while Africa remains at the same development level as today.

Why have Asian countries managed to improve their productivity, while most African countries have not?

As discussed in the 2015 edition of this *Report,* while East and Southeast Asia have relied on industrialization as the primary driving force of economic development since the 1960s, Africa has not. Most African economies today are still largely based on agriculture, and growth in adjacent sectors, such as agri-business and agricultural products processing, remains minimal. A second important limitation to Africa's development, also highlighted in the 2015 *Report,* is the slow growth of productivity in African agriculture. Despite its primary importance for the economy, there has been no green revolution as occurred in East Asia, where cereal yields almost quadrupled between 1960 and 1990. At the same time, a large difference in labor productivity has remained between the two regions, and competitiveness has not converged over the period covered by the Global Competitiveness Index (GCI) assessment. Because Southeast Asian economies had started to improve the structural factors that enable structural change 50 years ago, by the time the GCI was introduced (in 2006) they already had an higher level of competitiveness than Africa in all pillars of the Index. Even since 2006, Southeast Asian economies have continued to improve their financial markets, goods markets, infrastructure, and macroeconomic environment, while Africa has generally progressed very little.

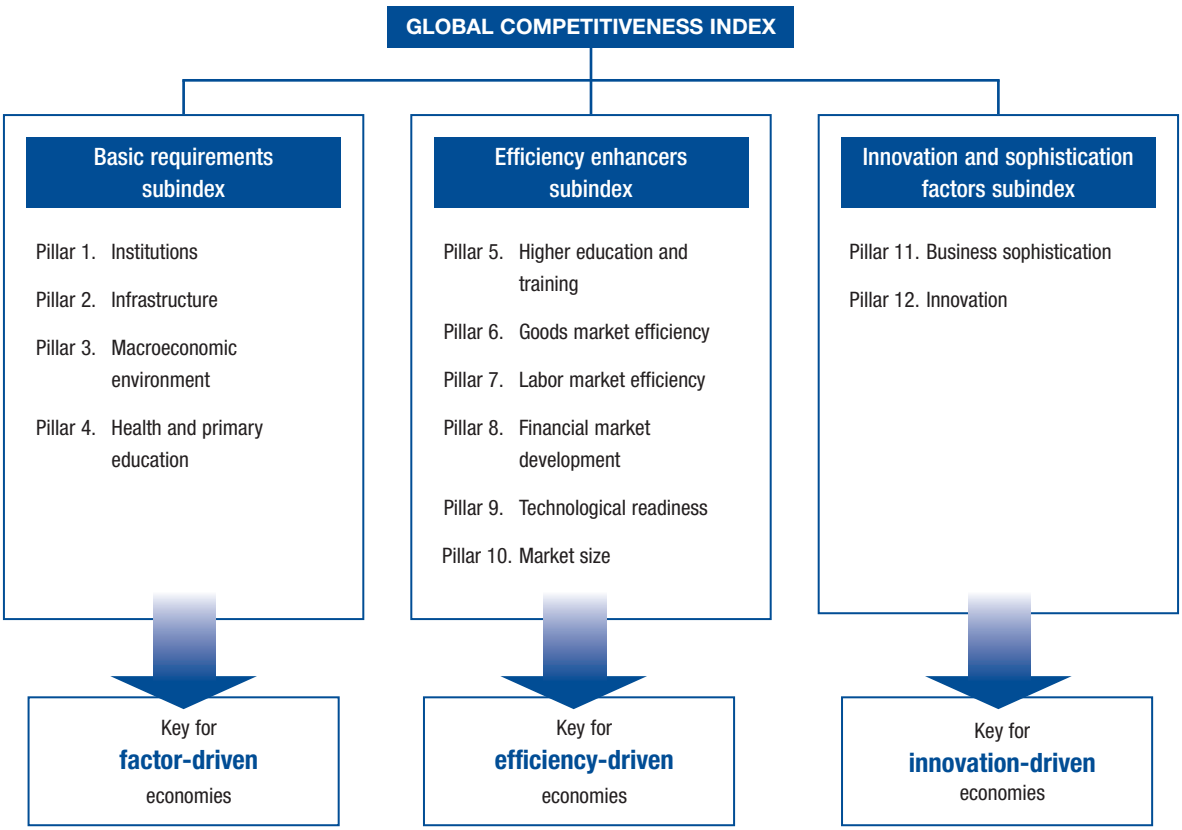
Improving productivity and its drivers has been critical to countries' abilities to increase their standards of living. Therefore identifying and measuring the drivers of productivity is the goal of the GCI, which defines *competitiveness* as *the set of institutions, policies, and factors that determine a country's level of productivity*—and, in turn, determines the sustainability of its economic growth and prosperity in the medium to long term. For a review of the evolution of the concept of competitiveness over time, refer to Box 3 on page 22.

Measuring competitiveness is a complex task because many different factors matter. This is reflected by the division of the Index into 12 distinct pillars:[18] institutions (public and private); infrastructure; the macroeconomic environment; health and primary education; higher education and training; goods market efficiency; labor market efficiency; financial market development; technological readiness; market size; business sophistication; and innovation (see Figure 6). Africa needs to improve competitiveness across the 12 GCI pillars to achieve sustainable growth and reap the demographic dividend.

As Figure 6 shows, the GCI takes into account the fact that countries are at different stages of economic development, which are reflected in three different subindexes (see Appendix A). A country's development path starts off with securing basic requirements, and as it proceeds it becomes more sophisticated and has to rely increasingly on innovation to grow. This framework is used to give general guidance on the priority areas for reforms at each of three stages:

- In the first stage, represented by the *basic requirements subindex* in Figure 6, economies are *factor-driven* and their competitiveness is based on their factor endowments—primarily unskilled labor and natural resources. Maintaining competitiveness depends relatively more on well-functioning public and private institutions (pillar 1), well-developed infrastructure (pillar 2), a stable macroeconomic environment (pillar 3), and a healthy and literate workforce (pillar 4).
- As wages rise with advancing development, countries move into the second, *efficiency-driven* stage of development, when they must begin to develop more efficient production processes and increase product quality. At this stage, competitiveness depends more on

Figure 6: The structure of the GCI



higher education and training (pillar 5), an efficient goods and services market (pillar 6), frictionless labor markets (pillar 7), developed financial markets (pillar 8), the ability to make use of the latest technological developments (pillar 9), and the size of the domestic and foreign markets available to the country's companies (pillar 10).

- As countries move into the third, *innovation-driven* stage, they are able to sustain higher wages and the associated level of productivity only if their businesses are able to compete with new and unique products and services. At this stage, companies must compete by using the most sophisticated management methods (pillar 11) and innovation (pillar 12).

The GCI classifies most African economies as factor-driven (Figure 7),[19] suggesting that their competitiveness agenda should prioritize the fundamentals as the first necessary step

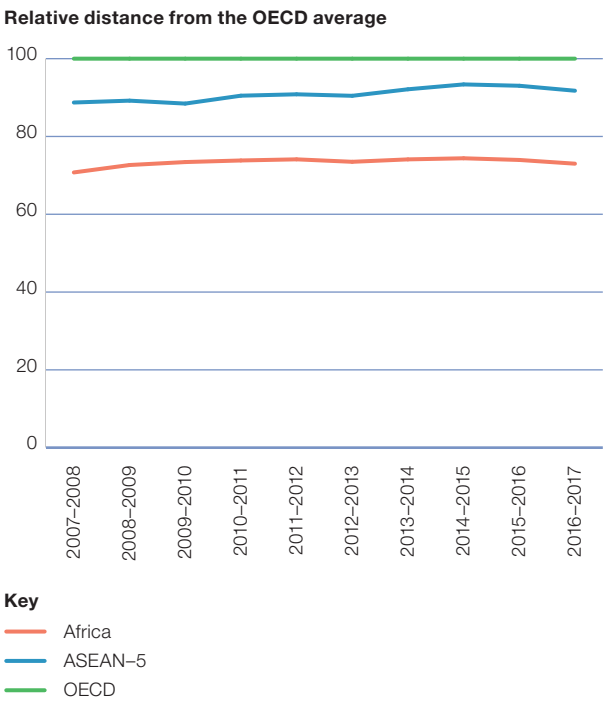
Figure 7: African countries in the sample, by stage of development

Stage	African countries	Subindex weights
Stage 1 (factor-driven) **GDP per capita <US$2,000**	Mauritania, Benin, Burundi, Cameroon, Chad, Congo, Democratic Rep., Côte d'Ivoire, Ethiopia, Gambia, The, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, Zambia, Zimbabwe	Basic requirements (60%), Efficiency enhancers (35%)
Transition from 1 to 2 **GDP per capita US$2,000–US$3,000**	Algeria, Botswana, Gabon, Nigeria	Basic requirements (between 40% and 60%), Efficiency enhancers (between 35% and 50%)
Stage 2 (efficiency-driven) **GDP per capita US$3,000–US$9,000**	Egypt, Morocco, Tunisia, Cape Verde, Namibia, South Africa	Basic requirements (40%), Efficiency enhancers (50%)
Transition from 2 to 3 **GDP per capita US$9,000–US$17,000**	Mauritius	Basic requirements (between 20% and 40%), Efficiency enhancers (50%), Innovation factors (between 10% and 30%)
Stage 3 (innovation-driven) **GDP per capita >US$17,000**	——	Basic requirements (20%), Efficiency enhancers (50%), Innovation factors (30%)

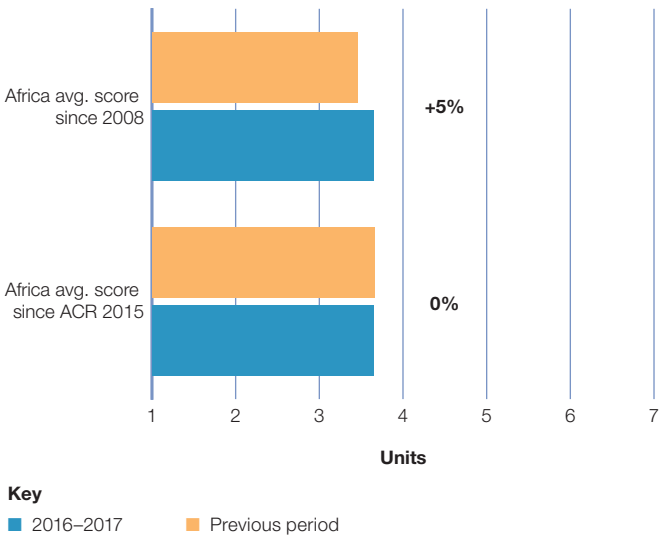
Source: World Economic Forum 2016a.

Figure 8: Global Competitiveness Index, by region

8a: Ten-year trend



8b: Percent change



Source: World Economic Forum, *The Global Competitiveness Report,* various editions.

toward improving productivity. Four countries (Algeria, Botswana, Gabon, and Nigeria) are currently transitioning to the second (efficiency-driven) stage of development, and seven others have already reached that stage, where higher education and market efficiencies (goods, labor, and financial) play a more prominent role. Mauritius is currently the only African country transitioning to the innovation-driven stage. It is important to bear in mind that these classifications serve only as guidelines, and defining a holistic competitiveness agenda with clear policy suggestions should be based on a deeper country analysis that takes into account specific contexts and challenges.

The next section assesses Africa's overall competitiveness and compares it with other relevant regions and countries. It covers the 35 African economies included in *The Global Competitiveness Report 2016–2017* (GCR). The sample has changed slightly from the last edition of this *Report:* Democratic Republic of Congo was included in the GCR for the first time, and three previously covered countries—Guinea, Seychelles, and Swaziland—were omitted because of insufficient data from the Executive Opinion Survey, on which parts of the GCI are based.

Africa's performance in an international context

This section assesses Africa's overall regional competitiveness performance over time and in comparison with other regions.[20] A regional perspective is valuable because several African countries share development bottlenecks, and region-wide progress may have a positive effect on the development of individual economies through positive externalities from more dynamic neighboring economies.

Overall, Africa's competitiveness performance has again stagnated, and the continent has fallen further behind advanced economies. Figure 8a compares the average of the 23 African economies included in the GCI since 2007 against the average of the 35 Organization of Economic Co-operation and Development (OECD) economies, representing the world's most advanced economies, and Southeast Asia, the region that has developed most over the past 10 years while still sharing some characteristics with African economies.

Despite a 5 percent improvement, compared to 10 years ago in its GCI absolute score (Figure 8b), Africa's gap with OECD countries has closed by less than 2 points in that time, and has started widening again this year (see Figure 8a). In contrast, the group of five economies of the Association of Southeast Asian Nation (ASEAN) assessed by the GCI—which are starting from a stronger position—have more quickly reduced their gap with advanced economies, with improvements in productivity leading to higher standards of living. In Africa, standards of living have improved only slightly compared with 10 years ago, reflecting lack of progress in creating a more conducive environment for private-sector development and economic transformation. In the past two years there has been even less dynamism in African economies, which have registered virtually no change in competitiveness performance.

Within the continent, East Africa, although starting from a low base, is the subregion that has managed to improve its competitiveness performance the most (it has gained 8 percent in score since 2007), followed by Southern Africa (it has gained 6 percent since 2007). West Africa and North Africa, after a short period of improvement, are today at the same level of competitiveness they used to be 10 years ago.

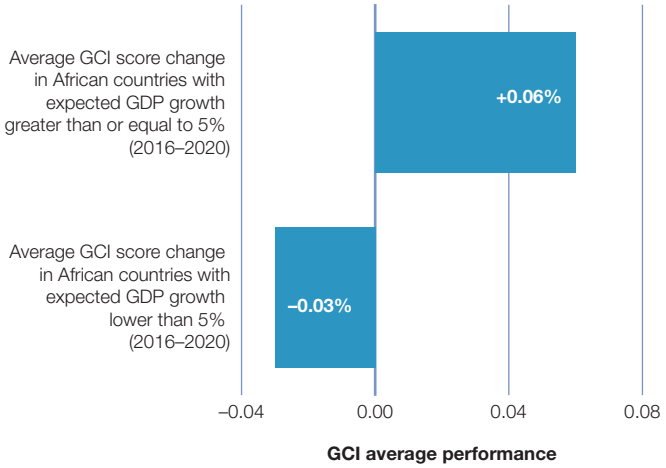
Similarly, competitiveness performances vary considerably between those economies that have traditionally relied heavily on mineral exports,[21] which have registered almost no progress, and more diversified economies that have improved their average competitiveness score by about 5 percent.

Figure 9: Performance of African countries on the Global Competitiveness Index

9a: High expected GDP growth and GCI performance

Country	Expected average GDP growth 2017–2018 (percent change)	Change in GCI score between 2014–2015 and 2016–2017 (score change)	
Ethiopia	8.1%	0.17	Second most improved
Côte d'Ivoire	7.6%	0.19	Most improved
Tanzania	7.0%	0.11	Seventh most improved
Senegal	6.9%	0.04	Fifteenth most improved
Rwanda	6.5%	0.13	Fourth most improved

9b: GDP growth forecast and improvement in GCI score



Source: Africa Development Bank Group, *African Economic Outlook* projections 2016–2018; World Economic Forum 2016a.

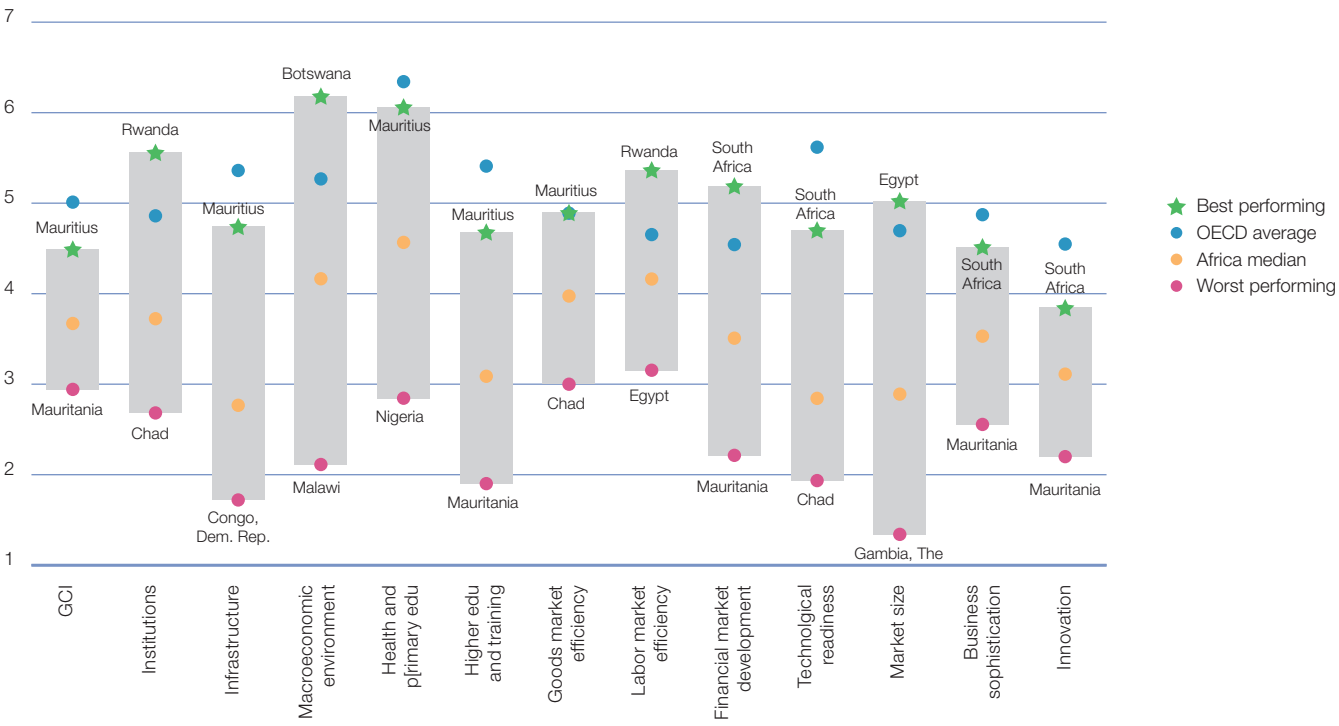
At the country level, against the weak regional outlook a handful of countries are expected to continue to grow in GDP at a sustained rate (Figures 9a and 9b). Côte d'Ivoire, Ethiopia, Rwanda, and Tanzania are all expected to grow at an average rate of close to 7 percent over the next few years. These countries have managed to diversify their economies a bit more than others in the region, and have made significant efforts to improve competitiveness. On average, there is a correlation between countries having improved their competitiveness levels in recent years and those able to expect faster growth rates in the future. These results suggest that, if supported by the right policies, African economies can maintain high economic growth despite headwinds from external factors.

Pillar analysis

The differences among African countries are particularly stark when observing performance differences across the GCI pillars. Figure 10 summarizes the distance between the best and the worst performers in Africa on each of the 12 components of the GCI, and shows how large the differences between countries in

Figure 10: GCI score dispersion among African economies, OECD comparison

GCI Score (1–7)



Source: World Economic Forum 2016a.

Figure 11a: Change in Africa's average GCI pillar scores

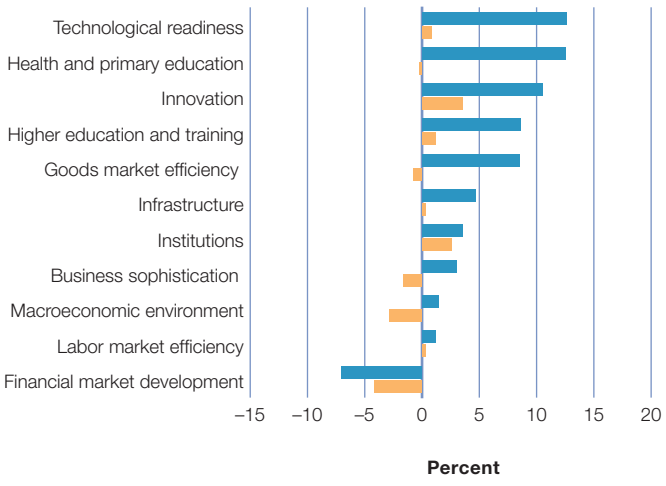
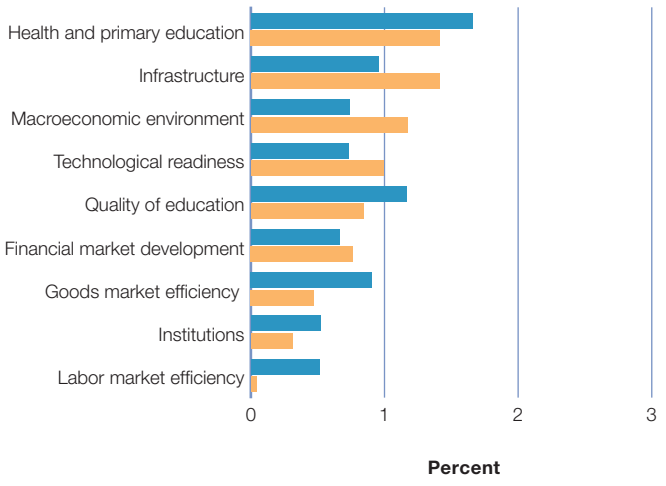
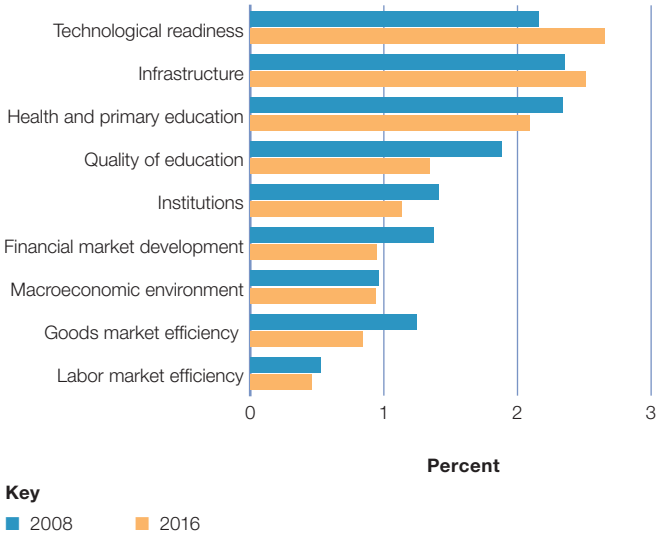


Figure 11b: Africa's competitiveness gaps with ASEAN-5 average score, by pillar



The five ASEAN countries covered by the GCI are Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

Figure 11c: Africa's competitiveness gaps with OECD average score, by pillar



Source: World Economic Forum, *The Global Competitiveness Report,* various editions.

The OECD economies covered by the GCI are Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Rep., Latvia, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

the same region can be. For example, gaps between the best and least African performer are particularly large in financial development, macroeconomic conditions, and health.

Development is uneven across pillars also when compared to international standards. On some dimensions, some African countries can attain performances at a similar level as the OECD average (i.e., labor market or goods market efficiency), but there is no African country achieving a strong performance in infrastructure, higher education, technological readiness, or innovation, suggesting that these are some of the factors where policy intervention is needed the most.

This idea is confirmed by looking at *changes over time* in the performance of Africa across the 12 components of the GCI (Figures 11a, b, and c). Notably, Africa has improved the most in those areas covered by the Millennium Development Goals, such as education, child mortality and maternal health. For example, on average Africa has improved its performance on health and primary education by more than 12 percent over the past decade. This has been driven mainly by much lower infant mortality (from 83 to 47 percent), lower incidence of tuberculosis (from 406 to 313 cases per 100,000 population), and higher enrollment in primary school (from 76 percent to 83.5 percent).

Africa has also improved the efficiency of its goods markets, especially through better competition and lower tariffs and taxes. For example, the rating of business executives of local competition intensity has increased by 13 percent, also facilitated by less administrative red tape to start a business (reduced by 47 percent), and the average taxation of profits has almost halved in 10 years.[22]

Technological readiness has also gained considerable ground in the last 10 years, yet—because most countries have expanded their ICT capabilities much more than Africa has in this period—the technological gap has widened. Similarly, improvements in higher education, infrastructure, and institutions have been too small to reduce Africa's competitiveness gaps in these areas. In infrastructure, Africa's progress has been even smaller, and the continent has seen no improvement at all in this area since 2015. In addition, the global reduction of commodity prices in the past two years has weakened the macroeconomic environment of most African countries; this price drop has also negatively affected the financial sector, contributing to reduce the already declining regional performance in financial market development.

In other pillars the picture is more blurred. The gap in labor market efficiency with Southeast Asia is now very small, but the large amount of informal economic activity that occurs in Africa makes it hard to measure how efficiently talent is actually being used in the continent, and the informality may be contributing to brain drain. Finally, innovation has shown some encouraging signs of improvement, but realizing its potential depends again

on improving the overall ecosystem—including infrastructure, finance, skills, and productive capacity.

In order to shed more light on those factors where Africa has either made the least progress (or even regressed) or is less developed, the remainder of this section will focus on pillar performance over time, while the full ranking of African countries by pillar is provided in Appendix B. These factors emerge as those where policy intervention should be prioritized. They are the macroeconomic environment and financial development, infrastructure, technological readiness, higher education, and institutions; this is also apparent from the score distribution shown in Table 1 on pages 14–15.

Macroeconomic environment and financial development

Since the last assessment, the end of the commodity price cycle has negatively impacted current accounts and financial markets, which may have a deep impact on future competitiveness-enhancing investments. Yet most African economies have been successful in keeping inflation in check.

During the commodity "super-cycle" that began in the early 2000s, the public and private sectors experienced significant liquidity and economic planning was conducted under the assumption that growth would continue at a similar rate. Since the decline in commodity prices in 2014, revenues have not managed to keep up with expenditures. The drop in prices has affected almost all mineral exports, but oil-exporters have been hit harder by the combination of weak international demand and oversupply. Members of the Organization of the Petroleum Exporting Countries (OPEC) have recently responded to the new market situation by agreeing to reduce production until demand picks up. However, for the next few years, low demand will keep oil price expectations much lower than their peak in 2013. Similarly, the International Monetary Fund (IMF) forecasts prices of iron ore, copper, and coal to stay on a lower base until 2021.[23]

Lower prices have translated to lower export values and lower government revenues in the majority of commodity-exporting countries. It has not been easy for African countries to adjust to a diminishing inflow of capital, with the attendant ramifications on government finance and the banking sector. The most direct effect has been on fiscal policy: declining commodities exports have caused a reduction in public revenues in half of the African countries covered by the GCI. Despite efforts to build counter-cyclical reserves, authorities have responded to shrinking budgets with a mix of public expenditure cuts and an increase in public debt. Expenditure cuts, especially in investment, have in turn reduced GDP and employment. As a by-product, most African countries have recorded increasing public debt since 2015 and are continuing to run deficits. Because many governments have issued bonds in US dollars, the currency depreciation associated with decreasing export values has increased the value of the debt that countries have to repay. At the same time, to keep inflation under control, most countries have maintained a tight monetary policy.[24]

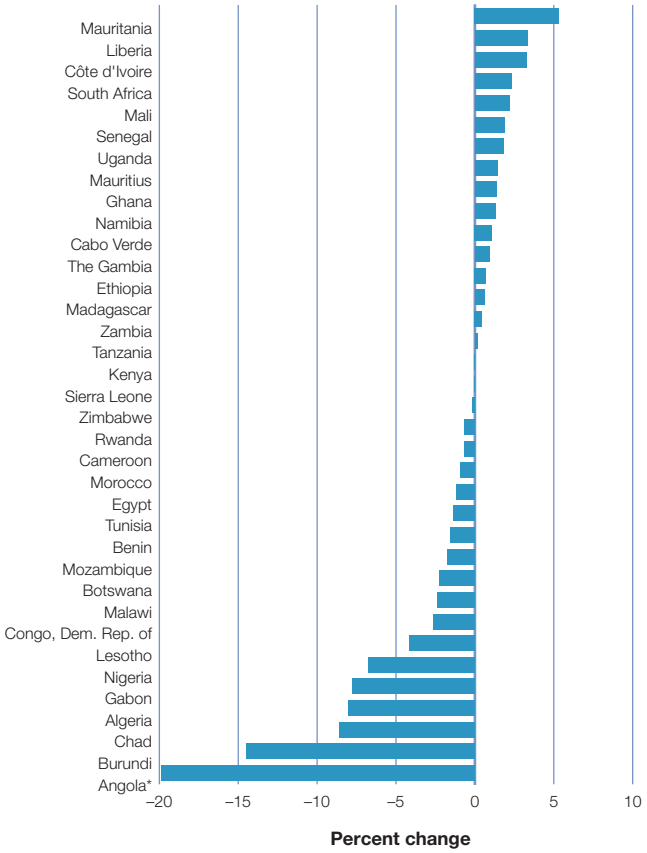
In many cases, governments have financed deficits by borrowing more from international or local banks. This has produced a second indirect effect on African economies: higher borrowing costs for the private sector. Companies face higher interest on their loans, driven by both tight monetary policy and the "crowding out" of private capital to finance public debt. This dynamic contributes to reducing investment and employment.

A third effect is on the financial sector, which is negatively impacted by the collateral effects of commodity price adjustments. As suggested by the Bank of International Settlements,[25] during commodity price booms, country risk premiums shrink and consequently credit increases. When general economic conditions worsen, it becomes more difficult for companies to repay their debts and banks suffer higher non-performing loans rates that, in turn, decrease their profitability. In parallel, if the income generated during a commodity boom is saved in local banks, there could be a large withdrawal of cash when commodity prices drop, further draining liquidity from local banks. These conditions lead to more fragile banks, which create financial stability concerns and at the same time exacerbate the difficulty of the private to access credit.

Over the past two years, the aggregate macroeconomic environment of Africa has worsened, due to higher government debt (+9.0 percent), higher public deficit (+1.3 percent), and lower savings (–2.4 percent), expressed as a percentage of GDP.[26]

However, some countries have been hit harder than others. Among the most affected, Algeria saw a decrease in its macroeconomic environment score by almost 25 percent (63rd in this pillar); in Chad (105th) and Nigeria (108th) it declined by 13 percent, and in Mozambique (125th) by 14 percent. Other countries have not suffered loss of government revenues, and even among countries more dependent on mineral exports the severity of the impact varies significantly. For example, the impact on Botswana has been much milder than it has been on Nigeria (Figure 12).

Figure 12: Change in government revenue average between the 2010–14 and 2015–16 (average)



Source: Authors' calculations, based on IMF, World Economic Outlook 2016.

Values are calculated as 2015–16 government revenues to GDP average minus 2010–14 government revenue to GDP.

* Not assessed by the GCI 2016–2017.

Table 1: The Global Competitiveness Index 2016–2017, selected pillars: Score dispersion among African economies

Country	Global Competitiveness Index	Basic requirements			
		1st pillar: Institutions	2nd pillar: Infrastructure	3rd pillar: Macroeconomic environment	4th pillar: Health and primary education
MIDDLE INCOME					
Mauritius	4.49	4.50	4.74	4.89	6.06
South Africa	4.47	4.46	4.18	4.52	4.30
Botswana	4.29	4.50	3.49	6.18	4.66
Morocco	4.19	4.21	4.25	5.07	5.63
Namibia	4.01	4.47	4.09	4.58	4.56
Tunisia	3.92	3.81	3.73	4.16	5.92
Cape Verde	3.76	3.96	3.39	4.01	5.92
Senegal	3.74	3.96	3.01	4.27	4.18
Ghana	3.67	3.94	2.87	2.89	4.64
Egypt	3.67	3.64	3.36	2.68	5.45
Zambia	3.60	4.02	2.43	4.00	4.21
Lesotho	3.57	4.17	2.61	5.33	3.49
Middle-income average	**3.95**	**4.14**	**3.51**	**4.38**	**4.92**
LOW INCOME					
Rwanda	4.40	5.56	3.34	4.51	5.54
Kenya	3.89	3.64	3.34	3.56	4.65
Ethiopia	3.76	3.85	2.76	4.52	4.71
Uganda	3.68	3.54	2.43	4.59	4.58
Tanzania	3.67	3.76	2.67	4.62	4.23
Gambia, The	3.47	4.18	3.41	2.82	3.84
Benin	3.46	3.53	2.22	3.95	4.63
Mali	3.46	3.50	2.86	4.95	2.99
Liberia	3.20	3.80	2.61	3.28	3.09
Sierra Leone	3.16	3.24	2.32	3.55	4.09
Mozambique	3.12	3.15	2.47	3.48	3.48
Malawi	3.07	3.54	1.88	2.11	4.56
Low-income average	**3.53**	**3.77**	**2.69**	**3.83**	**4.20**
FRAGILE					
Côte d'Ivoire	3.86	3.82	3.61	4.73	3.70
Zimbabwe	3.40	3.34	2.49	4.12	4.56
Madagascar	3.32	3.09	1.96	4.11	4.31
Burundi	3.05	2.88	1.92	3.54	4.75
Mauritania	2.94	2.81	2.18	4.02	3.83
Fragile average	**3.32**	**3.19**	**2.43**	**4.10**	**4.23**
OIL-EXPORTING					
Algeria	3.98	3.50	3.27	4.82	5.71
Gabon	3.78	3.72	3.09	5.55	4.84
Cameroon	3.58	3.49	2.15	4.24	4.67
Nigeria	3.39	3.28	2.09	4.01	2.84
Congo, Democratic Rep.	3.28	3.29	1.72	4.79	3.48
Chad	2.94	2.68	1.75	4.06	3.83
Oil-exporting average	**3.49**	**3.32**	**2.34**	**4.58**	**4.23**

(Continued)

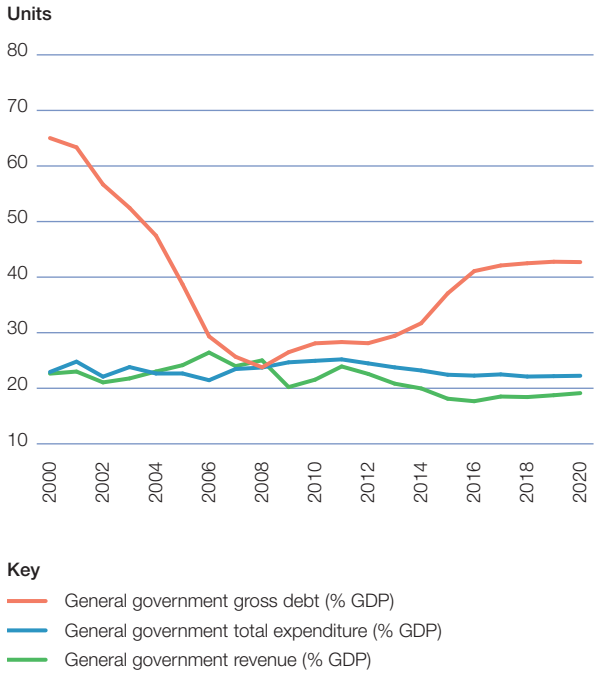
Source: World Economic Forum 2016a.

Colors are based on the score distribution of each pillar at the global level. Scores are computed on a 1-to-7 scale.

Table 1: The Global Competitiveness Index 2016–2017, selected pillars *(continued)*

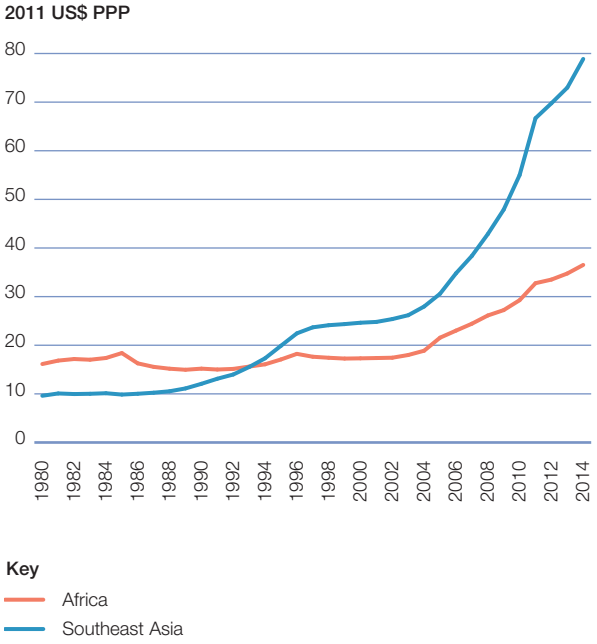
	Efficiency enhancers						Innovation and sophistication factors	
Country	5th pillar: Higher education and training	6th pillar: Goods market efficiency	7th pillar: Labor market efficiency	8th pillar: Financial market development	9th pillar: Technological readiness	10th pillar: Market size	11th pillar: Business sophistication	12th pillar: Innovation
MIDDLE INCOME *(cont'd.)*								
Mauritius	4.68	4.89	4.39	4.28	4.16	2.71	4.35	3.33
South Africa	4.21	4.76	3.94	5.19	4.70	4.89	4.51	3.84
Botswana	4.07	4.29	4.54	3.99	3.57	2.88	3.61	3.22
Morocco	3.55	4.37	3.54	3.79	3.69	4.26	3.81	3.11
Namibia	3.32	4.23	4.61	4.22	3.56	2.76	3.72	3.28
Tunisia	4.01	3.93	3.24	3.21	3.72	3.78	3.61	3.03
Cape Verde	4.14	4.07	3.67	3.37	3.75	1.37	3.52	3.10
Senegal	3.29	4.19	3.97	3.71	3.16	2.92	3.85	3.48
Ghana	3.77	4.15	4.22	3.78	3.38	3.70	3.91	3.31
Egypt	3.26	3.95	3.15	3.38	3.26	5.02	3.70	2.74
Zambia	2.99	4.20	3.99	3.78	2.83	3.24	3.54	3.33
Lesotho	3.03	4.17	3.95	2.61	2.66	1.90	3.50	2.94
Middle-income average	**3.69**	**4.27**	**3.93**	**3.77**	**3.54**	**3.29**	**3.80**	**3.23**
LOW INCOME *(cont'd.)*								
Rwanda	3.22	4.67	5.36	4.59	3.24	2.44	3.96	3.56
Kenya	3.85	4.23	4.61	4.20	3.55	3.73	4.23	3.83
Ethiopia	2.78	4.00	4.24	3.50	2.42	3.83	3.66	3.39
Uganda	2.73	3.91	4.65	3.87	2.77	3.37	3.48	3.25
Tanzania	2.60	3.92	4.33	3.54	2.59	3.72	3.53	3.19
Gambia, The	3.38	4.20	4.49	3.52	2.92	1.34	3.84	2.99
Benin	3.08	3.72	4.42	3.46	2.48	2.58	3.39	3.21
Mali	2.92	3.97	3.77	3.42	2.84	2.82	3.37	3.15
Liberia	2.73	4.17	4.21	3.88	2.43	1.69	3.66	3.16
Sierra Leone	2.56	3.77	3.79	3.10	2.41	2.08	3.14	2.59
Mozambique	2.28	3.87	3.98	2.97	2.54	2.99	3.19	2.84
Malawi	2.61	3.80	4.53	3.25	2.25	2.54	3.28	2.81
Low-income average	**2.90**	**4.02**	**4.36**	**3.61**	**2.70**	**2.76**	**3.56**	**3.16**
FRAGILE *(cont'd.)*								
Côte d'Ivoire	3.35	4.16	4.18	3.87	3.38	3.40	3.67	3.38
Zimbabwe	3.15	3.54	3.37	3.07	2.72	2.71	3.17	2.61
Madagascar	2.85	3.80	4.39	3.13	2.48	2.88	3.31	3.11
Burundi	2.29	3.62	4.13	2.56	2.01	1.69	3.07	2.54
Mauritania	1.90	3.21	3.25	2.21	2.31	2.42	2.55	2.19
Fragile average	**2.71**	**3.67**	**3.86**	**2.97**	**2.58**	**2.62**	**3.15**	**2.77**
OIL-EXPORTING *(cont'd.)*								
Algeria	3.86	3.51	3.24	2.88	3.07	4.72	3.31	2.92
Gabon	2.97	3.73	3.88	3.49	3.06	2.81	3.16	2.70
Cameroon	3.43	3.97	4.16	3.65	2.59	3.29	3.48	3.18
Nigeria	2.86	4.07	4.53	3.69	3.14	4.99	3.61	2.89
Congo, Democratic Rep.	2.77	3.71	4.40	3.24	2.29	3.16	3.16	2.84
Chad	2.20	2.99	3.78	2.88	1.93	2.75	2.70	2.49
Oil-exporting average	**3.02**	**3.66**	**4.00**	**3.30**	**2.68**	**3.62**	**3.24**	**2.84**

Figure 13: Trends in public finance, sub-Saharan Africa aggregate



Source: IMF, World Economic Outlook, October 2016.

Figure 14: Physical capital stock per person employed



Source: World Bank, World Development Indicators, http://data.worldbank.org/data-catalog/world-development-indicators

In general, countries that have put in place sound fiscal and monetary policies—keeping inflation, debt, and current accounts in check—have tended to see improvements in their macroeconomic environment, counterbalancing the negative effects of shrinking revenues. This is an aspect where many African countries have improved significantly, having better control of inflation and government accounts compared to 20 years ago, and in some cases achieving a performance in line with advanced economies. For example, despite a significant reduction of government revenue and consequential doubling debt over the past two years, Gabon (25th) still has a low inflation rate, relatively high national savings, and a contained budget deficit. Botswana, also impacted by shrinking mineral exports, ranks 10th globally thanks to good management of its resource fund, low public debt and inflation, and high national savings. As a result, Botswana and Gabon, followed by Mauritius, have developed the soundest macroeconomic environments in Africa.

As discussed above, macroeconomic conditions in general and public revenue in particular are having a significant impact on the banking sector. Not surprisingly, the countries where the soundness of banks assessment has declined the most are those affected the most by commodity price adjustments: Lesotho (137th), Botswana (68th), Gabon (89th), Nigeria (83rd), and Chad (130th) are the five countries that have lost most ground in terms of banks' soundness.

Beyond the specific banking channel, financial markets in Africa—despite some efforts to increase depth[27]—have generally become less strong. More than half of the countries assessed by the GCI have seen their performance decline in the financial market development pillar compared to two years ago, and a total of 19 countries rank lower than the 100th position. South Africa (ranked 11th in this pillar) is the only strong regional financial center, and its banks have not yet been affected significantly by commodity price shocks; it ranks 2nd in the soundness of its banks. Rwanda's financial market (32nd) is continuing the progress it began in 2008 after a liquidity crisis forced the government to intervene; since then, the country's banks have taken considerable steps forward to improve their breadth and update their financial products offerings. Yet Rwanda remains at a considerable distance from South Africa in terms of size and depth, and its banks have been somewhat affected by declining government revenues.

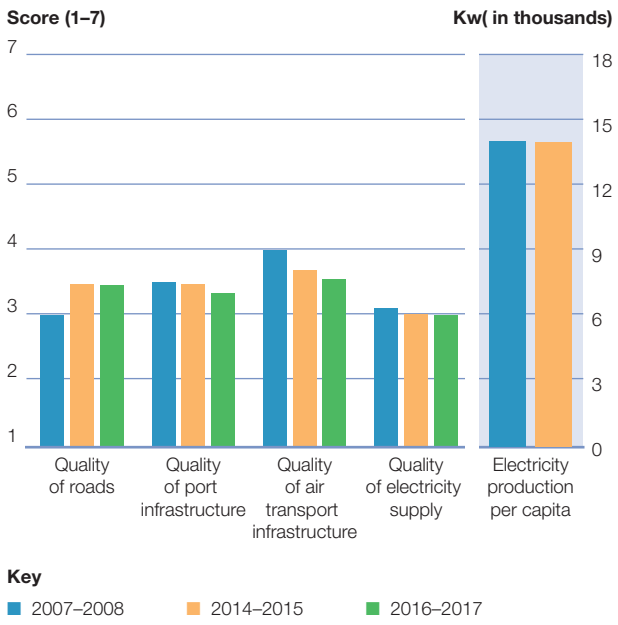
How does macroeconomic and financial development impact the chance of reaping the demographic dividend? The simultaneous reduction in public funds (Figure 13), due to government budget cuts, and in private funds, due to lower bank credit availability, will translate into less availability of finance for infrastructure building, innovation, skills development, and company expansion. This in turn limits the employment opportunity outlook and the skills level of the workforce in the longer run. At the same time, increased volatility in financial markets might further discourage private investments and capital inflow on the continent, hindering economic activity and employment prospects.

Infrastructure

The development of transport and energy infrastructure has stagnated, widening the gap with advanced economies and developing Asia. Africa's performance in transport infrastructure quality has dropped by 6 percent while ASEAN has, on average, improved by 7 percent. As a result, the gap between Africa and ASEAN has almost doubled in the last decade. Similarly, the assessment of African executives of the quality of the energy supply has dropped by almost 3 percent over the past 10 years, increasing the gap with OECD and ASEAN by a proportional amount.

Physical capital has built up in Africa, especially after the mid-2000s, but on a much slower trajectory than in other developing areas such as developing Asia (Figure 14). Progress

Figure 15: Trends in selected Infrastructure indicators, Africa average



Source: Authors' calculations, based on World Economic Forum, Executive Opinion Survey, various editions; and CIA Factbook, various years.

has differed widely across types of fixed capital: the region's development of water, electricity, and transport infrastructure has been reported as "limited" or "disappointing" by various international organizations,[28] although comparatively better outcomes have been seen in telephony and communication and, to some extent, sanitation. Overall, infrastructure continues to be rated as one of the top three constraints for Africa's development.

According to the opinion of African business leaders, only the quality of roads has improved over the past 10 years, while the quality of ports, airports, and electricity infrastructure has remained poor (see Figure 15). In some cases new investments are just sufficient to keep up with increasing demand but not sufficient to reach the level required to support economic growth. For example, electricity production has expanded overall but is at the same per capita level as it was in 2007.

Certainly, financial limits remain an important constraint, especially in a low-growth scenario. Public-sector intervention is necessary to finance transport and electricity infrastructure because this type of infrastructure is complex and often requires large investments, making it less attractive to private-sector involvement, especially when weak institutions lack the capacity to lead effective coordination. The particular financial characteristics of transport and energy projects explain why it was not possible for these sectors to achieve the same fast development and private-sector participation observed in telecommunication infrastructure building (see the next section). Even while acknowledging these challenges and public budget constraints, the total investment in infrastructure is insufficient to bridge the infrastructure gap. According to a recent report, the public and private sectors together have invested an average of US$90 billion a year between 2012 and 2015;[29] in contrast, the Chinese government alone is planning to invest about US$240 billion a year over the next three years to improve its infrastructure.[30] Regulatory or institutional bottlenecks are at times more problematic hurdles than scarcity of financial means. The African Development Bank has been encountering significant difficulties in disbursing its loans and grants, half of which are committed to infrastructure building. From 93.8 percent of the total funds allocated in 2012, disbursement declined to 70.1 percent in 2014.[31]

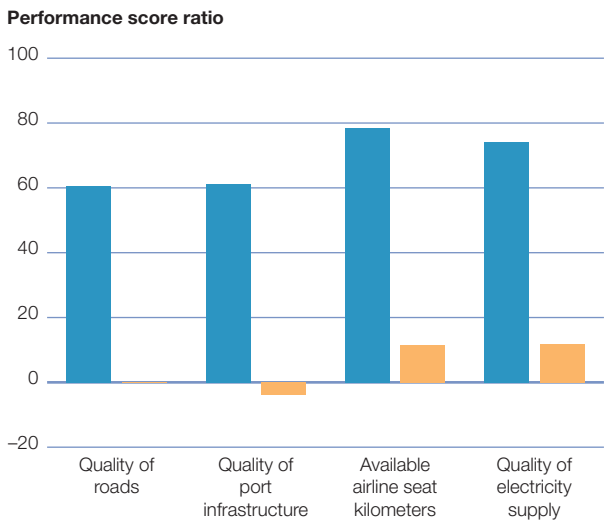
Tighter public budgets and banking sector liquidity will make financing gaps even wider, raising the need for new solutions. Recent experience in Africa shows that private-sector investment and public-private partnerships have played only a marginal role in building transport and utility infrastructure, so new models for public finance have to be found. The first step could be the optimization of existing resources: as suggested by a case study in Nigeria, public-private partnerships, at times effective, can also sometimes lead to "waste of resources due to project delay and cost escalation"— which slows the completion of infrastructure projects.[32] Other possible solutions that emerged from the series of Africa competitiveness workshops (see Box 1) in 2016 include pooling public resources by developing a common regional infrastructure strategy and standardizing railway and water supply systems.

As can be seen by looking at infrastructure quality in single countries, intra-regional differences are very large, and at the same time best performers in Africa lag significantly behind international averages. Transport infrastructure (a subset of the overall infrastructure pillar) is well developed only in South Africa (30th); while in Morocco (47th), the second-best performer in Africa, is already about 15 percent less sound than in the OECD average, and Chad's infrastructure (136th) is about 50 percent less efficient than that of Morocco, and more than 60 percent less efficient than the OECD average. Namibia, Kenya, and Ghana (the fourth-, fifth-, and sixth-best African performers) have average scores that are 5 to 30 percent lower than the level attained by Morocco. Most countries are not closing these gaps: over the past 10 years only South Africa and Botswana have managed to reduce the gap in transport infrastructure with the advanced economies.

The results vary considerably by type of infrastructure, however. Across Africa, electricity is the least developed type, as evidenced by the frequent power crises registered in 2015 and 2016 in many African countries, including Ghana, Kenya, Nigeria, and South Africa. Several African countries are also particularly underdeveloped in aviation infrastructure, as indicated by their very low air traffic and by security concerns: lack of competition has kept travelling by plane very expensive,[33] and security concerns have caused 108 airlines from 14 African countries to be banned from European Union airspace.[34] These facts show that the bottlenecks in air transport are not limited to airport construction, but extend to market regulation, plane maintenance and upgrading, and business management.

On a more positive note, in the quality of seaports and roads, some African countries perform relatively well: the quality of roads in Namibia and ports in South Africa is in line with average levels in advanced economies. Yet the gaps within the region on these dimensions are outstanding (Figure 16). Although lack of data precludes a complete assessment of the situation in each country, it is still problematic in most: 13 of the 31 countries assessed by

Figure 16: Gaps in Africa infrastructure, by type

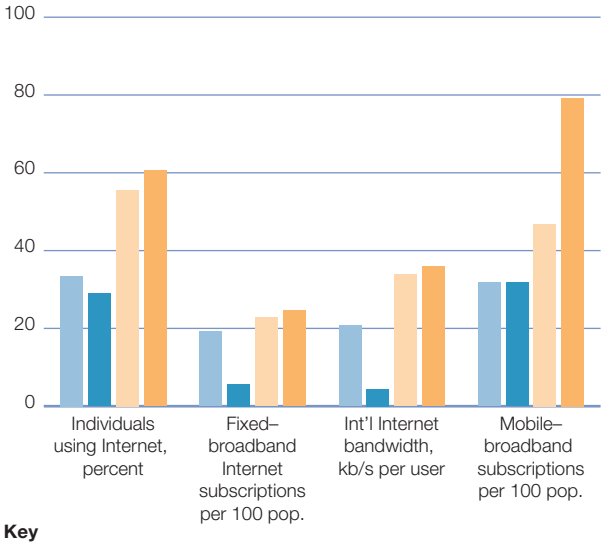


Key

- Least African performer to best African performer score ratio
- Best African performer to OECD average score ratio

Source: World Economic Forum 2016a.

Figure 17: Distance in selected ICT indicators performance from the OECD average level



Key

- Africa to OECD performance ratio 2013
- Africa to OECD performance ratio 2015
- ASEAN–5 to OECD performance ratio 2013
- ASEAN–5 to OECD performance ratio 2015

Source: Author's calculations, based on World Economic Forum 2016a.

the GCI this year are landlocked and can connect to ports only by constructing massive ground infrastructure that spans national borders, while others have simply not been able to develop sufficient capacity. Although some efficiency gains can be obtained through greater cross-country collaboration and the optimization of facilities serving multiple countries, the development of transport and utility infrastructure is still holding back the development of most African countries.

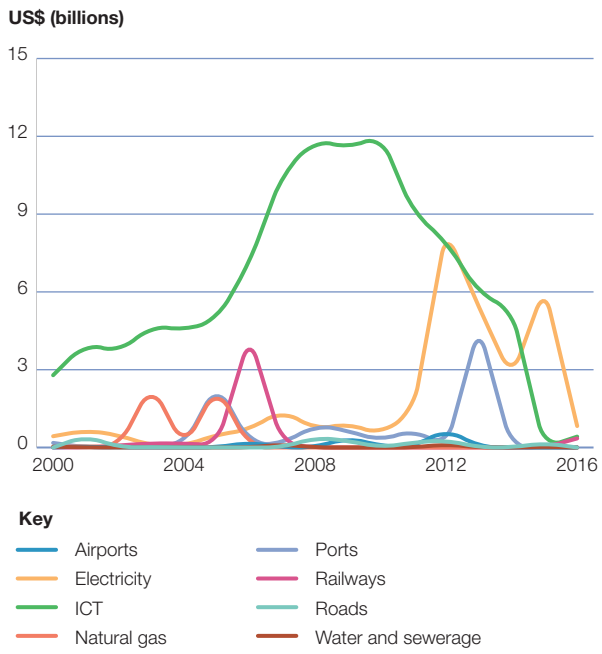
How does the infrastructure deficit impact the chance of reaping the demographic dividend? Lack of appropriate infrastructure in areas such as transport, electricity, and water prevents people from accessing markets and holds back the development of industry and agri-business, limiting their ability to create employment opportunities across the continent. More specifically, infrastructure backwardness in rural areas prevents rapid connection between farmers and markets; in urban areas, infrastructure deficits in transport, housing, and electricity—as discussed in Chapter 1.3—limit intra-city connection and the efficiency of the labor force. In addition, the slow progress being made in addressing housing backlogs in African cities represents a missed opportunity to create more job opportunities in the shorter run.

Technological readiness

ICT infrastructure and usage have improved significantly, enabling many Africans to access services that they could not imagine before the wide uptake of mobile phones. **Despite these advances, the gap with advanced economies on ICT usage has increased, hindering the capacity of the continent to embrace the Fourth Industrial Revolution.** Figures 11a, 11b, and 11c show that technological readiness (especially mobile phone penetration) is one of the areas where Africa has improved the most in absolute terms. The combination of the decreasing costs of mobile devices and tariffs and the low electricity and skills required to operate a mobile phone, along with investments that have been made in the grid infrastructure, have made this rapid diffusion possible. Access to mobile-phone technology has equipped millions of Africans with new tools for managing their businesses and households.[35] For example, mobile banking has created a concrete and feasible reason for African households to acquire and use a mobile phone, which at the same time fosters financial inclusion.

Yet gaps with advanced economies and ASEAN are large (Figure 17)—possibly even larger today than 10 years ago. Although mobile coverage has improved significantly,[36] Africa is lagging on broadband speed as only 1.4 percent of Africans have a fixed broadband connection.[37] The construction of fixed broadband lines does not seem to be proceeding as fast as mobile technology hardware, despite a relatively large increase in investments from public-private partnerships (Figure 18).[38] At the same time, data package subscriptions are still relatively expensive. As a consequence, only about 20 percent of the African population has regular access to the Internet—which will be a critical issue for future development. Because most economic activity conducted online—such as cloud computing and video content—requires greater data usage, bandwidth and computation power, low access to fast Internet reduces

Figure 18: Trend in private participation in infrastructure in sub-Saharan Africa



Source: World Bank, Private Participation in Infrastructure database, https://ppi.worldbank.org/.

the size of digital markets and limits the possibilities for providing online services.[39] Lack of high-speed connectivity is also a critical bottleneck for developing 4IR models of production, which are inevitably built on the infrastructure of the digital revolution.

As a consequence, African countries are not equipped to transition to a Fourth Industrial Revolution economy. Even the most tech-savvy countries in the region—South Africa (ranked 58th in ICT use), Mauritius (72nd), Botswana (83rd), Namibia (96th), and Kenya (105th)—are still far behind the frontier in the adoption of ICT technologies. The availability and use of broadband technologies and infrastructure remain limited even among the regional leaders. Because participating in the digital economy requires adopting international ICT standards, it will be difficult for any African economy to compete in providing services or to benefit fully from receiving services. There is certainly encouraging anecdotal evidence: for example, some tech start-ups in Ghana, Kenya, Namibia, and South Africa have captured international attention, appearing in Forbes lists of emerging companies. However, the challenge for these countries is to restructure their economies to become competitive in a modern world, and pockets of excellence may not suffice to achieve this goal.

How does technological readiness impact the chance of reaping the demographic dividend? ICTs can transform and modernize the agriculture sector, fostering greater integration into value chains and increasing productivity, and consequently increasing the revenues of the millions of African youth employed in this sector. Greater agriculture productivity will make possible the transfer of the labor force and resources to other productive occupations. Furthermore, as modern industry and service sectors become increasingly dependent on ICTs, the lack of ICT infrastructure is another hurdle to their development. Leapfrogging on these technologies could give an advantage to African economies that do not need to de-industrialize and could directly embrace a 4IR economic model. More job opportunities, enabled by ICTs—as has already begun in Ghana, Kenya, and South Africa[40]—would come from the greater possibilities of leveraging foreign markets and integrating more easily with value chains, both in services and in 4IR production systems.

Higher education and skills

Despite some progress in reducing education gaps, skills remain an important barrier for development in the continent. Over the past 10 years, Africa has improved its participation rate in primary and secondary education by 8 percent and 27 percent respectively, but the levels remain low in absolute terms: average enrollment in secondary education is only 43 percent, and only 60 percent of adults are literate.[41] If secondary enrollment continues to increase at the same pace, it will take another 15 years to achieve the level of advanced economies, while some adult illiteracy will remain. Since advanced economies have achieved almost full participation in primary and secondary education, any progress in these domains means Africa is reducing the gap.

When it comes to tertiary education, however, the gap is widening: the participation rate in advanced economies is still growing, while in Africa it has progressed only from approximately 6.5 percent to 8.5 percent. The fact that a large fraction of the workforce is undereducated by international standards is an important barrier to private-sector development. Ten years ago, Southeast Asian countries had, on average, twice as many secondary and almost three times as many tertiary graduating students as Africa, a fact that played a role in its recent fast growth.

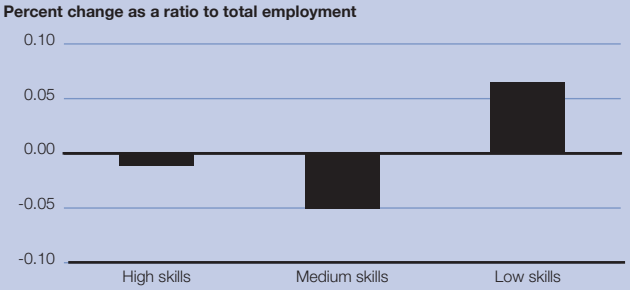
The availability of skilled workers is essential to start new companies or attract foreign companies and to compete in an increasingly interconnected world. Over the last five years, business leaders in Africa have consistently rated the workforce's inadequate level of education as am`ong the top six most problematic factors for doing business.[42] This is especially true if the hypothesis that automation may reduce the possibility that poor countries can develop on the back of cheap labor is confirmed. In the case of Africa, where the competitive advantage in low wages is counterbalanced by high transport costs and inefficiencies, joining the ICT revolution can represent an immense opportunity.[43] Furthermore, given the small size of manufacturing today, there will be little disruption and more to gain in leapfrogging to 4IR models of production.

If these scenarios of automation and the need to move to 4IR models are confirmed, in order to meet the need of the private sectors, the types of skills and quality of the education obtained by the workforce will be as important as the average education level (see also Box 2 on page 20). However, the exact definitions of relevant skills and education quality are moving targets. Because skills requirements change at the speed of technological progress, curricula need to be updated frequently to make sure that education systems continue to be relevant for a changing employment environment. Despite the progress that has been made in the last 10 years on the quality

Box 2: Increasing education quality to bridge the skills mismatch

Availability of quality job opportunities, especially those requiring higher skills, is central for reaping Africa's demographic dividend. Yet the large bulk of Africa's youth are neither employed nor in education or training (NEET). This group encompasses over a third of youth in countries such as Namibia, South Africa, and Tanzania, and over two-fifths of young women in Egypt (40.7%) and Algeria (34.7%),[1] while many more are in unpaid or vulnerable employment. At the same time, employment in high-skilled occupations is not increasing: compared to the pre-global financial crisis period (2003–06), employment in Africa has increased in low-skilled occupations by about 9.5 percent but decreased in medium- and high-skilled occupations by 5 percent and 0.2 percent respectively (Figure A).[2] Many highly educated people struggle to find relevant job opportunities even in middle-income countries. For instance, unemployment levels among workers holding a tertiary education degree are as high as 18.5 percent in Morocco, 19.9 percent in Mauritius, 23 percent in Algeria, 30.1 percent in Tunisia, and 31.1 percent in Egypt.

Figure A: Change between 2003–06 average and 2013–15 average in employment by skill level



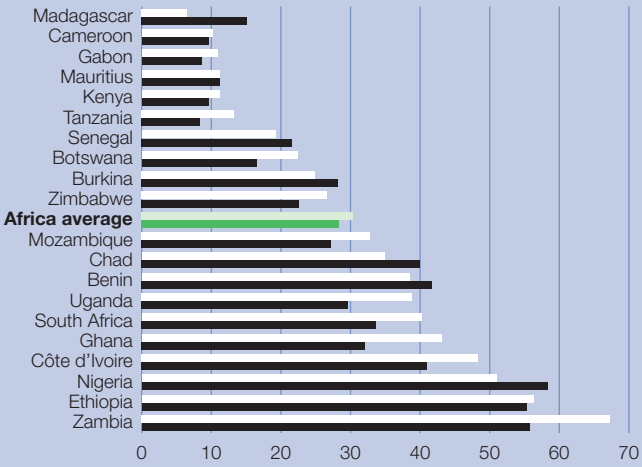
Source: Authors' calculations, based on the International Labour Organization (ILO) ILOSTAT database, available at http://ilo.org/global/statistics-and-databases/lang--en/index.htm

Although data limitations on both labor demand and supply factors impede a comprehensive evaluation of African job markets, there is sufficient evidence to indicate that the quality of education plays an important role in determining such outcome. The Global Competitiveness Index shows that education quality in Africa is low and improvements are taking place at a much lower rate than increases in enrollment.

Lack of qualified teachers (see Box 2 in Chapter 1.2), limited funding, and unequipped and overcrowded classrooms reduce the quality education in elementary schools, leading to a significant proportion of children not learning basic literacy or numeracy skills by fifth or sixth grade (Figure B).[3] Consequently, students often lack the building blocks necessary for maximizing further investment in education, exacerbating the deficiencies of secondary and tertiary school systems.

In addition, curricula are often outdated and do not provide the students with the new skills needed by modern economies.[4] Skills in higher demand in future are likely to include computer literacy, coding, and creativity, but only now are only few countries (i.e., South Africa) are starting to consider introducing compulsory computer classes in secondary school.[5]

Figure B: Enrolled students who are not learning



Source: Loeb 2016.

As a consequence, Africa's skills gap at the secondary level is high. According to local business executives, in most African countries, the students graduating from secondary school do not possess, on average, the skills companies need.[6] Even Africa's best-performing country, Rwanda, attains a score that is only about 60 percent of Switzerland's (the global best performer) and business leaders struggle to find the type of talent they need.

More has to be done to equip young Africans with the relevant skills that will enable them to compete in increasingly interconnected and technology-dense labor markets. Effective public-private collaboration such as the Regional Skills Project can contribute to reduce skill-gaps at national and regional level.[7]

Notes

1 Data for Egypt are from ILO 2016; data for Algeria are from the ILOSTAT database, and refer to 2014.

2 The latest ILO statistics refer to the period 2013–15.

3 These figures are calculated by the Center for Universal Education at Brookings using data from regional examinations, such as the Programme d'Analyse des Systèmes Educatifs de la CONFEMEN (PASEC) and the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), as well as national assessments of 4th or 5th grade students.

4 World Economic Forum 2016b.

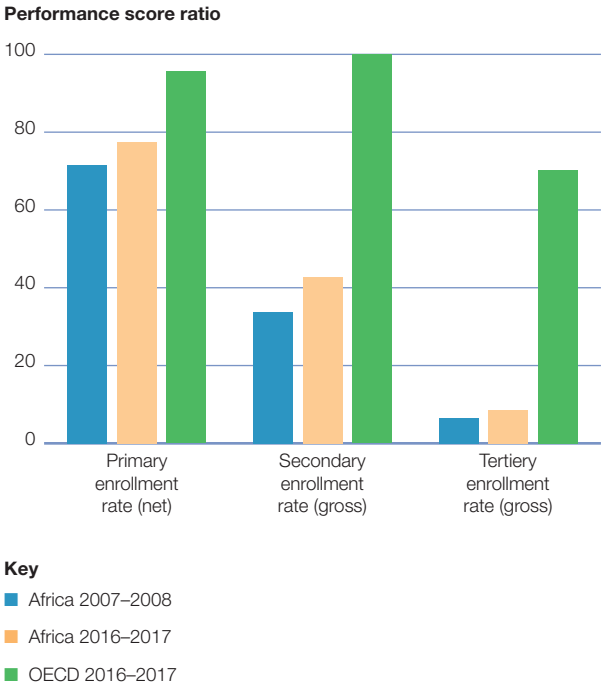
5 Government of South Africa 2016.

6 The *skills gap* refers to the indicator derived from the World Economic Forum's Executive Opinion Survey question: "In your country, to what extent do graduating students possess the skills needed by businesses at the following levels: Secondary education (1 = not at all; 7 = to a great extent)".

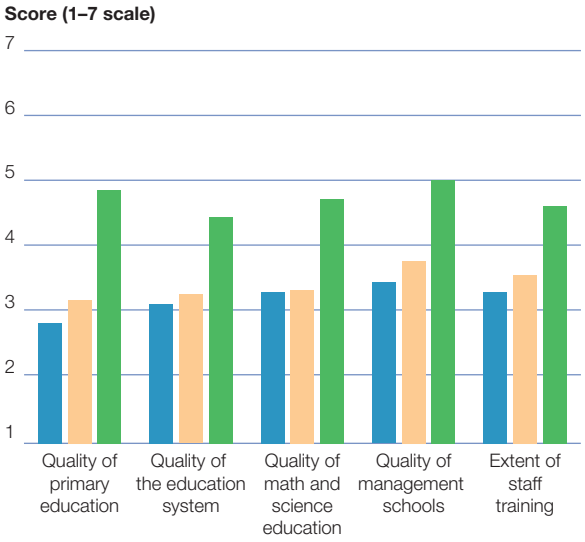
7 For details about this project, see https://www.weforum.org/projects/closing-the-skills-gap-regional-skills-projects.

Figure 19: Education in Africa and OECD average, selected indicators

19a: Quantity of education indicators



19b: Quality of education indicators



Source: World Economic Forum 2016a.

of primary and management schools and training, on this front also the divide between Africa and advanced economies remains large (Figure 19).

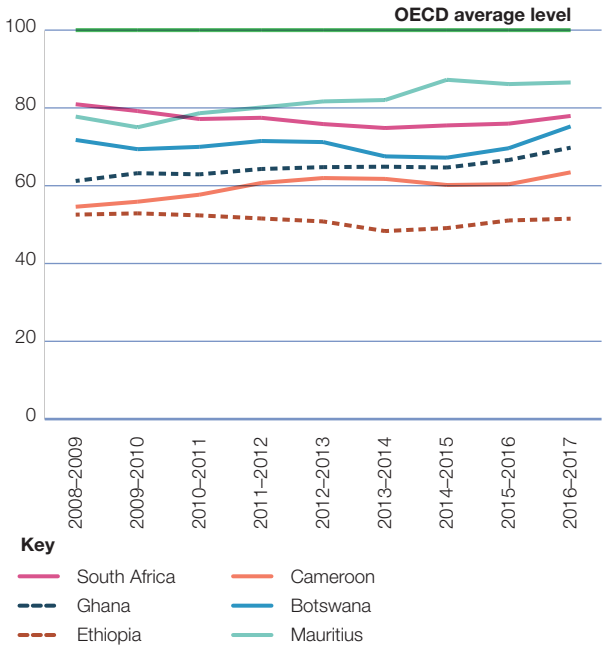
At the country level, there are encouraging trends in some African economies but gaps remain large. Mauritius (ranking 52nd), South Africa (77th), and Botswana (88th) lead the higher education and training pillar. Kenya (97th) and Ghana (99th) follow closely, while in most of the other Africa countries significant gaps remain: Cameroon (105th), the region's sixth-best performer, is four basis points below Ghana at 5th place, and the lowest-ranked country scores are only half of the score of leader Mauritius (Figure 20).

Mauritius has managed to improve its talent pool past South Africa. Despite hosting six of the top 15 African universities,[44] South Africa's skills level is not improving sufficiently. It increased its secondary and tertiary enrollment rates by only a relatively small amount, while in Mauritius both enrollment rates increased significantly. Over the past 10 years, South Africa's higher education quality levels have decreased relative to the expectations of employers, while in Mauritius they have improved steadily.

Other countries showing positive trends include Ghana, one of the most improved on both a ten-year and a two-year horizon. Cameroon, Botswana, and Ethiopia have also improved, although to a lesser extent. The progress made in all four countries points to the possibility of positive employability outcomes in at least some African countries. Even here, however, the challenge will be to improve the type and intensity of skills of young Africans to enable them to compete in a more integrated, digital, and technological savvy world, while continuing to make education more inclusive and increase participation by reaching rural and other less-served areas.

How does higher education and training impact the chance of reaping the demographic dividend? The link between skills and employability is straightforward. The level and quality of education directly impacts the likelihood of being hired or, to some extent, becoming an entrepreneur. Because new generations of Africans will increasingly be more exposed to international competition and the effects of digitalization, their

Figure 20: Trend in higher education, selected African countries



Source: World Economic Forum, *The Global Competitiveness Report,* various editions.

Box 3: The concept of competitiveness over time

The concept of a country's competitiveness has radically changed over time. In the mid-1980s, the term was mainly understood as a country's ability to trade internationally and to compete with other countries in international markets.[1] At that time, the focus of competitiveness moved from the firm level to the country level with the idea of maximizing returns on a country's own resources and benefitting from comparative advantages. In the 1990s, Paul Krugman (1994) referred to competitiveness as an agenda too heavily focused on trade, which had become "a dangerous obsession." He challenged the idea that countries have to compete with one another like companies, asserting that such idea can eventually lead to trade wars and protectionism and move governments away from adopting adequate macroeconomic policies. By 1995, the concept of competitiveness had evolved to encompass some elements of productivity and efficiency.[2]

"Competitiveness" has turned out to be another way of saying "economic growth" or "productivity" and no longer has something to do with international competition. The World Economic Forum—which has pioneered work on competitiveness since 1979, with Klaus Schwab's publication of the *Report on the Competitiveness of European Industry 1979*[3]—defined *competitiveness* as *the capacity of the national economy to achieve sustained economic growth over the medium term, controlling for the current level of economic development;*[4] it focused on institutions, suitable policies, and economic characteristics to promote such growth. The World Economic Forum proposed measuring competitiveness by integrating two subindexes into the single Global Competitiveness Index: (1) the macroeconomic aspect of competitiveness, based on Jeffrey Sachs's Growth Development Index,[5] and (2) the micro/business aspect of competitiveness, based on Michael Porter's Business Competitiveness Index.[6] Starting in 2004, with the contribution of Sala-i-Martín,[7] the concept of competitiveness became intrinsically linked to productivity and was defined as *the set of institutions, policies, and factors that determine the level of productivity of a country.* This was measured on the basis of the Global Competitiveness Index methodology, using 12 pillars and 115 indicators at the country level, to provide a comprehensive picture of a country's productivity. Throughout *The Africa Competitiveness Report,* competitiveness is understood and measured according to this concept. In Chapter 1.3 of this *Report,* the notion of a competitive city is also closely linked to factors that determine its level of productivity. It is defined as an urban area that offers affordable housing and adequate infrastructure for private-sector development, decent job creation, and a better quality of life. In both its national and city level articulation, competitiveness/productivity is considered as a means to achieve better quality of life and social welfare

Notes

1 Scott and Lodge 1985; OECD 1992; Tyson 1992.

2 Competitiveness Advisory Group 1995; Porter 1990.

3 World Economic Forum 1979.

4 World Economic Forum 1997.

5 World Economic Forum 2001.

6 World Economic Forum 2008.

7 Sala-i-Martín and Artadi 2004.

employment possibilities will crucially depend on the level, type, and quality of their skills.

Institutions

The quality of institutions in Africa remains low but is slowly improving. However, this improvement could experience a severe setback if leaders are not able to respond to the demand of the growing young population for better economic opportunities. A combination of small improvements in Africa's institutional quality and lower standards in advanced economies has reduced the gap between the OECD average and Africa's performance on this dimension (Figure 21). Although starting from a low base and although some countries remain very fragile, governments across Africa have started to mature and are now better equipped to coordinate economic activity than they used to be. Less instability and better policy coordination may boost investors' confidence and private-sector development. This new maturity offers some cautious optimism that African economies will be able to move past the ending of the commodity super-cycle and begin to rely on a more diversified growth model.

The recent positive trend should not, however, overshadow the significant problems that persist in most African countries. On protecting property rights, for example, despite some progress there is still the need to guarantee asset control to the owner—especially in agricultural land, which remains a problem for improving agricultural productivity in many countries.[45] Similarly, although slowly being curbed, corruption remains very widespread and impacts several aspects of economic activity including infrastructure building, which tends to be much slower, more costly, and more inefficient than in other regions.[46]

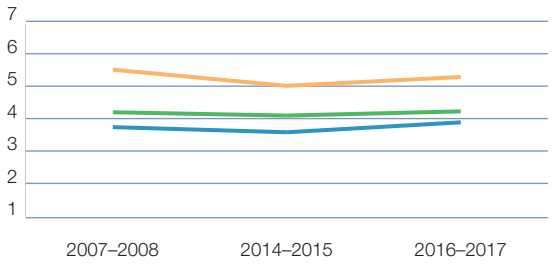
Remarkably, despite the instability in parts of North Africa, and terrorism activity in several areas of Africa, the average security levels of the group of African countries assessed by the GCI has remained virtually unchanged since the 2015 assessment.

At the country level, although institutions remain fragile in most countries, in more than half of them business leaders see some small improvement compared to two years ago.

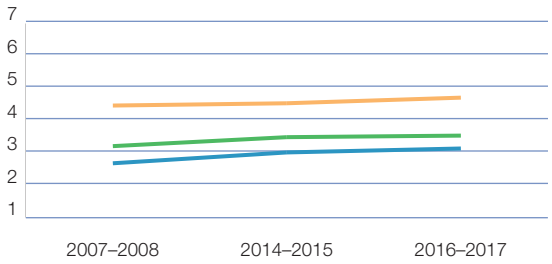
Southern African countries (Botswana, Lesotho, Mauritius, Namibia, and South Africa) and Rwanda continue to lead the African ranking for institutional quality, all appearing in the upper half of the global rankings. In terms of performance dynamic, Figure 22 shows *changes* in institutional quality over the past couple of years. Geography or economic diversification does not determine common trends across countries in any group. Some countries (such as Lesotho and Mali) are improving because they are emerging from a particularly dire situation; some (such as Nigeria) are going through economic headwinds, and others (such as Tanzania) are energized by recent elections. In Ethiopia, because the data are antecedent to July 2016, when Oromo protests expanded, figures reflect improvements in public-sector efficacy gained over the previous two years. The next few years will test the capacity of African institutions to respond to growing young populations without the windfall of high commodity exports. Further institutional strengthening will be a key factor in determining whether the path leads toward more prosperity or toward social and economic collapse.

Figure 21: Trend in public institutions quality factors, Africa average

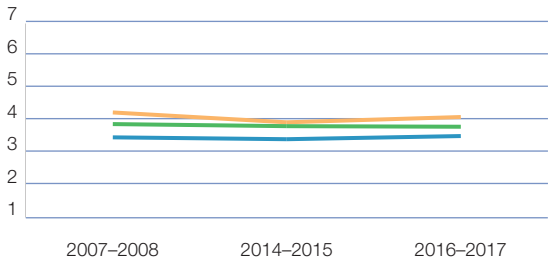
21a: Public-sector performance



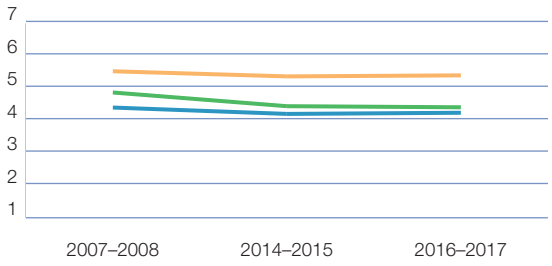
21b: Property rights



21c: Ethics and corruption



21d: Security

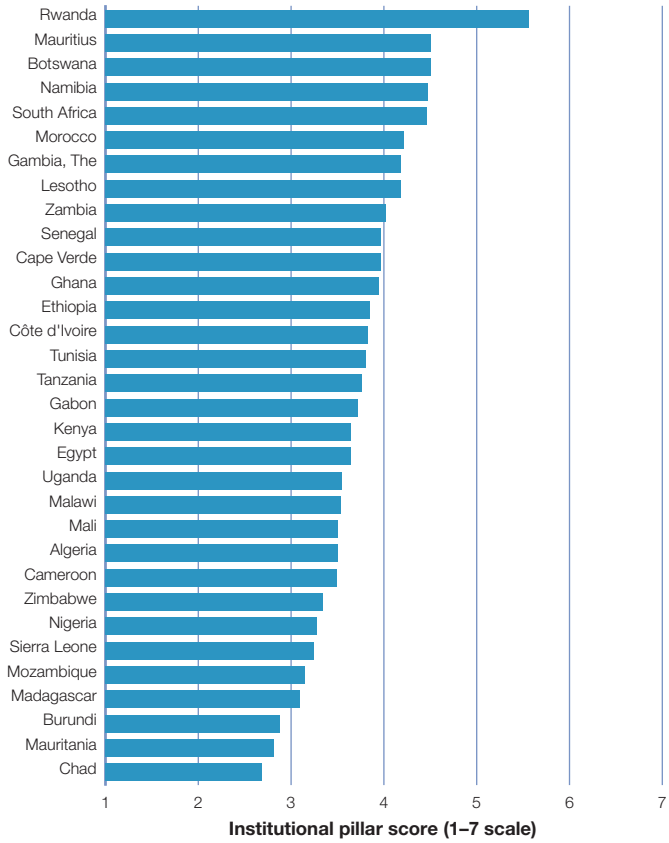


Source: World Economic Forum, *The Global Competitiveness Report,* various editions.

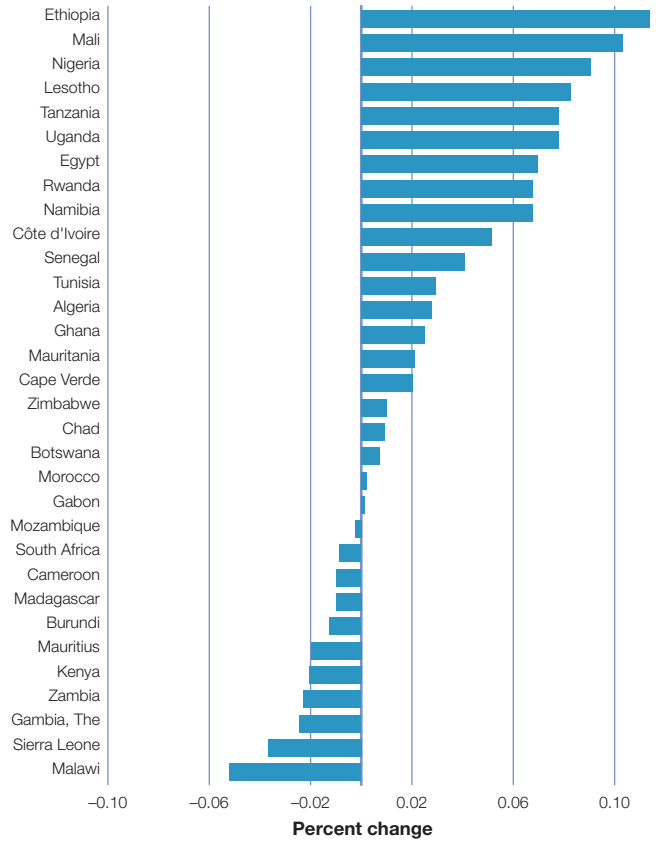
The five ASEAN countries covered by the GCI are Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. The OECD economies covered by the GCI are Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Rep., Latvia, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

Figure 22: Institutions' performance in Africa

22a: Institutions pillar score

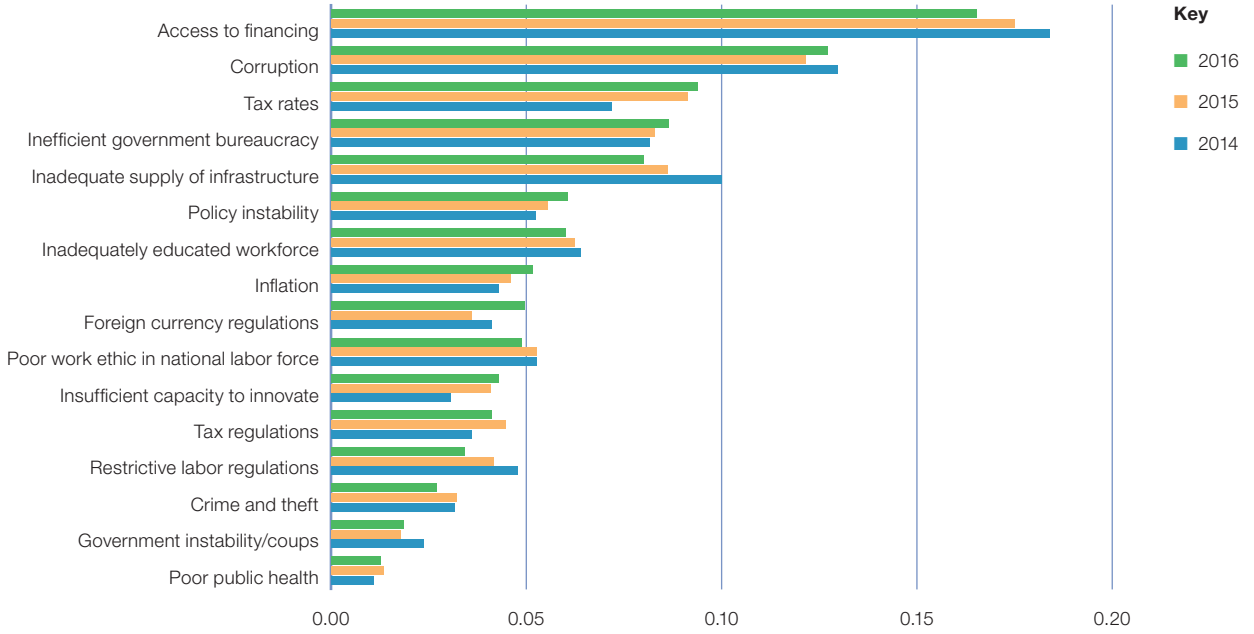


22b: Percentage change since 2015



Source: World Economic Forum 2015, 2016a.

Figure 23: The most problematic factors for doing business in Africa



Source: World Economic Forum, Executive Opinion Survey 2014, 2015, 2016.

From the list of factors above, respondents were asked to select the five most problematic for doing business in their country and to rank them between 1 (most problematic) and 5. The bars in the figures show the responses weighted according to their rankings. MPF = most problematic factors.

How do institutions impact the chance of reaping the demographic dividend? Sound and accountable institutions are the backbone of a functioning society; they provide stability and the implementation of policy programs that support youth in the short run and modernization in the longer run. Political leadership is particularly needed in this phase of African development, which is characterized by high population growth and economic slowdown. Offering better economic opportunities and credible development strategies for African youth will be crucial to avoid a situation where many will join destabilizing political movements that could lead to social breakdown.

The most problematic factors for doing business in Africa

To capture the concerns of business leaders, every year the World Economic Forum conducts the Executive Opinion Survey, asking business leaders around the world to rate the factors they consider most problematic for doing business in their country. Their perceptions are captured through a section of the Executive Opinion Survey, and published every year in *The Global Competitiveness Report* as an integral part of assessing countries, complementing the Index benchmarking. From a list of 16 factors, respondents are asked to rank their top five (Figure 23).

In 2016, access to financing was again considered the most problematic factor for doing business in Africa, followed by corruption. These two factors have topped the list every year since 2012. However, tax rates emerged as the third-ranked concern, a significantly higher priority in 2016 than it had been in the past four years. This could reflect the fact that governments are looking for new sources of financing (such as increasing taxes) to balance public budgets. Falling to fourth place, yet remaining a very important obstacle, is the insufficient supply of infrastructure.

Rising in the list of concerns for African executives, albeit not yet ranking as particularly severe, are foreign currency regulations and difficulties in innovating. The growing concern here reflects the attempts of central banks to manage exchange rates in response to capital flow fluctuations, and the reality that innovation has started to affect the success of businesses in developing countries as much as it does in advanced economies.

Conclusions

This chapter has assessed Africa's progress on the 12 drivers composing the Global Competitiveness Index, as an input into the debate about how to improve the employment outlook for African youth.

Analyzing the results of 35 African economies included in *The Global Competitiveness Report 2016–2017* reveals that African competitiveness is still lower than in other regions and convergence has stagnated. The insufficient progress made by African countries on needed structural reforms during the past decades of sustained growth has put Africa on a weaker footing, less able to respond to a less positive economic outlook going forward and less well-equipped to take advantage of the demographic shifts that will increase the shares of the continent's young population.

Over the past decades, employment in Africa has not kept up with output expansions. Now that the continent's growth prospects have shrunk, many African economies are struggling to provide sufficient job opportunities to meet the needs of the burgeoning workforce.

A mix of short-term solutions and longer-term strategies is needed so that population growth does not become a source

of instability but a competitive advantage. As also highlighted by the African Development Bank's *Strategy for Jobs for Youth in Africa 2016–2025,*[47] in order to attain concrete results for youth employment, policymakers should move away from one-off specific projects and move toward an "ecosystem approach." Structural reforms and investments in competitiveness-enhancing factors are of paramount importance to improve the business environment and consequently Africa's capacity to develop a stronger private sector with more productive and better paid opportunities for youth.

As highlighted in previous editions of *The Africa Competitiveness Report,* most African countries need to reinforce their basic requirements—such as sound institutions, adequate infrastructure, and a healthy and educated workforce—to establish a solid basis for sustainable growth and economic diversification. At the same time, with the advent of the 4IR, technological readiness is becoming a necessary factor even for economies that are still developing. Both basic requirements and technological readiness emerge as the areas where Africa maintains biggest gaps with the most advanced economies (OECD) and also with some emerging regions (such as Southeast Asia)

Although the aggregate picture is less positive than it was two years ago, there are some positive stories. Côte d'Ivoire, Ethiopia, Rwanda, and Tanzania have improved their competitiveness levels and are all expected to continue growing their GDP at close to 7 percent over the next few years. The larger economies are, conversely, struggling relatively more. South Africa, while it continues to be one of the two most competitive economies in the region, has slowed its progress and growth expectations; Nigeria, hit hard by commodity price shocks, has seen its competitiveness decline while recovering from 2016's GDP contraction. In general, as anticipated in 2015 edition of the *Report,* mineral exporters have performed less well than more diversified economies. Even within the countries heavily relying on mineral exports, there are significant differences in competitiveness performance, depending on how well these countries have invested during the years of high prices.

Having identified the main competitiveness challenges, the following chapters discuss specific aspects that impact the economic perspective of African youth. Chapter 1.2 offers an overview on policies that African countries can adopt to address potential vulnerabilities coming from the coming rise in working-age populations. Chapter 1.3 studies the competitiveness of African cities and examines bottlenecks and opportunities for youth employment in the specific context of the African urban environment.

Notes

1 Some of the main minerals exported by African economies include: copper (Democratic Republic of Congo and Zambia), iron (Liberia, Sierra Leone, and South Africa), coal (Mozambique and South Africa), diamonds (Angola, Botswana, Namibia, South Africa), gold (Burkina Faso, Ghana, Mali, South Africa, and Tanzania), and platinum (South Africa).

2 GDP growth statistics are from Africa Development Bank Group, *African Economic Outlook 2017,* available at http://dataportal.opendataforafrica.org/xedzxdg/afdb-socio-economic-database-1960-2016. GDP per capita statistics are authors' calculations, based on aggregated sub-Saharan PPP evaluation of GDP per capita levels from IMF, *World Economic Outlook,* October 2016 edition online.

3 Author's calculations, based on employment statistics "employment to population ratio, 15+, total (%) (modeled ILO estimate)," provided by the World Bank, *World Development Indicators* online, October 2016.

4 Author's calculations, based on UN-DESA population statistics.

5 UN DESA and AfDB. *African Economic Outlook* estimates.

6 The *Fourth Industrial Revolution* (4IR) can be referred to as the global transformation characterized by the convergence of digital, physical, and biological technologies, built on the infrastructure of the digital revolution, which will enable transition to entirely new systems of production, consumption communication, transport, energy generation, and human interaction. For a more complete examination and discussion, see Schwab 2016.

7 AfDB 2014b.

8 Population projection estimates are from UN DESA, World Population Prospects, the 2015 Revision, available at https://esa.un.org/unpd/wpp/.

9 UN DESA, World Population Prospects, the 2015 Revision, available at https://esa.un.org/unpd/wpp/.

10 AfDB et al. 2016.

11 Aiyar et al. 2016.

12 ILO Key Indicators of the Labour Market (KILM), available at http://www.ilo.org/global/statistics-and-databases/research-and-databases/kilm/lang--en/index.htm.

13 Afrobarometer is a pan-African, non-partisan research network that conducts public attitude surveys on democracy, governance, economic conditions, and related issues in more than 35 countries in Africa. The data used in this chapter are from Round 5 of the Afrobarometer Survey, conducted between 2011 and 2013, interviewing about 50,000 households in 34 countries. For further information refer to http://www.afrobarometer.org/.

14 AfDB et al. 2012; data based on Gallup World Poll, 2010, available at http://www.gallup.com/services/170945/world-poll.aspx.

15 ILO modelled estimates, employment by sex, age and economic class, November 2016. See the ILOSTAT database at http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm.

16 UN DESA, World Population Prospects, the 2015 Revision, available at https://esa.un.org/unpd/wpp/.

17 AfDB 2014a.

18 The 12 pillars are measured using both quantitative data from public sources (such as inflation, Internet penetration, life expectancy, and school enrollment rates) and data from the World Economic Forum's Executive Opinion Survey (the Survey), conducted annually among top executives in all of the countries assessed. The Survey provides crucial data on a number of qualitative issues (e.g., corruption, confidence in the public sector, quality of schools) for which no hard data exist.

19 In order to capture the resource intensity of an economy, we use as a proxy the exports of mineral products as a share of overall exports according to the sector classification developed by the International Trade Centre in their Trade Performance Index. In addition to crude oil and gas, this category contains all metal ores and other minerals as well as petroleum products, liquefied gas, coal, and precious stones. The data used cover 2009 through 2013 or the most recent year available. Further information can be found at http://legacy.intracen.org/appli1/TradeCom/Documents/ TradeCompMap-Trade%20Performance%20Index-Technical%20 Notes-EN.pdf.

20 To be able to track regional progress across time, we take the average of those African economies assessed in the GCI in all the years from 2008 to 2016: Algeria, Botswana, Burundi, Cameroon, Chad, Egypt, Ethiopia, The Gambia, Kenya, Lesotho, Madagascar, Mali, Morocco, Mauritius, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.

21 In this context, high mineral exporters are those countries for which minerals (fuels and metals) represent more than 35 percent of their total exports. Analysis is based on International Trade Center statistics.

22 World Economic Forum's Executive Opinion Summary, various editions.

23 IMF 2016a.

24 The 2015 IMF *World Economic Outlook,*October edition, shows that loose monetary policy in countries where commodity prices dropped and the exchange rate depreciated may lead to high inflation and limited growth. When commodity prices drop, the reduced inflow of capital from exports causes a depreciation of the exchange rate. In countries with a developed manufacturing sector, the depreciation of the exchange rate would make non-mineral exports cheaper; therefore, after an adjustment period, increased non-mineral exports would counterbalance the loss in mineral exports. However, in countries where minerals' share of exports is very large, the exchange rate depreciation is not sufficient to boost non-mineral exports; at the same time, imports become more expensive and trigger inflationary pressure. In addition, De Gregorio (2016) notes: "The pass-through from exchange rate to inflation depends on the credibility of monetary policy." Under these circumstances, loose monetary policy would have a limited effect on productive investments, and would only inject liquidity, which would lead to inflation and little growth. Inflation would lead to instability, which would hamper growth—hence in these circumstances the IMF recommends a policy of keeping inflation under control.

25 Christensen 2016.

26 IMF 2016a.

27 AfDB 2015b.

28 See for example IMF 2016a and AfDB 2016a.

29 ICA 2016.

30 Lockett 2016.

31 AfDB 2015a.

32 Omoregie and Radford 2006.

33 The Economist 2016b.

34 The Economist 2016a.

35 We refer here to Internet banking, digital money exchange systems, information exchange, and the possibility of communicating with others.

36 In South Africa in 2015, almost all the population was covered by either a mobile or a 3G signal. However, on average in the region coverage is only 85 percent for cell phones, not significantly higher than five years ago, while 3G has grown threefold in that time to 56 percent.

37 Data are from the International Telecommunication Union (ITU)'s World Telecommunication/ICT Indicators Database, December 2016 edition, available at http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx.

38 According to the World Bank Private Participation in Infrastructure database, available at https://ppi.worldbank.org/data, there were over 2,000 private participation projects for a total of over US$160,000 billion in South Africa. ICT 66 percent and electricity (19 percent) account for the great majority of these investments.

39 Lewin et al. 2009.

40 IYF 2013.

41 World Bank, *World Development Indicators* database, available at http://data.worldbank.org/.

42 World Economic Forum, Executive Opinion Survey, 2012, 2013, 2014, 2015, and 2016.

43 Escribano et al. 2010.

44 According to the Times Higher Education World University Rankings, available at https://www.timeshighereducation.com/world-university-rankings/best-universities-in-africa-2016.

45 Augustinus and Deininger 2005.

46 AfDB 2014c.

47 AfDB 2016b.

References

AfDB (African Development Bank). 2014a. *African Development Report 2014 Regional Integration for Inclusive Growth.* Abidjan: African Development Bank.

———. 2014b. "Global Value Chains and Africa's Integration into the Global Economy." In *Annual Report 2013,* Chapter 2. Tunis, Tunisia: AfDB.

———. 2014c. *Study on Road Infrastructure Costs: Analysis of Unit Costs and Cost Overruns of Road Infrastructure Projects in Africa.* AfDB Market Study Series. Available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Study_on_Road_Infrastructure_Costs-_Analysis_of_Unit_Costs_and_Cost_Overruns_of_Road_Infrastructure_Projects_in_Africa.pdf.

———. 2015a. *Annual Report 2014.* Abidjan, Côte d'Ivoire: AfDB. Available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Annual_Report_2014_-Full.pdf.

———. 2015b. "The Banking System in Africa: Main Facts and Challenges." *Africa Economic Brief* Chief Economist Complex 6 (5). Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Knowledge/AEB_Vol_6_Issue_5_2015_The_Banking_System_in_Africa__Main_Facts_and_Challenges-10_2015.pdf.

———. 2016a. *Africa Infrastructure Development Index 2016.* Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Africa_Infrastructure_Development_May_2016.pdf.

———. 2016b. *Jobs for Youth in Africa: Strategy for Creating 25 Million Jobs and Equipping 40 Million Youth 2016–2025.* AfDB. Available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Boards-Documents/Bank_Group_Strategy_for_Jobs_for_Youth_in_Africa_2016-2025_Rev_2.pdf—.

———. *African Economic Outlook 2017.* Available at http://dataportal.opendataforafrica.org/xedzxdg/afdb-socio-economic-database-1960-2016.

AfDB, OECD, and UNDP (African Development Bank, Organisation for Economic Co-operation and Development, and United Nations Development Programme). 2014. *African Economic Outlook 2014: Global Value Chains and Africa's Industrialisation.* Paris: OECD Publishing. Available at http://www.africaneconomicoutlook.org/en/.

———. 2016. *African Economic Outlook 2016: Sustainable Cities and Structural Transformation.* Available at http://www.africaneconomicoutlook.org/en/home.

AfDB, OECD, UNDP, and UNECA (African Development Bank, Organisation for Economic Co-operation and Development, United Nations Development Programme, and United Nations Economic Commission for Africa). 2012. *African Economic Outlook 2012: Special Theme: Promoting Youth Employment.* Paris: OECD Publishing.

Afrobarometer. Round 5 (2011–13) database. Available at http://www.afrobarometer.org/data/merged-data.

Aiyar, S., C. Ebeke, and X. Shao. 2016. "The Impact of Workforce Aging on European Productivity." *IMF Working Paper* WP/16/238. Washington, DC: IMF. Available at https://www.imf.org/external/pubs/ft/wp/2016/wp16238.pdf.

Augustinus, C. and K. Deininger. 2005. "Innovations in Land Tenure, Reform & Registration in Africa." Presentation at the UNDP-International Land Coalition Workshop: Land Rights for African Development: From Knowledge to Action, Nairobi, October 31–November 3, 2005. Available at https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/709/HabitatBank.pdf?sequence=1.

Christensen, B. V. 2016. "Challenges of Low Commodity Prices for Africa." *BIS Papers* No. 87. BIS (Bank for International Settlements), Monetary and Economic Department, September. Available at http://www.bis.org/publ/bppdf/bispap87.pdf.

CIA (Central Intelligence Agency). *The World Factbook.* Available at https://www.cia.gov/library/publications/the-world-factbook.

Competitiveness Advisory Group—Ciampi Group. 1995. *Enhancing European Competitiveness.* First report to the President of the Commission, the Prime Ministers and the Heads of State. Available at http://aei.pitt.edu/2866/1/2866.pdf.

The Conference Board. No date. Total Economy Database™ - Output, Labor and Labor Productivity, 1950–2016 (Adjusted version). Available at https://www.conference-board.org/data/economydatabase/index.cfm?id=27762.

De Gregorio, J. 2016. "Large Depreciations: Recent Experience in Historical Perspective." *Peterson Institute for International Economics Working Paper* No. 16-8. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2781038.

The Economist. 2016a. "Departure Delayed." *The Economist,* February 13. Available at http://www.economist.com/news/middle-east-and-africa/21692871-africa-ripe-air-travel-pity-its-governments-are-holding-it.

——. 2016b. "Let Africans Fly." *The Economist,* February 11. Available at http://www.economist.com/news/leaders/21692882-air-travel-africa-needlessly-hard-and-costly-open-skies-would-make-it-cheaper-let-africans.

Escribano, A., J. L. Guasch, and J. Pena. 2010. "Assessing the Impact of Infrastructure Quality on Firm Productivity in Africa: Cross-Country Comparisons Based on Investment Climate Surveys from 1999 to 2005." *Policy Research Working Paper* No. WPS 5191. Washington, DC: World Bank.

GGDC (Groningen Growth and Development Centre). No date. 10-Sector Database. Available at http://www.rug.nl/ggdc/productivity/10-sector/.

Government of South Africa, Department of Higher Education and Training. 2016. List of Occupations in High Demand: 2015. *Government Gazette* No. 34, January 19, 2016. Available at http://www.dhet.gov.za/Gazette/Government%20Gazette%20No%2039604,%2019%20January%202016.%20List%20of%20Occupations%20in%20High%20Demand%202015.pdf.

ICA (The Infrastructure Consortium for Africa). 2016. *Infrastructure Financing Trends in Africa – 2015.* Abidjan, Côte d'Ivoire: ICA . Available at https://www.icafrica.org/fileadmin/documents/Annual_Reports/ICA_2015_annual_report.pdf.

ILO (International Labour Organization). ILOSTAT ILO Database of Labour Statistics. Available at http://ilo.org/global/statistics-and-databases/lang--en/index.htm.

——. 2016. "World Employment and Social Outlook Trends 2016: Africa Briefing Note." Available at http://www.ilo.org/wcmsp5/groups/public/---africa/---ro-addis_ababa/documents/genericdocument/wcms_444480.pdf.

IMF (International Monetary Fund). 2016a. *Regional Economic Outlook: Sub-Saharan Africa Multispeed Growth.* October 2016. Washington, DC: IMF. Available at https://www.imf.org/external/pubs/ft/reo/2016/afr/eng/pdf/sreo1016.pdf.

——. 2016b. *World Economic Outlook* database, October edition. Washington, DC: IMF. Available at http://www.imf.org/external/ns/cs.aspx?id=28.

ITU (International Telecommunication Union). 2017. World Telecommunication/ICT Indicators Database 2016, 20th Edition/December 2016. Available at http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx.

IYF (International Youth Foundation). 2013. *Analysis of ICT-Enabled Youth Employment in Ghana, Kenya, and South Africa.* Baltimore, MD: International Youth Foundation. Available at http://www.iyfnet.org/library/analysis-ict-enabled-youth-employment-ghana-kenya-south-africa .

Krugman, P. 1994. "Competitiveness: A Dangerous Obsession." *Foreign Affairs* 73 (2).

Lewin, D., B. Williamson, and M. Cave. 2009. "Regulating Next Generation Fixed Access to Telecommunications Services." *info* 11 (4): 3–18.

Lockett, H. 2016. "China Plans Rmb4.7tn in Infrastructure Funding." *Financial Times,* May 11. Available at https://www.ft.com/content/ec3df7f3-1254-3da6-8ee9-e2434391bf15.

Loeb, S. 2016. "Half the People Working in Schools Aren't Classroom Teachers—So What?" *Brookings Report,* January 14. Available at https://www.brookings.edu/research/half-the-people-working-in-schools-arent-classroom-teachers-so-what/.

OECD (Organisation for Economic Co-operation and Development). 1992. *Technology and the Economy: The Key Relationships.* Paris: OECD.

Omoregie, A. and D. Radford. 2006. "Infrastructure Delays and Cost Escalation: Causes and Effects in Nigeria. " Conference paper, Proceedings of the Sixth International Postgraduate Research Conference, 79–93. Available at http://www.irbnet.de/daten/iconda/CIB_DC26986.pdf.

Porter, M. E. 1990. *The Competitive Advantage of Nations.* New York: Free Press.

Sala-i-Martín, X. and E. V. Artadi. 2004. "The Global Competitiveness Index." In *The Global Competitiveness Report 2004–2005.* Geneva: World Economic Forum. 51–80.

Schwab, K. 2016. *The Fourth Industrial Revolution.* Geneva: World Economic Forum. Available at https://www.amazon.com/Fourth-Industrial-Revolution-Klaus-Schwab/dp/1944835008.

Scott, B. R. and G. C. Lodge. 1985. "US Competitiveness in the World Economy." *The International Executive* 27 (1): 26–26.

Tyson, L. 1992. *Who's Bashing Whom? Trade Conflict in High-Technology Industries.* Washington, DC: Institute of International Economics.

UN DESA (United Nations Department of Economic and Social Affairs). 2015. *World Population Prospects, the 2015 Revision.* Population Division. Available at https://esa.un.org/unpd/wpp/

World Bank. *World Development Indicators* database. Available at http://data.worldbank.org/.

World Economic Forum. 1979. *Report on the Competitiveness of European Industry 1979.* Geneva: World Economic Forum.

——. 1997. *The Global Competitiveness Report 1997.* Geneva: World Economic Forum.

——. 2001. *The Global Competitiveness Report 2001–2002.* Geneva

——. 2006. *The Global Competitiveness Report 2006–2007.* Geneva: World Economic Forum.

——. 2008. *The Global Competitiveness Report 2008–2009.* Geneva: World Economic Forum.

——. 2009. *The Global Competitiveness Report 2009–2010.* Geneva: World Economic Forum.

——. 2010. *The Global Competitiveness Report 2010–2011.* Geneva: World Economic Forum.

——. 2011. *The Global Competitiveness Report 2011–2012.* Geneva: World Economic Forum.

——. 2013. *The Global Competitiveness Report 2013–2014.* Geneva: World Economic Forum.

——. 2014. *The Global Competitiveness Report 2014–2015.* Geneva: World Economic Forum.

——. 2015. *The Global Competitiveness Report 2015–2016.* Geneva: World Economic Forum.

——. 2016a. *The Global Competitiveness Report 2016–2017.* Geneva: World Economic Forum.

——. 2016b. *The Future of Jobs, Employment, Skills and Workforce Strategy for the 4IR.* Geneva: World Economic Forum..

World Economic Forum, African Development Bank, and the World Bank. 2013. *The Africa Competitiveness Report 2013.* Geneva: World Economic Forum.

——. 2015. *The Africa Competitiveness Report 2015.* Geneva: World Economic Forum.

World Economic Forum, AfDB, OECD, and World Bank (World Economic Forum, African Development Bank, Organisation for Economic Co-operation and Development, and World Bank). 2016. "An Action Agenda for Africa's Competitiveness." World Economic Forum Document. Geneva: World Economic Forum. Available at http://www3.weforum.org/docs/Africa_Competitiveness_2016.pdf.

Appendix A: Computation and structure of the Global Competitiveness Index 2016–2017

This appendix presents the structure of the Global Competitiveness Index 2016–2017 (GCI). The numbering of the indicator matches the numbering of the data tables. The number preceding the period indicates to which pillar the indicator belongs (e.g., indicator **1**.11 belongs to the 1st pillar and indicator **9**.04 belongs to the 9th pillar).

The computation of the GCI is based on successive aggregations of scores from the indicator level (i.e., the most disaggregated level) all the way up to the overall GCI score. Unless noted otherwise, we use an arithmetic mean to aggregate individual indicators within a category.[a] For the higher aggregation levels, we use the percentage shown next to each category. This percentage represents the category's weight within its immediate parent category. Reported percentages are rounded to the nearest integer, but exact figures are used in the calculation of the GCI. For example, the score a country achieves in the 11th pillar accounts for 50 percent of this country's score in the *innovation and sophistication factors* subindex, irrespective of the country's stage of development. Similarly, the score achieved on the *transport infrastructure* subpillar accounts for 50 percent of the score of the *infrastructure* pillar.

Unlike the case for the lower levels of aggregation, the weight put on each of the three subindexes (*basic requirements*, *efficiency enhancers*, and *innovation and sophistication factors*) is not fixed. Instead, it depends on each country's stage of development, as discussed in the chapter.[b] For instance, in the case of Burundi—a country in the first stage of development—the score in the *basic requirements* subindex accounts for 60 percent of its overall GCI score, while it represents just 40 percent of the overall GCI score of Egypt, a country in the second stage of development. For countries in transition between stages, the weighting applied to each subindex is reported in the corresponding profile at the end of this volume. For instance, in the case of Gabon, currently in transition from stage 1 to stage 2, the weight on each subindex is 51.5 percent, 41.4 percent, and 7.1 percent, respectively, as reported in the country profile on page 181 of *The Global Competitiveness Report 2016–2017*.

Indicators that are not derived from the Executive Opinion Survey (the Survey) are identified by an asterisk (*) in the following pages. The Technical Notes and Sources section at the end of the *Report* provides detailed information about each of these indicators. To make the aggregation possible, the indicators are converted to a 1-to-7 scale in order to align them with the Survey results. We apply a min-max transformation, which preserves the order of, and the relative distance between, country scores.[c]

Indicators that are followed by the designation "1/2" enter the GCI in two different pillars. In order to avoid double counting, we assign a half-weight to each instance.[d]

Weight (%) within immediate parent category

BASIC REQUIREMENTS ..... 20–60%[b]

1st pillar: Institutions 25%

A. Public institutions 75%

1. Property rights 20%
   - 1.01 Property rights
   - 1.02 Intellectual property protection[1/2]

2. Ethics and corruption 20%
   - 1.03 Diversion of public funds
   - 1.04 Public trust in politicians
   - 1.05 Irregular payments and bribes

3. Undue influence 20%
   - 1.06 Judicial independence
   - 1.07 Favoritism in decisions of government officials

4. Government efficiency 20%
   - 1.08 Wastefulness of government spending
   - 1.09 Burden of government regulation
   - 1.10 Efficiency of legal framework in settling disputes
   - 1.11 Efficiency of legal framework in challenging regulations
   - 1.12 Transparency of government policymaking

5. Security 20%
   - 1.13 Business costs of terrorism
   - 1.14 Business costs of crime and violence
   - 1.15 Organized crime
   - 1.16 Reliability of police services

B. Private institutions 25%

1. Corporate ethics 50%
   - 1.17 Ethical behavior of firms

2. Accountability 50%
   - 1.18 Strength of auditing and reporting standards
   - 1.19 Efficacy of corporate boards
   - 1.20 Protection of minority shareholders' interests
   - 1.21 Strength of investor protection*

2nd pillar: Infrastructure 25%

A. Transport infrastructure 50%

2.01 Quality of overall infrastructure
2.02 Quality of roads
2.03 Quality of railroad infrastructure[e]
2.04 Quality of port infrastructure
2.05 Quality of air transport infrastructure
2.06 Available airline seat kilometers*

B. Electricity and telephony infrastructure 50%

2.07 Quality of electricity supply
2.08 Mobile telephone subscriptions*[1/2]
2.09 Fixed telephone lines*[1/2]

3rd pillar: Macroeconomic environment 25%

3.01 Government budget balance*
3.02 Gross national savings*
3.03 Inflation*[f]
3.04 Government debt*
3.05 Country credit rating*

4th pillar: Health and primary education 25%

A. Health 50%

4.01 Business impact of malaria[g]
4.02 Malaria incidence*[g]
4.03 Business impact of tuberculosis[g]
4.04 Tuberculosis incidence*[g]
4.05 Business impact of HIV/AIDS[g]
4.06 HIV prevalence*[g]
4.07 Infant mortality*
4.08 Life expectancy*

B. Primary education 50%

4.09 Quality of primary education
4.10 Primary education enrollment rate*

EFFICIENCY ENHANCERS ..... 35–50%[b]

5th pillar: Higher education and training 17%

A. Quantity of education 33%

5.01 Secondary education enrollment rate*
5.02 Tertiary education enrollment rate*

B. Quality of education 33%

5.03 Quality of the education system
5.04 Quality of math and science education
5.05 Quality of management schools
5.06 Internet access in schools

C. On-the-job training 33%

5.07 Local availability of specialized research and training services
5.08 Extent of staff training

6th pillar: Goods market efficiency 17%

A. Competition 67%

1. Domestic competition ..... variable[h]
6.01 Intensity of local competition
6.02 Extent of market dominance
6.03 Effectiveness of anti-monopoly policy
6.04 Effect of taxation on incentives to invest
6.05 Total tax rate*
6.06 Number of procedures required to start a business*[i]
6.07 Time required to start a business*[i]
6.08 Agricultural policy costs

2. Foreign competition ..... variable[h]
6.09 Prevalence of trade barriers
6.10 Trade tariffs*
6.11 Prevalence of foreign ownership
6.12 Business impact of rules on FDI
6.13 Burden of customs procedures
6.14 Imports as a percentage of GDP*[j]

B. Quality of demand conditions 33%

6.15 Degree of customer orientation
6.16 Buyer sophistication

7th pillar: Labor market efficiency 17%

A. Flexibility 50%

7.01 Cooperation in labor-employer relations
7.02 Flexibility of wage determination
7.03 Hiring and firing practices
7.04 Redundancy costs*
7.05 Effect of taxation on incentives to work

B. Efficient use of talent 50%

7.06 Pay and productivity
7.07 Reliance on professional management[1/2]
7.08 Country capacity to retain talent
7.09 Country capacity to attract talent
7.10 Female participation in labor force*

8th pillar: Financial market development 17%

A. Efficiency 50%

8.01 Availability of financial services
8.02 Affordability of financial services
8.03 Financing through local equity market
8.04 Ease of access to loans
8.05 Venture capital availability

B. Trustworthiness and confidence 50%

8.06 Soundness of banks
8.07 Regulation of securities exchanges
8.08 Legal rights index*

9th pillar: Technological readiness 17%

A. Technological adoption 50%

9.01 Availability of latest technologies
9.02 Firm-level technology absorption
9.03 FDI and technology transfer

B. ICT use 50%

9.04 Internet users*
9.05 Broadband Internet subscriptions*
9.06 Internet bandwidth*
9.07 Mobile broadband subscriptions*
2.08 Mobile telephone subscriptions*[1/2]
2.09 Fixed telephone lines*[1/2]

10th pillar: Market size 17%

A. Domestic market size 75%

10.01 Domestic market size index*[k]

B. Foreign market size 25%

10.02 Foreign market size index*[l]

INNOVATION AND SOPHISTICATION FACTORS ..... 5–30%[b]

11th pillar: Business sophistication 50%

11.01 Local supplier quantity
11.02 Local supplier quality
11.03 State of cluster development
11.04 Nature of competitive advantage
11.05 Value chain breadth
11.06 Control of international distribution
11.07 Production process sophistication
11.08 Extent of marketing
11.09 Willingness to delegate authority
7.07 Reliance on professional management[1/2]

12th pillar: R&D Innovation 50%

12.01 Capacity for innovation
12.02 Quality of scientific research institutions
12.03 Company spending on R&D
12.04 University-industry collaboration in R&D
12.05 Government procurement of advanced technology products
12.06 Availability of scientists and engineers
12.07 PCT patent applications*
1.02 Intellectual property protection[1/2]

NOTES

a Formally, for a category *i* composed of *K* indicators, we have:

$$category_i = \frac{\sum_{k=1}^{K} indicator_k}{K}$$

b As described in the chapter, the weights are as specified below. Refer to Table 2 of the chapter for country classification according to stage of development:

	Stage of development				
	Factor-driven stage (1)	Transition from stage 1 to stage 2	Efficiency-driven stage (2)	Transition from stage 2 to stage 3	Innovation-driven stage (3)
GDP per capita (US$) thresholds*	**<2,000**	**2,000–2,999**	**3,000–8,999**	**9,000–17,000**	**>17,000**
Weight for basic requirements	60%	40–60%	40%	20–40%	20%
Weight for efficiency enhancers	35%	35–50%	50%	50%	50%
Weight for innovation and sophistication factors	5%	5–10%	10%	10–30%	30%

* For economies with a high dependency on mineral resources, GDP per capita is not the sole criterion for the determination of the stage of development. See text for details.

c Formally, we have:

$$6 \times \left(\frac{\text{country score} - \text{sample minimum}}{\text{sample maximum} - \text{sample minimum}} \right) + 1$$

The *sample minimum* and *sample maximum* are, respectively, the lowest and highest country scores in the sample of economies covered by the GCI. In some instances, adjustments were made to account for extreme outliers. For those indicators for which a higher value indicates a worse outcome (e.g., disease incidence, government debt), the transformation formula takes the following form, thus ensuring that 1 and 7 still corresponds to the worst and best possible outcomes, respectively:

$$-6 \times \left(\frac{\text{country score} - \text{sample minimum}}{\text{sample maximum} - \text{sample minimum}} \right) + 7$$

d For those categories that contain one or several half-weight variables, country scores are computed as follows:

$$\frac{(\text{sum of scores on full-weight variables}) + \frac{1}{2} \times (\text{sum of scores on half-weight variables})}{(\text{count of full-weight variables}) + \frac{1}{2} \times (\text{count of half-weight variables})}$$

e "N/Appl." is used for economies where there is no regular train service or where the network covers only a negligible portion of the territory. Assessment of the existence of a network was conducted by the World Economic Forum based on various sources.

f In order to capture the idea that both high inflation and deflation are detrimental, inflation enters the model in a U-shaped manner as follows: for values of inflation between 0.5 and 2.9 percent, a country receives the highest possible score of 7. Outside this range, scores decrease linearly as they move away from these values.

g The impact of malaria, tuberculosis, and HIV/AIDS on competitiveness depends not only on their respective incidence rates but also on how costly they are for business. Therefore, in order to estimate the impact of each of the three diseases, we combine its incidence rate with the Survey question on its perceived cost to businesses. To combine these data we first take the ratio of each country's disease incidence rate relative to the highest incidence rate in the whole sample. The inverse of this ratio is then multiplied by each country's score on the related Survey question. This product is then normalized to a 1-to-7 scale. Note that countries with zero reported incidence receive a 7, regardless of their scores on the related Survey question. In the case of malaria, countries receive a 7 if the World Health Organization (WHO) has classified them as malaria-free countries or included them in the supplementary list of areas where malaria has never existed or has disappeared without specific measures.

h The *competition* subpillar is the weighted average of two components: *domestic competition* and *foreign competition*. In both components, the included indicators provide an indication of the extent to which competition is distorted. The relative importance of these distortions depends on the relative size of domestic versus foreign competition. This interaction between the domestic market and the foreign market is captured by the way we determine the weights of the two components. Domestic competition is the sum of consumption (C), investment (I), government spending (G), and exports (X), while foreign competition is equal to imports (M). Thus we assign a weight of (C + I + G + X)/(C + I + G + X + M) to *domestic competition* and a weight of M/(C + I + G + X + M) to *foreign competition*.

i Indicators 6.06 and 6.07 combine to form one single indicator.

j For indicators 6.14, imports as a percentage of GDP, we first apply a log-transformation and then a min-max transformation.

k The size of the domestic market is constructed by taking the natural log of the sum of the gross domestic product valued at purchased power parity (PPP) plus the total value (PPP estimates) of imports of goods and services, minus the total value (PPP estimates) of exports of goods and services. Data are then normalized on a 1-to-7 scale. PPP estimates of imports and exports are obtained by taking the product of exports as a percentage of GDP and GDP valued at PPP. The underlying data are reported in the data tables section (see Tables 10.03, 6.14, and 10.04).

l The size of the foreign market is estimated as the natural log of the total value (PPP estimates) of exports of goods and services, normalized on a 1-to-7 scale. PPP estimates of exports are obtained by taking the product of exports as a percentage of GDP and GDP valued at PPP. The underlying data are reported in the data tables.

Appendix B: The Global Competitiveness Index 2016–2017: Africa and comparator economies, by pillar

			BASIC REQUIREMENTS									
	GCI 2016–2017		1st pillar: Institutions		2nd pillar: Infrastructure		3rd pillar: Macroeconomic environment		4th pillar: Health and primary education		5th pillar: Higher education and training	
Country/Region	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Morocco	70	4.20	50	4.21	58	4.25	49	5.08	77	5.63	104	3.55
Algeria	87	3.98	99	3.50	100	3.28	63	4.83	73	5.71	96	3.87
Tunisia	95	3.92	78	3.81	83	3.74	99	4.16	59	5.92	93	4.02
Egypt	115	3.67	87	3.65	96	3.36	134	2.68	89	5.45	112	3.27
North Africa average		**3.95**		**3.79**		**3.66**		**4.19**		**5.68**		**3.68**
Mauritius	45	4.49	36	4.51	41	4.74	59	4.89	48	6.06	52	4.68
South Africa	47	4.47	40	4.46	64	4.18	79	4.52	123	4.30	77	4.22
Rwanda	52	4.41	13	5.56	97	3.35	80	4.51	84	5.54	114	3.22
Botswana	64	4.29	37	4.50	90	3.49	10	6.18	113	4.66	88	4.07
Namibia	84	4.02	39	4.47	66	4.10	74	4.59	121	4.56	110	3.33
Kenya	96	3.90	86	3.65	98	3.35	122	3.57	114	4.66	97	3.86
Côte d'Ivoire	99	3.86	77	3.82	87	3.62	66	4.73	132	3.71	109	3.36
Gabon	108	3.79	85	3.72	107	3.09	25	5.55	109	4.85	121	2.98
Ethiopia	109	3.77	75	3.85	115	2.77	78	4.52	111	4.72	127	2.79
Cape Verde	110	3.76	71	3.97	94	3.39	107	4.02	58	5.92	79	4.15
Senegal	112	3.74	69	3.97	109	3.01	92	4.28	126	4.18	111	3.29
Uganda	113	3.69	93	3.55	126	2.43	73	4.60	118	4.58	129	2.74
Ghana	114	3.68	72	3.95	111	2.88	132	2.90	115	4.64	99	3.77
Tanzania	116	3.67	83	3.76	118	2.67	70	4.62	124	4.23	132	2.60
Zambia	118	3.60	61	4.02	125	2.44	109	4.01	125	4.22	120	2.99
Cameroon	119	3.58	101	3.49	131	2.15	95	4.25	112	4.68	105	3.43
Lesotho	120	3.57	53	4.18	119	2.62	36	5.33	133	3.50	119	3.03
Gambia, The	123	3.47	52	4.18	93	3.42	133	2.83	129	3.85	108	3.39
Benin	124	3.47	95	3.54	128	2.22	111	3.95	116	4.63	117	3.09
Mali	125	3.46	98	3.50	112	2.86	52	4.96	137	3.00	122	2.93
Zimbabwe	126	3.41	108	3.35	123	2.50	101	4.12	119	4.57	115	3.15
Nigeria	127	3.39	118	3.28	132	2.10	108	4.01	138	2.85	125	2.86
Madagascar	128	3.33	127	3.10	133	1.97	102	4.12	122	4.32	126	2.85
Congo, Dem. Rep.	129	3.29	117	3.29	138	1.72	64	4.80	135	3.48	128	2.77
Liberia	131	3.21	79	3.81	120	2.61	127	3.29	136	3.10	130	2.73
Sierra Leone	132	3.16	121	3.24	127	2.33	123	3.56	127	4.10	133	2.56
Mozambique	133	3.13	124	3.15	124	2.47	125	3.49	134	3.48	135	2.29
Malawi	134	3.08	94	3.54	135	1.88	137	2.11	120	4.57	131	2.61
Burundi	135	3.06	134	2.89	134	1.92	124	3.55	110	4.75	134	2.29
Chad	136	2.95	136	2.68	137	1.75	105	4.07	131	3.83	137	2.21
Mauritania	137	2.94	135	2.81	129	2.19	106	4.02	130	3.84	138	1.90
Sub-Saharan Africa average		**3.60**		**3.74**		**2.78**		**4.19**		**4.30**		**3.10**
ASEAN-5 average		**4.60**		**4.04**		**4.26**		**5.50**		**5.66**		**4.54**
China	28	4.95	45	4.30	42	4.71	8	6.19	41	6.17	54	4.64
India	39	4.52	42	4.36	68	4.03	75	4.55	85	5.54	81	4.12
Russian Federation	43	4.51	88	3.63	35	4.87	91	4.30	62	5.92	32	5.09
Brazil	81	4.06	120	3.24	72	3.98	126	3.49	99	5.30	84	4.11
BRICS average		**4.51**		**3.88**		**4.40**		**4.63**		**5.73**		**4.49**

	EFFICIENCY ENHANCERS										INNOVATION AND SOPHISTICATION FACTORS			
	6th pillar: Goods market efficiency		7th pillar: Labor market efficiency		8th pillar: Financial market development		9th pillar: Technological readiness		10th pillar: Market size		11th pillar: Business sophistication		12th pillar: Innovation	
Country/Region	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Morocco	64	4.38	124	3.55	83	3.79	81	3.69	55	4.26	76	3.82	96	3.11
Algeria	133	3.52	132	3.25	132	2.89	108	3.08	36	4.73	121	3.31	112	2.93
Tunisia	113	3.93	133	3.24	119	3.21	80	3.73	69	3.79	101	3.61	104	3.03
Egypt	112	3.95	135	3.15	111	3.39	99	3.26	25	5.03	85	3.71	122	2.75
North Africa average		**3.94**		**3.30**		**3.32**		**3.44**		**4.45**		**3.61**		**2.96**
Mauritius	26	4.90	57	4.39	44	4.29	66	4.17	118	2.71	37	4.36	67	3.34
South Africa	28	4.77	97	3.94	11	5.19	49	4.70	30	4.89	30	4.52	35	3.85
Rwanda	35	4.68	7	5.37	32	4.60	100	3.25	127	2.45	64	3.97	47	3.56
Botswana	73	4.29	36	4.54	66	3.99	86	3.58	105	2.89	100	3.61	84	3.22
Namibia	79	4.23	32	4.61	49	4.22	87	3.56	113	2.76	83	3.73	74	3.29
Kenya	77	4.23	31	4.62	50	4.20	89	3.55	70	3.74	47	4.23	36	3.83
Côte d'Ivoire	92	4.16	75	4.19	75	3.88	94	3.39	80	3.40	89	3.68	61	3.38
Gabon	125	3.74	101	3.89	103	3.50	109	3.06	112	2.81	131	3.17	124	2.71
Ethiopia	105	4.01	70	4.24	102	3.51	131	2.43	66	3.83	93	3.67	57	3.40
Cape Verde	97	4.08	116	3.67	112	3.37	78	3.76	137	1.37	108	3.52	98	3.11
Senegal	84	4.20	94	3.97	88	3.71	103	3.17	103	2.92	70	3.86	50	3.48
Uganda	115	3.91	29	4.66	77	3.88	118	2.78	81	3.38	111	3.49	77	3.26
Ghana	93	4.16	72	4.23	85	3.78	95	3.39	72	3.70	68	3.91	69	3.32
Tanzania	114	3.93	62	4.33	98	3.55	125	2.59	71	3.73	106	3.53	88	3.20
Zambia	83	4.20	90	4.00	84	3.78	115	2.83	88	3.25	105	3.55	66	3.34
Cameroon	109	3.97	76	4.16	91	3.66	124	2.60	85	3.29	112	3.49	90	3.18
Lesotho	88	4.18	96	3.96	134	2.61	123	2.67	132	1.90	110	3.50	111	2.95
Gambia, The	82	4.21	46	4.49	100	3.52	112	2.92	138	1.34	71	3.85	106	3.00
Benin	126	3.72	50	4.42	106	3.47	129	2.48	123	2.59	116	3.39	86	3.21
Mali	110	3.97	112	3.77	109	3.42	113	2.84	111	2.83	118	3.38	92	3.16
Zimbabwe	132	3.54	127	3.37	126	3.08	120	2.73	117	2.72	130	3.17	129	2.61
Nigeria	98	4.07	37	4.54	89	3.69	105	3.15	26	4.99	99	3.61	113	2.90
Madagascar	120	3.81	56	4.40	121	3.13	128	2.49	107	2.89	120	3.32	97	3.11
Congo, Dem. Rep.	127	3.72	53	4.41	117	3.24	134	2.30	95	3.17	132	3.17	115	2.85
Liberia	90	4.17	74	4.21	74	3.89	130	2.43	134	1.70	90	3.67	91	3.16
Sierra Leone	123	3.77	110	3.79	123	3.11	132	2.41	131	2.08	133	3.15	130	2.59
Mozambique	118	3.88	92	3.98	128	2.98	127	2.54	102	2.99	128	3.19	117	2.84
Malawi	119	3.81	38	4.53	115	3.26	135	2.26	125	2.54	122	3.28	120	2.81
Burundi	130	3.62	78	4.13	135	2.57	137	2.01	135	1.69	135	3.07	131	2.55
Chad	137	3.00	111	3.79	133	2.88	138	1.93	115	2.76	137	2.70	134	2.49
Mauritania	136	3.21	131	3.26	137	2.21	133	2.32	128	2.42	138	2.56	137	2.20
Sub-Saharan Africa average		**4.00**		**4.19**		**3.55**		**2.91**		**2.89**		**3.53**		**3.09**
ASEAN-5 average		**4.52**		**4.23**		**4.36**		**3.95**		**5.14**		**4.31**		**3.76**
China	56	4.43	39	4.53	56	4.16	74	3.96	1	7.00	34	4.41	30	4.04
India	60	4.39	84	4.10	38	4.41	110	2.99	3	6.43	35	4.39	29	4.05
Russian Federation	87	4.19	49	4.43	108	3.43	62	4.30	6	5.90	72	3.85	56	3.40
Brazil	128	3.70	117	3.67	93	3.63	59	4.37	8	5.73	63	4.01	100	3.10
BRICS average		**4.18**		**4.18**		**3.91**		**3.91**		**6.26**		**4.16**		**3.65**

Chapter 1.2

Jobs in Africa: Designing Better Policies Tailored to Countries' Circumstances

Barak Hoffman
Jean Michel Marchat
World Bank

Adverse changes in the external economic environment have slowed Africa's rapid growth over the past 15 to 20 years and highlighted challenges many countries in the region continue to face.[1] The fall in commodity prices over the past few years has made these impediments clear, especially among the region's largest economies such as Nigeria and South Africa.[2] In particular, Africa's economies were generating far too few productive jobs during periods of rapid growth, and the pace has slowed alongside weaker growth rates. Sustained stagnation in job creation is occurring as Africa's working-age population continues to expand quickly. The working-age population in Africa is expected to grow by close to 70 percent between 2015 and 2035, or approximately 450 million people. Countries that are able to enact policies conducive to job creation are likely to reap significant benefits from this rapid population growth (see also Chapter 1.1). Those countries that fail to implement such policies are likely to suffer demographic vulnerabilities resulting from large numbers of unemployed and/or underemployed youth. This chapter examines Africa's population trends and analyzes the policies—especially those pertaining to trade and competitiveness—needed to facilitate more rapid job creation in the region.

The next section of this chapter examines population data from Africa. The subsequent section analyzes several studies that link population growth to economic and social outcomes. Based on these findings, the chapter then discusses the policies that governments in Africa need to put in place to create jobs for their rising populations. The chapter argues that standard advice, such as improving the business environment and education—although still needed and extremely useful—is not enough, given the challenges most countries in the region face. Rather, governments also need to enact policies targeted much more narrowly to their specific circumstances, such as chronic fragility, dependence on natural resources, and/or high rates of self-employment.

Population projections: Some key features

Africa's population growth rates have remained remarkably stable over the past 50 years at about 2.6 percent per year (2.7 percent in sub-Saharan Africa and 2.1 percent in North Africa). Until the early 1980s, Africa's population growth rate was similar to that of other developing regions, with the exception of slower rates in East Asia. Since then Africa has become an increasingly large outlier. Currently, the continent is growing by about 1.5 percentage points per year faster than the average of East Asia, Latin America and the Caribbean, and South Asia—about 1.2 percent versus 2.7 percent.[3] This means that the population will double in the latter set of countries in approximately 60 years, while it will do so in Africa in about 25 years (Figure 1).

The working-age population is growing quickly. As a consequence, Africa's working-age population should grow in absolute terms by about 70 percent between 2015 and 2035, reaching roughly 1.1 billion.[4] Fifteen countries are expected to experience growth above 80 percent. Niger is likely to witness

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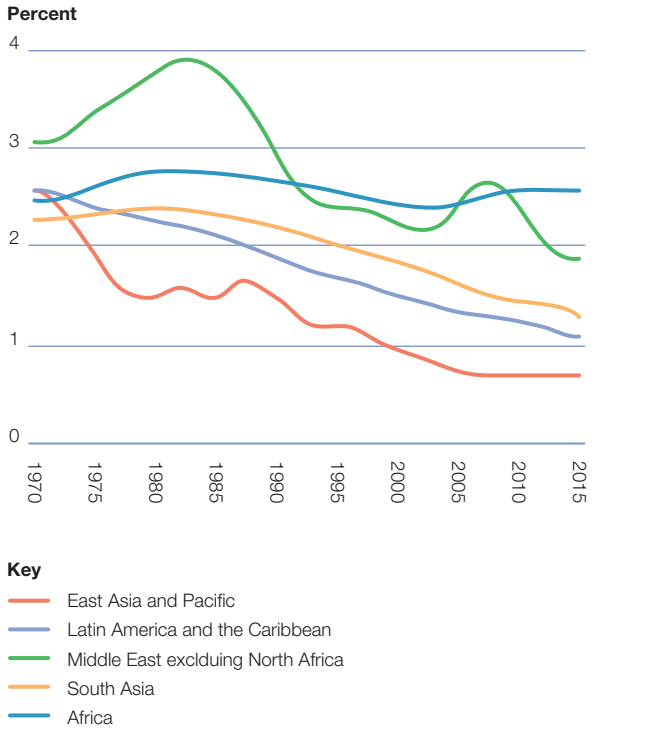
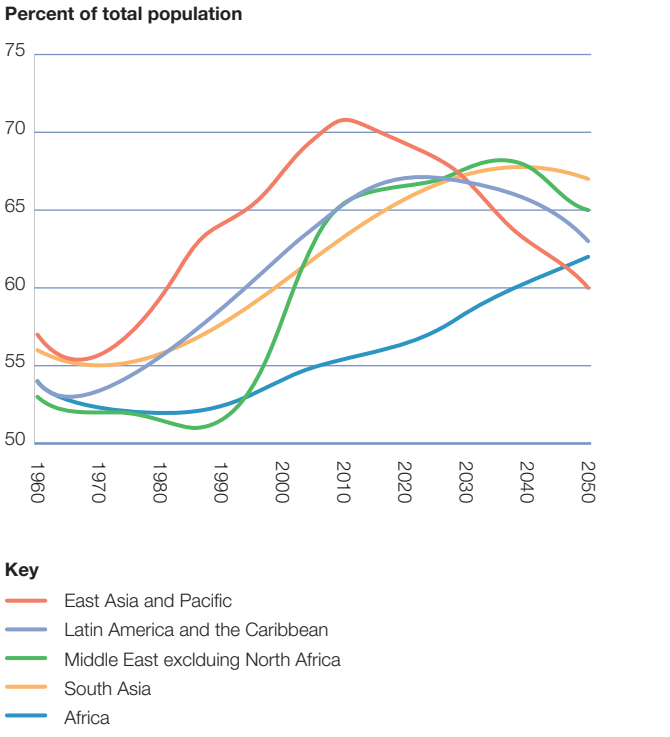
Figure 1: Population growth by region, 1970–2015



Source: World Bank, World Development Indicators, February 2017 update.
Countries are weighted by their population.

Figure 2: Working-age population by region, 1960–2050



Source: World Bank, World Health Nutrition and Population Statistics: Population Estimates and Projections, October 2016 update.

the highest growth of its working age population: 129 percent (Figure A1 in Appendix A). Cumulative population growth is highly concentrated in a small number of countries. Democratic Republic of Congo, Egypt, Ethiopia, Nigeria, and countries that make up the East African Community account for 55 percent of the total growth.[5]

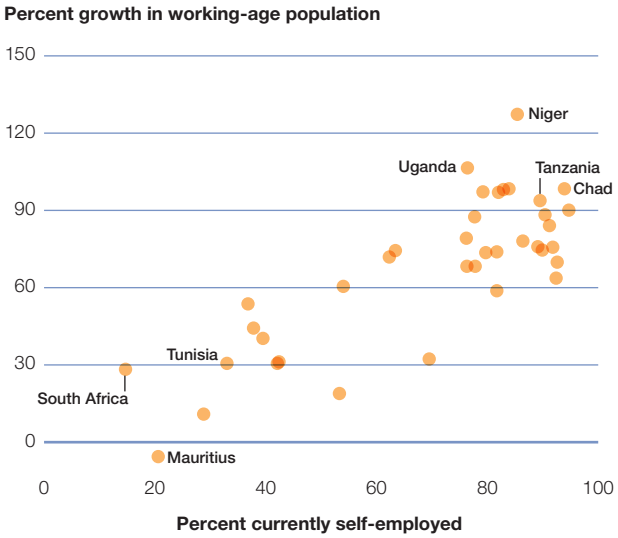
The working-age population as a share of total population is likely to increase slightly over 2015–35, from 57 percent to about 61 percent (Figure 2). However, only a few countries will see the share of their working-age population rise to between 65 and 70 percent by 2035, [6] a range historically associated with a demographic dividend (i.e., accelerated economic growth rates due, in part, to a growing working-age population share).[7] The reason the observed rapid population growth is not leading to a faster rising share of the working-age population is that fertility rates remain high in most African countries, even among those with falling infant mortality rates.[8] Falling infant mortality rates combined with sustained high fertility rates will cause younger cohorts to be larger than their predecessors and the share of the working age population will not rise. This is occurring in many African countries at the moment.

Africa's population is urbanizing rapidly. About 40 percent of Africans currently live in urban areas; that proportion is likely to reach 50 percent by 2030. Perhaps more impressive is the rate of growth of the region's 20 largest cities (Figure A2 of the Appendix). On average, they are expected to grow by about 50 percent between 2010 and 2025,[9] from an average size of 4.5 million people to 6.6 million. Ouagadougou has the highest expected growth rate, 126 percent. Dar es Salaam, Nairobi, Kinshasa, and Luanda are projected to grow by over 70 percent. By 2025, Kinshasa and Lagos should each have approximately 15 million people, followed closely by Cairo. Chapter 1.3 on competitive cities by the African Development Bank examines the challenges and opportunities urbanization creates in detail.

Migration remains important. A traditional response to large population growth and limited economic opportunity is migration. In 2013, sub-Saharan Africa's emigrant population was estimated to be about 23.2 million people, or close to 2.5 percent of the population, while for North Africa it was estimated to be around 9 million persons, or 5.1 percent of the population.[10] Current estimates show that about half of Africa's migrants stay within the continent and the other half are concentrated in France, Saudi Arabia, the United Kingdom, and the United States. Côte d'Ivoire and South Africa are the top destinations for migrants within Africa. Cape Verde, Eritrea, Equatorial Guinea, Sao Tome and Principe, and Seychelles have the largest share of their population as migrants, while the largest absolute number are from Algeria, Burkina Faso, Egypt, Morocco, Somalia, and Sudan.[11]

The job gap—the difference between the number of people looking for jobs and the number of jobs likely to exist—under current policies is likely to be large over the coming decades. Based on recent trends and International Monetary Fund (IMF) projections, Fox et al. forecast that between 2010 and 2020, 75 percent of new entrants to the labor market will work either in agriculture or household enterprises (e.g., self-employment and microenterprises).[12] Just over 20 percent will work for wages in the service sector, and only about 4–5 percent will find a wage-paying job in the industrial sector. If these trends continue, and despite migration, only about 100 million of the expected 450 million person increase in the size of the working-age population by 2035 can expect to find a stable wage-paying job. In addition, the largest projected growth in the working-age population is

Figure 3: Working-age population growth 2015–35 and current self-employment rate



Source: World Bank, World Development Indicators, February 2017 update.

likely to occur in countries that currently have the lowest rates of formal sector employment (Figure 3), which casts doubt on their ability to create enough jobs in the future.[13]

Demographic changes: Possible dividends and vulnerabilities

A four-phase typology is useful to describe the process of demographic change and the ability of countries to capture and harness demographic dividend:[14]

- Pre-Dividend: Countries with high dependency, fertility, and population growth rates. They are predominantly low-income countries.
- Early Dividend: Countries with falling dependency, fertility and population growth rates. These are mainly lower-middle-income countries.
- Late Dividend: These countries have a very high working-age share of the population, and fertility and population growth that are stabilizing at low levels. These are mainly upper-middle-income countries.
- Post-Dividend: Countries with low fertility and population growth rates and falling shares of their working age population as a result of ageing. These are mainly upper-income countries.

Based on their demographic characteristics, data suggest that most countries in Africa currently fall into the pre-dividend and early dividend categories, with Morocco and Tunisia being the only countries in a late dividend stage.[15] Most countries are currently at stages where the working-age share of the population has yet to increase or is just beginning to increase. This growth in the working-age population is neither inherently beneficial nor detrimental. Rather, the policy environment defining the ability of economies to create jobs will ultimately determine the nature of the outcome.[16] There are two broad and somewhat overlapping sets of studies that examine the potential impacts of changes in working-age populations (Box 1). One set focuses on achieving a demographic dividend,[17] while a second strand focuses on demographic vulnerability when dividends cannot be achieved.[18]

Box 1: Demographic dividend and demographic vulnerability

The demographic dividend is the accelerated economic growth that may result from a decline in a country's population growth rate and the subsequent change in the age structure of the population resulting in a larger share of working age population.[1] There is no automatic mechanism that leads from declining population growth rates to higher rates of per capita income growth. Rather, a series of intermediate steps must also occur simultaneously.[2] A reduction in fertility and infant mortality rates reduces average family size, so allows parents to invest more in each child. In addition, fewer children can allow female labor market participation to rise because women do not need to spend as much time raising children. As a result, a slowing population growth rate can produce a temporary larger labor force and a permanently higher skilled one; this in turn may have a positive impact on savings and investment.[3] Moving from a larger and better-educated labor force to greater economic output requires complementary policies to create new jobs; these can include supporting investment in infrastructure, sound economic policy, a favorable investment climate, and the promotion of policies favorable to trade and competitiveness.[4] These are detailed later in the chapter.

A second strand of literature focuses on the social and political vulnerabilities deriving from rapid population growth. This is the literature on *demographic vulnerability.* These studies argue that rapid population growth in countries with weak institutions is a very strong predictor of social and/or political instability because a large number of youth with poor job prospects are much more likely to protest, become criminals, and/or join insurgent movements than youth with good employment opportunities.[5] For example, data from the 2013 *World Development Report* show that unemployment and lack of economic opportunity are a far greater motivation for joining a criminal gang or rebel movement than ideology and desire for power combined.[6] Studies on demographic vulnerability focus on the set of interventions that can help mitigate the stresses population growth can cause as well. Reducing rates of population growth, empowering women, and increasing economic opportunity are the more common suggestions.[7]

Notes

1 Bloom et al. 2003.

2 Bloom et al. 2003.

3 World Bank 2016b.

4 Bloom et al. 2003; Bloom et al. 2007; Fox et al. 2013.

5 Cincotta et al. 2003; Goldstone 2002; Goldstone, et al. 2014; Urdal 2006, 2011; Walker 2015; World Bank 2013.

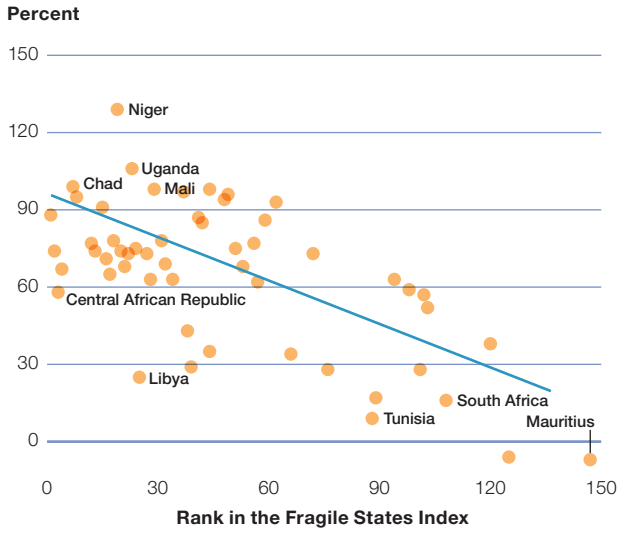
6 World Bank 2013.

7 Cincotta et al. 2003; Goldstone et al. 2014; State Failure Task Force 1999; Walker 2015.

Pathways to demographic dividend and vulnerability

There are various pathways to demographic dividend and vulnerability (Table A1 of the Appendix) derived from the crucial factors that link population growth to either outcome.

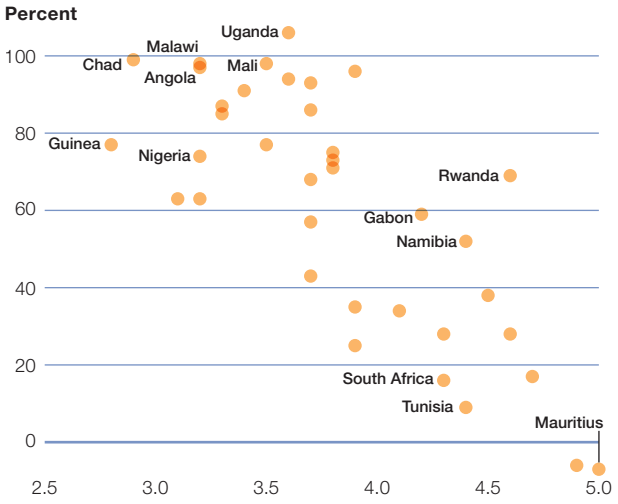
Figure 4: Working-age population growth (2015–35) and fragility



Source: World Bank, World Health Nutrition and Population Statistics: Population Estimates and Projections, October 2016 update.

The Fragile States Index (formerly the Failed States Index) assesses states' vulnerability to conflict or collapse, ranking all sovereign states with membership in the United Nations where there are enough data available for analysis. Ranking is based on the sum of scores for 12 indicators; each indicator is scored on a scale of 0 to 10, with 0 being the lowest intensity (most stable) and 10 being the highest intensity (least stable). The Fragile States Index is compiled by The Fund for Peace and is available at http://fsi.fundforpeace.org/.

Figure 5: Population growth and basic requirements of competitiveness



Source: World Bank, World Health Nutrition and Population Statistics: Population estimates and projections, October 2016 update and World Economic Forum, Global Competitiveness Index.

The World Economic Forum's Global Competitiveness Index is based on three subindexes, in line with three main stages of development: basic requirements, efficiency enhancers, and innovation and sophistication factors. The basic requirements subindex, considered here, is built around four pillars: institutions, infrastructure, macroeconomic environment, and health and primary education.

In the best-case scenario (scenario 1 in Table A1), to achieve a demographic dividend, reductions in fertility and mortality occur alongside an increase in per child spending on health and education, higher levels of female labor force participation, and a policy environment conducive to job creation. These factors lead to a one-generation rapid rise in overall GDP growth as the youth bulge enters the labor force and to a permanent rise in the rate of per capita growth. East Asia is the best example of this type of outcome.[19] In the case of Africa, where most of the countries are in a pre-dividend stage, a decline in fertility is a key prerequisite for reaching any kind of demographic dividend.

Alternatively, the most likely pathway to a demographic vulnerability (scenario 4 in Table A1) is a fall in infant mortality alone, which leads to rapid and sustained increases in population growth rates in a poor policy environment, causing each younger age cohort to be larger than the one preceding it and rising competition for scarce economic opportunity.[20] Several countries in Africa are following this path.

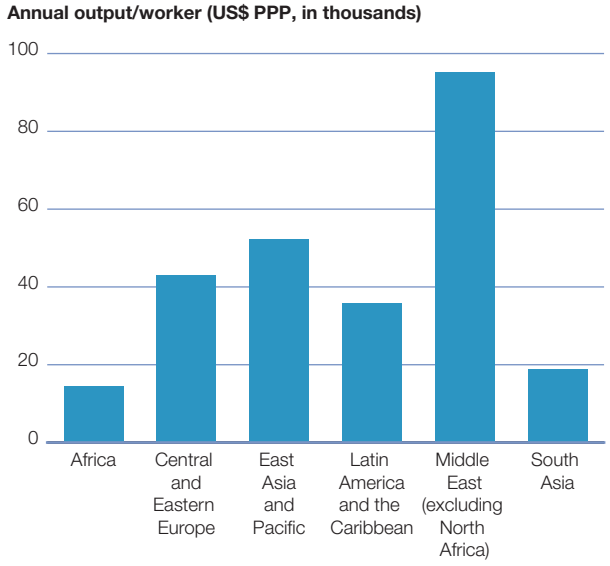
The current situation

Data suggest that the countries in Africa with the largest projected working-age population growth are also those least able to deal with the pressures that emanate from it (Figures 3–5). In general, countries with high working-age population growth are typically more fragile than those with low working-age population growth rates (Figure 4), although there are a few outliers (e.g., Central African Republic and Libya are very fragile, but they have relatively low population growth rates). Moreover, all but three countries on the World Bank's list of fragile countries in Africa—Central African Republic, Comoros, and Sierra Leone—have above-average working-age population growth. Average working-age population growth in fragile countries is 77 percent; it is 60 percent in non-fragile ones.[21]

Data also suggest an inverse relation between the projected working-age population growth through 2035 and the basic requirements subindex of the World Economic Forum's Global Competitiveness Index (Figure 5). Countries with a high working-age population growth appear to lack key foundations of competitiveness compared to those with low population growth rates. This is perhaps not that surprising. First, education and health outcomes among poor children from large families are likely to be lower than among those for smaller families, all else being equal. Second, high fertility rates correlate negatively with women's empowerment, and the latter correlates positively with economic development.[22] Third, women's empowerment correlates positively with the quality of governance.[23] As a result, it is logical that high rates of working-age population growth may correlate negatively with economic competitiveness in Africa.

Correlation between fragility and population growth does not imply clear causality from one to the other. Rather, there is an endogenous relationship between the two and other factors can mediate the relationship as well, such as the quality of governance. A similar relationship exists between population growth and competitiveness. On the one hand, Walker's meta-analysis of the causes of demographic vulnerability finds that "rapid population growth is a leading cause" of state fragility.[24] On the other hand, Goldstone et al. argue that rapid population growth can be one manifestation of fragility and poor economic competitiveness:

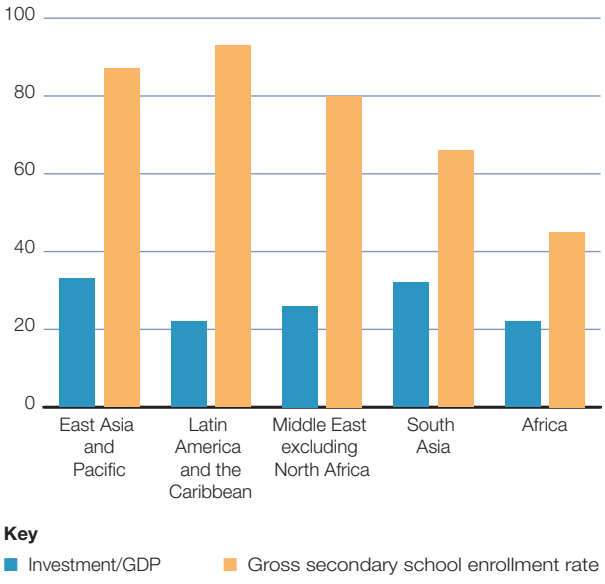
Figure 6: Estimates of average labor productivity across regions, 2015



Source: The Conference Board Total Economy Database, available at https://www.conferenceboard.org/data/economydatabase/index.cfm?id=27762.

Labor productivity measures annual output per person employed in 2015 in US dollars at purchasing power parity. High labor productivity in the Middle East reflects the economic importance of the extractive sector. Extractive industries tend to have high output per person, but limited employment opportunities.

Figure 7: Comparative enrollment and investment rates



Source: World Bank, *World Development Indicators,* February 2017 update.

> the benefits of large youth cohorts and the chance to reap a demographic dividend are in general only realized when a country's government is able to provide political stability, strong support for education through secondary and vocational education, increasing employment in the formal sector and stable macro-economic conditions. These are also the conditions that are conducive to falling fertility and progress through the demographic transition, and are the conditions that fragile states most lack. . . . [25]

Which countries are best placed to achieve a demographic dividend and which are more likely to encounter stress from rapid population growth? High-quality policy and high projected growth rates offer best opportunity for demographic dividend. Figure 5 suggests that Namibia, Rwanda, and perhaps Gabon seem to be well prepared at the moment. By contrast, high projected growth rates and weak policies are a likely indicator of possible demographic vulnerability. This may constitutes the case for countries in the upper left side of Figure 5, such as Angola, Chad, Guinea, Malawi, Mali, and Uganda.

Policies to foster jobs

Rapid growth in Africa's working-age population is occurring in a context of low levels of productivity among the existing labor force. Average labor productivity in Africa is well below the levels observed in East Asia, Latin America and the Caribbean, and Central and Eastern Europe and somewhat below levels in South Asia (Figure 6).

A large literature examines why productivity in Africa is lower than it is in other regions of the world.[26] Bigsten and Soderbom find that firms in African manufacturing have low rates of investment, tend to lack access to credit, and encounter high costs to export. Bigsten and Soderbom argue:

> Countries that cannot break out of the current situation—in which most manufacturing firms focus on supplying the domestic market with low value-added products—are unlikely to see a significant expansion of jobs in the manufacturing sector or to have manufacturing play a major role in reducing poverty.[27]

To create new jobs, firms in Africa must increase productivity. Productivity is a function of human and physical capital accumulation, the investment climate, and the level of efficiency in which an economy utilizes its inputs (i.e., total factor productivity). It thus classically follows that countries that wish to have more productive economies need to first invest in human and physical capital, and to employ both types of capital efficiently. Africa's generally weak productivity may reflect, at a minimum, low levels of education and investment.

Africa's combined level of human and physical capital accumulation is lower than all other regions of the world. Figure 7 plots rates of investment (specifically, gross capital formation) and secondary school enrollment rates by region. Although investment-to-GDP rates are somewhat below the average for some other regions, secondary school enrollment rates are far below all other regions.[28] The quality of education in Africa is also generally low. For example, according to the Brookings Institution's Africa Learning Barometer, only about one-third of children enrolled in schools are able to "read or write fluently or successfully complete basic numeracy tasks" in the countries the database covers (see Box 2).[29]

Box 2: More and better teachers will be needed in the future

Population growth brings about additional demand for education services. Sustainable Development Goal (SDG) 4, which calls for universal secondary as well as primary education by 2030, aims for pupil-teacher ratios of no more than 40:1 and 25:1 for primary and secondary levels, respectively. Using population forecasts and SDG target enrollment ratios, along with current numbers of teachers and expected teachers' attrition rates, it is possible to estimate the number of teachers that will be needed in the future. Table A shows that that, by 2030, Africa will need to have hired approximately 19 million teachers to achieve SDG 4, compared to the current 8 million. This is a 250 percent increase over the current number of teachers. Of these 19 million, countries will need to replace about 9 million because of attrition; the other 10 million are needed to accommodate increases in enrollment rates and decreases in pupil-teacher ratios. The largest increase, by far, is for new secondary school teachers in sub-Saharan Africa. There are currently about 2.2 million secondary school teachers in sub-Saharan Africa. To meet SDG 4 by 2030 will require hiring close to 11 million new ones. Countries in North Africa will need to nearly double their current number of teachers to meet this goal.

Table A: Total number of teachers needed in Africa to meet SDG 4 by 2030 (thousands)

School level	Current (2014)	Number needed by 2030	Replacement for attrition	New	Percent increase
Primary					
Northern Africa	912	844	694	150	93%
Sub-Saharan Africa	3,799	6,288	3,885	2,403	166%
Subtotal	4,711	7,132	4,579	2,553	151%
Secondary					
Northern Africa	1,039	1,845	1,087	758	178%
Sub-Saharan Africa	2,247	10,755	3,673	7,083	479%
Subtotal	3,286	12,600	4,760	7,841	383%
Total					
Northern Africa	1,951	2,689	1,781	908	138%
Sub-Saharan Africa	6,046	17,043	7,558	9,486	282%
Total	7,997	19,732	9,339	10,394	247%

Source: Authors, based on UNESCO Institute for Statistics.

The required number of new teachers would be less forbidding if attrition rates among could be reduced. According to current projections, over 9 million teachers will leave the profession in the next 15 years and need to be replaced. The drivers of such high attrition rates include family responsibilities,[1] low pay,and poor working conditions (i.e., large classes and deficient facilities and equipment).[2]

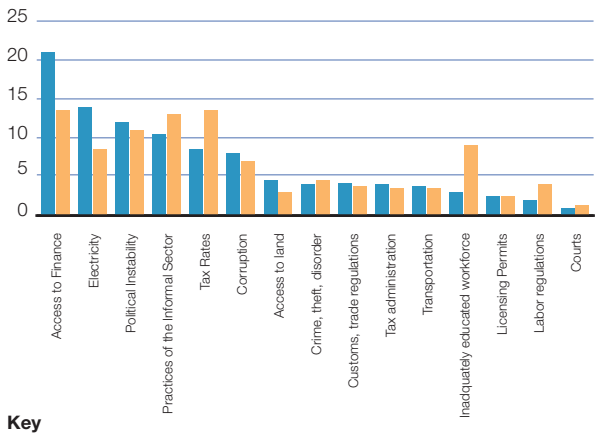
Notes

1 Teachers for EFA 2010.

2 According to UNESCO Institute for Statistic's (UIS) research, in 19 of 23 sub-Saharan African countries studied, more than 60 percent of schools lack access to electricity; in 10 of the countries, more than 60 percent of schools lack access to water; in seven countries, more than half of schools lack access to toilets. UNESCO 2012.

Figure 8: Most importance obstacles to firms' growth

Percent of respondents



Source: World Bank Enterprise Surveys.

Averages are reported for 46 countries in Africa and 95 countries from the rest of the world. Surveys cover the 2006–16 period.

A complementary and now standard way to analyze the policies that governments need to put in place to promote job creation is to examine impediments to business creation from the perspectives of employers or the perceived quality of the investment climate. Figure 8 reports Enterprise Survey data from Africa and the rest of the world on the biggest business obstacles for all firms. The data show that access to finance and poor supply of electricity (see Box 3 for examples) are perceived as the biggest obstacles to business growth in Africa. On average, these two impediments account for about 34.8 percent of responses over the last decade. These two factors are perceived to be more problematic for the business environment in Africa than they are in other regions.[30]

Based in part on the previous data, academics, professionals, and international organizations have developed a standard and familiar set of recommendations to encourage more rapid job creation in Africa that typically include:

Box 3: Two key traditional investment climate constraints for firms in Africa

Access to finance: The example of Senegal. In the 2014–2015 Senegal Enterprise Survey, 55.4 percent of firms rated access to finance as a major/very severe problem, making it the second leading constraint (behind competition from the informal sector), and 42 percent indicated that access to finance was the single biggest obstacle affecting their operations. Senegal's weak regulatory environment is part of the problem, particularly its weak legal rights, lack of an operational credit information systems, and burdensome procedures for contract enforcement. Small firms complain significantly more than large ones about access to finance.

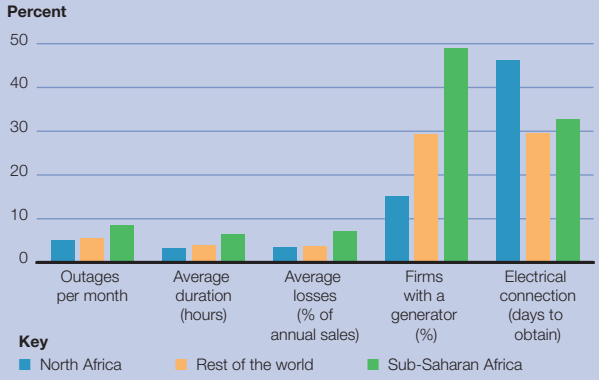
Indeed, for now, obtaining bank loans is difficult and time-consuming. Information and collateral requirements from banks are high. Lending conditions are also difficult because of the type of guarantees required by banks, with land and real estate being the leading forms (53.1 percent of guarantees requested). This is an additional hurdle, because securing this type of collateral is extremely difficult for smaller firms and may be near impossible for young firms. That relatively few firms subject their accounts to an independent auditing process exacerbates the problem. Not surprisingly, very few firms even apply for a loan—most of the firms finance their cash flow or their investments outside the formal banking system. Out of the 601 firms surveyed, only 14.6 percent applied for a loan—yet 70 percent of these applications were approved. More than half the firms in the survey needed finance, but did not apply for a loan because of a lack of collateral and burdensome processes. In other words, a very large proportion of firms self-selected themselves out of the market.

The Government of Senegal is now well aware of the issue and intends to solve it. In response, it has included in the country's development plan the promotion of financial development and stability. The Financial Sector Action Plan calls for strengthening the resilience of the banking system, reducing information asymmetries, broadening the types of acceptable collaterals and guarantees, and improving credit information with the development of credit bureaus.

Electricity supply. Electricity issues in Africa are largely a sub-Saharan Africa issue. Indeed, in 2012, access to electricity was close to 100 percent for North African countries while it was only about 35.3 percent in sub-Saharan Africa and 84.6 percent worldwide. Firms in sub-Saharan Africa typically face more outages of longer duration yielding larger annual losses (Figure A), as well as high prices. As a result, close to half of the firms in sub-Saharan Africa have a generator to compensate for an uncertain supply. Electricity cost provided by diesel generators ranges from three to six times higher than the price grid consumers typically pay.[1]

The situation of sub-Saharan Africa's power sector largely comes from insufficient generation capacity. An important obstacle to the increase in electricity generation is the high cost of production. The industry is dominated by small-scale power systems, leading to higher transmission and distribution costs. In addition, fossil-fuel-based power generation is the largest source of electricity generation. Unfortunately, this is also very expensive. As a result, utilities are often cash strapped and many have allowed some of their assets to fall into disrepair.

Figure A: Electricity outcomes for firms in manufacturing



Improving energy supply in Africa will likely require exploiting renewable energy sources, liberalizing the energy sector to further attract private-sector participation, improving the state of power infrastructures, and improving overall operational efficiency of utilities. This may require tariff adjustment and the use of targeted cross-subsidies to help increase affordability and speed up access expansion.[2]

Notes

1 McKinsey 2015.

2 World Bank 2016c.

Sources: McKinsey 2015; World Bank 2016c, 2017a; World Bank Enterprise Surveys (available at http://www.enterprisesurveys.org/); World Bank, *World Development Indicators* (available at http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators).

- Maintain a focus on increasing productivity. This remains important for almost all counties in Africa It will require a continued focus on human capital development as well as investment policy and incentives.
- Increase the quality of the labor force and labor force participation rates. The latter also requires specific efforts to create greater educational and employment opportunities for women.
- Improve the business environment in key areas. Priority ones are access to finance and electricity, as well as regulatory reforms (such as those the Doing Business Indicators cover),[31] and those aimed at promoting competition and innovation.
- Implement policies that encourage export diversification. Improved infrastructure and reductions in non-tariff barriers are especially important for expanding opportunities for trade.

All of these are sensible recommendations, strongly supported by existing data, some of which were presented above. However, there are a few problems with them.

First, they have been standard suggestions to most countries in the region over the past two decades, including in many previous versions of *The Africa Competitiveness Report.* Are there reasons to believe that governments in Africa will be more prepared to act on them now than they were a few years ago, or that they will be more effective? Perhaps this answer is a cautious *yes.* The fall in commodity prices over the

Box 4: Examples of programs for fragile and conflict-affected states

The literature on conflict and development offers a number of examples of programs that have been effective in very fragile states.[1] A number of promising approaches exist:

The United Nation's Policy for Post-Conflict Employment Creation, Income Generation, and Reintegration offers a sophisticated and integrated approach to supporting sustainable job creation efforts in fragile and conflict-affected states.[2] It recommends a *three-track approach.* Track A targets conflict-affected populations and focuses on stability, security, and short-term labor-intensive public works programs. Track B aims to consolidate peace through rebuilding communities, rehabilitating infrastructure, enhancing local government capacity, and creating local-level employment opportunities. Track C, which operates simultaneously with Tracks A and B, focuses on sustainability through activities to foster private-sector development, such as through improvements in the business environment.

Dudwick et al. promote *value chain development* as a source of employment creation in fragile and conflict-affected states "because value chains don't depend on government interventions or officials." As a result, as "long as there is a modicum of security and some market activity beyond a black market, market development can begin immediately after a crisis or conflict." They further claim that because value chain development helps restore "legitimate market links and relationships of trust among different social groups in fragile and post conflict environments, value chain development offers both economic and peace-building benefits."[3] They cite a number of successful examples from fragile and conflict-affected states in Africa, including fisheries as well as gums and resin in Somalia, cotton and shea butter in South Sudan, and cotton in northern Uganda.

Notes

1 See, for example, Blattman et al. 2014; Holmes et al. 2013; World Bank 2011a, 2014.

2 UN 2009.

3 Dudwick et al. 2013, p. 61.

past few years has revealed the underlying fragility of many African economies. It was easy to ignore these weaknesses when headline growth rates and revenue levels were high. They are more difficult to ignore now. Moreover, governance along a range of dimensions, such as macroeconomic policy and political stability, has been steadily improving for a number of years in Africa. In addition, governments in the region are aware of the potentially destabilizing impact of growing idle youth populations.[32] Awareness alone does not signal imminent action, yet it does provide a useful starting point for constructive policy dialogue.

Second, the more important problem with the aforementioned recommendations is that they tend to apply best to countries that already have reasonably dynamic private sectors and effective public-sector institutions. They do not apply well to fragile countries or to countries where the vast majority of labor market entrants face no realistic alternative to self-employment or employment in microenterprises, yet most countries on the African continent fit into either or even both of these categories. In addition, resource-rich countries also tend to have challenges to job creation that standard prescriptions are likely to overlook.

Finally, besides the issue of applicability to existing situations on the continent, the recommendations above also tend to neglect the capacity for regional integration and intra-African trade to spur job creation as well as the potential of microenterprises and agroindustry. These areas are discussed below.

Policies targeted at fragile and conflict-affected states

Africa is host to more than half of all the fragile and conflict-affected states in the world (19 out of 35 countries).[33] With the exception of Libya, all of them (18) are in sub-Saharan Africa and most are in a pre-demographic dividend situation. Hence, fragile and conflict-affected states are a class of countries of special relevance for the continent. From a private-sector perspective, fragility results in a very risky environment shaped by pervasive market and government failures that increase costs, reduce demand, and compromise the appropriability of investment returns because of policy uncertainty or corruption.[34] Job creation is a difficult task in these environments.

Traditional programs in fragile and conflict-affected states tend to be modest in scope and scale. As a result, they often fail to have a significant material impact on job creation and private-sector development.[35] They tend to have a limited impact because they often do not have a coherent focus on sustainability. Short-term public works programs are an obvious example. Fixing local infrastructure is unlikely on its own to lead to a thriving local private sector. As a result, when the funding ends, local economic activity slumps. Furthermore, the standard advice to improve the business environment, the quality of education, and/or build government capacity alone is insufficient for these countries. First, fragile and conflict-affected states have weak capacity, which implies that policies may take a long time to be executed, yet these countries face immediate economic, political, and social challenges that need to be addressed right away to maintain stability in the short and medium term. Second, even if governments are serious about enacting reforms, the private sector may not respond until it is convinced the policies are effective and credible.

For these reasons, governments and international development agencies argue that there is a need to enact targeted sets of policies that can focus on ensuring political and social stability in the short term alongside broader, longer-term institutional reforms (Box 4).[36] More specifically, according to the World Bank's *Integrated Framework for Jobs in Fragile and Conflict Situations:*[37]

- The fundamental prescription of ensuring that education, macro/fiscal and investment policies, and business environment reforms are properly implemented remains valid. However, it makes sense to adopt a "jobs and fragility lens" to ensure that these reforms will lead to job creation and/or reduce fragility in the short to medium term.
- Active labor market programs might have an important role to play in fragile and conflict-affected states. Programs addressing inadequate skills, insufficient

information about job opportunities, and limited mobility can prove useful.

- Targeted policies that promote job creation or increase the quality of jobs are likely to be appropriate. Programs helping to address obstacles facing vulnerable groups (such as women at risk of being cut out of the labor market, ex-combatants and youth at risk of engaging in violence, or the displaced) and targeted interventions promoting investments and growth in certain subsectors, value chains, or geographic regions are particularly worthwhile to consider.

Policies targeted at resource-rich countries

Resource-rich countries face distinct challenges in large-scale job creation: production linkages with the rest of the economy are relatively limited and direct employment creation in the resource sector is often minimal.[38] Africa has a number of resource-rich countries. Apart from Algeria and Libya, all of them (16) are in sub-Saharan Africa.[39] With the exception of Algeria and Libya, which are in the early stages of the demographic dividend, they are all in the pre-dividend stage of the process.

Usually policymakers wish to limit the size of the natural resource sector and diversify their economy. This is the result of the instability of returns from commodities and the resulting problems of unemployment and output loss during periods of low prices; a perception that the rate of technological change in resource-dependent activities may be lower than in manufactures or services; and, finally, concerns that resource-intensive production may promote rent-seeking activities, lower growth rates, and increase the risk of conflict.[40]

Although country specifics vary widely, existing research suggests specific types of policies that can be useful in supporting economic diversification, creating jobs, and helping countries avoid a potential resource curse in resource-rich countries. They include:[41]

- The key prescription of ensuring that macro/fiscal and investment policies and business environment reforms are properly implemented remains valid. Sound macroeconomic management is paramount to contain boom-bust commodity cycles, and exchange rate policy should be geared toward avoiding long periods of overvaluation. Business environment reforms that contribute to improve firms' environment are critical to ensure a level playing field and to limit opportunities for rent-capture.
- Trade policy needs to remain fairly open (limited protection, openness to foreign direct investment to foster spillover, participation in trade agreements to ensure a level playing field) to make sure that new activities compatible with changes in comparative advantage can emerge.
- Policies that focus on developing human and physical capital and improved governance need to be supported and implemented.
- Finally, targeted vertical/sector-level policies—in line with comparative advantages for traded sectors—to develop linkages from natural resources sectors to the rest of the economy can prove useful. These can include specific infrastructure investments, tax measures and incentives, mechanisms to promote technology-upgrading, support for access to external markets, support for value chain development for countries whose wealth is based on agricultural commodities, and support for linkages development to non-extractive sectors (see Box 5). All these activities should have a gender angle to create conditions underlying a potential demographic dividend.

Box 5: Small- and medium-sized enterprises linkages programs

A first step toward a long-term path of economic diversification—but one that can yield quick results in terms of job creation—is the implementation of linkages programs. The International Finance Corporation (IFC) has been implementing such programs in recent years.

Typically, African small- and medium-sized enterprises (SMEs) can be key drivers of growth and job creation provided they receive appropriate support. However, they are often held back by a lack of knowledge, resources, and technical expertise. In addition, they also often lack the financial resources necessary to acquire new technologies or skills. Linkages programs create business opportunities for SMEs at national, regional, and/or community levels through the IFC's relationship with large corporate entities in which it has invested. These programs help SMEs adopt practices and systems to satisfy the standards required by these large corporations. When large firms source locally, SMEs are provided with income-generating opportunities, so they can improve their productivity and create jobs.

For example, a linkages program in Guinea involved local supplier development, the creation of local management training market and capacity building for training firms, and improved access to information on opportunities in the mining sector. In 2012, after five years of existence, (1) over 700 new jobs were created in local businesses as a part of the mining sector's supply chain, (2) US$9.1 million in new contracts were signed between local businesses and international mining companies, and (3) over 100 local SMEs received training and individualized coaching. All of this took place in a remote part of Guinea where business opportunities and jobs were rare.

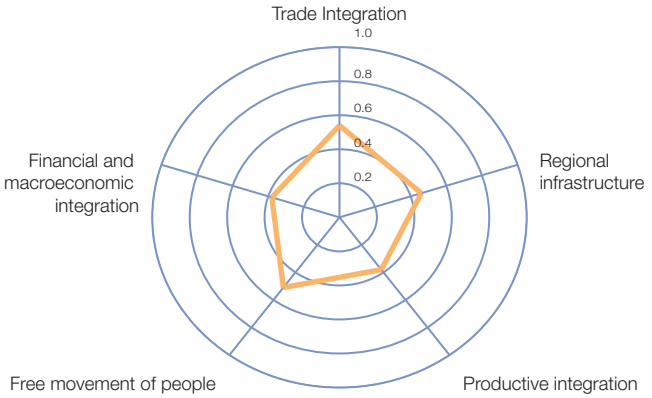
Sources: Dodd 2013; IFC 2009.

Policies to facilitate regional integration and trade

Currently, most African countries have small domestic markets and limited, although growing, purchasing power. Many countries are also landlocked, thereby compounding their limited size. For these reasons, firms in Africa often cannot achieve efficiency gains resulting from economies of scale by producing for domestic markets alone. Rather, greater regional integration is crucial for improving firm productivity in Africa. As of now, integration of African economies is limited, as shown by the low scores on the various dimensions of the Africa Regional Integration Index (Figure 9). Even trade integration, which has the highest score of 0.54, is low.

Trade and regional integration can become a major source of job creation and improved well-being in Africa. Closer trade links can stabilize food markets, reduce consumer prices, create economies of scale that will help increase the

Figure 9: African Regional Integration Index



Source: AU et al. 2016.

The Regional Integration Index is made up of five dimensions (trade integration, regional infrastructure, productive integration, free movement of people, and financial and macroeconomic integration) and 16 underlying indicators. Dimension scores range from 0 (low) to 1 (high). Values reported are the average of the eight regional economic communities of the continent. The eight communities are CEN-SAD (Community of Sahel–Saharan States), COMESA (Common Market for Eastern and Southern Africa), EAC (East African Community), ECCAS (Economic Community of Central African States), ECOWAS (Economic Community of West African States), IGAD (Intergovernmental Authority on Development), SADC (Southern African Development Community), and UMA (Arab Maghreb Union).

competitiveness of Africa's private sector, and foster the development of regional value chains.[42]

The current situation in this area is difficult because the cost of moving goods between countries remains high, transit times are uncertain, and delays can be exceptionally long. Africa has the weakest performance of any region in the 2016 Logistics Performance Index (LPI),[43] and it ranks low on Doing Business indicators of time and cost of trade.[44] In part, this poor showing is a result of insufficient infrastructure, especially transport, telecommunications, and energy. However, empirical evidence suggests that only about a quarter of the delays along major transport corridors are a result of inadequate and/or low-quality physical infrastructure. Non-tariff barriers and poor trade facilitation, by contrast, account for the remaining 75 percent.[45] Research therefore suggests that to achieve the job gains resulting from greater intra-Africa trade and regional integrations, countries should:

- Improve efforts at trade facilitation alongside building more physical infrastructure that links regional markets. Infrastructure creation is also crucial for supporting the growth of Africa's manufacturing sector.
- Ease regulation on small traders, many of whom are women, by "simplifying border procedures, limiting the number of agencies at the border . . . increasing the professionalism of officials . . . and assisting in the spread of new technologies such as cross-border mobile banking."[46]
- Encourage regional trade by eliminating onerous non-tariff barriers; reducing bans on exports; and improving customs performance, coordination, and trade logistics. For example, greater regional trade in agriculture holds the promise of creating many new jobs in agro-processing and a wide range of services, such as transport, distribution, and retailing. Similarly, the apparel sector—a traditionally female employment–intensive manufacturing sector—could benefit from such measures.
- Support trade in services. Service exports can help improve access to crucial services necessary to increase productivity, such as healthcare, education, and other professional services.[47] Exports of services are particularly important for landlocked countries for which opportunities to diversify into the export of manufactures are more limited by the high costs of transporting goods.[48] Some countries in Africa already export a far greater level of high value-added services, such as communication and finance, than most other countries at their level of income (see Box 6 on trade in services). This should be encouraged.
- Ease restrictions on freedom of movement in Africa. This can help improve firm productivity on the continent because it would allow employers to be better able to attract high-quality talent. Countries that face shortages of essential service providers, such as teachers and healthcare professionals, would also benefit from allowing greater freedom of movement because this would help improve the quality and productivity of labor (see Box 2 on the need for more teachers in Africa).
- Finally, improve regional integration. Better integration can contribute to job creation by facilitating the development of labor-intensive regional value chains for manufactured exports.[49] Countries in Africa can improve progress on regional integration by designing more flexible integration agreements and focusing on areas where countries can more easily reach policy consensus. Recent improvements in border efficiency and easing regulations in trade in services in the East African Community are two prominent examples.

Policies targeted at microenterprises, agriculture, and agroindustry

Given projected demographic patterns and under existing policies, around 75 percent of new entrants in the labor market are likely to work in microenterprises or agriculture. Hence, there is a need to enact programs that target specifically the needs of these types of firms. A new set of studies explicitly recognizes this reality.[50]

Microenterprises

Microenterprises are an important source of employment for people with low levels of education, as these firms are typically labor intensive and require fewer technical skills than more established firms. Although their contribution to total production is small, they constitute the largest number of businesses in Africa. Microenterprises are an especially important source of female economic empowerment because barriers to entry into the labor market are often lower among these firms than they are in more formal ones.

Box 6: Service exports from Africa: An overlooked area of job opportunities?

Because levels of education and information and communication technology (ICT) connectivity are improving in Africa, service exports are becoming an increasingly realistic growth sector. Relatively low wages as well as large populations fluent in French and English provide Africa with additional advantages in this area. Although direct service exports from Africa still remain a relatively small portion of overall exports, services already play a large *indirect* role in the form of inputs into exports of primary goods and manufacturing. Countries in the region can build on these foundations to expand into higher levels of direct service exports.

To maximize gains from trade in services, most governments in Africa need to reduce direct barriers to trade in services, as well as indirect ones that result from poor regulation. These reforms are also necessary for Africa to deepen its integration into global value chains.

Some African governments—such as Mauritius, Senegal, and Tunisia—have implemented policies that create a more enabling business environment for service exports. These countries currently export a much higher level of services than most other countries at their level of development. Some notable successes include:

- Mauritius is performing well in exports of business services, finance, and transport. The CIM Group, a leader in the financial sector, is a particularly strong example.
- Senegal does well in exports of business services, communications, and finance. Premium Contact Center International, a provider of call center services, illustrates this trend.
- Tunisia is doing well in communications, distribution, and transport service exports. TTS Group, a leader in the tourism and transport sectors, is a good example.

Box 7: Creating jobs in microenterprises with a business plan competition: Nigeria's YouWiN! competition

The Youth Enterprise With Innovation in Nigeria (YouWiN!) program is a business plan competition for young entrepreneurs in Nigeria. It aims to encourage innovation and job creation by generating new businesses and expanding existing ones, and was launched in late 2011. To be eligible, applicants had to be Nigerian citizens aged 40 or younger.

The first year, 23,844 applications were received, with the top 6,000 being selected to receive a four-day business plan training course. From those initial applications, 4,510 business plan applications were then received and scored, and 1,200 winners were selected to receive prizes averaging US$50,000 each.

Results from a rigorous impact evaluation showed that that a business plan competition can be successful in identifying entrepreneurs with the potential to use the large amounts of capital offered as prizes, and that these individuals appear to be otherwise constrained from realizing this potential. The prize money generates employment and firm growth that would not have otherwise happened.

By the end of the third year of YouWiN! activity, the 1,200 winners are estimated to have generated more than 7,000 new jobs. The cost per job created compares favorably to similar programs in the United States and developing countries.

Source: McKenzie 2015.

Typically, microenterprises face more acute business environment impediments than their larger counterparts, as well as significant obstacles to acquiring high-quality human and physical capital. Supporting microenterprises in overcoming these barriers involves a two-pronged approach:[51]

- On an economy-wide basis, microenterprises would benefit from policy measures aimed at improving access to human and physical capital, and the businesses environment in which they operate. The most immediate needs are the provision of quality education and training,[52] access to adequate finance, inclusive industrial policies, and access to quality infrastructure as well as reforms in the design and enforcement of business regulations.
- Targeted vertical policies to address specific constraints would be also useful. Examples are policies that assist microenterprises in accessing particular markets, support them in developing linkages with larger firms, provide knowledge on the implementation of new quality standards for exports, establish youth development funds,[53] and support entrepreneurship development (with business plan competitions, matching grants, and access to apprenticeships) (Box 7).

Support for agriculture and agro-processing

Increasing agricultural productivity and further developing agro-processing is central for job creation in rural areas where still 60 percent of the continent's population currently live. At the most basic level, governments need to adopt a more dynamic approach to fostering agricultural transformation. Many governments still take a "static," classic view of agricultural development as increasing the productivity of small farmers. This lends itself to programs that focus on increasing access to inputs for small farmers, such as fertilizer and seed, to coax more output from small areas of land. Programs to increase access to credit—such as value-chain finance from buyers—and to help small farmers receive higher prices for their crops—such as Warehouse Receipt Systems[54]—are becoming more common as well. Contract farming is another way to raise productivity and employment among this segment of the working population.[55]

Truly unlocking Africa's agricultural potential will, however, require complementing the above necessary efforts with those to sustainably transform the sector from low-productivity small farms (producing mainly for household local consumption) into larger farms and more intensive agro-processing activities.[56] This will also require further developing packaging and handling industries. Adding value to agricultural products through processing, packaging, and handling is not only a major potential source of job creation in Africa, it also is crucial for developing the region's

manufacturing sector. This requires developing a proper enabling environment for agro-processing,[57] which can be based on three layers of interventions:

- The first layer includes essential enablers for the sector. Reforming trade policies are central to improving industrial competitiveness because they may lower costs of production and facilitate market access. At a minimum, this requires governments to set reasonable tariffs and limit the use of non-tariff barriers. Improving infrastructure (transportation, water and sanitation, electricity, communications, and irrigation) is also a high priority for creating competitive agro-processing firms. Not unexpectedly, ensuring proper access to finance (see the earlier discussion) is also key to ensure firms can invest and remain competitive. Finally, land is a key asset for the sector. Reforms in areas such as title, leasing, and rental are vital to ensure accessible land for large farms and agroindustries.[58]
- A second of set of interventions requires raising standards and regulations to international best practices because this will facilitate export competitiveness. Fostering and providing incentives for research and development and the use of technology is essential to ensure the competitiveness of the sector as well.
- A final layer includes supportive business regulations. Access to business development services, such as finance, accounting, marketing management, economics, law, and other technical expertise, plays an important role in helping firms to become more productive and competitive. Finally, vertical linkages (between enterprises at different levels of the supply chain) should be encouraged and policy support should be directed toward the formation of farmer groups so as to reduce the risk of insufficient supply and to generate income.

Conclusions

Projections suggest that Africa's working-age population will grow massively over the next two decades. Approximately 450 million Africans will enter the labor force over this time period. This is close to three times the current number of people who work for steady wage-paying jobs in the region. If the status quo endures, only about 100 million of these new entrants to the labor force will find a steady wage-paying job. The other nearly 350 million will need to resort to self-employment or employment in microenterprises. To expect this new generation of increasingly educated and urban youth to quietly accept scarce economic opportunity is risky.

Fortunately, new research is providing governments in the region with insight into how they can address the coming rise in their working-age populations. This chapter argues that beyond the traditional—though still valid and required—prescriptions (such as providing stable macroeconomic policy and a supportive investment climate; improving the quality of human and physical capital; and promoting measures to foster a reduction in fertility), countries can facilitate increased job creation by implementing specific policies more suited to their particular circumstances:

- For fragile and conflict-affected states, targeted support to vulnerable regions and/or populations such as women can be both stabilizing—via the creation of jobs—and growth enhancing.
- For resource-rich countries, open trade policies and developing value chain links to natural resource sectors (be they agricultural commodities or extractives) can encourage diversification and job creation.
- Fostering regional trade and integration is a major potential source of jobs, can help improve firm-level productivity and economic competitiveness, and support the development of manufacturing.
- Support of microenterprises and agroindustry, key sectors of job creation in Africa, is absolutely needed but requires sector-specific interventions to increase productivity. Access to finance and appropriate skills is crucial for the former. Developing the latter requires reforms that envision agriculture not as a subsistence activity, but as a potentially dynamic commercial sector.

Developing and effectively implementing these policies to help attain a demographic dividend takes time. If countries wait until today's youth reach working age, it will probably already be too late to avoid demographic vulnerabilities.

Notes

1 *Africa* here includes sub-Saharan Africa and North Africa (including Algeria, Egypt, Libya, Morocco, and Tunisia).

2 For example, the average yearly price of crude oil (Brent) went from US$98.9 per barrel in 2014 to US$44 per barrel in 2016; World Bank 2017b.

3 Data are from the World Bank's *World Development Indicators*. See https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups for a list of the countries in each World Bank group.

4 The working-age population is defined as those aged 15 to 64.

5 Countries in the East African Community are Burundi, Kenya, Rwanda, Tanzania, and Uganda.

6 These countries are Algeria, Botswana, Cape Verde, Djibouti, Egypt, Lesotho, Libya, Mauritius, Morocco, Seychelles, South Africa, and Tunisia.

7 For example, this is low compared to East Asia, the region that benefitted most from a demographic dividend with a working-age share of its population reaching just over 70 percent. By contrast, under current projections, the working-age share of Africa's population is likely to rise slowly to about 65 percent by 2050 (The Rand Corporation 2002). Therefore, Africa's demographic dividend, even under ideal conditions, is likely to be more modest than that of East Asia (Bloom et al. 2007; Cleland 2012; Eastwood and Lipton 2011).

8 Although infant mortality rates are, on average, higher in Africa than they are in other parts of the world, the gap is narrowing rapidly—especially since 2000. Africa remains, however, a large outlier in fertility rates (Bongaarts and Casterline 2013). Whereas East Asia, Latin America and the Caribbean, the Middle East, and South Asia have converged to an average fertility rate of about 2.5, Africa's is twice as large. This is not only because Africa is poorer, on average, than other regions. Controlling for infant mortality rates, countries in Africa have a fertility rate that is 20 percent higher than those outside it. Several other factors may explain this, such as a high demand for children, unmet needs for family planning, a relatively young age at first union, obstacles to contraception, and limited family planning services (World Bank 2010).

9 UN Habitat 2014.

10 World Bank 2016a. World Bank (2011a, 2016a) notes that migration data from Africa are generally of low quality: "Data on migration in Africa are often missing, out of date, or inconsistent with definitions used in other countries. Intraregional migration flows are often informal and not captured in official statistics" (World Bank 2016a). Hence, although the broad trends are probably valid, numbers have to be interpreted with caution.

11 World Bank 2011b, 2016a.

12 Fox et al. 2013.

13 Figure 3 presents simple correlation results. The relationship even strengthens when controlling for real GDP per capita.

14 World Bank 2016b.

15 World Bank 2016b.

16 Bloom et al. 2003.

17 Bloom et al. 2003; Gribble and Bremner 2012; Filmer and Fox 2012; Fox et al. 2013.

18 Cincotta, et al. 2003; Goldstone 2002; Goldstone et al. 2014; Urdal 2005, 2006; Walker 2015.

19 Bloom et al. 2003.

20 Goldstone et al. 2014; Walker 2015.

21 Difference in means test has a p-value of 0.051.

22 Duflo 2012.

23 King and Mason 2001.

24 Walker 2015, p. 24. Walker backs up this claim from additional information from the Fragile States Index (FSI; see Figure 4 note for FSI calculations). According to Walker's analysis, "Of the 10 states ranked highest on the 2014 FSI, all scored 8.6 or higher [out of a maximum of 10] for 'demographic pressures;' five scored 9.0 or higher. Each of the 20 countries that scored highest for state fragility are experiencing a high rate of population growth"; Walker 2015, p. 23.

25 Goldstone et al. 2014, p. 126.

26 See Ramachandran et al. 2009; and Iacovone et al. 2013 and Ramachandran 2014 for a synthesis.

27 Bigsten and Soderbom 2006, p. 261.

28 As mentioned earlier in this chapter, Africa also lags behind other regions on a range of health indicators as well.

29 See https://www.brookings.edu/interactives/africa-learning-barometer/. The issue is often further compounded by difficulties in early childhood development that create further difficulties for children.

30 Perception data have well-known limitations. Among others, cultural differences or differences in expectations about how the investment climate should look can affect perceptions. Hence cross-country comparisons of such data can be difficult and results have to be treated carefully. In addition, firms' heterogeneity may bias the perception generation mechanism. For example, the views of managers of existing enterprises might not reflect the obstacles that potential entrepreneurs and new entrants may have to deal with. However, although these concerns are real, they should not be overdone. Typically, most firms' perceptions line up historically relatively well with the reality of every day businesses: that is, they still provide useful information. See Clarke 2011.

31 Details about the World Bank's *Doing Business* publication and database are available at http://www.doingbusiness.org/.

32 The proliferation of youth development funds is perhaps the clearest manifestation of this concern; see Ahaibwe and Kasiyre 2015.

33 The May 2016 World Bank list of fragile and conflict-affected states in Africa includes Burundi, Central African Republic, Chad, Comoros, Côte d'Ivoire, Democratic Republic of Congo, Eritrea, The Gambia, Guinea-Bissau, Liberia, Libya, Madagascar, Mali, Sierra Leone, Somalia, South Sudan, Sudan, Togo, and Zimbabwe. See the Harmonized List of Fragile Situations FY16 at http://pubdocs.worldbank.org/en/700521437416355449/FCSlist-FY16-Final-712015.pdf.

34 World Bank 2016d, p. 6.

35 Examples of these programs are:

- short-term labor-intensive programs, such as Community-Driven Development, and Disarmament, Demobilization, and Reintegration, that focus on public works and repairing infrastructure;
- skills training sometimes, unfortunately, without concomitant efforts to determine true local skills needs;
- short-term public works programs combined with efforts to improve the national business climate and/or build government capacity.

36 Pritchett and de Weijer 2010.

37 World Bank 2016d.

38 Gelb 2010.

39 These include Algeria, Angola, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Gabon, Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, Republic of Congo, Sudan, and Zambia (IMF 2012, p. 48).

40 Martin 2007.

41 Arezki et al., eds. 2012; Gelb 2010; Martin 2007.

42 Brenton, ed. 2012; Brenton and Isik, eds. 2012; Brenton et al., eds. 2013; Brenton and Hoffman, eds. 2015; Dihel and Grover, eds. 2016.

43 The World Bank's Logistics Performance Index (LPI) is based on a worldwide survey of operators (global freight forwarders and express carriers), providing feedback on the logistics "friendliness" of countries. The LPI consists of both qualitative and quantitative measures. It covered 160 countries in 2016. The best region is Europe and Central Asia with a 2016 LPI score of 3.23 while Africa has the lowest score: 2.49. Details about the LPI can be found at http://lpi.worldbank.org/.

44 For example, for sub-Saharan Africa—because of border compliance—it takes, on average, 144 hours to import and 103 hours to export goods across borders, whereas the time needed to import and export is much less in other regions. Similarly, the cost of trading across borders is higher in sub-Saharan African than it is in other regions. Although the performance of North Africa countries is better in some areas than in others—for example, on average it takes 188 hours to import but 64.3 hours to export goods across borders—the continent as a whole does not fare well.

45 Brenton and Isik, eds. 2012.

46 Brenton and Isik, eds. 2012, p. 2.

47 Dihel and Grover, eds. 2016.

48 Brenton et al. 2012, p. 123.

49 Brenton and Isik, eds. 2012. The development of labor-intensive light manufactures is also an important possible venue for job creation in Africa. Countries such as Senegal, with the creation of a new industrial zone in Diamniadio, and Côte d'Ivoire, with the creation of massive enhancing infrastructures, are making a push to develop this sector. Tunisia and Morocco have sizeable industrial sectors. Possible actions to further develop the sector, besides trade policy and investment climate reforms, may include the development of industrial parks, the support of key input industries, and training and entrepreneurship development. On this see Dinh et al. 2012

50 Dudwick et al. 2013; Fox et al. 2013; Reeg 2015.

51 Reeg 2015.

52 A pressing area that governments in Africa need to address to help foster job creation for urban youth is changes in education systems. Not only do far too few children in Africa receive the types of basic education in areas such as literacy and numeracy they need to acquire to be economically productive, but even those who do obtain secondary and tertiary education often receive training in areas where there is little labor demand. University education in many African countries trains students to join the government or other large bureaucracies even though there are very few jobs in these areas. In addition, technical and vocational education systems tend to receive inadequate funding and curricula tend not to provide the type of training that entrepreneurs need to be successful. Rather, educational institutions need to provide training in areas such as market analysis, financial literacy, and small business management. Ramachandran et al. 2009 go as far as to argue that the main credit constraint for entrepreneurs and microenterprises in Africa is not a shortage of capital but poor financial literacy, market analysis, and business development skills.

53 Youth development funds are a potentially useful way to enhance the quality of self-employment and of employment in microenterprises (see Ahaibwe and Kasiyre 2015 for a recent review). Although details vary across countries, a common approach is to provide young entrepreneurs with grant or loan finance to create and/or expand a small business. These funds can have great appeal to governments because they allow them to address an important social concern—lack of youth economic opportunity—through programs that are relatively easy to implement. So far, the impact of these funds, in general, has been relatively modest because they treat some causes of youth underemployment (i.e., lack of access to finance), yet often ignore arguably more binding constraints (e.g., lack of skills). As a result, youth development funds tend to be more successful when they pair access to finance with necessary business management and/or vocational skills.

54 A warehouse receipt system enables farmers to deposit storable goods in exchange for a warehouse receipt. This is a document issued by warehouse operators as evidence that specified commodities of stated quantity and quality have been deposited at a particular location. Usually prices slump right after harvesting time. By deciding to sell the goods at a later time, when prices have picked up, the depositor can avoid price risk.

55 In contract farming, a farmer and a buyer agree to a price and/or quantity at the end of a harvest. In exchange, a farmer may receive credit, inputs, and/or technical assistance. However, to date, contract farming has sometimes proven difficult to implement in many countries in Africa due, in part, to high monitoring costs and/or poor legal systems. High monitoring costs may make it difficult for buyers to detect side selling, for example, while poor legal systems may render post-harvest contract enforcement difficult.

56 Risks from climate change are expected to increase in coming decades, particularly in low-income countries where adaptive capacity is weaker. This threatens food security and agriculture's pivotal role in rural livelihoods and broad-based development, and allows inefficient/unclean technologies to be used in productive sectors, making them less competitive. Innovative solutions have been developed (e.g., clean tech revolution) to counteract this. Many farmers increasingly rely on the application of existing techniques in new ways that have been adapted for developing country conditions with novel business models (for example, drip irrigation, solar-powered pumping, weather forecast by micro-region, and remote monitoring and sensing of crops). To implement these new applications, the participation of local SMEs and entrepreneurs is essential. Instruments such as the Climate Innovation Centers that support local private sectors to commercialize climate-friendly products for local markets are a promising tool. For more on Climate Innovation Centers see http://www.infodev.org/climate.

57 Da Silva et al. 2009.

58 Improving land security is also vital for accessing credit. Governments in many countries in Africa are sometimes reluctant to engage in these efforts not only because they are costly and difficult, but also because they raise sensitive political issues. In addition, some argue that land reform can lead to exploitation and landlessness. While these are valid concerns and reform efforts ought to take into account the potential for exploitation, they do not justify maintaining a status quo. In addition, concerns about loss of access to land as a result of creating markets for it offers only an incomplete analysis. Creating thriving agro-processing firms in Africa that can compete with imports requires, among other factors, high quality and consistent agricultural products. Larger farms are a central part of this solution.

References

AfDB (African Development Bank). 2014. *African Development Report 2014.* Abidjan: African Development Bank.

Ahaibwe, G. and I. Kasirye. 2015. *Creating Youth Employment through Entrepreneurship Financing.* Kampala: Economic Policy Research Center.

Arezki, R., T. Gylfason, and A. Sy, eds. 2012. *Beyond the Curse: Policies to Harness the Power of Natural Resource.* Washington, DC: International Monetary Fund.

AU, AfDB, and UNECA (African Union, African Development Bank, and United Nations Economic Commission for Africa). 2016. *Africa Regional Integration Index Report 2016.* Abidjan, Côte d'Ivoire: AU, AfDB, and UNECA.

Bigsten, A. and M. Soderbom. 2006. "What Have We Learned from a Decade of Manufacturing Enterprise Surveys in Africa?" *World Bank Research Observer* 21 (2): 241–65.

Blattman, C., N. Fiala, and S. Martinez. 2014. "Generating Skilled Self-Employment in Developing Countries." *The Quarterly Journal of Economics* 129 (2): 697–752.

Bloom, D., D. Canning, G. Fink, and J. Finlay. 2007. *Realizing the Demographic Dividend.* Cambridge, MA: Program on the Global Demography of Aging, Harvard University.

Bloom, D., D. Canning, and J. Sevilla. 2003. *The Demographic Dividend.* Santa Monica, CA: The Rand Corporation.

Bongaarts, J. and J. Castreline. 2013. "Fertility Transition: Is sub-Saharan Africa Different?" *Population Development Review* 38 (Supplement 1): 153–68.

Brenton, P., ed. 2012. *Africa Can Help Feed Africa.* Washington, DC: World Bank.

Brenton P., N. Dihel, L. Hinkle, and N. Strychacz. 2012. "Africa's Trade in Services and the Opportunities and Risks of Economic Partnership Agreements." In *De-Fragmenting Africa,* P. Brenton and G. Isik, eds. Washington, DC: World Bank.

Brenton, P., E. Gamberoni, and C. Sear, eds. 2013. *Women and Trade in Africa.* Washington, DC: World Bank.

Brenton, P. and G. Isik, eds. 2012. *De-Fragmenting Africa.* Washington, DC: World Bank.

Brenton, P. and B. Hoffman. 2015. "Introduction." In Brenton and Hoffman, eds., *The Political Economy of Regional Integration in Sub-Saharan Africa.* Washington, DC: The World Bank.

Brenton, P. and B. Hoffman, eds. 2015. *The Political Economy of Regional Integration in Sub-Saharan Africa.* Washington, DC: World Bank.

Cincotta, R., R. Engelman, and D. Anastasion. 2003. *The Security Demographic.* Washington, DC: Population Services International.

Clarke, G. 2011. "Are Managers' Perceptions about Constraints Reliable? Evidence from a Natural Experiment in South Africa." *Journal of Globalization and Development* 2: 1–28.

Cleland, J. 2012. *Will Africa Benefit from a Demographic Dividend?* Oxford, UK: Health and Education Advice and Resource Team.

Da Silva, C. A., D. Baker, A. W. Shepherd, C. Jenane, and S. Miranda-da-Cruz. 2009. *Agro-Industries for Development.* Wallingford, Oxfordshire, UK and Cambridge, MA: FAO and UNIDO.

Dihel, N. and A. Grover, eds. 2016. *The Unexplored Potential of Trade in Services in Africa.* Washington, DC: World Bank.

Dinh, H. T., V. Palmade, V. Chandra, and F. Cossar. 2012. *Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs.* Washington, DC: World Bank.

Dodd, D. 2013. *Bridging the Gap between Small Businesses and Mining Companies to Increase Local Impact in Guinea.* Washington, DC: IFC Solutions/Stories of Impact.

Dudwick, N. and R. Srinivasan with J. Cuesta and D. Mandani. 2013. *Creating Jobs in Africa's Fragile States.* Washington, DC: World Bank.

Duflo, E. 2012. "Women Empowerment and Economic Development." *Journal of Economic Literature* 29: 1051–79.

Eastwood, R. and M. Lipton. 2011. "Demographic Transition in Africa." *Population Studies* 65 (1): 9–35.

Filmer, D. and L. Fox. 2014. *Youth Employment in Sub-Saharan Africa.* Washington, DC: World Bank.

Fox, L., C. Haines, J. Huerta Muñoz, and A. Thomas. 2013. *Africa's Got Work to Do: Employment Prospects in the New Century.* Washington, DC: International Monetary Fund.

Gelb, A. 2010. *Economic Diversification in Resource Rich Countries.* Mimeo, Center for Global Development, Washington, DC.

Goldstone, J. 2002. "Population and Security." *Journal of International Affairs* 56 (1): 3–21.

Goldstone, J., M. Marshall, and H. Root. 2014. "Demographic Growth in Dangerous Places." *International Area Studies Review* 17: 120–33.

Gribble, J. and J. Bremner. 2012. *Achieving a Demographic Dividend.* Washington, DC: Population Reference Bureau.

Holmes, R., A. McCord, and J. Hagen-Zanker with G. Bergh and F. Zanker. 2013. *What Is the Evidence on Employment Creation on Stability and Poverty in Fragile States?* London: Overseas Development Institute.

Iacovone, L., V. Ramachandran, and M. Schmidt. 2013. "Stunted Growth: Why Don't African Firms Create More Jobs?" *Working Paper* 353. Washington, DC: Center for Global Development.

IFC (International Finance Corporation). 2009. *The IFC Oil, Gas and Mining Linkages Program.* Washington, DC: IFC.

IMF (International Monetary Fund). 2012. *Macroeconomic Frameworks for Resource Rich Countries.* Washington, DC: IMF.

King, E. and A. Mason. 2001 *Engendering Development through Gender Equality in Rights, Resources, and Voices.* Washington, DC: World Bank.

MacKinsey & Company. 2015. *Brighter Africa: The Growth Potential of the Sub-Saharan Electricity Sector.* McKinsey & Company. Available at https://www.icafrica.org/fileadmin/documents/Knowledge/Energy/McKensey-Brighter_Africa_The_growth_potential_of_the_sub-Saharan_electricity_sector.pdf.

Martin, W. 2007. "Outgrowing Resource Dependence: Theory and Developments." In *Natural Resources: Neither Curse nor Destiny,* D. Lederman and W. F. Maloney, eds. Palo Alto, CA and Washington, DC: Stanford University Press and World Bank.

McKenzie, D. 2015. "Creating Jobs through a Business Plan Competition: Evidence from Nigeria's YouWiN! Competition." *Finance & PSD Impact Note* No. 33. Washington, DC: World Bank.

Pritchett, L. and F. de Weijer. 2010. *Fragile States.* Washington, DC: World Bank.

Ramachandran, V. 2014. *Productivity, Jobs and Growth in Africa: Six Pieces of the Puzzle.* DPRU Policy Brief: PB 14/41, University of Cape Town.

Ramachandran, V., A. Gelb, and S. Manju. 2009. *Africa's Private Sector: What's Wrong with the Business Environment and What to Do about It.* Washington, DC: Center for Global Development.

The Rand Corporation. 2002. *Banking the "Demographic Dividend."* Santa Monica, CA: The Rand Corporation.

Reeg, C. 2015. "Micro and Small Enterprises as Drivers for Job Creation and Decent Work." *German Institute for Development Discussion Paper* 10/2015. Bonn: German Institute for Development.

Seedat, M., A. Van Niekerk, R. Jewkes, S. Suffla, and K. Ratele. 2009. "Violence and Injuries in South Africa." *The Lancet* 374 (9694): 1011–22.

State Failure Task Force. 1999. *State Failure Task Force: Phase Two Findings.* College Park, MD: Center for International Development and Conflict Management.

Teachers for EFA. 2010. *Teacher Attrition in Sub-Saharan Africa.* Paris: UNESCO.

UN (United Nations). 2009. *United Nation's Policy for Post-Conflict Employment Creation, Income Generation, and Reintegration.* Geneva: United Nations.

UN Habitat. 2014. *The State of African Cities 2014.* Nairobi: UN Habitat.

UNESCO. 2012. *School and Teaching Resources in sub-Saharan Africa.* Paris: UNESCO.

Urdal, H. 2005. "People vs. Malthus." *Journal of Peace Research* 42 (4): 417–34.

———. 2006. "A Clash of Generations." *International Studies Quarterly* (50): 607–29.

Walker, R. 2015. *Demographic Vulnerability.* Washington, DC: The Population Institute.

World Bank. 2010. *Determinants and Consequences of High Fertility: A Synopsis of the Evidence.* Mimeo. Washington, DC: World Bank.

———. 2011a. *World Development Report 2011: Conflict and Development.* Washington, DC: World Bank.

———. 2011b. *Leveraging Migration for Africa.* Washington, DC: World Bank.

———. 2013. *World Development Report 2013: Jobs.* Washington, DC: The World Bank.

———. 2014. *World Bank Assistance to Low-Income Fragile and Conflict-Affected States.* Washington, DC: World Bank.

———. 2016a. *Migration and Remittances Fact Book 2016.* Washington, DC: World Bank.

———. 2016b. *Global Monitoring Report 2015/2016: Development Goals in an Era of Demographic Change.* Washington, DC: World Bank.

———. 2016c. *Making Power Affordable for Africa and Viable for Its Utilities.* Washington, DC: World Bank.

———. 2016d. *An Integrated Framework for Jobs in Fragile and Conflict Situations.* Washington, DC: World Bank.

———. 2017a. Republic of Senegal: An Assessment of the Investment Climate, Washington, DC: World Bank.

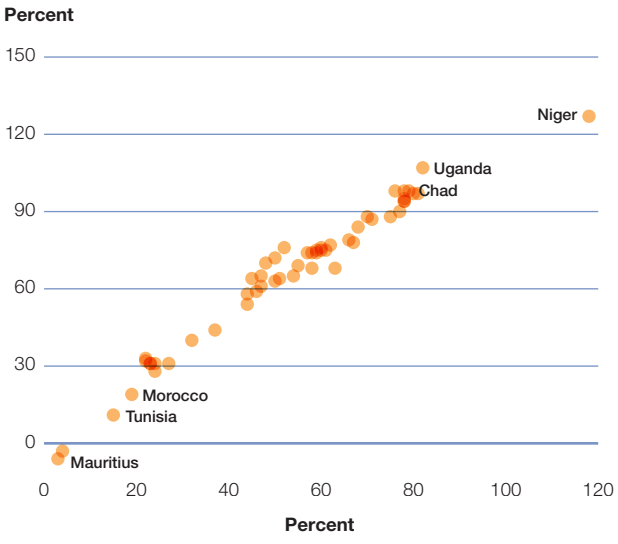
———. 2017b. *World Bank Commodities Price Data*, March 2, 2017 Issue, Washington, DC: World Bank.

Appendix: Supplemental table and figures

Table A1: Paths to demographic dividend and vulnerability

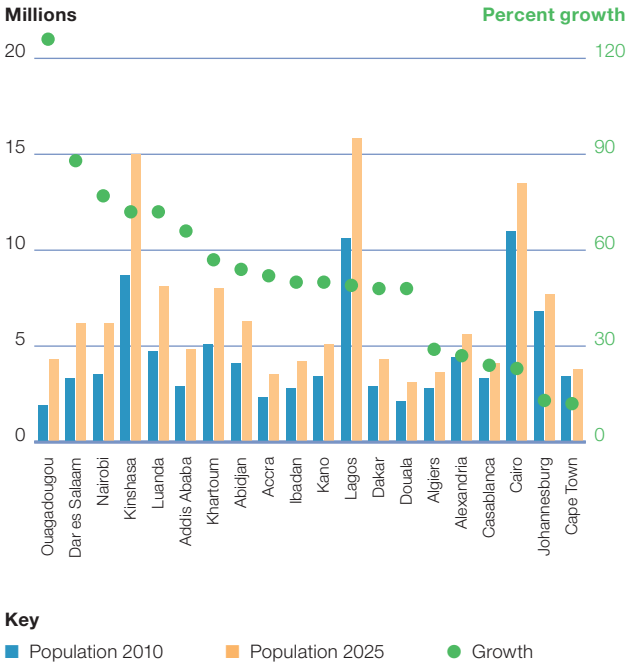
Scenario	Reduction in child mortality	Reduction in fertility	Per child spending	Female labor force participate	Policy environment	Outcome	Example
1	Yes	Yes	Up	Up	Supportive for jobs	One generation demographic dividend	East Asia
2	Yes	Yes	Up	Up	Not supportive for jobs	Temporary vulnerability due to youth bulge	Latin America
3	Yes	No	No change	No change	Supportive for jobs	Demographic dividend; difficult to maintain because youth cohorts are growing	None
4	Yes	No	No change	No change	Not supportive for jobs	Ever-growing cohorts of poorly employed youth; likely to lead to political/ social instability	Nigeria

Figure A1: Working-age population growth in Africa: 2015–35



Source: World Bank, World Health Nutrition and Population Statistics: Population Estimates and Projections, October 2016 update

Figure A2: Population growth of the 20 largest cities in Africa: 2010–25



Source: UN Habitat 2014.

Chapter 1.3

Competitive African Cities for Better Living Standards

El-hadj M. Bah
Audrey Verdier-Chouchane
African Development Bank

Rapid population growth and urbanization are putting significant pressure on the infrastructure of African cities. The population has grown at an annual rate of 2.53 percent from 1950 to 2015 and is predicted to increase from 1.18 billion in 2015 to 2.44 billion in 2050.[1] At the same time, the continent is experiencing rapid urbanization, at the rate of 3.5 percent during the period 2000–15. It is estimated that by 2030 more than 50 percent of the population in Africa will be living in cities, and this percentage is expected to increase even further, to reach over 60 percent by 2050.[2] The expected demographic transition, characterized by a decline in fertility and mortality rates, will translate into a large labor force living in urban centers. This demographic transition has the potential to turn into a demographic dividend that will increase economic growth and living standards, or it could become a source of social instability if appropriate policies are not implemented (see Chapter 1.1).

Two key implications of the demographic transition are sharp increases in the need for job creation and for urban infrastructure (including affordable housing). It is estimated that although about 10–12 million young people enter the labor market each year, only 3 million formal jobs are created. Thus many African cities face situations where large numbers of the population are either unemployed or underemployed, and are often engaged in informal self-employment. Moreover, African cities experience shortages of transport networks; electricity, water, and sewer systems; and affordable housing. These shortages reduce productivity by limiting the creation and growth of firms and hence lower labor demand.

For cities to play their role as poles of economic growth and providers of quality jobs, they need to become more competitive. Indeed, urbanization can contribute to structural transformation and, by extension, improved competitiveness through economic linkages and social innovation. The concentration of people in urban areas can create economies of scale and facilitate innovation through the concentration of high-skilled and talented workers. Economic development can be enhanced through extended and improved urban services; foreign direct investment (FDI) in urban corridors; and social development through the provision of cost-efficient transport systems, safer housing, social safety nets, and an enhanced businesses environment.[3] Furthermore—through increased and improved connectivity, technology, and know-how transfer—urbanization can raise productivity and produce more attractive areas for investments.[4]

This chapter focuses on the constraints and opportunities for creating competitive African cities that will be required to reap the demographic dividend and, ultimately, improve the living standards of urban dwellers. It is noted that there is no consensus on the meaning of a *competitive city.* The World Bank notes that a competitive city is "a city that successfully facilitates its firms and industries to create jobs, raise productivity, and increase incomes of citizens over time,"[5] while the World Economic Forum adds the dimension of sustainability.[6] The Forum states that *competitiveness* is "the set of factors—policies, institutions,

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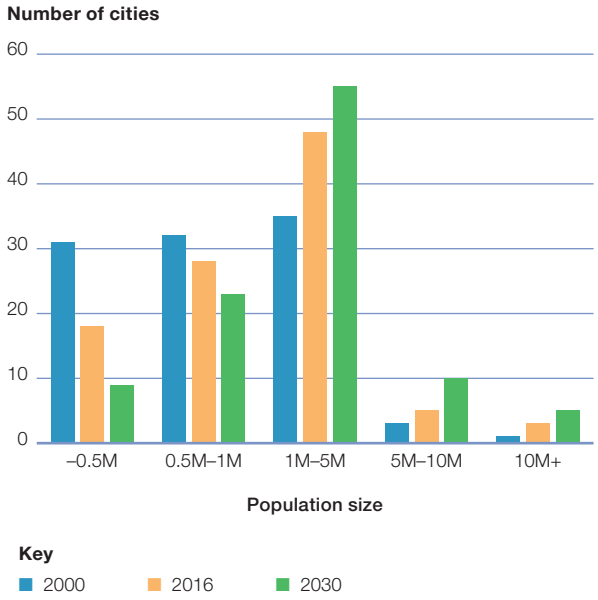
Figure 1: Distribution of cities by population size



Source: Authors' calculations, based on data from Oxford Economics.

strategies and processes—that determines the level of sustainable productivity of a city."[7] Furthermore, the Asian Development Bank asserts that "cities become competitive though shared services and infrastructure."[8] This chapter defines a *competitive city* as *an urban area that offers affordable housing and adequate infrastructure for private-sector development, decent job creation, and a better quality of life.* Cities have different ways of enhancing their competitiveness through institutions, regulations, infrastructure, skills, innovation, enterprise support, and finance. However, our definition resonates with the African Development Bank (AfDB)'s High 5s, particularly the one related to improving the quality of life of the African people. It is line with Glaeser's view that urban policies should emphasize people as the ultimate beneficiaries.[9]

The next section compares African cities along several dimensions of competitiveness. The subsequent section addresses constraints to competitiveness that prevent reaping the demographic dividend, including the lack of urban planning, low access to basic infrastructure, and the deficit of both adequate and affordable housing. The section that follows provides three main avenues to overcome these challenges and increase the competitiveness of African cities. It starts by highlighting how urban planning can improve city competitiveness to benefit from the demographic changes, followed by a focus on how residential housing construction can produce economic linkages and create jobs. Finally, the analysis explores how special economic zones (SEZs) can be a catalyst for competitiveness. The conclusion offers a summary of findings and policy recommendations made in the chapter as well as ways to move forward.

Overview of competitiveness in selected African cities

African cities vary widely by population size, wealth, and economic dynamism. This section uses city-level data from the Oxford Economics database to compare cities across Africa over the period 2000–16 along four dimensions that impact competitiveness: population dynamics, income and growth performance, employment, and costs of housing and utilities.[10]

Urbanization trends

There is a sharp reduction in the number of small cities concomitant with a strong increase in the number of large cities. Figure 1 shows that the number of small cities—those with fewer than 500,000 inhabitants—decreased from 31 in 2000 to 18 in 2016 and is expected to drop by half by 2030. To a lesser extent, the number of medium-size cities—those with between 0.5 and 1.0 million inhabitants—has also been diminishing, from 32 in 2000 to 28 in 2016, and is expected to decrease further to 23 by 2030. The decline in those two subgroups indicates that cities are becoming larger. The number of large cities, with populations between 1 and 5 million, continue to be the largest group, growing from 35 in 2000 to 48 in 2016, and is expected to increase by seven additional cities by 2030. However, the number of megacities with populations above 10 million inhabitants is still very small; it increased from one in 2000 (Cairo) to three in 2016 (Cairo, Kinshasa, and Lagos). By 2030 two other cities (Khartoum and Luanda) are expected to join this group. Analyzing cities' population growth shows that, between 2000 and 2016, almost 30 percent of the cities in the sample increased their population by over 50 percent, while almost 17 percent doubled their population. Between 2000 and 2030, the populations of 24 out of 102 cities are expected to triple while those of an equal number of cities are expected to double. These projections suggest that most cities need to find ways to provide infrastructure and jobs for a larger number of urban dwellers.

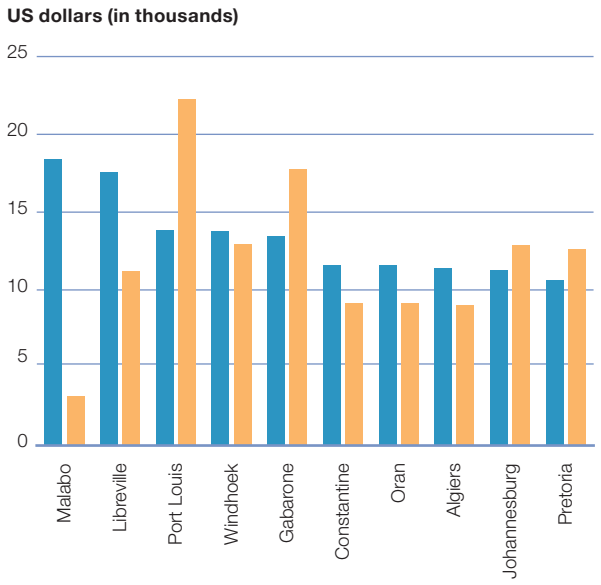
Income and growth performance

There is a large variation of gross domestic product (GDP) per capita and household disposable income across cities.[11] The top 10 richest cities in terms of GDP per capita share similar characteristics: they are located either in oil-exporting countries or in the most developed countries in the continent (see Figure 2a). The two richest cities, Malabo (US$18,400 GDP per capita) and Libreville (US$17,600), are both located in oil-exporting countries with small populations; another oil-exporting country, Algeria, has three cities in the top 10. The other five cities are from the advanced countries of Botswana, Mauritius, Namibia, and South Africa. The average GDP per capita for the top 10 is US$13,360, which is 16.7 times the average income per capita of the bottom 10 cities. Common characteristics for the bottom 10 are their location in low-income and mostly fragile countries (see Figure 2b). In most cases—including Burundi, Central African Republic, and Liberia—political instability, civil war, or dictatorship have prevented these countries from developing and increasing their wealth.

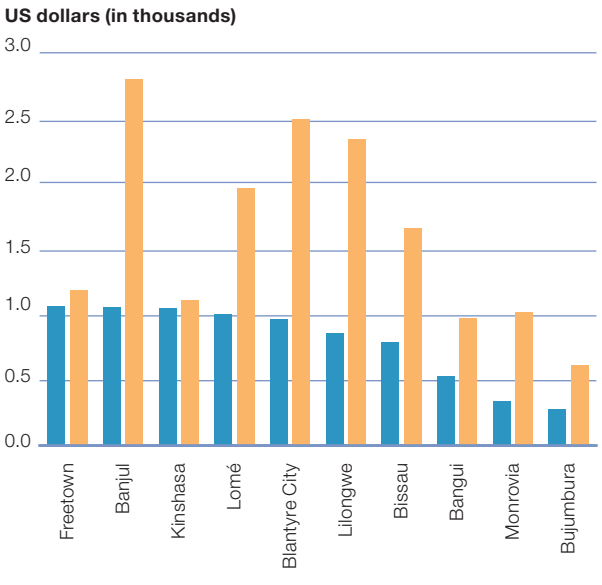
Relative to GDP per capita, diversified cities provide larger disposable incomes to their households. Although the GDP per capita of cities located in oil-rich countries is high, their households are not particularly wealthy. For example, the GDP per capita for Malabo is almost six times the average

Figure 2: Cities in Africa by wealth: Per capita GDP and household disposable income, 2016

2a: Top 10



2b: Bottom 10

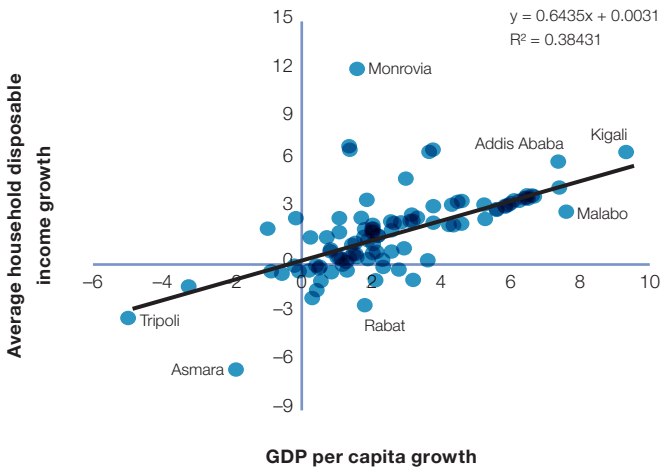


Source: Authors' calculations, based on data from Oxford Economics.

household disposable income (a ratio of 1:6); for Libreville, the ratio is 1:1.6, and for the Algerian cities it is around 1:1.3. However, for the other five cities located in non-oil-exporting countries, disposable income is often higher than GDP per capita. This shows that oil wealth does not necessarily trickle down to the household level and that citizens benefit most from diversified economies. The comparison for the bottom 10 countries shows a similar pattern, where household disposable income is higher than GDP per capita—an indication of diversified income sources for households, dominated by the informal sector (Figure 2b). On average, household disposable income is higher than GDP per capita for the whole sample: US$6,600 versus US$4,700. However, there is large gap in household income between the wealthiest and poorest cities. Disposable household income for the top 10 richest cities is 10 times that of the 10 poorest.

High growth of GDP per capita in the period 2000–16 did not translate into higher disposable income for households in a few cities. Although, on average, per capita GDP grew faster than household disposable income, there is a strong positive correlation (Figure 3). Nevertheless, a few cities experienced positive growth in per capita GDP while households' incomes declined during the same period. For instance, Rabat experienced a 33 percent decline in household disposable income while GDP per capita increased by 24 percentage points. Similarly, Kumasi saw household disposable income decline by around 15 percent against a 40 percent increase in GDP per capita. The average and median growth rate of household disposable income for the 102 cities in the Oxford Economics database was 2 percent. However, eight countries had average growth rates higher than 5 percent. The top growth performer was Monrovia, which multiplied its household disposable income by more than five. A decade-long civil war had decimated livelihoods of Liberians and the peace dividend translated into higher household disposable incomes, albeit from a very low base. Other cities, such as Brazzaville, Huambo, and Pointe-Noire, almost doubled their incomes. In contrast, 22 cities either stagnated or had long-run declines in their per capita household disposable income. Asmara saw its income per capita decline by 66 percent between 2000 and 2016. The reasons for the declines are diverse and include conflict and economic stagnation.

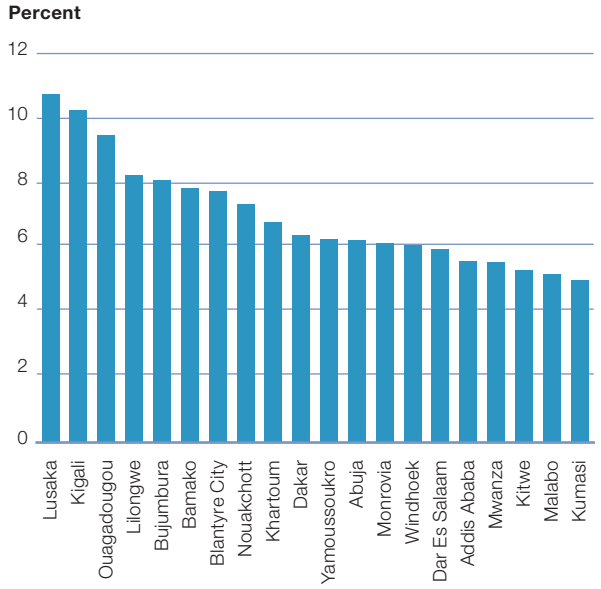
Figure 3: Per capita GDP growth versus household disposable income growth, 2000–16 (percent)



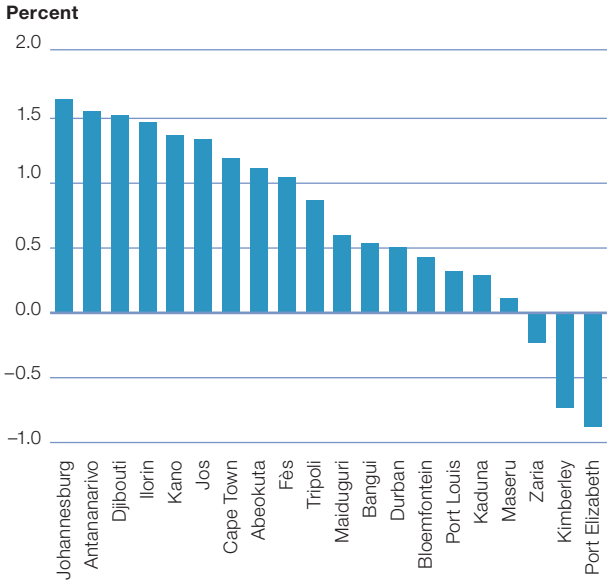
Source: Authors' calculations, based on data from Oxford Economics.

Figure 4: Employment growth, 2000–16

4a: Top performers

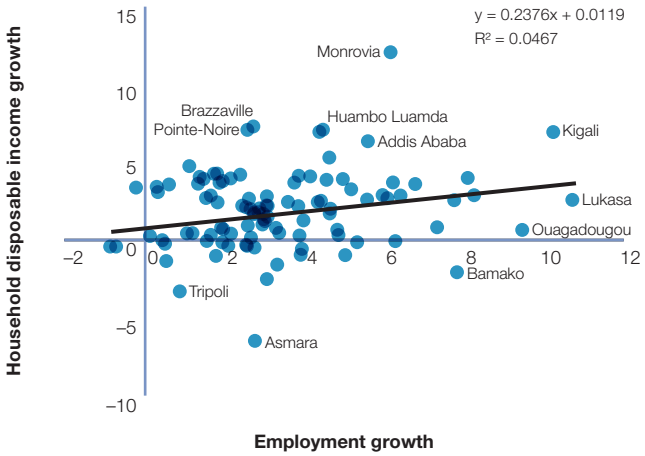


4b: Bottom performers



Source: Authors' calculations, based on data from Oxford Economics.

Figure 5: Employment growth versus household disposable income growth, 2000–16



Source: Authors' calculations, based on data from Oxford Economics.

Growth in employment

For the 102 African cities studied, employment grew on average by 3.4 percent per year for the period 2000–16, with large variation across countries. The top 20 cities for job creation all had yearly employment growth rates ranging from 5.03 percent in Kumasi to 10.74 percent in Lusaka (Figure 4a). This group includes cities at different levels of income and geographic location. On the other end, the rates for the bottom performers varied between –0.88 percent in Port Elizabeth to 1.65 percent in Johannesburg (Figure 4b). The bottom performers include several cities in South Africa and Nigeria. South Africa's economy has experienced a decade of slow growth while Nigeria's economy is highly dependent on oil price fluctuations.

The correlation between employment growth and growth of household disposable income, despite being positive, is fairly moderate (Figure 5). For example, both Lusaka and Kigali saw increases in employment of more than 10 percent on average over the 16-year period. However, while Kigali had a very strong growth in household income (6.9 percent) and per capita GDP (9.3 percent), Lusaka saw a modest growth in household income of 2.6 percent and per capital GDP of 3.8 percent. Employment grew strongly in Bamako (7.8 percent) and Yamoussoukro (6.3 percent) while household incomes declined, on average, by 2.0 percent and 0.1 percent, respectively.

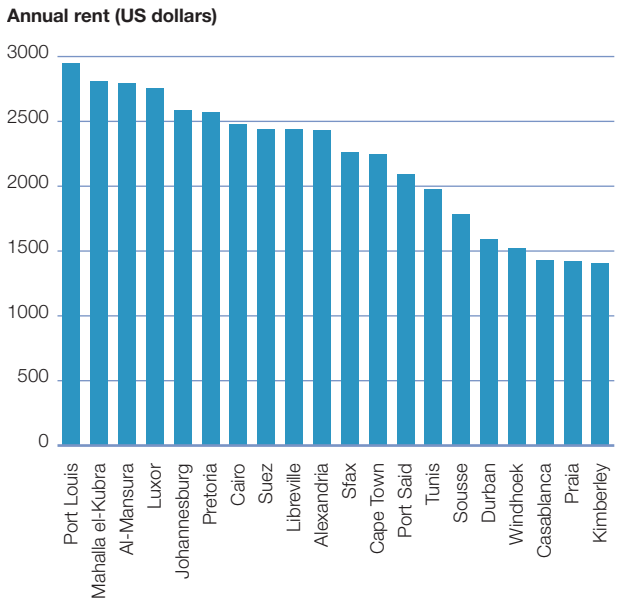
For employment growth to translate into higher disposable income for households, an increase in wages must accompany the rise of employment. Another issue relevant for Africa is the dramatic increase in the total number of households. Although the average cumulative growth of employment is 79.5 percent, the number of households grew on average by 75 percent. This implies that employment growth barely stayed ahead of growth in the number of households. Other factors, such as income taxes and the high incidence of informality, may explain the low correlation between household wealth and employment. Unfortunately, the database does not contain information on these variables.

Housing and utilities costs

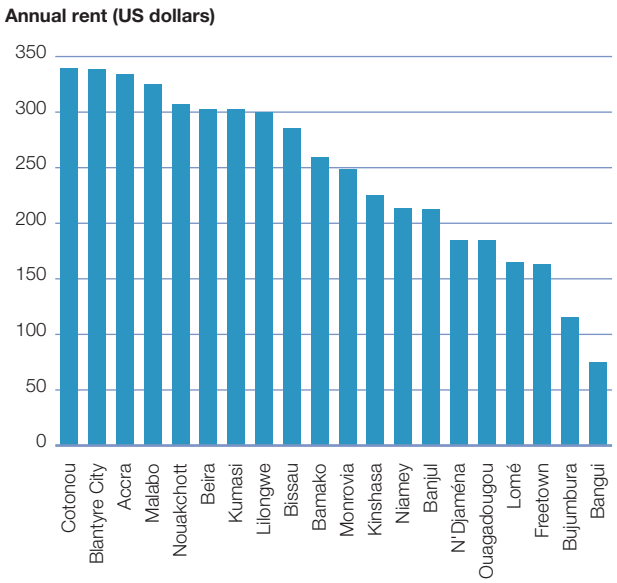
On average, households spend 21 percent of their disposable income on housing and utility costs, although there is a large variation across cities. The share ranges from 8 percent in Nairobi to 39 percent in Polokwane. In general, South Africans spend more than citizens of all other African nations on these items. Although this is an important

Figure 6: Annual household expenditure on rent, 2016

6a: Top 20



6b: Bottom 20



Source: Source: Authors' calculations, based on data from Oxford Economics.

indicator for city competitiveness, this comparison should nonetheless be treated with caution since data on access and quality of housing and utilities are either not available or non-contextualized. For instance, although it is estimated that inhabitants of Bangui spend only 9 percent of their disposable income on these items, more than 80 percent of urban dwellers in the Central African Republic live in slum conditions and only 15 percent have access to electricity.[12] It is thus not surprising that a low share of Central African Republic households' incomes is spent on housing and utilities.

Ranking cities in terms of households' annual spending on rent shows a very large variation. In Bangui (Central African Republic), renting households spend just US$75 per year on housing while renters in Port-Louis (Mauritius) spend US$2,953 per year. Figure 6a shows that the top 20 most expensive rental cities in Africa are mostly located in countries with higher income per capita. The opposite is true for the bottom 20 (Figure 6b). In fact, the correlation between GDP per capita and household expenditure on rent is high, at 0.6. The average and median for the whole sample are US$937 and US$724, respectively. The caution noted above is also valid here.

After this brief overview of competitiveness in African cities, the next section analyzes key constraints of competitiveness of cities in the context of the demographic transition.

Constraints to competitiveness in African Cities

This section aims to explain the reasons behind the limited performance of African cities in terms of competitiveness. The lack of infrastructure, poor business environment, and shortage of skills (as noted in Chapter 1.1) are among the perennial problems hindering the competitiveness of African countries, thus limiting the potential to take advantage of demographic changes. The same issues constrain African cities. This chapter focuses on three main constraints specifically limiting the competitiveness of African cities and their ability to make the demographic dividend a reality, namely: a lack of urban planning, a shortage of urban infrastructure, and a shortage of adequate and affordable housing. Similar issues are emphasized by a recent report by the World Bank that argues that cities are crowded in terms of people but they have underinvested in infrastructure, affordable housing, and industrial and commercial structures.[13]

Lack of urban planning

Urban planning practices and strategies in many African cities rarely reflect the realities of urban Africa because they fail to take into account the social, political, economic, and environmental context of the continent's urban development. The bulk of urban planning and building codes are a mix of often contradictory, complex, and outmoded colonial planning standards; customary practice; and unregulated regimes. Weak capacity and lack of strategic focus have resulted in cities being built from "back to front" because construction occurs prior to urban planning. Besides being disconnected from the reality of urban experiences in many African cities, inherited planning practices and zoning rules have increased pressure on urban infrastructure such as water, sanitation, and road networks as well as exacerbated urban sprawl.[14] Besides, poor urban planning lowers productivity because it leads to congestion, sprawl, and poor spatial connectivity, further eroding the competitiveness of firms and leading to environmental degradation. Poor planning also poses serious challenges for sustainable urban development and contributes to the high costs of real estate, and housing in particular, on the continent, thereby hindering the quality of life of city dwellers as well as firms' and workers' competitiveness.[15] As a result, today much of Africa's urban

Box 1: Productivity killer: The increasing costs of congestion in Nairobi

Nairobi is a prime example of the difficulties of congestion facing fast-growing African cities, where traffic has become one of the biggest issues in terms of productivity. The Kenyan capital, whose economy grew with 6 percent in 2016, is one of the fastest-growing economies of the continent and has simultaneously seen rapid rates of urbanization. Although the population of Nairobi Metropolitan Area was around 6,658,000 in 2009, it is estimated that it will reach approximately 14 million by 2030.[1] At the same time, car-based transportation more than doubled between 2012 and 2016, reaching 700,000, with estimates of up to 9 million car users by 2050.[2] Combining this with low levels of infrastructure investments, an inherited colonial infrastructure, and a spatial-economic structure with an almost exclusive focus on the central business district have created a situation where most citizens spend at least two hours commuting each day,[3] with a large impact on the city's competitiveness.

The consequences have been plentiful. Nairobi's traffic problems cause increased costs, longer travel times, lower economic productivity, and a substantial negative impact on health and the environment. It is expected that the congestion leads to an estimated US$578,000 a day of lost productivity in the city, and as many as 13,000 people killed in road accidents a year.[4] Moreover, should the city keep adding cars at the current rate without expanding its infrastructure, the average speed of driving will be cut in half by 2030, to 20 kilometers an hour (so it will take twice as long to get anywhere).[5] Another related problem is the deteriorating air quality in the city, where 30 percent more diesel is burned today than it was five years ago. The bad air quality also stems from the fact that few cars are new: the large majority of cars are old ones imported from Japan and Europe. Following this, respiratory diseases are one now the number one type of disease in Kenya.[6] To curb the massive congestion, several initiatives are needed, including the construction of new ring roads, re-engineering of the public transportation system and investing in rail services, developing multiple city centers, and using smart technology to control road traffic.

Notes

1 Gachanja 2015.

2 MacGregor et al. 2014.

3 Gachanja 2015; Otuki 2017.

4 Gachanja 2015; McGregor et al. 2014.

5 Honan 2016.

6 Vidal 2016.

Source: Authors, based on Gachanja, 2015; Honan, 2016; McGregor and Doya, 2014: Otuki, 2017; and Vidal, 2016.

expansion is occurring through an unplanned and low-density transformation of rural land into urban land.

Low access to basic infrastructure services

Africa suffers from a severe infrastructure deficit. The continent's infrastructure deficit is a major impediment to the continent's growth because it hinders domestic private investments, deters FDI, impedes industrialization, reduces productivity, and limits the provision of services. Consequently this deficit hinders the improvement of the quality of life of

Table 1: Africa's infrastructure deficit compared with the rest of the world

Infrastructure	Africa	South Asia	Latin America and the Caribbean	OECD countries
Access to electricity (% of population)	46	78	96	100
Electric power consumption (kWh per capita)	570	655	2,071	8,082
Improved water source (% of population with access)	72	92	95	93
Improved sanitation facilities (% of population with access)	39	45	83	98

Source: ADB Statistics Department based on data from the World Bank, World Development Indicators, AFREC (The African Energy Commission), the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, and the International Energy Agency, latest year available.

Africans. The largest infrastructure deficit of the continent is in the power sector: over 570 million people, or about 54 percent of Africans, do not have access to energy.[16] Power consumption in Africa remains very low, at 570 kilowatt hours per capita (181 kilowatts in sub-Saharan Africa, excluding South Africa). This represents only a fraction of power consumption in both developed and emerging economies (see Table 1). Similar problems plague the continent's information and communication technology (ICT) network, water and sanitation, and transport network (Box 1). All these constraints limit job creation and the economic opportunities needed to reap the demographic dividend.

Africa's infrastructure shortfall has been widely identified as a major bottleneck for doing business across the continent. It increases indirect costs of manufacturers, making them less competitive vis-a-vis their peers from other world regions. Regular power outages remain a major infrastructure bottleneck that plagues businesses. Moreover, lack of access to a reliable electricity supply increases the use of environmentally unfriendly alternatives such as diesel-powered generators.

Deficit of adequate and affordable housing

Africa's rapid urbanization and population growth has led to a severe affordable housing shortage and a rise in informal settlements. Today, over 330 million Africans live in slum conditions. The housing backlog is estimated to be over 51 million affordable housing units, with 17 countries experiencing a housing backlog of over 1 million units.[17] On one hand, countries such as Botswana, Mauritius, and Tunisia have no housing deficit, while Nigeria is estimated to have a housing shortage of at least 17 million units, the highest in the continent (Table 2). The socioeconomic impact of the housing shortage is clear. It causes overcrowding, increases the incidence of diseases, and hinders the provision of basic social and public services such as water, sanitation, education, and physical safety. In such a situation, high population growth and a youth bulge tend to be liabilities rather than dividends.

In addition to the shortage of adequate housing, affordability is a major issue facing households across

Table 2: Housing backlogs in selected countries

Country	Housing backlog (millions of units)	Country	Housing backlog (millions of units)
Central African Rep.	1.0	**Madagascar**	2.0
Ethiopia	1.0	**Mozambique**	2.0
Cameroon	1.2	**Kenya**	2.0
Algeria	1.2	**South Africa**	2.3
Zimbabwe	1.3	**Tanzania**	3.0
Zambia	1.5	**Congo, Dem. Rep.**	3.0
Uganda	1.6	**Egypt**	3.5
Ghana	1.7	**Nigeria**	17.0
Angola	1.9		

Source: Faye et al. forthcoming (2017).

Box 2: The shortage of skills in the Kenya construction sector

In the construction sector, both skilled and unskilled labor together generally represent 30 percent of overall construction costs. Whereas unskilled labor is often widely available, there is a shortage of skilled workers, especially well-trained technicians such as carpenters, electricians, general construction workers, plumbers, and—in some countries—architects and engineers. These skills shortages are having a negative impact on housing costs and quality.[1] In turn, the poor-quality supply and high cost of housing undermine countries' productivity by reducing labor market flexibility, increasing mortgage spending, and preventing investment from being redirected toward more productive activities.

In Kenya, the Federation of Master Builders, representing 2,500 contractors, highlights the important skills gap in the adequacy, productivity, and quality of human resources. This is largely the result of high training costs that are not affordable for many young people, but the curricula of most training institutions are also out of touch with industry needs. In consequence, local artisans construct housing units without respecting building codes, increasing the cost of construction and limiting their ability to construct decent, safe dwellings. A shortage of managerial skills was also cited as a big constraint to scaling up affordable housing delivery. Habitat for Humanity in Kenya observes that the lack of training and skills locks low-income households into a cycle of poor-quality, self-built housing.[2] They plead for policymakers to expand the technical and vocational training of youth in the skills needed by the construction and manufacturing sectors, ideally in close partnership with the private sector to ensure that needs are identified correctly and training is delivered effectively. It is of utmost importance to have the right skills mix throughout the housing supply chain because it means faster construction with less rework and hence results in lower construction costs.

Notes

1 Faye et al. forthcoming (2017).

2 Habitat for Humanity in Kenya 2014.

Source: Faye et al. forthcoming (2017).

African cities. A substantial number of households cannot afford an entry-level home supplied by the market. A recent African Development Bank (AfDB) study estimates that 81.5 million households can only afford a house that costs US$3,750 or less.[18] Besides providing jobs for the continent's unemployed youth and building a solid industrial base, closing the housing gap would significantly contribute toward Sustainable Development Goal 11 of making cities safe and sustainable.

The reasons for the shortage of affordable and adequate housing can be traced throughout the steps of the housing delivery value chains. Lack of urban planning and adequate building standards are causing a shortage of urban land, resulting in high prices and urban sprawl. Direct and indirect evidence shows that land use regulations, defined in urban plans, explain the majority of the differences in housing supply across space.[19] These regulations create market failures that prevent the housing market from functioning properly as theory would suggest, especially the no-arbitrage equilibrium condition.[20] An overreliance on imported building materials, and monopoly pricing in some cases, contribute to very high prices. The dominance of small- and medium-sized developers and artisanal construction methods with low capacity lengthens construction time, lowers quality, increases construction costs, and limits the supply of housing (Box 2). Lack of financing for developers and housing customers, along with high financing costs for those that qualify for loans, add to the overall housing costs. All these issues are amplified by inadequate institutional and regulatory frameworks and poor governance.[21] This constitutes an environment not conducive for reaping the demographic dividend.

Increasing African city competitiveness for making the demographic dividend a reality

This section provides policy recommendations for how to leverage the competitiveness of African cities to address the challenges related to demographic changes. First, concrete and immediate policies for adequate urban planning addressing the demographic issues and economic changing landscape of African cities are discussed. Next the section focuses on the spillover effects of residential housing investment. It specifically shows that residential investment is an enabler of housing provision, job creation, and economic growth. Finally, it discusses the provision of an attractive business environment through the creation of special economic zones (SEZs), which are recognized as a way to support competitive private-sector development. This section does not specifically discuss policies dealing with the shortage of infrastructure such as power and transport systems nor the financing mechanisms to fill this gap, which have been more extensively discussed elsewhere.[22]

Urban planning to lay the foundations of competitive cities

The adoption of comprehensive and up-to-date urban plans that reflect recent economic and demographic developments is crucial for laying the foundations of competitive cities better equipped to benefit from urbanization. UNECA (2017) highlights that urbanization and industrialization can be closely associated in a mutually beneficial

manner. However, in Africa, industrialization requires better-functioning cities. Although some cities, such as Addis Ababa and Casablanca, have updated their urban plans, a number are still using master plans from the colonial era.[23] These master plans do not include increased urban population or changes in economic structures. They also lack good transport networks to connect workers and employers. New urban plans need to pay special attention to the following issues: (1) providing land for public infrastructure and green space; (2) including informal settlements as integral parts of cities; (3) increasing urban density; and (4) increasing connectivity between workers and firms. The World Bank notes that urbanization strategies should depend on each country's share of urban population and should focus on providing good land policies at early stages of urbanization and providing connective infrastructure for areas that are urbanizing fast. These strategies should then adopt targeted interventions to deal with slums for highly urbanized areas.[24]

1. ***Providing land for public infrastructure and green space:*** UN-Habitat notes that the share of public space and roads in urban land in Africa is 15–20 percent, which is half the global average of 30–40 percent.[25] The shortage of urban land earmarked for urban infrastructure increases the costs of building roads, airports, and other public infrastructure on previously settled land, because inhabitants are compensated for the destruction of their dwellings. This ultimately leads to a lower road network density. Moreover, the shortage of public spaces where urban dwellers can meet to socialize or undertake recreational activities lowers the quality of life in cities. It is not rare to see roads in several African cities transformed into soccer fields during the weekend. Urban planning that anticipates these needs ahead of time will not only allow for lower infrastructure cost but also provides a better quality of life for future residents.

2. ***Including informal settlements as integral parts of cities:*** Cities around the world have had varying responses to informal settlements, ranging from neglect to forced evictions. However, since the early 2000s, the concept of "Right to the Cities" has been adopted by different international organizations. Today, the World Charter for the Right to the City recognizes that all population subgroups, including the poor, women, youth, refugees, immigrant workers, and so on have equal rights to benefits from urbanization. This implies that, instead of forced evictions of slum dwellers, governments must improve the living conditions in slums. This change in mentality has led many African governments to adopt slum upgrading programs that consist of providing urban infrastructure and land security. With their very high share of informal settlements, urban planning in African cities must seek ways to improve urban infrastructure without necessarily moving people out of their community.

3. ***Increasing urban density:*** As previously discussed, rapid urbanization and lack of planning have led to urban sprawl in many African cities. Agricultural land is being transformed into urban land at a very fast pace, while commute times and traffic jams are increasing. For instance, Bamako's population growth between 2000 and 2013 was almost matched by the growth of its urban expansion, 5.7 percent and 5.1 percent, respectively, implying a low increase in urban density.[26] The averages for sub-Saharan Africa show that urban expansion is faster than population growth, at 7.7 percent and 4.6 percent, respectively, for the period 2003–15. This lowers the density in African cities, leading to high costs of urban infrastructure and lower benefits of urbanization through limited economies of scale. Yet, in several cities, large plots of land near the urban center remain empty. For instance, Lall et al. report that more than 30 percent of land within 5 kilometers of the city centers of Harare (Zimbabwe) and Maputo (Mozambique) remains unbuilt.[27] Urban planning should seek to increase urban density by reducing minimum plot sizes and infill, whereby housing developments occur in unbuilt areas in the city. However, for this to be effective, tax policies and land reforms may be necessary. For instance, governments can adopt high taxes for unbuilt land in urban centers, which can push land owners to develop their land or sell it to housing and commercial developers.

4. ***Increasing connectivity between workers and firms:*** Urban sprawl and lack of mass transit systems means that workers in many cities need long commute times each day between their places of work and residence. This not only decreases productivity but also increases pollution. For instance, residents of Kilamba and Zango, near Luanda, Angola, spend up to two hours each way to commute the 25 to 40 kilometers to reach their places of work in Luanda. This type of geographic divide between work places and workforce should be avoided for cities to become competitive. New satellite towns should provide land for mixed use, residential, and commercial purposes. Industrial corridors or SEZs need to provide places for residential housing or build mass transit systems between populated areas and SEZs. Better connectivity between workers and firms, and between producers and consumers, are necessary to reap benefits from economies of scale and agglomeration.[28] Urban planning is an important starting point to achieve better connectivity.

Leveraging residential housing construction

Addressing the large urban infrastructure deficit, including the housing backlog, is an opportunity for African cities to tackle wider economic development issues. However, this opportunity will lead to benefits only if cities regularly update their urban plans to take into account new realities. Updated urbans plans will lower costs of urban infrastructure and increase the supply of urban land for housing. It will also allow for the introduction of mechanisms to generate more fiscal revenues for the provision of urban infrastructure, which should precede housing construction.

In addition to providing shelter to a growing urban population, housing construction has large economic externalities. The impact of housing investment on economic development has been widely studied.[29] All studies shows a correlation between housing investment and economic growth. However, disagreement exists on the direction of causality and some evidence shows that causality in both directions.[30] Neoclassical growth theory suggests that housing investment is a driver of economic growth through its impact on capital formation. Arku and Harris argue that housing investment affects economic development though its effects on employment, savings, total investment, and labor productivity.[31] In many countries, housing represents the main wealth of households. In the analysis below, we focus on three channels through which

Table 3: Employment and output effects of housing construction in selected countries, selected years

	Economic effects	Employment effects		
Country	Output multiplier	Jobs created/million invested (in local currency)	Jobs created/housing unit	Data source
Argentina	n/a	40†	n/a	Freire et al. 2006
Australia	2.90‡	37‡	n/a	ABS 2007
Canada	n/a	n/a	1.90†	Altus Group Economic Consulting 2009
Ethiopia	n/a	n/a	2.24*	Faye et al. forthcoming (2017)
India	3.84‡	40.6‡	2.34*	NCAER 2014
Philippines	16.61‡	n/a	n/a	Uy 2006
South Africa	n/a	n/a	5.62†	Viruly 2014
United Kingdom	n/a	n/a	3.01‡	Home Builders Federation and Nathaniel Litchfield & Partners 2015
United Kingdom	n/a	n/a	4–6‡	Kleinman 2014
United States	n/a	n/a	4.91‡	NAHB 2015

Two sources of data for the United Kingdom provide a range of estimates. n/a = not available; * = direct effect only; † = direct and indirect effects; ‡ = direct, indirect, and induced effects.

housing investment affect the economy: financial sector development, increased economic activity through extensive linkages with the local economy, and job creation.

1. ***Financial sector development:*** **A housing purchase is one of the largest investments that most households ever make during their lifetime.** Such an investment is often not feasible without the participation of the financial sector, through mortgages and other housing finance instruments. Because of the long-term nature of housing finance, financial intermediaries use different channels to raise the required funding, which facilitates the development of the financial sector. Housing loans, backed by collateral, are also safer than other consumer loans and provide resilience to the financial sector. In addition, homebuyers are obliged to save for months and years to meet the required down payment of 10–20 percent of the house price. This increases savings and thus the availability of funds in the financial system. Housing purchase and housing finance is also associated with financial market innovation and the development of the secondary mortgage market. It provides additional financial securities (e.g., mortgage-backed securities) for diversifying risks to institutional investors such as pension funds and insurance companies.[32] Insurance companies also benefit though increased business opportunities because mortgage customers are required to purchase homeowner's insurance, mortgage insurance, or life insurance in several countries. Moreover, home equity serves as collateral for consumer borrowing for different purchases. This stimulates lending and financial sector development. Cerutti et al. report, for a sample of 52 emerging and advanced countries, that the median share of mortgages in household credit was 70 percent.[33] However, there is a wide variation in the mortgage-to-GDP ratio, ranging from below 1 percent in Russia to above 80 percent in Switzerland. Financial sector development, measured as debt-to-GDP ratio, explains 60 percent of this variation. A number of countries have adopted policies aimed at developing housing finance markets not only to increase access to home ownership but also to develop the financial sector. For instance, in the United States, mortgage interests are deductible from tax liabilities.

2. ***Linkages with the local economy:*** **Housing construction has significant linkages throughout the economy.** The construction sector uses inputs from mining and quarrying, manufacturing, and services. Subsectors such as building materials manufacturing (cement, steel bars, wood, etc.), furniture making, architectural services, and rental and leasing activities depend heavily on housing construction. Polenske and Sivinitades compiled estimates of direct backward linkages found in different studies where, for developed countries, the sector ranked in the top five of sectors with the highest direct backward linkages.[34] For instance, in 1977, intermediate inputs represented 58 percent of US construction output, making it the third most linked sector. For Turkey, direct backward linkages are estimated at 50.6 percent.[35]

The high level of linkages with other sectors means that investments in housing yield high benefits throughout the economy. Table 3 shows estimates of output and employment effects of housing construction

from various studies. A study by UN-Habitat and ILO finds that the output multiplier of housing construction is between two and three times the initial investments in most developing countries.[36] This is confirmed by a recent study on India noting that residential construction generates an output multiplier of 3.84 when considering both indirect and induced effects.[37] Numbers reported by Uy for the Philippines are an order of magnitude higher.[38] In the United States and Canada, the economic impact of residential housing construction was estimated by assessing the additional income and taxes generated by the construction of a given number housing of units. The National Association of Home Builders (NAHB) in the United States estimates that the construction of 100 single-family homes in a typical local area generates US$28.7 million in local income and US$3.6 million in local taxes.[39] Similarly, the estimate for Canada is CA$33 million (about US$24 million).[40] Because of its large multiplier effects, residential construction is seen as leading indicator of economic activity. In the United States, *housing starts* (total new private housing units started) is a key economic indicator published monthly to gauge the direction of the economy.

3. ***Job creation:*** **A key factor behind the high-output multipliers observed across countries is the labor intensity of the construction sector as a whole and of residential housing in particular.** In the Organisation of Economic Co-operation and Development (OECD) countries, the construction sector employed 36.4 million people in 2016. For the United States alone, the sector employed 10.3 million people as of December 2016.[41] The sector is also a big employer in South Africa, with 1.4 million employees in 2016. The sector is one of the most labor intensive in developing countries. Housing construction creates direct, indirect, and induced employment.[42] Estimates for full-time equivalent (FTE) direct jobs per housing unit constructed are 2.24 in Ethiopia and 2.34 for India.[43] Considering direct and indirect jobs, the estimates are 1.90 FTE jobs for Canada and 5.62 jobs for South Africa.[44] Including induced effects, the estimate for the United States is 4.91 FTE jobs per housing unit and 3 to 6 FTE jobs for the United Kingdom.[45] There are also estimates of employment creation per million of local currency invested in housing. The estimates shown in Table 3 are all around 40 FTE jobs per million. It is 40 for Argentina (direct and indirect), 37 in Australia (overall effects), and 40.6 in India (overall effects).

   These numbers show that investment in housing construction will be crucial for increasing job creation in African cities. Estimates by Faye et al. show that addressing the huge shortage of over 51 million housing units across the continent would add 288 million jobs over 10 years or 29 million per year, on average.[46] Given the projected increase in population and labor force presented in Chapter 1.2, housing construction will be critical for Africa to benefit from the demographic dividend.

Housing construction and city competitiveness

Investment in residential housing construction will lead to job creation, financial sector development, and economic growth; in turn, these are expected to increase city competitiveness in Africa and facilitate the materialization of the demographic dividend. Moreover, the extensive linkages of the construction sector imply that productivity growth in housing construction will spill over into other sectors in manufacturing and services, thus lifting overall productivity. For example, Ethiopia's Integrated Housing Development Program has been important for job creation, manufacturing development, and economic growth in general. The program is not seen as just a tool to address housing shortages but also as part of the broader development policy.

Another important link between housing construction and city competitiveness is through government revenues. Housing and land assets, being immobile, are easier to tax to generate revenues for local and national governments. The revenues can then be used to improve urban infrastructure and address social programs, such as upgrading slums. A policy of land value capture is needed to rationalize the use of land and for budgetary reasons. However, it would need a lot of upstream effort for land demarcation, registration, titling, and valuation. Improving urban infrastructure will facilitate the movement of people in cities and reduce the high productivity costs of transport gridlock. Other inputs can also be taxed for addressing challenges in the housing sector. In Morocco, a small tax on cement is used to constitute a guarantee fund for low-income housing and to support the program of slums elimination ("Villes sans bidonvilles"). This fund has been successful in increasing mortgage access for households in the informal sector and reducing the number of slums in the country.

Special economic zones for competitive African cities

Special economic zones (SEZs) are a practical way to circumvent poor business environment limiting private-sector development and competitiveness in many cities. The recommendation to improve the business environment in Africa has been made for decades, yet African businesses are still constrained with inadequate regulatory frameworks, lack of energy, poor distribution systems, and poor access to finance. The supply of adequate infrastructure and simplification of regulatory business systems in a specific urban area can enhance private-sector development and increase job creation, hence improving city competitiveness. The analysis in this chapter takes into account lessons learned from various parts of the world with the purpose of identifying factors of success and sharing lessons, focusing on city-wide SEZs. It acknowledges that SEZs need not only a coherent and flexible policy environment, but also competitive urban locations with sufficient quality infrastructure together with a capable financial system. Successful SEZs, as observed in China, support, in turn, the economic development and industrialization of the city where they operate.[47] The analysis therefore explores the opportunities and challenges faced by city-wide SEZs in Africa and discusses policy recommendations to improve their implementation.

The benefits of special economic zones for city competitiveness

SEZs are perceived to be a means of enhancing the competitiveness of the local economy by reducing production costs, increasing trade and investment, and creating jobs within national economies. Through reduced regulatory burden, tax incentives, and low tariffs, SEZs provide a more favorable business environment, facilitate access to new markets, and encourage the concentration of industrial growth (see Box 3). They are eventually able to attract more FDI through favorable policies and locations, thereby triggering industrial

Box 3: Definition and main characteristics of special economic zones

Special economic zones (SEZs) are designated areas where economic regulations are different from those of the rest of the country. The term refers to free trade zones, free ports, export processing zones, free enterprises zones, industrial parks, economic cooperative zones, or specialized zones (science and technology parks, petrochemical zones, logistics zones). All SEZs share the following four characteristics: (1) construction relies on attracting and utilizing foreign capital; (2) the main forms of companies are joint ventures with foreign capital, partnerships, and wholly foreign-owned enterprises; (3) products are primarily export-oriented; and (4) government-led infrastructure development is sufficiently advanced and progress is being made toward a market-based economic system. According to the Foreign Investment Advisory Service (FIAS),[1] SEZs are typically established with the goal of achieving one or more of the following objectives: (1) attract foreign direct investment, (2) serve as a "pressure valve" to alleviate large-scale unemployment, (3) support a wider economic reform strategy, and (4) act as an experimental laboratory for the application of new policies and approaches.

Note

1 FAIS 2008.

Source: Authors, based on FIAS 2008 and Woolfrey 2013.

Box 4: Successful Chinese special economic zones: Favorable policies and adequate location in cities

The standard model of special economic zones (SEZs) developed in China are government-run export enclaves offering low taxation and appropriate logistical and infrastructure incentives to enterprises, most of them focusing on light manufacturing and shipping. The central government decided to establish the first four SEZs to act as experimental laboratories for reducing poverty and promoting growth. The initial success with SEZs in Shenzhen (in southeast China) was replicated in other parts of the country and has played a key role in China's overall economic development. Chinese SEZs eventually expanded across an entire city or province. Among the key success factors of Shenzhen are its favorable public policies and the location of the city (near the sea and close to Hong Kong SAR, an international center for finance, trade, transportation, and travel), making it the most open and export-oriented city in China. Location is key, which reinforces the importance of urban planning.

In the early 1980s, China's SEZs accounted for around 60 percent of the country's foreign direct investment (FDI) and 5 percent of its gross domestic product (GDP). They also increased the share of the industrial sector in GDP as well as the standards of living of the Chinese population.[1] In terms of foreign investment, SEZs improved and extended the scale, quality, and channels of attracting investments through favorable policies and locations. For example, FDI in Shenzhen increased from US$5.5 million in 1979 to US$5.3 billion in 2012,[2] and its total exports and imports reached US$537.4 billion in 2013, an increase of 15.1 percent over the previous year.[3] According to World Bank, the city of Shenzhen has experienced the fastest growth of all Chinese cities and attracted a large young labor force specializing in electronic goods into the city.[4]

Notes

1 Zeng 2015.

2 China Statistics Press 2013.

3 UNDP and IPRCC 2015.

4 World Bank 2009.

Source: Authors, based on Tao et al. 2016.

spillover as well as promoting technology transfer and contributing to human upgrading at the local level through the development of backward and forward linkages.[48] Furthermore, they create waged employment and promote exports together with enhanced foreign exchange earnings, and economic diversification.[49] Currently, around 3,000 SEZs operate in more than 130 countries, mainly in the developing world. They have created 70 million jobs and raised US$500 billion annually in direct trade-related value addition.[50]

In China, SEZs have been associated with rapid economic growth in the 1990s and 2000s, exports revenues, technological and skills spillovers, employment creation, and economic linkages at the local level (Box 4). As such, SEZs stand as a clear way to reap demographic dividends in competitive cities. This success story has set the stage for a basic SEZ policy model guiding subsequent SEZ implementation across the developing world.[51]

African countries started implementing SEZs in the 1970s but the process accelerated in the 1990s–2000s, following the Mauritian success (see Table 4 on page 64). Many of the African SEZs focus on textile, apparel, and agro-processing industries. As of 2008, the Foreign Investment Advisory Service (FIAS) identified 114 SEZs in sub-Saharan Africa and 53 in Egypt.[52] In Mauritius, SEZs' development contributed to the country's structural transformation, the diversification of quantity and quality of exports increased, and job creation in terms of both quantity and diversity of items exported.[53] According to Baissac, the success of Mauritian SEZs is partly the result of appropriate government policymaking, the use of preferential trade agreement, specialization, and insular geography.[54]

A few African countries have established a city-wide SEZ model (as opposed to the Mauritius nation-wide model) and are performing particularly well. They have successfully harnessed the concentration of production in the cities where they have been operating, and are seeing subsequent economic integration resulting from growing urbanization.[55] For example, targeted annual investments for SEZ developments in Ethiopia and the creation of industrial parks for textiles in that country amount to US$1 billion over next decade.[56] Industrial parks are supported by a strong commitment from the Ethiopian government, which has considered SEZs to be an essential part of the industrialization process of the country since 2007 and has provided, in this context, various financial and technical partnerships.[57] For instance, as of 2015, the Bole Lemi Industrial Zone in Addis-Ababa was hosting 12 international textile-related companies

Table 4: Overview of SEZs in Africa by decade of launch

Decade	Country	Sector					
		Agro-processing	Textile	Apparel	Service	Mining, Oil & Gas	Others
1970s	Liberia	●		●		●	
	Mauritius		●	●			
	Senegal	●			●		●
	Egypt			●		●	
1980s	Djibouti			●	●		●
	Togo	●		●		●	
1990s	Algeria	●					●
	Cameroon	●					●
	Ghana	●	●	●			●
	Kenya			●	●		
	Madagascar			●	●		
	Malawi		●	●	●		
	Morocco	●			●		●
	Mozambique					●	
	Namibia			●	●		●
	Nigeria		●	●	●		
	Seychelles	●	●	●			
	Tunisia			●	●	●	
	Zimbabwe	●		●		●	●
	Burundi, Cape Verde, Equatorial Guinea, Rwanda, Sudan and Uganda						
2000s	Botswana, Democratic Republic of Congo, Eritrea, Ethiopia, Gabon, the Gambia, Mali, Mauritania, South Africa, Tanzania, and Zambia						

Source: Tao et al. 2016.

and has created around 3,000 jobs.[58] In terms of employment creation, the Thema Export Processing Zone in Ghana and the Tangier Free Zone in Morocco are other successful examples. Thema's SEZ, which houses over 200 companies, including Nestle and L'Oréal, had created about 30,000 jobs by the end of 2012, of which only 1,000 were held by expatriates. Nearly 522 companies were established in Tangier, representing US$830 million in investments, and more than 50,000 direct jobs by end of 2010.[59]

African SEZs have, nonetheless, generally underperformed their counterparts in other developing countries (Table 5). They generated lower amounts of investment, exports, and employment as well as less economic diversification, technological upgrading, and structural transformation.[60] Reasons for the underperformance of African SEZs include many political factors such as poor governance, lack of adequate institutional framework and coordination, weak political commitment and implementation capacity, and policy unpredictability, as well as a lack of proper monitoring and evaluation mechanisms. The following section discusses three important factors needed to enhance the performance of

Table 5: SEZ employment creation and exports worldwide, by region

Region	Employment (millions of workers)	Exports (US$ millions)
Sub-Saharan Africa	1.0	8,605
Asia and the Pacific	61.1	510,666
Americas	3.1	72,636
Central and East Europe and Central Asia	1.6	89,666
Middle East and North Africa	1.5	169,459

Source: FIAS 2008.

African SEZs. First, it reviews the need to integrate SEZs into a broader trade and industrialization strategy. Second, it highlights the importance of establishing strong links between SEZs and the cities where they are located. This implies both developing skills and choosing a geostrategic location where infrastructure allows for trade facilitation and avoids remoteness from markets. Finally, it addresses the strong need to enhance labor productivity to make African SEZs competitive on an international market.

Improving the performance of African SEZs

To increase the positive spillover effects of SEZs on the economic development, industrialization, and competitiveness of the local economy, policymakers need to carefully consider the following issues:

1. ***Establish a consistent strategic planning based on national comparative advantage:*** African governments have been unable to continuously reform and upgrade their administrative capacities and to create a competitive business environment for SEZs. According to two studies,[61] poor legal, regulatory, and institutional framework and the lack of strategic planning are significant obstacles to SEZ development in Africa. African governments have not proved successful in focusing on economic sectors where the country has a comparative advantage.[62] Furthermore, SEZs often rely on a single export market. Policymakers need to be more coherent and integrate SEZs into national economic and urbanization plans. High-level political commitment and effective inter-ministerial collaboration are crucial to support industries that have a comparative advantage through SEZ development.[63]

2. ***Link SEZs to local economies and cities:*** Maximizing the spillover effects of African SEZs on cities should not merely be based on tax reduction and the promotion of technology and know-how transfer at the SEZ level. Policymakers should provide incentives for the creation of joint ventures between foreign SEZ companies and local companies as well as establish low minimum investment thresholds for local companies.[64] In order for SEZs to rely on a productive local labor and capital, African cities would need to provide necessary skills and basic and efficient infrastructure (see Box 5 on page 66). Skills, for instance, are key to a competitive business environment and to attract FDI into SEZs. In turn, FDI and concentration of an industry in one location would attract good management, technology, and talent, thereby triggering know-how transfer, skills development, and competitiveness. The literature has, indeed, pointed out that the mitigated results of SEZs were due to their inappropriate location and a lack of consideration of specific technical factors of the hosting region or country.[65] Aggarwal demonstrates that the limited catalytic effects of SEZs on domestic economies pertained to insufficient linkage development, technology transfer, and human capital upgrading.[66] Indeed, developing linkages with the local economy would benefit and enhance the competitiveness of both cities and SEZs. Farole argues that the overall poor performance in African SEZs is partly the result of the poor business environment within the zone, including lack of infrastructure, such as downtime due to power shortages, poor trade facilitation, and land tenure and registration.[67] Environmental standards should be in line with the United Nations Industrial Development Organization's Guidelines for Green Industry Parks.[68]

3. ***Focus on labor productivity:*** Currently, African SEZs face a big competitiveness challenge that, in addition to limiting their own development, prevents them from contributing significantly to the urban areas where they are operating and, more globally, to national economies. Most African SEZs focus on traditional labor-intensive manufacturing sectors such as garments, electronics, textiles, agro-processing, and metal and wood working. However, the wages that they offer to the local labor force tend to be high compared with wages offered in Asian SEZs, while productivity is lagging (see Table 6).[69] This lack of labor productivity and high wages partly explains why SEZs on the continent do not perform well. According to the World Bank, SEZs are more productive if they exploit advantages both in natural and economic geographies.[70] The latter includes infrastructure; physical endowments; human capital accumulation; and the agglomeration of workers, entrepreneurs, and markets accessibility.

   It is, however, noted that a shortage of skills is an important constraint in many cities. This can be addressed through the design and implementation of effective technical and vocational education and training programs (see Box 5).

Table 6: Unskilled labor costs and wages, selected African and Asian SEZs

Country	Unskilled labor costs (US$/ worker/month)	Wage increase relative to national minimum wage (percent)
Bangladesh	46	25
Vietnam	102	10
Ghana	118	135
Kenya	117	22
Lesotho	150	17
Nigeria	202	300
Senegal	225	75
Tanzania	133	60

Source: Farole 2011.

The wage increase shows the difference between the average wage of a worker in an SEZ compared with the minimum wage of the country as a percent. For example, in Bangladesh the wages in SEZs are 25 percent higher than the country's minimum wage.

Conclusions and recommendations

The response of African cities to the increased demand of jobs, housing, and other urban infrastructure caused by the continent's demographic transition will be crucial for Africa to achieve a successful demographic dividend. Competitive cities require carefully designed strategies and their effective implementation. However, there is no single strategy that cities can follow to achieve competitiveness. Each

Box 5: Increasing the availability of skills through technical vocational education and training (TVET) programs

Although technological change is creating some uncertainty about the future of jobs and the relevant skills needed by the next generation of workers,[1] certainly technical professions will remain in high demand in Africa. According to a 2015 survey conducted by South Africa's Department of Higher Education and Training, the most in-demand occupations include engineers, physical technicians, and electricians as well as project or finance managers.[2] At the same time, as shown by World Economic Forum's Executive Opinion Survey, the availability of scientists and engineers declined in many African countries between 2008 and 2016. Expanding and improving technical vocational education and training (TVET) programs may play an important role in filling this specific type of skill gap.

Well-designed TVET programs can in fact trigger productive employment by increasing the pool of technical skills available in a country and creating better links with formal employment. Recognizing the importance of improving the supply of technical skills, many developing countries have taken a stronger stance on expanding TVETs and improving partnerships with the private sector. The African Union's Plan of Action for the Second Decade of Education (2006–2015) encouraged TVET as a policy tool to reduce youth unemployment.[3] Although a few African countries have heeded this call, TVET programs are still underused in Africa. With the exception of lower-secondary vocational programs, TVET enrollment rates declined from 2000 to 2014 (Table A). They are below the world average and far below the figures for Middle East and North Africa, East Asia and Pacific, and the European Union.

To change this situation, African governments need to deal with key factors hindering the sector. First, a cultural attitude shift is needed to emphasize the importance of TVET relative to university education. Indeed, TVET is seen as offering lower prestige and social status than other higher education options, despite the overwhelming evidence that it should be treated as a priority.[4] Second, TVET programs are underfunded by governments and not affordable to students. On average, only 5 percent of public education expenditure goes to TVET.[5] There is scope to increase private financing and participation in TVET in Africa, a strategy that some governments are already pursuing.[6] Apprenticeship or dual training may ultimately be less expensive and more efficient than center-based training.[7] Most importantly, the quality of TVET programs and the delivery mechanism need to improve. Better quality with better aligned with skills demand and assistance job placement upon graduation will be the best mechanism to increase the status of TVET programs and lower youth unemployment. Better monitoring systems will be important in this process.[8]

Table A: Students enrolled in vocational programs by level of education (percent of total per level)

	Lower secondary		Secondary		Upper secondary	
Region	2000	2014	2000	2014	2000	2014
World	0.92	1.50	10.06	10.68	25.28	22.43
Sub-Saharan Africa	2.34	3.04	7.51	6.34	16.09	11.80
Middle East and North Africa	2.43	2.72	12.62	11.16	27.77	22.53
East Asia and Pacific	0.40	0.33	13.60	17.51	41.37	38.89
South Asia	0.00	0.00	0.96	1.64	2.38	3.59
Latin America and the Caribbean	3.60	5.33	7.87	8.86	15.10	14.23
North America	0.00	0.00	0.09	0.44	0.19	0.89
European Union	0.46	4.03	23.92	27.07	49.44	48.85

Source: UNESCO Institute for Statistics, UIS.Stat database, http://data.uis.unesco.org/.

Notes

1 World Economic Forum 2016.
2 Republic of South Africa, Department of Higher Education 2016.
3 African Union 2006.
4 AfDB et al. 2008.
5 Walther 2012.
6 AFD and ADEA 2014.
7 Walther 2012.
8 AfDB et al. 2008.

city's strategy will be based on its own constraints and comparative advantages.

Data analysis of African cities' competitiveness for the period 2000–16 reveals that the performance of cities across the continent varied widely. Cities in economies dominated by natural resources had a very fast growth in per capita GDP, yet they were less successful in improving households' disposable incomes. The opposite occurred in more diversified economies, a finding that emphasizes the need for African cities to diversify their economies to achieve inclusive growth. However, there is a strong correlation between economic growth and disposable household income in the sample of 102 African cities considered in this chapter. Another interesting finding is that high employment growth has not always been accompanied by household disposable income growth, an indication of slow growth in wages and/or a fast increase in the number of households.

The analysis of the constraints to city competitiveness has highlighted the negative consequences of the lack of urban planning and the deficit of urban infrastructure, including affordable housing. Poor urban infrastructure, such as lack of electricity access or inadequate transportation,

reduces business formation and productivity. Combined with poor urban planning and rapid urban population growth, a number of cities have witnessed an explosion of slums and large housing backlogs. This housing shortage not only lowers household welfare but also increases matching costs between employers and employees and hinders labor productivity. Another factor contributing to the lack of competitiveness is the poor business environment that is a result of heavy regulation, widespread corruption, and low access to finance. Moreover, the issue of youth unemployment is becoming acute in a number of cities. Included in these constraints, among the perennial major factors contributing to the lack of competitiveness of African economies are insufficient infrastructure development, insufficient human capital, and weak governance. Addressing these obstacles will certainly improve the competitiveness of countries in general and of cities in particular. In addition, African cities must create jobs and provide decent affordable housing for their growing urban population in order to achieve a demographic dividend.

Up-to-date and adequate urban planning is necessary not only to address the large shortage of affordable housing in cities but also to increase the density of transport networks at lower costs, thereby increasing the connectivity between workers and firms, and between producers and consumers. This will ultimately help firms benefit from economies of scale and agglomeration. The analysis also indicates that residential housing investment is important for city competitiveness: it not only provides shelter for the growing urban population but also creates a large number of jobs. It is a very labor intensive sector with extensive backward linkages, including linkages with the financial sector.

Job creation requires policies that address both the supply and demand sides of labor markets, and must include special emphasis on the housing sector and the development of city-wide SEZs. Policies should increase the supply of a skilled workforce and reduce the skills mismatch. On the demand side, policies favoring the development of the private sector are required. This chapter focuses on policies to circumvent the constraints of the poor business environment and places special emphasis on labor-intensive sectors, particularly housing. Another recommendation would be to improve the business environment and build better infrastructure in specific urban areas to create successful SEZs as a catalyst for competitive private-sector development. The chapter has provided a thorough analysis of the reasons for the success and failure of SEZs around the world and in Africa in particular, with a spotlight on city-wide SEZs. It has shown that the success of the SEZs and their positive spillover effects on the local economy depends on careful planning and understanding of comparative advantage as well as linkages between the particular SEZ and the rest of economy. In other words, policymakers should avoid geographic and economic isolation and should pay special attention to labor markets, including skills and capital costs in urban areas where SEZs are located.

Notes

1 UN Population Division, World Population Prospects, 2015 revision.

2 UN-Habitat and UNECA 2015.

3 AfDB et al. 2016.

4 Collier 2016.

5 World Bank 2015.

6 World Economic Forum 2014.

7 World Economic Forum 2014.

8 Choe and Roberts 2011.

9 Glaeser 2007.

10 The database is available for 102 cities from 49 African countries (see the list in the Appendix) and includes demographic, economic, and labor market variables as well as detailed household income distribution. The database compiles data from different sources but also uses macroeconomic models to make forecasts for up to 2030. For further information, please consult http://www.oxfordeconomics.com/forecasts-and-models/cities/middle-east-and-african-cities-and-regions/overview.

11 GDP = wages + interest + rent + profits – net factor income from abroad + capital consumption allowance + indirect business taxes. *Household income* includes wages, interest income going to households, and rent earned by households. A big difference between household income and GDP is the amount of profits earned by firms.

12 Faye et al. forthcoming (2017); World Bank WDI online database.

13 Lall et al. 2017.

14 AfDB et al. 2016.

15 Faye et al. forthcoming (2017).

16 AfDB 2016.

17 Faye et al. forthcoming (2017).

18 Faye et al. forthcoming (2017).

19 Glaeser and Ward 2006; Katz and Rosen 1987.

20 Glaeser 2007.

21 Faye et al. forthcoming (2017).

22 AfDB et al. 2016; AfDB 2016.

23 AfDB et al. 2016.

24 World Bank 2009.

25 UN-Habitat 2013.

26 Atlas of Urban Expansion.

27 Lall et al. 2016.

28 Collier 2016.

29 Arku and Harris 2005; Burns and Grebler 1977; Chen and Zhu, 2008; Dolin et al. 2013; Leung 2004; Lopes et al. 2002; Polenske and Sivinitades 1990; Terzi and Bolen, 2007; Turin 1973; Wells 1985.

30 Chen and Zhu 2008.

31 Arku and Harris 2005.

32 Dubel 2007.

33 Cerutti et al. 2015.

34 Polenske and Sivinitades 1990.

35 Coban et al. 2015.

36 UN-Habitat and ILO 1995.

37 NCAER 2014.

38 Uy 2006.

39 Home Builders Federation and Nathaniel Litchfield & Partners 2015.

40 Altus 2009.

41 OECD statistics, Employment by activity. Available at https://data.oecd.org/emp/employment-by-activity.htm.

42 *Induced employment* is the consequence of construction. For example, to construct a house, a carpenter (direct job) is needed; furniture is also bought, providing (indirect) employment. The people who have these jobs have salaries they spend on consumer goods, services, transport, and so on. This spending generates demand for goods and service. To satisfy this demand you need employees—hence the induced employment.

43 Faye et al., forthcoming (2017); NCAER 2014.

44 Altus Group Economic Consulting 2009; Viruly 2014.

45 Estimates for constructing single-family homes are much higher than those for multifamily rental apartments. See Home Builders Federation and Nathaniel Litchfield & Partners 2015; Kleinman 2014; NAHB 2015.

46 Faye et al. forthcoming (2017).

47 Farole 2011.

48 O' Flaherty 2008.

49 Cheesman 2012.

50 Cheesman 2012.

51 Brautigam and Xiaoyang 2011; Gupta et al. 2010.

52 FIAS 2008.

53 Aggarwal 2004.

54 Baissac 2011; Sawkut et al. 2009.

55 World Bank 2009.

56 Davidson 2015.

57 UNDP and IPRCC 2015.

58 UNDP and IPRCC 2015.

59 Woolfrey 2013.

60 FIAS 2008; Woolfrey 2013; Zeng 2012.

61 Auty 2011; Zeng 2012.

62 Farole 2011.

63 Farole 2011.

64 Farole 2011.

65 Brautigam and Xiaoyang 2011.

66 Aggarwal 2004.

67 Farole 2011.

68 https://www.unido.org/fileadmin/user_media/Services/Green_Industry/web_policies_green_industry.pdf.

69 Farole 2011.

70 World Bank 2009.

References

ABS (Australian Bureau of Statistics). 2007. "The Construction Industry's Linkages with the Economy." Belconnen, Australian Capital Territory. Available at http://www.abs.gov.au/Ausstats/abs@.nsf/94713ad445ff1425ca25682000192af2/ed6220072793785eca256b360003228f!OpenDocument.

AfDB (African Development Bank). 2016. "The New Deal on Energy in Africa: A transformative partnership to light up and power Africa by 2025." Abidjan, Côte d'Ivoire: AfDB. Available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Brochure_New_Deal_2_red.pdf.

AfDB, OECD, UNDP, and UNECA (African Development Bank, Organisation for Economic Co-operation and Development, United Nations Development Programme, and United Nations Economic Commission for Africa). 2008. *African Economic Outlook: Developing Technical and Vocational Skills in Africa.* Paris: OECD Publishing.

———. 2016. *African Economic Outlook: Sustainable Cities and Structural Transformation.* Paris: OECD Publishing.

AFD and ADEA (Agence Française de Développement and Association for the Development of Education in Africa). 2014. *The Financing of Vocational Training in Africa: Roles and Specificities of Vocational Training Funds.*

African Union. 2006. *Second Decade of Education for Africa (2006–2015): Draft Plan of Action.* Addis Ababa: African Union. Available at http://www.adea-comed.org/IMG/pdf/SECOND_DECADE_OF_EDUCATION_FOR.pdf.

Aggarwal, A. 2004. "Export Processing Zones in India: Analysis of the Export Performance." *Indian Council for Research on International Economic Relations (ICRIER) Working Paper* No. 148. New Delhi: ICRIER.

Arku, G. and R. Harris. 2005. "Housing as a Tool of Economic Development since 1929." *International Journal of Urban and Regional Research* 29 (4): 895–915.

Altus Group Economic Consulting. 2009. "Economic Impacts of Residential Construction." Report for the Canada Mortgage and Housing Corporation, Ottawa. Available at http://www2.hamilton.ca/NR/rdonlyres/1F84E3C3-009A-46AF-B95E-7F6D3F05D697/0/Jun17Item88iieconomicimpact.pdf.

Atlas of Urban Expansion. Available at http://www.atlasofurbanexpansion.org/.

Auty, R. 2011. "Early Reform Zones: Catalysts for Dynamic Market Economies in Africa." In *Special Economic Zones: Progress, Emerging Challenges, and Future Directions,* T. Farole, and G. Akinci, eds. Washington, DC: World Bank. 207–24.

Baissac, C. 2011. "Brief History of SEZs and Overview of Policy Debates." In *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experience,* T. Farole, ed. Washington, DC: World Bank. 23–57.

Brautigam, D. and T. Xiaoyang. 2011. "African Shenzhen: China's Special Economic Zones in Africa." *Modern African Studies* 49 (1): 27–54.

Burns, L. S. and L. Grebler. 1977. *The Housing of Nations.* London: Palgrave Macmillan.

Cerutti E., J. Dagher, and G. Dell'Ariccia. 2015. "Housing Finance and Real-Estate Booms: A Cross-Country Perspective." *IMF Staff Discussion Note* 15/12. Washington, DC: International Monetary Fund. Available at https://www.imf.org/external/pubs/ft/sdn/2015/sdn1512.pdf.

Cheesman, A. 2012. *Special Economic Zones & Development: Geography and Linkages in the Indian EOU Scheme.* Development Planning Unit, The Bartlett, University College London, Working Paper No. 145, July.

Chen, J. and A. Zhu. 2008. "The Relationship Between Housing Investment and Economic Growth in China: A Panel Analysis Using Quarterly Provincial Data." *Uppsala University Working Paper,* Sweden. Available at http://www.diva-portal.org/smash/get/diva2:128349/FULLTEXT01.pdf.

China Statistics Press. 2013. *Shenzhen Statistical Yearbook 2013.* Shenzhen: Chinese Statistics Press.

Choe, K. A. and B. H. Roberts. 2011. *Competitive Cities in the 21st Century: Cluster-Based Local Economic Development.* Manila: Asian Development Bank.

Çoban, O., E. Üstündağ, and A. Çoban. 2015. "The Structural Analysis of Construction Sector of Turkey and Its Effects on the Selected Macroeconomic Indicators." *Copernican Journal of Finance and Accounting* 4 (1): 27–44.

Collier, P. 2016. "African Urbanisation: An Analytical Policy Guide". Policy paper, International Growth Centre, London.

Davidson, W. 2015. "Ethiopia Plans Export Hubs with $10 Billion Factory Parks." *Bloomberg,* May 18, Update May 19. Available at https://www.bloomberg.com/news/articles/2015-05-18/ethiopia-plans-manufacturing-hub-with-10-billion-factory-parks.

Dubel, H. 2007. "Does Housing Finance Promote Economic and Social Development in Emerging Markets?" Study commissioned by the International Finance Corporation, Washington, DC. Available at http://www.hofinet.org/documents/doc.aspx?id=260.

Farole, T. 2011. *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experiences.* Washington, DC: World Bank.

Faye, I., E. Bah, and Z. Geh. Forthcoming (2017). *Housing Market Dynamics in Africa.* Basingstoke: Palgrave Macmillan.

FIAS (Foreign Investment Advisory Service). 2008. *Special Economic Zones: Performance, Lessons Learned and Implication for Zone Development.* Washington, DC: The World Bank. Available at http://documents.worldbank.org/curated/en/343901468330977533/pdf/458690WP0Box331s0April200801PUBLIC1.pdf.

Freire, M., M. Gautier, and O. Hassler. 2006. "Review of Argentina's Housing Sector: Options for Affordable Housing Policy." *World Bank Working Paper.* Washington, DC: World Bank.

Gachanja, J. 2015. "Mitigating Road Traffic Congestion in the Nairobi Metropolitan Region." The Kenya Institute for Public Policy Research and Analysis (KIPPRA) Policy Brief No. 2/2015, Kenya. Available at http://kippra.or.ke/downloads/Mitigating%20transport%20congestion%20in%20Nairobi.pdf.

Glaeser, E. L. 2007. "The Economic Approach to Cities." *NBER Working Paper* No. 13696. National Bureau of Economic Research.

Glaeser, E. L. and B. Ward. 2006 "The Causes and Consequences of Land Use Regulation: Evidence from Greater Boston." *NBER Working Paper* No. 12601. National Bureau of Economic Research.

Gupta, S., A. C. Gupta, and R. Goyal. 2010. "SEZs in India: Export Performance and Future Prospects." In *Special Economic Zones in India: (China's Way of Development),* P. Arunachalam, ed. New Delhi: Serials Publications.

Habitat for Humanity in Kenya. 2014. http://www.habitat.org/where-we-build/kenya.

Home Builders Federation and Nathaniel Litchfield & Partners. 2015. "The Economic Footprint of UK House Building." London: Home Builders Federation and Nathaniel Litchfield & Partners. Available at http://www.hbf.co.uk/?elD=dam_frontend_push&docID=24568&filename=Economic_Fotprint_BPF_Report_March_2015_WEB_01.pdf.

Honan, E. 2016. "Nairobi Looks to Africa's First Bike-Share Scheme to Tackle Congestion." *Financial Times,* August 5. Available at https://www.ft.com/content/6133a0f0-5a5b-11e6-8d05-4eaa66292c32.

IEA (International Energy Agency). 2013. *World Energy Outlook 2013.* Paris: OECD/IEA.

Katz, L. and K. T. Rosen. 1987. "The Interjurisdictional Effects of Growth Controls on Housing Prices." *Journal of Law and Economics* 30 (1): 149–60.

Kleinman, M. 2014. "Measuring Jobs from the Housing Programme." Appendix 3 of Progress Report. London City Government. Available at https://www.london.gov.uk/moderngov/documents/s38594/Measuring%20Jobs_Appendix%203.pdf.

Lall, S. V., J. V. Henderson, and A. J. Venables. 2016. *Africa's Cities: Opening Doors to the World.* Washington, DC: World Bank.

Leung, C. 2004. "Macroeconomics and Housing: A Review of the Literature." *Journal of Housing Economics* 13: 249–67.

Lopes, J., L. Ruddock, and F. L. Ribeiro. 2002. "Investment in Construction and Economic Growth in Developing Countries." *Building Research and Information* 3: 152–9.

McGregor, S. and D. M. Doya. 2014. "Traffic Costs Nairobi $570,000 a Day as No.2 Africa Hub Clogs." *Bloomberg,* April 12. Available at https://www.bloomberg.com/news/articles/2014-03-25/nairobi-traffic-loses-570-000-a-day-as-no-2-africa-hub.

NAHB (National Association of Home Builders). 2015. "The Economic Impact of Home Building in a Typical State: Income, Jobs, and Taxes Generated." Washington, DC: NAHB. Available at https://www.nahb.org/~/media/Sites/NAHB/Economic%20studies/1-REPORT_local_20150318115955.ashx?la=en.

NCAER (National Council of Applied Economic Research). 2014. "Impact of Investments in the Housing Sector on GDP and Employment in the Indian Economy." New Delhi, India: NCAER. Available at http://mhupa.gov.in/writereaddata/UploadFile/Impact_of_Housing_on_GDP_Employment_FULL_REPORT.pdf.

O'Flaherty, D. D. 2008. "Understanding Dynamic Linkages and Technology Spillover from Korea's Masan Free Export Zone." Master's Thesis, Department of Globalization and International Development, University of Ottawa.

Otuki, N. 2017. "German Firm Wins SH1.4bn Deal for Nairobi Traffic Lights." *Business Daily,* January 15. Available at http://www.businessdailyafrica.com/Corporate-News/German-firm-wins-Sh1-4bn-deal-for-Nairobi-traffic-lights/539550-3518356-item-0-871dviz/index.html.

Oxford Economics. African and Middle Eastern Cities Forecasts. Available at http://www.oxfordeconomics.com/forecasts-and-models/cities/middle-east-and-african-cities-and-regions/overview.

Polenske, K. R. and P. Sivitanides. 1990. "Linkages in the Construction Sector." *The Annals of Regional Science* 24 (2): 147–61.

Republic of South Africa, Department of Higher Education. 2016. "List of Occupations in High Demand: 2015." Department of Higher Education and Training." Government Notices, *Government Gazette,* January 19. Available at http://www.gpwonline.co.za/Pages/default.aspx.

Sawkut, R., S. Vinesh, and F. Sooraj. 2009. "The Net Contribution of the Mauritian Export Processing Zone Using Cost-Benefit Analysis." *Journal of Development Economics* 21 (3): 379–92.

Tao, Y., Y. Yuan, and M. Li. 2016. "Chinese Special Economic Zones: Lessons for Africa." *Africa Economic Brief* 7 (6). Côte d'Ivoire: AfDB.

Terzi, F. and F. Bolen. 2007. "The Impacts of Housing on Economic Development." Paper presented at the 14th Annual European Real Estate Society Conference, London, June 27–30.

Turin, D A. 1973. *The Construction Industry: Its Economic Significance and its Role in Development.* London: UCERG.

UNDP and IPRCC (United Nations Development Programme and International Poverty Reduction Center in China). 2015. *If Africa Builds Nests, Will the Birds Come? Comparative Study on Special Economic Zones in Africa and China.* Working Paper Series No. 06.2015. Beijing: IPRCC and UNDP China. Available at http://www.cn.undp.org/content/china/en/home/library/south-south-cooperation/if-africa-builds-nests--will-the-birds-come-.html/

UNECA (United Nations Economic Commission for Africa). 2017. *Economic Report on Africa 2017: Urbanization and Industrialization for Africa's Transformation.* Addis Ababa: UNECA.

UNESCO Institute for Statistics. UIS.Stat database. Available at http://data.uis.unesco.org/.

UN-Habitat. 2013. *Streets as Public Spaces and Drivers of Urban Prosperity.* Nairobi: UN-Habitat.

UN-Habitat and ILO (International Labor Organization). 1995. *Shelter Provision and Employment Generation.* Nairobi and Geneva: United Nations Human Settlements Programme and International Labor Organization.

UN-Habitat and UNECA (United Nations Economic Commission for Africa). 2015. *Towards an African Urban Agenda.* Nairobi: UN-Habitat.

UN Population Division, World Population Prospects, 2015 revision. Available at http://www.un.org/en/development/desa/publications/world-population-prospects-2015-revision.html.

Uy, W. J. 2006. "Medium-Rise Housing: The Philippines Experience." Paper presented at the 5th Asian Forum, January 18–20, 2006, Tokyo, Japan.

Vidal, J. 2016. 'There's No Escape': Nairobi's Air Pollution Sparks Africa Health Warning." *The Guardian,* July 10. Available at https://www.theguardian.com/cities/2016/jul/10/no-escape-nairobi-air-pollution-sparks-africa-health-warning.

Viruly, F. 2014. "What Are the Derived Social Benefits of Occupying Affordable Housing in South Africa? A Social Audit Conducted on Residential Units Built by International Housing Solutions." Study commissioned by International Housing Solutions, Gauteng, South Africa. Available at http://www.ihsinvestments.co.za/wp-content/uploads/2015/07/2012_IHS-Final-Report-1.pdf.

Walther, R. 2012. "The Financing and Costs of Technical and Vocational Skills Development (TVSD): The Case of Africa." Presentation at the Third International Congress on TVET, Shanghai, May 13–16, 2012. Available at http://www.unesco.org/education/TVET2012/parallel-sessions-day1/3/R-Walther.pdf.

Wells, J. 1985. "The Role of Construction in Economic Growth and Development." *Habitat International* 9 (1): 55–70.

Woolfrey, S. 2013. "Special Economic Zones and Regional Integration in Africa." *tralac Working Paper* No. S13WP10/2013. Stellenbosch: tralac.

World Bank. *World Development Indicators* (online). Washington, DC: World Bank.

——. 2009. *World Development Report 2009: Reshaping Economic Geography.* Washington, DC: World Bank.

——. 2015. *Competitive Cities for Jobs and Growth: What, Who, and How.* Washington, DC: World Bank.

World Economic Forum. 2014. "The Competitiveness of Cities." Report of the Global Agenda Council on Competitiveness. Cologny/Geneva: World Economic Forum.

——. 2016. *The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution.* Geneva: World Economic Forum.

Zeng, D. Z. 2012. "SEZs in Africa: Putting the Cart in Front of the Horse?" Let's Talk Development, Blog. Washington DC: World Bank.

——. 2015. *Global Experiences with Special Economic Zones – With a Focus on China and Africa.* Trace and Competitiveness Global Practice, Washington, DC: World Bank.

Appendix: Selected African Cities (alphabetical order)

Country	Cities
Algeria	Algiers, Constantine, Oran
Angola	Huambo, Luanda
Benin	Cotonou
Botswana	Gabarone
Burkina Faso	Ouagadougou
Burundi	Bujumbura
Cameroon	Douala, Yaoundé
Cape Verde	Praia
Central African Rep.	Bangui
Chad	N'Djaména
Congo	Brazzaville, Pointe-Noire
Côte d'Ivoire	Abidjan, Yamoussoukro
Congo, Dem. Rep.	Kinshasa
Djibouti	Djibouti
Egypt	Alexandria, Al-Mansura, Cairo, Luxor, Mahalla el-Kubra, Port Said, Suez
Equatorial Guinea	Malabo
Eritrea	Asmara
Ethiopia	Addis Ababa
Gabon	Libreville
Gambia	Banjul
Ghana	Accra, Kumasi
Guinea	Conakry
Guinea-Bissau	Bissau
Kenya	Mombasa, Nairobi
Liberia	Monrovia

Country	Cities
Lesotho	Maseru
Libya	Tripoli
Madagascar	Antananarivo
Malawi	Blantyre City, Lilongwe
Mali	Bamako
Mauritania	Nouakchott
Mauritius	Port Louis
Morocco	Agadir, Casablanca, Fès, Marrakech, Meknès, Rabat, Tanger
Mozambique	Beira, Maputo
Namibia	Windhoek
Niger	Niamey
Nigeria	Aba, Abeokuta, Abuja, Benin City, Enugu, Ibadan, Ilorin, Jos, Kaduna, Kano, Lagos, Maiduguri, Ogbomosho, Onitsha, Port Harcourt, Zaria
Rwanda	Kigali
Senegal	Dakar
Sierra Leone	Freetown
South Africa	Bloemfontein, Cape Town, Durban, Johannesburg, Port Elizabeth, Pretoria, Kimberley, Nelspruit, Polokwane
Sudan	Khartoum
Swaziland	Mbabane
Tanzania	Arusha, Dar Es Salaam, Dodoma, Mwanza
Togo	Lomé
Tunisia	Sfax, Tunis, Sousse
Uganda	Kampala
Zambia	Kitwe, Lusaka, Ndola
Zimbabwe	Bulawayo, Harare

Source: Oxford Economics, African and Middle Eastern Cities Forecasts. Available at http://www.oxfordeconomics.com/forecasts-and-models/cities/middle-east-and-african-cities-and-regions/overview.

Part 2

Country Profiles

How to Read the Country Profiles

The Country Profiles section presents a two-page profile for each of the 35 countries covered in *The Africa Competitiveness Report 2017.*

PAGE 1

1 Key indicators

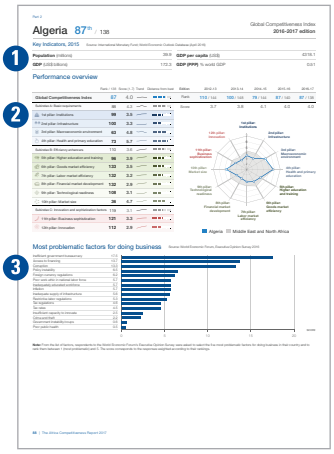
The first section presents a selection of key indicators for the economy under review. All data in this section are for 2015 and sourced from the April 2016 edition of the International Monetary Fund (IMF)'s *World Economic Outlook (WEO) Database*.

2 Performance overview

This section details the economy's performance on the main components of the Global Competitiveness Index (GCI). The table on the upper left of this section shows the evolution in the economy's overall GCI rank and score since the 2012–2013 edition (or the earliest edition available). On the right-hand side, a chart shows the economy's performance in the 12 pillars of the GCI (blue line) measured against the region's average scores. See page xiii of *The Global Competitiveness Report 2016–2017* for group composition. For selected economies, a brief commentary of the performance appears at the bottom part of this section.

3 The most problematic factors for doing business

This chart summarizes those factors seen by business executives as the most problematic for doing business in their economy. The information is drawn from the World Economic Forum's Executive Opinion Survey (the Survey). From a list of 16 factors, respondents were asked to select the five most problematic and rank them from 1 (most problematic) to 5. The results were then tabulated and weighted according to the ranking assigned by respondents.



See Appendix A of Chapter 1.1 for the detailed structure of the GCI and methodology.

Indicators derived from the Survey are always expressed as scores on a 1–7 scale, with 7 being the most desirable outcome. For those, units are omitted for the sake of readability. For indicators that are not derived from the Survey, the units are displayed next to the indicator name. A line depicts the evolution of this value since the 2012–2013 edition of the *Report* (or the earliest period available).

ONLINE RESOURCES

Interactive profiles and sortable rankings with detailed meta information, as well as downloadable datasets, are available at http://wef.ch/acr.

PAGE 2

4 The Global Competitiveness Index in detail

This page details the country's performance on each of the indicators entering the composition of the GCI. Indicators are organized by pillar. For indicators entering the GCI in two different pillars, only the first instance is shown on this page.

Technical Notes and Sources

This section provides detailed definitions and sources for all the indicators that enter the Global Competitiveness Index 2016–2017 (GCI). The data used represent the best available estimates at the time *The Global Competitiveness Report 2016–2017* was prepared. It is possible that some data will have been updated or revised by the sources after publication. The title of each indicator appears on the first line, preceded by its number to allow for quick reference. Below is a description of each indicator or, in the case of Executive Opinion Survey data, the full question and associated answers. If necessary, additional information is provided underneath.

Pillar 1: Institutions

1.01 Property rights

In your country, to what extent are property rights, including financial assets, protected? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.02 Intellectual property protection

In your country, to what extent is intellectual property protected? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.03 Diversion of public funds

In your country, how common is illegal diversion of public funds to companies, individuals, or groups? [1 = very commonly occurs; 7 = never occurs] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.04 Public trust in politicians

In your country, how do you rate the ethical standards of politicians? [1 = extremely low; 7 = extremely high] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.05 Irregular payments and bribes

Average score across the five components of the following Executive Opinion Survey question: In your country, how common is it for firms to make undocumented extra payments or bribes connected with (a) imports and exports; (b) public utilities; (c) annual tax payments; (d) awarding of public contracts and licenses; (e) obtaining favorable judicial decisions? In each case, the answer ranges from 1 [very common] to 7 [never occurs] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.06 Judicial independence

In your country, how independent is the judicial system from influences of the government, individuals, or companies? [1 = not independent at all; 7 = entirely independent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.07 Favoritism in decisions of government officials

In your country, to what extent do government officials show favoritism to well-connected firms and individuals when deciding upon policies and contracts? [1 = show favoritism to a great extent; 7 = do not show favoritism at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.08 Wastefulness of government spending

In your country, how efficiently does the government spend public revenue? [1 = extremely inefficient; 7 = extremely efficient in providing goods and services] | 2013–14 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.09 Burden of government regulation

In your country, how burdensome is it for companies to comply with public administration's requirements (e.g., permits, regulations, reporting)? [1 = extremely burdensome; 7 = not burdensome at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.10 Efficiency of legal framework in settling disputes

In your country, how efficient are the legal and judicial systems for companies in settling disputes? [1 = extremely inefficient; 7 = extremely efficient] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

1.11 Efficiency of legal framework in challenging regulations

In your country, how easy is it for private businesses to challenge government actions and/or regulations through the legal system? [1 = extremely difficult; 7 = extremely easy] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.12 Transparency of government policymaking

In your country, how easy is it for companies to obtain information about changes in government policies and regulations affecting their activities? [1 = extremely difficult; 7 = extremely easy] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.13 Business costs of terrorism

In your country, to what extent does the threat of terrorism impose costs on businesses? [1 = to a great extent, imposes huge costs; 7 = no costs at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.14 Business costs of crime and violence

In your country, to what extent does the incidence of crime and violence impose costs on businesses? [1 = to a great extent, imposes huge costs; 7 = no costs at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.15 Organized crime

In your country, to what extent does organized crime (mafia-oriented racketeering, extortion) impose costs on businesses? [1 = to a great extent, imposes huge costs; 7 = no costs at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.16 Reliability of police services

In your country, to what extent can police services be relied upon to enforce law and order? [1 = not at all; 7 = to a great extent] | 2016

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.17 Ethical behavior of firms

In your country, how do you rate the corporate ethics of companies (ethical behavior in interactions with public officials, politicians, and other firms)? [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.18 Strength of auditing and reporting standards

In your country, how strong are financial auditing and reporting standards? [1 = extremely weak; 7 = extremely strong] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.19 Efficacy of corporate boards

In your country, to what extent is management accountable to investors and boards of directors? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.20 Protection of minority shareholders' interests

In your country, to what extent are the interests of minority shareholders protected by the legal system? [1 = not protected at all; 7 = fully protected] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

1.21 Strength of investor protection

Strength of Investor Protection Index on a 0–10 (best) scale | 2015

This variable is a combination of the Extent of disclosure index (transparency of transactions), the Extent of director liability index (liability for self-dealing), and the Ease of shareholder suit index (shareholders' ability to sue officers and directors for misconduct). For more details about the methodology employed and the assumptions made to compute this indicator, visit http://www.doingbusiness.org/methodologysurveys/.

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*

Pillar 2: Infrastructure

2.01 Quality of overall infrastructure

How do you assess the general state of infrastructure (e.g., transport, communications, and energy) in your country? [1 = extremely underdeveloped—among the worst in the world; 7 = extensive and efficient—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

2.02 Quality of roads

In your country, how is the quality (extensiveness and condition) of road infrastructure [1 = extremely poor—among the worst in the world; 7 = extremely good—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

2.03 Quality of railroad infrastructure

In your country, how is the quality (extensiveness and condition) of the railroad system [1 = extremely poor—among the worst in the world; 7 = extremely good—among the best in the world] | 2015–16 weighted average

For economies where there is no regular train service or where the network covers only a negligible portion of the territory this indicator is not used in the calculation, and in the Country Profiles of these economies, *N/Appl* is used for this indicator.

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

2.04 Quality of port infrastructure

In your country, how is the quality (extensiveness and condition) of seaports (for landlocked countries, assess access to seaports) [1 = extremely poor—among the worst in the world; 7 = extremely good—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

2.05 Quality of air transport infrastructure

In your country, how is the quality (extensiveness and condition) of airports [1 = extremely poor—among the worst in the world; 7 = extremely good—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

2.06 Available airline seat kilometers

Airline seat kilometers (in millions) available on all flights (domestic and international service) originating in country per week (year average) | Monthly average for 2016

This indicator measures the total passenger-carrying capacity of all scheduled flights, including domestic flights, originating in a country. It is computed by multiplying the number of seats available on each flight by the flight distance in kilometers and summing the result across all scheduled flights in a week. The final value represents the weekly average for the year (Jan–Dec), taking into account flights scheduled beforehand by airline companies.

Source: International Air Transport Association, SRS Analyser

2.07 Quality of electricity supply

In your country, how reliable is the electricity supply (lack of interruptions and lack of voltage fluctuations)? [1 = extremely unreliable; 7 = extremely reliable] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

2.08 Mobile-cellular telephone subscriptions

Number of mobile-cellular telephone subscriptions per 100 population | 2015

Mobile-cellular telephone subscriptions refers to the number of subscriptions to a public mobile telephone service that provides access to the public switched telephone network (PSTN) using cellular technology. It includes both the number of postpaid subscriptions and the number of active prepaid accounts (i.e., that have been active during the past three months). It includes all mobile-cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, and private trunked mobile radio, telepoint, radio paging, and telemetry services.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators June 2016* (June 2016 edition)

2.09 Fixed-telephone lines

Number of fixed-telephone lines per 100 population | 2015

Fixed-telephone subscriptions refers to the sum of active analogue fixed-telephone lines, voice over IP (VoIP) subscriptions, fixed wireless local loop (WLL) subscriptions, ISDN voice-channel equivalents, and fixed-public payphones. It includes all accesses over fixed infrastructure supporting voice telephony using copper wire, voice services using Internet Protocol (IP) delivered over fixed (wired)-broadband infrastructure (e.g., DSL, fiber optic), and voice services provided over coaxial-cable television networks (cable modem). It also includes WLL connections, which are defined as services provided by licensed fixed-line telephone operators that provide last-mile access to the subscriber using radio technology, when the call is then routed over a fixed-line telephone network (and not a mobile-cellular network). In the case of VoIP, it refers to subscriptions that offer the ability to place and receive calls at any time and do not require a computer. VoIP is also known as voice-over broadband (VoB), and includes subscriptions through fixed-wireless, DSL, cable, fiber optic, and other fixed-broadband platforms that provide fixed telephony using IP.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators June 2016* (June 2016 edition)

Pillar 3: Macroeconomic environment

3.01 Government budget balance

General government budget balance as a percentage of GDP | 2015

General government budget balance is calculated as general government revenue minus total expenditure. This is a core Government Finance Statistics (GFS) balance that measures the extent to which the general government is either putting financial resources at the disposal of other sectors in the economy and nonresidents (net lending), or utilizing the financial resources generated by other sectors and nonresidents (net borrowing). This balance may be viewed as an indicator of the financial impact of general government activity on the rest of the economy and nonresidents. Revenue consists of taxes, social contributions, grants receivable, and other revenue. Revenue increases a government's net worth, which is the difference between its assets and liabilities. General government total expenditure consists of total expenses and the net acquisition of nonfinancial assets.

Source: International Monetary Fund, *World Economic Outlook Database* (April 2016 edition)

3.02 Gross national savings

Gross national savings as a percentage of GDP | 2015 or most recent year available

Gross national savings is expressed as a ratio of gross national savings in current local currency and GDP in current local currency. It corresponds to gross disposable income less final consumption expenditure after taking account of an adjustment for pension funds. For many economies, the estimates of national savings are built up from national accounts data on gross domestic investment and from balance of payments–based data on net foreign investment.

Sources: International Monetary Fund, *World Economic Outlook Database* (April 2016 edition); US Central Intelligence Agency, *The World Factbook* (accessed August 12, 2016); national sources

3.03 Inflation

Annual percent change in consumer price index (year average) | 2015 or most recent year available

Source: International Monetary Fund, *World Economic Outlook Database* (April 2016 edition)

3.04 Government debt

Gross general government debt as a percentage of GDP | 2015 or most recent year available

Gross debt consists of all liabilities that require payment or payments of interest and/or principal by the debtor to the creditor at a date or dates in the future. This includes debt liabilities in the form of special drawing rights, currency and deposits, debt securities, loans, insurance, pensions and standardized guarantee schemes, and other accounts payable. Thus all liabilities in the *Government Finance Statistics Manual (GFSM) 2001* system are debt, except for equity and investment fund shares, financial derivatives, and employee stock options. For Australia, Belgium, Canada, Hong Kong SAR, Iceland, New Zealand, and Sweden, government debt coverage also includes insurance technical reserves, following the GFSM 2001 definition.

Source: International Monetary Fund, *World Economic Outlook Database* (April 2016 edition) and *Article IV Consultation Staff Reports*

3.05 Country credit rating

Institutional Investor's Country Credit Ratings™ assessing the probability of sovereign debt default on a 0–100 (lowest probability) scale | March 2016

Institutional Investor's Country Credit Ratings™ developed by Institutional Investor are based on information provided by senior economists and sovereign-debt analysts at leading global banks and money management and security firms. Twice a year, the respondents grade each country on a scale of 0 to 100, with 100 representing the least chance of default.

Pillar 4: Health and primary education

4.01 Malaria incidence

Estimated number of malaria cases per 100,000 population | 2013 or most recent year available

For economies that: (1) were declared free of malaria by the World Health Organization (WHO) (except in the case of Hong Kong SAR, for which malaria assessment is from CDC); (2) are included in the WHO's supplementary list of areas where malaria has never existed or has disappeared without specific measures; or (3) are currently in the prevention of reintroduction phase as identified by the WHO, this indicator is excluded from the calculation of the GCI.

In the Country profiles of these economies, the following abbreviations are used: *M.F.* for malaria-free economies; *P.R.* means the economy is in the prevention of reintroduction phase; and *S.L.* means the economy is on the WHO's supplementary list.

Sources: The World Health Organization, *World Malaria Report* 2012 and 2015 editions; United States Centers for Disease Control and Prevention (CDC), Malaria Information and Prophylaxis information (accessed July 29, 2016).

4.02 Business impact of malaria

How serious an impact do you consider malaria will have on your company in the next five years (e.g., death, disability, medical and funeral expenses, productivity and absenteeism, recruitment and training expenses, revenues)? [1 = a serious impact; 7 = no impact at all] | 2013–14 weighted average

For economies that are considered free of malaria; that are included in the World Health Organization's supplementary list; or that are in the prevention of reintroduction phase (see indicator 4.01 above), this indicator is excluded from the calculation of the GCI. In the Country Profiles of these economies, *N/Appl.* is used for this indicator.

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

4.03 Tuberculosis incidence

Estimated number of tuberculosis cases per 100,000 population | 2014 or most recent year available

Incidence of tuberculosis is the estimated number of new pulmonary, smear positive, and extra-pulmonary tuberculosis cases.

Sources: The World Bank, *World Development Indicators* (accessed May19, 2016); national sources

4.04 Business impact of tuberculosis

How serious an impact do you consider tuberculosis will have on your company in the next five years (e.g., death, disability, medical and funeral expenses, productivity and absenteeism, recruitment and training expenses, revenues)? [1 = a serious impact; 7 = no impact at all] | 2013–14 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

4.05 HIV prevalence

HIV prevalence as a percentage of adults aged 15–49 years | 2014 or most recent year available

HIV prevalence refers to the percentage of people aged 15–49 who are infected with HIV at a particular point in time, no matter when infection occurred. Economies with a prevalence rate equal to or less than 0.2 percent are all ranked first.

Sources: The World Bank, *World Development Indicators* (accessed May 18, 2015, and May 19, 2016); UNAIDS, *UNAIDS Global Report on the Global AIDS Epidemic* (2008, 2010, 2012, and 2013 editions); UNAIDS, *IUNAIDS Gap Report 2014*; national sources

4.06 Business impact of HIV/AIDS

How serious an impact do you consider HIV/AIDS will have on your company in the next five years (e.g., death, disability, medical and funeral expenses, productivity and absenteeism, recruitment and training expenses, revenues)? [1 = a serious impact; 7 = no impact at all] | 2013–14 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

4.07 Infant mortality

Infant (children aged 0–12 months) mortality per 1,000 live births | 2015 or most recent year available

Infant mortality rate is the number of infants dying before reaching one year of age per 1,000 live births in a given year.

Sources: The World Bank, *World Development Indicators* (accessed July 5, 2016); national sources

4.08 Life expectancy

Life expectancy at birth (years) | 2014

Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.

Sources: The World Bank, *World Development Indicators* (accessed July 5, 2016); national sources

4.09 Quality of primary education

In your country, how do you assess the quality of primary education [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

4.10 Primary education enrollment rate

Net primary education enrollment rate | 2014 or most recent year available

The reported value corresponds to the ratio of children of official primary school age (as defined by the national education system) who are enrolled in primary school. Primary education (ISCED level 1) provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music.

Sources: UNESCO Institute for Statistics, *Data Centre* (accessed July 12, 2016); Organisation for Economic Co-operation and Development (OECD), *Education at a Glance 2015*; UNICEF; national sources

Pillar 5: Higher education and training

5.01 Secondary education enrollment rate

Gross secondary education enrollment rate | 2014 or most recent year available

The reported value corresponds to the ratio of total secondary enrollment, regardless of age, to the population of the age group that officially corresponds to the secondary education level. Secondary education (ISCED levels 2 and 3) completes the provision of basic education that began at the primary level, and aims to lay the foundations for lifelong learning and human development by offering more subject- or skills-oriented instruction using more specialized teachers.

Sources: UNESCO Institute for Statistics, *Data Centre* (accessed July 12, 2016); national sources

5.02 Tertiary education enrollment rate

Gross tertiary education enrollment rate | 2014 or most recent year available

The reported value corresponds to the ratio of total tertiary enrollment, regardless of age, to the population of the age group that officially corresponds to the tertiary education level. Tertiary education (ISCED levels 5 and 6), whether or not leading to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.

Sources: UNESCO Institute for Statistics, *Data Centre* (accessed July 12, 2016); national sources

5.03 Quality of the education system

In your country, how well does the education system meet the needs of a competitive economy? [1 = not well at all; 7 = extremely well] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

5.04 Quality of math and science education

In your country, how do you assess the quality of math and science education? [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

5.05 Quality of management schools

In your country, how do you assess the quality of management schools? [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

5.06 Internet access in schools

In your country, to what extent is the Internet used in schools for learning purposes? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

5.07 Local availability of specialized training services

vIn your country, how available are high-quality, professional training services? [1 = not available at all; 7 = widely available] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

5.08 Extent of staff training

In your country, to what extent do companies invest in training and employee development? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

Pillar 6: Goods market efficiency

6.01 Intensity of local competition

In your country, how intense is competition in the local markets? [1 = not intense at all; 7 = extremely intense] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

6.02 Extent of market dominance

In your country, how do you characterize corporate activity? [1 = dominated by a few business groups; 7 = spread among many firms] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

6.03 Effectiveness of anti-monopoly policy

In your country, how effective are anti-monopoly policies at ensuring fair competition? [1 = not effective at all; 7 = extremely effective] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

6.04 Effect of taxation on incentives to invest

In your country, to what extent do taxes reduce the incentive to invest? [1 = to a great extent; 7 = not at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017.*

6.05 Total tax rate

This variable is a combination of profit tax (% of profits), labor tax and contribution (% of profits), and other taxes (% of profits) | 2015

The total tax rate measures the amount of taxes and mandatory contributions payable by a business in the second year of operation, expressed as a share of commercial profits. The total amount of taxes is the sum of five different types of taxes and contributions payable after accounting for deductions and exemptions: profit or corporate income tax, social contributions and labor taxes paid by the employer, property taxes, turnover taxes, and other small taxes. For more details about the methodology employed and the assumptions made to compute this indicator, visit http://www.doingbusiness.org/methodologysurveys/.

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*

6.06 Number of procedures required to start a business

Number of procedures required to start a business | 2015

For details about the methodology employed and the assumptions made to compute this indicator, visit http://www.doingbusiness.org/methodologysurveys/.

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*

6.07 Time required to start a business

Number of days required to start a business | 2015

For details about the methodology employed and the assumptions made to compute this indicator, visit http://www.doingbusiness.org/methodologysurveys/.

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*

6.08 Agricultural policy costs

In your country, how do you assess the agricultural policy? [1 = excessively burdensome for the economy; 7 = balances well the interests of taxpayers, consumers, and producers] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

6.09 Prevalence of non-tariff barriers

In your country, to what extent do non-tariff barriers (e.g., health and product standards, technical and labeling requirements, etc.) limit the ability of imported goods to compete in the domestic market? [1 = strongly limit; 7 = do not limit at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

6.10 Trade tariffs

Trade-weighted average tariff rate | 2015 or most recent year available

An *applied tariff* is a customs duty that is levied on imports of merchandise goods. This indicator is calculated as a weighted average of all the applied tariff rates, including preferential rates that a country applies to the rest of the world. The weights are the trade patterns of the importing country's reference group.

Sources: International Trade Centre; Trade Competitiveness Map Data

6.11 Prevalence of foreign ownership

In your country, how prevalent is foreign ownership of companies? [1 = extremely rare; 7 = extremely prevalent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

6.12 Business impact of rules on FDI

In your country, how restrictive are rules and regulations on foreign direct investment (FDI)? [1 = extremely restrictive; 7 = not restrictive at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

6.13 Burden of customs procedures

In your country, how efficient are customs procedures (related to the entry and exit of merchandise)? [1 = extremely inefficient; 7 = extremely efficient] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

6.14 Imports as a percentage of GDP

Imports of goods and services as a percentage of gross domestic product | 2015 or most recent year available

Total imports is the sum of total imports of merchandise and commercial services.

Sources: World Trade Organization, *Online Statistics Database* (accessed June 08, 2016); International Monetary Fund, *World Economic Outlook Database* (April 2016 edition); national sources

6.15 Degree of customer orientation

In your country, how well do companies treat customers? [1 = poorly—mostly indifferent to customer satisfaction; 7 = extremely well—highly responsive to customers and seek customer retention] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

6.16 Buyer sophistication

In your country, on what basis do buyers make purchasing decisions? [1 = based solely on the lowest price; 7 = based on sophisticated performance attributes] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

Pillar 7: Labor market efficiency

7.01 Cooperation in labor-employer relations

In your country, how do you characterize labor-employer relations? [1 = generally confrontational; 7 = generally cooperative] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.02 Flexibility of wage determination

In your country, how are wages generally set? [1 = by a centralized bargaining process; 7 = by each individual company] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.03 Hiring and firing practices

In your country, to what extent do regulations allow flexible hiring and firing of workers? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.04 Redundancy costs

Redundancy costs in weeks of salary | 2015

This variable estimates the cost of advance notice requirements, severance payments, and penalties due when terminating a redundant worker, expressed in weekly wages. For more details about the methodology employed and the assumptions made to compute this indicator, visit http://www.doingbusiness.org/methodologysurveys/.

Sources: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*; World Economic Forum's calculations

7.05 Effect of taxation on incentives to work

In your country, to what extent do taxes and social contributions reduce the incentive to work? [1 = to a great extent; 7 = not at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.06 Pay and productivity

In your country, to what extent is pay related to employee productivity? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.07 Reliance on professional management

In your country, who holds senior management positions in companies? [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.08 Country capacity to retain talent

To what extent does your country retain talented people? [1 = not at all—the best and brightest leave to pursue opportunities abroad; 7 = to a great extent—the best and brightest stay and pursue opportunities in the country] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.09 Country capacity to attract talent

To what extent does your country attract talented people from abroad? [1 = not at all; 7 = to a great extent—the country attracts the best and brightest from around the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

7.10 Female participation in the labor force

Ratio of women to men in the labor force | 2015

This measure is the percentage of women aged 15–64 participating in the labor force divided by the percentage of men aged 15–64 participating in the labor force.

Sources: International Labour Organization, *Key Indicators of the Labour Markets, 9th Edition*; national sources

Pillar 8: Financial market development

8.01 Financial services meeting business needs

In your country, to what extent does the financial sector provide the products and services that meet the needs of businesses? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

8.02 Affordability of financial services

In your country, to what extent does the cost of financial services (e.g., insurance, loans, trade finance) impede business activity? [1 = impedes business to a great extent; 7 = not at all] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

8.03 Financing through local equity market

In your country, to what extent can companies raise money by issuing shares and/or bonds on the capital market? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

8.04 Ease of access to loans

In your country, how easy is it for businesses to obtain a bank loan? [1 = extremely difficult; 7 = extremely easy] | 2016

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

8.05 Venture capital availability

In your country, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding? [1 = extremely difficult; 7 = extremely easy] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

8.06 Soundness of banks

In your country, how do you assess the soundness of banks? [1 = extremely low—banks may require recapitalization; 7 = extremely high—banks are generally healthy with sound balance sheets] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

8.07 Regulation of securities exchanges

In your country, to what extent do regulators ensure the stability of the financial market? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

8.08 Legal rights index

Degree of legal protection of borrowers' and lenders' rights on a 0–12 (best) scale | 2015

This index measures the degree to which collateral and bankruptcy laws protect borrowers' and lenders' rights and thus facilitate lending. For more details about the methodology employed and the assumptions made to compute this indicator, visit http://www.doingbusiness.org/methodologysurveys/.

Source: World Bank/International Finance Corporation, *Doing Business 2016: Measuring Regulatory Quality and Efficiency*

Pillar 9: Technological readiness

9.01 Availability of latest technologies

In your country, to what extent are the latest technologies available? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

9.02 Firm-level technology absorption

In your country, to what extent do businesses adopt the latest technologies? [1 = not at all; 7 = to a great extent] | 2016

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

9.03 FDI and technology transfer

To what extent does foreign direct investment (FDI) bring new technology into your country? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

9.04 Internet users

Percentage of individuals using the Internet | 2015

Individuals using the Internet refers to people who used the Internet from any location and for any purpose, irrespective of the device and network used, in the last three months. It can be via a computer (i.e., desktop computer, laptop computer or tablet, or similar handheld computer), mobile phone, games machine, digital TV, etc. Access can be via a fixed or mobile network.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators June 2016* (June 2016 edition)

9.05 Fixed-broadband Internet subscriptions

Fixed-broadband Internet subscriptions per 100 population | 2015 or most recent year available

Fixed (wired)-broadband subscriptions refers to the number of subscriptions for high-speed access to the public Internet (a TCP/IP connection). *Highspeed access* is defined as downstream speeds equal to, or greater than, 256 kbit/s. Fixed (wired)-broadband includes cable modem, DSL, fiber, and other fixed (wired)-broadband technologies—such as Ethernet LAN, and broadband over powerline (BPL) communications. Subscriptions with access to data communications (including the Internet) via mobile-cellular networks are excluded.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators June 2016* (June 2016 edition)

9.06 Internet bandwidth

International Internet bandwidth (kb/s) per Internet user | 2015 or most recent year available

International Internet bandwidth refers to the total used capacity of international Internet bandwidth, in megabits per second (Mbit/s). It is measured as the sum of used capacity of all Internet exchanges offering international bandwidth. If capacity is asymmetric, then the incoming capacity is used. *International Internet bandwidth (kbit/s)* per Internet user is calculated by converting the speed from megabits to kilobits per second and dividing by the total number of Internet users.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators June 2016* (June 2016 edition)

9.07 Mobile-broadband subscriptions

Active mobile-broadband subscriptions per 100 population | 2015

Active mobile-broadband subscriptions refers to the sum of standard mobile-broadband subscriptions and dedicated mobile-broadband data subscriptions to the public Internet. It covers actual subscribers, not potential subscribers, even though the latter may have broadband-enabled handsets. *Standard mobile-broadband subscriptions* refers to active mobile-cellular subscriptions with advertised data speeds of 256 kbit/s or greater that allow access to the greater Internet via HTTP and that have been used to set up an Internet data connection using Internet Protocol (IP) in the past three months. Standard SMS and MMS messaging do not count as an active Internet data connection, even if the messages are delivered via IP. *Dedicated mobile-broadband data subscriptions* refers to subscriptions to dedicated data services (over a mobile network) that allow access to the greater Internet and that are purchased separately from voice services, either as a standalone service (e.g., using a data card such as a USB modem/dongle) or as an add-on data package to voice services that requires an additional subscription. All dedicated mobile-broadband subscriptions with recurring subscription fees are included regardless of actual use. Prepaid mobile-broadband plans require use if there is no monthly subscription. This indicator could also include mobile WiMAX subscriptions.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators June 2016* (June 2016 edition)

Pillar 10: Market size

10.01 Domestic market size index

Sum of gross domestic product plus value of imports of goods and services, minus value of exports of goods and services, normalized on a 1–7 (best) scale | 2015 or most recent year available

The size of the domestic market is calculated as the natural log of the sum of the gross domestic product valued at PPP plus the total value (PPP estimates) of imports of goods and services, minus the total value (PPP estimates) of exports of goods and services. Data are then normalized on a 1–7 scale. PPP estimates of imports and exports are obtained by taking the product of exports as a percentage of GDP and GDP valued at PPP.

Source: World Economic Forum. For more details, refer to the Appendix of Chapter 1.1 of this *Report*

10.02 Foreign market size index

Value of exports of goods and services, normalized on a 1–7 (best) scale | 2015 or most recent year available

The size of the foreign market is estimated as the natural log of the total value (PPP estimates) of exports of goods and services, normalized on a 1–7 scale. PPP estimates of exports are obtained by taking the product of exports as a percentage of GDP and GDP valued at PPP.

Source: World Economic Forum. For more details, refer to the Appendix of Chapter 1.1 of this *Report*

10.03 GDP (PPP)

Gross domestic product valued at purchasing power parity in billions of international dollars | 2015

Source: International Monetary Fund, *World Economic Outlook Database* (April 2016 edition)

10.04 Exports as a percentage of GDP

Exports of goods and services as a percentage of gross domestic product | 2015 or most recent year available

Total exports is the sum of total exports of merchandise and commercial services.

Sources: World Trade Organization, *Online Statistics Database* (accessed June 08, 2016); International Monetary Fund, *World Economic Outlook Database* (April 2016 edition); national sources

Pillar 11: Business sophistication

11.01 Local supplier quantity

In your country, how numerous are local suppliers? [1 = largely nonexistent; 7 = extremely numerous] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.02 Local supplier quality

In your country, how do you assess the quality of local suppliers? [1 = extremely poor quality; 7 = extremely high quality] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.03 State of cluster development

In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)? [1 = nonexistent; 7 = widespread in many fields] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.04 Nature of competitive advantage

On what is the competitive advantage of your country's companies in international markets based? [1 = primarily low-cost labor or natural resources; 7 = primarily unique products and processes] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.05 Value chain breadth

In your country, how broad is companies' presence in the value chain? [1 = narrow, primarily involved in individual steps of the value chain (e.g., resource extraction or production); 7 = broad, present across the entire value chain (e.g., including production, marketing, distribution, design, etc.)] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.06 Control of international distribution

In your country, to what extent do domestic companies control the international distribution of their products? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.07 Production process sophistication

In your country, how sophisticated are production processes? [1 = not at all—production uses labor-intensive processes; 7 = highly—production uses latest technologies] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.08 Extent of marketing

In your country, how successful are companies in using marketing to differentiate their products and services? [1 = not successful at all; 7 = extremely successful] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

11.09 Willingness to delegate authority

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] | 2013–14 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

Pillar 12: Innovation

12.01 Capacity for innovation

In your country, to what extent do companies have the capacity to innovate? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

12.02 Quality of scientific research institutions

In your country, how do you assess the quality of scientific research institutions? [1 = extremely poor—among the worst in the world; 7 = extremely good—among the best in the world] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

12.03 Company spending on R&D

In your country, to what extent do companies invest in research and development (R&D)? [1 = do not invest at all in R&D; 7 = invest heavily in R&D] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

12.04 University-industry collaboration in R&D

In your country, to what extent do business and universities collaborate on research and development (R&D)? [1 = do not collaborate at all; 7 = collaborate extensively] | 2016

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

12.05 Government procurement of advanced technology products

In your country, to what extent do government purchasing decisions foster innovation? [1 = not at all; 7 = to a great extent] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

12.06 Availability of scientists and engineers

In your country, to what extent are scientists and engineers available? [1 = not available at all; 7 = widely available] | 2015–16 weighted average

Source: World Economic Forum, Executive Opinion Survey. For more details, refer to Chapter 1.3 of *The Global Competitiveness Report 2016–2017*.

12.07 PCT patent applications

Number of applications filed under the Patent Cooperation Treaty (PCT) per million population | 2012–2013 average

This indicator measures the total count of applications filed under the Patent Cooperation Treaty (PCT), by priority date and inventor nationality, using fractional count if an application is filed by multiple inventors. The average count of applications filed in 2012 and 2013 is divided by population figures for 2013.

In the absence of reliable data on PCT applications for Taiwan, China and Hong Kong SAR, two advanced economies that are not signatories of the Treaty, the number of applications is estimated as follows: first, we compute the average number of all utility patent applications filed with the United States Patents and Trademarks Office (USPTO) for 2012 and 2013. We then compute the average number of PCT applications for 2012 and 2013, before computing the ratio of the two averages (1.67). For the computation of the two averages, only economies with a two-year average number of at least 100 USPTO applications and 50 PCT applications are considered. Taiwan, China and Hong Kong are excluded in both cases. We then divide the 2012–2013 average number of USPTO applications filed by residents of Taiwan, China (20,766) and Hong Kong (1,118), respectively, by the ratio above in order to produce estimates for PCT applications. As a final step, we compute the estimates per million population—that is, 531.6 for Taiwan, China and 92.6 for Hong Kong. The estimates are used in the computation of the respective Innovation pillar scores of the two economies.

Sources: World Intellectual Property Organization (WIPO) PCT Data, sourced from Organisation for Economic Co-operation and Development (OECD), *Patent Database* (situation as of June 2016), http://www.oecd.org/sti/inno/oecdpatentdatabases.htm; for population: International Monetary Fund, *World Economic Outlook Database* (April 2016 edition); World Economic Forum's calculations.

Index of Countries

Algeria 87th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

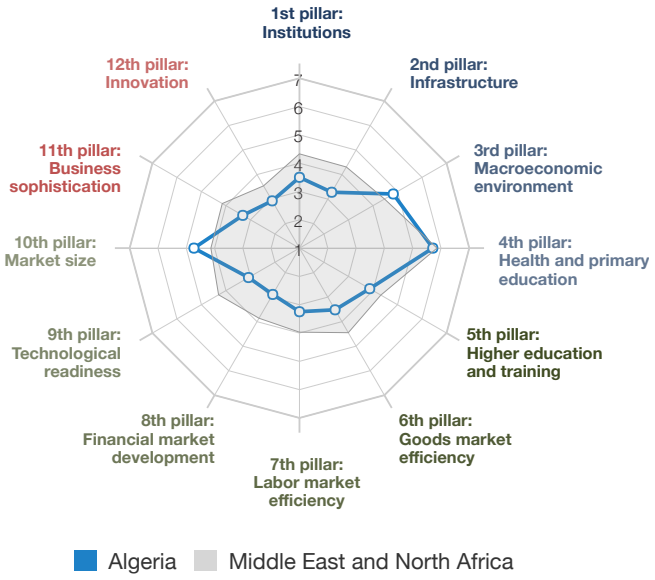
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	39.9	**GDP per capita** (US$)	4318.1
GDP (US$ billions)	172.3	**GDP (PPP)** % world GDP	0.51

Performance overview

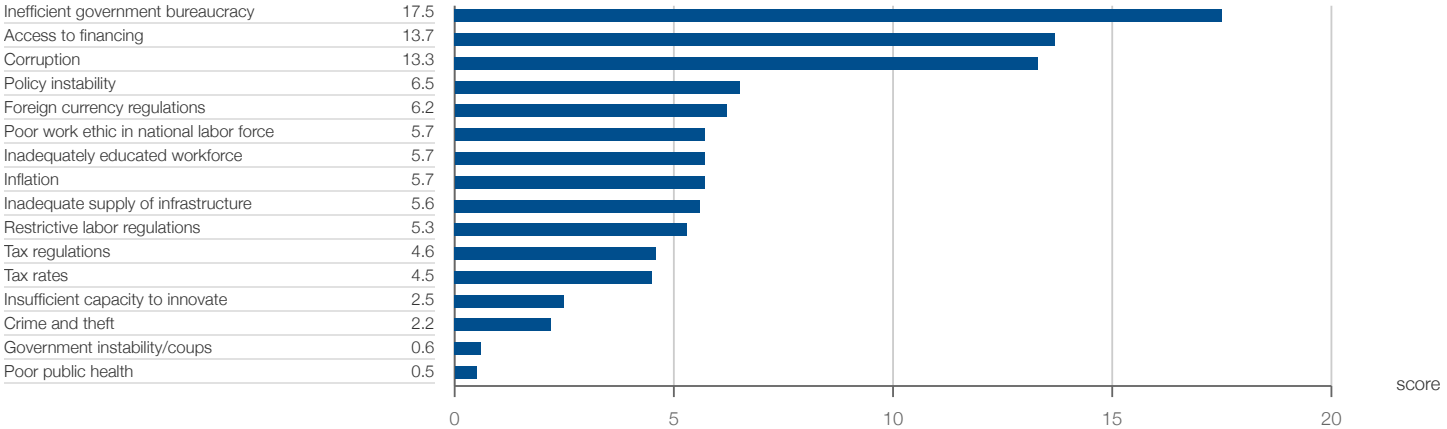
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**87**	4.0		
Subindex A: Basic requirements	88	4.3		
1st pillar: Institutions	**99**	**3.5**		
2nd pillar: Infrastructure	**100**	**3.3**		
3rd pillar: Macroeconomic environment	**63**	**4.8**		
4th pillar: Health and primary education	**73**	**5.7**		
Subindex B: Efficiency enhancers	110	3.6		
5th pillar: Higher education and training	**96**	**3.9**		
6th pillar: Goods market efficiency	**133**	**3.5**		
7th pillar: Labor market efficiency	**132**	**3.2**		
8th pillar: Financial market development	**132**	**2.9**		
9th pillar: Technological readiness	**108**	**3.1**		
10th pillar: Market size	**36**	**4.7**		
Subindex C: Innovation and sophistication factors	119	3.1		
11th pillar: Business sophistication	**121**	**3.3**		
12th pillar: Innovation	**112**	**2.9**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**110** / 144	**100** / 148	**79** / 144	**87** / 140	**87** / 138
Score	3.7	3.8	4.1	4.0	4.0



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Algeria

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**99**	**3.5**	
1.01 Property rights	117	3.6	
1.02 Intellectual property protection	108	3.4	
1.03 Diversion of public funds	81	3.3	
1.04 Public trust in politicians	83	2.8	
1.05 Irregular payments and bribes	101	3.3	
1.06 Judicial independence	94	3.4	
1.07 Favoritism in decisions of government officials	70	3.0	
1.08 Wastefulness of government spending	75	3.1	
1.09 Burden of government regulation	86	3.2	
1.10 Efficiency of legal framework in settling disputes	67	3.6	
1.11 Efficiency of legal framework in challenging regs	75	3.4	
1.12 Transparency of government policymaking	127	3.2	
1.13 Business costs of terrorism	102	4.5	
1.14 Business costs of crime and violence	71	4.6	
1.15 Organized crime	80	4.6	
1.16 Reliability of police services	60	4.7	
1.17 Ethical behavior of firms	107	3.4	
1.18 Strength of auditing and reporting standards	135	3.1	
1.19 Efficacy of corporate boards	136	3.4	
1.20 Protection of minority shareholders' interests	100	3.7	
1.21 Strength of investor protection 0-10 (best)	133	3.3	
2nd pillar: Infrastructure	**100**	**3.3**	
2.01 Quality of overall infrastructure	101	3.3	
2.02 Quality of roads	96	3.2	
2.03 Quality of railroad infrastructure	57	3.0	
2.04 Quality of port infrastructure	105	3.2	
2.05 Quality of air transport infrastructure	117	3.2	
2.06 Available airline seat kilometers millions/week	64	233.2	
2.07 Quality of electricity supply	92	4.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	77	113.0	
2.09 Fixed-telephone lines /100 pop.	89	8.0	
3rd pillar: Macroeconomic environment	**63**	**4.8**	
3.01 Government budget balance % GDP	135	-15.3	
3.02 Gross national savings % GDP	10	34.6	
3.03 Inflation annual % change	99	4.8	
3.04 Government debt % GDP	4	8.7	
3.05 Country credit rating 0-100 (best)	70	-	
4th pillar: Health and primary education	**73**	**5.7**	
4.01 Malaria incidence cases/100,000 pop.	11	0.1	
4.02 Business impact of malaria	45	4.5	
4.03 Tuberculosis incidence cases/100,000 pop.	86	78.0	
4.04 Business impact of tuberculosis	125	4.0	
4.05 HIV prevalence % adult pop.	1	0.1	
4.06 Business impact of HIV/AIDS	113	4.3	
4.07 Infant mortality deaths/1,000 live births	93	21.9	
4.08 Life expectancy years	65	74.8	
4.09 Quality of primary education	102	3.3	
4.10 Primary education enrollment rate net %	40	97.3	
5th pillar: Higher education and training	**96**	**3.9**	
5.01 Secondary education enrollment rate gross %	46	99.9	
5.02 Tertiary education enrollment rate gross %	78	34.6	
5.03 Quality of the education system	85	3.4	
5.04 Quality of math and science education	99	3.5	
5.05 Quality of management schools	127	3.3	
5.06 Internet access in schools	124	3.1	
5.07 Local availability of specialized training services	120	3.6	
5.08 Extent of staff training	131	3.1	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**133**	**3.5**	
6.01 Intensity of local competition	136	3.8	
6.02 Extent of market dominance	87	3.4	
6.03 Effectiveness of anti-monopoly policy	113	3.1	
6.04 Effect of taxation on incentives to invest	92	3.4	
6.05 Total tax rate % profits	135	72.7	
6.06 No. of procedures to start a business	126	12	
6.07 Time to start a business days	103	20.0	
6.08 Agricultural policy costs	112	3.2	
6.09 Prevalence of non-tariff barriers	125	3.6	
6.10 Trade tariffs % duty	127	13.8	
6.11 Prevalence of foreign ownership	132	3.1	
6.12 Business impact of rules on FDI	135	3.0	
6.13 Burden of customs procedures	114	3.4	
6.14 Imports % GDP	85	36.0	
6.15 Degree of customer orientation	130	3.7	
6.16 Buyer sophistication	90	3.1	
7th pillar: Labor market efficiency	**132**	**3.2**	
7.01 Cooperation in labor-employer relations	115	3.8	
7.02 Flexibility of wage determination	113	4.3	
7.03 Hiring and firing practices	111	3.3	
7.04 Redundancy costs weeks of salary	74	17.3	
7.05 Effect of taxation on incentives to work	89	3.7	
7.06 Pay and productivity	122	3.3	
7.07 Reliance on professional management	135	3.0	
7.08 Country capacity to retain talent	116	2.7	
7.09 Country capacity to attract talent	125	2.2	
7.10 Female participation in the labor force ratio to men	136	0.24	
8th pillar: Financial market development	**132**	**2.9**	
8.01 Financial services meeting business needs	131	3.1	
8.02 Affordability of financial services	95	3.5	
8.03 Financing through local equity market	124	2.5	
8.04 Ease of access to loans	122	2.9	
8.05 Venture capital availability	85	2.6	
8.06 Soundness of banks	123	3.6	
8.07 Regulation of securities exchanges	129	3.0	
8.08 Legal rights index 0-10 (best)	108	2	
9th pillar: Technological readiness	**108**	**3.1**	
9.01 Availability of latest technologies	125	3.7	
9.02 Firm-level technology absorption	128	3.6	
9.03 FDI and technology transfer	121	3.6	
9.04 Internet users % pop.	95	38.2	
9.05 Fixed-broadband Internet subscriptions /100 pop.	84	5.6	
9.06 Internet bandwidth kb/s/user	80	30.1	
9.07 Mobile-broadband subscriptions /100 pop.	85	40.1	
10th pillar: Market size	**36**	**4.7**	
10.01 Domestic market size index	33	4.6	
10.02 Foreign market size index	43	5.1	
10.03 GDP (PPP) PPP $ billions	33	578.7	
10.04 Exports % GDP	102	24.0	
11th pillar: Business sophistication	**121**	**3.3**	
11.01 Local supplier quantity	108	4.0	
11.02 Local supplier quality	130	3.4	
11.03 State of cluster development	115	3.1	
11.04 Nature of competitive advantage	93	3.1	
11.05 Value chain breadth	109	3.4	
11.06 Control of international distribution	112	3.0	
11.07 Production process sophistication	108	3.2	
11.08 Extent of marketing	125	3.7	
11.09 Willingness to delegate authority	124	3.1	
12th pillar: Innovation	**112**	**2.9**	
12.01 Capacity for innovation	112	3.7	
12.02 Quality of scientific research institutions	99	3.4	
12.03 Company spending on R&D	113	2.8	
12.04 University-industry collaboration in R&D	120	2.7	
12.05 Gov't procurement of advanced tech. products	105	2.9	
12.06 Availability of scientists and engineers	81	3.8	
12.07 PCT patent applications applications/million pop.	94	0.2	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Benin 124th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

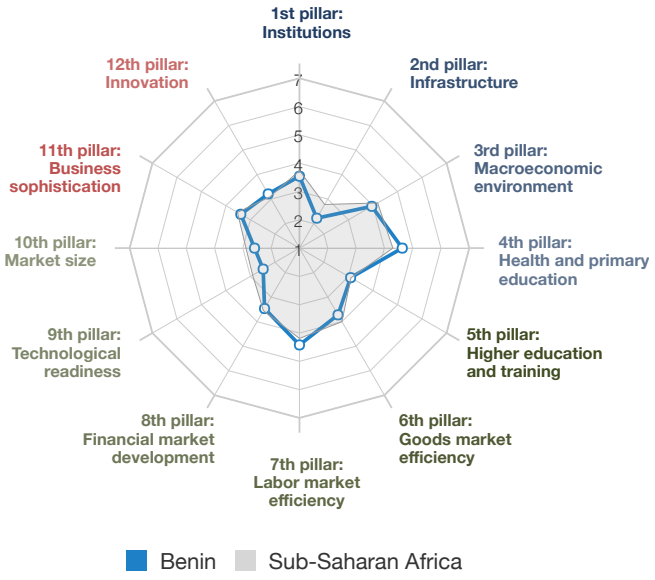
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	10.9	**GDP per capita** (US$)	780.1
GDP (US$ billions)	8.5	**GDP (PPP)** % world GDP	0.02

Performance overview

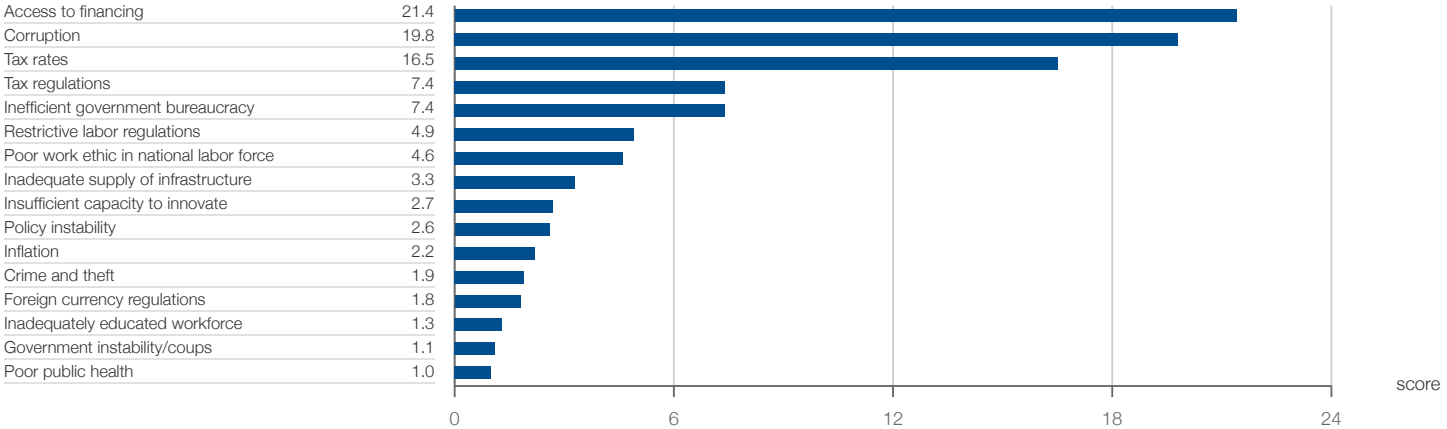
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**124**	3.5		
Subindex A: Basic requirements	122	3.6		
1st pillar: Institutions	**95**	**3.5**		
2nd pillar: Infrastructure	**128**	**2.2**		
3rd pillar: Macroeconomic environment	**111**	**4.0**		
4th pillar: Health and primary education	**116**	**4.6**		
Subindex B: Efficiency enhancers	125	3.3		
5th pillar: Higher education and training	**117**	**3.1**		
6th pillar: Goods market efficiency	**126**	**3.7**		
7th pillar: Labor market efficiency	**50**	**4.4**		
8th pillar: Financial market development	**106**	**3.5**		
9th pillar: Technological readiness	**129**	**2.5**		
10th pillar: Market size	**123**	**2.6**		
Subindex C: Innovation and sophistication factors	107	3.3		
11th pillar: Business sophistication	**116**	**3.4**		
12th pillar: Innovation	**86**	**3.2**		

Edition	2012-13	2013-14	2015-16	2016-17
Rank	**119** / 144	**130** / 148	**122** / 140	**124** / 138
Score	3.6	3.4	3.5	3.5



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Benin

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**95**	**3.5**	
1.01 Property rights	105	3.8	
1.02 Intellectual property protection	83	3.8	
1.03 Diversion of public funds	104	2.9	
1.04 Public trust in politicians	82	2.8	
1.05 Irregular payments and bribes	132	2.5	
1.06 Judicial independence	96	3.4	
1.07 Favoritism in decisions of government officials	66	3.1	
1.08 Wastefulness of government spending	68	3.2	
1.09 Burden of government regulation	81	3.3	
1.10 Efficiency of legal framework in settling disputes	77	3.5	
1.11 Efficiency of legal framework in challenging regs	81	3.2	
1.12 Transparency of government policymaking	114	3.5	
1.13 Business costs of terrorism	97	4.7	
1.14 Business costs of crime and violence	82	4.3	
1.15 Organized crime	103	4.2	
1.16 Reliability of police services	86	4.1	
1.17 Ethical behavior of firms	97	3.5	
1.18 Strength of auditing and reporting standards	126	3.6	
1.19 Efficacy of corporate boards	75	4.8	
1.20 Protection of minority shareholders' interests	108	3.6	
1.21 Strength of investor protection 0-10 (best)	117	4.0	
2nd pillar: Infrastructure	**128**	**2.2**	
2.01 Quality of overall infrastructure	127	2.4	
2.02 Quality of roads	114	2.9	
2.03 Quality of railroad infrastructure	100	1.6	
2.04 Quality of port infrastructure	85	3.7	
2.05 Quality of air transport infrastructure	118	3.2	
2.06 Available airline seat kilometers millions/week	127	15.0	
2.07 Quality of electricity supply	134	1.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	113	85.6	
2.09 Fixed-telephone lines /100 pop.	115	1.8	
3rd pillar: Macroeconomic environment	**111**	**4.0**	
3.01 Government budget balance % GDP	123	-7.9	
3.02 Gross national savings % GDP	86	16.7	
3.03 Inflation annual % change	44	0.3	
3.04 Government debt % GDP	45	37.5	
3.05 Country credit rating 0-100 (best)	119	-	
4th pillar: Health and primary education	**116**	**4.6**	
4.01 Malaria incidence cases/100,000 pop.	62	29249.5	
4.02 Business impact of malaria	62	3.4	
4.03 Tuberculosis incidence cases/100,000 pop.	78	61.0	
4.04 Business impact of tuberculosis	128	3.9	
4.05 HIV prevalence % adult pop.	106	1.1	
4.06 Business impact of HIV/AIDS	125	3.9	
4.07 Infant mortality deaths/1,000 live births	129	64.2	
4.08 Life expectancy years	125	59.5	
4.09 Quality of primary education	120	2.9	
4.10 Primary education enrollment rate net %	62	95.9	
5th pillar: Higher education and training	**117**	**3.1**	
5.01 Secondary education enrollment rate gross %	114	54.4	
5.02 Tertiary education enrollment rate gross %	108	15.4	
5.03 Quality of the education system	131	2.4	
5.04 Quality of math and science education	102	3.5	
5.05 Quality of management schools	103	3.8	
5.06 Internet access in schools	122	3.2	
5.07 Local availability of specialized training services	65	4.3	
5.08 Extent of staff training	123	3.4	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**126**	**3.7**	
6.01 Intensity of local competition	89	4.8	
6.02 Extent of market dominance	82	3.5	
6.03 Effectiveness of anti-monopoly policy	127	2.7	
6.04 Effect of taxation on incentives to invest	128	2.7	
6.05 Total tax rate % profits	125	63.3	
6.06 No. of procedures to start a business	76	7	
6.07 Time to start a business days	73	12.0	
6.08 Agricultural policy costs	114	3.2	
6.09 Prevalence of non-tariff barriers	133	3.2	
6.10 Trade tariffs % duty	107	9.9	
6.11 Prevalence of foreign ownership	114	3.7	
6.12 Business impact of rules on FDI	96	4.2	
6.13 Burden of customs procedures	118	3.3	
6.14 Imports % GDP	69	40.8	
6.15 Degree of customer orientation	67	4.7	
6.16 Buyer sophistication	134	2.2	
7th pillar: Labor market efficiency	**50**	**4.4**	
7.01 Cooperation in labor-employer relations	101	4.1	
7.02 Flexibility of wage determination	33	5.4	
7.03 Hiring and firing practices	83	3.6	
7.04 Redundancy costs weeks of salary	42	11.6	
7.05 Effect of taxation on incentives to work	75	3.8	
7.06 Pay and productivity	116	3.3	
7.07 Reliance on professional management	124	3.4	
7.08 Country capacity to retain talent	111	2.8	
7.09 Country capacity to attract talent	97	2.9	
7.10 Female participation in the labor force ratio to men	8	0.97	
8th pillar: Financial market development	**106**	**3.5**	
8.01 Financial services meeting business needs	105	3.7	
8.02 Affordability of financial services	114	3.1	
8.03 Financing through local equity market	79	3.4	
8.04 Ease of access to loans	130	2.6	
8.05 Venture capital availability	129	2.0	
8.06 Soundness of banks	95	4.4	
8.07 Regulation of securities exchanges	110	3.6	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**129**	**2.5**	
9.01 Availability of latest technologies	126	3.6	
9.02 Firm-level technology absorption	103	4.1	
9.03 FDI and technology transfer	127	3.3	
9.04 Internet users % pop.	131	6.8	
9.05 Fixed-broadband Internet subscriptions /100 pop.	111	0.7	
9.06 Internet bandwidth kb/s/user	126	3.0	
9.07 Mobile-broadband subscriptions /100 pop.	136	4.2	
10th pillar: Market size	**123**	**2.6**	
10.01 Domestic market size index	122	2.4	
10.02 Foreign market size index	124	3.3	
10.03 GDP (PPP) PPP $ billions	122	22.9	
10.04 Exports % GDP	96	25.9	
11th pillar: Business sophistication	**116**	**3.4**	
11.01 Local supplier quantity	116	3.9	
11.02 Local supplier quality	86	4.1	
11.03 State of cluster development	99	3.3	
11.04 Nature of competitive advantage	94	3.0	
11.05 Value chain breadth	95	3.5	
11.06 Control of international distribution	121	2.9	
11.07 Production process sophistication	137	2.4	
11.08 Extent of marketing	86	4.2	
11.09 Willingness to delegate authority	126	3.1	
12th pillar: Innovation	**86**	**3.2**	
12.01 Capacity for innovation	34	4.7	
12.02 Quality of scientific research institutions	78	3.7	
12.03 Company spending on R&D	97	3.0	
12.04 University-industry collaboration in R&D	98	3.1	
12.05 Gov't procurement of advanced tech. products	83	3.1	
12.06 Availability of scientists and engineers	104	3.5	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Botswana 64th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

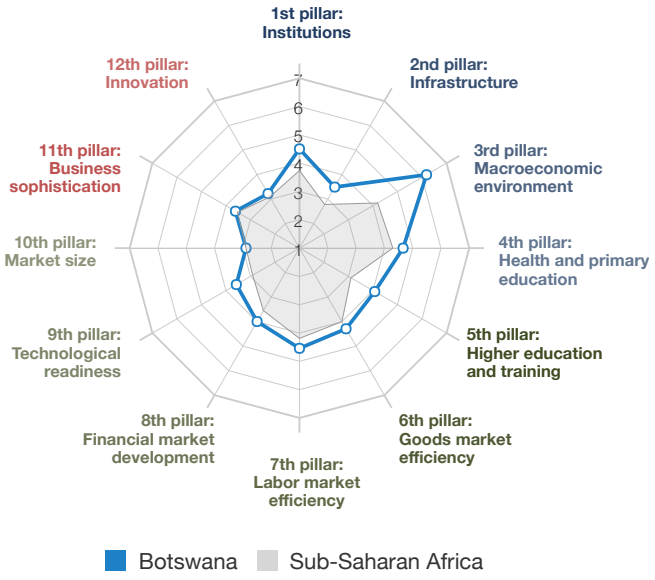
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	2.1	**GDP per capita** (US$)	6041.0
GDP (US$ billions)	12.9	**GDP (PPP)** % world GDP	0.03

Performance overview

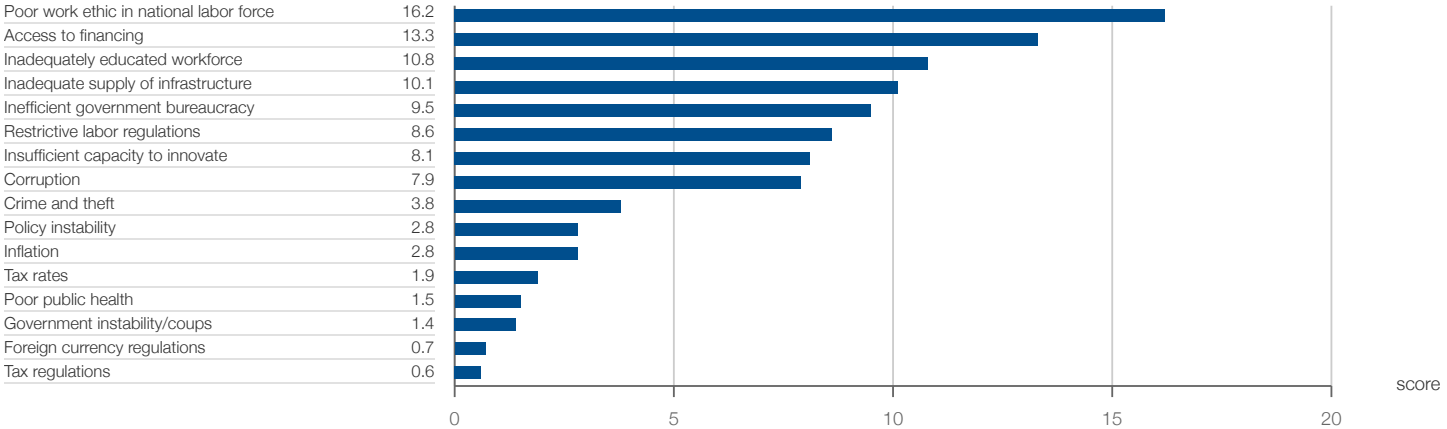
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**64**	4.3		
Subindex A: Basic requirements	55	4.7		
1st pillar: Institutions	**37**	**4.5**		
2nd pillar: Infrastructure	**90**	**3.5**		
3rd pillar: Macroeconomic environment	**10**	**6.2**		
4th pillar: Health and primary education	**113**	**4.7**		
Subindex B: Efficiency enhancers	84	3.9		
5th pillar: Higher education and training	**88**	**4.1**		
6th pillar: Goods market efficiency	**73**	**4.3**		
7th pillar: Labor market efficiency	**36**	**4.5**		
8th pillar: Financial market development	**66**	**4.0**		
9th pillar: Technological readiness	**86**	**3.6**		
10th pillar: Market size	**105**	**2.9**		
Subindex C: Innovation and sophistication factors	90	3.4		
11th pillar: Business sophistication	**100**	**3.6**		
12th pillar: Innovation	**84**	**3.2**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**79** / 144	**74** / 148	**74** / 144	**71** / 140	**64** / 138
Score	4.1	4.1	4.2	4.2	4.3



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Botswana

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**37**	**4.5**	
1.01 Property rights	36	5.0	
1.02 Intellectual property protection	56	4.3	
1.03 Diversion of public funds	39	4.3	
1.04 Public trust in politicians	38	3.9	
1.05 Irregular payments and bribes	46	4.6	
1.06 Judicial independence	41	4.7	
1.07 Favoritism in decisions of government officials	44	3.6	
1.08 Wastefulness of government spending	26	4.1	
1.09 Burden of government regulation	67	3.5	
1.10 Efficiency of legal framework in settling disputes	29	4.7	
1.11 Efficiency of legal framework in challenging regs	30	4.4	
1.12 Transparency of government policymaking	34	4.7	
1.13 Business costs of terrorism	34	5.8	
1.14 Business costs of crime and violence	83	4.3	
1.15 Organized crime	54	5.2	
1.16 Reliability of police services	50	4.8	
1.17 Ethical behavior of firms	40	4.4	
1.18 Strength of auditing and reporting standards	59	4.8	
1.19 Efficacy of corporate boards	52	5.0	
1.20 Protection of minority shareholders' interests	42	4.4	
1.21 Strength of investor protection 0-10 (best)	73	5.5	
2nd pillar: Infrastructure	**90**	**3.5**	
2.01 Quality of overall infrastructure	77	4.0	
2.02 Quality of roads	62	4.1	
2.03 Quality of railroad infrastructure	51	3.2	
2.04 Quality of port infrastructure	109	3.0	
2.05 Quality of air transport infrastructure	89	4.0	
2.06 Available airline seat kilometers millions/week	132	8.3	
2.07 Quality of electricity supply	108	3.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	9	169.0	
2.09 Fixed-telephone lines /100 pop.	92	7.8	
3rd pillar: Macroeconomic environment	**10**	**6.2**	
3.01 Government budget balance % GDP	35	-1.6	
3.02 Gross national savings % GDP	6	37.1	
3.03 Inflation annual % change	41	3.0	
3.04 Government debt % GDP	11	17.8	
3.05 Country credit rating 0-100 (best)	45	-	
4th pillar: Health and primary education	**113**	**4.7**	
4.01 Malaria incidence cases/100,000 pop.	27	45.0	
4.02 Business impact of malaria	38	4.8	
4.03 Tuberculosis incidence cases/100,000 pop.	130	385.0	
4.04 Business impact of tuberculosis	132	3.7	
4.05 HIV prevalence % adult pop.	137	25.2	
4.06 Business impact of HIV/AIDS	133	3.2	
4.07 Infant mortality deaths/1,000 live births	109	34.8	
4.08 Life expectancy years	113	64.4	
4.09 Quality of primary education	73	4.0	
4.10 Primary education enrollment rate net %	98	91.0	
5th pillar: Higher education and training	**88**	**4.1**	
5.01 Secondary education enrollment rate gross %	91	83.9	
5.02 Tertiary education enrollment rate gross %	89	27.5	
5.03 Quality of the education system	66	3.7	
5.04 Quality of math and science education	87	3.8	
5.05 Quality of management schools	107	3.7	
5.06 Internet access in schools	106	3.6	
5.07 Local availability of specialized training services	72	4.2	
5.08 Extent of staff training	48	4.2	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**73**	**4.3**	
6.01 Intensity of local competition	50	5.3	
6.02 Extent of market dominance	109	3.2	
6.03 Effectiveness of anti-monopoly policy	63	3.7	
6.04 Effect of taxation on incentives to invest	26	4.5	
6.05 Total tax rate % profits	26	25.1	
6.06 No. of procedures to start a business	108	9	
6.07 Time to start a business days	127	48.0	
6.08 Agricultural policy costs	49	4.1	
6.09 Prevalence of non-tariff barriers	45	4.6	
6.10 Trade tariffs % duty	80	6.4	
6.11 Prevalence of foreign ownership	27	5.3	
6.12 Business impact of rules on FDI	60	4.7	
6.13 Burden of customs procedures	48	4.5	
6.14 Imports % GDP	44	54.0	
6.15 Degree of customer orientation	124	3.9	
6.16 Buyer sophistication	76	3.3	
7th pillar: Labor market efficiency	**36**	**4.5**	
7.01 Cooperation in labor-employer relations	69	4.4	
7.02 Flexibility of wage determination	75	4.9	
7.03 Hiring and firing practices	62	3.9	
7.04 Redundancy costs weeks of salary	96	21.7	
7.05 Effect of taxation on incentives to work	22	4.6	
7.06 Pay and productivity	100	3.6	
7.07 Reliance on professional management	43	4.6	
7.08 Country capacity to retain talent	58	3.7	
7.09 Country capacity to attract talent	36	3.9	
7.10 Female participation in the labor force ratio to men	20	0.93	
8th pillar: Financial market development	**66**	**4.0**	
8.01 Financial services meeting business needs	65	4.3	
8.02 Affordability of financial services	83	3.6	
8.03 Financing through local equity market	52	3.9	
8.04 Ease of access to loans	69	3.9	
8.05 Venture capital availability	72	2.8	
8.06 Soundness of banks	68	4.8	
8.07 Regulation of securities exchanges	59	4.5	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**86**	**3.6**	
9.01 Availability of latest technologies	84	4.4	
9.02 Firm-level technology absorption	76	4.4	
9.03 FDI and technology transfer	93	4.0	
9.04 Internet users % pop.	99	27.5	
9.05 Fixed-broadband Internet subscriptions /100 pop.	101	1.8	
9.06 Internet bandwidth kb/s/user	104	11.4	
9.07 Mobile-broadband subscriptions /100 pop.	45	67.3	
10th pillar: Market size	**105**	**2.9**	
10.01 Domestic market size index	112	2.5	
10.02 Foreign market size index	93	4.0	
10.03 GDP (PPP) PPP $ billions	107	34.8	
10.04 Exports % GDP	25	56.4	
11th pillar: Business sophistication	**100**	**3.6**	
11.01 Local supplier quantity	120	3.9	
11.02 Local supplier quality	105	3.8	
11.03 State of cluster development	93	3.4	
11.04 Nature of competitive advantage	74	3.4	
11.05 Value chain breadth	107	3.4	
11.06 Control of international distribution	98	3.2	
11.07 Production process sophistication	94	3.5	
11.08 Extent of marketing	102	4.1	
11.09 Willingness to delegate authority	98	3.4	
12th pillar: Innovation	**84**	**3.2**	
12.01 Capacity for innovation	87	3.9	
12.02 Quality of scientific research institutions	96	3.5	
12.03 Company spending on R&D	86	3.1	
12.04 University-industry collaboration in R&D	72	3.4	
12.05 Gov't procurement of advanced tech. products	39	3.6	
12.06 Availability of scientists and engineers	107	3.5	
12.07 PCT patent applications applications/million pop.	97	0.2	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Burundi 135th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

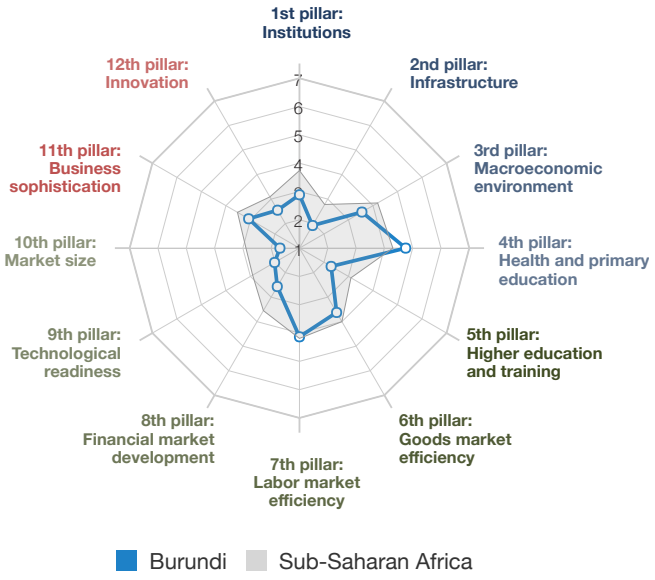
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	9.4	**GDP per capita** (US$)	305.8
GDP (US$ billions)	2.9	**GDP (PPP)** % world GDP	0.01

Performance overview

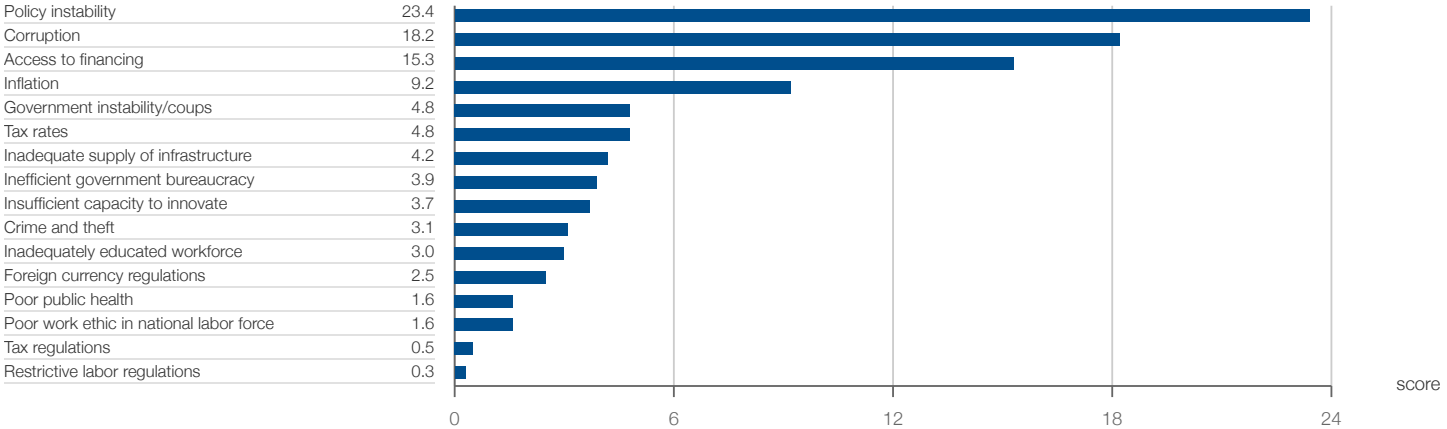
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**135**	3.1		
Subindex A: Basic requirements	130	3.3		
1st pillar: Institutions	**134**	**2.9**		
2nd pillar: Infrastructure	**134**	**1.9**		
3rd pillar: Macroeconomic environment	**124**	**3.5**		
4th pillar: Health and primary education	**110**	**4.8**		
Subindex B: Efficiency enhancers	137	2.7		
5th pillar: Higher education and training	**134**	**2.3**		
6th pillar: Goods market efficiency	**130**	**3.6**		
7th pillar: Labor market efficiency	**78**	**4.1**		
8th pillar: Financial market development	**135**	**2.6**		
9th pillar: Technological readiness	**137**	**2.0**		
10th pillar: Market size	**135**	**1.7**		
Subindex C: Innovation and sophistication factors	134	2.8		
11th pillar: Business sophistication	**135**	**3.1**		
12th pillar: Innovation	**131**	**2.5**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**144** / 144	**146** / 148	**139** / 144	**136** / 140	**135** / 138
Score	2.8	2.9	3.1	3.1	3.1



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Burundi

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**134**	**2.9**	
1.01 Property rights	135	2.8	
1.02 Intellectual property protection	136	2.7	
1.03 Diversion of public funds	131	2.1	
1.04 Public trust in politicians	88	2.6	
1.05 Irregular payments and bribes	115	3.0	
1.06 Judicial independence	135	1.7	
1.07 Favoritism in decisions of government officials	107	2.5	
1.08 Wastefulness of government spending	116	2.3	
1.09 Burden of government regulation	102	3.0	
1.10 Efficiency of legal framework in settling disputes	104	3.0	
1.11 Efficiency of legal framework in challenging regs	113	2.7	
1.12 Transparency of government policymaking	133	2.8	
1.13 Business costs of terrorism	108	4.4	
1.14 Business costs of crime and violence	119	3.3	
1.15 Organized crime	124	3.3	
1.16 Reliability of police services	136	2.2	
1.17 Ethical behavior of firms	129	2.9	
1.18 Strength of auditing and reporting standards	115	3.8	
1.19 Efficacy of corporate boards	76	4.8	
1.20 Protection of minority shareholders' interests	113	3.5	
1.21 Strength of investor protection 0-10 (best)	96	4.7	
2nd pillar: Infrastructure	**134**	**1.9**	
2.01 Quality of overall infrastructure	133	2.2	
2.02 Quality of roads	117	2.9	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	123	2.3	
2.05 Quality of air transport infrastructure	134	2.6	
2.06 Available airline seat kilometers millions/week	136	1.4	
2.07 Quality of electricity supply	129	2.1	
2.08 Mobile-cellular telephone subscriptions /100 pop.	134	46.2	
2.09 Fixed-telephone lines /100 pop.	132	0.2	
3rd pillar: Macroeconomic environment	**124**	**3.5**	
3.01 Government budget balance % GDP	118	-6.9	
3.02 Gross national savings % GDP	137	-4.4	
3.03 Inflation annual % change	105	5.6	
3.04 Government debt % GDP	47	38.4	
3.05 Country credit rating 0-100 (best)	117	-	
4th pillar: Health and primary education	**110**	**4.8**	
4.01 Malaria incidence cases/100,000 pop.	52	12942.8	
4.02 Business impact of malaria	64	3.3	
4.03 Tuberculosis incidence cases/100,000 pop.	99	126.0	
4.04 Business impact of tuberculosis	126	3.9	
4.05 HIV prevalence % adult pop.	106	1.1	
4.06 Business impact of HIV/AIDS	121	3.9	
4.07 Infant mortality deaths/1,000 live births	126	54.1	
4.08 Life expectancy years	131	56.7	
4.09 Quality of primary education	125	2.7	
4.10 Primary education enrollment rate net %	64	95.4	
5th pillar: Higher education and training	**134**	**2.3**	
5.01 Secondary education enrollment rate gross %	130	37.9	
5.02 Tertiary education enrollment rate gross %	130	4.4	
5.03 Quality of the education system	125	2.7	
5.04 Quality of math and science education	94	3.6	
5.05 Quality of management schools	114	3.6	
5.06 Internet access in schools	136	1.9	
5.07 Local availability of specialized training services	137	2.6	
5.08 Extent of staff training	134	3.0	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**130**	**3.6**	
6.01 Intensity of local competition	123	4.4	
6.02 Extent of market dominance	85	3.5	
6.03 Effectiveness of anti-monopoly policy	109	3.2	
6.04 Effect of taxation on incentives to invest	121	2.9	
6.05 Total tax rate % profits	81	40.3	
6.06 No. of procedures to start a business	11	3	
6.07 Time to start a business days	15	4.0	
6.08 Agricultural policy costs	135	2.6	
6.09 Prevalence of non-tariff barriers	130	3.4	
6.10 Trade tariffs % duty	98	9.6	
6.11 Prevalence of foreign ownership	134	2.9	
6.12 Business impact of rules on FDI	132	3.2	
6.13 Burden of customs procedures	119	3.3	
6.14 Imports % GDP	92	34.5	
6.15 Degree of customer orientation	122	3.9	
6.16 Buyer sophistication	138	1.8	
7th pillar: Labor market efficiency	**78**	**4.1**	
7.01 Cooperation in labor-employer relations	114	3.8	
7.02 Flexibility of wage determination	18	5.8	
7.03 Hiring and firing practices	117	3.2	
7.04 Redundancy costs weeks of salary	68	15.9	
7.05 Effect of taxation on incentives to work	108	3.4	
7.06 Pay and productivity	134	2.9	
7.07 Reliance on professional management	128	3.3	
7.08 Country capacity to retain talent	131	2.2	
7.09 Country capacity to attract talent	134	1.8	
7.10 Female participation in the labor force ratio to men	4	1.03	
8th pillar: Financial market development	**135**	**2.6**	
8.01 Financial services meeting business needs	134	2.7	
8.02 Affordability of financial services	109	3.2	
8.03 Financing through local equity market	131	2.3	
8.04 Ease of access to loans	133	2.4	
8.05 Venture capital availability	114	2.2	
8.06 Soundness of banks	131	3.1	
8.07 Regulation of securities exchanges	134	2.5	
8.08 Legal rights index 0-10 (best)	108	2	
9th pillar: Technological readiness	**137**	**2.0**	
9.01 Availability of latest technologies	137	2.9	
9.02 Firm-level technology absorption	138	2.9	
9.03 FDI and technology transfer	132	3.2	
9.04 Internet users % pop.	134	4.9	
9.05 Fixed-broadband Internet subscriptions /100 pop.	133	0.0	
9.06 Internet bandwidth kb/s/user	118	5.7	
9.07 Mobile-broadband subscriptions /100 pop.	131	7.6	
10th pillar: Market size	**135**	**1.7**	
10.01 Domestic market size index	132	1.7	
10.02 Foreign market size index	138	1.8	
10.03 GDP (PPP) PPP $ billions	132	7.7	
10.04 Exports % GDP	138	5.0	
11th pillar: Business sophistication	**135**	**3.1**	
11.01 Local supplier quantity	134	3.5	
11.02 Local supplier quality	132	3.3	
11.03 State of cluster development	128	2.9	
11.04 Nature of competitive advantage	115	2.8	
11.05 Value chain breadth	120	3.2	
11.06 Control of international distribution	117	3.0	
11.07 Production process sophistication	132	2.6	
11.08 Extent of marketing	134	3.4	
11.09 Willingness to delegate authority	133	2.8	
12th pillar: Innovation	**131**	**2.5**	
12.01 Capacity for innovation	133	3.2	
12.02 Quality of scientific research institutions	136	2.2	
12.03 Company spending on R&D	125	2.6	
12.04 University-industry collaboration in R&D	115	2.8	
12.05 Gov't procurement of advanced tech. products	111	2.7	
12.06 Availability of scientists and engineers	122	3.2	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Cameroon 119th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

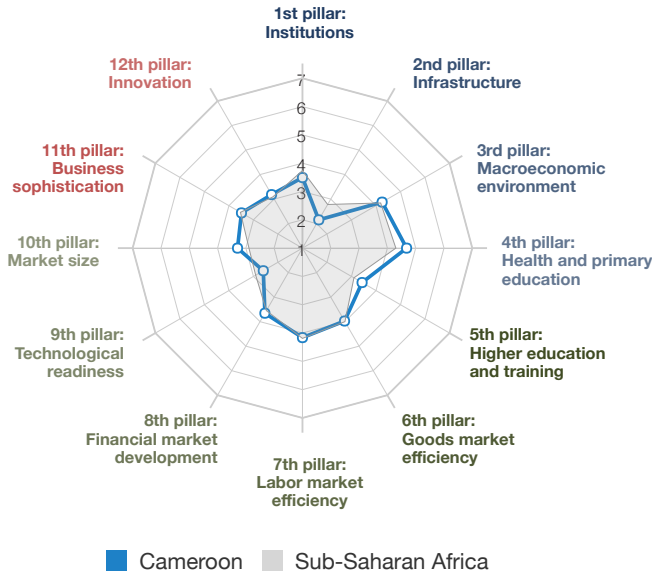
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	23.1	**GDP per capita** (US$)	1232.4
GDP (US$ billions)	28.5	**GDP (PPP)** % world GDP	0.06

Performance overview

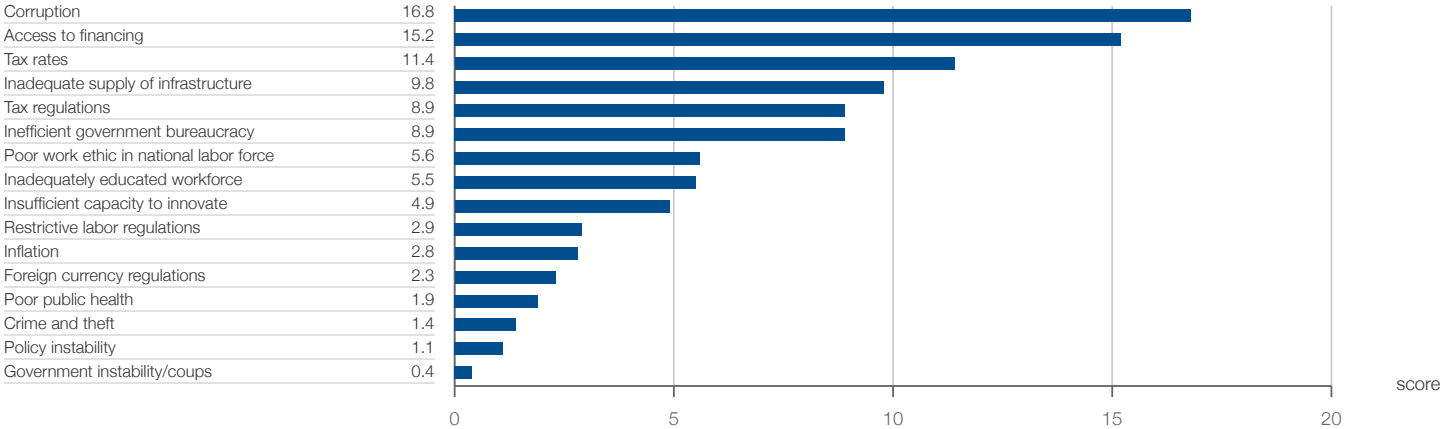
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**119**	3.6		
Subindex A: Basic requirements	119	3.6		
1st pillar: Institutions	**101**	**3.5**		
2nd pillar: Infrastructure	**131**	**2.2**		
3rd pillar: Macroeconomic environment	**95**	**4.2**		
4th pillar: Health and primary education	**112**	**4.7**		
Subindex B: Efficiency enhancers	114	3.5		
5th pillar: Higher education and training	**105**	**3.4**		
6th pillar: Goods market efficiency	**109**	**4.0**		
7th pillar: Labor market efficiency	**76**	**4.2**		
8th pillar: Financial market development	**91**	**3.7**		
9th pillar: Technological readiness	**124**	**2.6**		
10th pillar: Market size	**85**	**3.3**		
Subindex C: Innovation and sophistication factors	103	3.3		
11th pillar: Business sophistication	**112**	**3.5**		
12th pillar: Innovation	**90**	**3.2**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**112** / 144	**115** / 148	**116** / 144	**114** / 140	**119** / 138
Score	3.7	3.7	3.7	3.7	3.6



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Cameroon

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**101**	**3.5**	
1.01 Property rights	85	4.1	
1.02 Intellectual property protection	60	4.3	
1.03 Diversion of public funds	126	2.3	
1.04 Public trust in politicians	72	3.0	
1.05 Irregular payments and bribes	123	2.9	
1.06 Judicial independence	111	3.0	
1.07 Favoritism in decisions of government officials	98	2.7	
1.08 Wastefulness of government spending	85	2.8	
1.09 Burden of government regulation	78	3.4	
1.10 Efficiency of legal framework in settling disputes	66	3.6	
1.11 Efficiency of legal framework in challenging regs	71	3.4	
1.12 Transparency of government policymaking	67	4.1	
1.13 Business costs of terrorism	124	3.6	
1.14 Business costs of crime and violence	103	3.9	
1.15 Organized crime	95	4.3	
1.16 Reliability of police services	69	4.3	
1.17 Ethical behavior of firms	118	3.2	
1.18 Strength of auditing and reporting standards	119	3.7	
1.19 Efficacy of corporate boards	69	4.9	
1.20 Protection of minority shareholders' interests	75	4.0	
1.21 Strength of investor protection 0-10 (best)	108	4.3	
2nd pillar: Infrastructure	**131**	**2.2**	
2.01 Quality of overall infrastructure	134	2.2	
2.02 Quality of roads	130	2.5	
2.03 Quality of railroad infrastructure	82	2.4	
2.04 Quality of port infrastructure	112	3.0	
2.05 Quality of air transport infrastructure	130	2.7	
2.06 Available airline seat kilometers millions/week	97	58.1	
2.07 Quality of electricity supply	128	2.1	
2.08 Mobile-cellular telephone subscriptions /100 pop.	127	71.8	
2.09 Fixed-telephone lines /100 pop.	106	4.5	
3rd pillar: Macroeconomic environment	**95**	**4.2**	
3.01 Government budget balance % GDP	109	-5.8	
3.02 Gross national savings % GDP	92	16.0	
3.03 Inflation annual % change	1	2.8	
3.04 Government debt % GDP	28	33.5	
3.05 Country credit rating 0-100 (best)	96	.	
4th pillar: Health and primary education	**112**	**4.7**	
4.01 Malaria incidence cases/100,000 pop.	60	22834.0	
4.02 Business impact of malaria	55	3.8	
4.03 Tuberculosis incidence cases/100,000 pop.	117	220.0	
4.04 Business impact of tuberculosis	121	4.1	
4.05 HIV prevalence % adult pop.	126	4.8	
4.06 Business impact of HIV/AIDS	118	4.0	
4.07 Infant mortality deaths/1,000 live births	128	57.1	
4.08 Life expectancy years	132	55.5	
4.09 Quality of primary education	61	4.2	
4.10 Primary education enrollment rate net %	94	91.6	
5th pillar: Higher education and training	**105**	**3.4**	
5.01 Secondary education enrollment rate gross %	113	56.4	
5.02 Tertiary education enrollment rate gross %	111	11.9	
5.03 Quality of the education system	79	3.6	
5.04 Quality of math and science education	63	4.3	
5.05 Quality of management schools	47	4.6	
5.06 Internet access in schools	94	3.8	
5.07 Local availability of specialized training services	67	4.3	
5.08 Extent of staff training	74	3.8	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**109**	**4.0**	
6.01 Intensity of local competition	88	4.8	
6.02 Extent of market dominance	49	3.9	
6.03 Effectiveness of anti-monopoly policy	90	3.4	
6.04 Effect of taxation on incentives to invest	105	3.2	
6.05 Total tax rate % profits	104	48.8	
6.06 No. of procedures to start a business	41	5	
6.07 Time to start a business days	87	15.0	
6.08 Agricultural policy costs	78	3.7	
6.09 Prevalence of non-tariff barriers	131	3.3	
6.10 Trade tariffs % duty	132	14.6	
6.11 Prevalence of foreign ownership	64	4.5	
6.12 Business impact of rules on FDI	83	4.4	
6.13 Burden of customs procedures	108	3.4	
6.14 Imports % GDP	111	29.7	
6.15 Degree of customer orientation	94	4.3	
6.16 Buyer sophistication	123	2.7	
7th pillar: Labor market efficiency	**76**	**4.2**	
7.01 Cooperation in labor-employer relations	100	4.1	
7.02 Flexibility of wage determination	79	4.9	
7.03 Hiring and firing practices	46	4.1	
7.04 Redundancy costs weeks of salary	88	19.9	
7.05 Effect of taxation on incentives to work	34	4.4	
7.06 Pay and productivity	115	3.4	
7.07 Reliance on professional management	125	3.3	
7.08 Country capacity to retain talent	119	2.6	
7.09 Country capacity to attract talent	108	2.6	
7.10 Female participation in the labor force ratio to men	44	0.88	
8th pillar: Financial market development	**91**	**3.7**	
8.01 Financial services meeting business needs	91	4.0	
8.02 Affordability of financial services	103	3.2	
8.03 Financing through local equity market	86	3.3	
8.04 Ease of access to loans	98	3.4	
8.05 Venture capital availability	103	2.4	
8.06 Soundness of banks	93	4.4	
8.07 Regulation of securities exchanges	101	3.8	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**124**	**2.6**	
9.01 Availability of latest technologies	120	3.8	
9.02 Firm-level technology absorption	110	4.0	
9.03 FDI and technology transfer	117	3.6	
9.04 Internet users % pop.	112	20.7	
9.05 Fixed-broadband Internet subscriptions /100 pop.	131	0.1	
9.06 Internet bandwidth kb/s/user	137	1.0	
9.07 Mobile-broadband subscriptions /100 pop.	135	4.3	
10th pillar: Market size	**85**	**3.3**	
10.01 Domestic market size index	83	3.2	
10.02 Foreign market size index	105	3.7	
10.03 GDP (PPP) PPP $ billions	86	72.6	
10.04 Exports % GDP	120	17.8	
11th pillar: Business sophistication	**112**	**3.5**	
11.01 Local supplier quantity	101	4.2	
11.02 Local supplier quality	104	3.8	
11.03 State of cluster development	105	3.2	
11.04 Nature of competitive advantage	120	2.7	
11.05 Value chain breadth	99	3.5	
11.06 Control of international distribution	99	3.2	
11.07 Production process sophistication	121	2.9	
11.08 Extent of marketing	51	4.6	
11.09 Willingness to delegate authority	107	3.4	
12th pillar: Innovation	**90**	**3.2**	
12.01 Capacity for innovation	44	4.4	
12.02 Quality of scientific research institutions	88	3.6	
12.03 Company spending on R&D	85	3.1	
12.04 University-industry collaboration in R&D	91	3.2	
12.05 Gov't procurement of advanced tech. products	91	3.0	
12.06 Availability of scientists and engineers	110	3.4	
12.07 PCT patent applications applications/million pop.	110	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Cape Verde 110th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

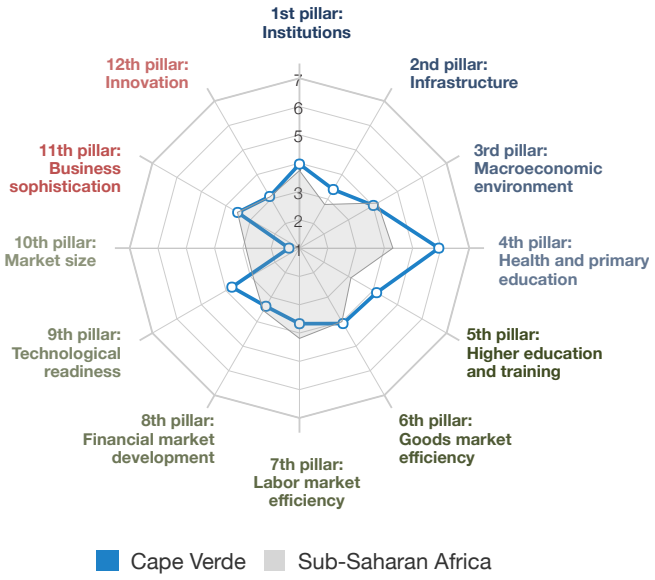
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	0.5	**GDP per capita** (US$)	3038.5
GDP (US$ billions)	1.6	**GDP (PPP)** % world GDP	0.00

Performance overview

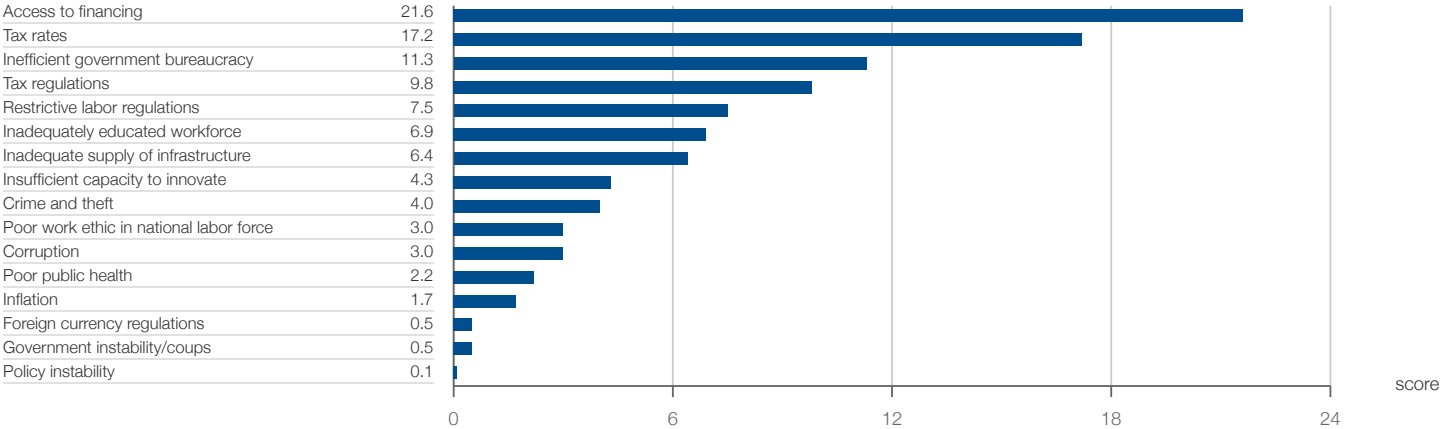
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**110**	3.8		
Subindex A: Basic requirements	89	4.3		
1st pillar: Institutions	**71**	**4.0**		
2nd pillar: Infrastructure	**94**	**3.4**		
3rd pillar: Macroeconomic environment	**107**	**4.0**		
4th pillar: Health and primary education	**58**	**5.9**		
Subindex B: Efficiency enhancers	121	3.4		
5th pillar: Higher education and training	**79**	**4.1**		
6th pillar: Goods market efficiency	**97**	**4.1**		
7th pillar: Labor market efficiency	**116**	**3.7**		
8th pillar: Financial market development	**112**	**3.4**		
9th pillar: Technological readiness	**78**	**3.8**		
10th pillar: Market size	**137**	**1.4**		
Subindex C: Innovation and sophistication factors	105	3.3		
11th pillar: Business sophistication	**108**	**3.5**		
12th pillar: Innovation	**98**	**3.1**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**122** / 144	**122** / 148	**114** / 144	**112** / 140	**110** / 138
Score	3.5	3.5	3.7	3.7	3.8



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Cape Verde

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**71**	**4.0**	
1.01 Property rights	70	4.3	
1.02 Intellectual property protection	91	3.7	
1.03 Diversion of public funds	52	3.9	
1.04 Public trust in politicians	50	3.5	
1.05 Irregular payments and bribes	58	4.2	
1.06 Judicial independence	53	4.3	
1.07 Favoritism in decisions of government officials	52	3.4	
1.08 Wastefulness of government spending	44	3.6	
1.09 Burden of government regulation	52	3.6	
1.10 Efficiency of legal framework in settling disputes	89	3.3	
1.11 Efficiency of legal framework in challenging regs	76	3.4	
1.12 Transparency of government policymaking	69	4.1	
1.13 Business costs of terrorism	70	5.2	
1.14 Business costs of crime and violence	95	4.1	
1.15 Organized crime	84	4.5	
1.16 Reliability of police services	77	4.3	
1.17 Ethical behavior of firms	59	4.0	
1.18 Strength of auditing and reporting standards	102	4.0	
1.19 Efficacy of corporate boards	112	4.3	
1.20 Protection of minority shareholders' interests	90	3.8	
1.21 Strength of investor protection 0-10 (best)	126	3.7	
2nd pillar: Infrastructure	**94**	**3.4**	
2.01 Quality of overall infrastructure	86	3.6	
2.02 Quality of roads	66	4.1	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	95	3.4	
2.05 Quality of air transport infrastructure	102	3.7	
2.06 Available airline seat kilometers millions/week	98	55.6	
2.07 Quality of electricity supply	107	3.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	51	127.2	
2.09 Fixed-telephone lines /100 pop.	78	11.5	
3rd pillar: Macroeconomic environment	**107**	**4.0**	
3.01 Government budget balance % GDP	100	-4.8	
3.02 Gross national savings % GDP	17	31.5	
3.03 Inflation annual % change	51	0.1	
3.04 Government debt % GDP	132	119.3	
3.05 Country credit rating 0-100 (best)	103	-	
4th pillar: Health and primary education	**58**	**5.9**	
4.01 Malaria incidence cases/100,000 pop.	20	9.7	
4.02 Business impact of malaria	20	5.5	
4.03 Tuberculosis incidence cases/100,000 pop.	100	138.0	
4.04 Business impact of tuberculosis	81	5.3	
4.05 HIV prevalence % adult pop.	106	1.1	
4.06 Business impact of HIV/AIDS	74	5.4	
4.07 Infant mortality deaths/1,000 live births	92	20.7	
4.08 Life expectancy years	84	73.1	
4.09 Quality of primary education	60	4.2	
4.10 Primary education enrollment rate net %	24	98.2	
5th pillar: Higher education and training	**79**	**4.1**	
5.01 Secondary education enrollment rate gross %	69	92.6	
5.02 Tertiary education enrollment rate gross %	95	23.0	
5.03 Quality of the education system	58	4.0	
5.04 Quality of math and science education	71	4.0	
5.05 Quality of management schools	62	4.3	
5.06 Internet access in schools	59	4.5	
5.07 Local availability of specialized training services	75	4.2	
5.08 Extent of staff training	113	3.4	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**97**	**4.1**	
6.01 Intensity of local competition	120	4.4	
6.02 Extent of market dominance	68	3.7	
6.03 Effectiveness of anti-monopoly policy	88	3.5	
6.04 Effect of taxation on incentives to invest	119	2.9	
6.05 Total tax rate % profits	66	36.5	
6.06 No. of procedures to start a business	76	7	
6.07 Time to start a business days	56	10.0	
6.08 Agricultural policy costs	48	4.1	
6.09 Prevalence of non-tariff barriers	99	4.0	
6.10 Trade tariffs % duty	94	8.8	
6.11 Prevalence of foreign ownership	78	4.4	
6.12 Business impact of rules on FDI	70	4.6	
6.13 Burden of customs procedures	94	3.6	
6.14 Imports % GDP	43	54.1	
6.15 Degree of customer orientation	126	3.8	
6.16 Buyer sophistication	85	3.2	
7th pillar: Labor market efficiency	**116**	**3.7**	
7.01 Cooperation in labor-employer relations	107	4.0	
7.02 Flexibility of wage determination	64	5.1	
7.03 Hiring and firing practices	86	3.6	
7.04 Redundancy costs weeks of salary	121	29.5	
7.05 Effect of taxation on incentives to work	87	3.7	
7.06 Pay and productivity	103	3.5	
7.07 Reliance on professional management	116	3.5	
7.08 Country capacity to retain talent	76	3.4	
7.09 Country capacity to attract talent	79	3.2	
7.10 Female participation in the labor force ratio to men	101	0.65	
8th pillar: Financial market development	**112**	**3.4**	
8.01 Financial services meeting business needs	118	3.5	
8.02 Affordability of financial services	101	3.3	
8.03 Financing through local equity market	85	3.4	
8.04 Ease of access to loans	107	3.2	
8.05 Venture capital availability	74	2.8	
8.06 Soundness of banks	86	4.5	
8.07 Regulation of securities exchanges	78	4.1	
8.08 Legal rights index 0-10 (best)	108	2	
9th pillar: Technological readiness	**78**	**3.8**	
9.01 Availability of latest technologies	79	4.5	
9.02 Firm-level technology absorption	87	4.3	
9.03 FDI and technology transfer	65	4.4	
9.04 Internet users % pop.	90	43.0	
9.05 Fixed-broadband Internet subscriptions /100 pop.	96	3.0	
9.06 Internet bandwidth kb/s/user	96	17.1	
9.07 Mobile-broadband subscriptions /100 pop.	38	72.9	
10th pillar: Market size	**137**	**1.4**	
10.01 Domestic market size index	137	1.0	
10.02 Foreign market size index	135	2.4	
10.03 GDP (PPP) PPP $ billions	137	3.4	
10.04 Exports % GDP	68	34.8	
11th pillar: Business sophistication	**108**	**3.5**	
11.01 Local supplier quantity	130	3.6	
11.02 Local supplier quality	119	3.6	
11.03 State of cluster development	85	3.5	
11.04 Nature of competitive advantage	67	3.5	
11.05 Value chain breadth	71	3.7	
11.06 Control of international distribution	103	3.1	
11.07 Production process sophistication	106	3.2	
11.08 Extent of marketing	108	4.0	
11.09 Willingness to delegate authority	109	3.3	
12th pillar: Innovation	**98**	**3.1**	
12.01 Capacity for innovation	109	3.7	
12.02 Quality of scientific research institutions	93	3.5	
12.03 Company spending on R&D	88	3.1	
12.04 University-industry collaboration in R&D	95	3.2	
12.05 Gov't procurement of advanced tech. products	59	3.4	
12.06 Availability of scientists and engineers	102	3.5	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Chad 136th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

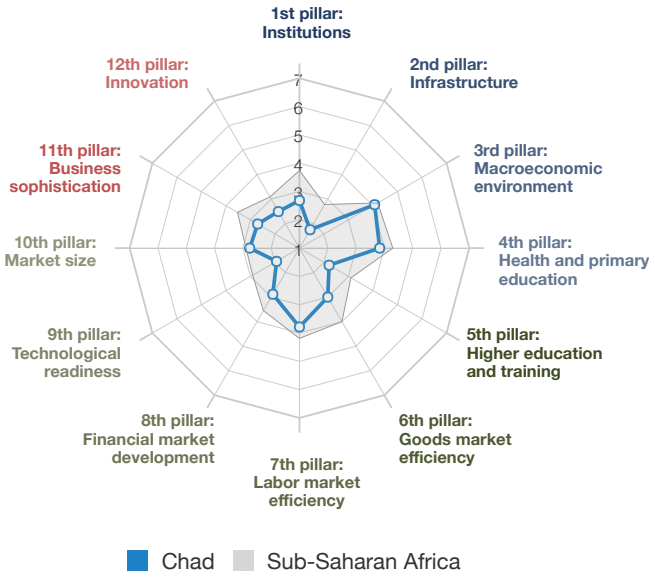
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	11.6	**GDP per capita** (US$)	941.9
GDP (US$ billions)	10.9	**GDP (PPP)** % world GDP	0.03

Performance overview

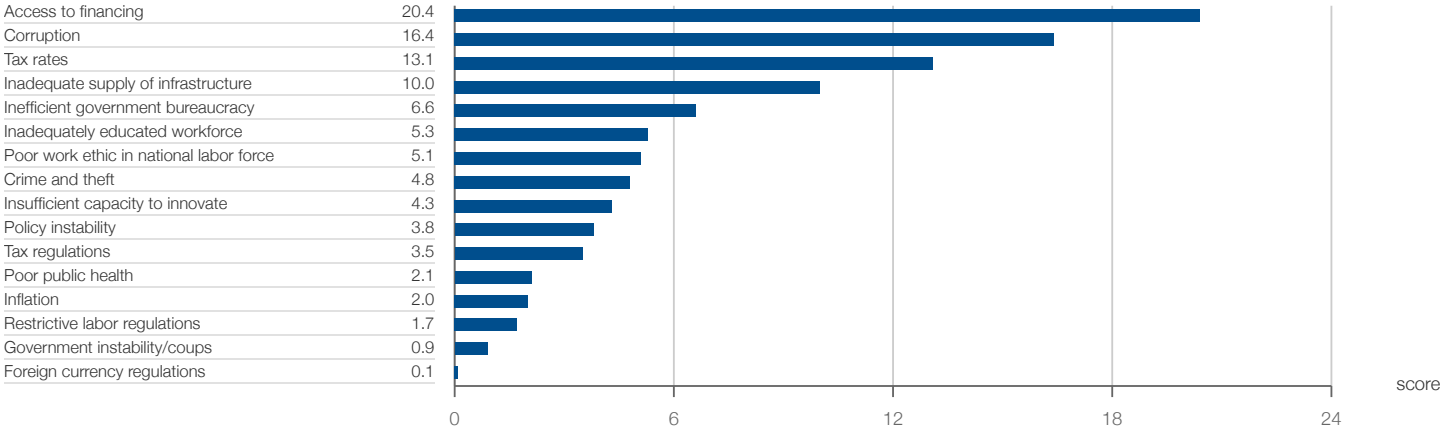
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**136**	2.9		
Subindex A: Basic requirements	135	3.1		
1st pillar: Institutions	**136**	**2.7**		
2nd pillar: Infrastructure	**137**	**1.8**		
3rd pillar: Macroeconomic environment	**105**	**4.1**		
4th pillar: Health and primary education	**131**	**3.8**		
Subindex B: Efficiency enhancers	135	2.8		
5th pillar: Higher education and training	**137**	**2.2**		
6th pillar: Goods market efficiency	**137**	**3.0**		
7th pillar: Labor market efficiency	**111**	**3.8**		
8th pillar: Financial market development	**133**	**2.9**		
9th pillar: Technological readiness	**138**	**1.9**		
10th pillar: Market size	**115**	**2.8**		
Subindex C: Innovation and sophistication factors	137	2.6		
11th pillar: Business sophistication	**137**	**2.7**		
12th pillar: Innovation	**134**	**2.5**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**139** / 144	**148** / 148	**143** / 144	**139** / 140	**136** / 138
Score	3.1	2.9	2.8	3.0	2.9



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Chad

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**136**	**2.7**	
1.01 Property rights	133	3.0	
1.02 Intellectual property protection	133	2.8	
1.03 Diversion of public funds	137	1.6	
1.04 Public trust in politicians	105	2.4	
1.05 Irregular payments and bribes	136	2.1	
1.06 Judicial independence	130	2.2	
1.07 Favoritism in decisions of government officials	113	2.3	
1.08 Wastefulness of government spending	100	2.6	
1.09 Burden of government regulation	95	3.2	
1.10 Efficiency of legal framework in settling disputes	105	3.0	
1.11 Efficiency of legal framework in challenging regs	114	2.7	
1.12 Transparency of government policymaking	135	2.7	
1.13 Business costs of terrorism	136	2.6	
1.14 Business costs of crime and violence	123	3.0	
1.15 Organized crime	128	3.1	
1.16 Reliability of police services	124	2.9	
1.17 Ethical behavior of firms	135	2.7	
1.18 Strength of auditing and reporting standards	136	2.8	
1.19 Efficacy of corporate boards	134	3.7	
1.20 Protection of minority shareholders' interests	130	3.3	
1.21 Strength of investor protection 0-10 (best)	120	3.8	
2nd pillar: Infrastructure	**137**	**1.8**	
2.01 Quality of overall infrastructure	137	1.7	
2.02 Quality of roads	127	2.6	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	131	2.0	
2.05 Quality of air transport infrastructure	125	2.9	
2.06 Available airline seat kilometers millions/week	130	10.2	
2.07 Quality of electricity supply	131	1.9	
2.08 Mobile-cellular telephone subscriptions /100 pop.	137	40.2	
2.09 Fixed-telephone lines /100 pop.	136	0.1	
3rd pillar: Macroeconomic environment	**105**	**4.1**	
3.01 Government budget balance % GDP	102	-4.9	
3.02 Gross national savings % GDP	105	14.4	
3.03 Inflation annual % change	66	3.6	
3.04 Government debt % GDP	50	39.3	
3.05 Country credit rating 0-100 (best)	135	-	
4th pillar: Health and primary education	**131**	**3.8**	
4.01 Malaria incidence cases/100,000 pop.	53	13983.9	
4.02 Business impact of malaria	70	2.8	
4.03 Tuberculosis incidence cases/100,000 pop.	106	159.0	
4.04 Business impact of tuberculosis	135	3.4	
4.05 HIV prevalence % adult pop.	121	2.5	
4.06 Business impact of HIV/AIDS	132	3.4	
4.07 Infant mortality deaths/1,000 live births	137	85.0	
4.08 Life expectancy years	136	51.6	
4.09 Quality of primary education	129	2.5	
4.10 Primary education enrollment rate net %	124	84.4	
5th pillar: Higher education and training	**137**	**2.2**	
5.01 Secondary education enrollment rate gross %	138	22.4	
5.02 Tertiary education enrollment rate gross %	134	3.4	
5.03 Quality of the education system	129	2.5	
5.04 Quality of math and science education	121	2.8	
5.05 Quality of management schools	131	3.1	
5.06 Internet access in schools	138	1.7	
5.07 Local availability of specialized training services	130	3.3	
5.08 Extent of staff training	136	2.9	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**137**	**3.0**	
6.01 Intensity of local competition	137	3.6	
6.02 Extent of market dominance	138	2.1	
6.03 Effectiveness of anti-monopoly policy	135	2.5	
6.04 Effect of taxation on incentives to invest	129	2.6	
6.05 Total tax rate % profits	127	63.5	
6.06 No. of procedures to start a business	108	9	
6.07 Time to start a business days	131	60.0	
6.08 Agricultural policy costs	125	3.0	
6.09 Prevalence of non-tariff barriers	135	3.1	
6.10 Trade tariffs % duty	131	14.3	
6.11 Prevalence of foreign ownership	131	3.1	
6.12 Business impact of rules on FDI	129	3.2	
6.13 Burden of customs procedures	137	2.4	
6.14 Imports % GDP	83	36.9	
6.15 Degree of customer orientation	138	3.0	
6.16 Buyer sophistication	131	2.3	
7th pillar: Labor market efficiency	**111**	**3.8**	
7.01 Cooperation in labor-employer relations	130	3.5	
7.02 Flexibility of wage determination	88	4.8	
7.03 Hiring and firing practices	105	3.3	
7.04 Redundancy costs weeks of salary	50	13.0	
7.05 Effect of taxation on incentives to work	99	3.6	
7.06 Pay and productivity	136	2.5	
7.07 Reliance on professional management	137	2.4	
7.08 Country capacity to retain talent	112	2.7	
7.09 Country capacity to attract talent	90	3.0	
7.10 Female participation in the labor force ratio to men	63	0.82	
8th pillar: Financial market development	**133**	**2.9**	
8.01 Financial services meeting business needs	135	2.7	
8.02 Affordability of financial services	134	2.4	
8.03 Financing through local equity market	126	2.5	
8.04 Ease of access to loans	131	2.6	
8.05 Venture capital availability	132	2.0	
8.06 Soundness of banks	130	3.2	
8.07 Regulation of securities exchanges	132	2.8	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**138**	**1.9**	
9.01 Availability of latest technologies	138	2.7	
9.02 Firm-level technology absorption	137	3.1	
9.03 FDI and technology transfer	136	2.8	
9.04 Internet users % pop.	137	2.7	
9.05 Fixed-broadband Internet subscriptions /100 pop.	128	0.1	
9.06 Internet bandwidth kb/s/user	130	2.6	
9.07 Mobile-broadband subscriptions /100 pop.	138	1.4	
10th pillar: Market size	**115**	**2.8**	
10.01 Domestic market size index	111	2.5	
10.02 Foreign market size index	118	3.4	
10.03 GDP (PPP) PPP $ billions	113	30.5	
10.04 Exports % GDP	101	24.5	
11th pillar: Business sophistication	**137**	**2.7**	
11.01 Local supplier quantity	104	4.1	
11.02 Local supplier quality	136	3.0	
11.03 State of cluster development	136	2.6	
11.04 Nature of competitive advantage	129	2.4	
11.05 Value chain breadth	137	2.4	
11.06 Control of international distribution	138	2.3	
11.07 Production process sophistication	138	2.0	
11.08 Extent of marketing	136	3.2	
11.09 Willingness to delegate authority	135	2.4	
12th pillar: Innovation	**134**	**2.5**	
12.01 Capacity for innovation	132	3.2	
12.02 Quality of scientific research institutions	127	2.6	
12.03 Company spending on R&D	127	2.6	
12.04 University-industry collaboration in R&D	128	2.6	
12.05 Gov't procurement of advanced tech. products	123	2.6	
12.06 Availability of scientists and engineers	136	2.7	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Congo, Democratic Rep. 129th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

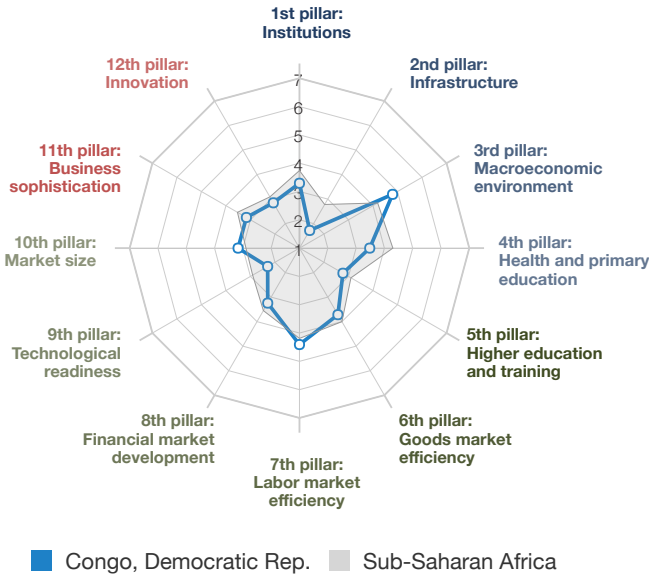
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	81.7	**GDP per capita** (US$)	475.9
GDP (US$ billions)	38.9	**GDP (PPP)** % world GDP	0.06

Performance overview

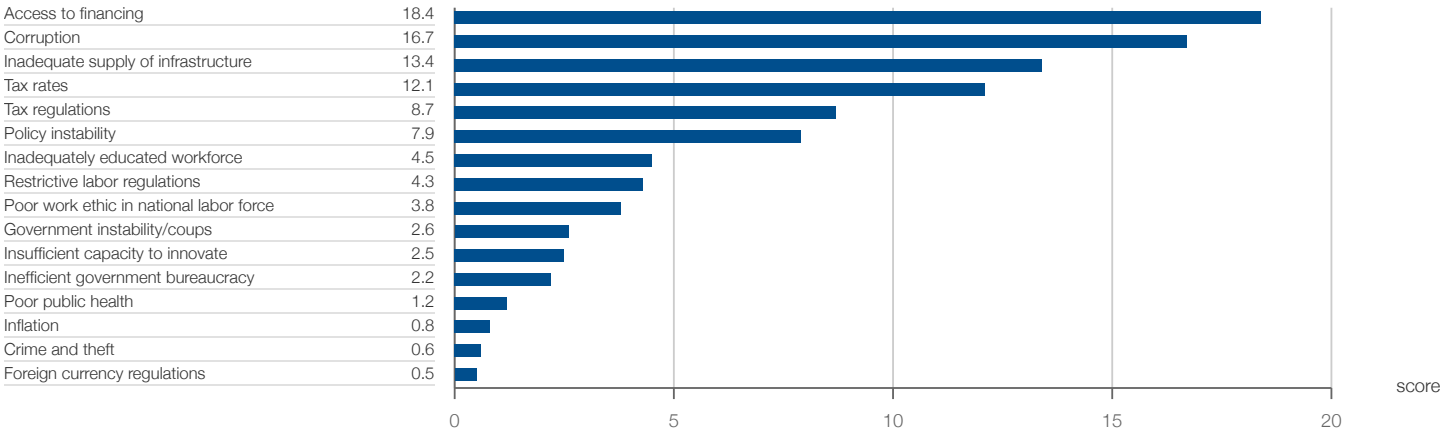
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**129**	3.3		
Subindex A: Basic requirements	128	3.3		
1st pillar: Institutions	**117**	**3.3**		
2nd pillar: Infrastructure	**138**	**1.7**		
3rd pillar: Macroeconomic environment	**64**	**4.8**		
4th pillar: Health and primary education	**135**	**3.5**		
Subindex B: Efficiency enhancers	127	3.3		
5th pillar: Higher education and training	**128**	**2.8**		
6th pillar: Goods market efficiency	**127**	**3.7**		
7th pillar: Labor market efficiency	**53**	**4.4**		
8th pillar: Financial market development	**117**	**3.2**		
9th pillar: Technological readiness	**134**	**2.3**		
10th pillar: Market size	**95**	**3.2**		
Subindex C: Innovation and sophistication factors	125	3.0		
11th pillar: Business sophistication	**132**	**3.2**		
12th pillar: Innovation	**115**	**2.8**		

Edition	2016-17
Rank	**129** / 138
Score	3.3



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Congo, Democratic Rep.

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**117**	**3.3**	
1.01 Property rights	114	3.7	
1.02 Intellectual property protection	106	3.5	
1.03 Diversion of public funds	113	2.6	
1.04 Public trust in politicians	102	2.4	
1.05 Irregular payments and bribes	131	2.6	
1.06 Judicial independence	131	2.2	
1.07 Favoritism in decisions of government officials	89	2.8	
1.08 Wastefulness of government spending	n/a	n/a	
1.09 Burden of government regulation	53	3.6	
1.10 Efficiency of legal framework in settling disputes	85	3.3	
1.11 Efficiency of legal framework in challenging regs	120	2.6	
1.12 Transparency of government policymaking	102	3.7	
1.13 Business costs of terrorism	59	5.4	
1.14 Business costs of crime and violence	89	4.2	
1.15 Organized crime	88	4.3	
1.16 Reliability of police services	100	3.7	
1.17 Ethical behavior of firms	128	3.0	
1.18 Strength of auditing and reporting standards	132	3.5	
1.19 Efficacy of corporate boards	84	4.7	
1.20 Protection of minority shareholders' interests	85	3.8	
1.21 Strength of investor protection 0-10 (best)	133	3.3	
2nd pillar: Infrastructure	**138**	**1.7**	
2.01 Quality of overall infrastructure	136	1.9	
2.02 Quality of roads	137	2.1	
2.03 Quality of railroad infrastructure	101	1.5	
2.04 Quality of port infrastructure	124	2.3	
2.05 Quality of air transport infrastructure	127	2.8	
2.06 Available airline seat kilometers millions/week	108	38.3	
2.07 Quality of electricity supply	136	1.6	
2.08 Mobile-cellular telephone subscriptions /100 pop.	132	53.0	
2.09 Fixed-telephone lines /100 pop.	138	0.0	
3rd pillar: Macroeconomic environment	**64**	**4.8**	
3.01 Government budget balance % GDP	3	1.9	
3.02 Gross national savings % GDP	129	5.5	
3.03 Inflation annual % change	1	1.0	
3.04 Government debt % GDP	12	18.8	
3.05 Country credit rating 0-100 (best)	134	-	
4th pillar: Health and primary education	**135**	**3.5**	
4.01 Malaria incidence cases/100,000 pop.	61	28046.0	
4.02 Business impact of malaria	N/Appl.	n/a	
4.03 Tuberculosis incidence cases/100,000 pop.	128	325.0	
4.04 Business impact of tuberculosis	n/a	n/a	
4.05 HIV prevalence % adult pop.	104	1.0	
4.06 Business impact of HIV/AIDS	n/a	n/a	
4.07 Infant mortality deaths/1,000 live births	135	74.5	
4.08 Life expectancy years	126	58.7	
4.09 Quality of primary education	86	3.6	
4.10 Primary education enrollment rate net %	115	87.0	
5th pillar: Higher education and training	**128**	**2.8**	
5.01 Secondary education enrollment rate gross %	122	43.5	
5.02 Tertiary education enrollment rate gross %	125	6.6	
5.03 Quality of the education system	113	3.0	
5.04 Quality of math and science education	84	3.8	
5.05 Quality of management schools	108	3.7	
5.06 Internet access in schools	130	2.9	
5.07 Local availability of specialized training services	119	3.6	
5.08 Extent of staff training	116	3.4	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**127**	**3.7**	
6.01 Intensity of local competition	102	4.7	
6.02 Extent of market dominance	106	3.3	
6.03 Effectiveness of anti-monopoly policy	93	3.4	
6.04 Effect of taxation on incentives to invest	100	3.2	
6.05 Total tax rate % profits	118	54.6	
6.06 No. of procedures to start a business	54	6	
6.07 Time to start a business days	67	11.0	
6.08 Agricultural policy costs	127	3.0	
6.09 Prevalence of non-tariff barriers	136	2.9	
6.10 Trade tariffs % duty	112	10.2	
6.11 Prevalence of foreign ownership	51	4.8	
6.12 Business impact of rules on FDI	65	4.7	
6.13 Burden of customs procedures	110	3.4	
6.14 Imports % GDP	119	24.7	
6.15 Degree of customer orientation	103	4.2	
6.16 Buyer sophistication	136	2.0	
7th pillar: Labor market efficiency	**53**	**4.4**	
7.01 Cooperation in labor-employer relations	88	4.2	
7.02 Flexibility of wage determination	58	5.2	
7.03 Hiring and firing practices	102	3.4	
7.04 Redundancy costs weeks of salary	35	10.3	
7.05 Effect of taxation on incentives to work	23	4.6	
7.06 Pay and productivity	137	2.4	
7.07 Reliance on professional management	93	3.8	
7.08 Country capacity to retain talent	121	2.6	
7.09 Country capacity to attract talent	96	2.9	
7.10 Female participation in the labor force ratio to men	6	0.99	
8th pillar: Financial market development	**117**	**3.2**	
8.01 Financial services meeting business needs	129	3.2	
8.02 Affordability of financial services	127	2.8	
8.03 Financing through local equity market	134	2.3	
8.04 Ease of access to loans	119	3.0	
8.05 Venture capital availability	96	2.5	
8.06 Soundness of banks	126	3.4	
8.07 Regulation of securities exchanges	97	3.8	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**134**	**2.3**	
9.01 Availability of latest technologies	130	3.4	
9.02 Firm-level technology absorption	125	3.7	
9.03 FDI and technology transfer	124	3.5	
9.04 Internet users % pop.	136	3.8	
9.05 Fixed-broadband Internet subscriptions /100 pop.	137	0.0	
9.06 Internet bandwidth kb/s/user	138	0.4	
9.07 Mobile-broadband subscriptions /100 pop.	129	8.5	
10th pillar: Market size	**95**	**3.2**	
10.01 Domestic market size index	88	3.0	
10.02 Foreign market size index	110	3.6	
10.03 GDP (PPP) PPP $ billions	90	62.9	
10.04 Exports % GDP	122	16.6	
11th pillar: Business sophistication	**132**	**3.2**	
11.01 Local supplier quantity	122	3.8	
11.02 Local supplier quality	114	3.7	
11.03 State of cluster development	116	3.0	
11.04 Nature of competitive advantage	127	2.4	
11.05 Value chain breadth	136	2.5	
11.06 Control of international distribution	137	2.3	
11.07 Production process sophistication	136	2.4	
11.08 Extent of marketing	39	4.8	
11.09 Willingness to delegate authority	n/a	n/a	
12th pillar: Innovation	**115**	**2.8**	
12.01 Capacity for innovation	106	3.7	
12.02 Quality of scientific research institutions	107	3.2	
12.03 Company spending on R&D	114	2.8	
12.04 University-industry collaboration in R&D	113	2.9	
12.05 Gov't procurement of advanced tech. products	130	2.4	
12.06 Availability of scientists and engineers	103	3.5	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Côte d'Ivoire 99th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

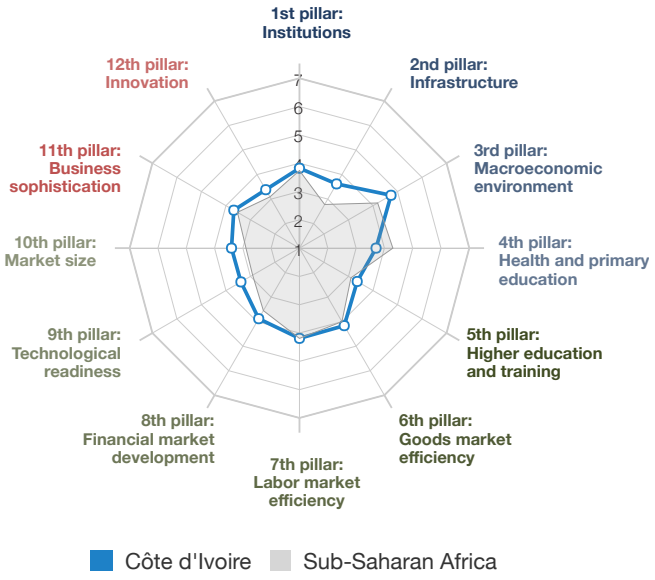
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	23.7	**GDP per capita** (US$)	1314.7
GDP (US$ billions)	31.2	**GDP (PPP)** % world GDP	0.07

Performance overview

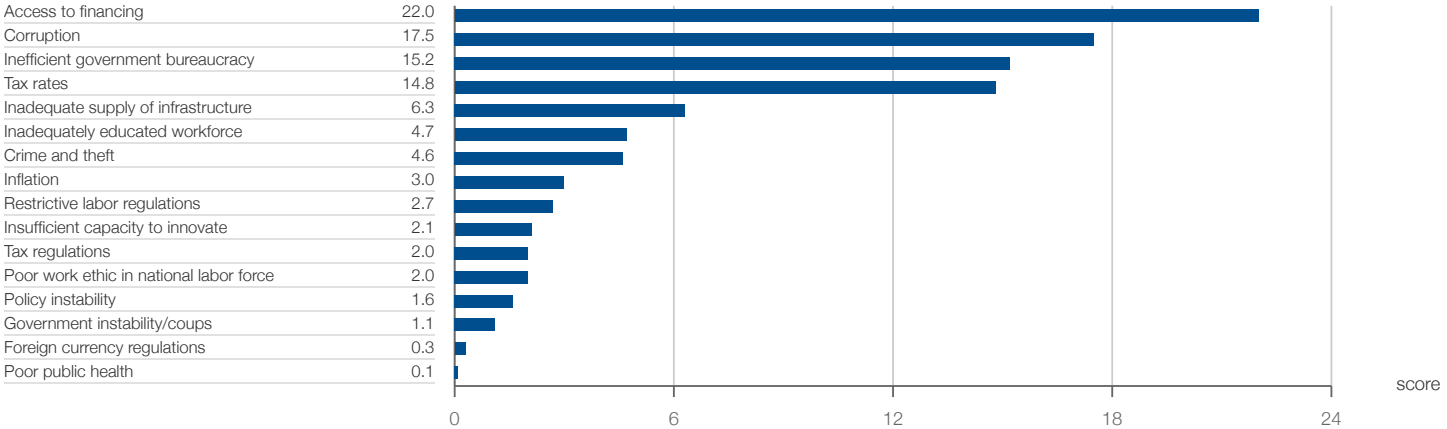
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**99**	3.9		
Subindex A: Basic requirements	104	4.0		
1st pillar: Institutions	**77**	**3.8**		
2nd pillar: Infrastructure	**87**	**3.6**		
3rd pillar: Macroeconomic environment	**66**	**4.7**		
4th pillar: Health and primary education	**132**	**3.7**		
Subindex B: Efficiency enhancers	96	3.7		
5th pillar: Higher education and training	**109**	**3.4**		
6th pillar: Goods market efficiency	**92**	**4.2**		
7th pillar: Labor market efficiency	**75**	**4.2**		
8th pillar: Financial market development	**75**	**3.9**		
9th pillar: Technological readiness	**94**	**3.4**		
10th pillar: Market size	**80**	**3.4**		
Subindex C: Innovation and sophistication factors	75	3.5		
11th pillar: Business sophistication	**89**	**3.7**		
12th pillar: Innovation	**61**	**3.4**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**131** / 144	**126** / 148	**115** / 144	**91** / 140	**99** / 138
Score	3.4	3.5	3.7	3.9	3.9



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Côte d'Ivoire

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**77**	**3.8**	
1.01 Property rights	72	4.2	
1.02 Intellectual property protection	90	3.7	
1.03 Diversion of public funds	82	3.3	
1.04 Public trust in politicians	48	3.6	
1.05 Irregular payments and bribes	88	3.6	
1.06 Judicial independence	87	3.6	
1.07 Favoritism in decisions of government officials	62	3.2	
1.08 Wastefulness of government spending	39	3.7	
1.09 Burden of government regulation	27	4.0	
1.10 Efficiency of legal framework in settling disputes	41	4.2	
1.11 Efficiency of legal framework in challenging regs	63	3.6	
1.12 Transparency of government policymaking	50	4.4	
1.13 Business costs of terrorism	84	4.9	
1.14 Business costs of crime and violence	106	3.8	
1.15 Organized crime	127	3.2	
1.16 Reliability of police services	87	4.1	
1.17 Ethical behavior of firms	73	3.8	
1.18 Strength of auditing and reporting standards	98	4.1	
1.19 Efficacy of corporate boards	80	4.8	
1.20 Protection of minority shareholders' interests	68	4.1	
1.21 Strength of investor protection 0-10 (best)	120	3.8	
2nd pillar: Infrastructure	**87**	**3.6**	
2.01 Quality of overall infrastructure	60	4.2	
2.02 Quality of roads	42	4.7	
2.03 Quality of railroad infrastructure	71	2.7	
2.04 Quality of port infrastructure	28	5.2	
2.05 Quality of air transport infrastructure	38	5.2	
2.06 Available airline seat kilometers millions/week	93	65.5	
2.07 Quality of electricity supply	100	3.6	
2.08 Mobile-cellular telephone subscriptions /100 pop.	62	119.3	
2.09 Fixed-telephone lines /100 pop.	118	1.3	
3rd pillar: Macroeconomic environment	**66**	**4.7**	
3.01 Government budget balance % GDP	70	-3.2	
3.02 Gross national savings % GDP	87	16.4	
3.03 Inflation annual % change	1	1.2	
3.04 Government debt % GDP	34	34.7	
3.05 Country credit rating 0-100 (best)	93	-	
4th pillar: Health and primary education	**132**	**3.7**	
4.01 Malaria incidence cases/100,000 pop.	67	37459.8	
4.02 Business impact of malaria	40	4.6	
4.03 Tuberculosis incidence cases/100,000 pop.	109	165.0	
4.04 Business impact of tuberculosis	119	4.1	
4.05 HIV prevalence % adult pop.	124	3.5	
4.06 Business impact of HIV/AIDS	107	4.5	
4.07 Infant mortality deaths/1,000 live births	132	66.6	
4.08 Life expectancy years	135	51.6	
4.09 Quality of primary education	69	4.1	
4.10 Primary education enrollment rate net %	131	74.7	
5th pillar: Higher education and training	**109**	**3.4**	
5.01 Secondary education enrollment rate gross %	125	40.1	
5.02 Tertiary education enrollment rate gross %	119	8.7	
5.03 Quality of the education system	49	4.1	
5.04 Quality of math and science education	43	4.6	
5.05 Quality of management schools	51	4.5	
5.06 Internet access in schools	98	3.7	
5.07 Local availability of specialized training services	46	4.7	
5.08 Extent of staff training	37	4.4	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**92**	**4.2**	
6.01 Intensity of local competition	95	4.8	
6.02 Extent of market dominance	79	3.5	
6.03 Effectiveness of anti-monopoly policy	76	3.6	
6.04 Effect of taxation on incentives to invest	118	2.9	
6.05 Total tax rate % profits	116	51.9	
6.06 No. of procedures to start a business	22	4	
6.07 Time to start a business days	42	7.0	
6.08 Agricultural policy costs	19	4.6	
6.09 Prevalence of non-tariff barriers	128	3.4	
6.10 Trade tariffs % duty	105	9.9	
6.11 Prevalence of foreign ownership	46	5.0	
6.12 Business impact of rules on FDI	57	4.8	
6.13 Burden of customs procedures	68	4.1	
6.14 Imports % GDP	76	38.7	
6.15 Degree of customer orientation	88	4.4	
6.16 Buyer sophistication	104	2.9	
7th pillar: Labor market efficiency	**75**	**4.2**	
7.01 Cooperation in labor-employer relations	58	4.5	
7.02 Flexibility of wage determination	67	5.0	
7.03 Hiring and firing practices	65	3.8	
7.04 Redundancy costs weeks of salary	53	13.1	
7.05 Effect of taxation on incentives to work	29	4.4	
7.06 Pay and productivity	82	3.8	
7.07 Reliance on professional management	63	4.3	
7.08 Country capacity to retain talent	61	3.6	
7.09 Country capacity to attract talent	48	3.7	
7.10 Female participation in the labor force ratio to men	102	0.65	
8th pillar: Financial market development	**75**	**3.9**	
8.01 Financial services meeting business needs	104	3.7	
8.02 Affordability of financial services	90	3.5	
8.03 Financing through local equity market	44	4.1	
8.04 Ease of access to loans	126	2.7	
8.05 Venture capital availability	77	2.7	
8.06 Soundness of banks	66	4.9	
8.07 Regulation of securities exchanges	67	4.4	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**94**	**3.4**	
9.01 Availability of latest technologies	59	4.9	
9.02 Firm-level technology absorption	69	4.5	
9.03 FDI and technology transfer	60	4.5	
9.04 Internet users % pop.	110	21.0	
9.05 Fixed-broadband Internet subscriptions /100 pop.	117	0.5	
9.06 Internet bandwidth kb/s/user	120	5.2	
9.07 Mobile-broadband subscriptions /100 pop.	84	40.4	
10th pillar: Market size	**80**	**3.4**	
10.01 Domestic market size index	84	3.2	
10.02 Foreign market size index	81	4.2	
10.03 GDP (PPP) PPP $ billions	81	78.6	
10.04 Exports % GDP	64	35.4	
11th pillar: Business sophistication	**89**	**3.7**	
11.01 Local supplier quantity	96	4.2	
11.02 Local supplier quality	71	4.3	
11.03 State of cluster development	131	2.8	
11.04 Nature of competitive advantage	99	3.0	
11.05 Value chain breadth	74	3.7	
11.06 Control of international distribution	123	2.9	
11.07 Production process sophistication	83	3.6	
11.08 Extent of marketing	53	4.6	
11.09 Willingness to delegate authority	83	3.6	
12th pillar: Innovation	**61**	**3.4**	
12.01 Capacity for innovation	58	4.3	
12.02 Quality of scientific research institutions	45	4.2	
12.03 Company spending on R&D	45	3.6	
12.04 University-industry collaboration in R&D	86	3.3	
12.05 Gov't procurement of advanced tech. products	70	3.2	
12.06 Availability of scientists and engineers	77	3.9	
12.07 PCT patent applications applications/million pop.	107	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Egypt 115th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

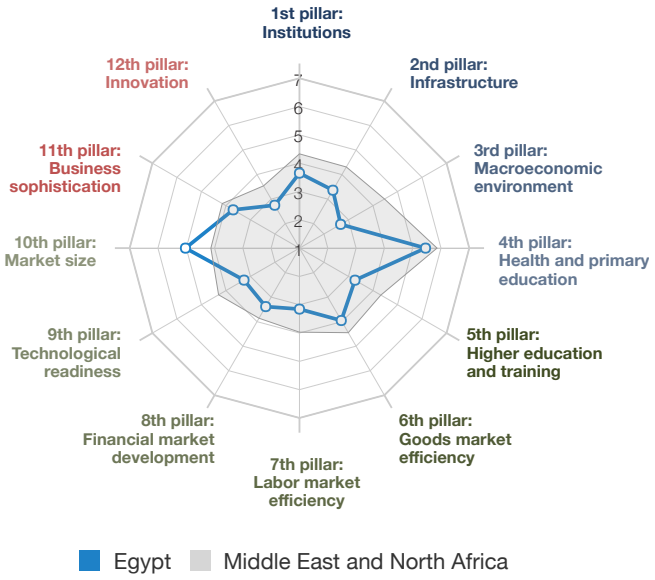
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	88.4	**GDP per capita** (US$)	3740.2
GDP (US$ billions)	330.8	**GDP (PPP)** % world GDP	0.92

Performance overview

	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**115**	3.7		
Subindex A: Basic requirements	117	3.8		
1st pillar: Institutions	**87**	**3.6**		
2nd pillar: Infrastructure	**96**	**3.4**		
3rd pillar: Macroeconomic environment	**134**	**2.7**		
4th pillar: Health and primary education	**89**	**5.5**		
Subindex B: Efficiency enhancers	100	3.7		
5th pillar: Higher education and training	**112**	**3.3**		
6th pillar: Goods market efficiency	**112**	**4.0**		
7th pillar: Labor market efficiency	**135**	**3.2**		
8th pillar: Financial market development	**111**	**3.4**		
9th pillar: Technological readiness	**99**	**3.3**		
10th pillar: Market size	**25**	**5.0**		
Subindex C: Innovation and sophistication factors	111	3.2		
11th pillar: Business sophistication	**85**	**3.7**		
12th pillar: Innovation	**122**	**2.7**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**107** / 144	**118** / 148	**119** / 144	**116** / 140	**115** / 138
Score	3.7	3.6	3.6	3.7	3.7

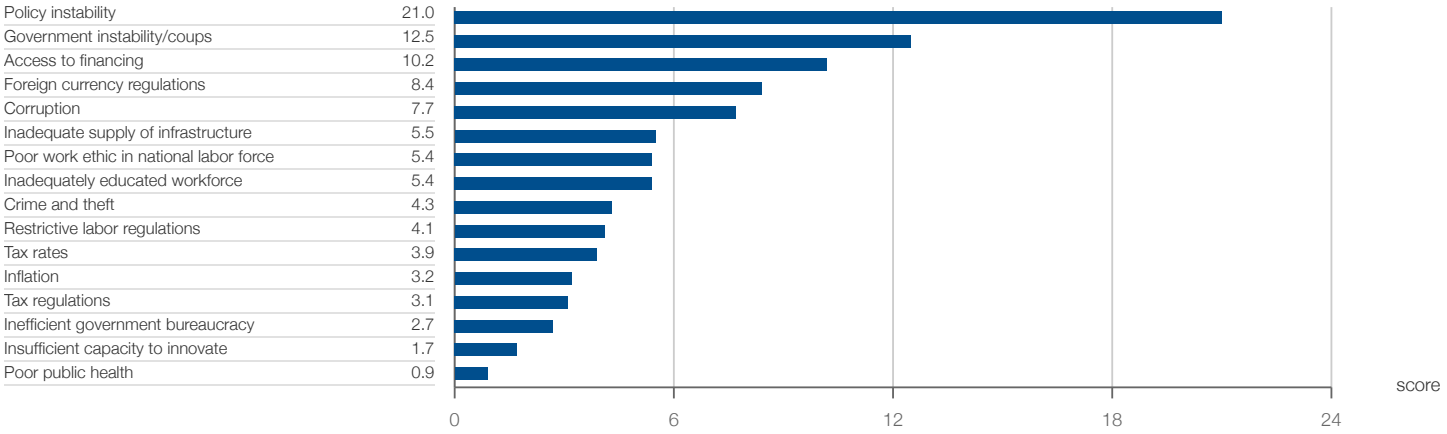


Egypt remains stable at 115th position this year. To create growth and employment, Egypt could build on its large market size (25th); its business sector, which by some accounts appears more sophisticated than those of neighboring countries (85th); and its geographical proximity to the large European market. To do so, Egypt needs to step up its reform efforts and address the major rigidities that plague its goods, labor, and financial markets, on which the country ranks 112th, 135th, and 111th, respectively.

Other priorities include higher education and training (112th), which is below the performance of peer economies, particularly in terms of quality (134th); as well as the overall security situation (133rd), which remains fragile and imposes significant cost for business. Support for reform efforts comes from the recent drop in oil prices that could open up the fiscal space to consolidate the public budget by reducing energy subsidies, which make up a significant part of the public spending.

Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2015



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Egypt

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**87**	**3.6**	
1.01 Property rights	100	3.9	
1.02 Intellectual property protection	124	3.2	
1.03 Diversion of public funds	67	3.5	
1.04 Public trust in politicians	84	2.8	
1.05 Irregular payments and bribes	64	4.1	
1.06 Judicial independence	47	4.5	
1.07 Favoritism in decisions of government officials	28	4.1	
1.08 Wastefulness of government spending	122	2.2	
1.09 Burden of government regulation	63	3.5	
1.10 Efficiency of legal framework in settling disputes	81	3.4	
1.11 Efficiency of legal framework in challenging regs	72	3.4	
1.12 Transparency of government policymaking	97	3.7	
1.13 Business costs of terrorism	135	2.7	
1.14 Business costs of crime and violence	124	2.9	
1.15 Organized crime	119	3.7	
1.16 Reliability of police services	114	3.3	
1.17 Ethical behavior of firms	77	3.8	
1.18 Strength of auditing and reporting standards	84	4.3	
1.19 Efficacy of corporate boards	131	3.9	
1.20 Protection of minority shareholders' interests	83	3.9	
1.21 Strength of investor protection 0-10 (best)	101	4.5	
2nd pillar: Infrastructure	**96**	**3.4**	
2.01 Quality of overall infrastructure	108	3.1	
2.02 Quality of roads	107	3.0	
2.03 Quality of railroad infrastructure	73	2.6	
2.04 Quality of port infrastructure	58	4.3	
2.05 Quality of air transport infrastructure	52	4.8	
2.06 Available airline seat kilometers millions/week	41	590.1	
2.07 Quality of electricity supply	102	3.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	82	111.0	
2.09 Fixed-telephone lines /100 pop.	95	7.4	
3rd pillar: Macroeconomic environment	**134**	**2.7**	
3.01 Government budget balance % GDP	132	-11.7	
3.02 Gross national savings % GDP	121	10.9	
3.03 Inflation annual % change	130	11.0	
3.04 Government debt % GDP	117	87.7	
3.05 Country credit rating 0-100 (best)	98	-	
4th pillar: Health and primary education	**89**	**5.5**	
4.01 Malaria incidence cases/100,000 pop.	N/Appl.	P.R.	
4.02 Business impact of malaria	1	6.8	
4.03 Tuberculosis incidence cases/100,000 pop.	38	15.0	
4.04 Business impact of tuberculosis	16	6.7	
4.05 HIV prevalence % adult pop.	1	0.1	
4.06 Business impact of HIV/AIDS	1	6.9	
4.07 Infant mortality deaths/1,000 live births	91	20.3	
4.08 Life expectancy years	93	71.1	
4.09 Quality of primary education	134	2.1	
4.10 Primary education enrollment rate net %	28	98.0	
5th pillar: Higher education and training	**112**	**3.3**	
5.01 Secondary education enrollment rate gross %	85	86.1	
5.02 Tertiary education enrollment rate gross %	81	31.7	
5.03 Quality of the education system	135	2.1	
5.04 Quality of math and science education	130	2.6	
5.05 Quality of management schools	138	2.5	
5.06 Internet access in schools	133	2.6	
5.07 Local availability of specialized training services	136	2.7	
5.08 Extent of staff training	137	2.7	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**112**	**4.0**	
6.01 Intensity of local competition	127	4.2	
6.02 Extent of market dominance	103	3.3	
6.03 Effectiveness of anti-monopoly policy	78	3.6	
6.04 Effect of taxation on incentives to invest	84	3.4	
6.05 Total tax rate % profits	96	45.0	
6.06 No. of procedures to start a business	76	7	
6.07 Time to start a business days	48	8.0	
6.08 Agricultural policy costs	130	2.9	
6.09 Prevalence of non-tariff barriers	100	4.0	
6.10 Trade tariffs % duty	126	13.6	
6.11 Prevalence of foreign ownership	125	3.4	
6.12 Business impact of rules on FDI	114	3.8	
6.13 Burden of customs procedures	80	3.8	
6.14 Imports % GDP	120	24.7	
6.15 Degree of customer orientation	55	4.9	
6.16 Buyer sophistication	116	2.8	
7th pillar: Labor market efficiency	**135**	**3.2**	
7.01 Cooperation in labor-employer relations	96	4.1	
7.02 Flexibility of wage determination	72	5.0	
7.03 Hiring and firing practices	61	3.9	
7.04 Redundancy costs weeks of salary	129	36.9	
7.05 Effect of taxation on incentives to work	104	3.4	
7.06 Pay and productivity	125	3.2	
7.07 Reliance on professional management	133	3.1	
7.08 Country capacity to retain talent	104	2.9	
7.09 Country capacity to attract talent	103	2.7	
7.10 Female participation in the labor force ratio to men	133	0.31	
8th pillar: Financial market development	**111**	**3.4**	
8.01 Financial services meeting business needs	54	4.5	
8.02 Affordability of financial services	72	3.8	
8.03 Financing through local equity market	58	3.8	
8.04 Ease of access to loans	136	1.9	
8.05 Venture capital availability	98	2.5	
8.06 Soundness of banks	70	4.8	
8.07 Regulation of securities exchanges	105	3.7	
8.08 Legal rights index 0-10 (best)	108	2	
9th pillar: Technological readiness	**99**	**3.3**	
9.01 Availability of latest technologies	117	3.9	
9.02 Firm-level technology absorption	121	3.8	
9.03 FDI and technology transfer	71	4.4	
9.04 Internet users % pop.	96	35.9	
9.05 Fixed-broadband Internet subscriptions /100 pop.	87	4.5	
9.06 Internet bandwidth kb/s/user	105	11.3	
9.07 Mobile-broadband subscriptions /100 pop.	72	50.7	
10th pillar: Market size	**25**	**5.0**	
10.01 Domestic market size index	19	5.1	
10.02 Foreign market size index	49	5.0	
10.03 GDP (PPP) PPP $ billions	23	1047.9	
10.04 Exports % GDP	132	11.2	
11th pillar: Business sophistication	**85**	**3.7**	
11.01 Local supplier quantity	64	4.5	
11.02 Local supplier quality	106	3.8	
11.03 State of cluster development	32	4.3	
11.04 Nature of competitive advantage	89	3.2	
11.05 Value chain breadth	72	3.7	
11.06 Control of international distribution	116	3.0	
11.07 Production process sophistication	105	3.2	
11.08 Extent of marketing	121	3.8	
11.09 Willingness to delegate authority	34	4.2	
12th pillar: Innovation	**122**	**2.7**	
12.01 Capacity for innovation	135	3.1	
12.02 Quality of scientific research institutions	128	2.6	
12.03 Company spending on R&D	133	2.4	
12.04 University-industry collaboration in R&D	137	2.4	
12.05 Gov't procurement of advanced tech. products	72	3.2	
12.06 Availability of scientists and engineers	46	4.3	
12.07 PCT patent applications applications/million pop.	74	0.8	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Ethiopia 109th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

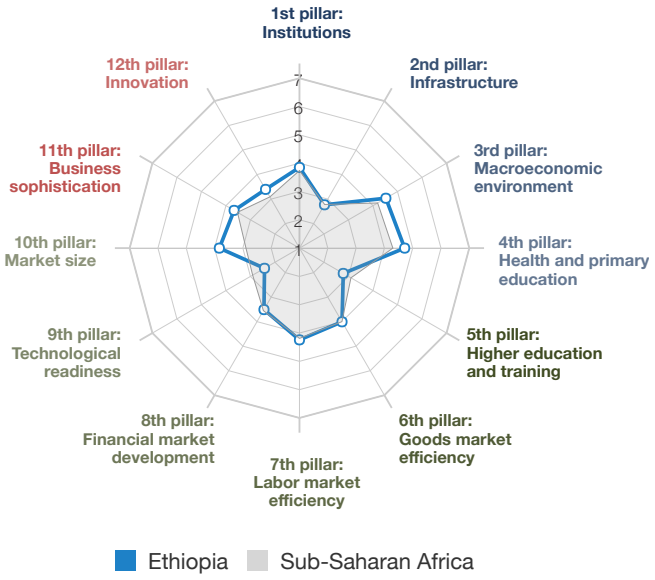
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	89.8	**GDP per capita** (US$)	686.6
GDP (US$ billions)	61.6	**GDP (PPP)** % world GDP	0.14

Performance overview

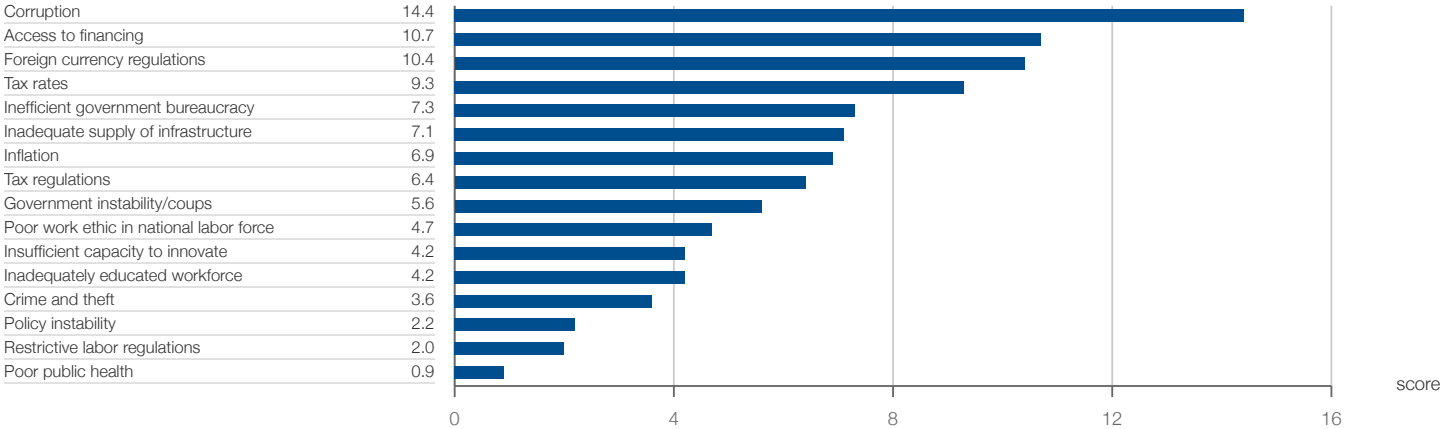
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**109**	3.8		
Subindex A: Basic requirements	106	4.0		
1st pillar: Institutions	**75**	**3.9**		
2nd pillar: Infrastructure	**115**	**2.8**		
3rd pillar: Macroeconomic environment	**78**	**4.5**		
4th pillar: Health and primary education	**111**	**4.7**		
Subindex B: Efficiency enhancers	117	3.5		
5th pillar: Higher education and training	**127**	**2.8**		
6th pillar: Goods market efficiency	**105**	**4.0**		
7th pillar: Labor market efficiency	**70**	**4.2**		
8th pillar: Financial market development	**102**	**3.5**		
9th pillar: Technological readiness	**131**	**2.4**		
10th pillar: Market size	**66**	**3.8**		
Subindex C: Innovation and sophistication factors	74	3.5		
11th pillar: Business sophistication	**93**	**3.7**		
12th pillar: Innovation	**57**	**3.4**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**121** / 144	**127** / 148	**118** / 144	**109** / 140	**109** / 138
Score	3.6	3.5	3.6	3.7	3.8



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Ethiopia

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**75**	**3.9**	
1.01 Property rights	90	4.0	
1.02 Intellectual property protection	88	3.8	
1.03 Diversion of public funds	49	4.0	
1.04 Public trust in politicians	41	3.8	
1.05 Irregular payments and bribes	93	3.5	
1.06 Judicial independence	73	3.8	
1.07 Favoritism in decisions of government officials	34	3.9	
1.08 Wastefulness of government spending	55	3.4	
1.09 Burden of government regulation	55	3.6	
1.10 Efficiency of legal framework in settling disputes	55	4.0	
1.11 Efficiency of legal framework in challenging regs	53	3.7	
1.12 Transparency of government policymaking	98	3.7	
1.13 Business costs of terrorism	117	4.2	
1.14 Business costs of crime and violence	91	4.1	
1.15 Organized crime	93	4.3	
1.16 Reliability of police services	92	3.9	
1.17 Ethical behavior of firms	63	3.9	
1.18 Strength of auditing and reporting standards	112	3.8	
1.19 Efficacy of corporate boards	132	3.8	
1.20 Protection of minority shareholders' interests	91	3.8	
1.21 Strength of investor protection 0-10 (best)	129	3.5	
2nd pillar: Infrastructure	**115**	**2.8**	
2.01 Quality of overall infrastructure	94	3.4	
2.02 Quality of roads	83	3.7	
2.03 Quality of railroad infrastructure	48	3.4	
2.04 Quality of port infrastructure	90	3.5	
2.05 Quality of air transport infrastructure	105	3.7	
2.06 Available airline seat kilometers millions/week	52	398.3	
2.07 Quality of electricity supply	104	3.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	136	42.8	
2.09 Fixed-telephone lines /100 pop.	124	0.9	
3rd pillar: Macroeconomic environment	**78**	**4.5**	
3.01 Government budget balance % GDP	52	-2.5	
3.02 Gross national savings % GDP	36	27.0	
3.03 Inflation annual % change	129	10.1	
3.04 Government debt % GDP	70	48.6	
3.05 Country credit rating 0-100 (best)	123	-	
4th pillar: Health and primary education	**111**	**4.7**	
4.01 Malaria incidence cases/100,000 pop.	46	3919.2	
4.02 Business impact of malaria	33	5.0	
4.03 Tuberculosis incidence cases/100,000 pop.	116	207.0	
4.04 Business impact of tuberculosis	114	4.3	
4.05 HIV prevalence % adult pop.	111	1.2	
4.06 Business impact of HIV/AIDS	116	4.2	
4.07 Infant mortality deaths/1,000 live births	117	41.4	
4.08 Life expectancy years	115	64.0	
4.09 Quality of primary education	107	3.1	
4.10 Primary education enrollment rate net %	120	85.8	
5th pillar: Higher education and training	**127**	**2.8**	
5.01 Secondary education enrollment rate gross %	133	36.2	
5.02 Tertiary education enrollment rate gross %	121	8.1	
5.03 Quality of the education system	83	3.5	
5.04 Quality of math and science education	97	3.5	
5.05 Quality of management schools	120	3.5	
5.06 Internet access in schools	99	3.7	
5.07 Local availability of specialized training services	101	3.9	
5.08 Extent of staff training	99	3.6	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**105**	**4.0**	
6.01 Intensity of local competition	135	3.9	
6.02 Extent of market dominance	58	3.8	
6.03 Effectiveness of anti-monopoly policy	57	3.8	
6.04 Effect of taxation on incentives to invest	50	3.9	
6.05 Total tax rate % profits	46	32.1	
6.06 No. of procedures to start a business	122	11	
6.07 Time to start a business days	98	19.0	
6.08 Agricultural policy costs	45	4.1	
6.09 Prevalence of non-tariff barriers	123	3.6	
6.10 Trade tariffs % duty	122	13.0	
6.11 Prevalence of foreign ownership	109	3.8	
6.12 Business impact of rules on FDI	117	3.7	
6.13 Burden of customs procedures	96	3.6	
6.14 Imports % GDP	77	38.4	
6.15 Degree of customer orientation	132	3.7	
6.16 Buyer sophistication	60	3.5	
7th pillar: Labor market efficiency	**70**	**4.2**	
7.01 Cooperation in labor-employer relations	117	3.8	
7.02 Flexibility of wage determination	116	4.2	
7.03 Hiring and firing practices	87	3.6	
7.04 Redundancy costs weeks of salary	84	19.1	
7.05 Effect of taxation on incentives to work	50	4.2	
7.06 Pay and productivity	79	3.8	
7.07 Reliance on professional management	107	3.6	
7.08 Country capacity to retain talent	63	3.6	
7.09 Country capacity to attract talent	43	3.8	
7.10 Female participation in the labor force ratio to men	41	0.88	
8th pillar: Financial market development	**102**	**3.5**	
8.01 Financial services meeting business needs	113	3.6	
8.02 Affordability of financial services	70	3.8	
8.03 Financing through local equity market	61	3.7	
8.04 Ease of access to loans	79	3.7	
8.05 Venture capital availability	35	3.4	
8.06 Soundness of banks	116	3.8	
8.07 Regulation of securities exchanges	94	3.8	
8.08 Legal rights index 0-10 (best)	97	3	
9th pillar: Technological readiness	**131**	**2.4**	
9.01 Availability of latest technologies	123	3.7	
9.02 Firm-level technology absorption	130	3.5	
9.03 FDI and technology transfer	102	3.9	
9.04 Internet users % pop.	127	11.6	
9.05 Fixed-broadband Internet subscriptions /100 pop.	113	0.7	
9.06 Internet bandwidth kb/s/user	134	2.0	
9.07 Mobile-broadband subscriptions /100 pop.	123	11.9	
10th pillar: Market size	**66**	**3.8**	
10.01 Domestic market size index	61	3.8	
10.02 Foreign market size index	96	3.9	
10.03 GDP (PPP) PPP $ billions	65	161.6	
10.04 Exports % GDP	133	10.8	
11th pillar: Business sophistication	**93**	**3.7**	
11.01 Local supplier quantity	131	3.6	
11.02 Local supplier quality	121	3.6	
11.03 State of cluster development	84	3.5	
11.04 Nature of competitive advantage	59	3.6	
11.05 Value chain breadth	55	3.9	
11.06 Control of international distribution	45	4.0	
11.07 Production process sophistication	84	3.6	
11.08 Extent of marketing	122	3.8	
11.09 Willingness to delegate authority	108	3.4	
12th pillar: Innovation	**57**	**3.4**	
12.01 Capacity for innovation	104	3.7	
12.02 Quality of scientific research institutions	70	3.8	
12.03 Company spending on R&D	39	3.8	
12.04 University-industry collaboration in R&D	39	3.8	
12.05 Gov't procurement of advanced tech. products	50	3.5	
12.06 Availability of scientists and engineers	73	3.9	
12.07 PCT patent applications applications/million pop.	114	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Gabon 108th / 138

Global Competitiveness Index
2016-2017 edition

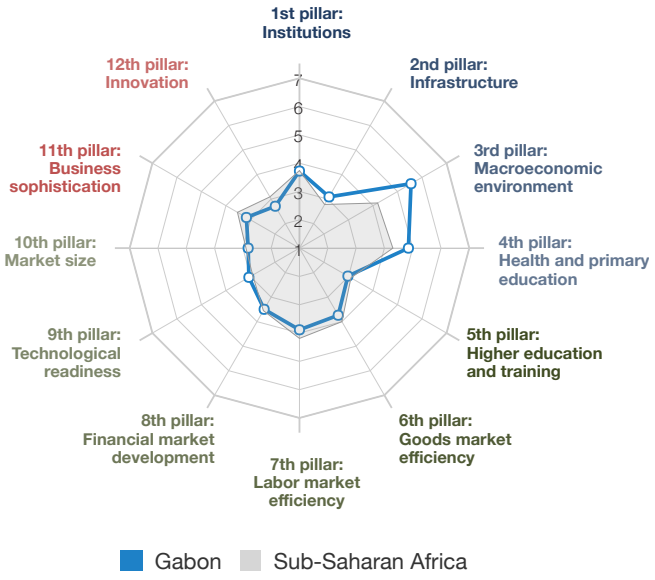
Key Indicators, 2015

Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	1.9	**GDP per capita** (US$)	7735.9
GDP (US$ billions)	14.3	**GDP (PPP)** % world GDP	0.03

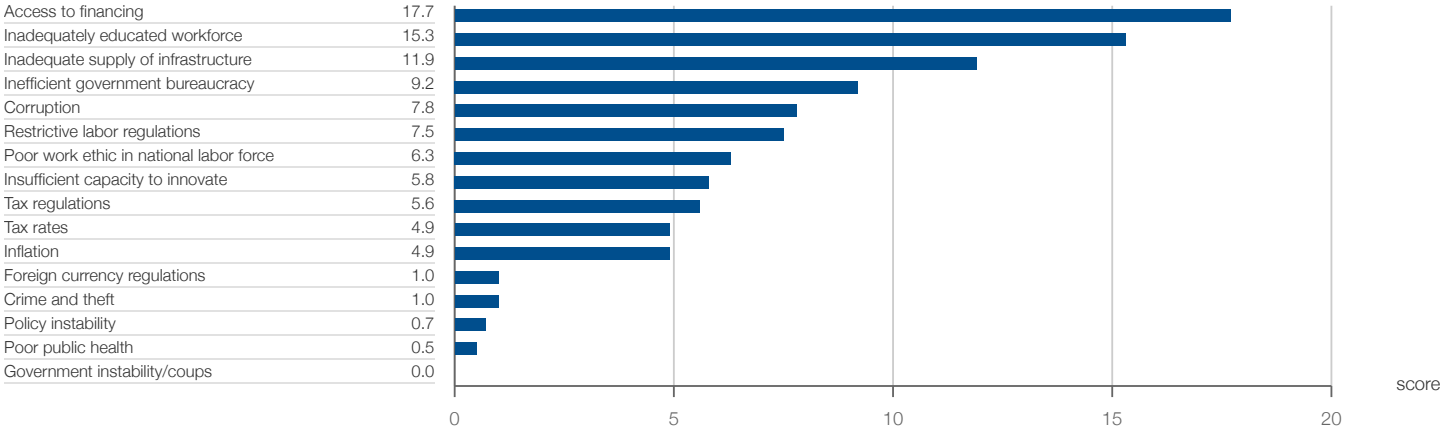
Performance overview

	Rank / 138	Score (1-7)	Trend	Distance from best	Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Global Competitiveness Index	**108**	3.8			Rank	**99** / 144	**112** / 148	**106** / 144	**103** / 140	**108** / 138
Subindex A: Basic requirements	91	4.3			Score	3.8	3.7	3.7	3.8	3.8
1st pillar: Institutions	**85**	**3.7**								
2nd pillar: Infrastructure	**107**	**3.1**								
3rd pillar: Macroeconomic environment	**25**	**5.6**								
4th pillar: Health and primary education	**109**	**4.8**								
Subindex B: Efficiency enhancers	122	3.3								
5th pillar: Higher education and training	**121**	**3.0**								
6th pillar: Goods market efficiency	**125**	**3.7**								
7th pillar: Labor market efficiency	**101**	**3.9**								
8th pillar: Financial market development	**103**	**3.5**								
9th pillar: Technological readiness	**109**	**3.1**								
10th pillar: Market size	**112**	**2.8**								
Subindex C: Innovation and sophistication factors	128	2.9								
11th pillar: Business sophistication	**131**	**3.2**								
12th pillar: Innovation	**124**	**2.7**								



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Gabon

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**85**	**3.7**	
1.01 Property rights	83	4.1	
1.02 Intellectual property protection	102	3.6	
1.03 Diversion of public funds	100	2.9	
1.04 Public trust in politicians	71	3.0	
1.05 Irregular payments and bribes	98	3.5	
1.06 Judicial independence	108	3.1	
1.07 Favoritism in decisions of government officials	78	3.0	
1.08 Wastefulness of government spending	66	3.2	
1.09 Burden of government regulation	79	3.4	
1.10 Efficiency of legal framework in settling disputes	84	3.4	
1.11 Efficiency of legal framework in challenging regs	97	3.0	
1.12 Transparency of government policymaking	61	4.3	
1.13 Business costs of terrorism	61	5.4	
1.14 Business costs of crime and violence	73	4.6	
1.15 Organized crime	73	4.9	
1.16 Reliability of police services	90	3.9	
1.17 Ethical behavior of firms	82	3.7	
1.18 Strength of auditing and reporting standards	100	4.1	
1.19 Efficacy of corporate boards	32	5.4	
1.20 Protection of minority shareholders' interests	63	4.1	
1.21 Strength of investor protection 0-10 (best)	120	3.8	
2nd pillar: Infrastructure	**107**	**3.1**	
2.01 Quality of overall infrastructure	119	2.9	
2.02 Quality of roads	121	2.8	
2.03 Quality of railroad infrastructure	64	2.8	
2.04 Quality of port infrastructure	101	3.2	
2.05 Quality of air transport infrastructure	108	3.6	
2.06 Available airline seat kilometers millions/week	111	33.3	
2.07 Quality of electricity supply	114	2.9	
2.08 Mobile-cellular telephone subscriptions /100 pop.	10	168.9	
2.09 Fixed-telephone lines /100 pop.	120	1.1	
3rd pillar: Macroeconomic environment	**25**	**5.6**	
3.01 Government budget balance % GDP	48	-2.3	
3.02 Gross national savings % GDP	9	34.8	
3.03 Inflation annual % change	55	0.1	
3.04 Government debt % GDP	62	43.9	
3.05 Country credit rating 0-100 (best)	89	-	
4th pillar: Health and primary education	**109**	**4.8**	
4.01 Malaria incidence cases/100,000 pop.	55	20738.6	
4.02 Business impact of malaria	66	3.2	
4.03 Tuberculosis incidence cases/100,000 pop.	134	444.0	
4.04 Business impact of tuberculosis	105	4.4	
4.05 HIV prevalence % adult pop.	125	3.9	
4.06 Business impact of HIV/AIDS	117	4.1	
4.07 Infant mortality deaths/1,000 live births	113	36.1	
4.08 Life expectancy years	114	64.4	
4.09 Quality of primary education	87	3.6	
4.10 Primary education enrollment rate net %	67	95.2	
5th pillar: Higher education and training	**121**	**3.0**	
5.01 Secondary education enrollment rate gross %	115	53.3	
5.02 Tertiary education enrollment rate gross %	120	8.4	
5.03 Quality of the education system	116	2.9	
5.04 Quality of math and science education	95	3.6	
5.05 Quality of management schools	98	3.8	
5.06 Internet access in schools	121	3.2	
5.07 Local availability of specialized training services	128	3.4	
5.08 Extent of staff training	84	3.7	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**125**	**3.7**	
6.01 Intensity of local competition	134	4.0	
6.02 Extent of market dominance	131	2.8	
6.03 Effectiveness of anti-monopoly policy	103	3.3	
6.04 Effect of taxation on incentives to invest	65	3.7	
6.05 Total tax rate % profits	97	45.7	
6.06 No. of procedures to start a business	76	7	
6.07 Time to start a business days	128	50.0	
6.08 Agricultural policy costs	122	3.1	
6.09 Prevalence of non-tariff barriers	132	3.3	
6.10 Trade tariffs % duty	124	13.4	
6.11 Prevalence of foreign ownership	23	5.4	
6.12 Business impact of rules on FDI	72	4.6	
6.13 Burden of customs procedures	92	3.6	
6.14 Imports % GDP	106	30.5	
6.15 Degree of customer orientation	118	3.9	
6.16 Buyer sophistication	94	3.0	
7th pillar: Labor market efficiency	**101**	**3.9**	
7.01 Cooperation in labor-employer relations	98	4.1	
7.02 Flexibility of wage determination	101	4.5	
7.03 Hiring and firing practices	98	3.4	
7.04 Redundancy costs weeks of salary	80	18.8	
7.05 Effect of taxation on incentives to work	21	4.6	
7.06 Pay and productivity	131	3.1	
7.07 Reliance on professional management	97	3.8	
7.08 Country capacity to retain talent	93	3.2	
7.09 Country capacity to attract talent	59	3.5	
7.10 Female participation in the labor force ratio to men	92	0.70	
8th pillar: Financial market development	**103**	**3.5**	
8.01 Financial services meeting business needs	122	3.4	
8.02 Affordability of financial services	128	2.7	
8.03 Financing through local equity market	87	3.3	
8.04 Ease of access to loans	118	3.0	
8.05 Venture capital availability	118	2.2	
8.06 Soundness of banks	89	4.4	
8.07 Regulation of securities exchanges	96	3.8	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**109**	**3.1**	
9.01 Availability of latest technologies	113	4.0	
9.02 Firm-level technology absorption	107	4.1	
9.03 FDI and technology transfer	113	3.7	
9.04 Internet users % pop.	104	23.5	
9.05 Fixed-broadband Internet subscriptions /100 pop.	114	0.6	
9.06 Internet bandwidth kb/s/user	107	8.5	
9.07 Mobile-broadband subscriptions /100 pop.	99	33.1	
10th pillar: Market size	**112**	**2.8**	
10.01 Domestic market size index	110	2.5	
10.02 Foreign market size index	111	3.6	
10.03 GDP (PPP) PPP $ billions	108	34.6	
10.04 Exports % GDP	85	30.1	
11th pillar: Business sophistication	**131**	**3.2**	
11.01 Local supplier quantity	133	3.5	
11.02 Local supplier quality	124	3.5	
11.03 State of cluster development	132	2.8	
11.04 Nature of competitive advantage	100	3.0	
11.05 Value chain breadth	132	2.9	
11.06 Control of international distribution	134	2.7	
11.07 Production process sophistication	126	2.8	
11.08 Extent of marketing	120	3.8	
11.09 Willingness to delegate authority	121	3.2	
12th pillar: Innovation	**124**	**2.7**	
12.01 Capacity for innovation	118	3.6	
12.02 Quality of scientific research institutions	109	3.2	
12.03 Company spending on R&D	117	2.7	
12.04 University-industry collaboration in R&D	130	2.6	
12.05 Gov't procurement of advanced tech. products	119	2.7	
12.06 Availability of scientists and engineers	134	2.8	
12.07 PCT patent applications applications/million pop.	85	0.4	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Gambia, The 123rd / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

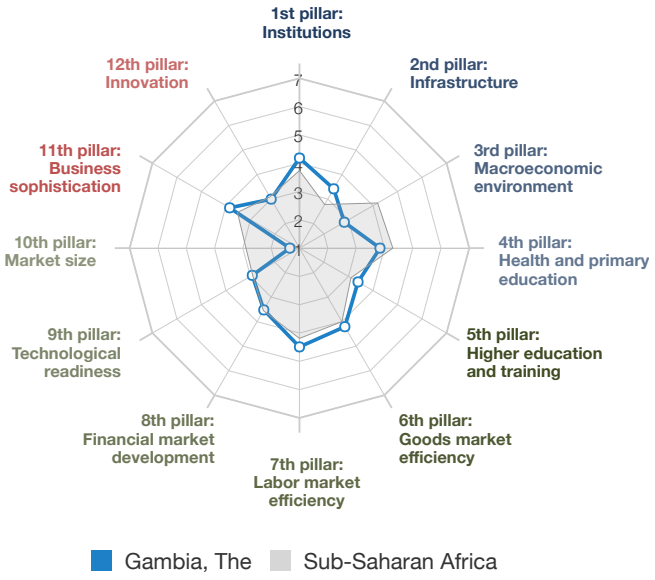
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	2.0	**GDP per capita** (US$)	450.9
GDP (US$ billions)	0.9	**GDP (PPP)** % world GDP	0.00

Performance overview

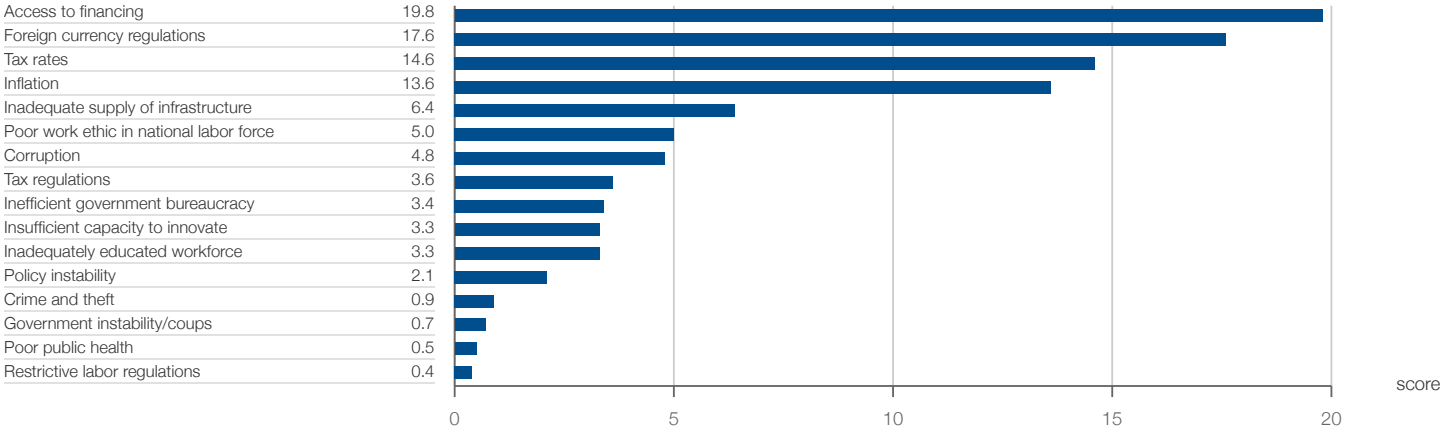
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**123**	3.5		
Subindex A: Basic requirements	124	3.6		
1st pillar: Institutions	**52**	**4.2**		
2nd pillar: Infrastructure	**93**	**3.4**		
3rd pillar: Macroeconomic environment	**133**	**2.8**		
4th pillar: Health and primary education	**129**	**3.8**		
Subindex B: Efficiency enhancers	123	3.3		
5th pillar: Higher education and training	**108**	**3.4**		
6th pillar: Goods market efficiency	**82**	**4.2**		
7th pillar: Labor market efficiency	**46**	**4.5**		
8th pillar: Financial market development	**100**	**3.5**		
9th pillar: Technological readiness	**112**	**2.9**		
10th pillar: Market size	**138**	**1.3**		
Subindex C: Innovation and sophistication factors	89	3.4		
11th pillar: Business sophistication	**71**	**3.8**		
12th pillar: Innovation	**106**	**3.0**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**98** / 144	**116** / 148	**125** / 144	**123** / 140	**123** / 138
Score	3.8	3.7	3.5	3.5	3.5



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Gambia, The

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**52**	**4.2**	
1.01 Property rights	75	4.2	
1.02 Intellectual property protection	86	3.8	
1.03 Diversion of public funds	45	4.1	
1.04 Public trust in politicians	44	3.7	
1.05 Irregular payments and bribes	68	4.0	
1.06 Judicial independence	93	3.5	
1.07 Favoritism in decisions of government officials	33	3.9	
1.08 Wastefulness of government spending	27	4.0	
1.09 Burden of government regulation	15	4.4	
1.10 Efficiency of legal framework in settling disputes	45	4.2	
1.11 Efficiency of legal framework in challenging regs	56	3.6	
1.12 Transparency of government policymaking	42	4.5	
1.13 Business costs of terrorism	62	5.4	
1.14 Business costs of crime and violence	37	5.3	
1.15 Organized crime	38	5.5	
1.16 Reliability of police services	48	4.9	
1.17 Ethical behavior of firms	58	4.0	
1.18 Strength of auditing and reporting standards	90	4.2	
1.19 Efficacy of corporate boards	59	5.0	
1.20 Protection of minority shareholders' interests	77	4.0	
1.21 Strength of investor protection 0-10 (best)	126	3.7	
2nd pillar: Infrastructure	**93**	**3.4**	
2.01 Quality of overall infrastructure	82	3.7	
2.02 Quality of roads	74	3.9	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	68	4.0	
2.05 Quality of air transport infrastructure	79	4.1	
2.06 Available airline seat kilometers millions/week	128	13.2	
2.07 Quality of electricity supply	101	3.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	39	131.3	
2.09 Fixed-telephone lines /100 pop.	110	2.3	
3rd pillar: Macroeconomic environment	**133**	**2.8**	
3.01 Government budget balance % GDP	115	-6.5	
3.02 Gross national savings % GDP	130	4.6	
3.03 Inflation annual % change	116	6.8	
3.04 Government debt % GDP	121	91.6	
3.05 Country credit rating 0-100 (best)	130	-	
4th pillar: Health and primary education	**129**	**3.8**	
4.01 Malaria incidence cases/100,000 pop.	59	22819.2	
4.02 Business impact of malaria	54	3.8	
4.03 Tuberculosis incidence cases/100,000 pop.	114	174.0	
4.04 Business impact of tuberculosis	87	5.1	
4.05 HIV prevalence % adult pop.	120	1.8	
4.06 Business impact of HIV/AIDS	79	5.3	
4.07 Infant mortality deaths/1,000 live births	123	47.9	
4.08 Life expectancy years	123	60.2	
4.09 Quality of primary education	62	4.2	
4.10 Primary education enrollment rate net %	135	67.9	
5th pillar: Higher education and training	**108**	**3.4**	
5.01 Secondary education enrollment rate gross %	111	57.5	
5.02 Tertiary education enrollment rate gross %	135	3.1	
5.03 Quality of the education system	40	4.3	
5.04 Quality of math and science education	104	3.4	
5.05 Quality of management schools	68	4.2	
5.06 Internet access in schools	96	3.7	
5.07 Local availability of specialized training services	64	4.3	
5.08 Extent of staff training	88	3.7	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**82**	**4.2**	
6.01 Intensity of local competition	85	4.8	
6.02 Extent of market dominance	52	3.9	
6.03 Effectiveness of anti-monopoly policy	39	4.1	
6.04 Effect of taxation on incentives to invest	72	3.6	
6.05 Total tax rate % profits	125	63.3	
6.06 No. of procedures to start a business	76	7	
6.07 Time to start a business days	107	25.0	
6.08 Agricultural policy costs	9	5.0	
6.09 Prevalence of non-tariff barriers	77	4.3	
6.10 Trade tariffs % duty	130	14.3	
6.11 Prevalence of foreign ownership	49	4.9	
6.12 Business impact of rules on FDI	58	4.8	
6.13 Burden of customs procedures	53	4.4	
6.14 Imports % GDP	42	54.2	
6.15 Degree of customer orientation	62	4.7	
6.16 Buyer sophistication	117	2.7	
7th pillar: Labor market efficiency	**46**	**4.5**	
7.01 Cooperation in labor-employer relations	66	4.4	
7.02 Flexibility of wage determination	24	5.6	
7.03 Hiring and firing practices	52	4.0	
7.04 Redundancy costs weeks of salary	107	26.0	
7.05 Effect of taxation on incentives to work	45	4.2	
7.06 Pay and productivity	56	4.2	
7.07 Reliance on professional management	49	4.6	
7.08 Country capacity to retain talent	67	3.5	
7.09 Country capacity to attract talent	55	3.6	
7.10 Female participation in the labor force ratio to men	42	0.88	
8th pillar: Financial market development	**100**	**3.5**	
8.01 Financial services meeting business needs	85	4.0	
8.02 Affordability of financial services	69	3.8	
8.03 Financing through local equity market	122	2.6	
8.04 Ease of access to loans	120	2.9	
8.05 Venture capital availability	102	2.4	
8.06 Soundness of banks	76	4.7	
8.07 Regulation of securities exchanges	86	4.0	
8.08 Legal rights index 0-10 (best)	86	4	
9th pillar: Technological readiness	**112**	**2.9**	
9.01 Availability of latest technologies	98	4.3	
9.02 Firm-level technology absorption	91	4.2	
9.03 FDI and technology transfer	92	4.0	
9.04 Internet users % pop.	122	17.1	
9.05 Fixed-broadband Internet subscriptions /100 pop.	123	0.2	
9.06 Internet bandwidth kb/s/user	100	13.3	
9.07 Mobile-broadband subscriptions /100 pop.	125	10.0	
10th pillar: Market size	**138**	**1.3**	
10.01 Domestic market size index	138	1.0	
10.02 Foreign market size index	136	2.4	
10.03 GDP (PPP) PPP $ billions	138	3.3	
10.04 Exports % GDP	67	34.9	
11th pillar: Business sophistication	**71**	**3.8**	
11.01 Local supplier quantity	67	4.5	
11.02 Local supplier quality	64	4.3	
11.03 State of cluster development	60	3.8	
11.04 Nature of competitive advantage	69	3.5	
11.05 Value chain breadth	76	3.7	
11.06 Control of international distribution	94	3.3	
11.07 Production process sophistication	111	3.1	
11.08 Extent of marketing	101	4.1	
11.09 Willingness to delegate authority	49	3.9	
12th pillar: Innovation	**106**	**3.0**	
12.01 Capacity for innovation	60	4.2	
12.02 Quality of scientific research institutions	113	3.1	
12.03 Company spending on R&D	100	2.9	
12.04 University-industry collaboration in R&D	127	2.6	
12.05 Gov't procurement of advanced tech. products	32	3.8	
12.06 Availability of scientists and engineers	128	3.0	
12.07 PCT patent applications applications/million pop.	81	0.4	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Ghana 114th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

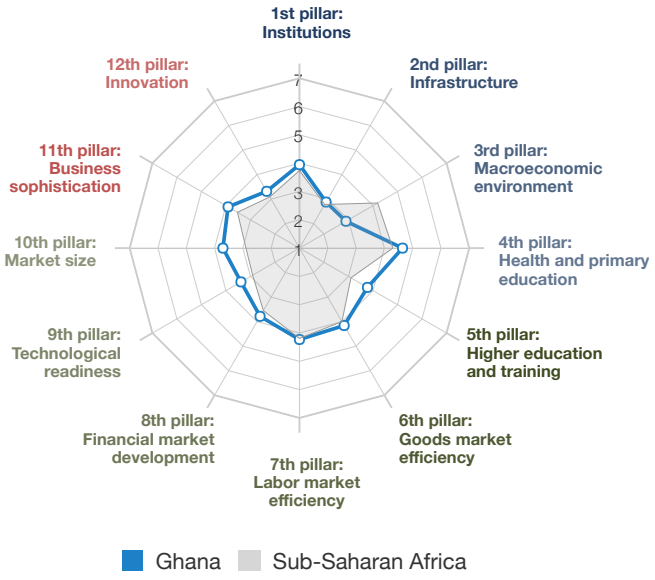
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	26.9	**GDP per capita** (US$)	1340.4
GDP (US$ billions)	36.0	**GDP (PPP)** % world GDP	0.10

Performance overview

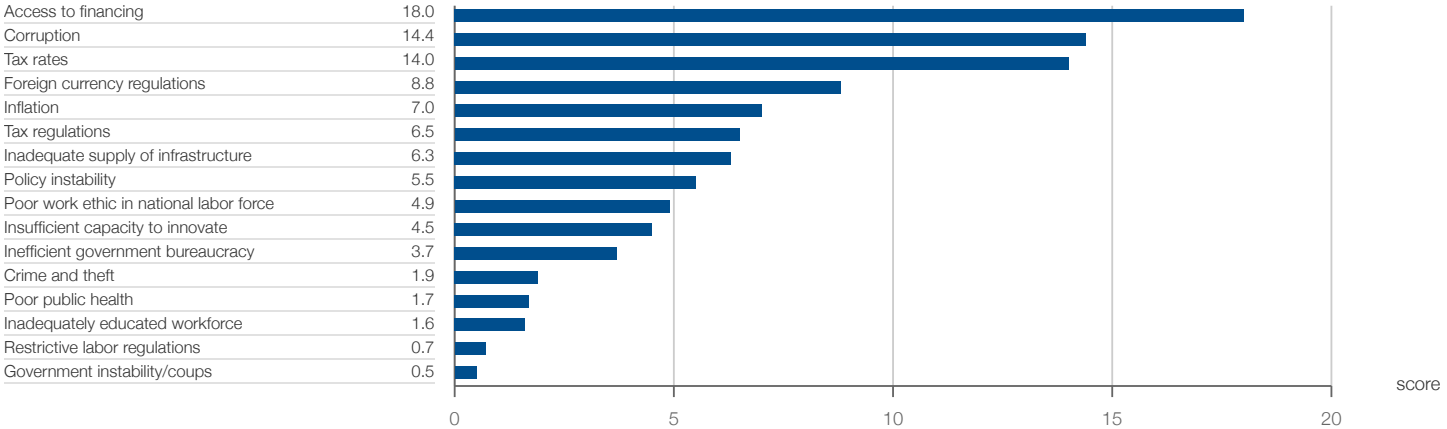
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**114**	3.7		
Subindex A: Basic requirements	121	3.6		
1st pillar: Institutions	**72**	**3.9**		
2nd pillar: Infrastructure	**111**	**2.9**		
3rd pillar: Macroeconomic environment	**132**	**2.9**		
4th pillar: Health and primary education	**115**	**4.6**		
Subindex B: Efficiency enhancers	91	3.8		
5th pillar: Higher education and training	**99**	**3.8**		
6th pillar: Goods market efficiency	**93**	**4.2**		
7th pillar: Labor market efficiency	**72**	**4.2**		
8th pillar: Financial market development	**85**	**3.8**		
9th pillar: Technological readiness	**95**	**3.4**		
10th pillar: Market size	**72**	**3.7**		
Subindex C: Innovation and sophistication factors	67	3.6		
11th pillar: Business sophistication	**68**	**3.9**		
12th pillar: Innovation	**69**	**3.3**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**103** / 144	**114** / 148	**111** / 144	**119** / 140	**114** / 138
Score	3.8	3.7	3.7	3.6	3.7



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Ghana

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**72**	**3.9**	
1.01 Property rights	68	4.3	
1.02 Intellectual property protection	78	3.9	
1.03 Diversion of public funds	90	3.1	
1.04 Public trust in politicians	67	3.1	
1.05 Irregular payments and bribes	109	3.1	
1.06 Judicial independence	46	4.6	
1.07 Favoritism in decisions of government officials	83	2.9	
1.08 Wastefulness of government spending	49	3.5	
1.09 Burden of government regulation	62	3.5	
1.10 Efficiency of legal framework in settling disputes	44	4.2	
1.11 Efficiency of legal framework in challenging regs	44	3.9	
1.12 Transparency of government policymaking	85	3.9	
1.13 Business costs of terrorism	88	4.8	
1.14 Business costs of crime and violence	88	4.2	
1.15 Organized crime	82	4.6	
1.16 Reliability of police services	58	4.7	
1.17 Ethical behavior of firms	64	3.9	
1.18 Strength of auditing and reporting standards	93	4.2	
1.19 Efficacy of corporate boards	56	5.0	
1.20 Protection of minority shareholders' interests	52	4.2	
1.21 Strength of investor protection 0-10 (best)	63	5.7	
2nd pillar: Infrastructure	**111**	**2.9**	
2.01 Quality of overall infrastructure	103	3.2	
2.02 Quality of roads	86	3.5	
2.03 Quality of railroad infrastructure	96	1.8	
2.04 Quality of port infrastructure	82	3.7	
2.05 Quality of air transport infrastructure	92	4.0	
2.06 Available airline seat kilometers millions/week	78	120.8	
2.07 Quality of electricity supply	126	2.2	
2.08 Mobile-cellular telephone subscriptions /100 pop.	43	129.7	
2.09 Fixed-telephone lines /100 pop.	123	1.0	
3rd pillar: Macroeconomic environment	**132**	**2.9**	
3.01 Government budget balance % GDP	104	-5.0	
3.02 Gross national savings % GDP	95	15.6	
3.03 Inflation annual % change	133	17.2	
3.04 Government debt % GDP	105	73.3	
3.05 Country credit rating 0-100 (best)	111	-	
4th pillar: Health and primary education	**115**	**4.6**	
4.01 Malaria incidence cases/100,000 pop.	63	30985.6	
4.02 Business impact of malaria	56	3.7	
4.03 Tuberculosis incidence cases/100,000 pop.	109	165.0	
4.04 Business impact of tuberculosis	101	4.6	
4.05 HIV prevalence % adult pop.	117	1.5	
4.06 Business impact of HIV/AIDS	91	4.9	
4.07 Infant mortality deaths/1,000 live births	119	42.8	
4.08 Life expectancy years	121	61.3	
4.09 Quality of primary education	97	3.4	
4.10 Primary education enrollment rate net %	95	91.1	
5th pillar: Higher education and training	**99**	**3.8**	
5.01 Secondary education enrollment rate gross %	100	71.0	
5.02 Tertiary education enrollment rate gross %	107	15.6	
5.03 Quality of the education system	60	3.9	
5.04 Quality of math and science education	93	3.7	
5.05 Quality of management schools	53	4.5	
5.06 Internet access in schools	95	3.7	
5.07 Local availability of specialized training services	53	4.6	
5.08 Extent of staff training	64	4.0	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**93**	**4.2**	
6.01 Intensity of local competition	72	5.1	
6.02 Extent of market dominance	50	3.9	
6.03 Effectiveness of anti-monopoly policy	91	3.4	
6.04 Effect of taxation on incentives to invest	80	3.4	
6.05 Total tax rate % profits	49	32.7	
6.06 No. of procedures to start a business	94	8	
6.07 Time to start a business days	81	14.0	
6.08 Agricultural policy costs	77	3.7	
6.09 Prevalence of non-tariff barriers	61	4.5	
6.10 Trade tariffs % duty	111	10.2	
6.11 Prevalence of foreign ownership	40	5.1	
6.12 Business impact of rules on FDI	73	4.5	
6.13 Burden of customs procedures	79	3.8	
6.14 Imports % GDP	52	50.6	
6.15 Degree of customer orientation	93	4.3	
6.16 Buyer sophistication	120	2.7	
7th pillar: Labor market efficiency	**72**	**4.2**	
7.01 Cooperation in labor-employer relations	59	4.5	
7.02 Flexibility of wage determination	92	4.7	
7.03 Hiring and firing practices	29	4.4	
7.04 Redundancy costs weeks of salary	131	49.8	
7.05 Effect of taxation on incentives to work	46	4.2	
7.06 Pay and productivity	99	3.6	
7.07 Reliance on professional management	35	4.7	
7.08 Country capacity to retain talent	48	3.8	
7.09 Country capacity to attract talent	45	3.8	
7.10 Female participation in the labor force ratio to men	7	0.97	
8th pillar: Financial market development	**85**	**3.8**	
8.01 Financial services meeting business needs	90	4.0	
8.02 Affordability of financial services	110	3.2	
8.03 Financing through local equity market	66	3.7	
8.04 Ease of access to loans	104	3.3	
8.05 Venture capital availability	105	2.4	
8.06 Soundness of banks	87	4.5	
8.07 Regulation of securities exchanges	92	3.9	
8.08 Legal rights index 0-10 (best)	28	7	
9th pillar: Technological readiness	**95**	**3.4**	
9.01 Availability of latest technologies	115	3.9	
9.02 Firm-level technology absorption	95	4.2	
9.03 FDI and technology transfer	80	4.2	
9.04 Internet users % pop.	105	23.5	
9.05 Fixed-broadband Internet subscriptions /100 pop.	120	0.3	
9.06 Internet bandwidth kb/s/user	128	2.8	
9.07 Mobile-broadband subscriptions /100 pop.	48	66.8	
10th pillar: Market size	**72**	**3.7**	
10.01 Domestic market size index	72	3.5	
10.02 Foreign market size index	68	4.5	
10.03 GDP (PPP) PPP $ billions	73	114.7	
10.04 Exports % GDP	51	42.4	
11th pillar: Business sophistication	**68**	**3.9**	
11.01 Local supplier quantity	65	4.5	
11.02 Local supplier quality	95	4.0	
11.03 State of cluster development	45	4.0	
11.04 Nature of competitive advantage	79	3.3	
11.05 Value chain breadth	57	3.9	
11.06 Control of international distribution	92	3.3	
11.07 Production process sophistication	90	3.5	
11.08 Extent of marketing	66	4.4	
11.09 Willingness to delegate authority	57	3.9	
12th pillar: Innovation	**69**	**3.3**	
12.01 Capacity for innovation	69	4.1	
12.02 Quality of scientific research institutions	81	3.7	
12.03 Company spending on R&D	59	3.4	
12.04 University-industry collaboration in R&D	88	3.3	
12.05 Gov't procurement of advanced tech. products	45	3.6	
12.06 Availability of scientists and engineers	76	3.9	
12.07 PCT patent applications applications/million pop.	108	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Kenya 96th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

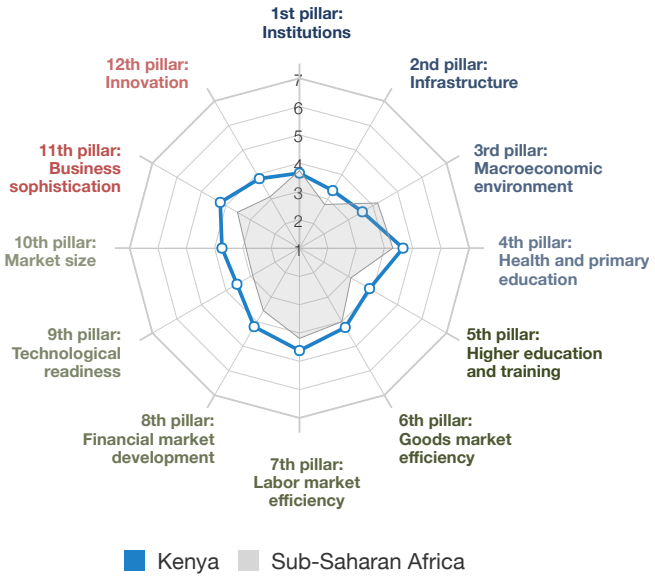
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	44.2	**GDP per capita** (US$)	1388.5
GDP (US$ billions)	61.4	**GDP (PPP)** % world GDP	0.13

Performance overview

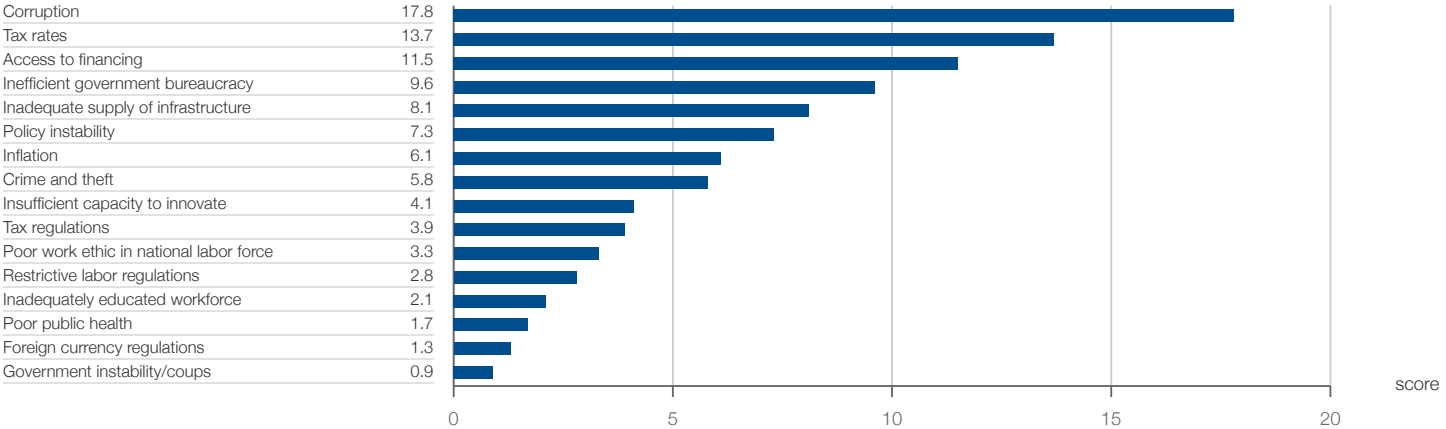
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**96**	3.9		
Subindex A: Basic requirements	115	3.8		
1st pillar: Institutions	**86**	**3.6**		
2nd pillar: Infrastructure	**98**	**3.3**		
3rd pillar: Macroeconomic environment	**122**	**3.6**		
4th pillar: Health and primary education	**114**	**4.7**		
Subindex B: Efficiency enhancers	75	4.0		
5th pillar: Higher education and training	**97**	**3.9**		
6th pillar: Goods market efficiency	**77**	**4.2**		
7th pillar: Labor market efficiency	**31**	**4.6**		
8th pillar: Financial market development	**50**	**4.2**		
9th pillar: Technological readiness	**89**	**3.6**		
10th pillar: Market size	**70**	**3.7**		
Subindex C: Innovation and sophistication factors	40	4.0		
11th pillar: Business sophistication	**47**	**4.2**		
12th pillar: Innovation	**36**	**3.8**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**106** / 144	**96** / 148	**90** / 144	**99** / 140	**96** / 138
Score	3.7	3.8	3.9	3.9	3.9



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Kenya

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**86**	**3.6**	
1.01 Property rights	59	4.4	
1.02 Intellectual property protection	76	4.0	
1.03 Diversion of public funds	89	3.1	
1.04 Public trust in politicians	78	2.9	
1.05 Irregular payments and bribes	113	3.0	
1.06 Judicial independence	62	4.0	
1.07 Favoritism in decisions of government officials	92	2.7	
1.08 Wastefulness of government spending	62	3.3	
1.09 Burden of government regulation	36	3.9	
1.10 Efficiency of legal framework in settling disputes	56	3.9	
1.11 Efficiency of legal framework in challenging regs	50	3.8	
1.12 Transparency of government policymaking	55	4.3	
1.13 Business costs of terrorism	137	2.6	
1.14 Business costs of crime and violence	128	2.8	
1.15 Organized crime	125	3.3	
1.16 Reliability of police services	93	3.9	
1.17 Ethical behavior of firms	78	3.8	
1.18 Strength of auditing and reporting standards	86	4.3	
1.19 Efficacy of corporate boards	43	5.1	
1.20 Protection of minority shareholders' interests	62	4.1	
1.21 Strength of investor protection 0-10 (best)	96	4.7	
2nd pillar: Infrastructure	**98**	**3.3**	
2.01 Quality of overall infrastructure	56	4.3	
2.02 Quality of roads	61	4.2	
2.03 Quality of railroad infrastructure	61	2.8	
2.04 Quality of port infrastructure	64	4.2	
2.05 Quality of air transport infrastructure	48	4.8	
2.06 Available airline seat kilometers millions/week	62	264.4	
2.07 Quality of electricity supply	96	3.9	
2.08 Mobile-cellular telephone subscriptions /100 pop.	121	80.7	
2.09 Fixed-telephone lines /100 pop.	134	0.2	
3rd pillar: Macroeconomic environment	**122**	**3.6**	
3.01 Government budget balance % GDP	126	-8.4	
3.02 Gross national savings % GDP	104	14.4	
3.03 Inflation annual % change	115	6.6	
3.04 Government debt % GDP	77	52.7	
3.05 Country credit rating 0-100 (best)	94	-	
4th pillar: Health and primary education	**114**	**4.7**	
4.01 Malaria incidence cases/100,000 pop.	54	14488.4	
4.02 Business impact of malaria	42	4.5	
4.03 Tuberculosis incidence cases/100,000 pop.	121	246.0	
4.04 Business impact of tuberculosis	100	4.6	
4.05 HIV prevalence % adult pop.	127	5.3	
4.06 Business impact of HIV/AIDS	119	4.0	
4.07 Infant mortality deaths/1,000 live births	111	35.5	
4.08 Life expectancy years	120	61.6	
4.09 Quality of primary education	76	3.9	
4.10 Primary education enrollment rate net %	122	84.9	
5th pillar: Higher education and training	**97**	**3.9**	
5.01 Secondary education enrollment rate gross %	106	67.6	
5.02 Tertiary education enrollment rate gross %	132	4.0	
5.03 Quality of the education system	35	4.4	
5.04 Quality of math and science education	68	4.1	
5.05 Quality of management schools	45	4.6	
5.06 Internet access in schools	87	3.9	
5.07 Local availability of specialized training services	41	4.8	
5.08 Extent of staff training	43	4.3	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**77**	**4.2**	
6.01 Intensity of local competition	19	5.6	
6.02 Extent of market dominance	60	3.8	
6.03 Effectiveness of anti-monopoly policy	71	3.7	
6.04 Effect of taxation on incentives to invest	71	3.6	
6.05 Total tax rate % profits	69	37.1	
6.06 No. of procedures to start a business	122	11	
6.07 Time to start a business days	109	26.0	
6.08 Agricultural policy costs	54	4.0	
6.09 Prevalence of non-tariff barriers	90	4.2	
6.10 Trade tariffs % duty	97	9.6	
6.11 Prevalence of foreign ownership	59	4.7	
6.12 Business impact of rules on FDI	86	4.4	
6.13 Burden of customs procedures	76	3.9	
6.14 Imports % GDP	108	30.3	
6.15 Degree of customer orientation	58	4.8	
6.16 Buyer sophistication	97	3.0	
7th pillar: Labor market efficiency	**31**	**4.6**	
7.01 Cooperation in labor-employer relations	95	4.2	
7.02 Flexibility of wage determination	45	5.3	
7.03 Hiring and firing practices	44	4.1	
7.04 Redundancy costs weeks of salary	15	6.4	
7.05 Effect of taxation on incentives to work	70	3.9	
7.06 Pay and productivity	74	3.9	
7.07 Reliance on professional management	69	4.3	
7.08 Country capacity to retain talent	53	3.7	
7.09 Country capacity to attract talent	35	3.9	
7.10 Female participation in the labor force ratio to men	51	0.86	
8th pillar: Financial market development	**50**	**4.2**	
8.01 Financial services meeting business needs	59	4.5	
8.02 Affordability of financial services	96	3.5	
8.03 Financing through local equity market	28	4.5	
8.04 Ease of access to loans	50	4.3	
8.05 Venture capital availability	64	2.9	
8.06 Soundness of banks	88	4.5	
8.07 Regulation of securities exchanges	61	4.5	
8.08 Legal rights index 0-10 (best)	28	7	
9th pillar: Technological readiness	**89**	**3.6**	
9.01 Availability of latest technologies	47	5.2	
9.02 Firm-level technology absorption	35	5.1	
9.03 FDI and technology transfer	48	4.6	
9.04 Internet users % pop.	84	45.6	
9.05 Fixed-broadband Internet subscriptions /100 pop.	119	0.3	
9.06 Internet bandwidth kb/s/user	71	40.1	
9.07 Mobile-broadband subscriptions /100 pop.	116	15.5	
10th pillar: Market size	**70**	**3.7**	
10.01 Domestic market size index	65	3.6	
10.02 Foreign market size index	86	4.0	
10.03 GDP (PPP) PPP $ billions	68	141.9	
10.04 Exports % GDP	125	15.6	
11th pillar: Business sophistication	**47**	**4.2**	
11.01 Local supplier quantity	25	4.9	
11.02 Local supplier quality	52	4.4	
11.03 State of cluster development	39	4.2	
11.04 Nature of competitive advantage	52	3.8	
11.05 Value chain breadth	42	4.2	
11.06 Control of international distribution	67	3.7	
11.07 Production process sophistication	63	3.9	
11.08 Extent of marketing	30	4.9	
11.09 Willingness to delegate authority	37	4.1	
12th pillar: Innovation	**36**	**3.8**	
12.01 Capacity for innovation	36	4.6	
12.02 Quality of scientific research institutions	49	4.2	
12.03 Company spending on R&D	31	4.1	
12.04 University-industry collaboration in R&D	26	4.5	
12.05 Gov't procurement of advanced tech. products	19	4.0	
12.06 Availability of scientists and engineers	40	4.4	
12.07 PCT patent applications applications/million pop.	93	0.2	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Lesotho 120th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

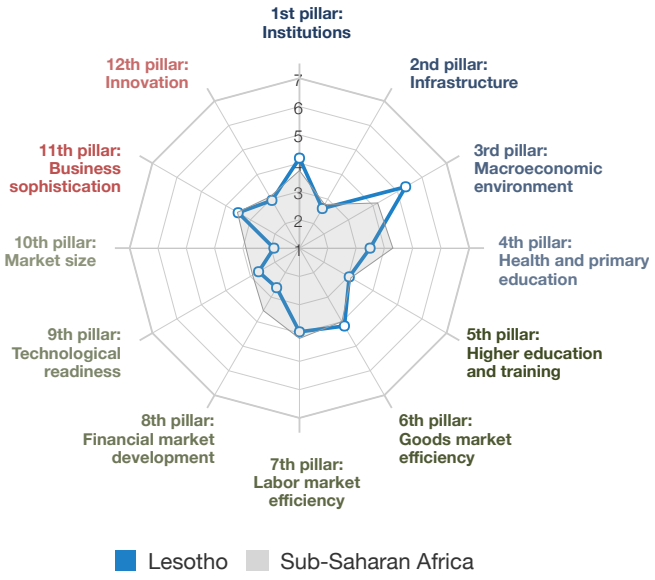
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	1.9	**GDP per capita** (US$)	1051.6
GDP (US$ billions)	2.0	**GDP (PPP)** % world GDP	0.01

Performance overview

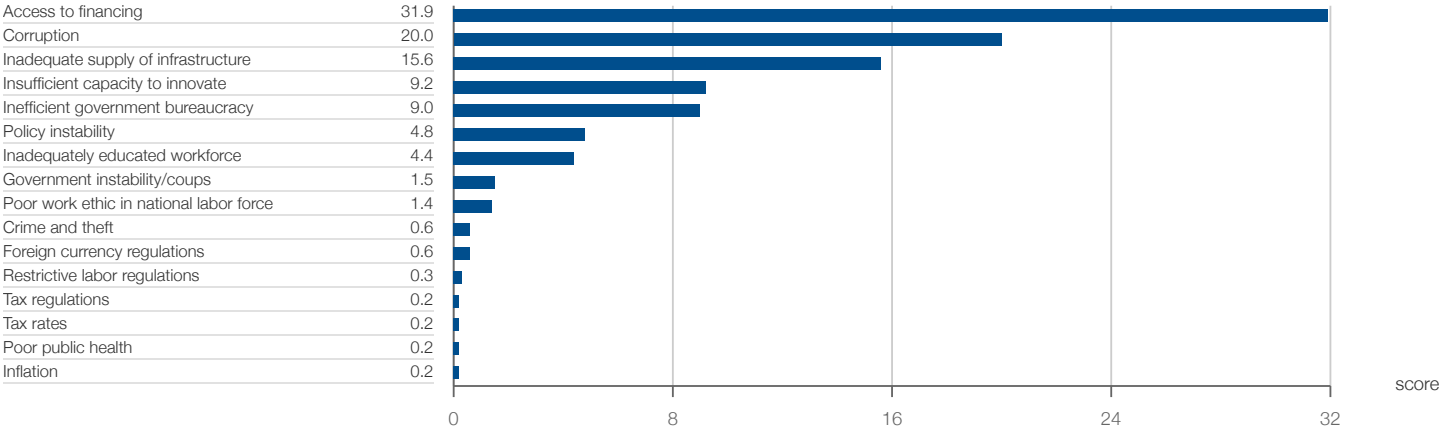
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**120**	3.6		
Subindex A: Basic requirements	109	3.9		
1st pillar: Institutions	**53**	4.2		
2nd pillar: Infrastructure	**119**	2.6		
3rd pillar: Macroeconomic environment	**36**	5.3		
4th pillar: Health and primary education	**133**	3.5		
Subindex B: Efficiency enhancers	133	3.1		
5th pillar: Higher education and training	**119**	3.0		
6th pillar: Goods market efficiency	**88**	4.2		
7th pillar: Labor market efficiency	**96**	4.0		
8th pillar: Financial market development	**134**	2.6		
9th pillar: Technological readiness	**123**	2.7		
10th pillar: Market size	**132**	1.9		
Subindex C: Innovation and sophistication factors	112	3.2		
11th pillar: Business sophistication	**110**	3.5		
12th pillar: Innovation	**111**	2.9		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**137** / 144	**123** / 148	**107** / 144	**113** / 140	**120** / 138
Score	3.2	3.5	3.7	3.7	3.6



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Lesotho

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**53**	**4.2**	
1.01 Property rights	76	4.2	
1.02 Intellectual property protection	75	4.0	
1.03 Diversion of public funds	53	3.9	
1.04 Public trust in politicians	60	3.2	
1.05 Irregular payments and bribes	128	2.7	
1.06 Judicial independence	48	4.5	
1.07 Favoritism in decisions of government officials	57	3.3	
1.08 Wastefulness of government spending	40	3.7	
1.09 Burden of government regulation	19	4.2	
1.10 Efficiency of legal framework in settling disputes	70	3.6	
1.11 Efficiency of legal framework in challenging regs	65	3.5	
1.12 Transparency of government policymaking	105	3.7	
1.13 Business costs of terrorism	1	6.7	
1.14 Business costs of crime and violence	2	6.4	
1.15 Organized crime	9	6.4	
1.16 Reliability of police services	32	5.7	
1.17 Ethical behavior of firms	53	4.1	
1.18 Strength of auditing and reporting standards	114	3.8	
1.19 Efficacy of corporate boards	135	3.6	
1.20 Protection of minority shareholders' interests	120	3.4	
1.21 Strength of investor protection 0-10 (best)	86	5.2	
2nd pillar: Infrastructure	**119**	**2.6**	
2.01 Quality of overall infrastructure	97	3.4	
2.02 Quality of roads	99	3.2	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	n/a	n/a	
2.05 Quality of air transport infrastructure	138	1.0	
2.06 Available airline seat kilometers millions/week	138	0.3	
2.07 Quality of electricity supply	105	3.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	90	105.5	
2.09 Fixed-telephone lines /100 pop.	112	2.1	
3rd pillar: Macroeconomic environment	**36**	**5.3**	
3.01 Government budget balance % GDP	15	0.1	
3.02 Gross national savings % GDP	35	27.0	
3.03 Inflation annual % change	98	4.8	
3.04 Government debt % GDP	88	60.0	
3.05 Country credit rating 0-100 (best)	92	-	
4th pillar: Health and primary education	**133**	**3.5**	
4.01 Malaria incidence cases/100,000 pop.	n/a	S.L.	
4.02 Business impact of malaria	N/Appl.	N/Appl.	
4.03 Tuberculosis incidence cases/100,000 pop.	138	852.0	
4.04 Business impact of tuberculosis	85	5.2	
4.05 HIV prevalence % adult pop.	136	23.4	
4.06 Business impact of HIV/AIDS	111	4.4	
4.07 Infant mortality deaths/1,000 live births	133	69.2	
4.08 Life expectancy years	138	49.7	
4.09 Quality of primary education	98	3.3	
4.10 Primary education enrollment rate net %	129	80.2	
5th pillar: Higher education and training	**119**	**3.0**	
5.01 Secondary education enrollment rate gross %	116	52.2	
5.02 Tertiary education enrollment rate gross %	117	9.8	
5.03 Quality of the education system	62	3.8	
5.04 Quality of math and science education	126	2.6	
5.05 Quality of management schools	71	4.1	
5.06 Internet access in schools	117	3.4	
5.07 Local availability of specialized training services	105	3.8	
5.08 Extent of staff training	107	3.5	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**88**	**4.2**	
6.01 Intensity of local competition	86	4.8	
6.02 Extent of market dominance	86	3.5	
6.03 Effectiveness of anti-monopoly policy	102	3.3	
6.04 Effect of taxation on incentives to invest	67	3.6	
6.05 Total tax rate % profits	6	13.6	
6.06 No. of procedures to start a business	76	7	
6.07 Time to start a business days	115	29.0	
6.08 Agricultural policy costs	83	3.6	
6.09 Prevalence of non-tariff barriers	126	3.6	
6.10 Trade tariffs % duty	83	6.5	
6.11 Prevalence of foreign ownership	94	4.2	
6.12 Business impact of rules on FDI	108	3.9	
6.13 Burden of customs procedures	107	3.4	
6.14 Imports % GDP	7	102.0	
6.15 Degree of customer orientation	135	3.5	
6.16 Buyer sophistication	36	3.8	
7th pillar: Labor market efficiency	**96**	**4.0**	
7.01 Cooperation in labor-employer relations	120	3.7	
7.02 Flexibility of wage determination	130	3.5	
7.03 Hiring and firing practices	79	3.6	
7.04 Redundancy costs weeks of salary	62	15.0	
7.05 Effect of taxation on incentives to work	95	3.6	
7.06 Pay and productivity	96	3.6	
7.07 Reliance on professional management	109	3.6	
7.08 Country capacity to retain talent	90	3.2	
7.09 Country capacity to attract talent	78	3.2	
7.10 Female participation in the labor force ratio to men	70	0.81	
8th pillar: Financial market development	**134**	**2.6**	
8.01 Financial services meeting business needs	137	2.4	
8.02 Affordability of financial services	136	2.3	
8.03 Financing through local equity market	121	2.6	
8.04 Ease of access to loans	138	1.7	
8.05 Venture capital availability	126	2.1	
8.06 Soundness of banks	137	2.3	
8.07 Regulation of securities exchanges	121	3.2	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**123**	**2.7**	
9.01 Availability of latest technologies	129	3.4	
9.02 Firm-level technology absorption	131	3.5	
9.03 FDI and technology transfer	129	3.3	
9.04 Internet users % pop.	124	16.1	
9.05 Fixed-broadband Internet subscriptions /100 pop.	127	0.1	
9.06 Internet bandwidth kb/s/user	124	3.9	
9.07 Mobile-broadband subscriptions /100 pop.	92	37.7	
10th pillar: Market size	**132**	**1.9**	
10.01 Domestic market size index	133	1.6	
10.02 Foreign market size index	131	2.7	
10.03 GDP (PPP) PPP $ billions	134	5.8	
10.04 Exports % GDP	60	36.1	
11th pillar: Business sophistication	**110**	**3.5**	
11.01 Local supplier quantity	88	4.3	
11.02 Local supplier quality	85	4.1	
11.03 State of cluster development	91	3.5	
11.04 Nature of competitive advantage	78	3.3	
11.05 Value chain breadth	118	3.3	
11.06 Control of international distribution	96	3.3	
11.07 Production process sophistication	103	3.3	
11.08 Extent of marketing	135	3.4	
11.09 Willingness to delegate authority	127	3.0	
12th pillar: Innovation	**111**	**2.9**	
12.01 Capacity for innovation	126	3.4	
12.02 Quality of scientific research institutions	89	3.6	
12.03 Company spending on R&D	94	3.0	
12.04 University-industry collaboration in R&D	116	2.8	
12.05 Gov't procurement of advanced tech. products	71	3.2	
12.06 Availability of scientists and engineers	121	3.2	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Liberia 131st / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

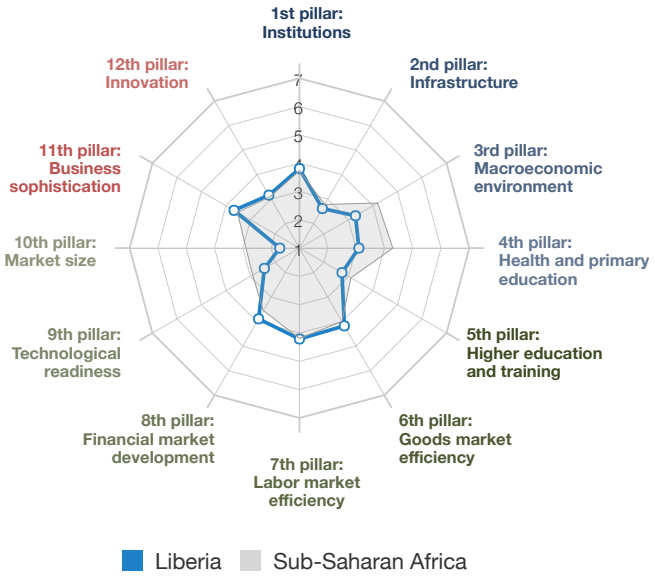
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	4.3	**GDP per capita** (US$)	473.6
GDP (US$ billions)	2.0	**GDP (PPP)** % world GDP	0.00

Performance overview

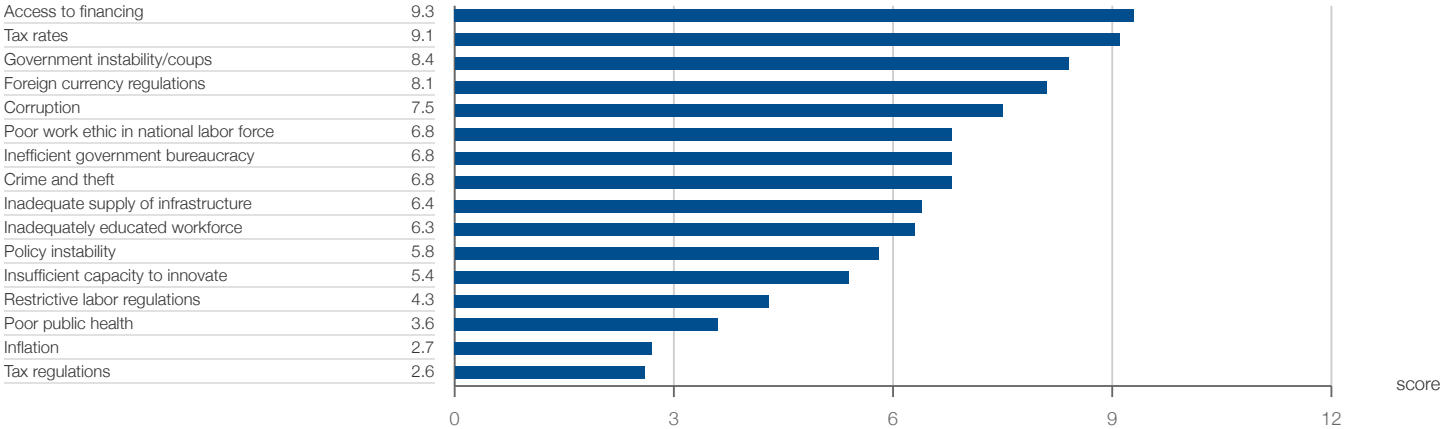
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**131**	3.2		
Subindex A: Basic requirements	132	3.2		
1st pillar: Institutions	**79**	**3.8**		
2nd pillar: Infrastructure	**120**	**2.6**		
3rd pillar: Macroeconomic environment	**127**	**3.3**		
4th pillar: Health and primary education	**136**	**3.1**		
Subindex B: Efficiency enhancers	129	3.2		
5th pillar: Higher education and training	**130**	**2.7**		
6th pillar: Goods market efficiency	**90**	**4.2**		
7th pillar: Labor market efficiency	**74**	**4.2**		
8th pillar: Financial market development	**74**	**3.9**		
9th pillar: Technological readiness	**130**	**2.4**		
10th pillar: Market size	**134**	**1.7**		
Subindex C: Innovation and sophistication factors	91	3.4		
11th pillar: Business sophistication	**90**	**3.7**		
12th pillar: Innovation	**91**	**3.2**		

Edition	2012-13	2013-14	2015-16	2016-17
Rank	**111** / 144	**128** / 148	**129** / 140	**131** / 138
Score	3.7	3.5	3.4	3.2



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Liberia

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**79**	**3.8**	
1.01 Property rights	77	4.2	
1.02 Intellectual property protection	94	3.7	
1.03 Diversion of public funds	47	4.0	
1.04 Public trust in politicians	45	3.6	
1.05 Irregular payments and bribes	73	3.9	
1.06 Judicial independence	78	3.8	
1.07 Favoritism in decisions of government officials	42	3.7	
1.08 Wastefulness of government spending	29	3.9	
1.09 Burden of government regulation	34	3.9	
1.10 Efficiency of legal framework in settling disputes	59	3.8	
1.11 Efficiency of legal framework in challenging regs	54	3.7	
1.12 Transparency of government policymaking	117	3.5	
1.13 Business costs of terrorism	114	4.3	
1.14 Business costs of crime and violence	92	4.1	
1.15 Organized crime	98	4.3	
1.16 Reliability of police services	103	3.6	
1.17 Ethical behavior of firms	91	3.6	
1.18 Strength of auditing and reporting standards	118	3.8	
1.19 Efficacy of corporate boards	126	4.1	
1.20 Protection of minority shareholders' interests	92	3.8	
1.21 Strength of investor protection 0-10 (best)	138	2.8	
2nd pillar: Infrastructure	**120**	**2.6**	
2.01 Quality of overall infrastructure	118	2.9	
2.02 Quality of roads	104	3.1	
2.03 Quality of railroad infrastructure	65	2.8	
2.04 Quality of port infrastructure	93	3.5	
2.05 Quality of air transport infrastructure	114	3.2	
2.06 Available airline seat kilometers millions/week	131	10.1	
2.07 Quality of electricity supply	117	2.8	
2.08 Mobile-cellular telephone subscriptions /100 pop.	120	81.1	
2.09 Fixed-telephone lines /100 pop.	133	0.2	
3rd pillar: Macroeconomic environment	**127**	**3.3**	
3.01 Government budget balance % GDP	133	-12.0	
3.02 Gross national savings % GDP	131	4.4	
3.03 Inflation annual % change	122	7.7	
3.04 Government debt % GDP	53	40.0	
3.05 Country credit rating 0-100 (best)	132	-	
4th pillar: Health and primary education	**136**	**3.1**	
4.01 Malaria incidence cases/100,000 pop.	66	36392.1	
4.02 Business impact of malaria	60	3.4	
4.03 Tuberculosis incidence cases/100,000 pop.	125	308.0	
4.04 Business impact of tuberculosis	133	3.6	
4.05 HIV prevalence % adult pop.	111	1.2	
4.06 Business impact of HIV/AIDS	106	4.5	
4.07 Infant mortality deaths/1,000 live births	125	52.8	
4.08 Life expectancy years	122	60.8	
4.09 Quality of primary education	108	3.1	
4.10 Primary education enrollment rate net %	138	37.7	
5th pillar: Higher education and training	**130**	**2.7**	
5.01 Secondary education enrollment rate gross %	131	37.9	
5.02 Tertiary education enrollment rate gross %	112	11.6	
5.03 Quality of the education system	94	3.3	
5.04 Quality of math and science education	103	3.4	
5.05 Quality of management schools	123	3.4	
5.06 Internet access in schools	126	3.1	
5.07 Local availability of specialized training services	122	3.6	
5.08 Extent of staff training	71	3.9	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**90**	**4.2**	
6.01 Intensity of local competition	132	4.1	
6.02 Extent of market dominance	72	3.6	
6.03 Effectiveness of anti-monopoly policy	80	3.6	
6.04 Effect of taxation on incentives to invest	31	4.2	
6.05 Total tax rate % profits	101	47.8	
6.06 No. of procedures to start a business	22	4	
6.07 Time to start a business days	24	4.5	
6.08 Agricultural policy costs	92	3.5	
6.09 Prevalence of non-tariff barriers	118	3.7	
6.10 Trade tariffs % duty	115	10.7	
6.11 Prevalence of foreign ownership	89	4.2	
6.12 Business impact of rules on FDI	120	3.6	
6.13 Burden of customs procedures	91	3.7	
6.14 Imports % GDP	5	140.3	
6.15 Degree of customer orientation	108	4.1	
6.16 Buyer sophistication	75	3.3	
7th pillar: Labor market efficiency	**74**	**4.2**	
7.01 Cooperation in labor-employer relations	127	3.7	
7.02 Flexibility of wage determination	128	3.8	
7.03 Hiring and firing practices	66	3.8	
7.04 Redundancy costs weeks of salary	106	25.6	
7.05 Effect of taxation on incentives to work	86	3.7	
7.06 Pay and productivity	72	3.9	
7.07 Reliance on professional management	79	4.1	
7.08 Country capacity to retain talent	45	3.8	
7.09 Country capacity to attract talent	41	3.8	
7.10 Female participation in the labor force ratio to men	23	0.92	
8th pillar: Financial market development	**74**	**3.9**	
8.01 Financial services meeting business needs	100	3.8	
8.02 Affordability of financial services	78	3.6	
8.03 Financing through local equity market	63	3.7	
8.04 Ease of access to loans	84	3.6	
8.05 Venture capital availability	45	3.2	
8.06 Soundness of banks	113	4.0	
8.07 Regulation of securities exchanges	107	3.7	
8.08 Legal rights index 0-10 (best)	20	8	
9th pillar: Technological readiness	**130**	**2.4**	
9.01 Availability of latest technologies	134	3.0	
9.02 Firm-level technology absorption	126	3.7	
9.03 FDI and technology transfer	120	3.6	
9.04 Internet users % pop.	132	5.9	
9.05 Fixed-broadband Internet subscriptions /100 pop.	125	0.2	
9.06 Internet bandwidth kb/s/user	109	7.5	
9.07 Mobile-broadband subscriptions /100 pop.	108	20.5	
10th pillar: Market size	**134**	**1.7**	
10.01 Domestic market size index	135	1.5	
10.02 Foreign market size index	137	2.2	
10.03 GDP (PPP) PPP $ billions	136	3.7	
10.04 Exports % GDP	104	23.7	
11th pillar: Business sophistication	**90**	**3.7**	
11.01 Local supplier quantity	117	3.9	
11.02 Local supplier quality	101	3.9	
11.03 State of cluster development	83	3.6	
11.04 Nature of competitive advantage	55	3.7	
11.05 Value chain breadth	101	3.5	
11.06 Control of international distribution	73	3.6	
11.07 Production process sophistication	102	3.3	
11.08 Extent of marketing	116	3.9	
11.09 Willingness to delegate authority	95	3.5	
12th pillar: Innovation	**91**	**3.2**	
12.01 Capacity for innovation	125	3.5	
12.02 Quality of scientific research institutions	116	3.0	
12.03 Company spending on R&D	42	3.7	
12.04 University-industry collaboration in R&D	43	3.7	
12.05 Gov't procurement of advanced tech. products	40	3.6	
12.06 Availability of scientists and engineers	117	3.3	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Madagascar 128th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

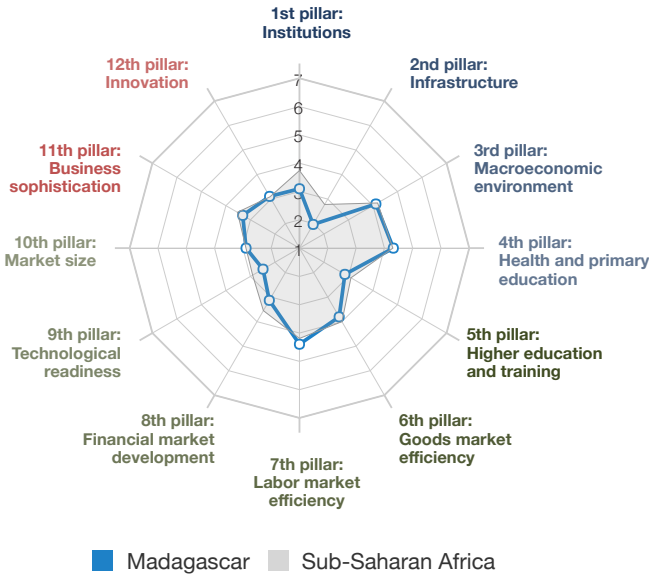
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	24.2	**GDP per capita** (US$)	401.8
GDP (US$ billions)	9.7	**GDP (PPP)** % world GDP	0.03

Performance overview

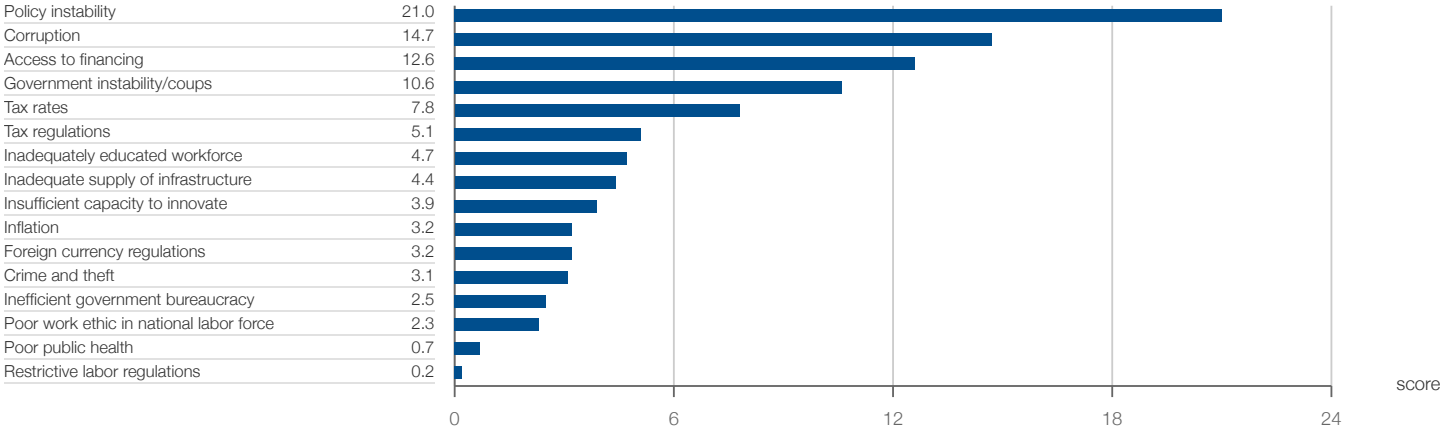
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**128**	3.3		
Subindex A: Basic requirements	127	3.4		
1st pillar: Institutions	**127**	**3.1**		
2nd pillar: Infrastructure	**133**	**2.0**		
3rd pillar: Macroeconomic environment	**102**	**4.1**		
4th pillar: Health and primary education	**122**	**4.3**		
Subindex B: Efficiency enhancers	128	3.3		
5th pillar: Higher education and training	**126**	**2.9**		
6th pillar: Goods market efficiency	**120**	**3.8**		
7th pillar: Labor market efficiency	**56**	**4.4**		
8th pillar: Financial market development	**121**	**3.1**		
9th pillar: Technological readiness	**128**	**2.5**		
10th pillar: Market size	**107**	**2.9**		
Subindex C: Innovation and sophistication factors	114	3.2		
11th pillar: Business sophistication	**120**	**3.3**		
12th pillar: Innovation	**97**	**3.1**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**130** / 144	**132** / 148	**130** / 144	**130** / 140	**128** / 138
Score	3.4	3.4	3.4	3.3	3.3



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Madagascar

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**127**	**3.1**	
1.01 Property rights	127	3.2	
1.02 Intellectual property protection	107	3.4	
1.03 Diversion of public funds	111	2.6	
1.04 Public trust in politicians	108	2.2	
1.05 Irregular payments and bribes	127	2.7	
1.06 Judicial independence	126	2.5	
1.07 Favoritism in decisions of government officials	104	2.6	
1.08 Wastefulness of government spending	110	2.4	
1.09 Burden of government regulation	94	3.2	
1.10 Efficiency of legal framework in settling disputes	122	2.7	
1.11 Efficiency of legal framework in challenging regs	128	2.5	
1.12 Transparency of government policymaking	137	2.6	
1.13 Business costs of terrorism	96	4.8	
1.14 Business costs of crime and violence	111	3.6	
1.15 Organized crime	115	3.8	
1.16 Reliability of police services	123	2.9	
1.17 Ethical behavior of firms	110	3.3	
1.18 Strength of auditing and reporting standards	125	3.6	
1.19 Efficacy of corporate boards	103	4.4	
1.20 Protection of minority shareholders' interests	135	3.0	
1.21 Strength of investor protection 0-10 (best)	90	5.0	
2nd pillar: Infrastructure	**133**	**2.0**	
2.01 Quality of overall infrastructure	122	2.7	
2.02 Quality of roads	138	2.0	
2.03 Quality of railroad infrastructure	95	1.8	
2.04 Quality of port infrastructure	94	3.5	
2.05 Quality of air transport infrastructure	122	3.2	
2.06 Available airline seat kilometers millions/week	110	33.4	
2.07 Quality of electricity supply	130	1.9	
2.08 Mobile-cellular telephone subscriptions /100 pop.	135	46.0	
2.09 Fixed-telephone lines /100 pop.	121	1.0	
3rd pillar: Macroeconomic environment	**102**	**4.1**	
3.01 Government budget balance % GDP	82	-3.7	
3.02 Gross national savings % GDP	101	14.9	
3.03 Inflation annual % change	120	7.4	
3.04 Government debt % GDP	37	35.6	
3.05 Country credit rating 0-100 (best)	125	-	
4th pillar: Health and primary education	**122**	**4.3**	
4.01 Malaria incidence cases/100,000 pop.	47	5090.8	
4.02 Business impact of malaria	61	3.4	
4.03 Tuberculosis incidence cases/100,000 pop.	120	235.0	
4.04 Business impact of tuberculosis	107	4.4	
4.05 HIV prevalence % adult pop.	60	0.3	
4.06 Business impact of HIV/AIDS	86	5.0	
4.07 Infant mortality deaths/1,000 live births	112	35.9	
4.08 Life expectancy years	110	65.1	
4.09 Quality of primary education	112	3.0	
4.10 Primary education enrollment rate net %	130	77.1	
5th pillar: Higher education and training	**126**	**2.9**	
5.01 Secondary education enrollment rate gross %	129	38.4	
5.02 Tertiary education enrollment rate gross %	131	4.2	
5.03 Quality of the education system	115	2.9	
5.04 Quality of math and science education	82	3.8	
5.05 Quality of management schools	82	4.0	
5.06 Internet access in schools	104	3.6	
5.07 Local availability of specialized training services	98	3.9	
5.08 Extent of staff training	96	3.6	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**120**	**3.8**	
6.01 Intensity of local competition	110	4.6	
6.02 Extent of market dominance	123	3.0	
6.03 Effectiveness of anti-monopoly policy	133	2.6	
6.04 Effect of taxation on incentives to invest	99	3.3	
6.05 Total tax rate % profits	73	38.1	
6.06 No. of procedures to start a business	108	9	
6.07 Time to start a business days	77	13.0	
6.08 Agricultural policy costs	113	3.2	
6.09 Prevalence of non-tariff barriers	134	3.1	
6.10 Trade tariffs % duty	90	7.7	
6.11 Prevalence of foreign ownership	97	4.2	
6.12 Business impact of rules on FDI	105	4.0	
6.13 Burden of customs procedures	120	3.2	
6.14 Imports % GDP	68	42.8	
6.15 Degree of customer orientation	78	4.5	
6.16 Buyer sophistication	130	2.4	
7th pillar: Labor market efficiency	**56**	**4.4**	
7.01 Cooperation in labor-employer relations	94	4.2	
7.02 Flexibility of wage determination	90	4.8	
7.03 Hiring and firing practices	70	3.7	
7.04 Redundancy costs weeks of salary	59	14.7	
7.05 Effect of taxation on incentives to work	58	4.0	
7.06 Pay and productivity	111	3.5	
7.07 Reliance on professional management	103	3.7	
7.08 Country capacity to retain talent	105	2.9	
7.09 Country capacity to attract talent	71	3.3	
7.10 Female participation in the labor force ratio to men	11	0.95	
8th pillar: Financial market development	**121**	**3.1**	
8.01 Financial services meeting business needs	103	3.7	
8.02 Affordability of financial services	122	2.9	
8.03 Financing through local equity market	117	2.7	
8.04 Ease of access to loans	121	2.9	
8.05 Venture capital availability	89	2.6	
8.06 Soundness of banks	104	4.2	
8.07 Regulation of securities exchanges	126	3.2	
8.08 Legal rights index 0-10 (best)	97	3	
9th pillar: Technological readiness	**128**	**2.5**	
9.01 Availability of latest technologies	121	3.8	
9.02 Firm-level technology absorption	89	4.3	
9.03 FDI and technology transfer	108	3.8	
9.04 Internet users % pop.	135	4.2	
9.05 Fixed-broadband Internet subscriptions /100 pop.	132	0.1	
9.06 Internet bandwidth kb/s/user	102	12.4	
9.07 Mobile-broadband subscriptions /100 pop.	128	9.0	
10th pillar: Market size	**107**	**2.9**	
10.01 Domestic market size index	105	2.6	
10.02 Foreign market size index	106	3.7	
10.03 GDP (PPP) PPP $ billions	106	35.4	
10.04 Exports % GDP	69	34.6	
11th pillar: Business sophistication	**120**	**3.3**	
11.01 Local supplier quantity	95	4.2	
11.02 Local supplier quality	108	3.7	
11.03 State of cluster development	110	3.1	
11.04 Nature of competitive advantage	131	2.3	
11.05 Value chain breadth	124	3.1	
11.06 Control of international distribution	130	2.8	
11.07 Production process sophistication	130	2.6	
11.08 Extent of marketing	105	4.0	
11.09 Willingness to delegate authority	80	3.6	
12th pillar: Innovation	**97**	**3.1**	
12.01 Capacity for innovation	81	4.0	
12.02 Quality of scientific research institutions	90	3.6	
12.03 Company spending on R&D	81	3.2	
12.04 University-industry collaboration in R&D	73	3.4	
12.05 Gov't procurement of advanced tech. products	107	2.8	
12.06 Availability of scientists and engineers	92	3.7	
12.07 PCT patent applications applications/million pop.	105	0.1	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Malawi 134th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

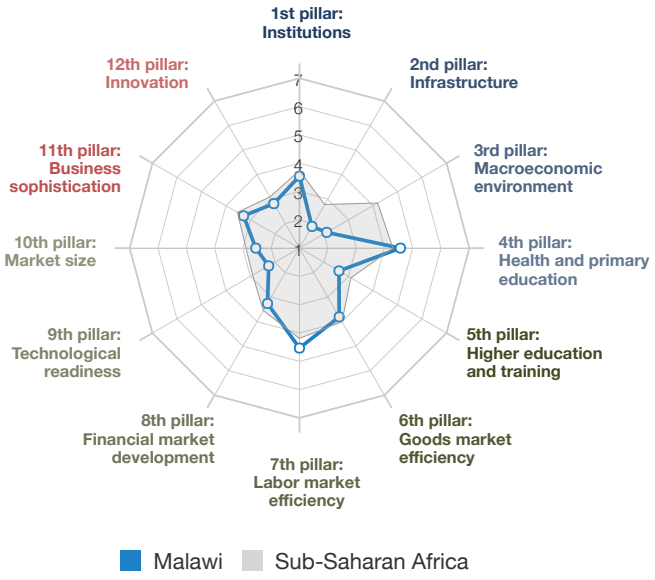
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	18.1	**GDP per capita** (US$)	354.3
GDP (US$ billions)	6.4	**GDP (PPP)** % world GDP	0.02

Performance overview

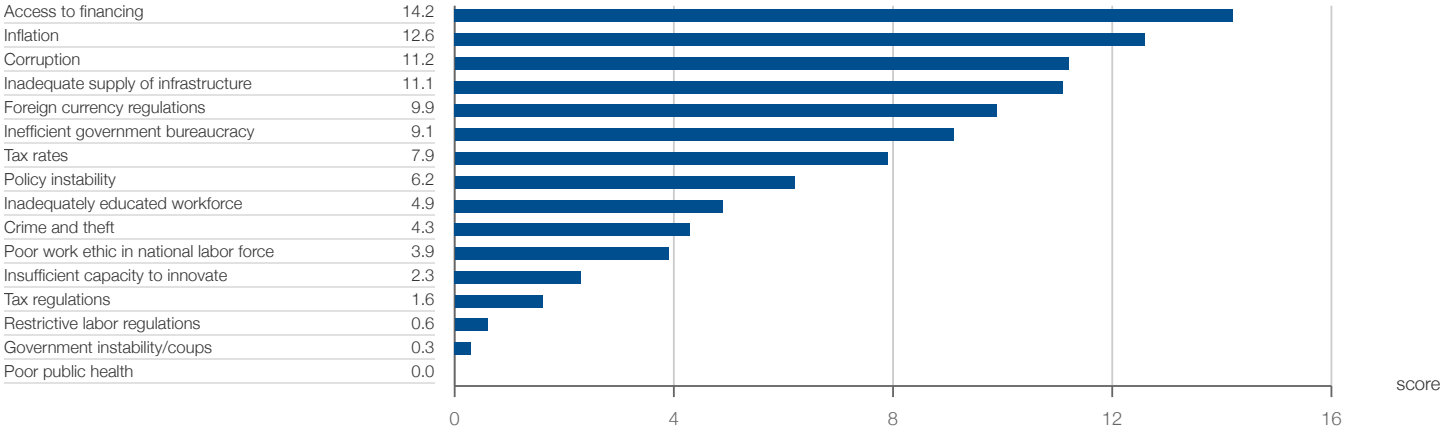
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**134**	3.1		
Subindex A: Basic requirements	137	3.0		
1st pillar: Institutions	**94**	**3.5**		
2nd pillar: Infrastructure	**135**	**1.9**		
3rd pillar: Macroeconomic environment	**137**	**2.1**		
4th pillar: Health and primary education	**120**	**4.6**		
Subindex B: Efficiency enhancers	130	3.2		
5th pillar: Higher education and training	**131**	**2.6**		
6th pillar: Goods market efficiency	**119**	**3.8**		
7th pillar: Labor market efficiency	**38**	**4.5**		
8th pillar: Financial market development	**115**	**3.3**		
9th pillar: Technological readiness	**135**	**2.3**		
10th pillar: Market size	**125**	**2.5**		
Subindex C: Innovation and sophistication factors	121	3.0		
11th pillar: Business sophistication	**122**	**3.3**		
12th pillar: Innovation	**120**	**2.8**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**129** / 144	**136** / 148	**132** / 144	**135** / 140	**134** / 138
Score	3.4	3.3	3.2	3.2	3.1



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Malawi

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**94**	**3.5**	
1.01 Property rights	96	4.0	
1.02 Intellectual property protection	119	3.3	
1.03 Diversion of public funds	119	2.5	
1.04 Public trust in politicians	115	2.1	
1.05 Irregular payments and bribes	108	3.1	
1.06 Judicial independence	57	4.1	
1.07 Favoritism in decisions of government officials	114	2.3	
1.08 Wastefulness of government spending	101	2.6	
1.09 Burden of government regulation	76	3.4	
1.10 Efficiency of legal framework in settling disputes	100	3.1	
1.11 Efficiency of legal framework in challenging regs	78	3.3	
1.12 Transparency of government policymaking	94	3.8	
1.13 Business costs of terrorism	8	6.2	
1.14 Business costs of crime and violence	120	3.3	
1.15 Organized crime	83	4.5	
1.16 Reliability of police services	96	3.8	
1.17 Ethical behavior of firms	99	3.5	
1.18 Strength of auditing and reporting standards	81	4.4	
1.19 Efficacy of corporate boards	61	5.0	
1.20 Protection of minority shareholders' interests	104	3.6	
1.21 Strength of investor protection 0-10 (best)	96	4.7	
2nd pillar: Infrastructure	**135**	**1.9**	
2.01 Quality of overall infrastructure	125	2.5	
2.02 Quality of roads	112	2.9	
2.03 Quality of railroad infrastructure	94	1.8	
2.04 Quality of port infrastructure	130	2.2	
2.05 Quality of air transport infrastructure	136	2.4	
2.06 Available airline seat kilometers millions/week	133	8.1	
2.07 Quality of electricity supply	125	2.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	138	35.3	
2.09 Fixed-telephone lines /100 pop.	131	0.3	
3rd pillar: Macroeconomic environment	**137**	**2.1**	
3.01 Government budget balance % GDP	112	-5.9	
3.02 Gross national savings % GDP	132	4.1	
3.03 Inflation annual % change	134	21.9	
3.04 Government debt % GDP	115	83.4	
3.05 Country credit rating 0-100 (best)	128	-	
4th pillar: Health and primary education	**120**	**4.6**	
4.01 Malaria incidence cases/100,000 pop.	56	20964.0	
4.02 Business impact of malaria	67	3.1	
4.03 Tuberculosis incidence cases/100,000 pop.	118	227.0	
4.04 Business impact of tuberculosis	131	3.7	
4.05 HIV prevalence % adult pop.	130	10.0	
4.06 Business impact of HIV/AIDS	136	3.1	
4.07 Infant mortality deaths/1,000 live births	121	43.4	
4.08 Life expectancy years	119	62.7	
4.09 Quality of primary education	132	2.4	
4.10 Primary education enrollment rate net %	36	97.5	
5th pillar: Higher education and training	**131**	**2.6**	
5.01 Secondary education enrollment rate gross %	127	39.5	
5.02 Tertiary education enrollment rate gross %	138	0.8	
5.03 Quality of the education system	100	3.2	
5.04 Quality of math and science education	125	2.7	
5.05 Quality of management schools	133	3.0	
5.06 Internet access in schools	132	2.6	
5.07 Local availability of specialized training services	123	3.5	
5.08 Extent of staff training	65	3.9	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**119**	**3.8**	
6.01 Intensity of local competition	113	4.6	
6.02 Extent of market dominance	125	2.9	
6.03 Effectiveness of anti-monopoly policy	111	3.1	
6.04 Effect of taxation on incentives to invest	117	2.9	
6.05 Total tax rate % profits	57	34.5	
6.06 No. of procedures to start a business	94	8	
6.07 Time to start a business days	123	38.0	
6.08 Agricultural policy costs	104	3.3	
6.09 Prevalence of non-tariff barriers	31	4.8	
6.10 Trade tariffs % duty	109	9.9	
6.11 Prevalence of foreign ownership	50	4.8	
6.12 Business impact of rules on FDI	64	4.7	
6.13 Burden of customs procedures	104	3.5	
6.14 Imports % GDP	53	49.9	
6.15 Degree of customer orientation	116	4.0	
6.16 Buyer sophistication	129	2.4	
7th pillar: Labor market efficiency	**38**	**4.5**	
7.01 Cooperation in labor-employer relations	102	4.1	
7.02 Flexibility of wage determination	36	5.4	
7.03 Hiring and firing practices	74	3.7	
7.04 Redundancy costs weeks of salary	71	16.6	
7.05 Effect of taxation on incentives to work	98	3.6	
7.06 Pay and productivity	101	3.6	
7.07 Reliance on professional management	54	4.5	
7.08 Country capacity to retain talent	88	3.2	
7.09 Country capacity to attract talent	95	3.0	
7.10 Female participation in the labor force ratio to men	5	1.01	
8th pillar: Financial market development	**115**	**3.3**	
8.01 Financial services meeting business needs	115	3.5	
8.02 Affordability of financial services	138	2.1	
8.03 Financing through local equity market	101	3.0	
8.04 Ease of access to loans	127	2.7	
8.05 Venture capital availability	136	1.7	
8.06 Soundness of banks	94	4.4	
8.07 Regulation of securities exchanges	93	3.9	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**135**	**2.3**	
9.01 Availability of latest technologies	131	3.3	
9.02 Firm-level technology absorption	132	3.4	
9.03 FDI and technology transfer	130	3.3	
9.04 Internet users % pop.	129	9.3	
9.05 Fixed-broadband Internet subscriptions /100 pop.	136	0.0	
9.06 Internet bandwidth kb/s/user	132	2.4	
9.07 Mobile-broadband subscriptions /100 pop.	114	16.6	
10th pillar: Market size	**125**	**2.5**	
10.01 Domestic market size index	123	2.3	
10.02 Foreign market size index	126	3.2	
10.03 GDP (PPP) PPP $ billions	124	20.4	
10.04 Exports % GDP	106	23.0	
11th pillar: Business sophistication	**122**	**3.3**	
11.01 Local supplier quantity	107	4.0	
11.02 Local supplier quality	133	3.3	
11.03 State of cluster development	129	2.9	
11.04 Nature of competitive advantage	122	2.6	
11.05 Value chain breadth	129	3.0	
11.06 Control of international distribution	133	2.8	
11.07 Production process sophistication	129	2.7	
11.08 Extent of marketing	103	4.1	
11.09 Willingness to delegate authority	84	3.6	
12th pillar: Innovation	**120**	**2.8**	
12.01 Capacity for innovation	123	3.5	
12.02 Quality of scientific research institutions	119	3.0	
12.03 Company spending on R&D	112	2.8	
12.04 University-industry collaboration in R&D	122	2.7	
12.05 Gov't procurement of advanced tech. products	102	2.9	
12.06 Availability of scientists and engineers	100	3.6	
12.07 PCT patent applications applications/million pop.	119	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Mali 125th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

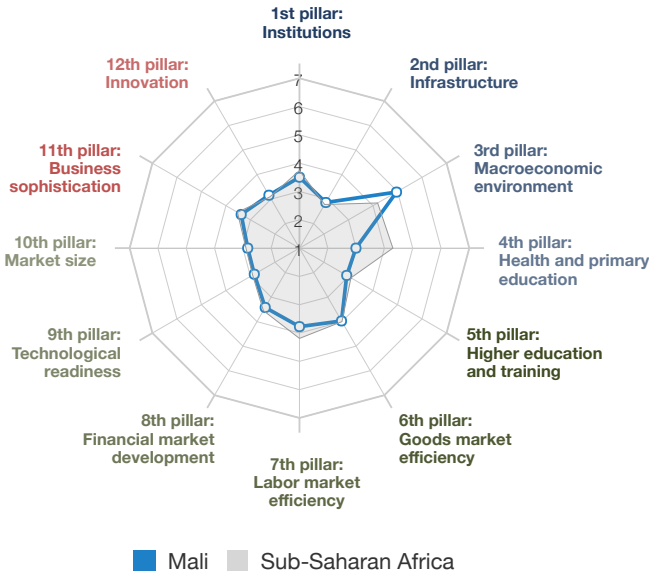
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	16.3	**GDP per capita** (US$)	801.8
GDP (US$ billions)	13.1	**GDP (PPP)** % world GDP	0.03

Performance overview

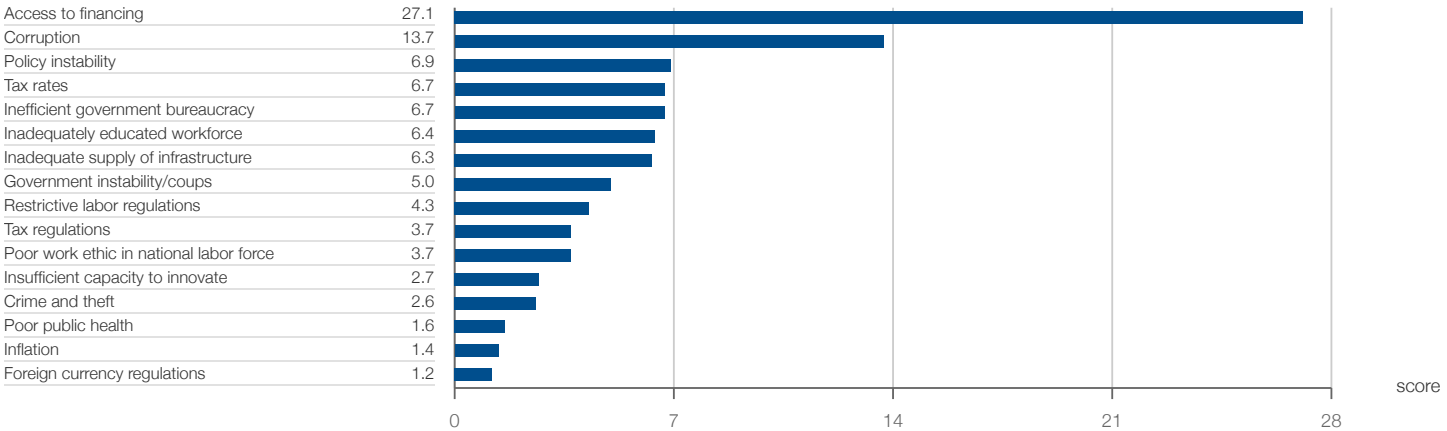
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**125**	3.5		
Subindex A: Basic requirements	123	3.6		
1st pillar: Institutions	**98**	**3.5**		
2nd pillar: Infrastructure	**112**	**2.9**		
3rd pillar: Macroeconomic environment	**52**	**5.0**		
4th pillar: Health and primary education	**137**	**3.0**		
Subindex B: Efficiency enhancers	124	3.3		
5th pillar: Higher education and training	**122**	**2.9**		
6th pillar: Goods market efficiency	**110**	**4.0**		
7th pillar: Labor market efficiency	**112**	**3.8**		
8th pillar: Financial market development	**109**	**3.4**		
9th pillar: Technological readiness	**113**	**2.8**		
10th pillar: Market size	**111**	**2.8**		
Subindex C: Innovation and sophistication factors	109	3.3		
11th pillar: Business sophistication	**118**	**3.4**		
12th pillar: Innovation	**92**	**3.2**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**128** / 144	**135** / 148	**128** / 144	**127** / 140	**125** / 138
Score	3.4	3.3	3.4	3.4	3.5



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Mali

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**98**	**3.5**	
1.01 Property rights	113	3.7	
1.02 Intellectual property protection	82	3.9	
1.03 Diversion of public funds	75	3.4	
1.04 Public trust in politicians	59	3.2	
1.05 Irregular payments and bribes	125	2.8	
1.06 Judicial independence	84	3.7	
1.07 Favoritism in decisions of government officials	56	3.3	
1.08 Wastefulness of government spending	71	3.2	
1.09 Burden of government regulation	73	3.4	
1.10 Efficiency of legal framework in settling disputes	63	3.7	
1.11 Efficiency of legal framework in challenging regs	68	3.5	
1.12 Transparency of government policymaking	101	3.7	
1.13 Business costs of terrorism	126	3.2	
1.14 Business costs of crime and violence	113	3.6	
1.15 Organized crime	114	3.9	
1.16 Reliability of police services	102	3.6	
1.17 Ethical behavior of firms	103	3.5	
1.18 Strength of auditing and reporting standards	134	3.3	
1.19 Efficacy of corporate boards	102	4.4	
1.20 Protection of minority shareholders' interests	121	3.4	
1.21 Strength of investor protection 0-10 (best)	129	3.5	
2nd pillar: Infrastructure	**112**	**2.9**	
2.01 Quality of overall infrastructure	128	2.4	
2.02 Quality of roads	97	3.2	
2.03 Quality of railroad infrastructure	84	2.2	
2.04 Quality of port infrastructure	125	2.3	
2.05 Quality of air transport infrastructure	110	3.5	
2.06 Available airline seat kilometers millions/week	112	32.3	
2.07 Quality of electricity supply	116	2.8	
2.08 Mobile-cellular telephone subscriptions /100 pop.	31	139.6	
2.09 Fixed-telephone lines /100 pop.	122	1.0	
3rd pillar: Macroeconomic environment	**52**	**5.0**	
3.01 Government budget balance % GDP	43	-2.1	
3.02 Gross national savings % GDP	65	21.2	
3.03 Inflation annual % change	1	1.4	
3.04 Government debt % GDP	42	36.3	
3.05 Country credit rating 0-100 (best)	126	-	
4th pillar: Health and primary education	**137**	**3.0**	
4.01 Malaria incidence cases/100,000 pop.	69	42725.0	
4.02 Business impact of malaria	65	3.2	
4.03 Tuberculosis incidence cases/100,000 pop.	75	58.0	
4.04 Business impact of tuberculosis	123	4.0	
4.05 HIV prevalence % adult pop.	115	1.4	
4.06 Business impact of HIV/AIDS	122	3.9	
4.07 Infant mortality deaths/1,000 live births	135	74.5	
4.08 Life expectancy years	128	58.0	
4.09 Quality of primary education	106	3.1	
4.10 Primary education enrollment rate net %	137	59.4	
5th pillar: Higher education and training	**122**	**2.9**	
5.01 Secondary education enrollment rate gross %	121	43.5	
5.02 Tertiary education enrollment rate gross %	124	6.9	
5.03 Quality of the education system	101	3.2	
5.04 Quality of math and science education	101	3.5	
5.05 Quality of management schools	91	3.8	
5.06 Internet access in schools	100	3.7	
5.07 Local availability of specialized training services	88	4.1	
5.08 Extent of staff training	111	3.5	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**110**	**4.0**	
6.01 Intensity of local competition	121	4.4	
6.02 Extent of market dominance	37	4.1	
6.03 Effectiveness of anti-monopoly policy	66	3.7	
6.04 Effect of taxation on incentives to invest	81	3.4	
6.05 Total tax rate % profits	102	48.3	
6.06 No. of procedures to start a business	41	5	
6.07 Time to start a business days	53	8.5	
6.08 Agricultural policy costs	80	3.7	
6.09 Prevalence of non-tariff barriers	122	3.6	
6.10 Trade tariffs % duty	104	9.9	
6.11 Prevalence of foreign ownership	122	3.5	
6.12 Business impact of rules on FDI	119	3.6	
6.13 Burden of customs procedures	117	3.3	
6.14 Imports % GDP	109	30.1	
6.15 Degree of customer orientation	107	4.1	
6.16 Buyer sophistication	125	2.6	
7th pillar: Labor market efficiency	**112**	**3.8**	
7.01 Cooperation in labor-employer relations	84	4.2	
7.02 Flexibility of wage determination	117	4.2	
7.03 Hiring and firing practices	53	3.9	
7.04 Redundancy costs weeks of salary	55	13.6	
7.05 Effect of taxation on incentives to work	79	3.8	
7.06 Pay and productivity	120	3.3	
7.07 Reliance on professional management	121	3.4	
7.08 Country capacity to retain talent	74	3.5	
7.09 Country capacity to attract talent	72	3.3	
7.10 Female participation in the labor force ratio to men	114	0.62	
8th pillar: Financial market development	**109**	**3.4**	
8.01 Financial services meeting business needs	128	3.3	
8.02 Affordability of financial services	119	3.0	
8.03 Financing through local equity market	96	3.1	
8.04 Ease of access to loans	93	3.4	
8.05 Venture capital availability	88	2.6	
8.06 Soundness of banks	118	3.8	
8.07 Regulation of securities exchanges	115	3.5	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**113**	**2.8**	
9.01 Availability of latest technologies	109	4.0	
9.02 Firm-level technology absorption	117	3.9	
9.03 FDI and technology transfer	106	3.8	
9.04 Internet users % pop.	128	10.3	
9.05 Fixed-broadband Internet subscriptions /100 pop.	134	0.0	
9.06 Internet bandwidth kb/s/user	136	1.3	
9.07 Mobile-broadband subscriptions /100 pop.	111	18.8	
10th pillar: Market size	**111**	**2.8**	
10.01 Domestic market size index	103	2.6	
10.02 Foreign market size index	120	3.4	
10.03 GDP (PPP) PPP $ billions	104	35.8	
10.04 Exports % GDP	111	20.3	
11th pillar: Business sophistication	**118**	**3.4**	
11.01 Local supplier quantity	103	4.1	
11.02 Local supplier quality	115	3.7	
11.03 State of cluster development	92	3.4	
11.04 Nature of competitive advantage	102	3.0	
11.05 Value chain breadth	128	3.0	
11.06 Control of international distribution	108	3.1	
11.07 Production process sophistication	123	2.9	
11.08 Extent of marketing	118	3.9	
11.09 Willingness to delegate authority	113	3.3	
12th pillar: Innovation	**92**	**3.2**	
12.01 Capacity for innovation	117	3.6	
12.02 Quality of scientific research institutions	74	3.7	
12.03 Company spending on R&D	69	3.3	
12.04 University-industry collaboration in R&D	97	3.1	
12.05 Gov't procurement of advanced tech. products	57	3.4	
12.06 Availability of scientists and engineers	101	3.5	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Mauritania 137th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

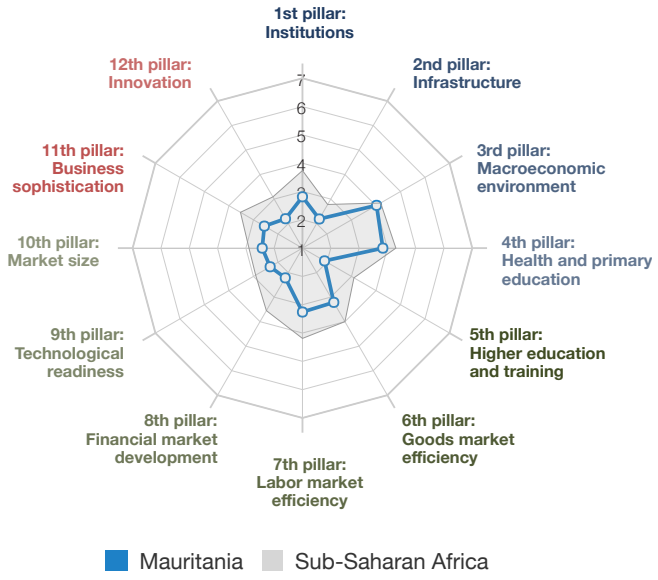
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	3.7	**GDP per capita** (US$)	1282.3
GDP (US$ billions)	4.8	**GDP (PPP)** % world GDP	0.01

Performance overview

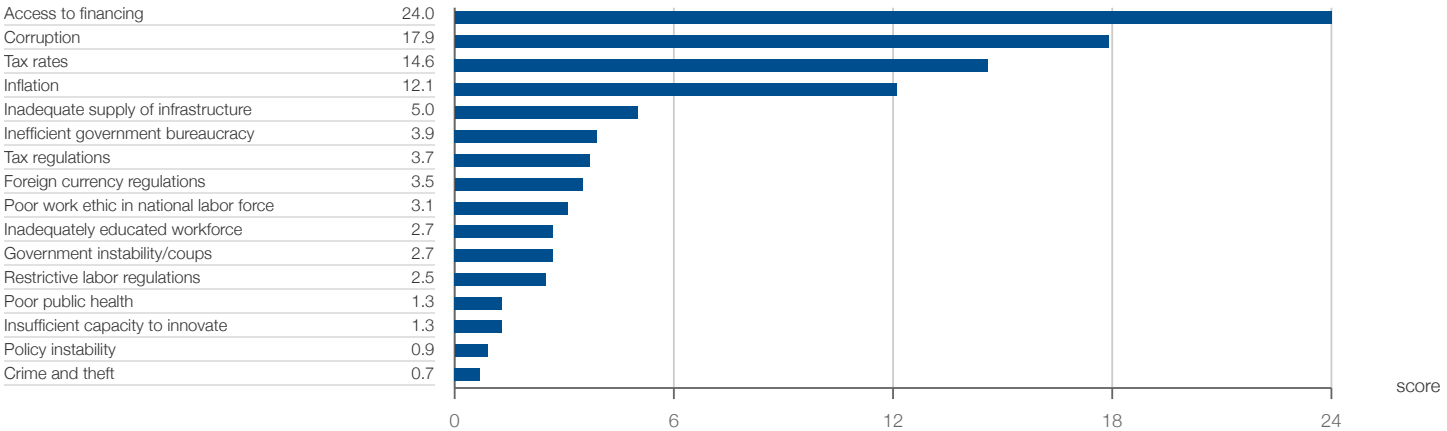
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**137**	2.9		
Subindex A: Basic requirements	131	3.2		
1st pillar: Institutions	**135**	**2.8**		
2nd pillar: Infrastructure	**129**	**2.2**		
3rd pillar: Macroeconomic environment	**106**	**4.0**		
4th pillar: Health and primary education	**130**	**3.8**		
Subindex B: Efficiency enhancers	138	2.6		
5th pillar: Higher education and training	**138**	**1.9**		
6th pillar: Goods market efficiency	**136**	**3.2**		
7th pillar: Labor market efficiency	**131**	**3.3**		
8th pillar: Financial market development	**137**	**2.2**		
9th pillar: Technological readiness	**133**	**2.3**		
10th pillar: Market size	**128**	**2.4**		
Subindex C: Innovation and sophistication factors	138	2.4		
11th pillar: Business sophistication	**138**	**2.6**		
12th pillar: Innovation	**137**	**2.2**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**134** / 144	**141** / 148	**141** / 144	**138** / 140	**137** / 138
Score	3.3	3.2	3.0	3.0	2.9



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Mauritania

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**135**	**2.8**	
1.01 Property rights	136	2.7	
1.02 Intellectual property protection	134	2.8	
1.03 Diversion of public funds	95	3.0	
1.04 Public trust in politicians	43	3.8	
1.05 Irregular payments and bribes	138	1.9	
1.06 Judicial independence	119	2.8	
1.07 Favoritism in decisions of government officials	48	3.5	
1.08 Wastefulness of government spending	95	2.6	
1.09 Burden of government regulation	91	3.2	
1.10 Efficiency of legal framework in settling disputes	131	2.4	
1.11 Efficiency of legal framework in challenging regs	132	2.3	
1.12 Transparency of government policymaking	134	2.8	
1.13 Business costs of terrorism	129	3.2	
1.14 Business costs of crime and violence	117	3.4	
1.15 Organized crime	129	3.1	
1.16 Reliability of police services	137	2.1	
1.17 Ethical behavior of firms	138	2.5	
1.18 Strength of auditing and reporting standards	137	2.5	
1.19 Efficacy of corporate boards	138	2.2	
1.20 Protection of minority shareholders' interests	138	2.3	
1.21 Strength of investor protection 0-10 (best)	108	4.3	
2nd pillar: Infrastructure	**129**	**2.2**	
2.01 Quality of overall infrastructure	138	1.6	
2.02 Quality of roads	135	2.3	
2.03 Quality of railroad infrastructure	90	2.0	
2.04 Quality of port infrastructure	115	2.9	
2.05 Quality of air transport infrastructure	135	2.4	
2.06 Available airline seat kilometers millions/week	129	11.7	
2.07 Quality of electricity supply	122	2.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	110	89.3	
2.09 Fixed-telephone lines /100 pop.	119	1.3	
3rd pillar: Macroeconomic environment	**106**	**4.0**	
3.01 Government budget balance % GDP	76	-3.5	
3.02 Gross national savings % GDP	91	16.3	
3.03 Inflation annual % change	37	0.5	
3.04 Government debt % GDP	112	78.1	
3.05 Country credit rating 0-100 (best)	131	-	
4th pillar: Health and primary education	**130**	**3.8**	
4.01 Malaria incidence cases/100,000 pop.	45	1813.8	
4.02 Business impact of malaria	50	4.0	
4.03 Tuberculosis incidence cases/100,000 pop.	96	111.0	
4.04 Business impact of tuberculosis	136	3.4	
4.05 HIV prevalence % adult pop.	98	0.7	
4.06 Business impact of HIV/AIDS	128	3.7	
4.07 Infant mortality deaths/1,000 live births	130	65.1	
4.08 Life expectancy years	118	63.0	
4.09 Quality of primary education	138	2.0	
4.10 Primary education enrollment rate net %	132	74.4	
5th pillar: Higher education and training	**138**	**1.9**	
5.01 Secondary education enrollment rate gross %	135	29.9	
5.02 Tertiary education enrollment rate gross %	128	5.6	
5.03 Quality of the education system	137	2.1	
5.04 Quality of math and science education	132	2.5	
5.05 Quality of management schools	137	2.6	
5.06 Internet access in schools	135	2.2	
5.07 Local availability of specialized training services	138	2.5	
5.08 Extent of staff training	138	2.2	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**136**	**3.2**	
6.01 Intensity of local competition	101	4.7	
6.02 Extent of market dominance	137	2.1	
6.03 Effectiveness of anti-monopoly policy	137	2.4	
6.04 Effect of taxation on incentives to invest	131	2.5	
6.05 Total tax rate % profits	134	71.3	
6.06 No. of procedures to start a business	54	6	
6.07 Time to start a business days	48	8.0	
6.08 Agricultural policy costs	105	3.3	
6.09 Prevalence of non-tariff barriers	138	2.6	
6.10 Trade tariffs % duty	110	9.9	
6.11 Prevalence of foreign ownership	129	3.2	
6.12 Business impact of rules on FDI	136	2.7	
6.13 Burden of customs procedures	133	2.9	
6.14 Imports % GDP	40	54.7	
6.15 Degree of customer orientation	137	3.1	
6.16 Buyer sophistication	137	1.9	
7th pillar: Labor market efficiency	**131**	**3.3**	
7.01 Cooperation in labor-employer relations	63	4.4	
7.02 Flexibility of wage determination	108	4.4	
7.03 Hiring and firing practices	69	3.8	
7.04 Redundancy costs weeks of salary	36	10.4	
7.05 Effect of taxation on incentives to work	81	3.8	
7.06 Pay and productivity	138	2.1	
7.07 Reliance on professional management	138	2.1	
7.08 Country capacity to retain talent	103	2.9	
7.09 Country capacity to attract talent	129	2.1	
7.10 Female participation in the labor force ratio to men	124	0.46	
8th pillar: Financial market development	**137**	**2.2**	
8.01 Financial services meeting business needs	138	2.3	
8.02 Affordability of financial services	135	2.3	
8.03 Financing through local equity market	135	2.1	
8.04 Ease of access to loans	134	2.1	
8.05 Venture capital availability	128	2.0	
8.06 Soundness of banks	135	2.4	
8.07 Regulation of securities exchanges	135	2.4	
8.08 Legal rights index 0-10 (best)	108	2	
9th pillar: Technological readiness	**133**	**2.3**	
9.01 Availability of latest technologies	132	3.3	
9.02 Firm-level technology absorption	134	3.4	
9.03 FDI and technology transfer	138	2.4	
9.04 Internet users % pop.	125	15.2	
9.05 Fixed-broadband Internet subscriptions /100 pop.	121	0.2	
9.06 Internet bandwidth kb/s/user	135	1.5	
9.07 Mobile-broadband subscriptions /100 pop.	105	23.1	
10th pillar: Market size	**128**	**2.4**	
10.01 Domestic market size index	127	2.2	
10.02 Foreign market size index	125	3.2	
10.03 GDP (PPP) PPP $ billions	127	16.3	
10.04 Exports % GDP	72	33.1	
11th pillar: Business sophistication	**138**	**2.6**	
11.01 Local supplier quantity	124	3.8	
11.02 Local supplier quality	138	2.6	
11.03 State of cluster development	135	2.7	
11.04 Nature of competitive advantage	137	2.1	
11.05 Value chain breadth	138	2.4	
11.06 Control of international distribution	132	2.8	
11.07 Production process sophistication	135	2.5	
11.08 Extent of marketing	138	2.1	
11.09 Willingness to delegate authority	136	2.4	
12th pillar: Innovation	**137**	**2.2**	
12.01 Capacity for innovation	138	2.1	
12.02 Quality of scientific research institutions	137	2.1	
12.03 Company spending on R&D	138	1.9	
12.04 University-industry collaboration in R&D	81	3.3	
12.05 Gov't procurement of advanced tech. products	133	2.4	
12.06 Availability of scientists and engineers	138	2.3	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Mauritius 45th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

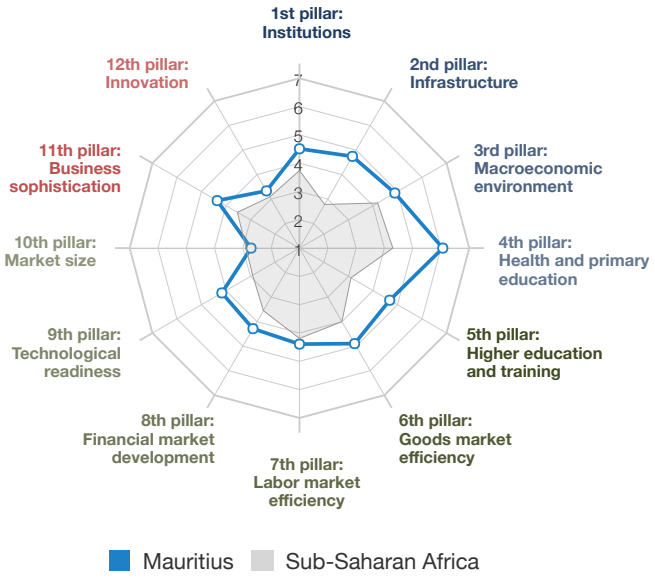
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	1.3	**GDP per capita** (US$)	9218.4
GDP (US$ billions)	11.6	**GDP (PPP)** % world GDP	0.02

Performance overview

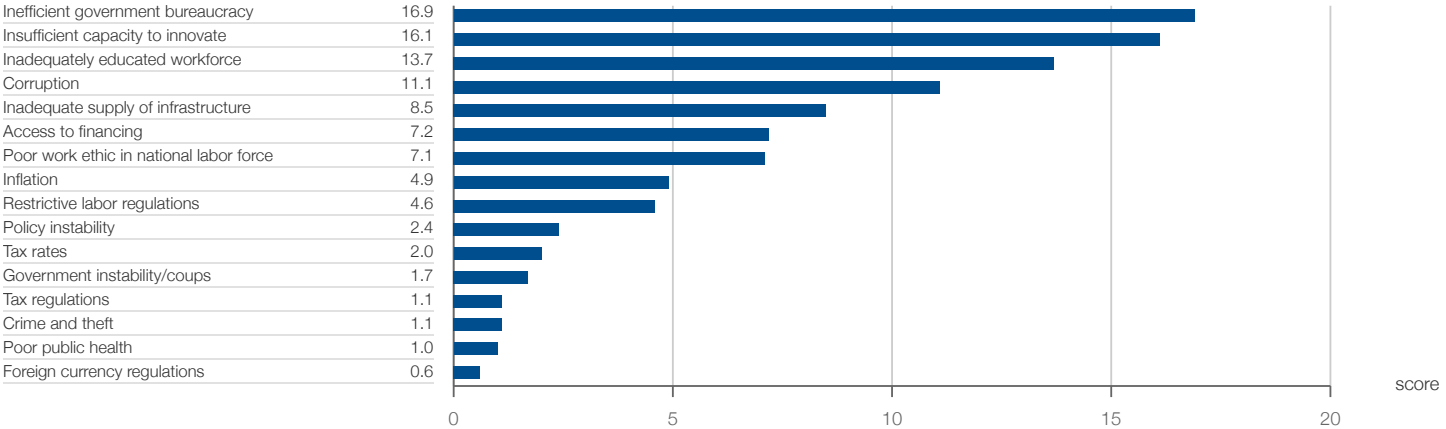
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**45**	4.5		
Subindex A: Basic requirements	39	5.1		
1st pillar: Institutions	**36**	**4.5**		
2nd pillar: Infrastructure	**41**	**4.7**		
3rd pillar: Macroeconomic environment	**59**	**4.9**		
4th pillar: Health and primary education	**48**	**6.1**		
Subindex B: Efficiency enhancers	62	4.2		
5th pillar: Higher education and training	**52**	**4.7**		
6th pillar: Goods market efficiency	**26**	**4.9**		
7th pillar: Labor market efficiency	**57**	**4.4**		
8th pillar: Financial market development	**44**	**4.3**		
9th pillar: Technological readiness	**66**	**4.2**		
10th pillar: Market size	**118**	**2.7**		
Subindex C: Innovation and sophistication factors	48	3.8		
11th pillar: Business sophistication	**37**	**4.4**		
12th pillar: Innovation	**67**	**3.3**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**54** / 144	**45** / 148	**39** / 144	**46** / 140	**45** / 138
Score	4.4	4.4	4.5	4.4	4.5



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Mauritius

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**36**	**4.5**	
1.01 Property rights	39	5.0	
1.02 Intellectual property protection	45	4.5	
1.03 Diversion of public funds	56	3.9	
1.04 Public trust in politicians	61	3.1	
1.05 Irregular payments and bribes	45	4.6	
1.06 Judicial independence	33	5.0	
1.07 Favoritism in decisions of government officials	71	3.0	
1.08 Wastefulness of government spending	46	3.6	
1.09 Burden of government regulation	39	3.8	
1.10 Efficiency of legal framework in settling disputes	28	4.7	
1.11 Efficiency of legal framework in challenging regs	31	4.4	
1.12 Transparency of government policymaking	28	4.8	
1.13 Business costs of terrorism	28	5.9	
1.14 Business costs of crime and violence	43	5.2	
1.15 Organized crime	22	5.8	
1.16 Reliability of police services	52	4.8	
1.17 Ethical behavior of firms	41	4.4	
1.18 Strength of auditing and reporting standards	57	4.8	
1.19 Efficacy of corporate boards	35	5.3	
1.20 Protection of minority shareholders' interests	34	4.7	
1.21 Strength of investor protection 0-10 (best)	29	6.5	
2nd pillar: Infrastructure	**41**	**4.7**	
2.01 Quality of overall infrastructure	42	4.6	
2.02 Quality of roads	44	4.7	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	63	4.2	
2.05 Quality of air transport infrastructure	53	4.8	
2.06 Available airline seat kilometers millions/week	67	199.9	
2.07 Quality of electricity supply	50	5.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	30	140.6	
2.09 Fixed-telephone lines /100 pop.	35	30.3	
3rd pillar: Macroeconomic environment	**59**	**4.9**	
3.01 Government budget balance % GDP	75	-3.4	
3.02 Gross national savings % GDP	69	20.4	
3.03 Inflation annual % change	1	1.3	
3.04 Government debt % GDP	85	58.1	
3.05 Country credit rating 0-100 (best)	57	-	
4th pillar: Health and primary education	**48**	**6.1**	
4.01 Malaria incidence cases/100,000 pop.	n/a	M.F.	
4.02 Business impact of malaria	N/Appl.	N/Appl.	
4.03 Tuberculosis incidence cases/100,000 pop.	50	22.0	
4.04 Business impact of tuberculosis	52	6.0	
4.05 HIV prevalence % adult pop.	102	0.9	
4.06 Business impact of HIV/AIDS	70	5.6	
4.07 Infant mortality deaths/1,000 live births	66	11.8	
4.08 Life expectancy years	76	74.2	
4.09 Quality of primary education	46	4.5	
4.10 Primary education enrollment rate net %	56	96.2	
5th pillar: Higher education and training	**52**	**4.7**	
5.01 Secondary education enrollment rate gross %	57	97.9	
5.02 Tertiary education enrollment rate gross %	73	38.7	
5.03 Quality of the education system	47	4.2	
5.04 Quality of math and science education	41	4.6	
5.05 Quality of management schools	46	4.6	
5.06 Internet access in schools	67	4.2	
5.07 Local availability of specialized training services	56	4.5	
5.08 Extent of staff training	32	4.6	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**26**	**4.9**	
6.01 Intensity of local competition	48	5.3	
6.02 Extent of market dominance	101	3.3	
6.03 Effectiveness of anti-monopoly policy	37	4.1	
6.04 Effect of taxation on incentives to invest	8	5.3	
6.05 Total tax rate % profits	19	22.4	
6.06 No. of procedures to start a business	41	5	
6.07 Time to start a business days	34	6.0	
6.08 Agricultural policy costs	47	4.1	
6.09 Prevalence of non-tariff barriers	37	4.7	
6.10 Trade tariffs % duty	3	0.7	
6.11 Prevalence of foreign ownership	57	4.7	
6.12 Business impact of rules on FDI	37	5.1	
6.13 Burden of customs procedures	36	4.7	
6.14 Imports % GDP	36	60.0	
6.15 Degree of customer orientation	32	5.1	
6.16 Buyer sophistication	34	3.8	
7th pillar: Labor market efficiency	**57**	**4.4**	
7.01 Cooperation in labor-employer relations	35	4.8	
7.02 Flexibility of wage determination	102	4.5	
7.03 Hiring and firing practices	37	4.3	
7.04 Redundancy costs weeks of salary	37	10.6	
7.05 Effect of taxation on incentives to work	14	5.0	
7.06 Pay and productivity	50	4.3	
7.07 Reliance on professional management	53	4.5	
7.08 Country capacity to retain talent	49	3.8	
7.09 Country capacity to attract talent	32	4.0	
7.10 Female participation in the labor force ratio to men	108	0.64	
8th pillar: Financial market development	**44**	**4.3**	
8.01 Financial services meeting business needs	43	4.6	
8.02 Affordability of financial services	44	4.2	
8.03 Financing through local equity market	43	4.1	
8.04 Ease of access to loans	43	4.3	
8.05 Venture capital availability	62	3.0	
8.06 Soundness of banks	59	5.2	
8.07 Regulation of securities exchanges	65	4.4	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**66**	**4.2**	
9.01 Availability of latest technologies	57	4.9	
9.02 Firm-level technology absorption	51	4.7	
9.03 FDI and technology transfer	61	4.5	
9.04 Internet users % pop.	78	50.1	
9.05 Fixed-broadband Internet subscriptions /100 pop.	55	15.7	
9.06 Internet bandwidth kb/s/user	76	33.9	
9.07 Mobile-broadband subscriptions /100 pop.	93	37.0	
10th pillar: Market size	**118**	**2.7**	
10.01 Domestic market size index	120	2.4	
10.02 Foreign market size index	108	3.6	
10.03 GDP (PPP) PPP $ billions	120	24.6	
10.04 Exports % GDP	45	44.0	
11th pillar: Business sophistication	**37**	**4.4**	
11.01 Local supplier quantity	33	4.8	
11.02 Local supplier quality	53	4.4	
11.03 State of cluster development	40	4.1	
11.04 Nature of competitive advantage	42	4.1	
11.05 Value chain breadth	28	4.5	
11.06 Control of international distribution	36	4.2	
11.07 Production process sophistication	42	4.4	
11.08 Extent of marketing	43	4.7	
11.09 Willingness to delegate authority	42	4.1	
12th pillar: Innovation	**67**	**3.3**	
12.01 Capacity for innovation	52	4.3	
12.02 Quality of scientific research institutions	84	3.6	
12.03 Company spending on R&D	56	3.4	
12.04 University-industry collaboration in R&D	93	3.2	
12.05 Gov't procurement of advanced tech. products	60	3.4	
12.06 Availability of scientists and engineers	86	3.8	
12.07 PCT patent applications applications/million pop.	65	1.6	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Morocco 70th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

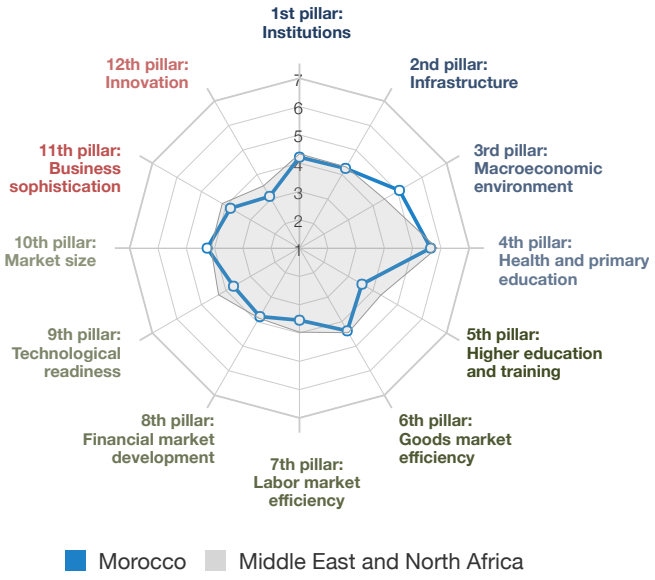
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	33.5	**GDP per capita** (US$)	3078.6
GDP (US$ billions)	103.1	**GDP (PPP)** % world GDP	0.24

Performance overview

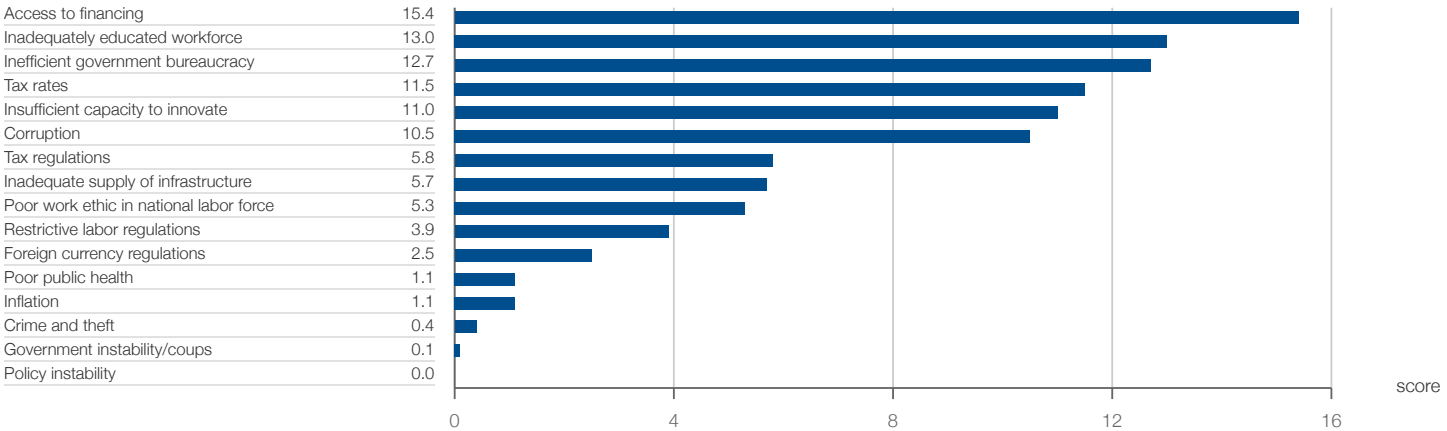
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**70**	4.2		
Subindex A: Basic requirements	51	4.8		
1st pillar: Institutions	**50**	**4.2**		
2nd pillar: Infrastructure	**58**	**4.3**		
3rd pillar: Macroeconomic environment	**49**	**5.1**		
4th pillar: Health and primary education	**77**	**5.6**		
Subindex B: Efficiency enhancers	88	3.9		
5th pillar: Higher education and training	**104**	**3.6**		
6th pillar: Goods market efficiency	**64**	**4.4**		
7th pillar: Labor market efficiency	**124**	**3.5**		
8th pillar: Financial market development	**83**	**3.8**		
9th pillar: Technological readiness	**81**	**3.7**		
10th pillar: Market size	**55**	**4.3**		
Subindex C: Innovation and sophistication factors	86	3.5		
11th pillar: Business sophistication	**76**	**3.8**		
12th pillar: Innovation	**96**	**3.1**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**70** / 144	**77** / 148	**72** / 144	**72** / 140	**70** / 138
Score	4.1	4.1	4.2	4.2	4.2



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Morocco

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**50**	**4.2**	
1.01 Property rights	46	4.7	
1.02 Intellectual property protection	55	4.3	
1.03 Diversion of public funds	48	4.0	
1.04 Public trust in politicians	53	3.4	
1.05 Irregular payments and bribes	74	3.9	
1.06 Judicial independence	83	3.7	
1.07 Favoritism in decisions of government officials	47	3.5	
1.08 Wastefulness of government spending	43	3.6	
1.09 Burden of government regulation	57	3.6	
1.10 Efficiency of legal framework in settling disputes	71	3.6	
1.11 Efficiency of legal framework in challenging regs	64	3.6	
1.12 Transparency of government policymaking	49	4.5	
1.13 Business costs of terrorism	43	5.7	
1.14 Business costs of crime and violence	29	5.4	
1.15 Organized crime	31	5.7	
1.16 Reliability of police services	28	5.8	
1.17 Ethical behavior of firms	80	3.7	
1.18 Strength of auditing and reporting standards	65	4.6	
1.19 Efficacy of corporate boards	78	4.8	
1.20 Protection of minority shareholders' interests	46	4.3	
1.21 Strength of investor protection 0-10 (best)	90	5.0	
2nd pillar: Infrastructure	**58**	**4.3**	
2.01 Quality of overall infrastructure	50	4.5	
2.02 Quality of roads	55	4.4	
2.03 Quality of railroad infrastructure	37	3.9	
2.04 Quality of port infrastructure	38	4.8	
2.05 Quality of air transport infrastructure	55	4.7	
2.06 Available airline seat kilometers millions/week	48	474.4	
2.07 Quality of electricity supply	53	5.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	53	126.9	
2.09 Fixed-telephone lines /100 pop.	98	6.5	
3rd pillar: Macroeconomic environment	**49**	**5.1**	
3.01 Government budget balance % GDP	93	-4.3	
3.02 Gross national savings % GDP	16	32.0	
3.03 Inflation annual % change	1	1.6	
3.04 Government debt % GDP	92	63.7	
3.05 Country credit rating 0-100 (best)	69	-	
4th pillar: Health and primary education	**77**	**5.6**	
4.01 Malaria incidence cases/100,000 pop.	n/a	M.F.	
4.02 Business impact of malaria	N/Appl.	N/Appl.	
4.03 Tuberculosis incidence cases/100,000 pop.	94	106.0	
4.04 Business impact of tuberculosis	69	5.7	
4.05 HIV prevalence % adult pop.	1	0.1	
4.06 Business impact of HIV/AIDS	61	5.7	
4.07 Infant mortality deaths/1,000 live births	96	23.7	
4.08 Life expectancy years	80	74.0	
4.09 Quality of primary education	118	2.9	
4.10 Primary education enrollment rate net %	22	98.4	
5th pillar: Higher education and training	**104**	**3.6**	
5.01 Secondary education enrollment rate gross %	101	69.1	
5.02 Tertiary education enrollment rate gross %	92	24.6	
5.03 Quality of the education system	119	2.8	
5.04 Quality of math and science education	72	4.0	
5.05 Quality of management schools	76	4.1	
5.06 Internet access in schools	109	3.6	
5.07 Local availability of specialized training services	83	4.1	
5.08 Extent of staff training	126	3.2	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**64**	**4.4**	
6.01 Intensity of local competition	70	5.1	
6.02 Extent of market dominance	64	3.7	
6.03 Effectiveness of anti-monopoly policy	84	3.5	
6.04 Effect of taxation on incentives to invest	36	4.1	
6.05 Total tax rate % profits	106	49.1	
6.06 No. of procedures to start a business	22	4	
6.07 Time to start a business days	56	10.0	
6.08 Agricultural policy costs	14	4.7	
6.09 Prevalence of non-tariff barriers	124	3.6	
6.10 Trade tariffs % duty	113	10.4	
6.11 Prevalence of foreign ownership	53	4.8	
6.12 Business impact of rules on FDI	39	5.0	
6.13 Burden of customs procedures	60	4.3	
6.14 Imports % GDP	67	43.2	
6.15 Degree of customer orientation	75	4.6	
6.16 Buyer sophistication	84	3.2	
7th pillar: Labor market efficiency	**124**	**3.5**	
7.01 Cooperation in labor-employer relations	122	3.7	
7.02 Flexibility of wage determination	47	5.3	
7.03 Hiring and firing practices	103	3.3	
7.04 Redundancy costs weeks of salary	91	20.7	
7.05 Effect of taxation on incentives to work	54	4.1	
7.06 Pay and productivity	114	3.4	
7.07 Reliance on professional management	84	4.0	
7.08 Country capacity to retain talent	91	3.2	
7.09 Country capacity to attract talent	68	3.4	
7.10 Female participation in the labor force ratio to men	132	0.34	
8th pillar: Financial market development	**83**	**3.8**	
8.01 Financial services meeting business needs	95	3.9	
8.02 Affordability of financial services	80	3.6	
8.03 Financing through local equity market	48	4.0	
8.04 Ease of access to loans	87	3.6	
8.05 Venture capital availability	91	2.6	
8.06 Soundness of banks	61	5.1	
8.07 Regulation of securities exchanges	37	5.1	
8.08 Legal rights index 0-10 (best)	108	2	
9th pillar: Technological readiness	**81**	**3.7**	
9.01 Availability of latest technologies	50	5.0	
9.02 Firm-level technology absorption	63	4.6	
9.03 FDI and technology transfer	58	4.5	
9.04 Internet users % pop.	67	57.1	
9.05 Fixed-broadband Internet subscriptions /100 pop.	93	3.4	
9.06 Internet bandwidth kb/s/user	92	18.3	
9.07 Mobile-broadband subscriptions /100 pop.	88	39.3	
10th pillar: Market size	**55**	**4.3**	
10.01 Domestic market size index	49	4.1	
10.02 Foreign market size index	55	4.8	
10.03 GDP (PPP) PPP $ billions	55	273.5	
10.04 Exports % GDP	70	34.5	
11th pillar: Business sophistication	**76**	**3.8**	
11.01 Local supplier quantity	51	4.6	
11.02 Local supplier quality	73	4.2	
11.03 State of cluster development	79	3.6	
11.04 Nature of competitive advantage	103	3.0	
11.05 Value chain breadth	78	3.7	
11.06 Control of international distribution	71	3.6	
11.07 Production process sophistication	85	3.6	
11.08 Extent of marketing	78	4.3	
11.09 Willingness to delegate authority	81	3.6	
12th pillar: Innovation	**96**	**3.1**	
12.01 Capacity for innovation	94	3.8	
12.02 Quality of scientific research institutions	112	3.1	
12.03 Company spending on R&D	95	3.0	
12.04 University-industry collaboration in R&D	100	3.1	
12.05 Gov't procurement of advanced tech. products	86	3.0	
12.06 Availability of scientists and engineers	67	4.0	
12.07 PCT patent applications applications/million pop.	66	1.5	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Mozambique 133rd / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

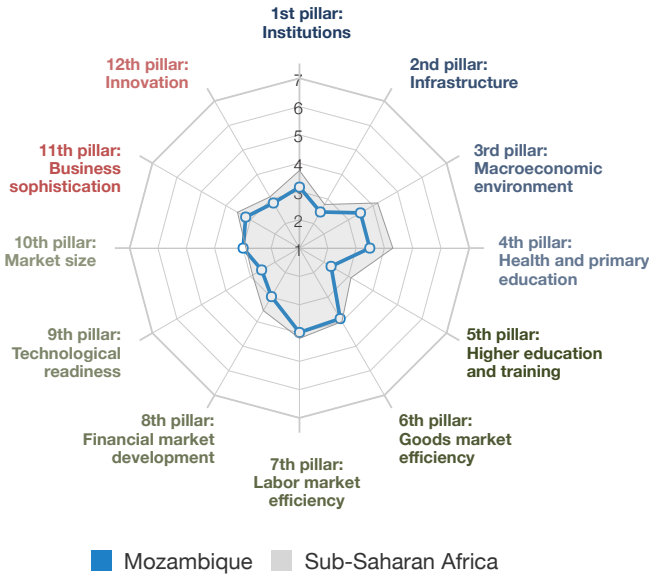
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	28.0	**GDP per capita** (US$)	534.9
GDP (US$ billions)	15.0	**GDP (PPP)** % world GDP	0.03

Performance overview

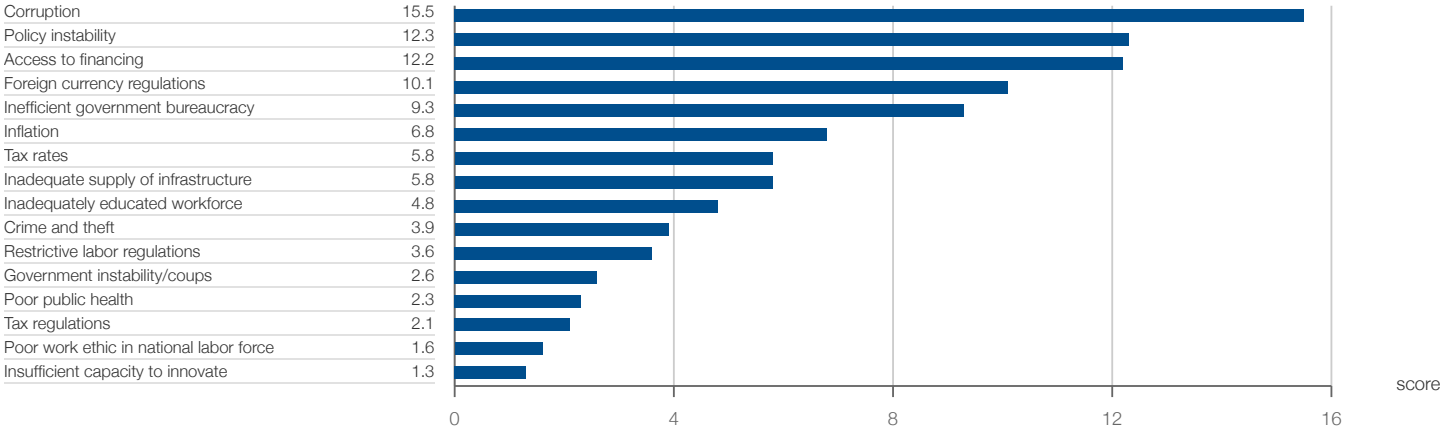
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**133**	3.1		
Subindex A: Basic requirements	133	3.2		
1st pillar: Institutions	**124**	**3.2**		
2nd pillar: Infrastructure	**124**	**2.5**		
3rd pillar: Macroeconomic environment	**125**	**3.5**		
4th pillar: Health and primary education	**134**	**3.5**		
Subindex B: Efficiency enhancers	131	3.1		
5th pillar: Higher education and training	**135**	**2.3**		
6th pillar: Goods market efficiency	**118**	**3.9**		
7th pillar: Labor market efficiency	**92**	**4.0**		
8th pillar: Financial market development	**128**	**3.0**		
9th pillar: Technological readiness	**127**	**2.5**		
10th pillar: Market size	**102**	**3.0**		
Subindex C: Innovation and sophistication factors	124	3.0		
11th pillar: Business sophistication	**128**	**3.2**		
12th pillar: Innovation	**117**	**2.8**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**138** / 144	**137** / 148	**133** / 144	**133** / 140	**133** / 138
Score	3.2	3.3	3.2	3.2	3.1



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Mozambique

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**124**	**3.2**	
1.01 Property rights	116	3.6	
1.02 Intellectual property protection	128	3.2	
1.03 Diversion of public funds	124	2.4	
1.04 Public trust in politicians	93	2.6	
1.05 Irregular payments and bribes	117	3.0	
1.06 Judicial independence	112	2.9	
1.07 Favoritism in decisions of government officials	110	2.4	
1.08 Wastefulness of government spending	91	2.7	
1.09 Burden of government regulation	90	3.2	
1.10 Efficiency of legal framework in settling disputes	102	3.0	
1.11 Efficiency of legal framework in challenging regs	122	2.6	
1.12 Transparency of government policymaking	122	3.4	
1.13 Business costs of terrorism	112	4.3	
1.14 Business costs of crime and violence	118	3.3	
1.15 Organized crime	121	3.6	
1.16 Reliability of police services	127	2.8	
1.17 Ethical behavior of firms	126	3.1	
1.18 Strength of auditing and reporting standards	124	3.6	
1.19 Efficacy of corporate boards	122	4.1	
1.20 Protection of minority shareholders' interests	125	3.4	
1.21 Strength of investor protection 0-10 (best)	86	5.2	
2nd pillar: Infrastructure	**124**	**2.5**	
2.01 Quality of overall infrastructure	123	2.6	
2.02 Quality of roads	133	2.4	
2.03 Quality of railroad infrastructure	78	2.4	
2.04 Quality of port infrastructure	92	3.5	
2.05 Quality of air transport infrastructure	113	3.4	
2.06 Available airline seat kilometers millions/week	104	42.8	
2.07 Quality of electricity supply	118	2.8	
2.08 Mobile-cellular telephone subscriptions /100 pop.	126	74.2	
2.09 Fixed-telephone lines /100 pop.	128	0.3	
3rd pillar: Macroeconomic environment	**125**	**3.5**	
3.01 Government budget balance % GDP	113	-6.0	
3.02 Gross national savings % GDP	138	-13.1	
3.03 Inflation annual % change	1	2.4	
3.04 Government debt % GDP	108	74.8	
3.05 Country credit rating 0-100 (best)	116	.	
4th pillar: Health and primary education	**134**	**3.5**	
4.01 Malaria incidence cases/100,000 pop.	65	34170.7	
4.02 Business impact of malaria	59	3.6	
4.03 Tuberculosis incidence cases/100,000 pop.	135	551.0	
4.04 Business impact of tuberculosis	120	4.1	
4.05 HIV prevalence % adult pop.	131	10.6	
4.06 Business impact of HIV/AIDS	129	3.6	
4.07 Infant mortality deaths/1,000 live births	127	56.7	
4.08 Life expectancy years	133	55.0	
4.09 Quality of primary education	135	2.1	
4.10 Primary education enrollment rate net %	110	87.6	
5th pillar: Higher education and training	**135**	**2.3**	
5.01 Secondary education enrollment rate gross %	137	24.5	
5.02 Tertiary education enrollment rate gross %	126	6.0	
5.03 Quality of the education system	123	2.7	
5.04 Quality of math and science education	128	2.6	
5.05 Quality of management schools	135	2.9	
5.06 Internet access in schools	128	3.1	
5.07 Local availability of specialized training services	134	3.0	
5.08 Extent of staff training	132	3.1	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**118**	**3.9**	
6.01 Intensity of local competition	117	4.5	
6.02 Extent of market dominance	120	3.0	
6.03 Effectiveness of anti-monopoly policy	128	2.7	
6.04 Effect of taxation on incentives to invest	83	3.4	
6.05 Total tax rate % profits	65	36.1	
6.06 No. of procedures to start a business	116	10	
6.07 Time to start a business days	98	19.0	
6.08 Agricultural policy costs	106	3.3	
6.09 Prevalence of non-tariff barriers	109	3.9	
6.10 Trade tariffs % duty	88	7.6	
6.11 Prevalence of foreign ownership	69	4.5	
6.12 Business impact of rules on FDI	79	4.4	
6.13 Burden of customs procedures	100	3.5	
6.14 Imports % GDP	19	77.4	
6.15 Degree of customer orientation	134	3.6	
6.16 Buyer sophistication	109	2.9	
7th pillar: Labor market efficiency	**92**	**4.0**	
7.01 Cooperation in labor-employer relations	123	3.7	
7.02 Flexibility of wage determination	114	4.3	
7.03 Hiring and firing practices	96	3.5	
7.04 Redundancy costs weeks of salary	130	37.5	
7.05 Effect of taxation on incentives to work	63	4.0	
7.06 Pay and productivity	133	2.9	
7.07 Reliance on professional management	126	3.3	
7.08 Country capacity to retain talent	77	3.4	
7.09 Country capacity to attract talent	57	3.6	
7.10 Female participation in the labor force ratio to men	1	1.11	
8th pillar: Financial market development	**128**	**3.0**	
8.01 Financial services meeting business needs	124	3.4	
8.02 Affordability of financial services	123	2.9	
8.03 Financing through local equity market	116	2.7	
8.04 Ease of access to loans	105	3.2	
8.05 Venture capital availability	113	2.3	
8.06 Soundness of banks	110	4.1	
8.07 Regulation of securities exchanges	111	3.6	
8.08 Legal rights index 0-10 (best)	127	1	
9th pillar: Technological readiness	**127**	**2.5**	
9.01 Availability of latest technologies	124	3.7	
9.02 Firm-level technology absorption	118	3.9	
9.03 FDI and technology transfer	101	3.9	
9.04 Internet users % pop.	130	9.0	
9.05 Fixed-broadband Internet subscriptions /100 pop.	129	0.1	
9.06 Internet bandwidth kb/s/user	116	6.1	
9.07 Mobile-broadband subscriptions /100 pop.	126	9.4	
10th pillar: Market size	**102**	**3.0**	
10.01 Domestic market size index	96	2.8	
10.02 Foreign market size index	109	3.6	
10.03 GDP (PPP) PPP $ billions	110	33.2	
10.04 Exports % GDP	77	32.5	
11th pillar: Business sophistication	**128**	**3.2**	
11.01 Local supplier quantity	129	3.6	
11.02 Local supplier quality	135	3.2	
11.03 State of cluster development	114	3.1	
11.04 Nature of competitive advantage	108	2.9	
11.05 Value chain breadth	119	3.3	
11.06 Control of international distribution	119	2.9	
11.07 Production process sophistication	128	2.7	
11.08 Extent of marketing	119	3.9	
11.09 Willingness to delegate authority	118	3.2	
12th pillar: Innovation	**117**	**2.8**	
12.01 Capacity for innovation	121	3.5	
12.02 Quality of scientific research institutions	122	2.8	
12.03 Company spending on R&D	105	2.9	
12.04 University-industry collaboration in R&D	87	3.3	
12.05 Gov't procurement of advanced tech. products	85	3.1	
12.06 Availability of scientists and engineers	125	3.1	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Namibia 84th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

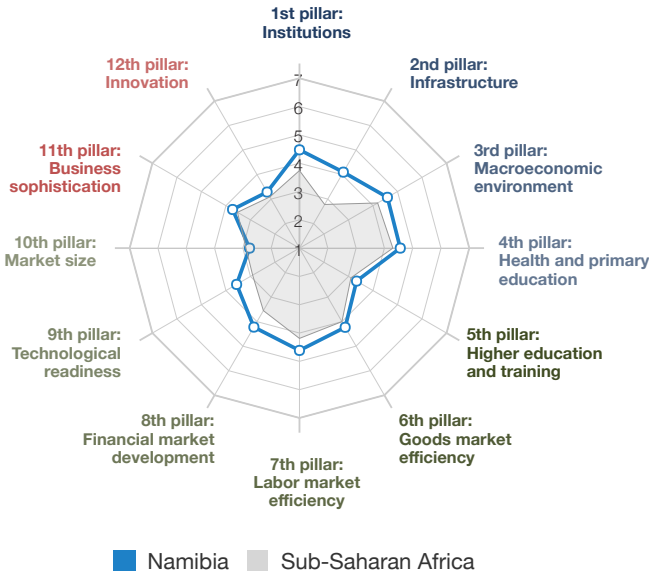
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	2.2	**GDP per capita** (US$)	5776.9
GDP (US$ billions)	12.8	**GDP (PPP)** % world GDP	0.02

Performance overview

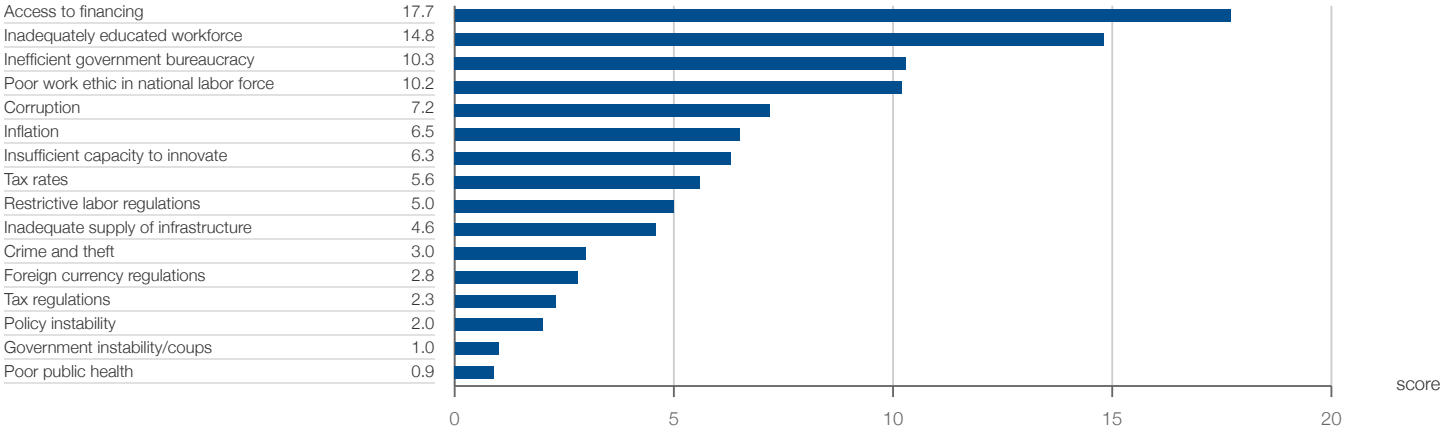
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	84	4.0		
Subindex A: Basic requirements	75	4.4		
1st pillar: Institutions	39	4.5		
2nd pillar: Infrastructure	66	4.1		
3rd pillar: Macroeconomic environment	74	4.6		
4th pillar: Health and primary education	121	4.6		
Subindex B: Efficiency enhancers	94	3.8		
5th pillar: Higher education and training	110	3.3		
6th pillar: Goods market efficiency	79	4.2		
7th pillar: Labor market efficiency	32	4.6		
8th pillar: Financial market development	49	4.2		
9th pillar: Technological readiness	87	3.6		
10th pillar: Market size	113	2.8		
Subindex C: Innovation and sophistication factors	77	3.5		
11th pillar: Business sophistication	83	3.7		
12th pillar: Innovation	74	3.3		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	92 / 144	90 / 148	88 / 144	85 / 140	84 / 138
Score	3.9	3.9	4.0	4.0	4.0



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



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Namibia

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**39**	**4.5**	
1.01 Property rights	34	5.2	
1.02 Intellectual property protection	40	4.7	
1.03 Diversion of public funds	58	3.8	
1.04 Public trust in politicians	46	3.6	
1.05 Irregular payments and bribes	60	4.2	
1.06 Judicial independence	30	5.2	
1.07 Favoritism in decisions of government officials	69	3.0	
1.08 Wastefulness of government spending	72	3.2	
1.09 Burden of government regulation	32	4.0	
1.10 Efficiency of legal framework in settling disputes	33	4.6	
1.11 Efficiency of legal framework in challenging regs	25	4.5	
1.12 Transparency of government policymaking	32	4.8	
1.13 Business costs of terrorism	14	6.2	
1.14 Business costs of crime and violence	90	4.2	
1.15 Organized crime	60	5.1	
1.16 Reliability of police services	65	4.4	
1.17 Ethical behavior of firms	45	4.3	
1.18 Strength of auditing and reporting standards	33	5.3	
1.19 Efficacy of corporate boards	65	4.9	
1.20 Protection of minority shareholders' interests	30	4.9	
1.21 Strength of investor protection 0-10 (best)	63	5.7	
2nd pillar: Infrastructure	**66**	**4.1**	
2.01 Quality of overall infrastructure	45	4.5	
2.02 Quality of roads	23	5.2	
2.03 Quality of railroad infrastructure	50	3.2	
2.04 Quality of port infrastructure	24	5.3	
2.05 Quality of air transport infrastructure	57	4.6	
2.06 Available airline seat kilometers millions/week	105	41.5	
2.07 Quality of electricity supply	46	5.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	97	102.1	
2.09 Fixed-telephone lines /100 pop.	94	7.6	
3rd pillar: Macroeconomic environment	**74**	**4.6**	
3.01 Government budget balance % GDP	111	-5.9	
3.02 Gross national savings % GDP	74	19.6	
3.03 Inflation annual % change	60	3.4	
3.04 Government debt % GDP	21	27.2	
3.05 Country credit rating 0-100 (best)	64	-	
4th pillar: Health and primary education	**121**	**4.6**	
4.01 Malaria incidence cases/100,000 pop.	36	370.4	
4.02 Business impact of malaria	41	4.6	
4.03 Tuberculosis incidence cases/100,000 pop.	136	561.0	
4.04 Business impact of tuberculosis	127	3.9	
4.05 HIV prevalence % adult pop.	133	16.0	
4.06 Business impact of HIV/AIDS	131	3.4	
4.07 Infant mortality deaths/1,000 live births	106	32.8	
4.08 Life expectancy years	112	64.7	
4.09 Quality of primary education	88	3.5	
4.10 Primary education enrollment rate net %	105	89.7	
5th pillar: Higher education and training	**110**	**3.3**	
5.01 Secondary education enrollment rate gross %	108	64.8	
5.02 Tertiary education enrollment rate gross %	118	9.3	
5.03 Quality of the education system	92	3.3	
5.04 Quality of math and science education	114	3.1	
5.05 Quality of management schools	115	3.6	
5.06 Internet access in schools	115	3.4	
5.07 Local availability of specialized training services	108	3.8	
5.08 Extent of staff training	44	4.3	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**79**	**4.2**	
6.01 Intensity of local competition	103	4.7	
6.02 Extent of market dominance	91	3.4	
6.03 Effectiveness of anti-monopoly policy	48	3.9	
6.04 Effect of taxation on incentives to invest	30	4.2	
6.05 Total tax rate % profits	17	21.3	
6.06 No. of procedures to start a business	116	10	
6.07 Time to start a business days	132	66.0	
6.08 Agricultural policy costs	39	4.2	
6.09 Prevalence of non-tariff barriers	41	4.6	
6.10 Trade tariffs % duty	82	6.4	
6.11 Prevalence of foreign ownership	38	5.1	
6.12 Business impact of rules on FDI	77	4.5	
6.13 Burden of customs procedures	57	4.3	
6.14 Imports % GDP	26	66.3	
6.15 Degree of customer orientation	131	3.7	
6.16 Buyer sophistication	54	3.6	
7th pillar: Labor market efficiency	**32**	**4.6**	
7.01 Cooperation in labor-employer relations	62	4.4	
7.02 Flexibility of wage determination	89	4.8	
7.03 Hiring and firing practices	88	3.6	
7.04 Redundancy costs weeks of salary	31	9.6	
7.05 Effect of taxation on incentives to work	31	4.4	
7.06 Pay and productivity	90	3.7	
7.07 Reliance on professional management	47	4.6	
7.08 Country capacity to retain talent	51	3.8	
7.09 Country capacity to attract talent	40	3.8	
7.10 Female participation in the labor force ratio to men	37	0.89	
8th pillar: Financial market development	**49**	**4.2**	
8.01 Financial services meeting business needs	49	4.6	
8.02 Affordability of financial services	68	3.8	
8.03 Financing through local equity market	59	3.7	
8.04 Ease of access to loans	74	3.8	
8.05 Venture capital availability	84	2.6	
8.06 Soundness of banks	40	5.6	
8.07 Regulation of securities exchanges	38	5.1	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**87**	**3.6**	
9.01 Availability of latest technologies	51	5.0	
9.02 Firm-level technology absorption	66	4.5	
9.03 FDI and technology transfer	72	4.4	
9.04 Internet users % pop.	106	22.3	
9.05 Fixed-broadband Internet subscriptions /100 pop.	102	1.7	
9.06 Internet bandwidth kb/s/user	87	22.5	
9.07 Mobile-broadband subscriptions /100 pop.	53	62.1	
10th pillar: Market size	**113**	**2.8**	
10.01 Domestic market size index	115	2.5	
10.02 Foreign market size index	112	3.6	
10.03 GDP (PPP) PPP $ billions	117	25.3	
10.04 Exports % GDP	54	40.4	
11th pillar: Business sophistication	**83**	**3.7**	
11.01 Local supplier quantity	136	3.4	
11.02 Local supplier quality	90	4.0	
11.03 State of cluster development	73	3.7	
11.04 Nature of competitive advantage	61	3.6	
11.05 Value chain breadth	94	3.6	
11.06 Control of international distribution	90	3.4	
11.07 Production process sophistication	80	3.6	
11.08 Extent of marketing	90	4.2	
11.09 Willingness to delegate authority	75	3.6	
12th pillar: Innovation	**74**	**3.3**	
12.01 Capacity for innovation	71	4.1	
12.02 Quality of scientific research institutions	92	3.5	
12.03 Company spending on R&D	51	3.5	
12.04 University-industry collaboration in R&D	89	3.3	
12.05 Gov't procurement of advanced tech. products	58	3.4	
12.06 Availability of scientists and engineers	105	3.5	
12.07 PCT patent applications applications/million pop.	92	0.2	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Nigeria 127th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

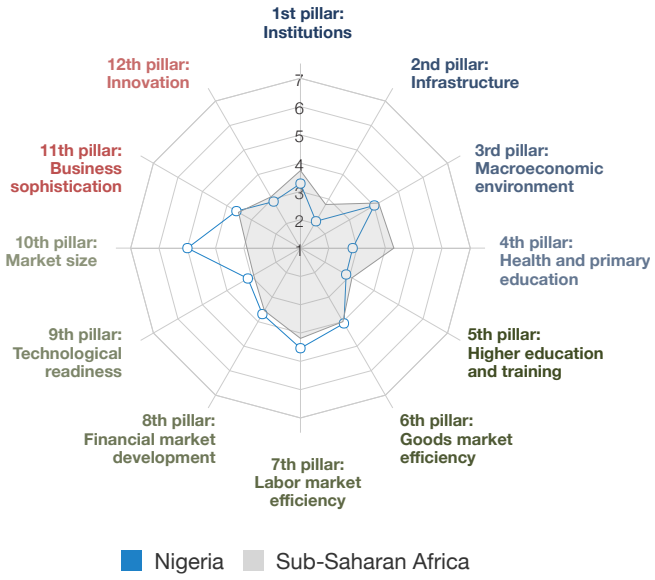
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	178.7	**GDP per capita** (US$)	2742.9
GDP (US$ billions)	490.2	**GDP (PPP)** % world GDP	0.96

Performance overview

	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**127**	3.4		
Subindex A: Basic requirements	136	3.1		
1st pillar: Institutions	**118**	**3.3**		
2nd pillar: Infrastructure	**132**	**2.1**		
3rd pillar: Macroeconomic environment	**108**	**4.0**		
4th pillar: Health and primary education	**138**	**2.8**		
Subindex B: Efficiency enhancers	85	3.9		
5th pillar: Higher education and training	**125**	**2.9**		
6th pillar: Goods market efficiency	**98**	**4.1**		
7th pillar: Labor market efficiency	**37**	**4.5**		
8th pillar: Financial market development	**89**	**3.7**		
9th pillar: Technological readiness	**105**	**3.1**		
10th pillar: Market size	**26**	**5.0**		
Subindex C: Innovation and sophistication factors	110	3.3		
11th pillar: Business sophistication	**99**	**3.6**		
12th pillar: Innovation	**113**	**2.9**		

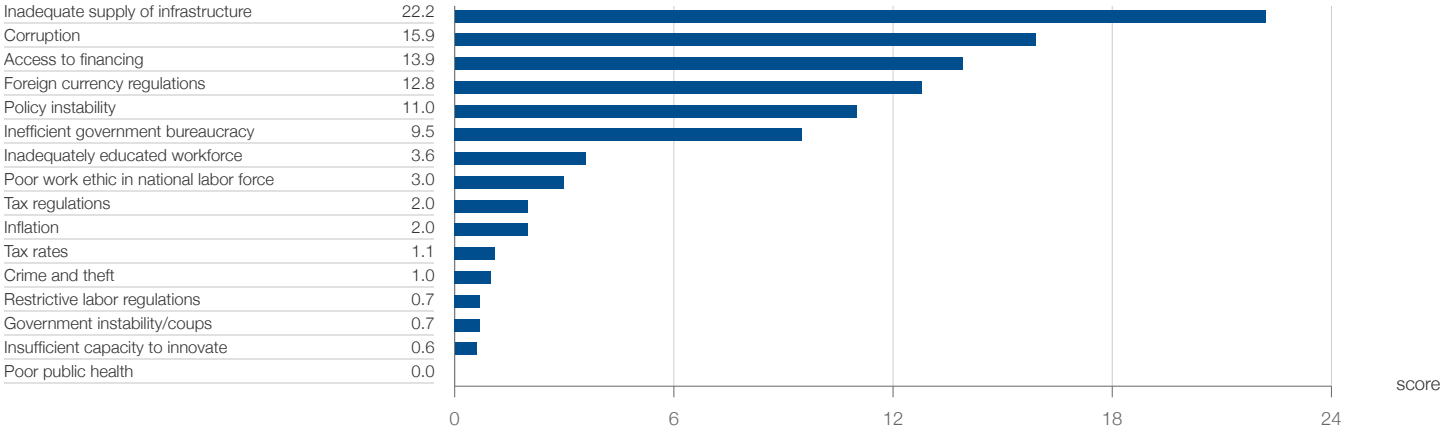
Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**115** / 144	**120** / 148	**127** / 144	**124** / 140	**127** / 138
Score	3.7	3.6	3.4	3.5	3.4



Nigeria is among the African economies hardest hit by the reduction in commodity prices, falling three places to 127th overall almost entirely due to its weaker macroeconomic environment (down 32 place since ACR 2015) and financial sector (down 22 places since ACR 2015). Although still relatively low, the government deficit has almost doubled since last year and national savings has significantly suffered, worsening the current account position. Banks are less solid, reducing the availability of credit; despite the central bank ending its currency peg, financial authorities have retained restrictions on access to the interbank market, meaning access to finance will remain difficult for many businesses. Additional factors holding back Nigeria's competitiveness include an underdeveloped infrastructure (132nd), which is again rated as the country's most problematic factor for doing business; insufficient health and primary education (138th), with only 63 percent of children enrolled in primary school; and the poor quality and quantity of higher education and training (125th).

Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Nigeria

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**118**	**3.3**	
1.01 Property rights	95	4.0	
1.02 Intellectual property protection	112	3.4	
1.03 Diversion of public funds	127	2.2	
1.04 Public trust in politicians	131	1.7	
1.05 Irregular payments and bribes	129	2.6	
1.06 Judicial independence	76	3.8	
1.07 Favoritism in decisions of government officials	127	2.1	
1.08 Wastefulness of government spending	126	2.2	
1.09 Burden of government regulation	107	3.0	
1.10 Efficiency of legal framework in settling disputes	86	3.3	
1.11 Efficiency of legal framework in challenging regs	85	3.2	
1.12 Transparency of government policymaking	113	3.5	
1.13 Business costs of terrorism	132	3.0	
1.14 Business costs of crime and violence	121	3.1	
1.15 Organized crime	110	4.0	
1.16 Reliability of police services	121	3.0	
1.17 Ethical behavior of firms	117	3.2	
1.18 Strength of auditing and reporting standards	56	4.9	
1.19 Efficacy of corporate boards	49	5.1	
1.20 Protection of minority shareholders' interests	50	4.2	
1.21 Strength of investor protection 0-10 (best)	20	6.8	
2nd pillar: Infrastructure	**132**	**2.1**	
2.01 Quality of overall infrastructure	132	2.3	
2.02 Quality of roads	126	2.6	
2.03 Quality of railroad infrastructure	103	1.5	
2.04 Quality of port infrastructure	117	2.8	
2.05 Quality of air transport infrastructure	119	3.2	
2.06 Available airline seat kilometers millions/week	55	318.0	
2.07 Quality of electricity supply	137	1.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	118	82.2	
2.09 Fixed-telephone lines /100 pop.	137	0.1	
3rd pillar: Macroeconomic environment	**108**	**4.0**	
3.01 Government budget balance % GDP	86	-4.0	
3.02 Gross national savings % GDP	116	12.0	
3.03 Inflation annual % change	125	9.0	
3.04 Government debt % GDP	7	11.5	
3.05 Country credit rating 0-100 (best)	88	-	
4th pillar: Health and primary education	**138**	**2.8**	
4.01 Malaria incidence cases/100,000 pop.	64	33243.9	
4.02 Business impact of malaria	58	3.6	
4.03 Tuberculosis incidence cases/100,000 pop.	127	322.0	
4.04 Business impact of tuberculosis	91	5.0	
4.05 HIV prevalence % adult pop.	123	3.2	
4.06 Business impact of HIV/AIDS	105	4.5	
4.07 Infant mortality deaths/1,000 live births	134	69.4	
4.08 Life expectancy years	134	52.8	
4.09 Quality of primary education	124	2.8	
4.10 Primary education enrollment rate net %	136	63.8	
5th pillar: Higher education and training	**125**	**2.9**	
5.01 Secondary education enrollment rate gross %	120	43.8	
5.02 Tertiary education enrollment rate gross %	114	10.4	
5.03 Quality of the education system	118	2.8	
5.04 Quality of math and science education	124	2.7	
5.05 Quality of management schools	94	3.8	
5.06 Internet access in schools	129	3.1	
5.07 Local availability of specialized training services	91	4.1	
5.08 Extent of staff training	68	3.9	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**98**	**4.1**	
6.01 Intensity of local competition	75	5.0	
6.02 Extent of market dominance	66	3.7	
6.03 Effectiveness of anti-monopoly policy	124	2.8	
6.04 Effect of taxation on incentives to invest	27	4.2	
6.05 Total tax rate % profits	55	33.3	
6.06 No. of procedures to start a business	107	9	
6.07 Time to start a business days	119	30.8	
6.08 Agricultural policy costs	43	4.1	
6.09 Prevalence of non-tariff barriers	30	4.8	
6.10 Trade tariffs % duty	102	9.7	
6.11 Prevalence of foreign ownership	52	4.8	
6.12 Business impact of rules on FDI	33	5.1	
6.13 Burden of customs procedures	132	2.9	
6.14 Imports % GDP	137	13.6	
6.15 Degree of customer orientation	123	3.9	
6.16 Buyer sophistication	93	3.0	
7th pillar: Labor market efficiency	**37**	**4.5**	
7.01 Cooperation in labor-employer relations	86	4.2	
7.02 Flexibility of wage determination	40	5.4	
7.03 Hiring and firing practices	16	4.8	
7.04 Redundancy costs weeks of salary	64	15.4	
7.05 Effect of taxation on incentives to work	11	5.1	
7.06 Pay and productivity	71	3.9	
7.07 Reliance on professional management	33	4.8	
7.08 Country capacity to retain talent	80	3.3	
7.09 Country capacity to attract talent	50	3.7	
7.10 Female participation in the labor force ratio to men	83	0.76	
8th pillar: Financial market development	**89**	**3.7**	
8.01 Financial services meeting business needs	101	3.7	
8.02 Affordability of financial services	132	2.5	
8.03 Financing through local equity market	46	4.1	
8.04 Ease of access to loans	129	2.6	
8.05 Venture capital availability	130	2.0	
8.06 Soundness of banks	83	4.5	
8.07 Regulation of securities exchanges	49	4.7	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**105**	**3.1**	
9.01 Availability of latest technologies	97	4.3	
9.02 Firm-level technology absorption	83	4.3	
9.03 FDI and technology transfer	73	4.3	
9.04 Internet users % pop.	83	47.4	
9.05 Fixed-broadband Internet subscriptions /100 pop.	135	0.0	
9.06 Internet bandwidth kb/s/user	127	3.0	
9.07 Mobile-broadband subscriptions /100 pop.	107	21.0	
10th pillar: Market size	**26**	**5.0**	
10.01 Domestic market size index	21	5.0	
10.02 Foreign market size index	51	4.9	
10.03 GDP (PPP) PPP $ billions	22	1091.7	
10.04 Exports % GDP	134	10.4	
11th pillar: Business sophistication	**99**	**3.6**	
11.01 Local supplier quantity	44	4.7	
11.02 Local supplier quality	103	3.8	
11.03 State of cluster development	88	3.5	
11.04 Nature of competitive advantage	128	2.4	
11.05 Value chain breadth	106	3.4	
11.06 Control of international distribution	127	2.9	
11.07 Production process sophistication	115	3.1	
11.08 Extent of marketing	58	4.5	
11.09 Willingness to delegate authority	88	3.6	
12th pillar: Innovation	**113**	**2.9**	
12.01 Capacity for innovation	77	4.0	
12.02 Quality of scientific research institutions	126	2.7	
12.03 Company spending on R&D	96	3.0	
12.04 University-industry collaboration in R&D	123	2.7	
12.05 Gov't procurement of advanced tech. products	97	2.9	
12.06 Availability of scientists and engineers	88	3.8	
12.07 PCT patent applications applications/million pop.	112	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Rwanda 52nd / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

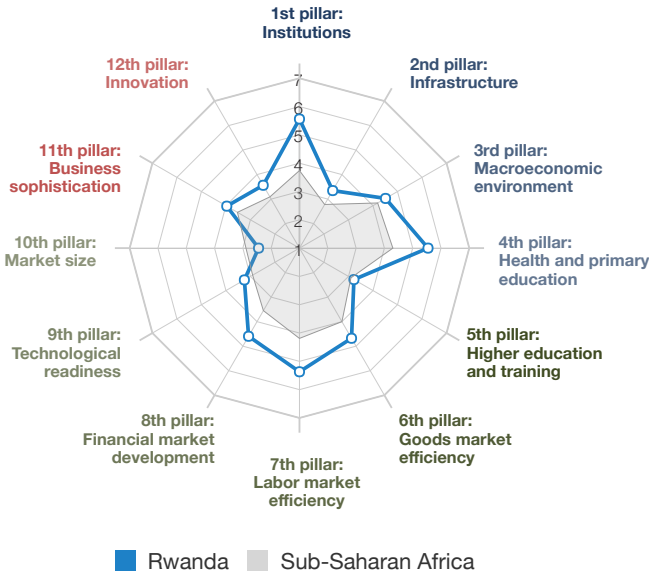
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	11.3	**GDP per capita** (US$)	731.5
GDP (US$ billions)	8.3	**GDP (PPP)** % world GDP	0.02

Performance overview

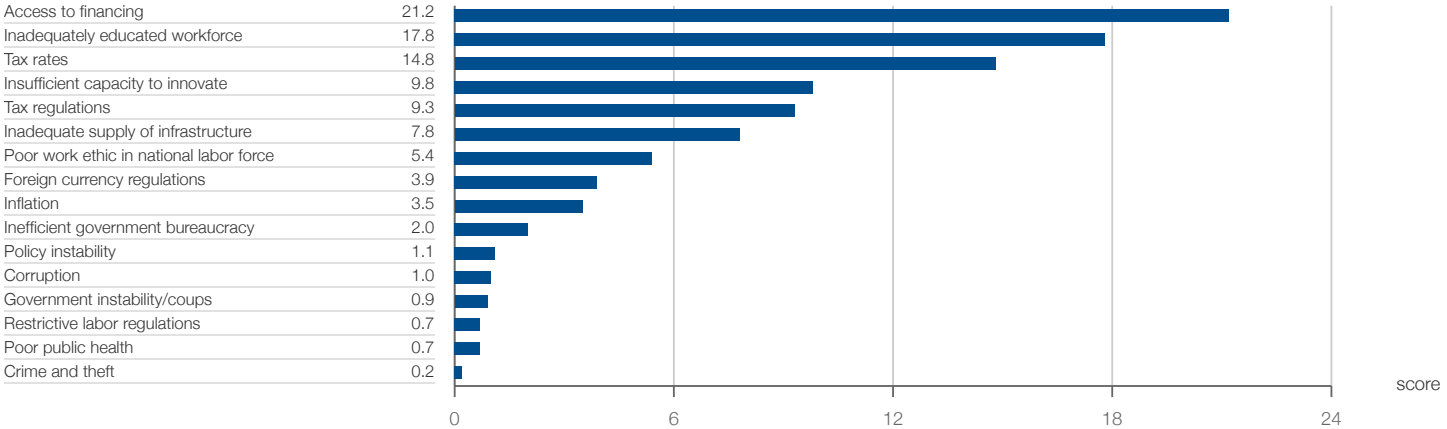
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	52	4.4		
Subindex A: Basic requirements	53	4.7		
1st pillar: Institutions	13	5.6		
2nd pillar: Infrastructure	97	3.3		
3rd pillar: Macroeconomic environment	80	4.5		
4th pillar: Health and primary education	84	5.5		
Subindex B: Efficiency enhancers	81	3.9		
5th pillar: Higher education and training	114	3.2		
6th pillar: Goods market efficiency	35	4.7		
7th pillar: Labor market efficiency	7	5.4		
8th pillar: Financial market development	32	4.6		
9th pillar: Technological readiness	100	3.2		
10th pillar: Market size	127	2.4		
Subindex C: Innovation and sophistication factors	54	3.8		
11th pillar: Business sophistication	64	4.0		
12th pillar: Innovation	47	3.6		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	63 / 144	66 / 148	62 / 144	58 / 140	52 / 138
Score	4.2	4.2	4.3	4.3	4.4



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Rwanda

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**13**	**5.6**	
1.01 Property rights	22	5.7	
1.02 Intellectual property protection	28	5.3	
1.03 Diversion of public funds	16	5.6	
1.04 Public trust in politicians	7	5.7	
1.05 Irregular payments and bribes	20	5.9	
1.06 Judicial independence	25	5.5	
1.07 Favoritism in decisions of government officials	9	5.2	
1.08 Wastefulness of government spending	4	5.7	
1.09 Burden of government regulation	2	5.5	
1.10 Efficiency of legal framework in settling disputes	11	5.5	
1.11 Efficiency of legal framework in challenging regs	14	5.1	
1.12 Transparency of government policymaking	9	5.9	
1.13 Business costs of terrorism	9	6.2	
1.14 Business costs of crime and violence	5	6.3	
1.15 Organized crime	6	6.4	
1.16 Reliability of police services	6	6.4	
1.17 Ethical behavior of firms	21	5.3	
1.18 Strength of auditing and reporting standards	40	5.2	
1.19 Efficacy of corporate boards	27	5.5	
1.20 Protection of minority shareholders' interests	23	5.0	
1.21 Strength of investor protection 0-10 (best)	79	5.3	
2nd pillar: Infrastructure	**97**	**3.3**	
2.01 Quality of overall infrastructure	41	4.6	
2.02 Quality of roads	31	5.0	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	104	3.2	
2.05 Quality of air transport infrastructure	56	4.6	
2.06 Available airline seat kilometers millions/week	120	24.4	
2.07 Quality of electricity supply	90	4.2	
2.08 Mobile-cellular telephone subscriptions /100 pop.	128	70.5	
2.09 Fixed-telephone lines /100 pop.	135	0.1	
3rd pillar: Macroeconomic environment	**80**	**4.5**	
3.01 Government budget balance % GDP	61	-2.8	
3.02 Gross national savings % GDP	120	11.2	
3.03 Inflation annual % change	1	2.5	
3.04 Government debt % GDP	33	34.6	
3.05 Country credit rating 0-100 (best)	110	-	
4th pillar: Health and primary education	**84**	**5.5**	
4.01 Malaria incidence cases/100,000 pop.	50	11462.3	
4.02 Business impact of malaria	37	4.8	
4.03 Tuberculosis incidence cases/100,000 pop.	81	63.0	
4.04 Business impact of tuberculosis	84	5.3	
4.05 HIV prevalence % adult pop.	122	2.8	
4.06 Business impact of HIV/AIDS	97	4.7	
4.07 Infant mortality deaths/1,000 live births	105	31.1	
4.08 Life expectancy years	116	64.0	
4.09 Quality of primary education	52	4.3	
4.10 Primary education enrollment rate net %	59	96.1	
5th pillar: Higher education and training	**114**	**3.2**	
5.01 Secondary education enrollment rate gross %	128	39.1	
5.02 Tertiary education enrollment rate gross %	122	7.5	
5.03 Quality of the education system	46	4.2	
5.04 Quality of math and science education	54	4.4	
5.05 Quality of management schools	59	4.3	
5.06 Internet access in schools	64	4.4	
5.07 Local availability of specialized training services	92	4.1	
5.08 Extent of staff training	55	4.1	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**35**	**4.7**	
6.01 Intensity of local competition	77	5.0	
6.02 Extent of market dominance	34	4.2	
6.03 Effectiveness of anti-monopoly policy	26	4.5	
6.04 Effect of taxation on incentives to invest	29	4.2	
6.05 Total tax rate % profits	51	33.0	
6.06 No. of procedures to start a business	76	7	
6.07 Time to start a business days	28	5.5	
6.08 Agricultural policy costs	5	5.2	
6.09 Prevalence of non-tariff barriers	68	4.4	
6.10 Trade tariffs % duty	100	9.7	
6.11 Prevalence of foreign ownership	61	4.6	
6.12 Business impact of rules on FDI	8	5.7	
6.13 Burden of customs procedures	11	5.4	
6.14 Imports % GDP	84	36.3	
6.15 Degree of customer orientation	37	5.1	
6.16 Buyer sophistication	88	3.1	
7th pillar: Labor market efficiency	**7**	**5.4**	
7.01 Cooperation in labor-employer relations	18	5.3	
7.02 Flexibility of wage determination	28	5.5	
7.03 Hiring and firing practices	13	4.8	
7.04 Redundancy costs weeks of salary	47	13.0	
7.05 Effect of taxation on incentives to work	9	5.2	
7.06 Pay and productivity	45	4.4	
7.07 Reliance on professional management	31	4.9	
7.08 Country capacity to retain talent	20	4.7	
7.09 Country capacity to attract talent	14	4.9	
7.10 Female participation in the labor force ratio to men	2	1.05	
8th pillar: Financial market development	**32**	**4.6**	
8.01 Financial services meeting business needs	66	4.3	
8.02 Affordability of financial services	73	3.7	
8.03 Financing through local equity market	70	3.6	
8.04 Ease of access to loans	64	4.0	
8.05 Venture capital availability	37	3.3	
8.06 Soundness of banks	78	4.6	
8.07 Regulation of securities exchanges	36	5.1	
8.08 Legal rights index 0-10 (best)	4	11	
9th pillar: Technological readiness	**100**	**3.2**	
9.01 Availability of latest technologies	49	5.1	
9.02 Firm-level technology absorption	52	4.7	
9.03 FDI and technology transfer	37	4.8	
9.04 Internet users % pop.	119	18.0	
9.05 Fixed-broadband Internet subscriptions /100 pop.	124	0.2	
9.06 Internet bandwidth kb/s/user	119	5.7	
9.07 Mobile-broadband subscriptions /100 pop.	104	25.9	
10th pillar: Market size	**127**	**2.4**	
10.01 Domestic market size index	125	2.3	
10.02 Foreign market size index	130	2.8	
10.03 GDP (PPP) PPP $ billions	123	20.4	
10.04 Exports % GDP	129	12.2	
11th pillar: Business sophistication	**64**	**4.0**	
11.01 Local supplier quantity	82	4.3	
11.02 Local supplier quality	76	4.2	
11.03 State of cluster development	41	4.1	
11.04 Nature of competitive advantage	51	3.9	
11.05 Value chain breadth	73	3.7	
11.06 Control of international distribution	88	3.4	
11.07 Production process sophistication	101	3.4	
11.08 Extent of marketing	69	4.4	
11.09 Willingness to delegate authority	64	3.8	
12th pillar: Innovation	**47**	**3.6**	
12.01 Capacity for innovation	54	4.3	
12.02 Quality of scientific research institutions	80	3.7	
12.03 Company spending on R&D	65	3.3	
12.04 University-industry collaboration in R&D	78	3.3	
12.05 Gov't procurement of advanced tech. products	8	4.4	
12.06 Availability of scientists and engineers	70	4.0	
12.07 PCT patent applications applications/million pop.	116	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Senegal 112nd / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

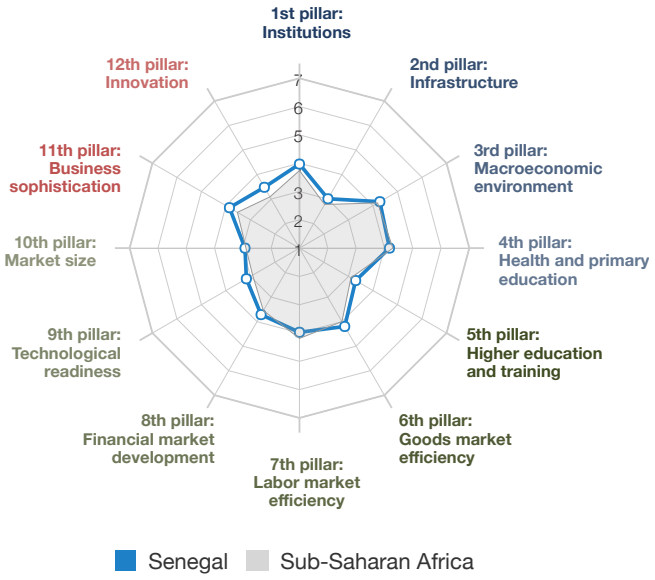
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	15.0	**GDP per capita** (US$)	913.0
GDP (US$ billions)	13.7	**GDP (PPP)** % world GDP	0.03

Performance overview

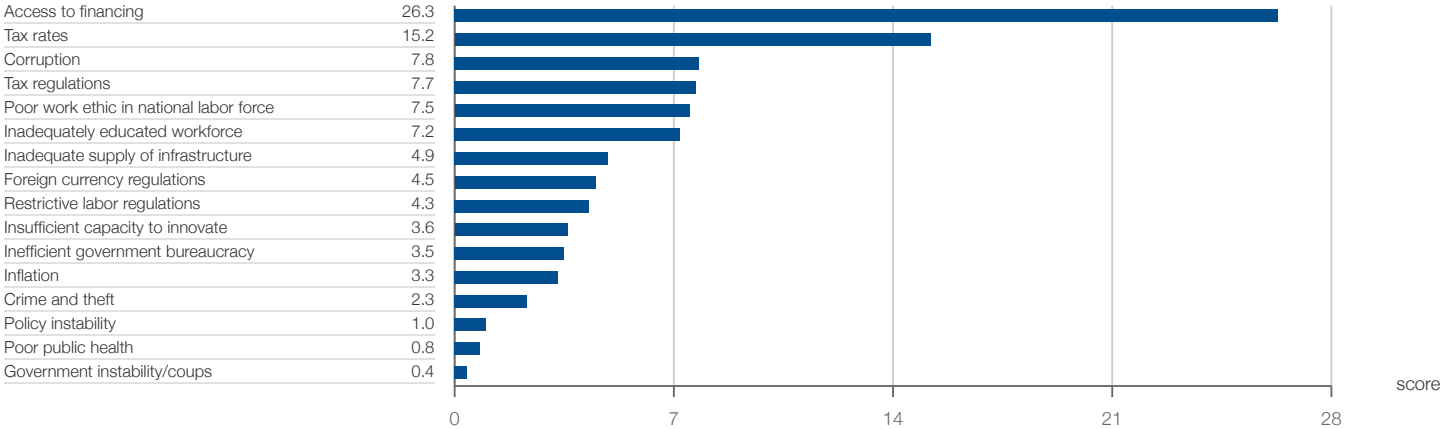
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**112**	3.7		
Subindex A: Basic requirements	112	3.9		
1st pillar: Institutions	**69**	**4.0**		
2nd pillar: Infrastructure	**109**	**3.0**		
3rd pillar: Macroeconomic environment	**92**	**4.3**		
4th pillar: Health and primary education	**126**	**4.2**		
Subindex B: Efficiency enhancers	111	3.5		
5th pillar: Higher education and training	**111**	**3.3**		
6th pillar: Goods market efficiency	**84**	**4.2**		
7th pillar: Labor market efficiency	**94**	**4.0**		
8th pillar: Financial market development	**88**	**3.7**		
9th pillar: Technological readiness	**103**	**3.2**		
10th pillar: Market size	**103**	**2.9**		
Subindex C: Innovation and sophistication factors	62	3.7		
11th pillar: Business sophistication	**70**	**3.9**		
12th pillar: Innovation	**50**	**3.5**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**117** / 144	**113** / 148	**112** / 144	**110** / 140	**112** / 138
Score	3.7	3.7	3.7	3.7	3.7



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Senegal

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**69**	**4.0**	
1.01 Property rights	78	4.2	
1.02 Intellectual property protection	57	4.3	
1.03 Diversion of public funds	73	3.5	
1.04 Public trust in politicians	58	3.2	
1.05 Irregular payments and bribes	85	3.6	
1.06 Judicial independence	86	3.6	
1.07 Favoritism in decisions of government officials	59	3.3	
1.08 Wastefulness of government spending	47	3.6	
1.09 Burden of government regulation	51	3.7	
1.10 Efficiency of legal framework in settling disputes	35	4.5	
1.11 Efficiency of legal framework in challenging regs	38	4.1	
1.12 Transparency of government policymaking	73	4.1	
1.13 Business costs of terrorism	90	4.8	
1.14 Business costs of crime and violence	69	4.7	
1.15 Organized crime	76	4.9	
1.16 Reliability of police services	43	5.1	
1.17 Ethical behavior of firms	75	3.8	
1.18 Strength of auditing and reporting standards	107	3.9	
1.19 Efficacy of corporate boards	87	4.7	
1.20 Protection of minority shareholders' interests	59	4.2	
1.21 Strength of investor protection 0-10 (best)	120	3.8	
2nd pillar: Infrastructure	**109**	**3.0**	
2.01 Quality of overall infrastructure	121	2.8	
2.02 Quality of roads	71	4.0	
2.03 Quality of railroad infrastructure	85	2.2	
2.04 Quality of port infrastructure	54	4.4	
2.05 Quality of air transport infrastructure	85	4.1	
2.06 Available airline seat kilometers millions/week	88	84.9	
2.07 Quality of electricity supply	111	3.2	
2.08 Mobile-cellular telephone subscriptions /100 pop.	98	99.9	
2.09 Fixed-telephone lines /100 pop.	113	2.0	
3rd pillar: Macroeconomic environment	**92**	**4.3**	
3.01 Government budget balance % GDP	99	-4.8	
3.02 Gross national savings % GDP	82	17.7	
3.03 Inflation annual % change	54	0.1	
3.04 Government debt % GDP	83	56.8	
3.05 Country credit rating 0-100 (best)	91	-	
4th pillar: Health and primary education	**126**	**4.2**	
4.01 Malaria incidence cases/100,000 pop.	51	12267.8	
4.02 Business impact of malaria	51	3.9	
4.03 Tuberculosis incidence cases/100,000 pop.	100	138.0	
4.04 Business impact of tuberculosis	99	4.6	
4.05 HIV prevalence % adult pop.	85	0.5	
4.06 Business impact of HIV/AIDS	102	4.6	
4.07 Infant mortality deaths/1,000 live births	118	41.7	
4.08 Life expectancy years	107	66.4	
4.09 Quality of primary education	84	3.7	
4.10 Primary education enrollment rate net %	134	71.1	
5th pillar: Higher education and training	**111**	**3.3**	
5.01 Secondary education enrollment rate gross %	126	40.1	
5.02 Tertiary education enrollment rate gross %	123	7.4	
5.03 Quality of the education system	82	3.6	
5.04 Quality of math and science education	85	3.8	
5.05 Quality of management schools	35	4.9	
5.06 Internet access in schools	48	4.7	
5.07 Local availability of specialized training services	31	5.0	
5.08 Extent of staff training	91	3.7	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**84**	**4.2**	
6.01 Intensity of local competition	54	5.2	
6.02 Extent of market dominance	45	3.9	
6.03 Effectiveness of anti-monopoly policy	81	3.5	
6.04 Effect of taxation on incentives to invest	91	3.4	
6.05 Total tax rate % profits	99	47.3	
6.06 No. of procedures to start a business	22	4	
6.07 Time to start a business days	34	6.0	
6.08 Agricultural policy costs	76	3.7	
6.09 Prevalence of non-tariff barriers	120	3.7	
6.10 Trade tariffs % duty	106	9.9	
6.11 Prevalence of foreign ownership	63	4.6	
6.12 Business impact of rules on FDI	89	4.3	
6.13 Burden of customs procedures	50	4.4	
6.14 Imports % GDP	60	46.1	
6.15 Degree of customer orientation	77	4.5	
6.16 Buyer sophistication	119	2.7	
7th pillar: Labor market efficiency	**94**	**4.0**	
7.01 Cooperation in labor-employer relations	77	4.3	
7.02 Flexibility of wage determination	96	4.6	
7.03 Hiring and firing practices	80	3.6	
7.04 Redundancy costs weeks of salary	60	14.7	
7.05 Effect of taxation on incentives to work	44	4.2	
7.06 Pay and productivity	91	3.7	
7.07 Reliance on professional management	75	4.1	
7.08 Country capacity to retain talent	85	3.3	
7.09 Country capacity to attract talent	65	3.5	
7.10 Female participation in the labor force ratio to men	106	0.65	
8th pillar: Financial market development	**88**	**3.7**	
8.01 Financial services meeting business needs	107	3.7	
8.02 Affordability of financial services	111	3.2	
8.03 Financing through local equity market	69	3.6	
8.04 Ease of access to loans	100	3.3	
8.05 Venture capital availability	83	2.6	
8.06 Soundness of banks	82	4.5	
8.07 Regulation of securities exchanges	90	3.9	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**103**	**3.2**	
9.01 Availability of latest technologies	69	4.8	
9.02 Firm-level technology absorption	45	4.9	
9.03 FDI and technology transfer	103	3.9	
9.04 Internet users % pop.	108	21.7	
9.05 Fixed-broadband Internet subscriptions /100 pop.	112	0.7	
9.06 Internet bandwidth kb/s/user	111	6.9	
9.07 Mobile-broadband subscriptions /100 pop.	103	26.4	
10th pillar: Market size	**103**	**2.9**	
10.01 Domestic market size index	100	2.7	
10.02 Foreign market size index	114	3.5	
10.03 GDP (PPP) PPP $ billions	102	36.7	
10.04 Exports % GDP	103	24.0	
11th pillar: Business sophistication	**70**	**3.9**	
11.01 Local supplier quantity	52	4.6	
11.02 Local supplier quality	69	4.3	
11.03 State of cluster development	74	3.7	
11.04 Nature of competitive advantage	82	3.3	
11.05 Value chain breadth	58	3.9	
11.06 Control of international distribution	89	3.4	
11.07 Production process sophistication	96	3.4	
11.08 Extent of marketing	63	4.5	
11.09 Willingness to delegate authority	87	3.6	
12th pillar: Innovation	**50**	**3.5**	
12.01 Capacity for innovation	50	4.4	
12.02 Quality of scientific research institutions	42	4.3	
12.03 Company spending on R&D	55	3.5	
12.04 University-industry collaboration in R&D	49	3.6	
12.05 Gov't procurement of advanced tech. products	56	3.4	
12.06 Availability of scientists and engineers	85	3.8	
12.07 PCT patent applications applications/million pop.	121	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Sierra Leone 132nd / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

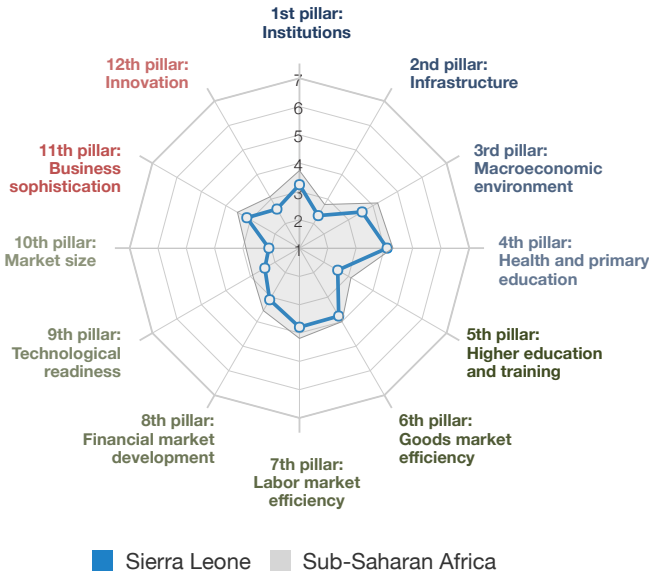
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	6.3	**GDP per capita** (US$)	659.4
GDP (US$ billions)	4.2	**GDP (PPP)** % world GDP	0.01

Performance overview

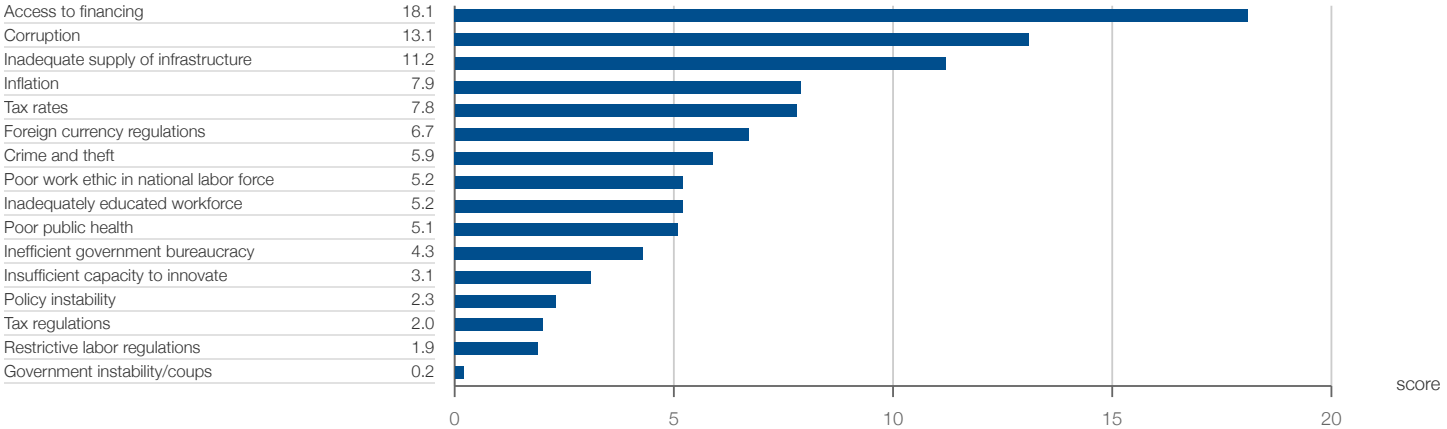
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**132**	3.2		
Subindex A: Basic requirements	129	3.3		
1st pillar: Institutions	**121**	3.2		
2nd pillar: Infrastructure	**127**	2.3		
3rd pillar: Macroeconomic environment	**123**	3.6		
4th pillar: Health and primary education	**127**	4.1		
Subindex B: Efficiency enhancers	134	3.0		
5th pillar: Higher education and training	**133**	2.6		
6th pillar: Goods market efficiency	**123**	3.8		
7th pillar: Labor market efficiency	**110**	3.8		
8th pillar: Financial market development	**123**	3.1		
9th pillar: Technological readiness	**132**	2.4		
10th pillar: Market size	**131**	2.1		
Subindex C: Innovation and sophistication factors	130	2.9		
11th pillar: Business sophistication	**133**	3.1		
12th pillar: Innovation	**130**	2.6		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**143** / 144	**144** / 148	**138** / 144	**137** / 140	**132** / 138
Score	2.8	3.0	3.1	3.1	3.2



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Sierra Leone

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**121**	**3.2**	
1.01 Property rights	121	3.5	
1.02 Intellectual property protection	122	3.3	
1.03 Diversion of public funds	116	2.5	
1.04 Public trust in politicians	87	2.6	
1.05 Irregular payments and bribes	134	2.4	
1.06 Judicial independence	124	2.7	
1.07 Favoritism in decisions of government officials	111	2.4	
1.08 Wastefulness of government spending	76	3.0	
1.09 Burden of government regulation	80	3.4	
1.10 Efficiency of legal framework in settling disputes	88	3.3	
1.11 Efficiency of legal framework in challenging regs	124	2.5	
1.12 Transparency of government policymaking	104	3.7	
1.13 Business costs of terrorism	100	4.7	
1.14 Business costs of crime and violence	105	3.8	
1.15 Organized crime	101	4.2	
1.16 Reliability of police services	107	3.5	
1.17 Ethical behavior of firms	119	3.2	
1.18 Strength of auditing and reporting standards	117	3.8	
1.19 Efficacy of corporate boards	110	4.4	
1.20 Protection of minority shareholders' interests	124	3.4	
1.21 Strength of investor protection 0-10 (best)	79	5.3	
2nd pillar: Infrastructure	**127**	**2.3**	
2.01 Quality of overall infrastructure	129	2.4	
2.02 Quality of roads	122	2.8	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.	
2.04 Quality of port infrastructure	111	3.0	
2.05 Quality of air transport infrastructure	128	2.7	
2.06 Available airline seat kilometers millions/week	134	7.7	
2.07 Quality of electricity supply	127	2.2	
2.08 Mobile-cellular telephone subscriptions /100 pop.	109	89.5	
2.09 Fixed-telephone lines /100 pop.	130	0.3	
3rd pillar: Macroeconomic environment	**123**	**3.6**	
3.01 Government budget balance % GDP	95	-4.4	
3.02 Gross national savings % GDP	133	3.9	
3.03 Inflation annual % change	124	9.0	
3.04 Government debt % GDP	67	46.1	
3.05 Country credit rating 0-100 (best)	133	-	
4th pillar: Health and primary education	**127**	**4.1**	
4.01 Malaria incidence cases/100,000 pop.	68	39584.4	
4.02 Business impact of malaria	69	2.9	
4.03 Tuberculosis incidence cases/100,000 pop.	126	310.0	
4.04 Business impact of tuberculosis	116	4.2	
4.05 HIV prevalence % adult pop.	115	1.4	
4.06 Business impact of HIV/AIDS	112	4.3	
4.07 Infant mortality deaths/1,000 live births	138	87.1	
4.08 Life expectancy years	137	50.9	
4.09 Quality of primary education	119	2.9	
4.10 Primary education enrollment rate net %	31	97.9	
5th pillar: Higher education and training	**133**	**2.6**	
5.01 Secondary education enrollment rate gross %	123	43.4	
5.02 Tertiary education enrollment rate gross %	137	2.2	
5.03 Quality of the education system	110	3.0	
5.04 Quality of math and science education	123	2.7	
5.05 Quality of management schools	129	3.2	
5.06 Internet access in schools	134	2.4	
5.07 Local availability of specialized training services	131	3.3	
5.08 Extent of staff training	105	3.5	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**123**	**3.8**	
6.01 Intensity of local competition	131	4.1	
6.02 Extent of market dominance	126	2.9	
6.03 Effectiveness of anti-monopoly policy	131	2.6	
6.04 Effect of taxation on incentives to invest	90	3.4	
6.05 Total tax rate % profits	42	31.0	
6.06 No. of procedures to start a business	54	6	
6.07 Time to start a business days	56	10.0	
6.08 Agricultural policy costs	115	3.2	
6.09 Prevalence of non-tariff barriers	116	3.7	
6.10 Trade tariffs % duty	128	13.8	
6.11 Prevalence of foreign ownership	66	4.5	
6.12 Business impact of rules on FDI	78	4.5	
6.13 Burden of customs procedures	122	3.2	
6.14 Imports % GDP	39	56.4	
6.15 Degree of customer orientation	121	3.9	
6.16 Buyer sophistication	128	2.4	
7th pillar: Labor market efficiency	**110**	**3.8**	
7.01 Cooperation in labor-employer relations	104	4.1	
7.02 Flexibility of wage determination	105	4.4	
7.03 Hiring and firing practices	77	3.7	
7.04 Redundancy costs weeks of salary	135	75.5	
7.05 Effect of taxation on incentives to work	90	3.7	
7.06 Pay and productivity	121	3.3	
7.07 Reliance on professional management	105	3.7	
7.08 Country capacity to retain talent	96	3.0	
7.09 Country capacity to attract talent	89	3.1	
7.10 Female participation in the labor force ratio to men	9	0.97	
8th pillar: Financial market development	**123**	**3.1**	
8.01 Financial services meeting business needs	127	3.3	
8.02 Affordability of financial services	129	2.7	
8.03 Financing through local equity market	114	2.7	
8.04 Ease of access to loans	128	2.6	
8.05 Venture capital availability	127	2.1	
8.06 Soundness of banks	120	3.7	
8.07 Regulation of securities exchanges	119	3.4	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**132**	**2.4**	
9.01 Availability of latest technologies	135	3.0	
9.02 Firm-level technology absorption	123	3.7	
9.03 FDI and technology transfer	125	3.4	
9.04 Internet users % pop.	138	2.5	
9.05 Fixed-broadband Internet subscriptions /100 pop.	n/a	n/a	
9.06 Internet bandwidth kb/s/user	133	2.0	
9.07 Mobile-broadband subscriptions /100 pop.	117	15.2	
10th pillar: Market size	**131**	**2.1**	
10.01 Domestic market size index	130	1.9	
10.02 Foreign market size index	134	2.7	
10.03 GDP (PPP) PPP $ billions	131	10.0	
10.04 Exports % GDP	115	19.6	
11th pillar: Business sophistication	**133**	**3.1**	
11.01 Local supplier quantity	106	4.1	
11.02 Local supplier quality	131	3.4	
11.03 State of cluster development	120	3.0	
11.04 Nature of competitive advantage	121	2.7	
11.05 Value chain breadth	131	2.9	
11.06 Control of international distribution	135	2.7	
11.07 Production process sophistication	134	2.5	
11.08 Extent of marketing	132	3.5	
11.09 Willingness to delegate authority	110	3.3	
12th pillar: Innovation	**130**	**2.6**	
12.01 Capacity for innovation	127	3.3	
12.02 Quality of scientific research institutions	135	2.3	
12.03 Company spending on R&D	128	2.5	
12.04 University-industry collaboration in R&D	126	2.6	
12.05 Gov't procurement of advanced tech. products	78	3.1	
12.06 Availability of scientists and engineers	129	3.0	
12.07 PCT patent applications applications/million pop.	106	0.1	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

South Africa 47th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

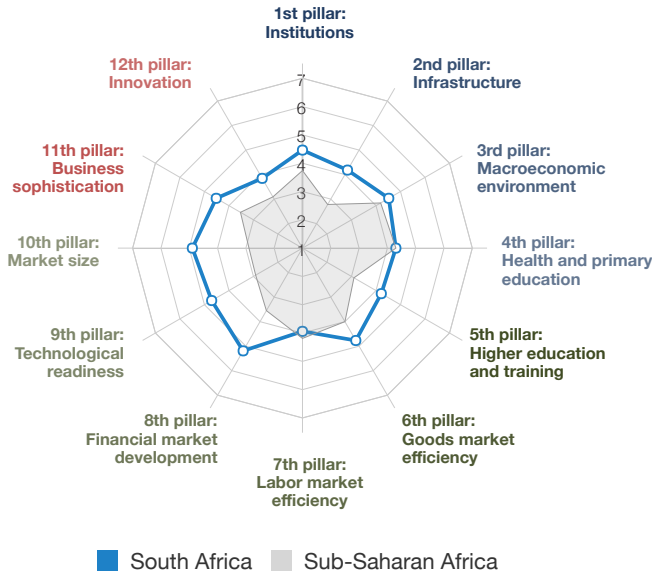
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	55.0	**GDP per capita** (US$)	5694.6
GDP (US$ billions)	313.0	**GDP (PPP)** % world GDP	0.64

Performance overview

	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	47	4.5		
Subindex A: Basic requirements	84	4.4		
1st pillar: Institutions	40	4.5		
2nd pillar: Infrastructure	64	4.2		
3rd pillar: Macroeconomic environment	79	4.5		
4th pillar: Health and primary education	123	4.3		
Subindex B: Efficiency enhancers	35	4.6		
5th pillar: Higher education and training	77	4.2		
6th pillar: Goods market efficiency	28	4.8		
7th pillar: Labor market efficiency	97	3.9		
8th pillar: Financial market development	11	5.2		
9th pillar: Technological readiness	49	4.7		
10th pillar: Market size	30	4.9		
Subindex C: Innovation and sophistication factors	31	4.2		
11th pillar: Business sophistication	30	4.5		
12th pillar: Innovation	35	3.8		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	52 / 144	53 / 148	56 / 144	49 / 140	47 / 138
Score	4.4	4.4	4.4	4.4	4.5

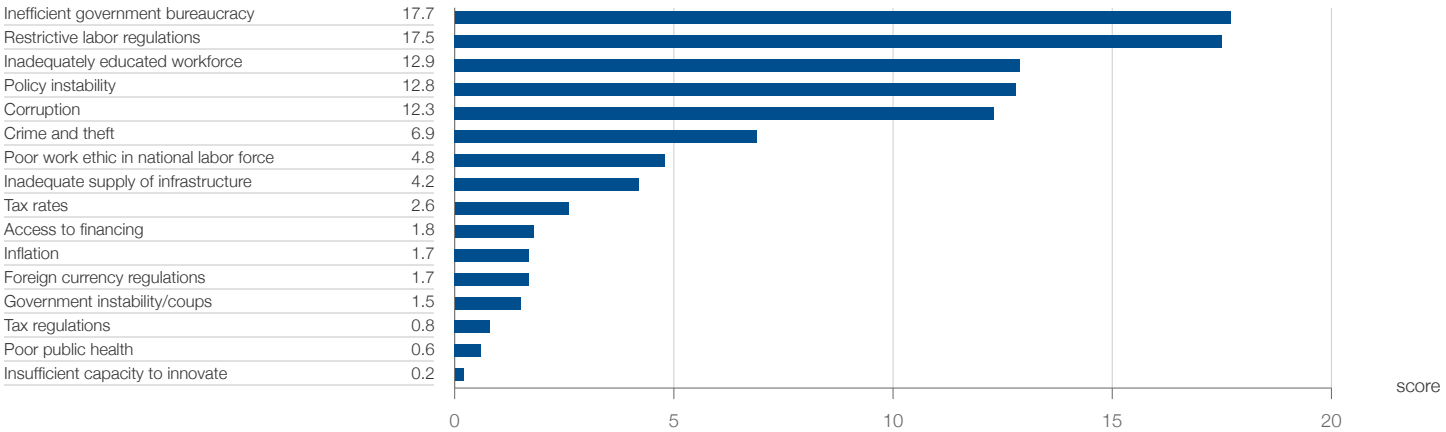


South Africa slightly improves both its score and ranking (47th). It has been relatively less affected by commodity price falls than other economies in the region, and has registered marginal improvements in almost all aspects of competitiveness. Most significant areas of progress include enhanced competition, both locally (32nd) and internationally (55th); better use of talent in terms of how pay reflects productivity (98th); and a small but important upgrade in the quality of education (up seven places since ACR 2015), with primary school enrollment also now passing 97 percent. However, a number of shortcomings may limit South African competitiveness going forward.

Infrastructure development has stalled, both in transport and electricity, with power shortages experienced this year. Institutional quality has diminished, with increased political uncertainty, less transparency, some security concerns, and business leaders having less trust in politicians (down 19 places since ACR 2015). The slowdown of the Chinese economy and exchange rate volatility may dampen growth, now forecast at 0.1 percent for 2016. This makes it unlikely that the high unemployment rate will diminish soon, hampering the ability to leverage Africa's demographic dividend.

Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

South Africa

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**40**	**4.5**	
1.01 Property rights	29	5.4	
1.02 Intellectual property protection	21	5.7	
1.03 Diversion of public funds	96	3.0	
1.04 Public trust in politicians	109	2.2	
1.05 Irregular payments and bribes	53	4.4	
1.06 Judicial independence	16	5.8	
1.07 Favoritism in decisions of government officials	115	2.3	
1.08 Wastefulness of government spending	88	2.8	
1.09 Burden of government regulation	106	3.0	
1.10 Efficiency of legal framework in settling disputes	9	5.6	
1.11 Efficiency of legal framework in challenging regs	10	5.3	
1.12 Transparency of government policymaking	44	4.5	
1.13 Business costs of terrorism	64	5.3	
1.14 Business costs of crime and violence	133	2.4	
1.15 Organized crime	99	4.2	
1.16 Reliability of police services	115	3.3	
1.17 Ethical behavior of firms	36	4.5	
1.18 Strength of auditing and reporting standards	1	6.7	
1.19 Efficacy of corporate boards	3	6.3	
1.20 Protection of minority shareholders' interests	1	6.2	
1.21 Strength of investor protection 0-10 (best)	14	7.2	
2nd pillar: Infrastructure	**64**	**4.2**	
2.01 Quality of overall infrastructure	59	4.2	
2.02 Quality of roads	29	5.0	
2.03 Quality of railroad infrastructure	40	3.8	
2.04 Quality of port infrastructure	37	4.9	
2.05 Quality of air transport infrastructure	10	6.0	
2.06 Available airline seat kilometers millions/week	28	1218.6	
2.07 Quality of electricity supply	112	3.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	15	159.3	
2.09 Fixed-telephone lines /100 pop.	93	7.7	
3rd pillar: Macroeconomic environment	**79**	**4.5**	
3.01 Government budget balance % GDP	90	-4.0	
3.02 Gross national savings % GDP	97	15.1	
3.03 Inflation annual % change	95	4.6	
3.04 Government debt % GDP	73	50.1	
3.05 Country credit rating 0-100 (best)	63	-	
4th pillar: Health and primary education	**123**	**4.3**	
4.01 Malaria incidence cases/100,000 pop.	25	35.2	
4.02 Business impact of malaria	30	5.1	
4.03 Tuberculosis incidence cases/100,000 pop.	137	834.0	
4.04 Business impact of tuberculosis	130	3.7	
4.05 HIV prevalence % adult pop.	135	18.9	
4.06 Business impact of HIV/AIDS	130	3.4	
4.07 Infant mortality deaths/1,000 live births	107	33.6	
4.08 Life expectancy years	130	57.2	
4.09 Quality of primary education	126	2.7	
4.10 Primary education enrollment rate net %	44	97.1	
5th pillar: Higher education and training	**77**	**4.2**	
5.01 Secondary education enrollment rate gross %	67	93.8	
5.02 Tertiary education enrollment rate gross %	99	19.7	
5.03 Quality of the education system	134	2.3	
5.04 Quality of math and science education	138	2.2	
5.05 Quality of management schools	21	5.4	
5.06 Internet access in schools	111	3.5	
5.07 Local availability of specialized training services	33	5.0	
5.08 Extent of staff training	19	5.0	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**28**	**4.8**	
6.01 Intensity of local competition	30	5.5	
6.02 Extent of market dominance	30	4.2	
6.03 Effectiveness of anti-monopoly policy	7	5.4	
6.04 Effect of taxation on incentives to invest	41	4.0	
6.05 Total tax rate % profits	31	28.8	
6.06 No. of procedures to start a business	54	6	
6.07 Time to start a business days	125	46.0	
6.08 Agricultural policy costs	70	3.7	
6.09 Prevalence of non-tariff barriers	35	4.7	
6.10 Trade tariffs % duty	78	6.2	
6.11 Prevalence of foreign ownership	31	5.2	
6.12 Business impact of rules on FDI	61	4.7	
6.13 Burden of customs procedures	65	4.2	
6.14 Imports % GDP	78	38.3	
6.15 Degree of customer orientation	36	5.1	
6.16 Buyer sophistication	22	4.2	
7th pillar: Labor market efficiency	**97**	**3.9**	
7.01 Cooperation in labor-employer relations	138	2.5	
7.02 Flexibility of wage determination	135	2.8	
7.03 Hiring and firing practices	135	2.3	
7.04 Redundancy costs weeks of salary	28	9.3	
7.05 Effect of taxation on incentives to work	59	4.0	
7.06 Pay and productivity	98	3.6	
7.07 Reliance on professional management	21	5.5	
7.08 Country capacity to retain talent	69	3.5	
7.09 Country capacity to attract talent	53	3.6	
7.10 Female participation in the labor force ratio to men	69	0.81	
8th pillar: Financial market development	**11**	**5.2**	
8.01 Financial services meeting business needs	2	6.0	
8.02 Affordability of financial services	27	4.6	
8.03 Financing through local equity market	1	5.9	
8.04 Ease of access to loans	12	5.2	
8.05 Venture capital availability	53	3.0	
8.06 Soundness of banks	2	6.6	
8.07 Regulation of securities exchanges	3	6.2	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**49**	**4.7**	
9.01 Availability of latest technologies	44	5.4	
9.02 Firm-level technology absorption	22	5.4	
9.03 FDI and technology transfer	52	4.6	
9.04 Internet users % pop.	75	51.9	
9.05 Fixed-broadband Internet subscriptions /100 pop.	86	5.3	
9.06 Internet bandwidth kb/s/user	21	147.6	
9.07 Mobile-broadband subscriptions /100 pop.	57	59.5	
10th pillar: Market size	**30**	**4.9**	
10.01 Domestic market size index	27	4.8	
10.02 Foreign market size index	34	5.3	
10.03 GDP (PPP) PPP $ billions	30	723.5	
10.04 Exports % GDP	81	30.8	
11th pillar: Business sophistication	**30**	**4.5**	
11.01 Local supplier quantity	39	4.7	
11.02 Local supplier quality	34	4.9	
11.03 State of cluster development	30	4.4	
11.04 Nature of competitive advantage	71	3.4	
11.05 Value chain breadth	52	4.1	
11.06 Control of international distribution	31	4.3	
11.07 Production process sophistication	34	4.6	
11.08 Extent of marketing	16	5.2	
11.09 Willingness to delegate authority	26	4.5	
12th pillar: Innovation	**35**	**3.8**	
12.01 Capacity for innovation	25	5.0	
12.02 Quality of scientific research institutions	29	4.9	
12.03 Company spending on R&D	30	4.2	
12.04 University-industry collaboration in R&D	27	4.4	
12.05 Gov't procurement of advanced tech. products	99	2.9	
12.06 Availability of scientists and engineers	112	3.4	
12.07 PCT patent applications applications/million pop.	47	6.5	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Tanzania 116th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

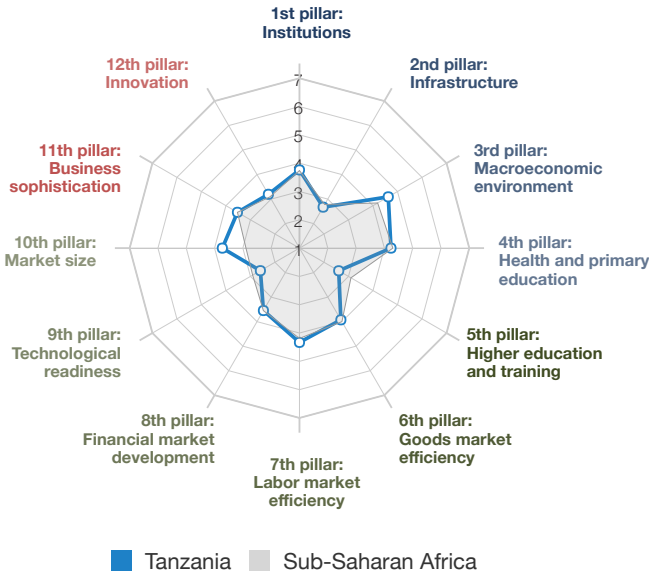
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	47.7	**GDP per capita** (US$)	941.8
GDP (US$ billions)	44.9	**GDP (PPP)** % world GDP	0.12

Performance overview

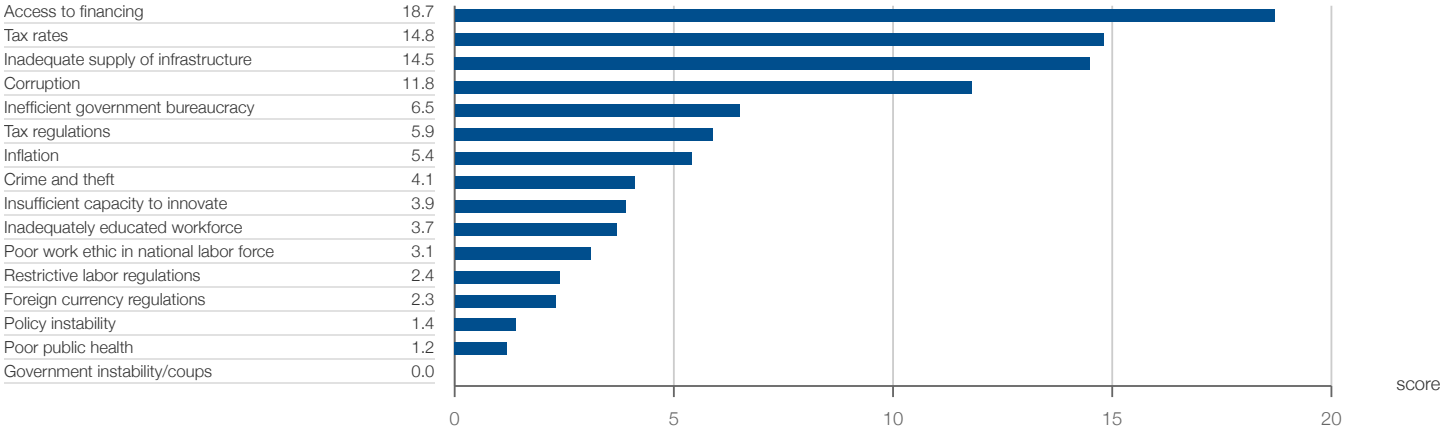
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**116**	3.7		
Subindex A: Basic requirements	114	3.8		
1st pillar: Institutions	**83**	**3.8**		
2nd pillar: Infrastructure	**118**	**2.7**		
3rd pillar: Macroeconomic environment	**70**	**4.6**		
4th pillar: Health and primary education	**124**	**4.2**		
Subindex B: Efficiency enhancers	119	3.5		
5th pillar: Higher education and training	**132**	**2.6**		
6th pillar: Goods market efficiency	**114**	**3.9**		
7th pillar: Labor market efficiency	**62**	**4.3**		
8th pillar: Financial market development	**98**	**3.5**		
9th pillar: Technological readiness	**125**	**2.6**		
10th pillar: Market size	**71**	**3.7**		
Subindex C: Innovation and sophistication factors	96	3.4		
11th pillar: Business sophistication	**106**	**3.5**		
12th pillar: Innovation	**88**	**3.2**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**120** / 144	**125** / 148	**121** / 144	**120** / 140	**116** / 138
Score	3.6	3.5	3.6	3.6	3.7



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Tanzania

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**83**	**3.8**	
1.01 Property rights	102	3.9	
1.02 Intellectual property protection	101	3.6	
1.03 Diversion of public funds	86	3.2	
1.04 Public trust in politicians	54	3.4	
1.05 Irregular payments and bribes	121	2.9	
1.06 Judicial independence	71	3.9	
1.07 Favoritism in decisions of government officials	60	3.3	
1.08 Wastefulness of government spending	83	2.9	
1.09 Burden of government regulation	59	3.5	
1.10 Efficiency of legal framework in settling disputes	51	4.0	
1.11 Efficiency of legal framework in challenging regs	55	3.7	
1.12 Transparency of government policymaking	74	4.1	
1.13 Business costs of terrorism	99	4.7	
1.14 Business costs of crime and violence	87	4.2	
1.15 Organized crime	71	4.9	
1.16 Reliability of police services	76	4.3	
1.17 Ethical behavior of firms	83	3.7	
1.18 Strength of auditing and reporting standards	111	3.8	
1.19 Efficacy of corporate boards	113	4.3	
1.20 Protection of minority shareholders' interests	74	4.0	
1.21 Strength of investor protection 0-10 (best)	101	4.5	
2nd pillar: Infrastructure	**118**	**2.7**	
2.01 Quality of overall infrastructure	90	3.5	
2.02 Quality of roads	90	3.4	
2.03 Quality of railroad infrastructure	76	2.5	
2.04 Quality of port infrastructure	99	3.4	
2.05 Quality of air transport infrastructure	123	3.2	
2.06 Available airline seat kilometers millions/week	80	107.6	
2.07 Quality of electricity supply	113	2.9	
2.08 Mobile-cellular telephone subscriptions /100 pop.	124	75.9	
2.09 Fixed-telephone lines /100 pop.	129	0.3	
3rd pillar: Macroeconomic environment	**70**	**4.6**	
3.01 Government budget balance % GDP	83	-3.7	
3.02 Gross national savings % GDP	54	22.6	
3.03 Inflation annual % change	106	5.6	
3.04 Government debt % GDP	54	40.5	
3.05 Country credit rating 0-100 (best)	109	-	
4th pillar: Health and primary education	**124**	**4.2**	
4.01 Malaria incidence cases/100,000 pop.	49	10999.1	
4.02 Business impact of malaria	68	3.0	
4.03 Tuberculosis incidence cases/100,000 pop.	129	327.0	
4.04 Business impact of tuberculosis	115	4.2	
4.05 HIV prevalence % adult pop.	127	5.3	
4.06 Business impact of HIV/AIDS	126	3.8	
4.07 Infant mortality deaths/1,000 live births	110	35.2	
4.08 Life expectancy years	111	64.9	
4.09 Quality of primary education	117	3.0	
4.10 Primary education enrollment rate net %	128	80.9	
5th pillar: Higher education and training	**132**	**2.6**	
5.01 Secondary education enrollment rate gross %	134	32.3	
5.02 Tertiary education enrollment rate gross %	133	3.6	
5.03 Quality of the education system	96	3.3	
5.04 Quality of math and science education	122	2.8	
5.05 Quality of management schools	126	3.3	
5.06 Internet access in schools	123	3.1	
5.07 Local availability of specialized training services	103	3.9	
5.08 Extent of staff training	108	3.5	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**114**	**3.9**	
6.01 Intensity of local competition	99	4.7	
6.02 Extent of market dominance	90	3.4	
6.03 Effectiveness of anti-monopoly policy	60	3.7	
6.04 Effect of taxation on incentives to invest	102	3.2	
6.05 Total tax rate % profits	92	43.9	
6.06 No. of procedures to start a business	108	9	
6.07 Time to start a business days	109	26.0	
6.08 Agricultural policy costs	74	3.7	
6.09 Prevalence of non-tariff barriers	97	4.1	
6.10 Trade tariffs % duty	103	9.8	
6.11 Prevalence of foreign ownership	90	4.2	
6.12 Business impact of rules on FDI	93	4.2	
6.13 Burden of customs procedures	97	3.6	
6.14 Imports % GDP	114	28.6	
6.15 Degree of customer orientation	106	4.1	
6.16 Buyer sophistication	112	2.8	
7th pillar: Labor market efficiency	**62**	**4.3**	
7.01 Cooperation in labor-employer relations	116	3.8	
7.02 Flexibility of wage determination	85	4.8	
7.03 Hiring and firing practices	72	3.7	
7.04 Redundancy costs weeks of salary	28	9.3	
7.05 Effect of taxation on incentives to work	117	3.1	
7.06 Pay and productivity	109	3.5	
7.07 Reliance on professional management	87	4.0	
7.08 Country capacity to retain talent	73	3.5	
7.09 Country capacity to attract talent	58	3.6	
7.10 Female participation in the labor force ratio to men	31	0.90	
8th pillar: Financial market development	**98**	**3.5**	
8.01 Financial services meeting business needs	96	3.8	
8.02 Affordability of financial services	118	3.0	
8.03 Financing through local equity market	78	3.4	
8.04 Ease of access to loans	78	3.7	
8.05 Venture capital availability	93	2.6	
8.06 Soundness of banks	108	4.1	
8.07 Regulation of securities exchanges	99	3.8	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**125**	**2.6**	
9.01 Availability of latest technologies	122	3.7	
9.02 Firm-level technology absorption	98	4.2	
9.03 FDI and technology transfer	96	4.0	
9.04 Internet users % pop.	133	5.4	
9.05 Fixed-broadband Internet subscriptions /100 pop.	122	0.2	
9.06 Internet bandwidth kb/s/user	123	4.1	
9.07 Mobile-broadband subscriptions /100 pop.	137	3.2	
10th pillar: Market size	**71**	**3.7**	
10.01 Domestic market size index	68	3.6	
10.02 Foreign market size index	83	4.1	
10.03 GDP (PPP) PPP $ billions	69	138.5	
10.04 Exports % GDP	117	19.1	
11th pillar: Business sophistication	**106**	**3.5**	
11.01 Local supplier quantity	79	4.4	
11.02 Local supplier quality	117	3.6	
11.03 State of cluster development	72	3.7	
11.04 Nature of competitive advantage	98	3.0	
11.05 Value chain breadth	116	3.3	
11.06 Control of international distribution	106	3.1	
11.07 Production process sophistication	112	3.1	
11.08 Extent of marketing	110	3.9	
11.09 Willingness to delegate authority	104	3.4	
12th pillar: Innovation	**88**	**3.2**	
12.01 Capacity for innovation	107	3.7	
12.02 Quality of scientific research institutions	82	3.7	
12.03 Company spending on R&D	83	3.1	
12.04 University-industry collaboration in R&D	55	3.5	
12.05 Gov't procurement of advanced tech. products	52	3.5	
12.06 Availability of scientists and engineers	95	3.7	
12.07 PCT patent applications applications/million pop.	120	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Tunisia 95th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

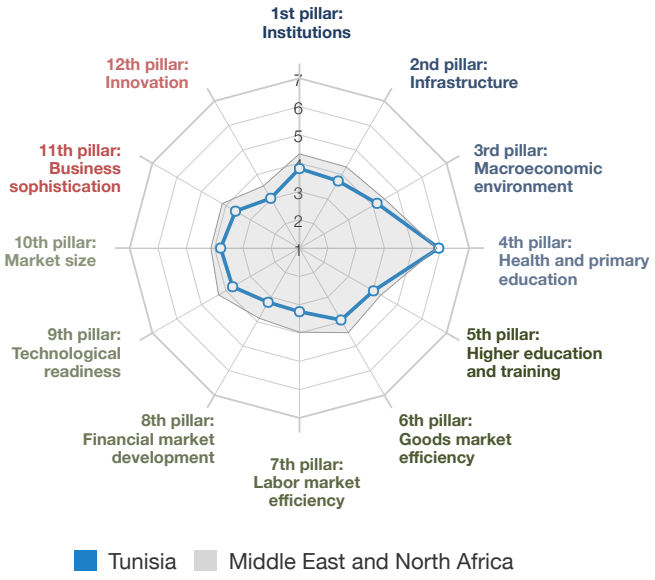
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	11.1	**GDP per capita** (US$)	3922.7
GDP (US$ billions)	43.6	**GDP (PPP)** % world GDP	0.11

Performance overview

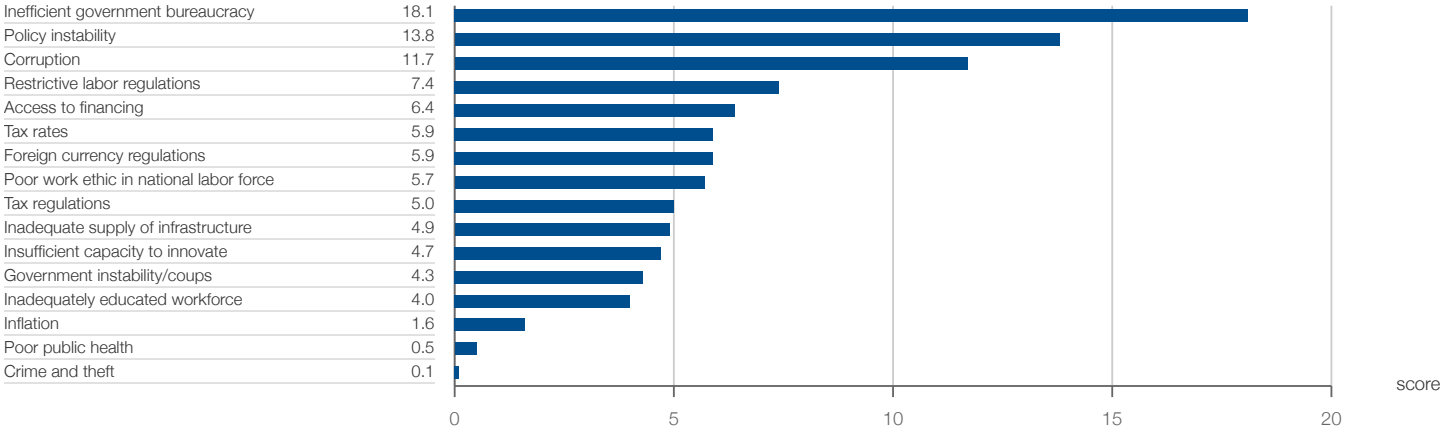
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**95**	3.9		
Subindex A: Basic requirements	79	4.4		
1st pillar: Institutions	**78**	**3.8**		
2nd pillar: Infrastructure	**83**	**3.7**		
3rd pillar: Macroeconomic environment	**99**	**4.2**		
4th pillar: Health and primary education	**59**	**5.9**		
Subindex B: Efficiency enhancers	103	3.7		
5th pillar: Higher education and training	**93**	**4.0**		
6th pillar: Goods market efficiency	**113**	**3.9**		
7th pillar: Labor market efficiency	**133**	**3.2**		
8th pillar: Financial market development	**119**	**3.2**		
9th pillar: Technological readiness	**80**	**3.7**		
10th pillar: Market size	**69**	**3.8**		
Subindex C: Innovation and sophistication factors	104	3.3		
11th pillar: Business sophistication	**101**	**3.6**		
12th pillar: Innovation	**104**	**3.0**		

Edition	2013-14	2014-15	2015-16	2016-17
Rank	**83** / 148	**87** / 144	**92** / 140	**95** / 138
Score	4.1	4.0	3.9	3.9



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Tunisia

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**78**	**3.8**	
1.01 Property rights	49	4.5	
1.02 Intellectual property protection	79	3.9	
1.03 Diversion of public funds	46	4.1	
1.04 Public trust in politicians	63	3.1	
1.05 Irregular payments and bribes	95	3.5	
1.06 Judicial independence	75	3.8	
1.07 Favoritism in decisions of government officials	50	3.4	
1.08 Wastefulness of government spending	65	3.3	
1.09 Burden of government regulation	104	3.0	
1.10 Efficiency of legal framework in settling disputes	64	3.7	
1.11 Efficiency of legal framework in challenging regs	66	3.5	
1.12 Transparency of government policymaking	91	3.8	
1.13 Business costs of terrorism	127	3.2	
1.14 Business costs of crime and violence	94	4.1	
1.15 Organized crime	87	4.4	
1.16 Reliability of police services	74	4.3	
1.17 Ethical behavior of firms	94	3.5	
1.18 Strength of auditing and reporting standards	92	4.2	
1.19 Efficacy of corporate boards	101	4.5	
1.20 Protection of minority shareholders' interests	61	4.1	
1.21 Strength of investor protection 0-10 (best)	90	5.0	
2nd pillar: Infrastructure	**83**	**3.7**	
2.01 Quality of overall infrastructure	84	3.7	
2.02 Quality of roads	87	3.5	
2.03 Quality of railroad infrastructure	63	2.8	
2.04 Quality of port infrastructure	100	3.3	
2.05 Quality of air transport infrastructure	97	3.9	
2.06 Available airline seat kilometers millions/week	76	139.2	
2.07 Quality of electricity supply	60	5.1	
2.08 Mobile-cellular telephone subscriptions /100 pop.	42	129.9	
2.09 Fixed-telephone lines /100 pop.	88	8.4	
3rd pillar: Macroeconomic environment	**99**	**4.2**	
3.01 Government budget balance % GDP	94	-4.4	
3.02 Gross national savings % GDP	109	12.9	
3.03 Inflation annual % change	100	4.9	
3.04 Government debt % GDP	81	54.5	
3.05 Country credit rating 0-100 (best)	75	-	
4th pillar: Health and primary education	**59**	**5.9**	
4.01 Malaria incidence cases/100,000 pop.	n/a	S.L.	
4.02 Business impact of malaria	N/Appl.	N/Appl.	
4.03 Tuberculosis incidence cases/100,000 pop.	60	33.0	
4.04 Business impact of tuberculosis	73	5.6	
4.05 HIV prevalence % adult pop.	1	0.1	
4.06 Business impact of HIV/AIDS	67	5.7	
4.07 Infant mortality deaths/1,000 live births	68	12.1	
4.08 Life expectancy years	78	74.1	
4.09 Quality of primary education	85	3.6	
4.10 Primary education enrollment rate net %	21	98.6	
5th pillar: Higher education and training	**93**	**4.0**	
5.01 Secondary education enrollment rate gross %	82	87.6	
5.02 Tertiary education enrollment rate gross %	79	34.6	
5.03 Quality of the education system	107	3.1	
5.04 Quality of math and science education	57	4.4	
5.05 Quality of management schools	78	4.1	
5.06 Internet access in schools	112	3.5	
5.07 Local availability of specialized training services	118	3.6	
5.08 Extent of staff training	114	3.4	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**113**	**3.9**	
6.01 Intensity of local competition	84	4.9	
6.02 Extent of market dominance	100	3.3	
6.03 Effectiveness of anti-monopoly policy	95	3.4	
6.04 Effect of taxation on incentives to invest	58	3.8	
6.05 Total tax rate % profits	122	59.9	
6.06 No. of procedures to start a business	116	10	
6.07 Time to start a business days	67	11.0	
6.08 Agricultural policy costs	98	3.4	
6.09 Prevalence of non-tariff barriers	117	3.7	
6.10 Trade tariffs % duty	116	10.8	
6.11 Prevalence of foreign ownership	100	4.1	
6.12 Business impact of rules on FDI	90	4.3	
6.13 Burden of customs procedures	128	3.0	
6.14 Imports % GDP	46	52.3	
6.15 Degree of customer orientation	96	4.3	
6.16 Buyer sophistication	100	3.0	
7th pillar: Labor market efficiency	**133**	**3.2**	
7.01 Cooperation in labor-employer relations	128	3.6	
7.02 Flexibility of wage determination	129	3.8	
7.03 Hiring and firing practices	126	2.8	
7.04 Redundancy costs weeks of salary	45	12.1	
7.05 Effect of taxation on incentives to work	83	3.8	
7.06 Pay and productivity	132	3.0	
7.07 Reliance on professional management	94	3.8	
7.08 Country capacity to retain talent	110	2.8	
7.09 Country capacity to attract talent	123	2.3	
7.10 Female participation in the labor force ratio to men	127	0.36	
8th pillar: Financial market development	**119**	**3.2**	
8.01 Financial services meeting business needs	109	3.6	
8.02 Affordability of financial services	100	3.3	
8.03 Financing through local equity market	62	3.7	
8.04 Ease of access to loans	102	3.3	
8.05 Venture capital availability	111	2.3	
8.06 Soundness of banks	127	3.4	
8.07 Regulation of securities exchanges	77	4.1	
8.08 Legal rights index 0-10 (best)	108	2	
9th pillar: Technological readiness	**80**	**3.7**	
9.01 Availability of latest technologies	76	4.6	
9.02 Firm-level technology absorption	106	4.1	
9.03 FDI and technology transfer	81	4.2	
9.04 Internet users % pop.	82	48.5	
9.05 Fixed-broadband Internet subscriptions /100 pop.	88	4.3	
9.06 Internet bandwidth kb/s/user	77	33.8	
9.07 Mobile-broadband subscriptions /100 pop.	52	62.6	
10th pillar: Market size	**69**	**3.8**	
10.01 Domestic market size index	69	3.6	
10.02 Foreign market size index	67	4.5	
10.03 GDP (PPP) PPP $ billions	71	127.0	
10.04 Exports % GDP	55	39.2	
11th pillar: Business sophistication	**101**	**3.6**	
11.01 Local supplier quantity	56	4.6	
11.02 Local supplier quality	92	4.0	
11.03 State of cluster development	106	3.2	
11.04 Nature of competitive advantage	123	2.6	
11.05 Value chain breadth	89	3.6	
11.06 Control of international distribution	83	3.4	
11.07 Production process sophistication	98	3.4	
11.08 Extent of marketing	97	4.1	
11.09 Willingness to delegate authority	102	3.4	
12th pillar: Innovation	**104**	**3.0**	
12.01 Capacity for innovation	99	3.8	
12.02 Quality of scientific research institutions	111	3.2	
12.03 Company spending on R&D	109	2.9	
12.04 University-industry collaboration in R&D	107	3.0	
12.05 Gov't procurement of advanced tech. products	116	2.7	
12.06 Availability of scientists and engineers	48	4.3	
12.07 PCT patent applications applications/million pop.	76	0.7	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Uganda 113rd / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

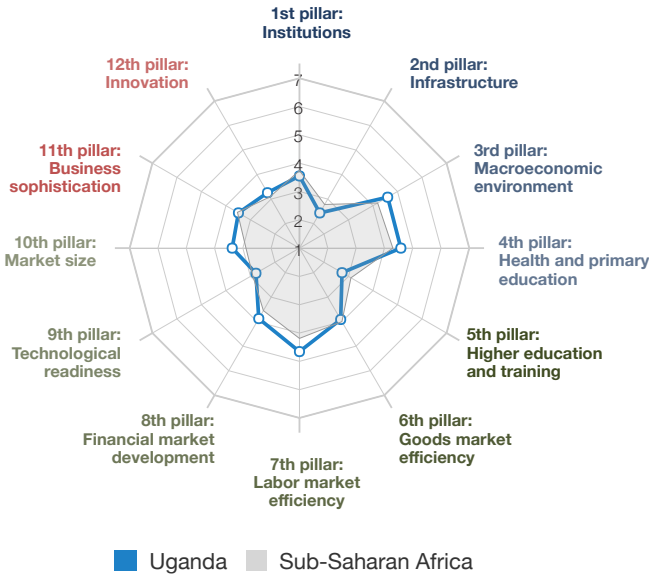
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	39.9	**GDP per capita** (US$)	620.2
GDP (US$ billions)	24.7	**GDP (PPP)** % world GDP	0.07

Performance overview

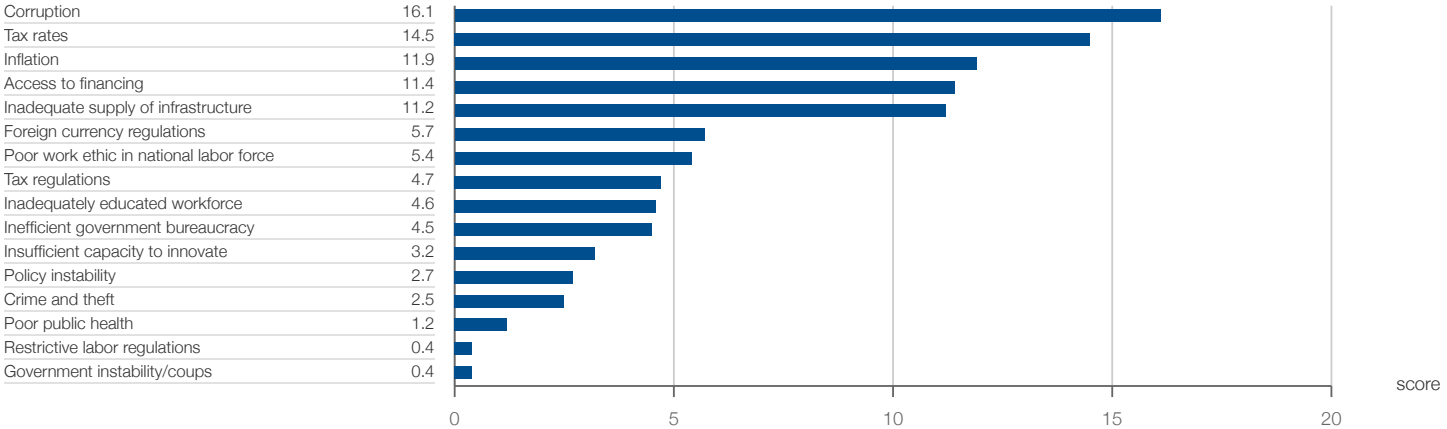
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**113**	3.7		
Subindex A: Basic requirements	116	3.8		
1st pillar: Institutions	**93**	**3.5**		
2nd pillar: Infrastructure	**126**	**2.4**		
3rd pillar: Macroeconomic environment	**73**	**4.6**		
4th pillar: Health and primary education	**118**	**4.6**		
Subindex B: Efficiency enhancers	109	3.6		
5th pillar: Higher education and training	**129**	**2.7**		
6th pillar: Goods market efficiency	**115**	**3.9**		
7th pillar: Labor market efficiency	**29**	**4.7**		
8th pillar: Financial market development	**77**	**3.9**		
9th pillar: Technological readiness	**118**	**2.8**		
10th pillar: Market size	**81**	**3.4**		
Subindex C: Innovation and sophistication factors	95	3.4		
11th pillar: Business sophistication	**111**	**3.5**		
12th pillar: Innovation	**77**	**3.3**		

	Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Global Competitiveness Index	Rank	**123** / 144	**129** / 148	**122** / 144	**115** / 140	**113** / 138
	Score	3.5	3.4	3.6	3.7	3.7



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Uganda

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**93**	**3.5**	
1.01 Property rights	73	4.2	
1.02 Intellectual property protection	104	3.5	
1.03 Diversion of public funds	117	2.5	
1.04 Public trust in politicians	98	2.4	
1.05 Irregular payments and bribes	118	3.0	
1.06 Judicial independence	89	3.6	
1.07 Favoritism in decisions of government officials	101	2.6	
1.08 Wastefulness of government spending	103	2.5	
1.09 Burden of government regulation	43	3.7	
1.10 Efficiency of legal framework in settling disputes	60	3.8	
1.11 Efficiency of legal framework in challenging regs	70	3.5	
1.12 Transparency of government policymaking	63	4.3	
1.13 Business costs of terrorism	123	3.7	
1.14 Business costs of crime and violence	112	3.6	
1.15 Organized crime	109	4.1	
1.16 Reliability of police services	88	4.0	
1.17 Ethical behavior of firms	89	3.6	
1.18 Strength of auditing and reporting standards	97	4.1	
1.19 Efficacy of corporate boards	50	5.1	
1.20 Protection of minority shareholders' interests	93	3.8	
1.21 Strength of investor protection 0-10 (best)	86	5.2	
2nd pillar: Infrastructure	**126**	**2.4**	
2.01 Quality of overall infrastructure	98	3.4	
2.02 Quality of roads	88	3.5	
2.03 Quality of railroad infrastructure	99	1.6	
2.04 Quality of port infrastructure	121	2.5	
2.05 Quality of air transport infrastructure	120	3.2	
2.06 Available airline seat kilometers millions/week	102	45.6	
2.07 Quality of electricity supply	103	3.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	133	50.4	
2.09 Fixed-telephone lines /100 pop.	125	0.8	
3rd pillar: Macroeconomic environment	**73**	**4.6**	
3.01 Government budget balance % GDP	67	-2.9	
3.02 Gross national savings % GDP	83	17.7	
3.03 Inflation annual % change	108	5.8	
3.04 Government debt % GDP	36	35.4	
3.05 Country credit rating 0-100 (best)	95	-	
4th pillar: Health and primary education	**118**	**4.6**	
4.01 Malaria incidence cases/100,000 pop.	58	21438.2	
4.02 Business impact of malaria	63	3.3	
4.03 Tuberculosis incidence cases/100,000 pop.	107	161.0	
4.04 Business impact of tuberculosis	110	4.3	
4.05 HIV prevalence % adult pop.	129	7.3	
4.06 Business impact of HIV/AIDS	135	3.1	
4.07 Infant mortality deaths/1,000 live births	114	37.7	
4.08 Life expectancy years	127	58.5	
4.09 Quality of primary education	122	2.8	
4.10 Primary education enrollment rate net %	82	93.7	
5th pillar: Higher education and training	**129**	**2.7**	
5.01 Secondary education enrollment rate gross %	136	27.6	
5.02 Tertiary education enrollment rate gross %	129	4.5	
5.03 Quality of the education system	90	3.4	
5.04 Quality of math and science education	116	3.1	
5.05 Quality of management schools	100	3.8	
5.06 Internet access in schools	125	3.1	
5.07 Local availability of specialized training services	79	4.1	
5.08 Extent of staff training	95	3.6	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**115**	**3.9**	
6.01 Intensity of local competition	45	5.3	
6.02 Extent of market dominance	117	3.1	
6.03 Effectiveness of anti-monopoly policy	108	3.2	
6.04 Effect of taxation on incentives to invest	114	3.0	
6.05 Total tax rate % profits	66	36.5	
6.06 No. of procedures to start a business	135	15	
6.07 Time to start a business days	112	27.0	
6.08 Agricultural policy costs	75	3.7	
6.09 Prevalence of non-tariff barriers	48	4.6	
6.10 Trade tariffs % duty	101	9.7	
6.11 Prevalence of foreign ownership	28	5.3	
6.12 Business impact of rules on FDI	31	5.2	
6.13 Burden of customs procedures	66	4.1	
6.14 Imports % GDP	93	34.4	
6.15 Degree of customer orientation	86	4.4	
6.16 Buyer sophistication	126	2.5	
7th pillar: Labor market efficiency	**29**	**4.7**	
7.01 Cooperation in labor-employer relations	49	4.6	
7.02 Flexibility of wage determination	11	6.0	
7.03 Hiring and firing practices	41	4.1	
7.04 Redundancy costs weeks of salary	23	8.7	
7.05 Effect of taxation on incentives to work	94	3.7	
7.06 Pay and productivity	106	3.5	
7.07 Reliance on professional management	83	4.0	
7.08 Country capacity to retain talent	95	3.1	
7.09 Country capacity to attract talent	92	3.0	
7.10 Female participation in the labor force ratio to men	15	0.95	
8th pillar: Financial market development	**77**	**3.9**	
8.01 Financial services meeting business needs	84	4.0	
8.02 Affordability of financial services	120	3.0	
8.03 Financing through local equity market	81	3.4	
8.04 Ease of access to loans	55	4.1	
8.05 Venture capital availability	97	2.5	
8.06 Soundness of banks	77	4.7	
8.07 Regulation of securities exchanges	68	4.4	
8.08 Legal rights index 0-10 (best)	46	6	
9th pillar: Technological readiness	**118**	**2.8**	
9.01 Availability of latest technologies	105	4.1	
9.02 Firm-level technology absorption	102	4.1	
9.03 FDI and technology transfer	75	4.3	
9.04 Internet users % pop.	115	19.2	
9.05 Fixed-broadband Internet subscriptions /100 pop.	118	0.3	
9.06 Internet bandwidth kb/s/user	121	4.6	
9.07 Mobile-broadband subscriptions /100 pop.	112	18.3	
10th pillar: Market size	**81**	**3.4**	
10.01 Domestic market size index	78	3.3	
10.02 Foreign market size index	103	3.7	
10.03 GDP (PPP) PPP $ billions	80	79.9	
10.04 Exports % GDP	121	16.9	
11th pillar: Business sophistication	**111**	**3.5**	
11.01 Local supplier quantity	48	4.7	
11.02 Local supplier quality	122	3.6	
11.03 State of cluster development	89	3.5	
11.04 Nature of competitive advantage	114	2.8	
11.05 Value chain breadth	103	3.4	
11.06 Control of international distribution	125	2.9	
11.07 Production process sophistication	125	2.8	
11.08 Extent of marketing	79	4.3	
11.09 Willingness to delegate authority	123	3.1	
12th pillar: Innovation	**77**	**3.3**	
12.01 Capacity for innovation	83	3.9	
12.02 Quality of scientific research institutions	97	3.4	
12.03 Company spending on R&D	87	3.1	
12.04 University-industry collaboration in R&D	40	3.8	
12.05 Gov't procurement of advanced tech. products	48	3.5	
12.06 Availability of scientists and engineers	74	3.9	
12.07 PCT patent applications applications/million pop.	117	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Zambia 118th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

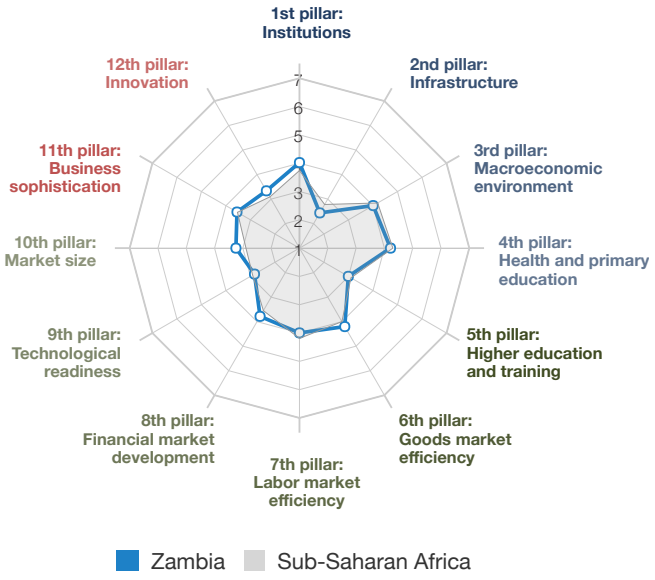
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	16.2	**GDP per capita** (US$)	1350.2
GDP (US$ billions)	21.9	**GDP (PPP)** % world GDP	0.06

Performance overview

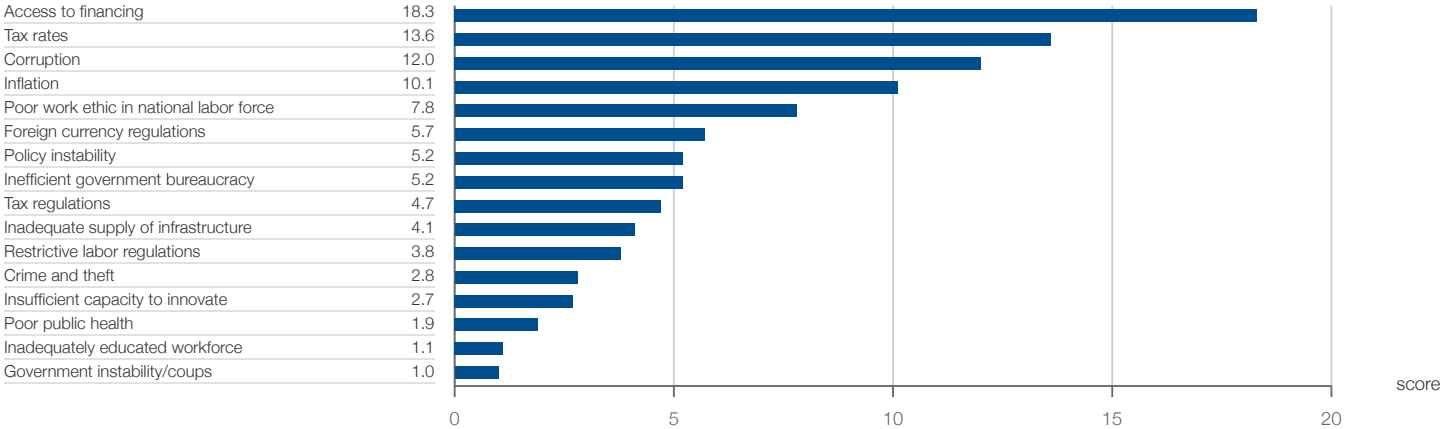
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**118**	3.6		
Subindex A: Basic requirements	118	3.7		
1st pillar: Institutions	**61**	4.0		
2nd pillar: Infrastructure	**125**	2.4		
3rd pillar: Macroeconomic environment	**109**	4.0		
4th pillar: Health and primary education	**125**	4.2		
Subindex B: Efficiency enhancers	115	3.5		
5th pillar: Higher education and training	**120**	3.0		
6th pillar: Goods market efficiency	**83**	4.2		
7th pillar: Labor market efficiency	**90**	4.0		
8th pillar: Financial market development	**84**	3.8		
9th pillar: Technological readiness	**115**	2.8		
10th pillar: Market size	**88**	3.2		
Subindex C: Innovation and sophistication factors	88	3.4		
11th pillar: Business sophistication	**105**	3.5		
12th pillar: Innovation	**66**	3.3		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	102 / 144	93 / 148	96 / 144	96 / 140	118 / 138
Score	3.8	3.9	3.9	3.9	3.6



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Zambia

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**61**	**4.0**	
1.01 Property rights	53	4.5	
1.02 Intellectual property protection	64	4.2	
1.03 Diversion of public funds	74	3.4	
1.04 Public trust in politicians	68	3.0	
1.05 Irregular payments and bribes	96	3.5	
1.06 Judicial independence	67	4.0	
1.07 Favoritism in decisions of government officials	87	2.8	
1.08 Wastefulness of government spending	48	3.6	
1.09 Burden of government regulation	47	3.7	
1.10 Efficiency of legal framework in settling disputes	49	4.1	
1.11 Efficiency of legal framework in challenging regs	58	3.6	
1.12 Transparency of government policymaking	53	4.4	
1.13 Business costs of terrorism	37	5.8	
1.14 Business costs of crime and violence	67	4.7	
1.15 Organized crime	63	5.0	
1.16 Reliability of police services	112	3.4	
1.17 Ethical behavior of firms	48	4.2	
1.18 Strength of auditing and reporting standards	109	3.9	
1.19 Efficacy of corporate boards	54	5.0	
1.20 Protection of minority shareholders' interests	58	4.2	
1.21 Strength of investor protection 0-10 (best)	79	5.3	
2nd pillar: Infrastructure	**125**	**2.4**	
2.01 Quality of overall infrastructure	100	3.3	
2.02 Quality of roads	85	3.5	
2.03 Quality of railroad infrastructure	74	2.6	
2.04 Quality of port infrastructure	128	2.2	
2.05 Quality of air transport infrastructure	121	3.2	
2.06 Available airline seat kilometers millions/week	107	38.5	
2.07 Quality of electricity supply	120	2.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	125	74.5	
2.09 Fixed-telephone lines /100 pop.	126	0.7	
3rd pillar: Macroeconomic environment	**109**	**4.0**	
3.01 Government budget balance % GDP	124	-8.1	
3.02 Gross national savings % GDP	19	31.1	
3.03 Inflation annual % change	128	10.1	
3.04 Government debt % GDP	78	52.9	
3.05 Country credit rating 0-100 (best)	90	.	
4th pillar: Health and primary education	**125**	**4.2**	
4.01 Malaria incidence cases/100,000 pop.	57	20990.6	
4.02 Business impact of malaria	53	3.9	
4.03 Tuberculosis incidence cases/100,000 pop.	133	406.0	
4.04 Business impact of tuberculosis	111	4.3	
4.05 HIV prevalence % adult pop.	132	12.4	
4.06 Business impact of HIV/AIDS	123	3.9	
4.07 Infant mortality deaths/1,000 live births	120	43.3	
4.08 Life expectancy years	124	60.0	
4.09 Quality of primary education	100	3.3	
4.10 Primary education enrollment rate net %	112	87.4	
5th pillar: Higher education and training	**120**	**3.0**	
5.01 Secondary education enrollment rate gross %	132	37.0	
5.02 Tertiary education enrollment rate gross %	136	2.2	
5.03 Quality of the education system	53	4.1	
5.04 Quality of math and science education	96	3.6	
5.05 Quality of management schools	95	3.8	
5.06 Internet access in schools	107	3.6	
5.07 Local availability of specialized training services	63	4.4	
5.08 Extent of staff training	77	3.8	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**83**	**4.2**	
6.01 Intensity of local competition	63	5.2	
6.02 Extent of market dominance	73	3.6	
6.03 Effectiveness of anti-monopoly policy	99	3.3	
6.04 Effect of taxation on incentives to invest	88	3.4	
6.05 Total tax rate % profits	11	18.6	
6.06 No. of procedures to start a business	54	6	
6.07 Time to start a business days	46	7.5	
6.08 Agricultural policy costs	66	3.8	
6.09 Prevalence of non-tariff barriers	57	4.5	
6.10 Trade tariffs % duty	114	10.6	
6.11 Prevalence of foreign ownership	11	5.6	
6.12 Business impact of rules on FDI	35	5.1	
6.13 Burden of customs procedures	102	3.5	
6.14 Imports % GDP	82	37.0	
6.15 Degree of customer orientation	98	4.3	
6.16 Buyer sophistication	124	2.7	
7th pillar: Labor market efficiency	**90**	**4.0**	
7.01 Cooperation in labor-employer relations	73	4.3	
7.02 Flexibility of wage determination	52	5.2	
7.03 Hiring and firing practices	34	4.3	
7.04 Redundancy costs weeks of salary	132	50.5	
7.05 Effect of taxation on incentives to work	88	3.7	
7.06 Pay and productivity	93	3.7	
7.07 Reliance on professional management	73	4.2	
7.08 Country capacity to retain talent	65	3.5	
7.09 Country capacity to attract talent	39	3.9	
7.10 Female participation in the labor force ratio to men	46	0.87	
8th pillar: Financial market development	**84**	**3.8**	
8.01 Financial services meeting business needs	88	4.0	
8.02 Affordability of financial services	117	3.0	
8.03 Financing through local equity market	64	3.7	
8.04 Ease of access to loans	94	3.4	
8.05 Venture capital availability	116	2.2	
8.06 Soundness of banks	109	4.1	
8.07 Regulation of securities exchanges	69	4.3	
8.08 Legal rights index 0-10 (best)	28	7	
9th pillar: Technological readiness	**115**	**2.8**	
9.01 Availability of latest technologies	102	4.1	
9.02 Firm-level technology absorption	100	4.2	
9.03 FDI and technology transfer	76	4.3	
9.04 Internet users % pop.	110	21.0	
9.05 Fixed-broadband Internet subscriptions /100 pop.	126	0.1	
9.06 Internet bandwidth kb/s/user	125	3.2	
9.07 Mobile-broadband subscriptions /100 pop.	119	13.8	
10th pillar: Market size	**88**	**3.2**	
10.01 Domestic market size index	89	3.0	
10.02 Foreign market size index	94	3.9	
10.03 GDP (PPP) PPP $ billions	91	62.7	
10.04 Exports % GDP	92	28.8	
11th pillar: Business sophistication	**105**	**3.5**	
11.01 Local supplier quantity	81	4.4	
11.02 Local supplier quality	126	3.5	
11.03 State of cluster development	68	3.7	
11.04 Nature of competitive advantage	119	2.7	
11.05 Value chain breadth	111	3.4	
11.06 Control of international distribution	120	2.9	
11.07 Production process sophistication	122	2.9	
11.08 Extent of marketing	91	4.2	
11.09 Willingness to delegate authority	47	4.0	
12th pillar: Innovation	**66**	**3.3**	
12.01 Capacity for innovation	84	3.9	
12.02 Quality of scientific research institutions	85	3.6	
12.03 Company spending on R&D	78	3.2	
12.04 University-industry collaboration in R&D	60	3.5	
12.05 Gov't procurement of advanced tech. products	42	3.6	
12.06 Availability of scientists and engineers	59	4.1	
12.07 PCT patent applications applications/million pop.	115	0.0	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

Zimbabwe 126th / 138

Global Competitiveness Index
2016-2017 edition

Key Indicators, 2015

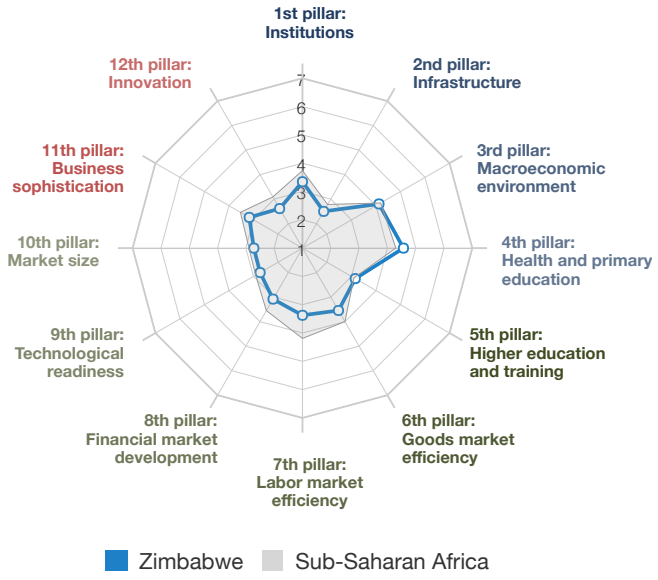
Source: International Monetary Fund; World Economic Outlook Database (April 2016)

Population (millions)	13.4	**GDP per capita** (US$)	1064.3
GDP (US$ billions)	14.3	**GDP (PPP)** % world GDP	0.03

Performance overview

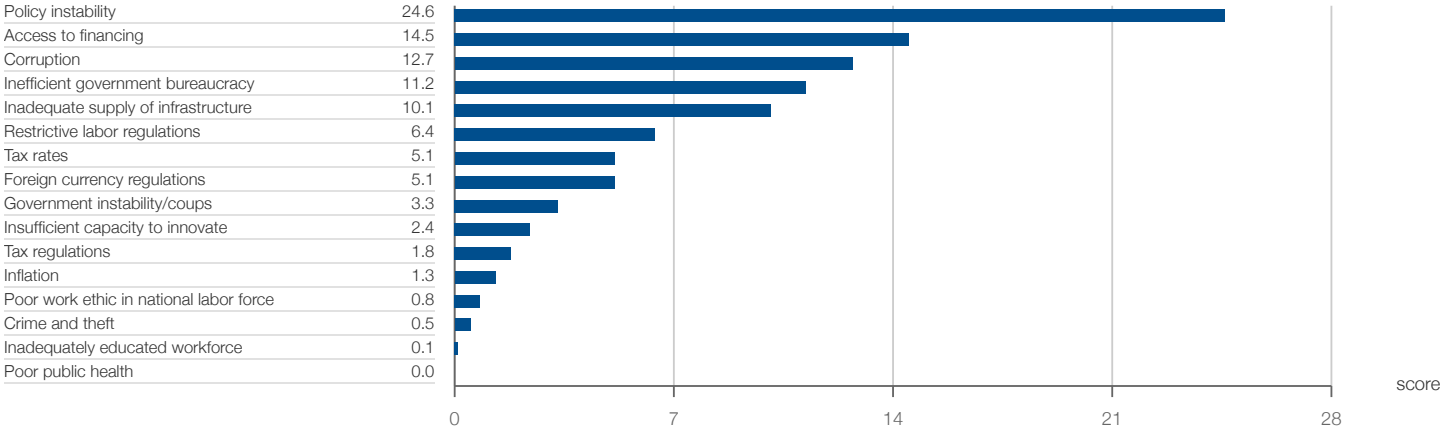
	Rank / 138	Score (1-7)	Trend	Distance from best
Global Competitiveness Index	**126**	3.4		
Subindex A: Basic requirements	120	3.6		
1st pillar: Institutions	**108**	**3.3**		
2nd pillar: Infrastructure	**123**	**2.5**		
3rd pillar: Macroeconomic environment	**101**	**4.1**		
4th pillar: Health and primary education	**119**	**4.6**		
Subindex B: Efficiency enhancers	132	3.1		
5th pillar: Higher education and training	**115**	**3.2**		
6th pillar: Goods market efficiency	**132**	**3.5**		
7th pillar: Labor market efficiency	**127**	**3.4**		
8th pillar: Financial market development	**126**	**3.1**		
9th pillar: Technological readiness	**120**	**2.7**		
10th pillar: Market size	**117**	**2.7**		
Subindex C: Innovation and sophistication factors	129	2.9		
11th pillar: Business sophistication	**130**	**3.2**		
12th pillar: Innovation	**129**	**2.6**		

Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Rank	**132** / 144	**131** / 148	**124** / 144	**125** / 140	**126** / 138
Score	3.3	3.4	3.5	3.5	3.4



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Zimbabwe

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend
1st pillar: Institutions	**108**	**3.3**	
1.01 Property rights	137	2.6	
1.02 Intellectual property protection	97	3.6	
1.03 Diversion of public funds	109	2.7	
1.04 Public trust in politicians	134	1.6	
1.05 Irregular payments and bribes	99	3.4	
1.06 Judicial independence	115	2.9	
1.07 Favoritism in decisions of government officials	133	1.9	
1.08 Wastefulness of government spending	127	2.1	
1.09 Burden of government regulation	130	2.4	
1.10 Efficiency of legal framework in settling disputes	83	3.4	
1.11 Efficiency of legal framework in challenging regs	112	2.7	
1.12 Transparency of government policymaking	112	3.5	
1.13 Business costs of terrorism	5	6.4	
1.14 Business costs of crime and violence	65	4.8	
1.15 Organized crime	41	5.5	
1.16 Reliability of police services	108	3.5	
1.17 Ethical behavior of firms	108	3.4	
1.18 Strength of auditing and reporting standards	50	4.9	
1.19 Efficacy of corporate boards	83	4.7	
1.20 Protection of minority shareholders' interests	73	4.0	
1.21 Strength of investor protection 0-10 (best)	73	5.5	
2nd pillar: Infrastructure	**123**	**2.5**	
2.01 Quality of overall infrastructure	111	3.1	
2.02 Quality of roads	101	3.2	
2.03 Quality of railroad infrastructure	83	2.3	
2.04 Quality of port infrastructure	106	3.2	
2.05 Quality of air transport infrastructure	107	3.6	
2.06 Available airline seat kilometers millions/week	121	23.2	
2.07 Quality of electricity supply	124	2.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	115	84.8	
2.09 Fixed-telephone lines /100 pop.	111	2.2	
3rd pillar: Macroeconomic environment	**101**	**4.1**	
3.01 Government budget balance % GDP	26	-1.2	
3.02 Gross national savings % GDP	136	-4.3	
3.03 Inflation annual % change	109	-2.4	
3.04 Government debt % GDP	79	53.0	
3.05 Country credit rating 0-100 (best)	137	-	
4th pillar: Health and primary education	**119**	**4.6**	
4.01 Malaria incidence cases/100,000 pop.	48	6559.2	
4.02 Business impact of malaria	35	4.9	
4.03 Tuberculosis incidence cases/100,000 pop.	123	278.0	
4.04 Business impact of tuberculosis	113	4.3	
4.05 HIV prevalence % adult pop.	134	16.7	
4.06 Business impact of HIV/AIDS	120	3.9	
4.07 Infant mortality deaths/1,000 live births	122	46.6	
4.08 Life expectancy years	129	57.5	
4.09 Quality of primary education	50	4.4	
4.10 Primary education enrollment rate net %	119	85.9	
5th pillar: Higher education and training	**115**	**3.2**	
5.01 Secondary education enrollment rate gross %	118	47.6	
5.02 Tertiary education enrollment rate gross %	127	5.9	
5.03 Quality of the education system	51	4.1	
5.04 Quality of math and science education	64	4.3	
5.05 Quality of management schools	102	3.8	
5.06 Internet access in schools	116	3.4	
5.07 Local availability of specialized training services	86	4.1	
5.08 Extent of staff training	90	3.7	

	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	**132**	**3.5**	
6.01 Intensity of local competition	90	4.8	
6.02 Extent of market dominance	112	3.2	
6.03 Effectiveness of anti-monopoly policy	92	3.4	
6.04 Effect of taxation on incentives to invest	115	3.0	
6.05 Total tax rate % profits	50	32.8	
6.06 No. of procedures to start a business	108	9	
6.07 Time to start a business days	137	90.0	
6.08 Agricultural policy costs	137	2.3	
6.09 Prevalence of non-tariff barriers	70	4.4	
6.10 Trade tariffs % duty	133	14.6	
6.11 Prevalence of foreign ownership	106	4.0	
6.12 Business impact of rules on FDI	138	2.2	
6.13 Burden of customs procedures	131	3.0	
6.14 Imports % GDP	75	39.8	
6.15 Degree of customer orientation	117	4.0	
6.16 Buyer sophistication	115	2.8	
7th pillar: Labor market efficiency	**127**	**3.4**	
7.01 Cooperation in labor-employer relations	108	4.0	
7.02 Flexibility of wage determination	134	2.9	
7.03 Hiring and firing practices	134	2.3	
7.04 Redundancy costs weeks of salary	136	82.3	
7.05 Effect of taxation on incentives to work	53	4.1	
7.06 Pay and productivity	123	3.3	
7.07 Reliance on professional management	42	4.7	
7.08 Country capacity to retain talent	129	2.4	
7.09 Country capacity to attract talent	124	2.3	
7.10 Female participation in the labor force ratio to men	36	0.89	
8th pillar: Financial market development	**126**	**3.1**	
8.01 Financial services meeting business needs	126	3.4	
8.02 Affordability of financial services	137	2.2	
8.03 Financing through local equity market	102	3.0	
8.04 Ease of access to loans	125	2.8	
8.05 Venture capital availability	137	1.7	
8.06 Soundness of banks	128	3.3	
8.07 Regulation of securities exchanges	95	3.8	
8.08 Legal rights index 0-10 (best)	68	5	
9th pillar: Technological readiness	**120**	**2.7**	
9.01 Availability of latest technologies	108	4.0	
9.02 Firm-level technology absorption	115	3.9	
9.03 FDI and technology transfer	134	2.8	
9.04 Internet users % pop.	123	16.4	
9.05 Fixed-broadband Internet subscriptions /100 pop.	107	1.1	
9.06 Internet bandwidth kb/s/user	114	6.4	
9.07 Mobile-broadband subscriptions /100 pop.	90	39.0	
10th pillar: Market size	**117**	**2.7**	
10.01 Domestic market size index	114	2.5	
10.02 Foreign market size index	122	3.4	
10.03 GDP (PPP) PPP $ billions	115	28.1	
10.04 Exports % GDP	100	24.7	
11th pillar: Business sophistication	**130**	**3.2**	
11.01 Local supplier quantity	126	3.7	
11.02 Local supplier quality	123	3.6	
11.03 State of cluster development	134	2.7	
11.04 Nature of competitive advantage	124	2.5	
11.05 Value chain breadth	134	2.8	
11.06 Control of international distribution	136	2.6	
11.07 Production process sophistication	131	2.6	
11.08 Extent of marketing	124	3.7	
11.09 Willingness to delegate authority	89	3.6	
12th pillar: Innovation	**129**	**2.6**	
12.01 Capacity for innovation	129	3.3	
12.02 Quality of scientific research institutions	110	3.2	
12.03 Company spending on R&D	132	2.4	
12.04 University-industry collaboration in R&D	134	2.5	
12.05 Gov't procurement of advanced tech. products	137	2.1	
12.06 Availability of scientists and engineers	118	3.2	
12.07 PCT patent applications applications/million pop.	101	0.1	

Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at http://gcr.weforum.org/

About the Authors

El-hadj M. Bah

El-hadj M. Bah is a Principal Research Economist in the Macroeconomics Policy, Forecasting and Research Department at the African Development Bank. His two main functions are conducting research on development issues and evaluating the development outcomes of private-sector operations. Before joining the Bank, he was Lecturer of Economics at the University of Auckland. He received his BSc in Industrial Engineering with a specialization in Project Management from the Mohammadia School of Engineers (Rabat, Morocco). He obtained an MSE in Industrial Engineering and a PhD in Economics from Arizona State University. His research interests are in the areas of macroeconomics, economic development, labor economics, and international economics. Dr Bah has published numerous journal articles and made several paper presentations. His research has been published in journals such as the *Journal of Development Economics, Macroeconomic Dynamics,* the *Journal of Comparative Economics,* the *B.E. Journal of Macroeconomics,* the *Journal of Comparative Economics, Comparative Economic Studies,* and *Emerging Markets Finance and Trade.*

Roberto Crotti

Roberto Crotti is an Economist with the Global Competitiveness and Risk Team at the World Economic Forum. His responsibilities include competitiveness research, policy briefs, and management of country benchmarking tools. He is responsible for the competitiveness assessment of Africa and CIS countries, as well as industry analysis of the travel & tourism sector. His main areas of expertise are applied quantitative methods for policy evaluation, economic growth, and development economics. Prior to joining the Forum, he worked in the private consulting sector. Mr Crotti holds a five-year degree in Economics/Economic Policy from Università Cattolica del Sacro Cuore in Milan, Italy, and an MA degree in Economics from Boston University and he is currently pursuing his doctorate in Development Economics at the Graduate Institute of International Studies (Geneva).

Margareta Drzeniek Hanouz

Margareta Drzeniek Hanouz is Head of the Global Competitiveness and Risks Team and Lead Economist at the World Economic Forum, where she leads the work related to Competitiveness and Global Risks. In this capacity, she is lead author of *The Global Competitiveness Report* and *The Global Risks Report,* two flagship publications of the World Economic Forum. Previously she oversaw the economic modeling for some of the Forum's scenario projects and was charged with developing the economics section of the program for the World Economic Forum's Annual Meeting in Davos. Before joining the Forum, Dr Drzeniek Hanouz worked for several years with the International Trade Centre in Geneva, where she was in charge of relations with Central and Eastern European countries. Her areas of expertise include national competitiveness, private-sector development, international trade, economics of the MENA and CIS regions, and risks and resilience. Dr Drzeniek Hanouz received a Diploma in Economics from the University of Münster and holds a PhD in International Economics from the University of Bochum, both in Germany.

Barak Hoffman

Barak Hoffman is a Public Sector Specialist at the World Bank. His work focuses on the political economy of development in Africa. Prior to joining the World Bank, he was the Director of the Center for Democracy and Civil Society at Georgetown University. He also has worked as an Economist at the United States Agency for International Development, the United States Department of the Treasury, and the United States Federal Reserve Bank, and was a Research Fellow at Stanford University's Center on Democracy, Development, and the Rule of Law. He holds a PhD in Political Science from the University of California, San Diego.

Jean Michel Marchat

Jean Michel Marchat is a Lead Economist in the Trade and Competitiveness Global Practice at the World Bank. His work focuses on growth, trade, and firm data analysis. In his current capacity, he is leading key research work (investment climate reports, trade policy analytics, and country development strategies), assists World Bank teams in the design of lending operations, and provides policy advice to several countries in West Africa and the Middle East. Prior to this, he worked in the MENA and Africa regions of the World Bank on trade facilitation and export development programs, and on SME development while leading major analytical work on regional integration and the investment climate. Before joining the World Bank Group, in the early 2000s, he worked for several years in Kazakhstan as an advisor for Macroeconomics, Forecasting and Trade in the Ministry of Economy. He holds a PhD in Economics and a Master in Development Economics from CERDI, Auvergne University, France. He also attended executive education at the Harvard Kennedy School.

Audrey Verdier-Chouchane

Audrey Verdier-Chouchane is Chief Research Economist in the Macroeconomics Policy, Forecasting and Research Department at the African Development Bank. Prior to joining the Bank in 2004, Dr Verdier-Chouchane taught Macroeconomics and Development Economics at the University of Nice, France, where she obtained a PhD in Economics and a Master in Macro-dynamics and International Finance. Apart from her previous publications on financial development and growth, her research interests include the analysis and measurement of poverty and inequalities in Africa, areas in which she has extensively published. She has coordinated and contributed to many flagship publications within the African Development Bank, such as the *African Economic Outlook,* the *African Development Report,* and *The Africa Competitiveness Report* in collaboration with sister institutions.

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The publication of this year's *Africa Competitiveness Report* comes out at a transitional time. After 15 years of sustained growth rate, averaging about 5 percent, low commodity prices and reduced growth in the global economy have dampened the economic outlook for the continent. Africa's GDP is still growing and countries can count on a young and expanding population to inject new dynamism into their economies. However, providing sufficient job opportunities to the additional almost 450 million working-age Africans over the next 20 years will be challenging.

The most daunting task for Africa will be to simultaneously advance its structural reform agenda, which will bear fruit several years from now, and respond to the immediate need for better job opportunities for the next generation of young Africans. In the short run, given the importance of agriculture and microenterprises for new employment opportunities, improving the business environment in these sectors is a high priority, possibly making better use of value chains' linkages and trade openness. Furthermore, the growing population and urbanization are putting additional pressure on the already-insufficient urban infrastructure and housing supply. The *Report* discusses possible responses to these issues, such as updating urban planning and improving the efficiency of the construction sector to create employment.

While addressing the pressing need for jobs in the short term, the *Report* reaffirms the urgency of tackling some of the most significant and persistent constraints to Africa's competitiveness to ensure higher prosperity going forward. Infrastructure deficits, skill mismatches, the slow adoption of new technologies, and weak institutions are among the main barriers to improving productivity in general, and in the agriculture and service sectors in particular.

To achieve multiple goals at the same time and move the economic agenda forward, better public and private coordination and dialogue are needed to speed up the reform process and make the outcomes better and more sustainable.

Published on a biennial basis, this is the sixth edition of the *Report* that addresses areas requiring policy action and investment to ensure that Africa lays the foundation for sustained growth. It leverages the knowledge and expertise of the African Development Bank, the World Bank, and the World Economic Forum, presenting a unified vision of the policy challenges that must be implemented if Africa is to succeed in boosting its competitiveness and providing better economic prospects for its citizens. Also included are detailed competitiveness profiles for 35 African countries, providing a comprehensive summary of their competitive strengths and weaknesses. *The Africa Competitiveness Report 2017* is an invaluable tool for policymakers, business strategists, development partners, and other key stakeholders, as well as essential reading for all those with an interest in the region.

World Economic Forum
91-93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel +41 (0) 22 869 1212
Fax +41 (0) 22 786 2744

contact@weforum.org
www.weforum.org