

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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Contents

Preface	v
by Akinwumi Adesina (African Development Bank), Jim Yong Kim (World Bank Group), and Klaus Schwab (World Economic Forum)	
Acknowledgments	vii
Contributors	ix
Partner Institutes	xi
Overview	xiii
PART 1: ADDRESSING AFRICA'S DEMOGRAPHIC DIVIDEND	
1.1 Tracking Progress in Africa's Competitiveness: Removing Obstacles to Reap the Demographic Dividend	3
by Roberto Crotti and Margareta Drzeniek Hanouz (World Economic Forum), El-hadj M. Bah and Audrey Verdier-Chouchane (African Development Bank), and Barak Hoffman (World Bank)	
1.2 Jobs in Africa: Designing Better Policies Tailored to Countries' Circumstances	35
by Barak Hoffman and Jean Michel Marchat (World Bank)	
1.3 Competitive African Cities for Better Living Standards	53
by El-hadj M. Bah and Audrey Verdier-Chouchane (African Development Bank)	
PART 2: COUNTRY PROFILES	
How to Read the Country Profiles	75
Technical Notes and Sources	77
Index of Countries	87
Country Profiles	88
About the Authors	159

Preface

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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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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 through 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.

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Part 1

Addressing Africa's Demographic Dividend

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

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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.

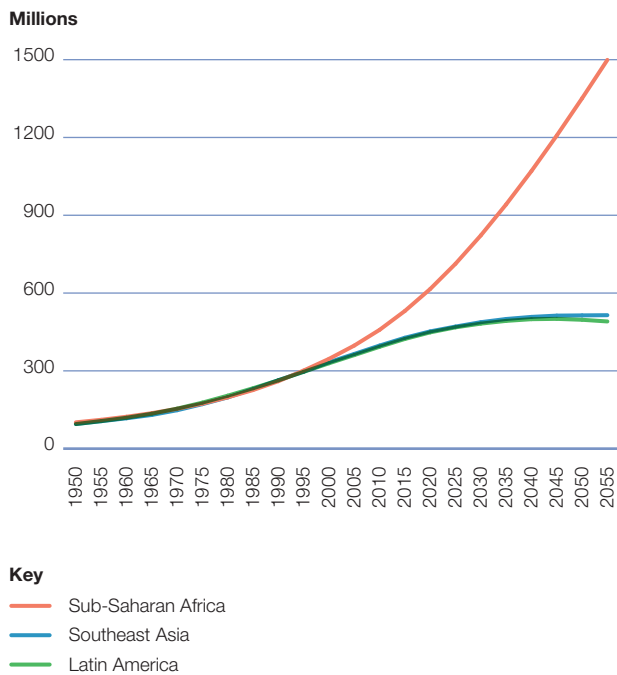
The advent of the Fourth Industrial Revolution (4IR) is adding complexity to the future of African economies and their employment outcomes.⁶ On one hand, Africa could capture the opportunities offered by the new economy, leapfrogging directly to a more digital and service-based development model. On 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

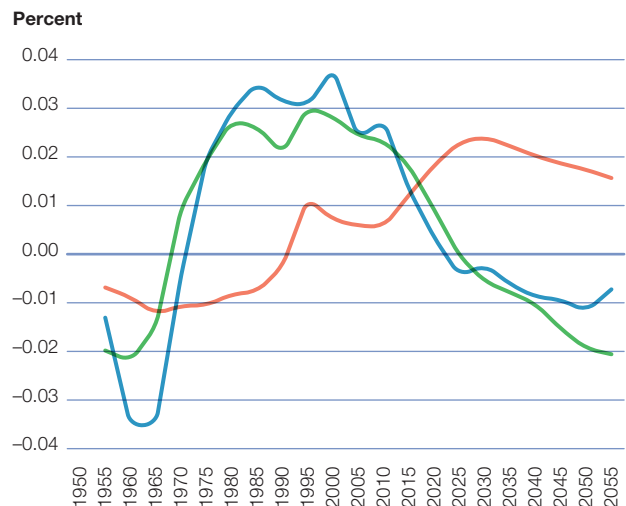
1a: Working-age population (total)



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.

1b: Change in working-age population share



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

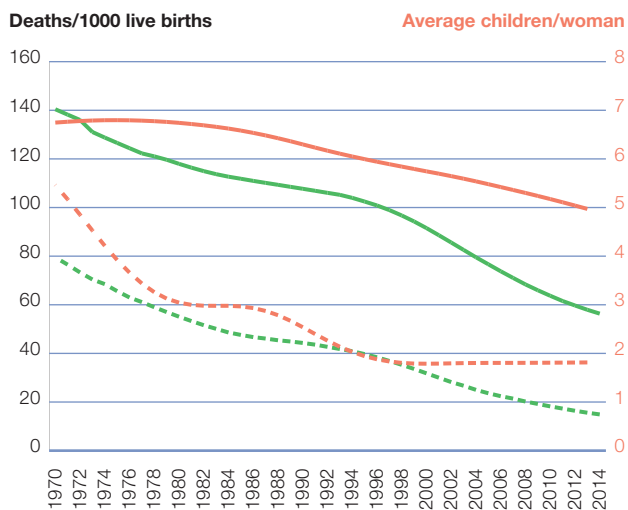
demographic dividend has taken place, fertility fell to fewer than three children per woman, so that dependency ratios (the share of children and elders to the working-age population) fell to less than 60 percent. In Africa, the persistently high fertility rate and dependency ratios that remain about 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 $(\text{Productivity}) \times (\text{Employed workers}) / [(\text{Employed workers}) + (\text{Non-employed})]$, 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

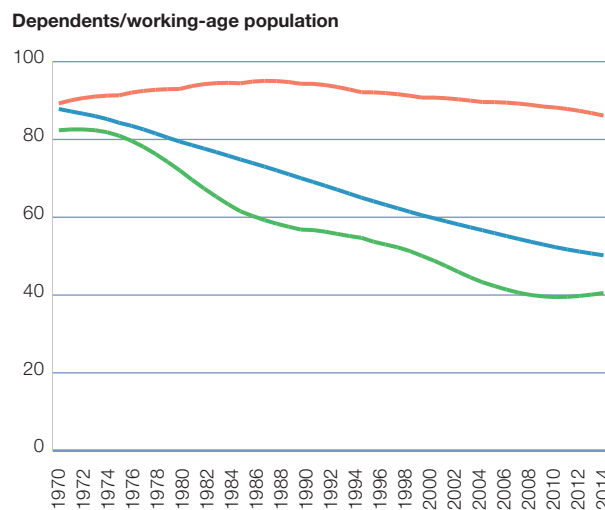
Figure 2: Drivers of the demographic dividend

2a: Trends in infant mortality and fertility



Key
 — Sub-Saharan Africa infant mortality
 - - - Southeast Asia infant mortality
 — Sub-Saharan Africa fertility
 - - - Southeast Asia fertility

2b: Trend in dependency ratio



Key
 — Sub-Saharan Africa
 — Latin America
 — Southeast Asia

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.

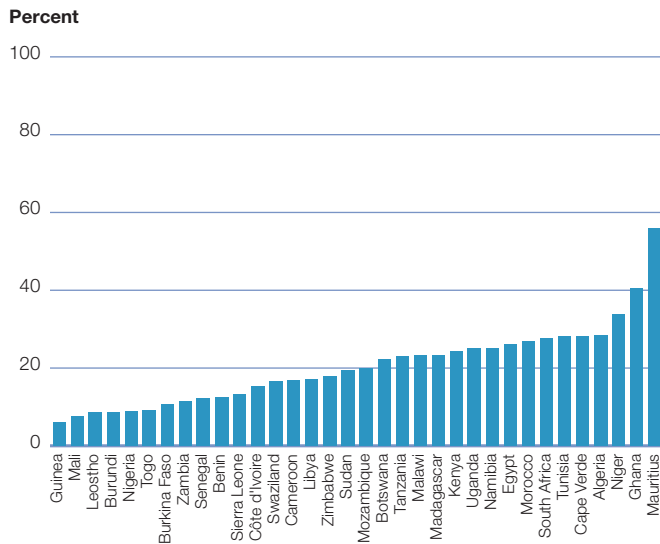
The concrete possibility of “reaping the demographic dividend” depends crucially on the extent to which the working-age population is actually employed. High unemployment rates counterbalance the potential benefits of larger shares of the working-age population, and consequently limit the possible increase 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

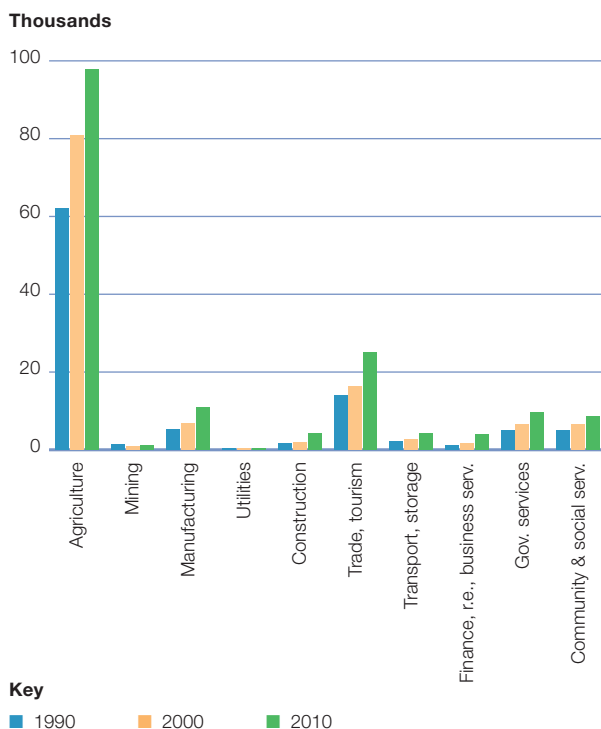
Employment growth in manufacturing, finance, tourism, and logistics are encouraging but not yet creating sufficient jobs to realize the demographic dividend. Migration statistics also show how young Africans under 30 are looking for better opportunities than their economies can offer. **Migration of 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.

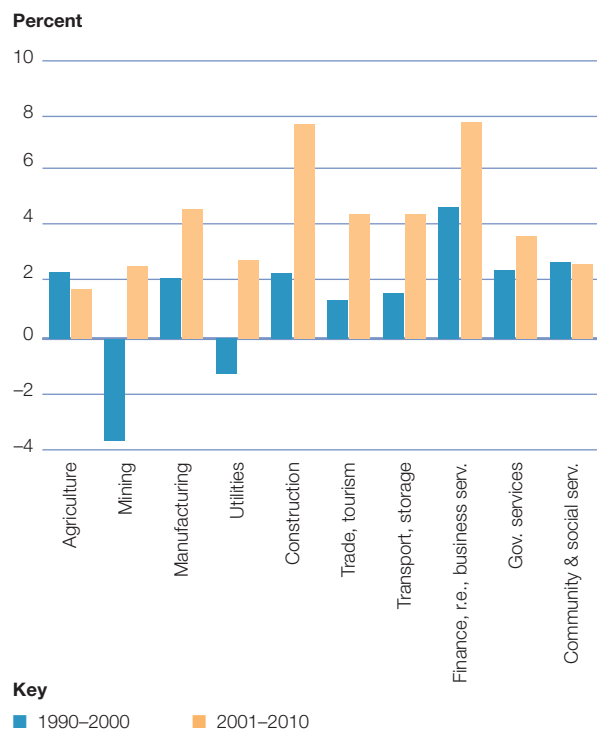
Africa needs to act now to put in place the structural changes necessary to build the foundations of more resilient and prosperous societies. It will not be possible to create employment and increase living standards without first boosting productivity, which in turn will allow economies to become more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

Figure 4: Employment by sector

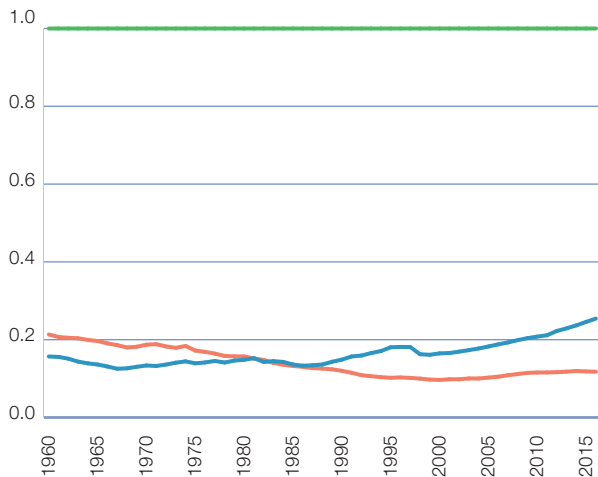
4a: Number of workers



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**Production per worker in 2011, US\$ (GK PPP)****Key**

- Sub-Saharan Africa
- Developing Asia
- OECD average

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 a 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.

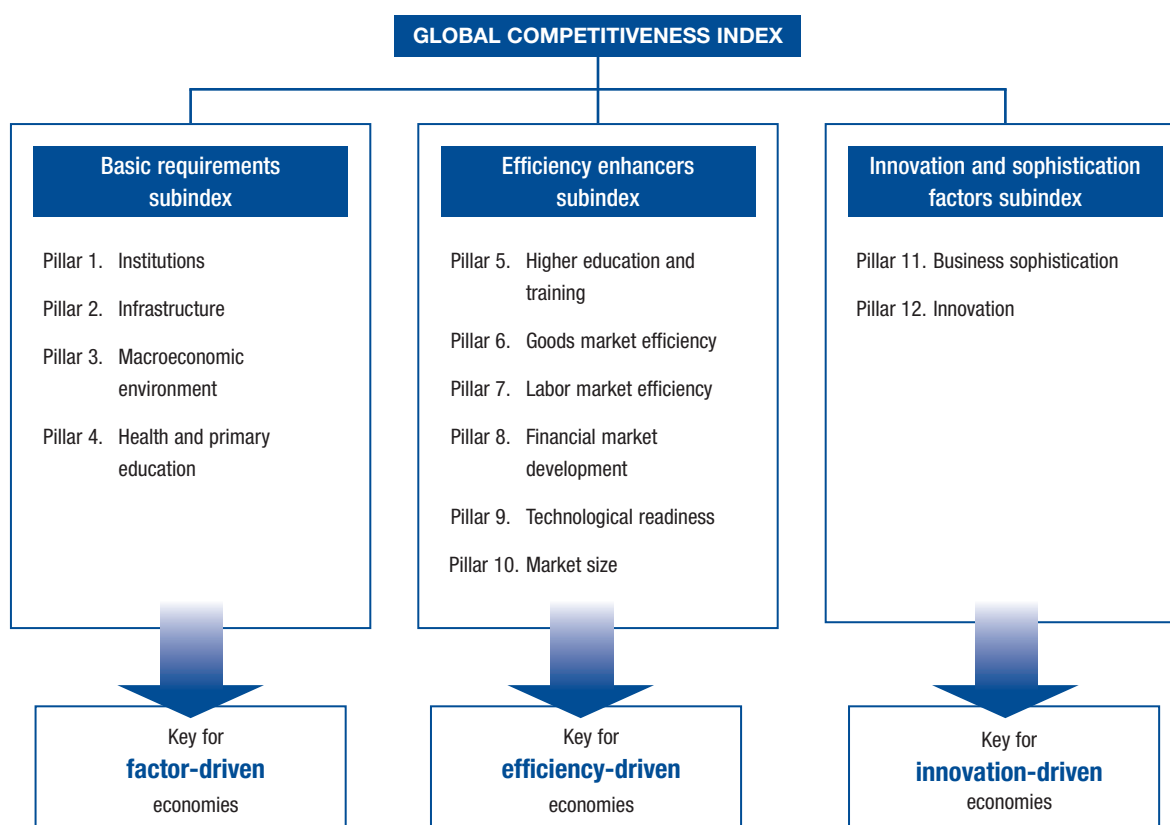
Improving productivity and its drivers has been critical to countries' abilities to increase their standards of living. Therefore identifying and measuring the drivers of productivity is the goal of the GCI, which defines competitiveness as the set of institutions, policies, and factors that determine 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

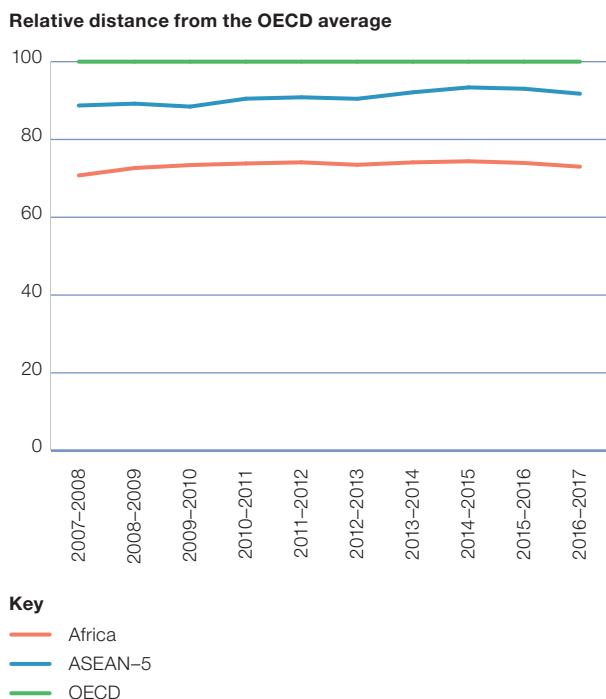
Figure 7: African countries in the sample, by stage of development

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.

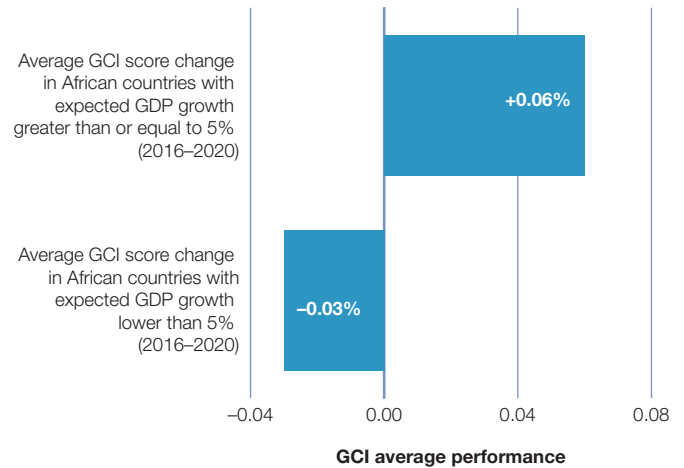
Similarly, competitiveness performances vary considerably between those economies that have traditionally relied heavily on mineral exports,²¹ which have registered almost no progress, and more diversified economies that have improved their average competitiveness score by about 5 percent.

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.

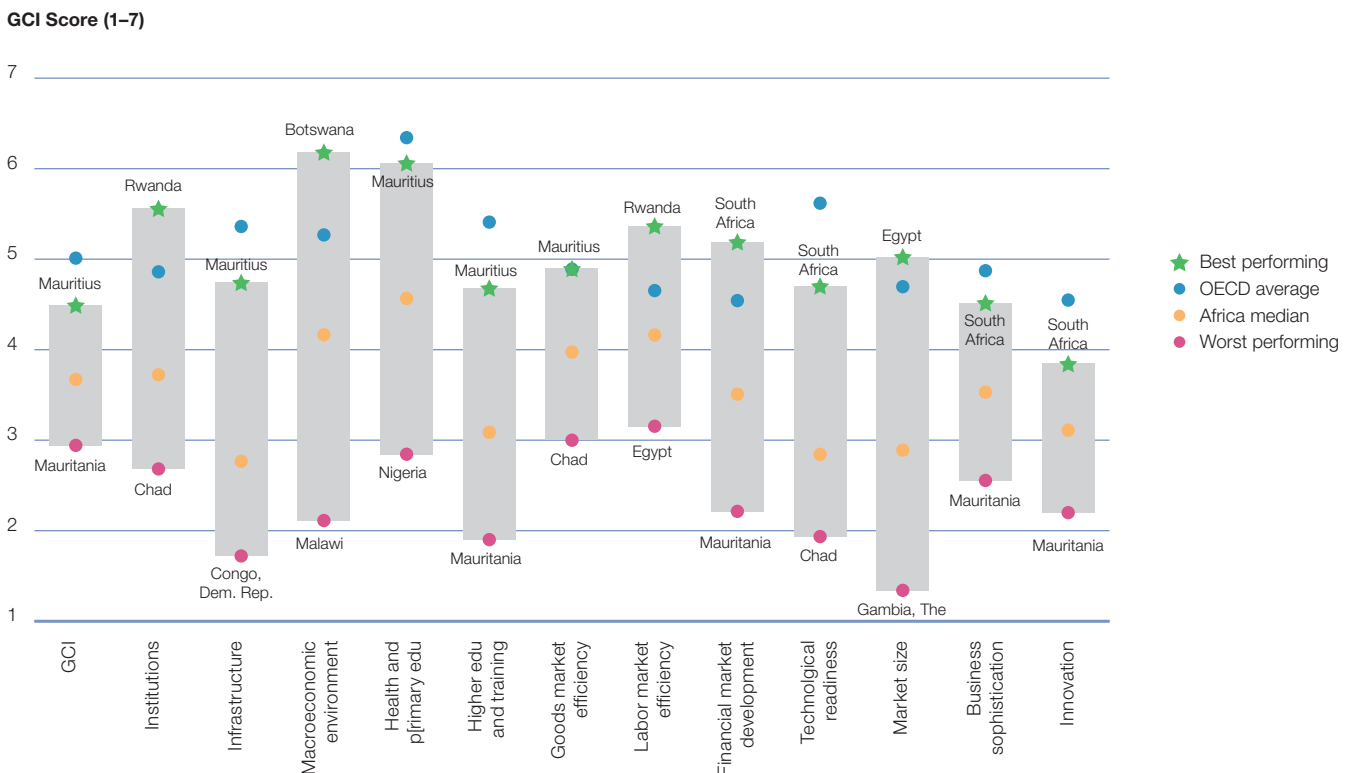
At the country level, against the weak regional outlook a handful of countries are expected to continue to grow in GDP at a sustained rate (Figures 9a and 9b). Côte d'Ivoire, Ethiopia, Rwanda, and Tanzania are all expected to grow at an average rate of close to 7 percent over the next few years. These 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



Source: World Economic Forum 2016a.

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

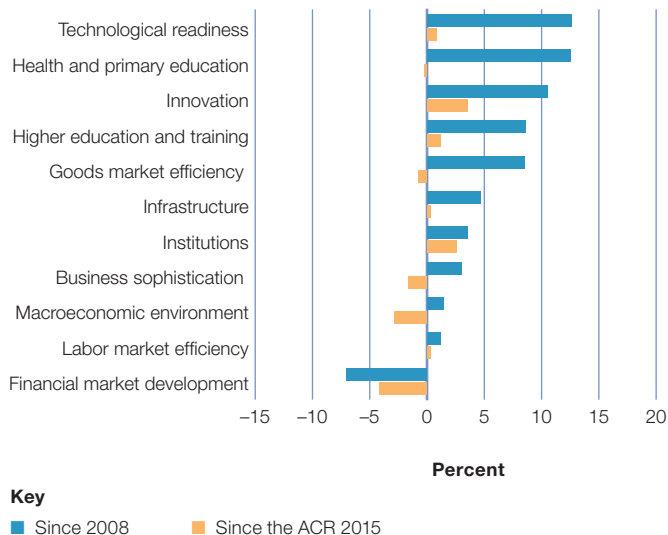
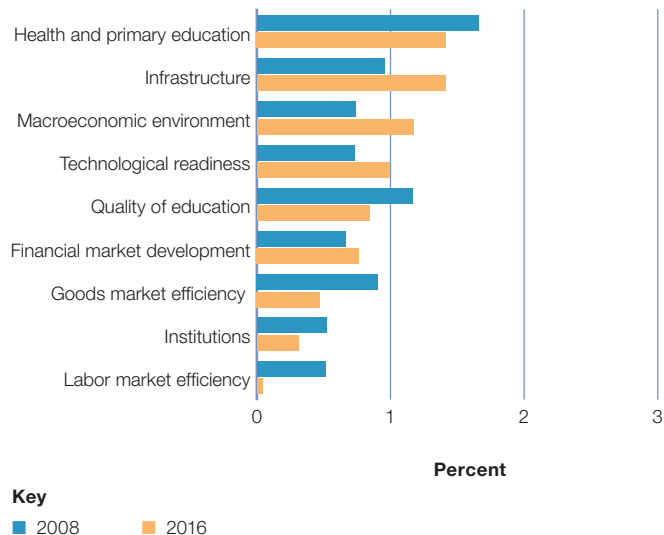
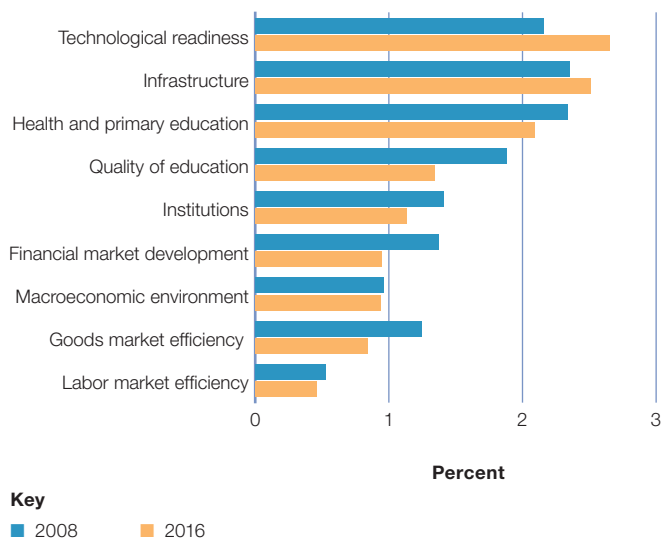


Figure 11b: Africa’s competitiveness gaps with ASEAN-5 average score, by pillar



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.

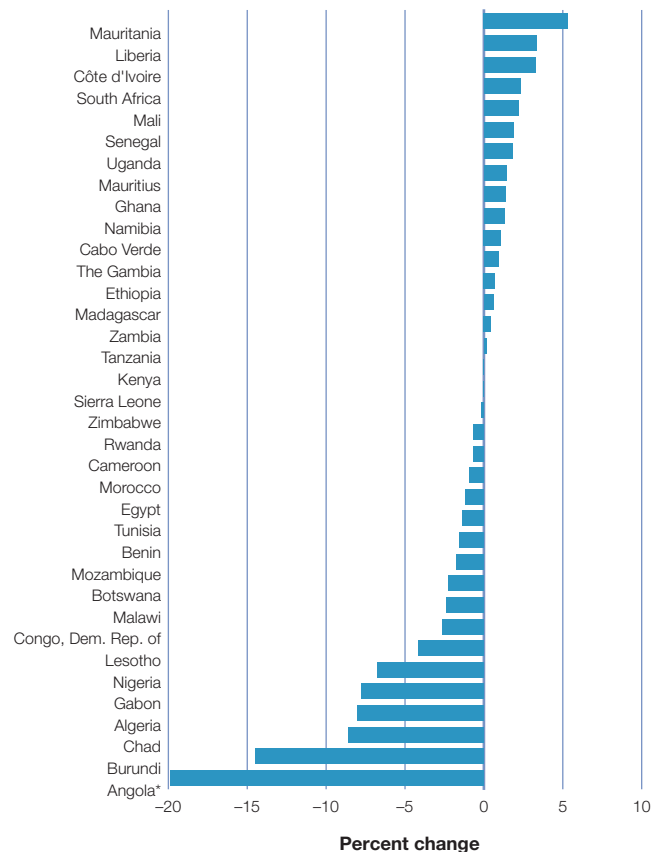
During the commodity “super-cycle” that began in the early 2000s, the public and private sectors experienced significant liquidity and economic planning was conducted under the assumption that growth would continue at a similar rate. Since the decline in commodity prices in 2014, revenues have not managed 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

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.

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).

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)

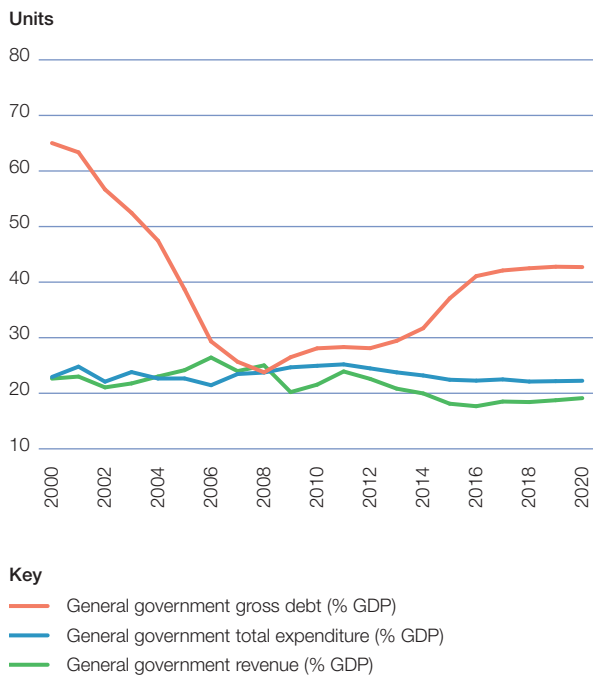
Source: World Economic Forum 2016a.

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)

Country	Efficiency enhancers						Innovation and sophistication factors	
	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



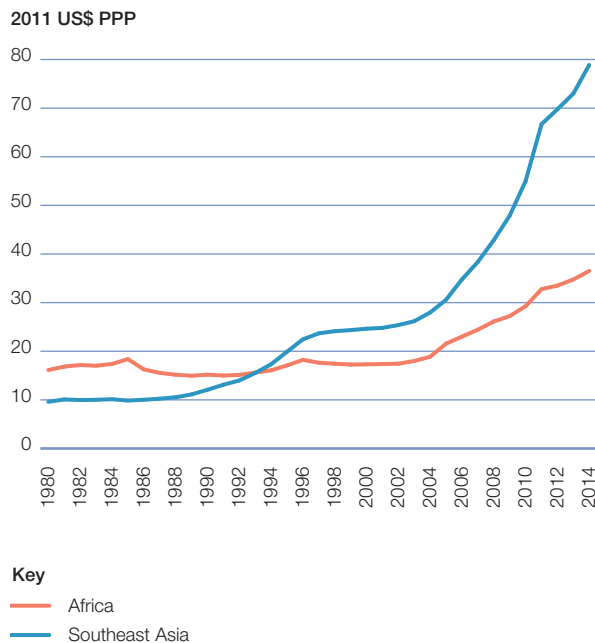
Source: IMF, World Economic Outlook, October 2016.

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 depth²⁷—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

Figure 14: Physical capital stock per person employed



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

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.

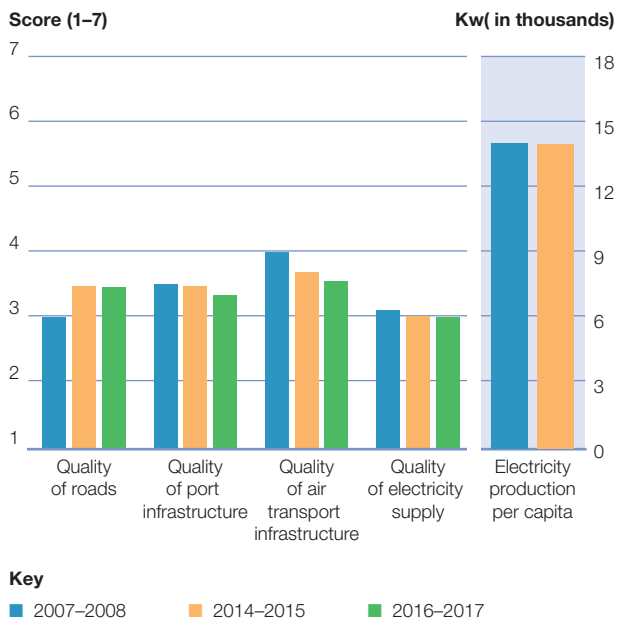
How does macroeconomic and financial development impact the chance of reaping the demographic dividend? The simultaneous reduction in public funds (Figure 13), due to government budget cuts, and in private funds, due to lower bank credit availability, will translate into less availability of finance 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.

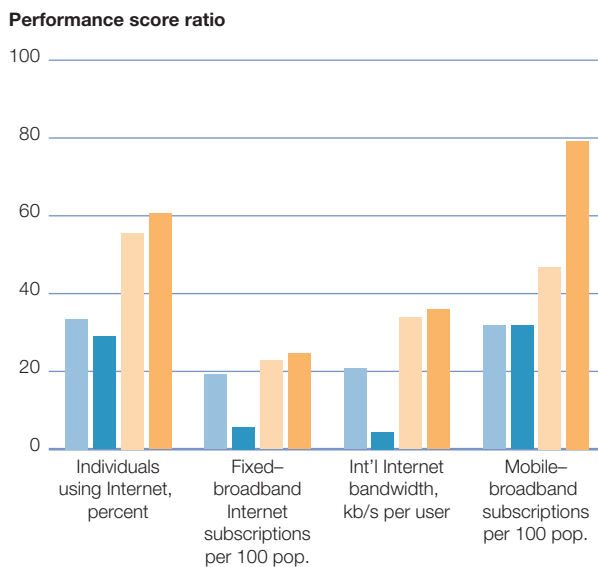
the GCI this year are landlocked and can connect to ports only by constructing massive ground infrastructure that spans national borders, while others have simply not been able to develop sufficient capacity. Although some efficiency gains can be obtained through greater cross-country collaboration and 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**

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

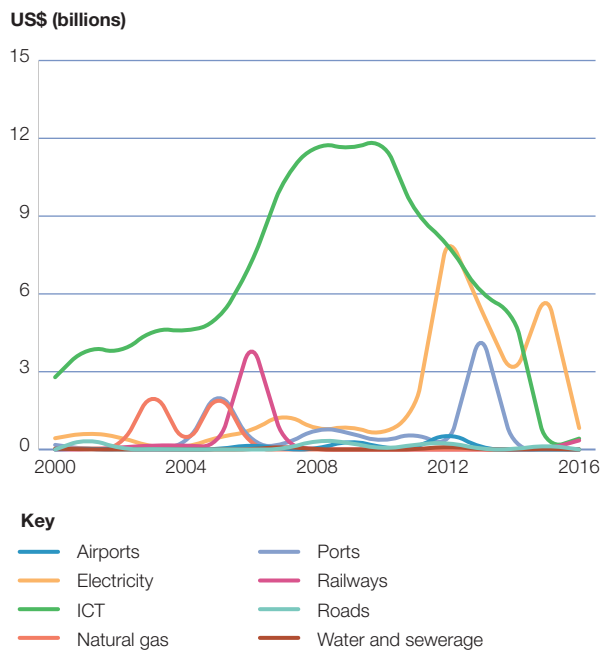
Source: Author's calculations, based on World Economic Forum 2016a.

the 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 Africa⁴⁰—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.

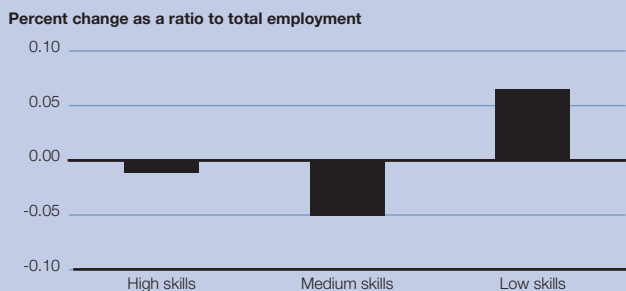
The availability of skilled workers is essential to start new companies or attract foreign companies and to compete in an increasingly interconnected world. Over the last five years, business leaders in Africa have consistently rated the workforce's inadequate level of education as among the top six 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



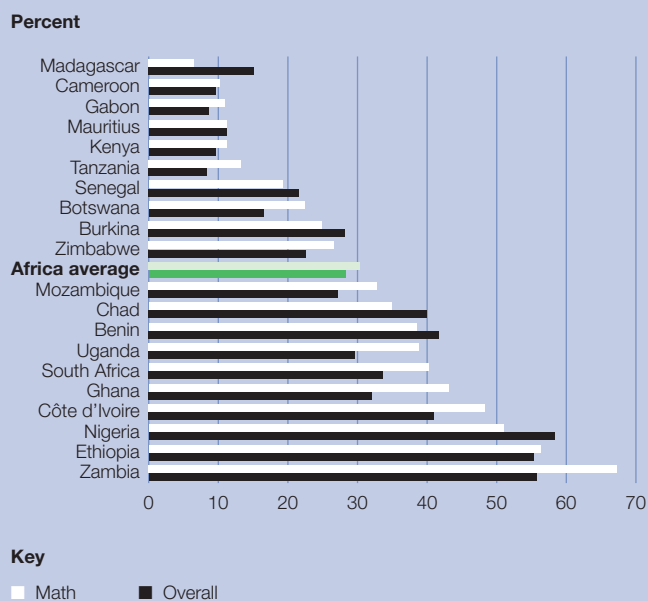
Source: Authors’ calculations, based on the International Labour Organization (ILO) ILOSTAT database, available at <http://ilo.org/global/statistics-and-databases/lang--en/index.htm>

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.

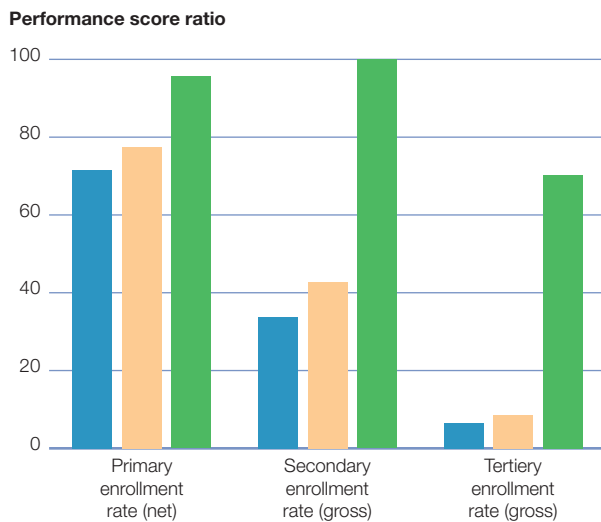
More has to be done to equip young Africans with the relevant skills that will enable them to compete in increasingly interconnected and technology-dense labor markets. Effective public-private collaboration such as the Regional Skills Project can contribute to reduce skill-gaps at national and regional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

**Key**

- Africa 2007-2008
- Africa 2016-2017
- OECD 2016-2017

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).

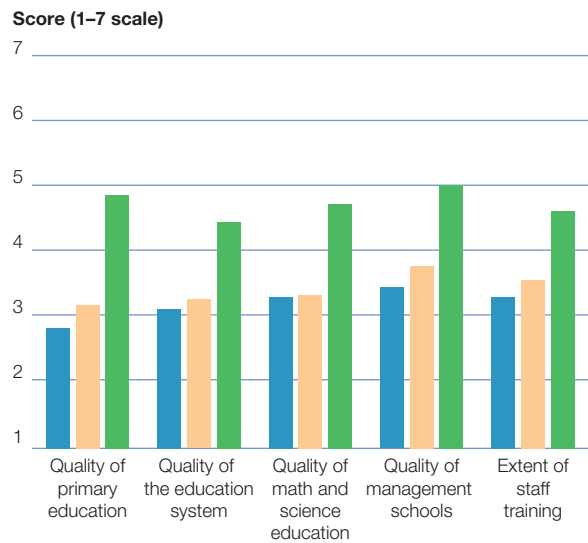
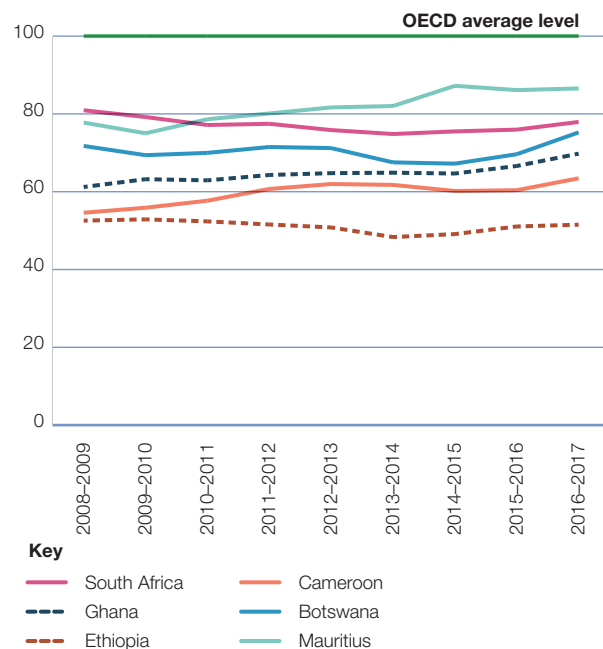
At the country level, there are encouraging trends in some African economies but gaps remain large. Mauritius (ranking 52nd), South Africa (77th), and Botswana (88th) lead the higher education and training pillar. Kenya (97th) and Ghana (99th) follow closely, while in most of the other Africa countries 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

19b: Quality of education indicators

**Figure 20: Trend in higher education, selected African countries**Source: World Economic Forum, *The Global Competitiveness Report*, various editions.

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

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-Martin,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-Martin 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

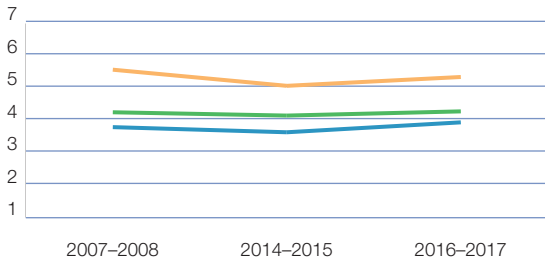
Remarkably, despite the instability in parts of North Africa, and terrorism activity in several areas of Africa, the average security levels of the group of African countries assessed by the GCI has remained virtually unchanged since the 2015 assessment.

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.

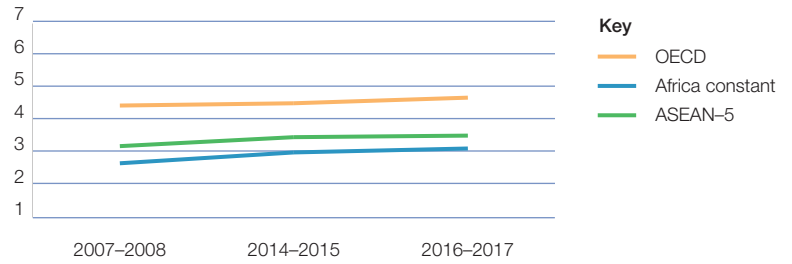
Southern African countries (Botswana, Lesotho, Mauritius, Namibia, and South Africa) and Rwanda continue to lead the African ranking for institutional quality, all appearing in the upper half of the global rankings. In terms of performance dynamic, Figure 22 shows *changes* in institutional quality over 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

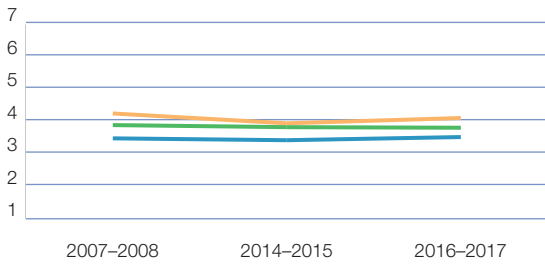
21a: Public-sector performance



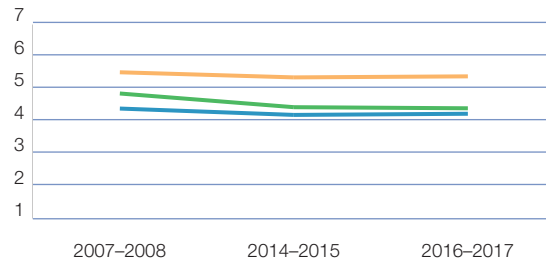
21b: Property rights



21c: Ethics and corruption



21d: Security

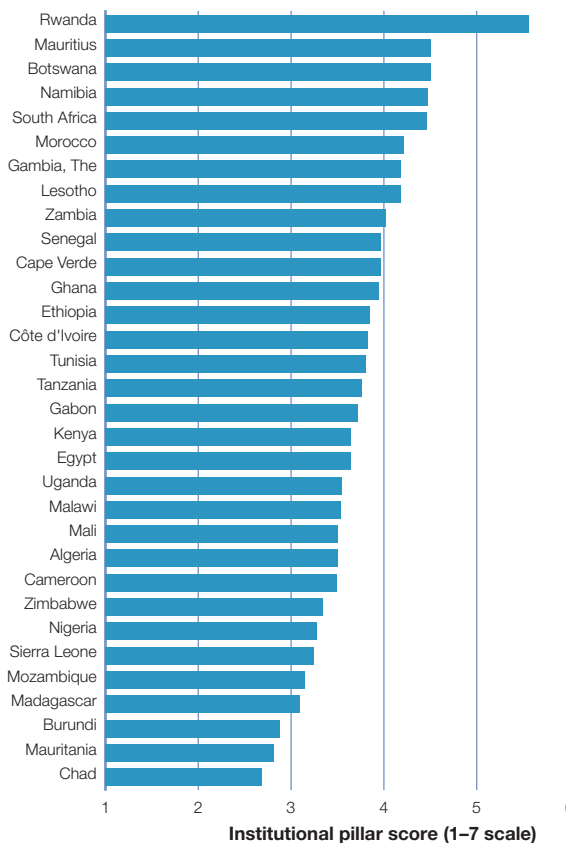


Source: World Economic Forum, *The Global Competitiveness Report*, various editions.

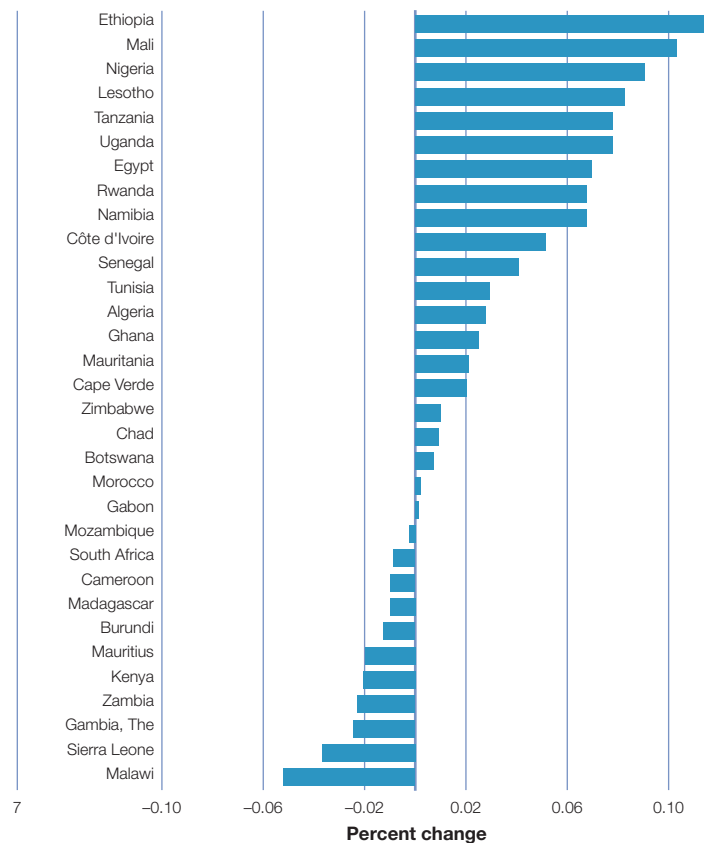
The five ASEAN countries covered by the GCI are Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. The OECD economies covered by the GCI are Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, 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

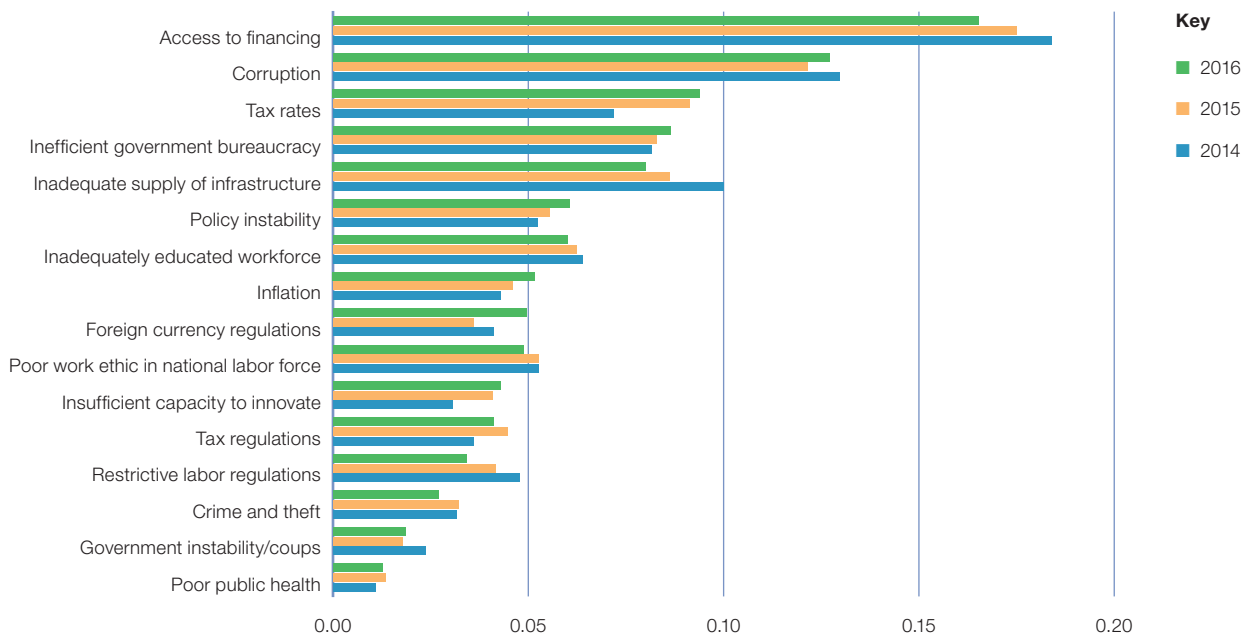
22a: Institutions pillar score



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%20Notes-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.
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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 infrastructure⁹
- 2.04 Quality of port infrastructure
- 2.05 Quality of air transport infrastructure
- 2.06 Available airline seat kilometers*

B. Electricity and telephony infrastructure50%

- 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. Health50%**

- 4.01 Business impact of malaria⁹
- 4.02 Malaria incidence^{*9}
- 4.03 Business impact of tuberculosis⁹
- 4.04 Tuberculosis incidence^{*9}
- 4.05 Business impact of HIV/AIDS⁹
- 4.06 HIV prevalence^{*9}
- 4.07 Infant mortality*
- 4.08 Life expectancy*

B. Primary education50%

- 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 education33%**

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

B. Quality of education33%

- 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 training33%

- 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. Flexibility50%**

- 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 adoption50%**

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

B. ICT use50%

- 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 size75%**

- 10.01 Domestic market size index^{*k}

B. Foreign market size25%

- 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:

$$\text{category}_i = \frac{\sum_{k=1}^K \text{indicator}_k}{K}$$

- 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/Apl.” 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

Country/Region	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	
	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

Country/Region	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	
	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

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.

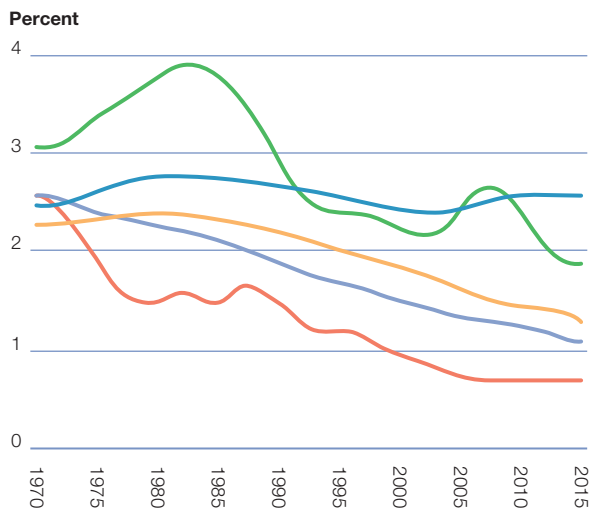
Population projections: Some key features

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

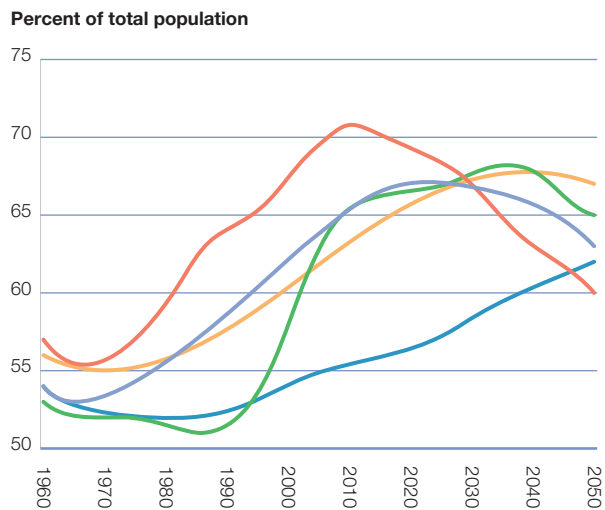


Key

- East Asia and Pacific
- Latin America and the Caribbean
- Middle East excluding North Africa
- South Asia
- Africa

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

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



Key

- East Asia and Pacific
- Latin America and the Caribbean
- Middle East excluding North Africa
- South Asia
- Africa

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.

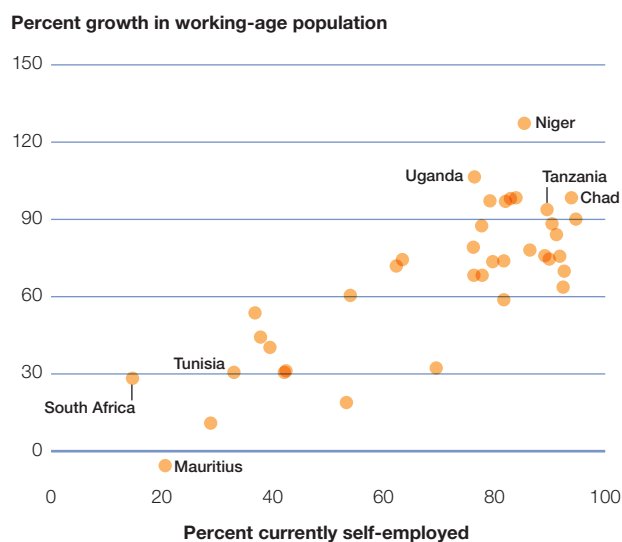
Africa’s population is urbanizing rapidly. About 40 percent of Africans currently live in urban areas; that proportion is likely to reach 50 percent by 2030. Perhaps more impressive is the rate of growth of the region’s 20 largest cities (Figure A2 of the Appendix). On average, they are expected to grow 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

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

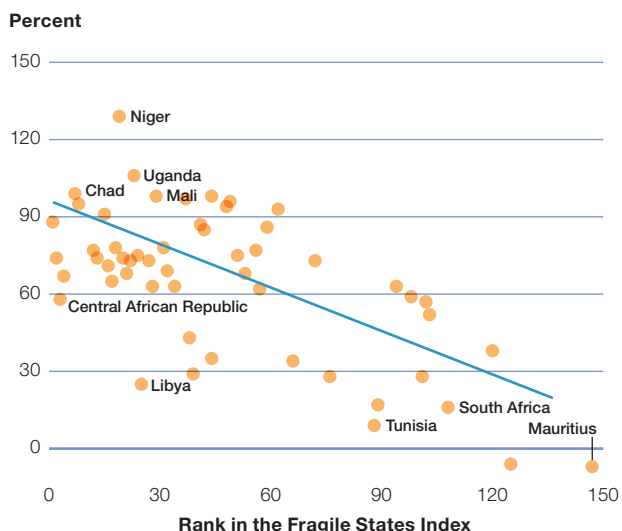
- 1 Bloom et al. 2003.
- 2 Bloom et al. 2003.
- 3 World Bank 2016b.
- 4 Bloom et al. 2003; Bloom et al. 2007; Fox et al. 2013.
- 5 Cincotta et al. 2003; Goldstone 2002; Goldstone, et al. 2014; Urdal 2006, 2011; Walker 2015; World Bank 2013.
- 6 World Bank 2013.
- 7 Cincotta et al. 2003; Goldstone et al. 2014; State Failure Task Force 1999; Walker 2015.

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

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/>.

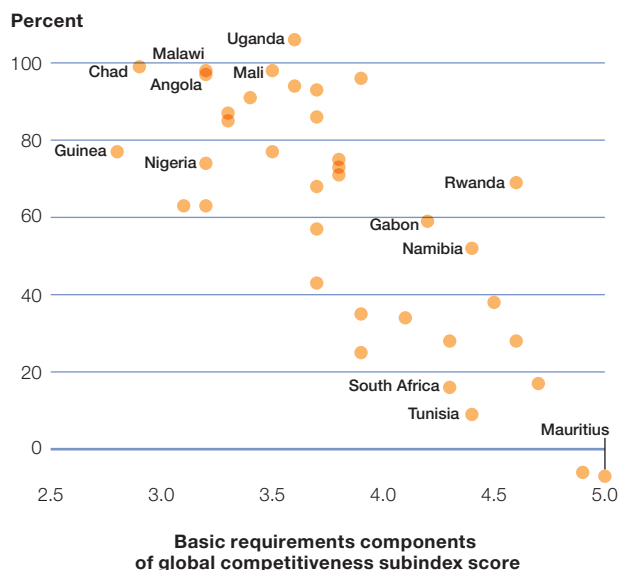
In the best-case scenario (scenario 1 in Table A1), to achieve a demographic dividend, reductions in fertility and mortality occur alongside an increase in per child spending on health and education, higher levels of female labor force participation, and a policy environment conducive to job creation. 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,

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.

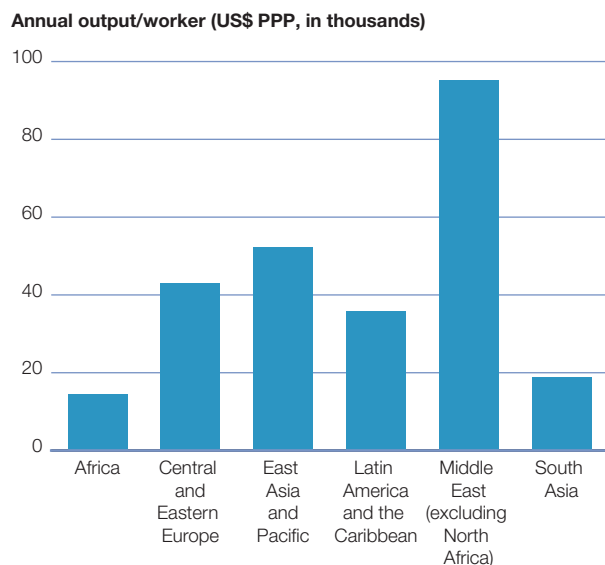
and Sierra Leone—have above-average working-age population growth. Average working-age population growth in fragile countries is 77 percent; it is 60 percent in non-fragile ones.²¹

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.

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

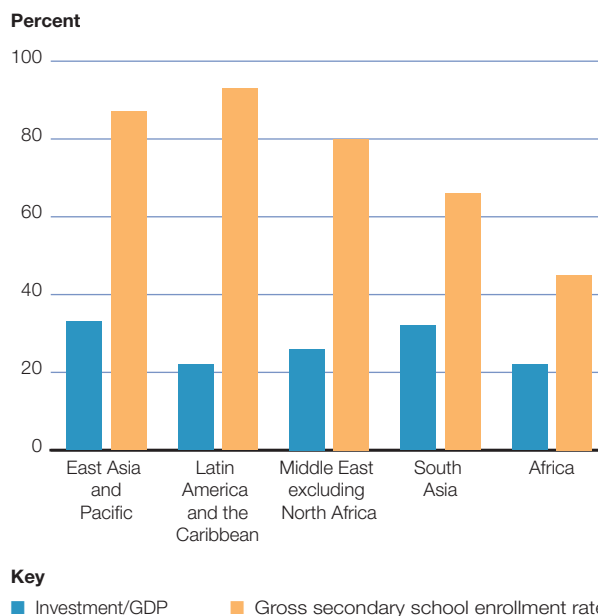
Which countries are best placed to achieve a demographic dividend and which are more likely to encounter stress from rapid population growth? High-quality policy and high projected growth rates offer best opportunity for demographic dividend. Figure 5 suggests that Namibia, Rwanda, and perhaps Gabon 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 constitute 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

Figure 7: Comparative enrollment and investment rates



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

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%

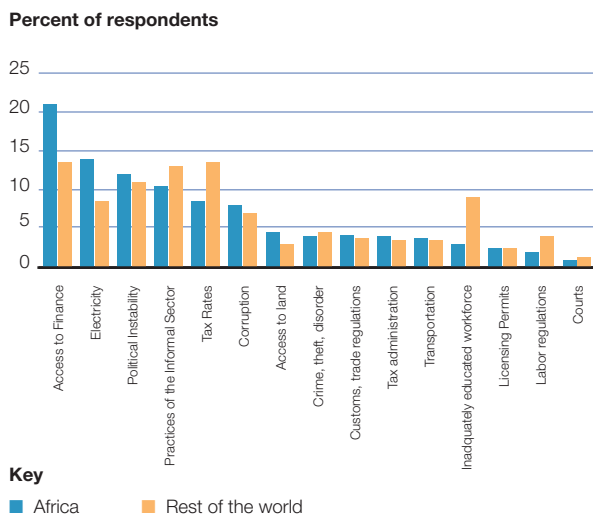
Source: Authors, based on UNESCO Institute for Statistics.

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



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:

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.

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.

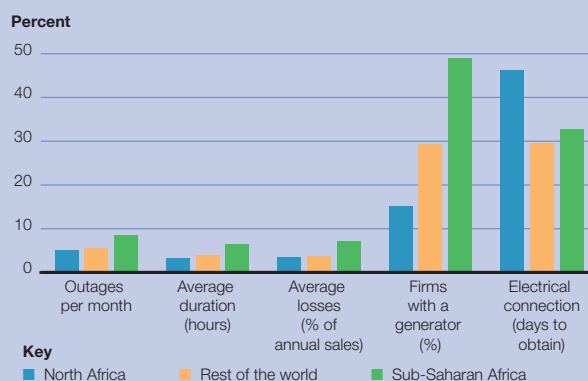
The Government of Senegal is now well aware of the issue and intends to solve it. In response, it has included in the country's development plan the promotion of financial development and stability. The Financial Sector Action Plan calls for strengthening the resilience of the banking system, reducing 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

Figure A: Electricity outcomes for firms in manufacturing



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.

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 countries 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

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.

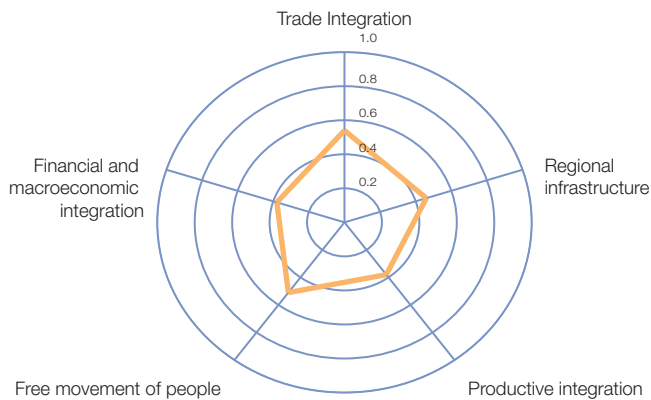
Sources: Dodd 2013; IFC 2009.

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.

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.

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

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.

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 Systems⁵⁴—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 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 Africa 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 Dianniadio, 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.

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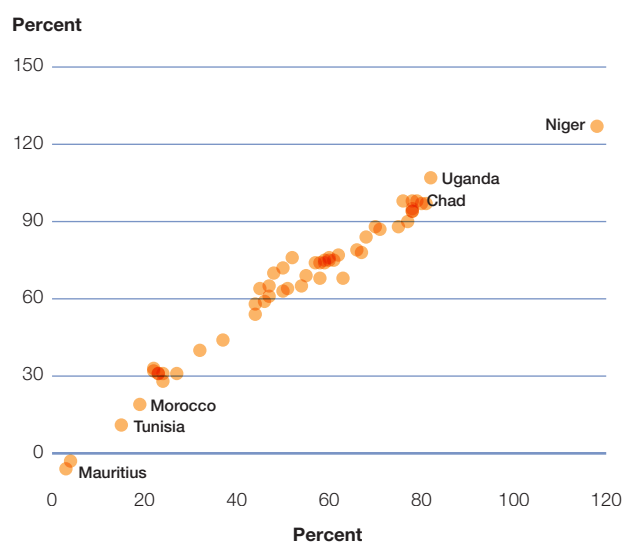
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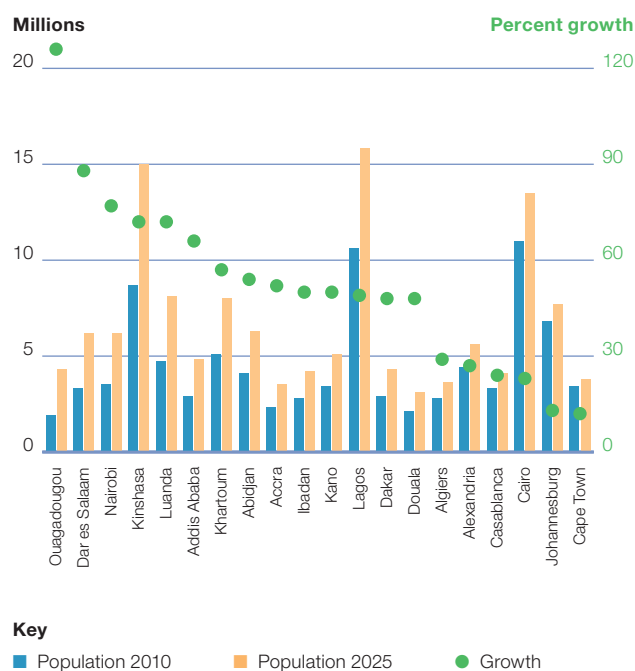
Appendix: Supplemental table and figures

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.

Competitive African Cities for Better Living Standards

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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).

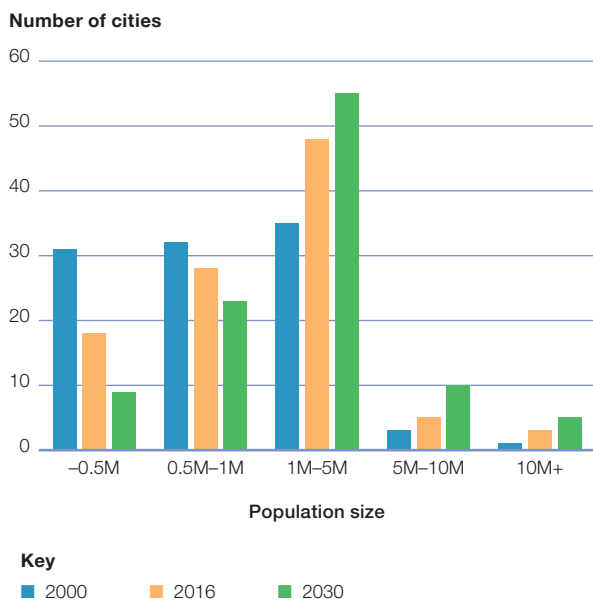
Two key implications of the demographic transition are sharp increases in the need for job creation and for urban infrastructure (including affordable housing). It is estimated that although about 10–12 million young people enter the labor market each year, only 3 million formal jobs are created. Thus 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.⁷⁷ Furthermore, the Asian Development Bank asserts that “cities become competitive through shared services and infrastructure.”⁷⁸ 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 in 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

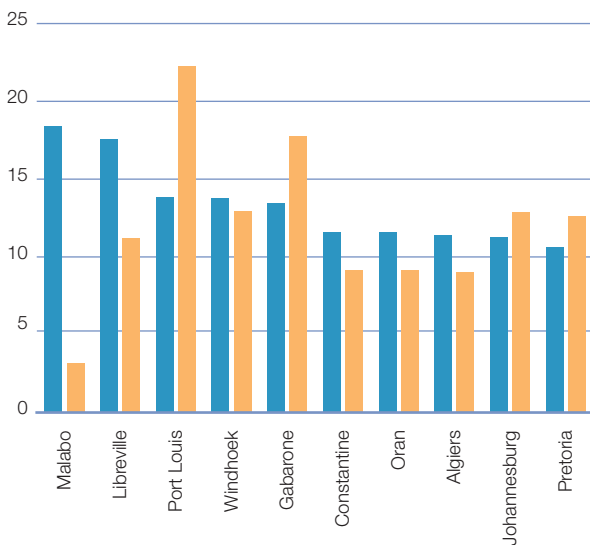
There is a large variation of gross domestic product (GDP) per capita and household disposable income across cities.¹¹ The top 10 richest cities in terms of GDP per capita share similar characteristics: they are located either in oil-exporting countries or in the most developed countries in the continent (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

US dollars (in thousands)



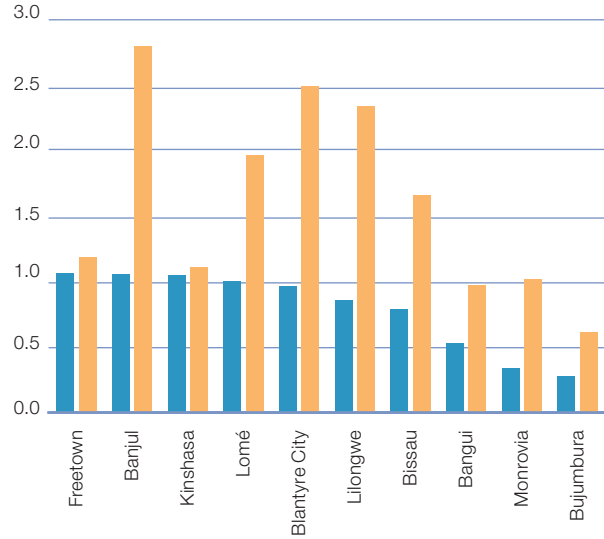
Key

■ GDP per capita ■ Household disposable income

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

2b: Bottom 10

US dollars (in thousands)



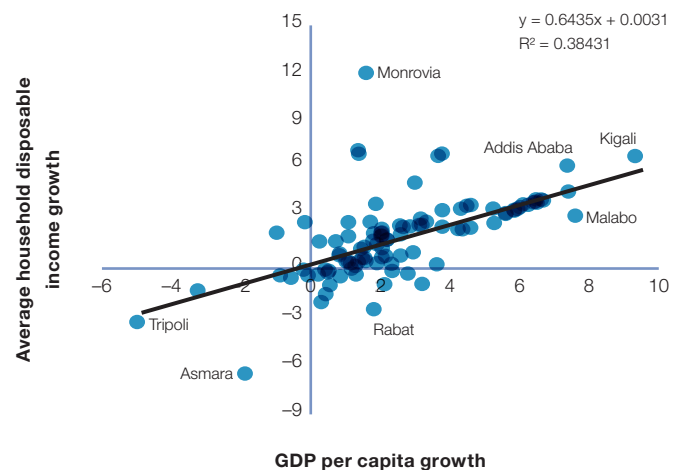
Key

■ GDP per capita ■ Household disposable income

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-

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

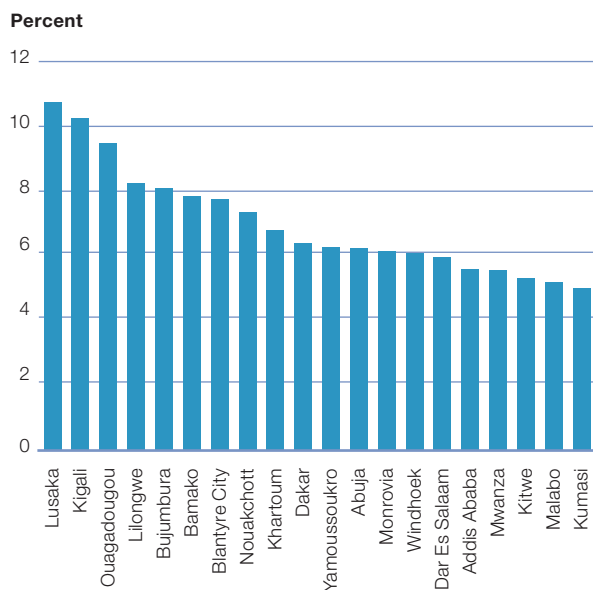


Source: Authors' calculations, based on data from Oxford Economics.

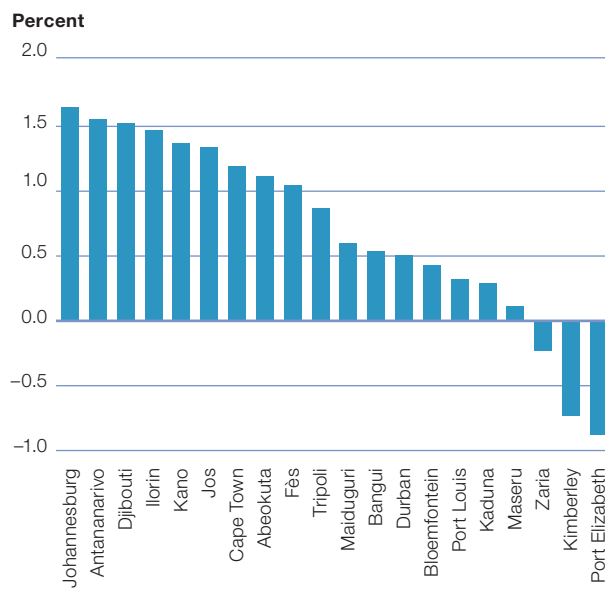
long civil war had decimated livelihoods of Liberians and the peace dividend translated into higher household disposable incomes, albeit from a very low base. Other cities, such as Brazzaville, Huambo, and Pointe-Noire, almost doubled their incomes. In contrast, 22 cities either stagnated or had long-run 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 4: Employment growth, 2000–16

4a: Top performers

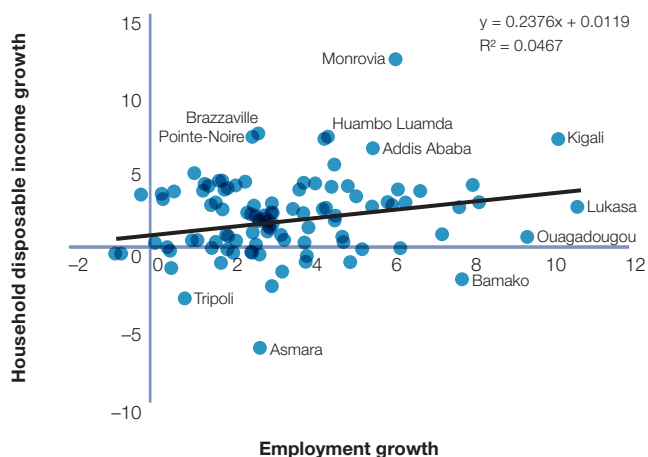


4b: Bottom performers



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 capita 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.

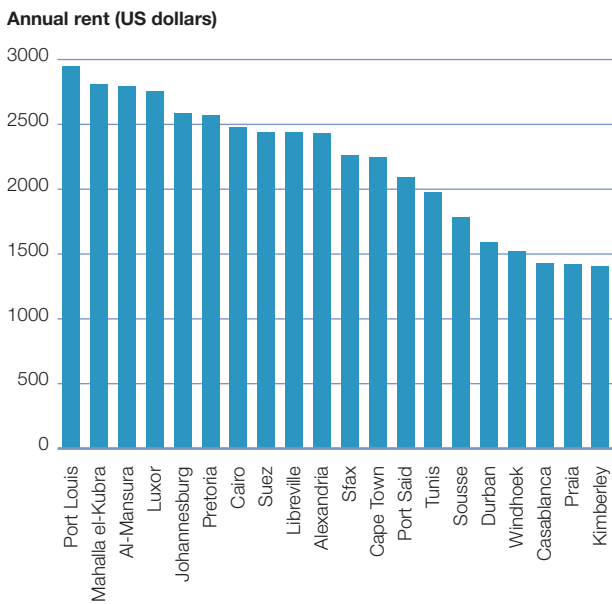
For employment growth to translate into higher disposable income for households, an increase in wages must accompany the rise of employment. Another issue relevant for Africa is the dramatic increase in the total number of households. Although the average cumulative growth of employment is 79.5 percent, 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

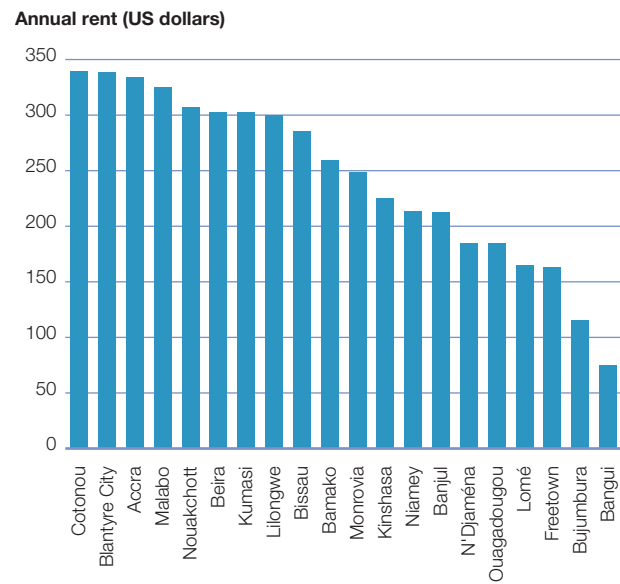
On average, households spend 21 percent of their disposable income on housing and utility costs, although there is a large variation across cities. The share ranges from 8 percent in Nairobi to 39 percent in Polokwane. In general, South Africans spend more than citizens of all other African nations on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

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

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).

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 urban 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 show 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 through 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

Country	Economic effects		Employment effects		Data source
	Output multiplier	Jobs created/million invested (in local currency)	Jobs created/housing unit		
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 FIAS 2008.

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

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

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.

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 Tema Export Processing Zone in Ghana and the Tangier Free Zone in Morocco are other successful examples. Tema'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,

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.

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).

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)

Region	Lower secondary		Secondary		Upper secondary	
	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 $GDP = \text{wages} + \text{interest} + \text{rent} + \text{profits} - \text{net factor income from abroad} + \text{capital consumption allowance} + \text{indirect business taxes}$. *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.

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Appendix: Selected African Cities (alphabetical order)

Country	Cities
Algeria	Algiers, Constantine, Oran
Angola	Huambo, Luanda
Benin	Cotonou
Botswana	Gaborone
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.

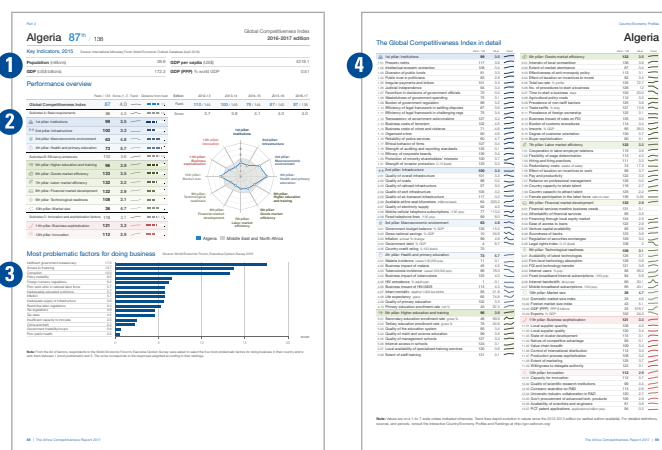
3 The most problematic factors for doing business

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.

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.



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>.

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/A* 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.

Source: Institutional Investor's "Country Credit Ratings" is a trademark of Institutional Investor, LLC. No further copying or transmission of this material is allowed without the express written permission of Institutional Investor publisher@institutionalinvestor.com. Copyright © Institutional Investor, LLC 2016.

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, *NA/ 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 May 19, 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

[In 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 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.

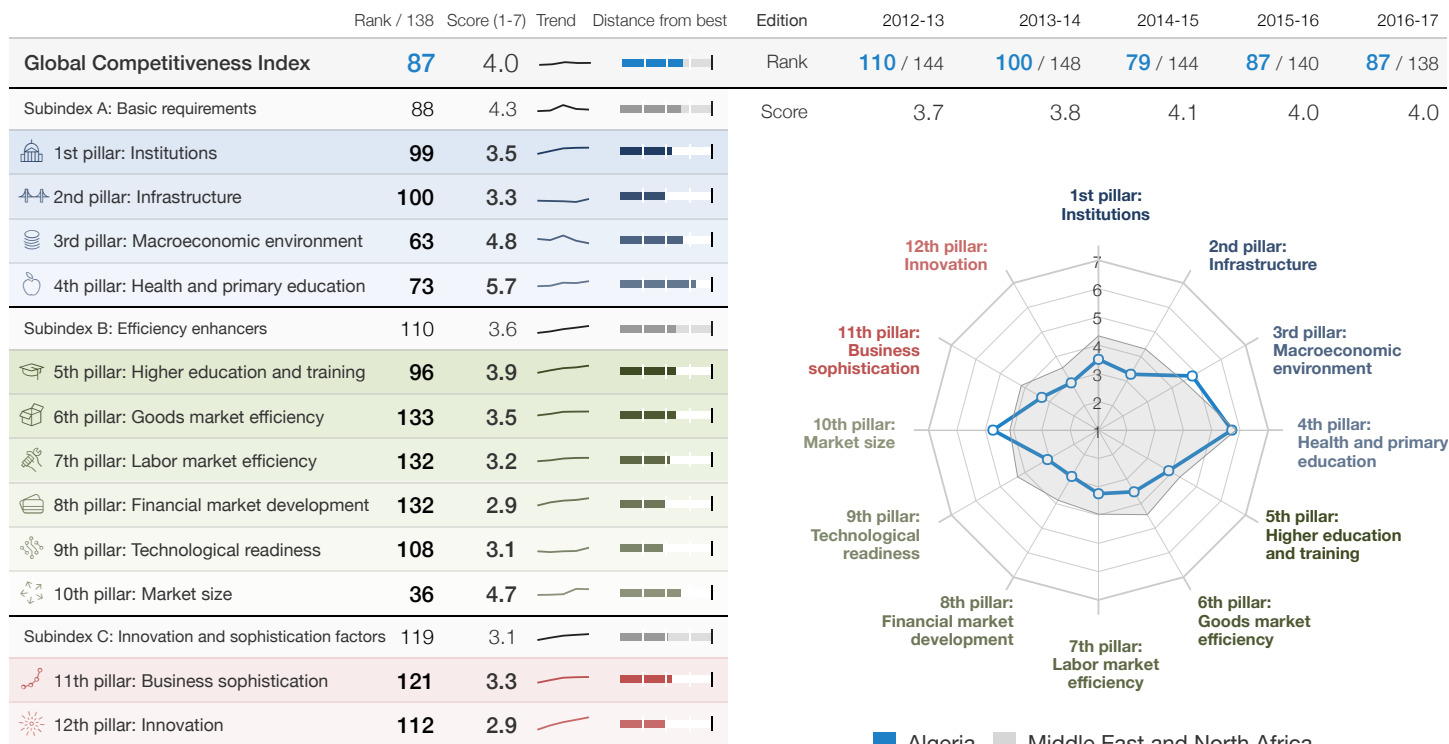
Index of Countries

Country	Page	Country	Page	Country	Page
Algeria	88	Gambia, The	112	Namibia	136
Benin	90	Ghana	114	Nigeria	138
Botswana	92	Kenya	116	Rwanda	140
Burundi	94	Lesotho	118	Senegal	142
Cameroon	96	Liberia	120	Sierra Leone	144
Cape Verde	98	Madagascar	122	South Africa	146
Chad	100	Malawi	124	Tanzania	148
Congo, Democratic Rep.	102	Mali	126	Tunisia	150
Côte d'Ivoire	104	Mauritania	128	Uganda	152
Egypt	106	Mauritius	130	Zambia	154
Ethiopia	108	Morocco	132	Zimbabwe	156
Gabon	110	Mozambique	134		

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

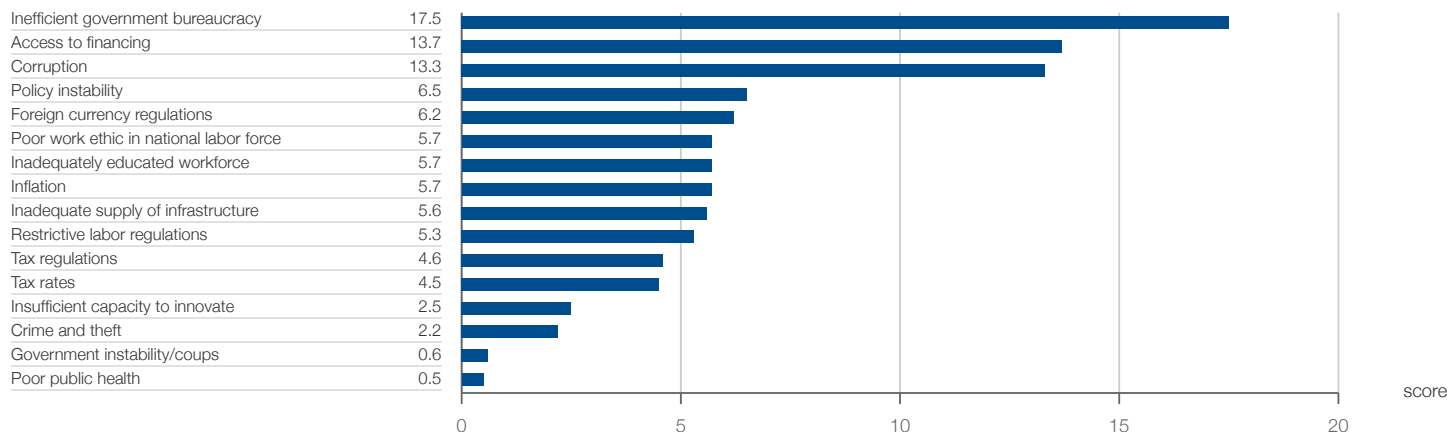
Population (millions)	39.9	GDP per capita (US\$)	4318.1
GDP (US\$ billions)	172.3	GDP (PPP) % world GDP	0.51

Performance overview



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.

The Global Competitiveness Index in detail

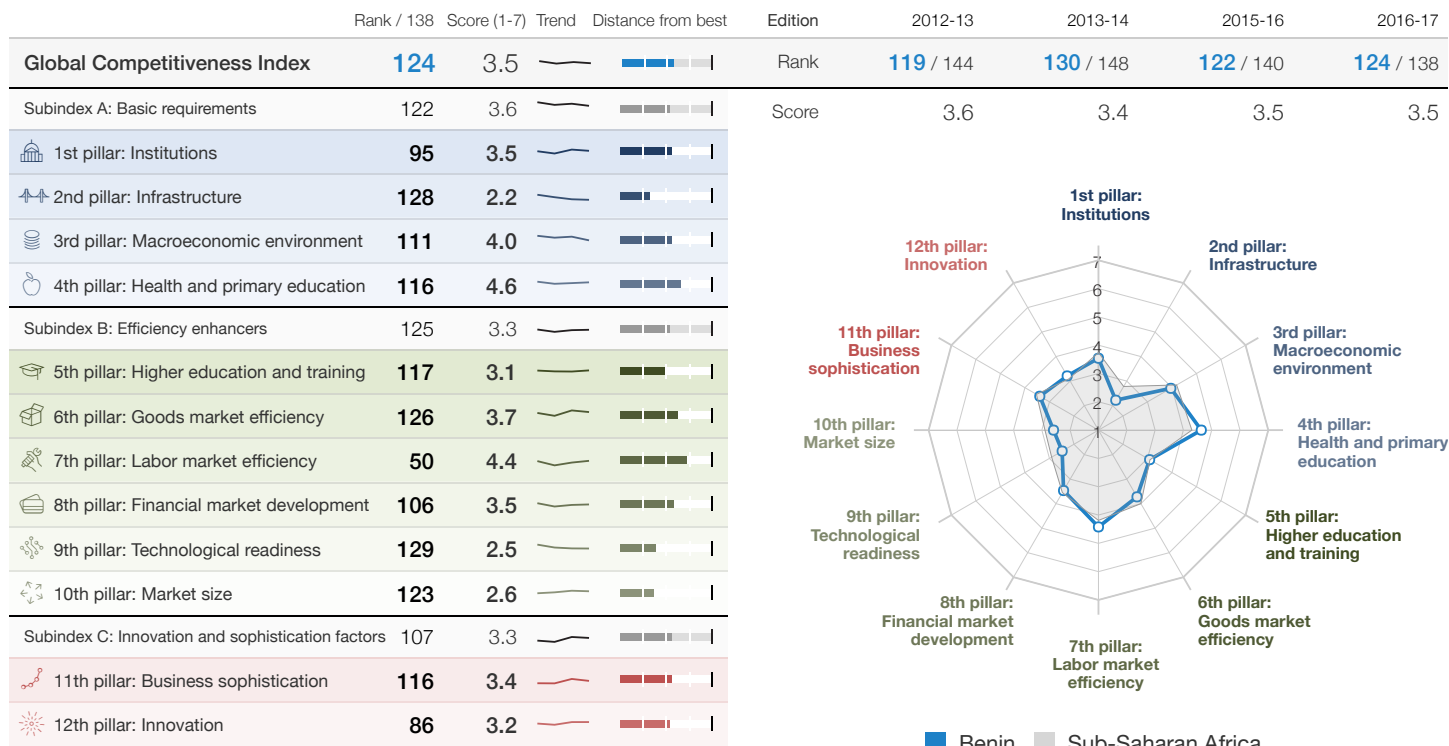
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	99	3.5		6th pillar: Goods market efficiency	133	3.5	
1.01 Property rights	117	3.6		6.01 Intensity of local competition	136	3.8	
1.02 Intellectual property protection	108	3.4		6.02 Extent of market dominance	87	3.4	
1.03 Diversion of public funds	81	3.3		6.03 Effectiveness of anti-monopoly policy	113	3.1	
1.04 Public trust in politicians	83	2.8		6.04 Effect of taxation on incentives to invest	92	3.4	
1.05 Irregular payments and bribes	101	3.3		6.05 Total tax rate % profits	135	72.7	
1.06 Judicial independence	94	3.4		6.06 No. of procedures to start a business	126	12	
1.07 Favoritism in decisions of government officials	70	3.0		6.07 Time to start a business days	103	20.0	
1.08 Wastefulness of government spending	75	3.1		6.08 Agricultural policy costs	112	3.2	
1.09 Burden of government regulation	86	3.2		6.09 Prevalence of non-tariff barriers	125	3.6	
1.10 Efficiency of legal framework in settling disputes	67	3.6		6.10 Trade tariffs % duty	127	13.8	
1.11 Efficiency of legal framework in challenging regs	75	3.4		6.11 Prevalence of foreign ownership	132	3.1	
1.12 Transparency of government policymaking	127	3.2		6.12 Business impact of rules on FDI	135	3.0	
1.13 Business costs of terrorism	102	4.5		6.13 Burden of customs procedures	114	3.4	
1.14 Business costs of crime and violence	71	4.6		6.14 Imports % GDP	85	36.0	
1.15 Organized crime	80	4.6		6.15 Degree of customer orientation	130	3.7	
1.16 Reliability of police services	60	4.7		6.16 Buyer sophistication	90	3.1	
1.17 Ethical behavior of firms	107	3.4		7th pillar: Labor market efficiency	132	3.2	
1.18 Strength of auditing and reporting standards	135	3.1		7.01 Cooperation in labor-employer relations	115	3.8	
1.19 Efficacy of corporate boards	136	3.4		7.02 Flexibility of wage determination	113	4.3	
1.20 Protection of minority shareholders' interests	100	3.7		7.03 Hiring and firing practices	111	3.3	
1.21 Strength of investor protection 0-10 (best)	133	3.3		7.04 Redundancy costs weeks of salary	74	17.3	
2nd pillar: Infrastructure	100	3.3		7.05 Effect of taxation on incentives to work	89	3.7	
2.01 Quality of overall infrastructure	101	3.3		7.06 Pay and productivity	122	3.3	
2.02 Quality of roads	96	3.2		7.07 Reliance on professional management	135	3.0	
2.03 Quality of railroad infrastructure	57	3.0		7.08 Country capacity to retain talent	116	2.7	
2.04 Quality of port infrastructure	105	3.2		7.09 Country capacity to attract talent	125	2.2	
2.05 Quality of air transport infrastructure	117	3.2		7.10 Female participation in the labor force ratio to men	136	0.24	
2.06 Available airline seat kilometers millions/week	64	233.2		8th pillar: Financial market development	132	2.9	
2.07 Quality of electricity supply	92	4.0		8.01 Financial services meeting business needs	131	3.1	
2.08 Mobile-cellular telephone subscriptions /100 pop.	77	113.0		8.02 Affordability of financial services	95	3.5	
2.09 Fixed-telephone lines /100 pop.	89	8.0		8.03 Financing through local equity market	124	2.5	
3rd pillar: Macroeconomic environment	63	4.8		8.04 Ease of access to loans	122	2.9	
3.01 Government budget balance % GDP	135	-15.3		8.05 Venture capital availability	85	2.6	
3.02 Gross national savings % GDP	10	34.6		8.06 Soundness of banks	123	3.6	
3.03 Inflation annual % change	99	4.8		8.07 Regulation of securities exchanges	129	3.0	
3.04 Government debt % GDP	4	8.7		8.08 Legal rights index 0-10 (best)	108	2	
3.05 Country credit rating 0-100 (best)	70	-		9th pillar: Technological readiness	108	3.1	
4th pillar: Health and primary education	73	5.7		9.01 Availability of latest technologies	125	3.7	
4.01 Malaria incidence cases/100,000 pop.	11	0.1		9.02 Firm-level technology absorption	128	3.6	
4.02 Business impact of malaria	45	4.5		9.03 FDI and technology transfer	121	3.6	
4.03 Tuberculosis incidence cases/100,000 pop.	86	78.0		9.04 Internet users % pop.	95	38.2	
4.04 Business impact of tuberculosis	125	4.0		9.05 Fixed-broadband Internet subscriptions /100 pop.	84	5.6	
4.05 HIV prevalence % adult pop.	1	0.1		9.06 Internet bandwidth kb/s/user	80	30.1	
4.06 Business impact of HIV/AIDS	113	4.3		9.07 Mobile-broadband subscriptions /100 pop.	85	40.1	
4.07 Infant mortality deaths/1,000 live births	93	21.9		10th pillar: Market size	36	4.7	
4.08 Life expectancy years	65	74.8		10.01 Domestic market size index	33	4.6	
4.09 Quality of primary education	102	3.3		10.02 Foreign market size index	43	5.1	
4.10 Primary education enrollment rate net %	40	97.3		10.03 GDP (PPP) PPP \$ billions	33	578.7	
5th pillar: Higher education and training	96	3.9		10.04 Exports % GDP	102	24.0	
5.01 Secondary education enrollment rate gross %	46	99.9		11th pillar: Business sophistication	121	3.3	
5.02 Tertiary education enrollment rate gross %	78	34.6		11.01 Local supplier quantity	108	4.0	
5.03 Quality of the education system	85	3.4		11.02 Local supplier quality	130	3.4	
5.04 Quality of math and science education	99	3.5		11.03 State of cluster development	115	3.1	
5.05 Quality of management schools	127	3.3		11.04 Nature of competitive advantage	93	3.1	
5.06 Internet access in schools	124	3.1		11.05 Value chain breadth	109	3.4	
5.07 Local availability of specialized training services	120	3.6		11.06 Control of international distribution	112	3.0	
5.08 Extent of staff training	131	3.1		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

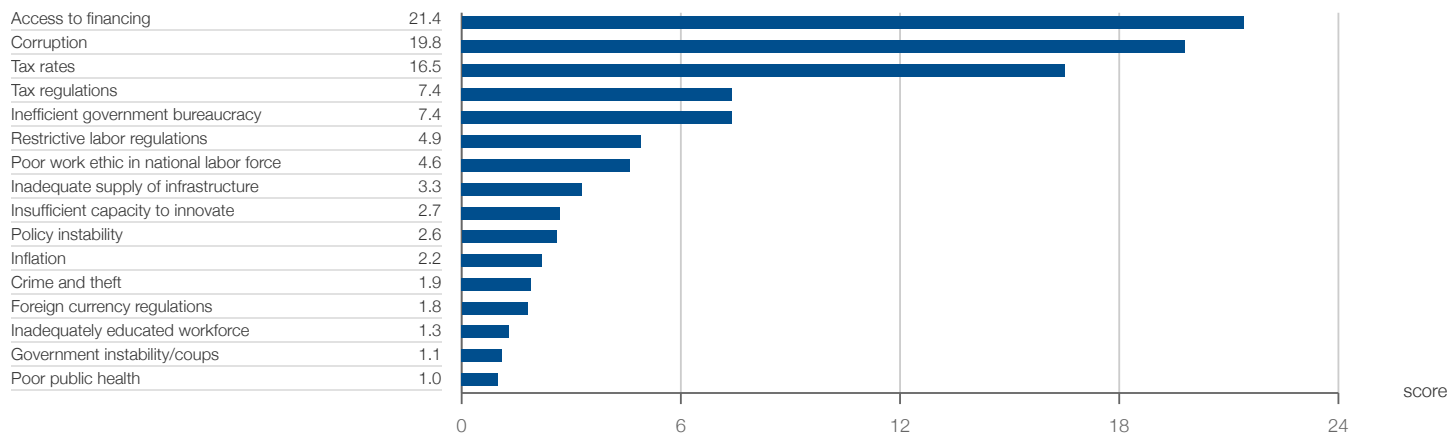
Population (millions)	10.9	GDP per capita (US\$)	780.1
GDP (US\$ billions)	8.5	GDP (PPP) % world GDP	0.02

Performance overview



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.

The Global Competitiveness Index in detail

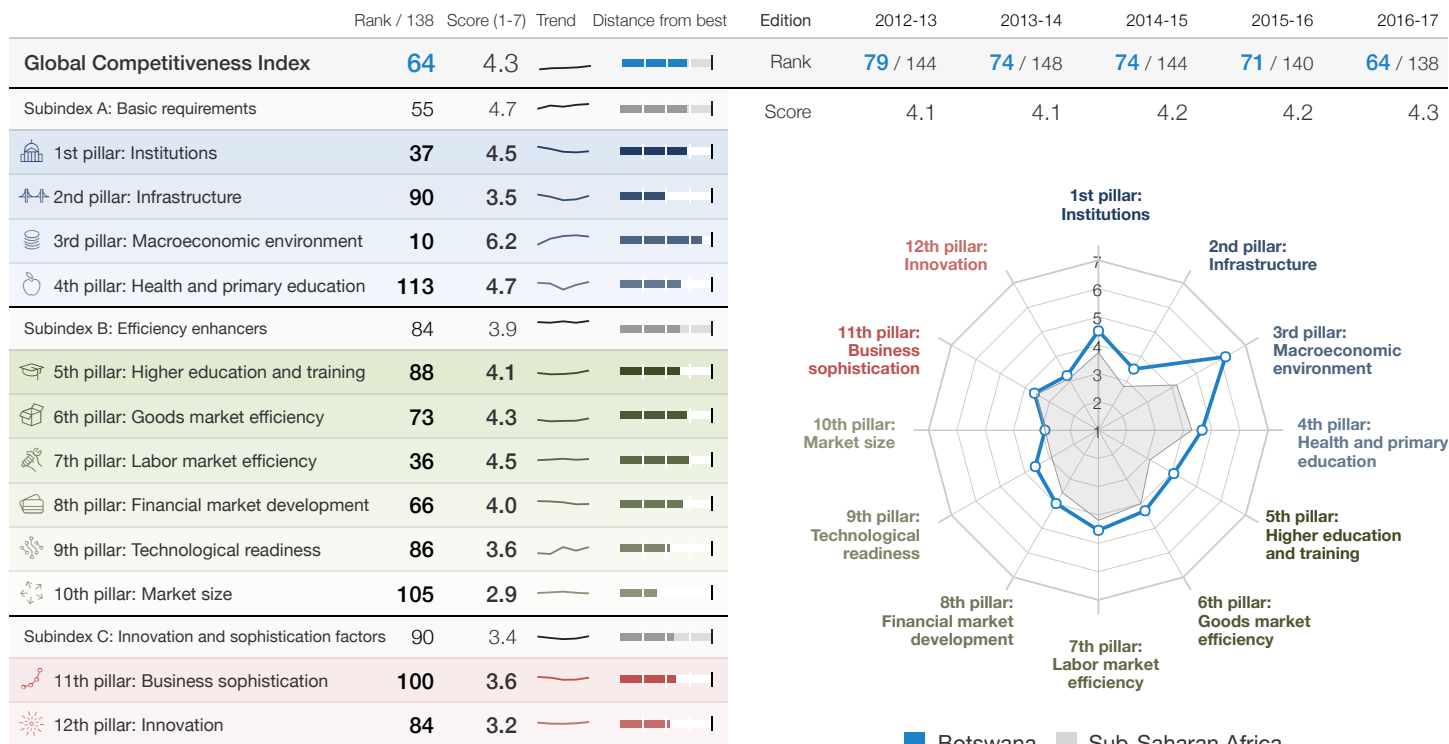
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	95	3.5		6th pillar: Goods market efficiency	126	3.7	
1.01 Property rights	105	3.8		6.01 Intensity of local competition	89	4.8	
1.02 Intellectual property protection	83	3.8		6.02 Extent of market dominance	82	3.5	
1.03 Diversion of public funds	104	2.9		6.03 Effectiveness of anti-monopoly policy	127	2.7	
1.04 Public trust in politicians	82	2.8		6.04 Effect of taxation on incentives to invest	128	2.7	
1.05 Irregular payments and bribes	132	2.5		6.05 Total tax rate % profits	125	63.3	
1.06 Judicial independence	96	3.4		6.06 No. of procedures to start a business	76	7	
1.07 Favoritism in decisions of government officials	66	3.1		6.07 Time to start a business days	73	12.0	
1.08 Wastefulness of government spending	68	3.2		6.08 Agricultural policy costs	114	3.2	
1.09 Burden of government regulation	81	3.3		6.09 Prevalence of non-tariff barriers	133	3.2	
1.10 Efficiency of legal framework in settling disputes	77	3.5		6.10 Trade tariffs % duty	107	9.9	
1.11 Efficiency of legal framework in challenging regs	81	3.2		6.11 Prevalence of foreign ownership	114	3.7	
1.12 Transparency of government policymaking	114	3.5		6.12 Business impact of rules on FDI	96	4.2	
1.13 Business costs of terrorism	97	4.7		6.13 Burden of customs procedures	118	3.3	
1.14 Business costs of crime and violence	82	4.3		6.14 Imports % GDP	69	40.8	
1.15 Organized crime	103	4.2		6.15 Degree of customer orientation	67	4.7	
1.16 Reliability of police services	86	4.1		6.16 Buyer sophistication	134	2.2	
1.17 Ethical behavior of firms	97	3.5		7th pillar: Labor market efficiency	50	4.4	
1.18 Strength of auditing and reporting standards	126	3.6		7.01 Cooperation in labor-employer relations	101	4.1	
1.19 Efficacy of corporate boards	75	4.8		7.02 Flexibility of wage determination	33	5.4	
1.20 Protection of minority shareholders' interests	108	3.6		7.03 Hiring and firing practices	83	3.6	
1.21 Strength of investor protection 0-10 (best)	117	4.0		7.04 Redundancy costs weeks of salary	42	11.6	
2nd pillar: Infrastructure	128	2.2		7.05 Effect of taxation on incentives to work	75	3.8	
2.01 Quality of overall infrastructure	127	2.4		7.06 Pay and productivity	116	3.3	
2.02 Quality of roads	114	2.9		7.07 Reliance on professional management	124	3.4	
2.03 Quality of railroad infrastructure	100	1.6		7.08 Country capacity to retain talent	111	2.8	
2.04 Quality of port infrastructure	85	3.7		7.09 Country capacity to attract talent	97	2.9	
2.05 Quality of air transport infrastructure	118	3.2		7.10 Female participation in the labor force ratio to men	8	0.97	
2.06 Available airline seat kilometers millions/week	127	15.0		8th pillar: Financial market development	106	3.5	
2.07 Quality of electricity supply	134	1.7		8.01 Financial services meeting business needs	105	3.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	113	85.6		8.02 Affordability of financial services	114	3.1	
2.09 Fixed-telephone lines /100 pop.	115	1.8		8.03 Financing through local equity market	79	3.4	
3rd pillar: Macroeconomic environment	111	4.0		8.04 Ease of access to loans	130	2.6	
3.01 Government budget balance % GDP	123	-7.9		8.05 Venture capital availability	129	2.0	
3.02 Gross national savings % GDP	86	16.7		8.06 Soundness of banks	95	4.4	
3.03 Inflation annual % change	44	0.3		8.07 Regulation of securities exchanges	110	3.6	
3.04 Government debt % GDP	45	37.5		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	119	-		9th pillar: Technological readiness	129	2.5	
4th pillar: Health and primary education	116	4.6		9.01 Availability of latest technologies	126	3.6	
4.01 Malaria incidence cases/100,000 pop.	62	29249.5		9.02 Firm-level technology absorption	103	4.1	
4.02 Business impact of malaria	62	3.4		9.03 FDI and technology transfer	127	3.3	
4.03 Tuberculosis incidence cases/100,000 pop.	78	61.0		9.04 Internet users % pop.	131	6.8	
4.04 Business impact of tuberculosis	128	3.9		9.05 Fixed-broadband Internet subscriptions /100 pop.	111	0.7	
4.05 HIV prevalence % adult pop.	106	1.1		9.06 Internet bandwidth kb/s/user	126	3.0	
4.06 Business impact of HIV/AIDS	125	3.9		9.07 Mobile-broadband subscriptions /100 pop.	136	4.2	
4.07 Infant mortality deaths/1,000 live births	129	64.2		10th pillar: Market size	123	2.6	
4.08 Life expectancy years	125	59.5		10.01 Domestic market size index	122	2.4	
4.09 Quality of primary education	120	2.9		10.02 Foreign market size index	124	3.3	
4.10 Primary education enrollment rate net %	62	95.9		10.03 GDP (PPP) PPP \$ billions	122	22.9	
5th pillar: Higher education and training	117	3.1		10.04 Exports % GDP	96	25.9	
5.01 Secondary education enrollment rate gross %	114	54.4		11th pillar: Business sophistication	116	3.4	
5.02 Tertiary education enrollment rate gross %	108	15.4		11.01 Local supplier quantity	116	3.9	
5.03 Quality of the education system	131	2.4		11.02 Local supplier quality	86	4.1	
5.04 Quality of math and science education	102	3.5		11.03 State of cluster development	99	3.3	
5.05 Quality of management schools	103	3.8		11.04 Nature of competitive advantage	94	3.0	
5.06 Internet access in schools	122	3.2		11.05 Value chain breadth	95	3.5	
5.07 Local availability of specialized training services	65	4.3		11.06 Control of international distribution	121	2.9	
5.08 Extent of staff training	123	3.4		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

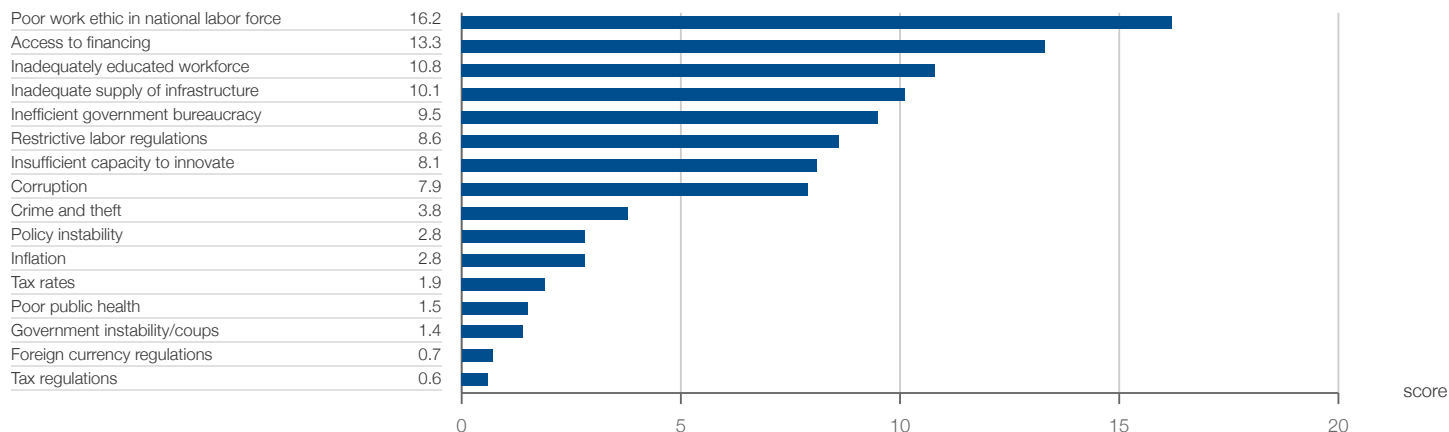
Population (millions)	2.1	GDP per capita (US\$)	6041.0
GDP (US\$ billions)	12.9	GDP (PPP) % world GDP	0.03

Performance overview



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

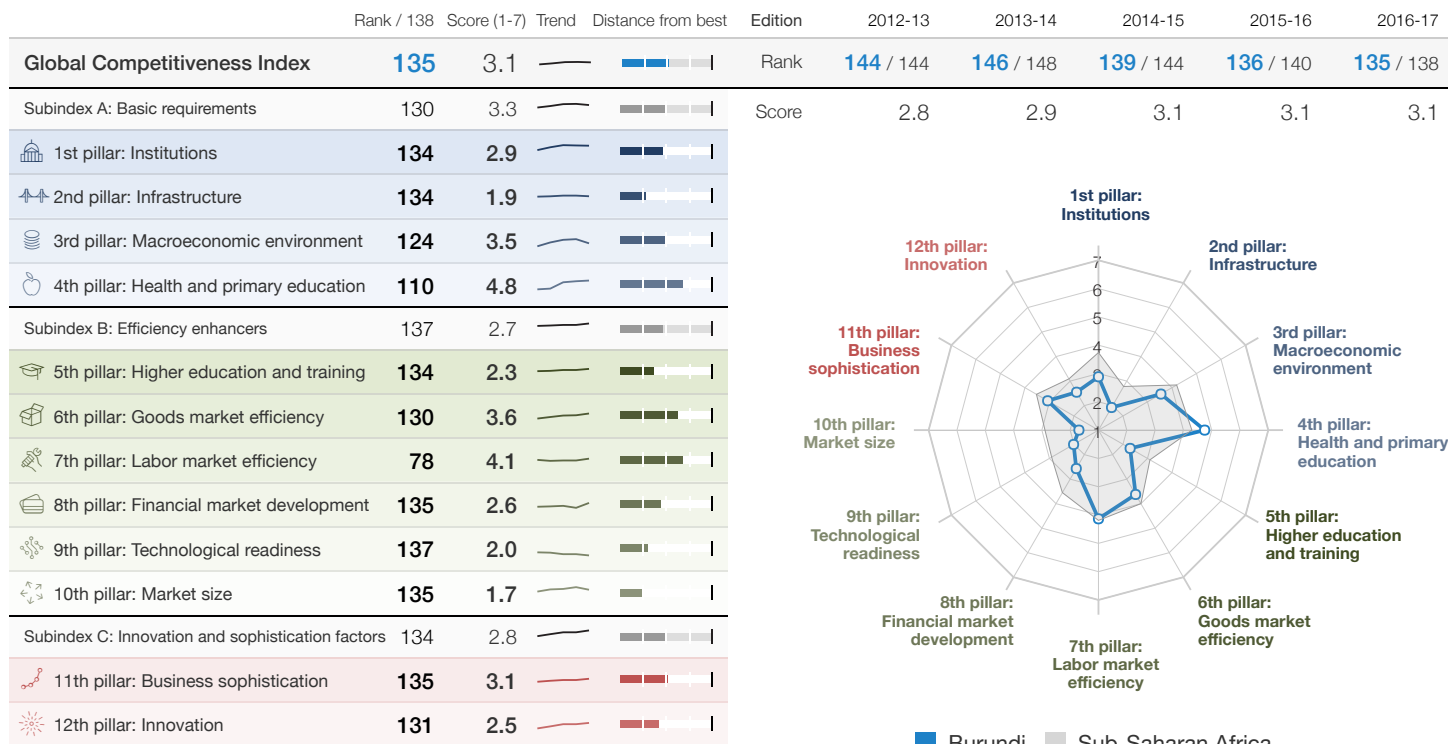
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	37	4.5		6th pillar: Goods market efficiency	73	4.3	
1.01 Property rights	36	5.0		6.01 Intensity of local competition	50	5.3	
1.02 Intellectual property protection	56	4.3		6.02 Extent of market dominance	109	3.2	
1.03 Diversion of public funds	39	4.3		6.03 Effectiveness of anti-monopoly policy	63	3.7	
1.04 Public trust in politicians	38	3.9		6.04 Effect of taxation on incentives to invest	26	4.5	
1.05 Irregular payments and bribes	46	4.6		6.05 Total tax rate % profits	26	25.1	
1.06 Judicial independence	41	4.7		6.06 No. of procedures to start a business	108	9	
1.07 Favoritism in decisions of government officials	44	3.6		6.07 Time to start a business days	127	48.0	
1.08 Wastefulness of government spending	26	4.1		6.08 Agricultural policy costs	49	4.1	
1.09 Burden of government regulation	67	3.5		6.09 Prevalence of non-tariff barriers	45	4.6	
1.10 Efficiency of legal framework in settling disputes	29	4.7		6.10 Trade tariffs % duty	80	6.4	
1.11 Efficiency of legal framework in challenging regs	30	4.4		6.11 Prevalence of foreign ownership	27	5.3	
1.12 Transparency of government policymaking	34	4.7		6.12 Business impact of rules on FDI	60	4.7	
1.13 Business costs of terrorism	34	5.8		6.13 Burden of customs procedures	48	4.5	
1.14 Business costs of crime and violence	83	4.3		6.14 Imports % GDP	44	54.0	
1.15 Organized crime	54	5.2		6.15 Degree of customer orientation	124	3.9	
1.16 Reliability of police services	50	4.8		6.16 Buyer sophistication	76	3.3	
1.17 Ethical behavior of firms	40	4.4		7th pillar: Labor market efficiency	36	4.5	
1.18 Strength of auditing and reporting standards	59	4.8		7.01 Cooperation in labor-employer relations	69	4.4	
1.19 Efficacy of corporate boards	52	5.0		7.02 Flexibility of wage determination	75	4.9	
1.20 Protection of minority shareholders' interests	42	4.4		7.03 Hiring and firing practices	62	3.9	
1.21 Strength of investor protection 0-10 (best)	73	5.5		7.04 Redundancy costs weeks of salary	96	21.7	
2nd pillar: Infrastructure	90	3.5		7.05 Effect of taxation on incentives to work	22	4.6	
2.01 Quality of overall infrastructure	77	4.0		7.06 Pay and productivity	100	3.6	
2.02 Quality of roads	62	4.1		7.07 Reliance on professional management	43	4.6	
2.03 Quality of railroad infrastructure	51	3.2		7.08 Country capacity to retain talent	58	3.7	
2.04 Quality of port infrastructure	109	3.0		7.09 Country capacity to attract talent	36	3.9	
2.05 Quality of air transport infrastructure	89	4.0		7.10 Female participation in the labor force ratio to men	20	0.93	
2.06 Available airline seat kilometers millions/week	132	8.3		8th pillar: Financial market development	66	4.0	
2.07 Quality of electricity supply	108	3.3		8.01 Financial services meeting business needs	65	4.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	9	169.0		8.02 Affordability of financial services	83	3.6	
2.09 Fixed-telephone lines /100 pop.	92	7.8		8.03 Financing through local equity market	52	3.9	
3rd pillar: Macroeconomic environment	10	6.2		8.04 Ease of access to loans	69	3.9	
3.01 Government budget balance % GDP	35	-1.6		8.05 Venture capital availability	72	2.8	
3.02 Gross national savings % GDP	6	37.1		8.06 Soundness of banks	68	4.8	
3.03 Inflation annual % change	41	3.0		8.07 Regulation of securities exchanges	59	4.5	
3.04 Government debt % GDP	11	17.8		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	45	-		9th pillar: Technological readiness	86	3.6	
4th pillar: Health and primary education	113	4.7		9.01 Availability of latest technologies	84	4.4	
4.01 Malaria incidence cases/100,000 pop.	27	45.0		9.02 Firm-level technology absorption	76	4.4	
4.02 Business impact of malaria	38	4.8		9.03 FDI and technology transfer	93	4.0	
4.03 Tuberculosis incidence cases/100,000 pop.	130	385.0		9.04 Internet users % pop.	99	27.5	
4.04 Business impact of tuberculosis	132	3.7		9.05 Fixed-broadband Internet subscriptions /100 pop.	101	1.8	
4.05 HIV prevalence % adult pop.	137	25.2		9.06 Internet bandwidth kb/s/user	104	11.4	
4.06 Business impact of HIV/AIDS	133	3.2		9.07 Mobile-broadband subscriptions /100 pop.	45	67.3	
4.07 Infant mortality deaths/1,000 live births	109	34.8		10th pillar: Market size	105	2.9	
4.08 Life expectancy years	113	64.4		10.01 Domestic market size index	112	2.5	
4.09 Quality of primary education	73	4.0		10.02 Foreign market size index	93	4.0	
4.10 Primary education enrollment rate net %	98	91.0		10.03 GDP (PPP) PPP \$ billions	107	34.8	
5th pillar: Higher education and training	88	4.1		10.04 Exports % GDP	25	56.4	
5.01 Secondary education enrollment rate gross %	91	83.9		11th pillar: Business sophistication	100	3.6	
5.02 Tertiary education enrollment rate gross %	89	27.5		11.01 Local supplier quantity	120	3.9	
5.03 Quality of the education system	66	3.7		11.02 Local supplier quality	105	3.8	
5.04 Quality of math and science education	87	3.8		11.03 State of cluster development	93	3.4	
5.05 Quality of management schools	107	3.7		11.04 Nature of competitive advantage	74	3.4	
5.06 Internet access in schools	106	3.6		11.05 Value chain breadth	107	3.4	
5.07 Local availability of specialized training services	72	4.2		11.06 Control of international distribution	98	3.2	
5.08 Extent of staff training	48	4.2		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

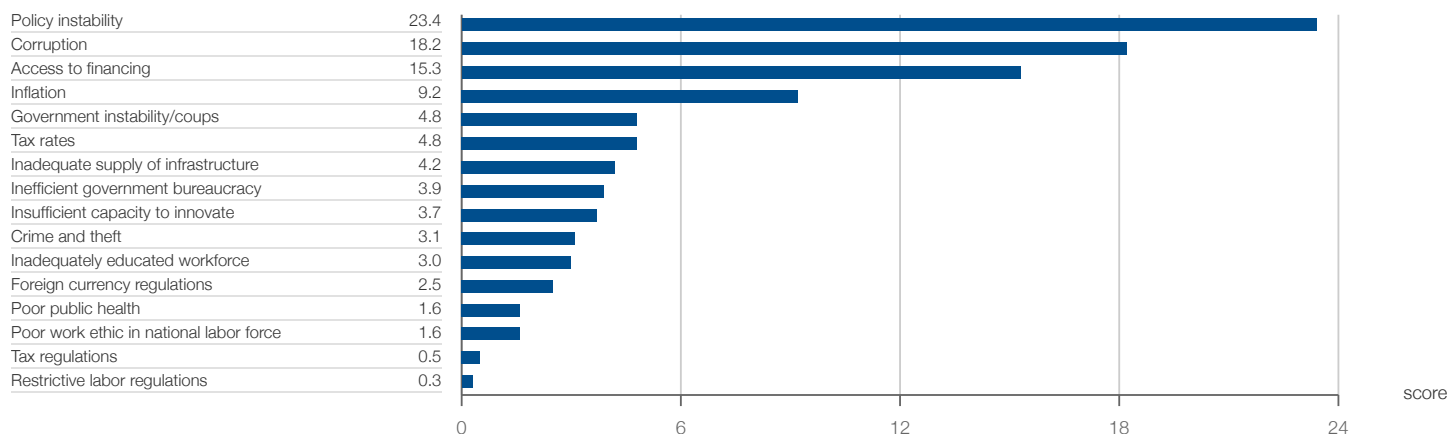
Population (millions)	9.4	GDP per capita (US\$)	305.8
GDP (US\$ billions)	2.9	GDP (PPP) % world GDP	0.01

Performance overview



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.

The Global Competitiveness Index in detail

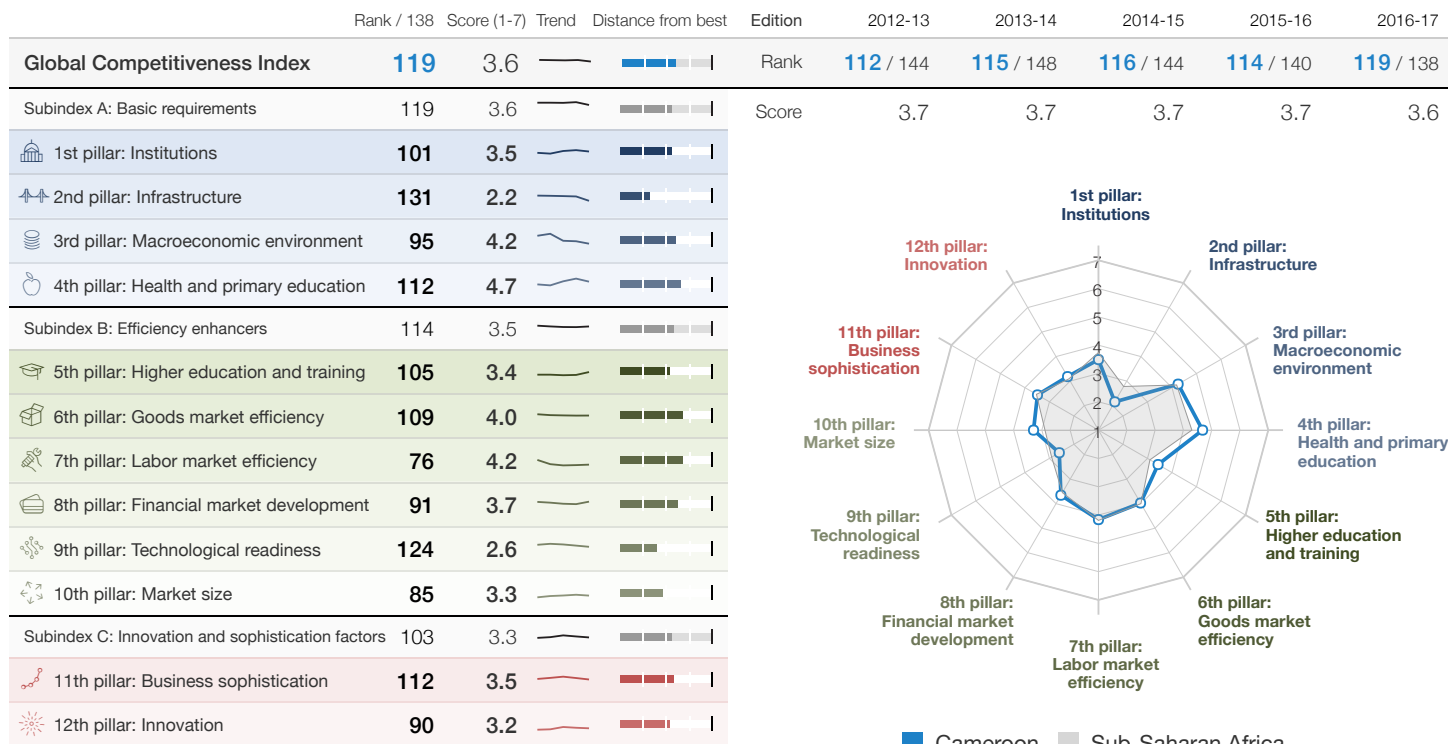
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	134	2.9		6th pillar: Goods market efficiency	130	3.6	
1.01 Property rights	135	2.8		6.01 Intensity of local competition	123	4.4	
1.02 Intellectual property protection	136	2.7		6.02 Extent of market dominance	85	3.5	
1.03 Diversion of public funds	131	2.1		6.03 Effectiveness of anti-monopoly policy	109	3.2	
1.04 Public trust in politicians	88	2.6		6.04 Effect of taxation on incentives to invest	121	2.9	
1.05 Irregular payments and bribes	115	3.0		6.05 Total tax rate % profits	81	40.3	
1.06 Judicial independence	135	1.7		6.06 No. of procedures to start a business	11	3	
1.07 Favoritism in decisions of government officials	107	2.5		6.07 Time to start a business days	15	4.0	
1.08 Wastefulness of government spending	116	2.3		6.08 Agricultural policy costs	135	2.6	
1.09 Burden of government regulation	102	3.0		6.09 Prevalence of non-tariff barriers	130	3.4	
1.10 Efficiency of legal framework in settling disputes	104	3.0		6.10 Trade tariffs % duty	98	9.6	
1.11 Efficiency of legal framework in challenging regs	113	2.7		6.11 Prevalence of foreign ownership	134	2.9	
1.12 Transparency of government policymaking	133	2.8		6.12 Business impact of rules on FDI	132	3.2	
1.13 Business costs of terrorism	108	4.4		6.13 Burden of customs procedures	119	3.3	
1.14 Business costs of crime and violence	119	3.3		6.14 Imports % GDP	92	34.5	
1.15 Organized crime	124	3.3		6.15 Degree of customer orientation	122	3.9	
1.16 Reliability of police services	136	2.2		6.16 Buyer sophistication	138	1.8	
1.17 Ethical behavior of firms	129	2.9		7th pillar: Labor market efficiency	78	4.1	
1.18 Strength of auditing and reporting standards	115	3.8		7.01 Cooperation in labor-employer relations	114	3.8	
1.19 Efficacy of corporate boards	76	4.8		7.02 Flexibility of wage determination	18	5.8	
1.20 Protection of minority shareholders' interests	113	3.5		7.03 Hiring and firing practices	117	3.2	
1.21 Strength of investor protection 0-10 (best)	96	4.7		7.04 Redundancy costs weeks of salary	68	15.9	
2nd pillar: Infrastructure	134	1.9		7.05 Effect of taxation on incentives to work	108	3.4	
2.01 Quality of overall infrastructure	133	2.2		7.06 Pay and productivity	134	2.9	
2.02 Quality of roads	117	2.9		7.07 Reliance on professional management	128	3.3	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	131	2.2	
2.04 Quality of port infrastructure	123	2.3		7.09 Country capacity to attract talent	134	1.8	
2.05 Quality of air transport infrastructure	134	2.6		7.10 Female participation in the labor force ratio to men	4	1.03	
2.06 Available airline seat kilometers millions/week	136	1.4		8th pillar: Financial market development	135	2.6	
2.07 Quality of electricity supply	129	2.1		8.01 Financial services meeting business needs	134	2.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	134	46.2		8.02 Affordability of financial services	109	3.2	
2.09 Fixed-telephone lines /100 pop.	132	0.2		8.03 Financing through local equity market	131	2.3	
3rd pillar: Macroeconomic environment	124	3.5		8.04 Ease of access to loans	133	2.4	
3.01 Government budget balance % GDP	118	-6.9		8.05 Venture capital availability	114	2.2	
3.02 Gross national savings % GDP	137	-4.4		8.06 Soundness of banks	131	3.1	
3.03 Inflation annual % change	105	5.6		8.07 Regulation of securities exchanges	134	2.5	
3.04 Government debt % GDP	47	38.4		8.08 Legal rights index 0-10 (best)	108	2	
3.05 Country credit rating 0-100 (best)	117	-		9th pillar: Technological readiness	137	2.0	
4th pillar: Health and primary education	110	4.8		9.01 Availability of latest technologies	137	2.9	
4.01 Malaria incidence cases/100,000 pop.	52	12942.8		9.02 Firm-level technology absorption	138	2.9	
4.02 Business impact of malaria	64	3.3		9.03 FDI and technology transfer	132	3.2	
4.03 Tuberculosis incidence cases/100,000 pop.	99	126.0		9.04 Internet users % pop.	134	4.9	
4.04 Business impact of tuberculosis	126	3.9		9.05 Fixed-broadband Internet subscriptions /100 pop.	133	0.0	
4.05 HIV prevalence % adult pop.	106	1.1		9.06 Internet bandwidth kb/s/user	118	5.7	
4.06 Business impact of HIV/AIDS	121	3.9		9.07 Mobile-broadband subscriptions /100 pop.	131	7.6	
4.07 Infant mortality deaths/1,000 live births	126	54.1		10th pillar: Market size	135	1.7	
4.08 Life expectancy years	131	56.7		10.01 Domestic market size index	132	1.7	
4.09 Quality of primary education	125	2.7		10.02 Foreign market size index	138	1.8	
4.10 Primary education enrollment rate net %	64	95.4		10.03 GDP (PPP) PPP \$ billions	132	7.7	
5th pillar: Higher education and training	134	2.3		10.04 Exports % GDP	138	5.0	
5.01 Secondary education enrollment rate gross %	130	37.9		11th pillar: Business sophistication	135	3.1	
5.02 Tertiary education enrollment rate gross %	130	4.4		11.01 Local supplier quantity	134	3.5	
5.03 Quality of the education system	125	2.7		11.02 Local supplier quality	132	3.3	
5.04 Quality of math and science education	94	3.6		11.03 State of cluster development	128	2.9	
5.05 Quality of management schools	114	3.6		11.04 Nature of competitive advantage	115	2.8	
5.06 Internet access in schools	136	1.9		11.05 Value chain breadth	120	3.2	
5.07 Local availability of specialized training services	137	2.6		11.06 Control of international distribution	117	3.0	
5.08 Extent of staff training	134	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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

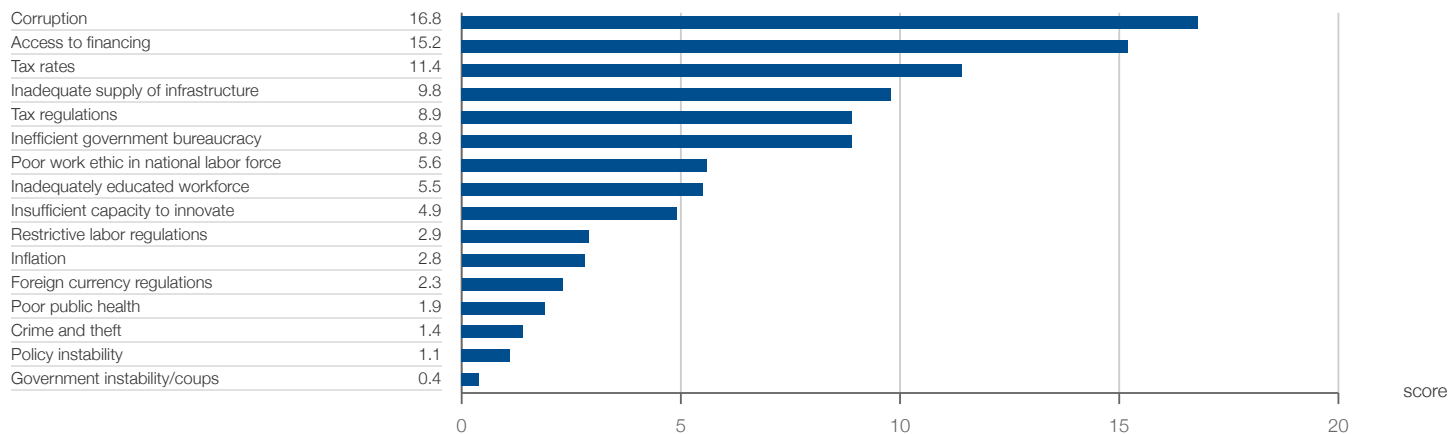
Population (millions)	23.1	GDP per capita (US\$)	1232.4
GDP (US\$ billions)	28.5	GDP (PPP) % world GDP	0.06

Performance overview



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

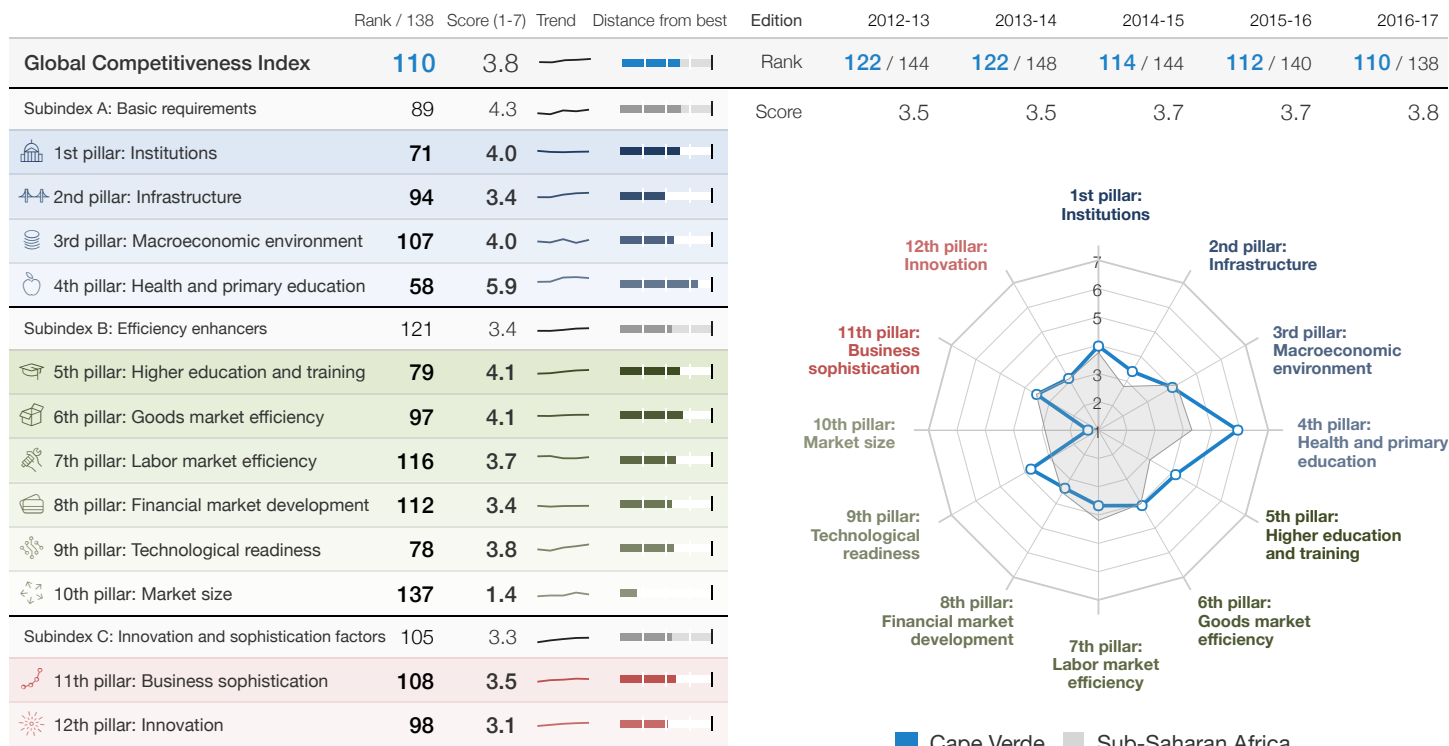
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	101	3.5		6th pillar: Goods market efficiency	109	4.0	
1.01 Property rights	85	4.1		6.01 Intensity of local competition	88	4.8	
1.02 Intellectual property protection	60	4.3		6.02 Extent of market dominance	49	3.9	
1.03 Diversion of public funds	126	2.3		6.03 Effectiveness of anti-monopoly policy	90	3.4	
1.04 Public trust in politicians	72	3.0		6.04 Effect of taxation on incentives to invest	105	3.2	
1.05 Irregular payments and bribes	123	2.9		6.05 Total tax rate % profits	104	48.8	
1.06 Judicial independence	111	3.0		6.06 No. of procedures to start a business	41	5	
1.07 Favoritism in decisions of government officials	98	2.7		6.07 Time to start a business days	87	15.0	
1.08 Wastefulness of government spending	85	2.8		6.08 Agricultural policy costs	78	3.7	
1.09 Burden of government regulation	78	3.4		6.09 Prevalence of non-tariff barriers	131	3.3	
1.10 Efficiency of legal framework in settling disputes	66	3.6		6.10 Trade tariffs % duty	132	14.6	
1.11 Efficiency of legal framework in challenging regs	71	3.4		6.11 Prevalence of foreign ownership	64	4.5	
1.12 Transparency of government policymaking	67	4.1		6.12 Business impact of rules on FDI	83	4.4	
1.13 Business costs of terrorism	124	3.6		6.13 Burden of customs procedures	108	3.4	
1.14 Business costs of crime and violence	103	3.9		6.14 Imports % GDP	111	29.7	
1.15 Organized crime	95	4.3		6.15 Degree of customer orientation	94	4.3	
1.16 Reliability of police services	69	4.3		6.16 Buyer sophistication	123	2.7	
1.17 Ethical behavior of firms	118	3.2		7th pillar: Labor market efficiency	76	4.2	
1.18 Strength of auditing and reporting standards	119	3.7		7.01 Cooperation in labor-employer relations	100	4.1	
1.19 Efficacy of corporate boards	69	4.9		7.02 Flexibility of wage determination	79	4.9	
1.20 Protection of minority shareholders' interests	75	4.0		7.03 Hiring and firing practices	46	4.1	
1.21 Strength of investor protection 0-10 (best)	108	4.3		7.04 Redundancy costs weeks of salary	88	19.9	
2nd pillar: Infrastructure	131	2.2		7.05 Effect of taxation on incentives to work	34	4.4	
2.01 Quality of overall infrastructure	134	2.2		7.06 Pay and productivity	115	3.4	
2.02 Quality of roads	130	2.5		7.07 Reliance on professional management	125	3.3	
2.03 Quality of railroad infrastructure	82	2.4		7.08 Country capacity to retain talent	119	2.6	
2.04 Quality of port infrastructure	112	3.0		7.09 Country capacity to attract talent	108	2.6	
2.05 Quality of air transport infrastructure	130	2.7		7.10 Female participation in the labor force ratio to men	44	0.88	
2.06 Available airline seat kilometers millions/week	97	58.1		8th pillar: Financial market development	91	3.7	
2.07 Quality of electricity supply	128	2.1		8.01 Financial services meeting business needs	91	4.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	127	71.8		8.02 Affordability of financial services	103	3.2	
2.09 Fixed-telephone lines /100 pop.	106	4.5		8.03 Financing through local equity market	86	3.3	
3rd pillar: Macroeconomic environment	95	4.2		8.04 Ease of access to loans	98	3.4	
3.01 Government budget balance % GDP	109	-5.8		8.05 Venture capital availability	103	2.4	
3.02 Gross national savings % GDP	92	16.0		8.06 Soundness of banks	93	4.4	
3.03 Inflation annual % change	1	2.8		8.07 Regulation of securities exchanges	101	3.8	
3.04 Government debt % GDP	28	33.5		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	96	-		9th pillar: Technological readiness	124	2.6	
4th pillar: Health and primary education	112	4.7		9.01 Availability of latest technologies	120	3.8	
4.01 Malaria incidence cases/100,000 pop.	60	22834.0		9.02 Firm-level technology absorption	110	4.0	
4.02 Business impact of malaria	55	3.8		9.03 FDI and technology transfer	117	3.6	
4.03 Tuberculosis incidence cases/100,000 pop.	117	220.0		9.04 Internet users % pop.	112	20.7	
4.04 Business impact of tuberculosis	121	4.1		9.05 Fixed-broadband Internet subscriptions /100 pop.	131	0.1	
4.05 HIV prevalence % adult pop.	126	4.8		9.06 Internet bandwidth kb/s/user	137	1.0	
4.06 Business impact of HIV/AIDS	118	4.0		9.07 Mobile-broadband subscriptions /100 pop.	135	4.3	
4.07 Infant mortality deaths/1,000 live births	128	57.1		10th pillar: Market size	85	3.3	
4.08 Life expectancy years	132	55.5		10.01 Domestic market size index	83	3.2	
4.09 Quality of primary education	61	4.2		10.02 Foreign market size index	105	3.7	
4.10 Primary education enrollment rate net %	94	91.6		10.03 GDP (PPP) PPP \$ billions	86	72.6	
5th pillar: Higher education and training	105	3.4		10.04 Exports % GDP	120	17.8	
5.01 Secondary education enrollment rate gross %	113	56.4		11th pillar: Business sophistication	112	3.5	
5.02 Tertiary education enrollment rate gross %	111	11.9		11.01 Local supplier quantity	101	4.2	
5.03 Quality of the education system	79	3.6		11.02 Local supplier quality	104	3.8	
5.04 Quality of math and science education	63	4.3		11.03 State of cluster development	105	3.2	
5.05 Quality of management schools	47	4.6		11.04 Nature of competitive advantage	120	2.7	
5.06 Internet access in schools	94	3.8		11.05 Value chain breadth	99	3.5	
5.07 Local availability of specialized training services	67	4.3		11.06 Control of international distribution	99	3.2	
5.08 Extent of staff training	74	3.8		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

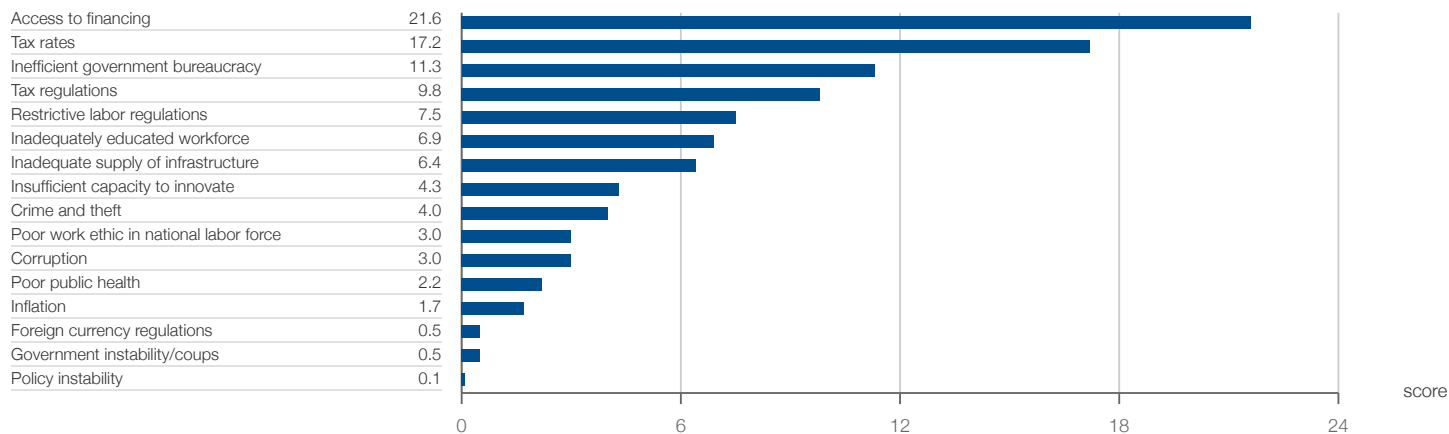
Population (millions)	0.5	GDP per capita (US\$)	3038.5
GDP (US\$ billions)	1.6	GDP (PPP) % world GDP	0.00

Performance overview



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

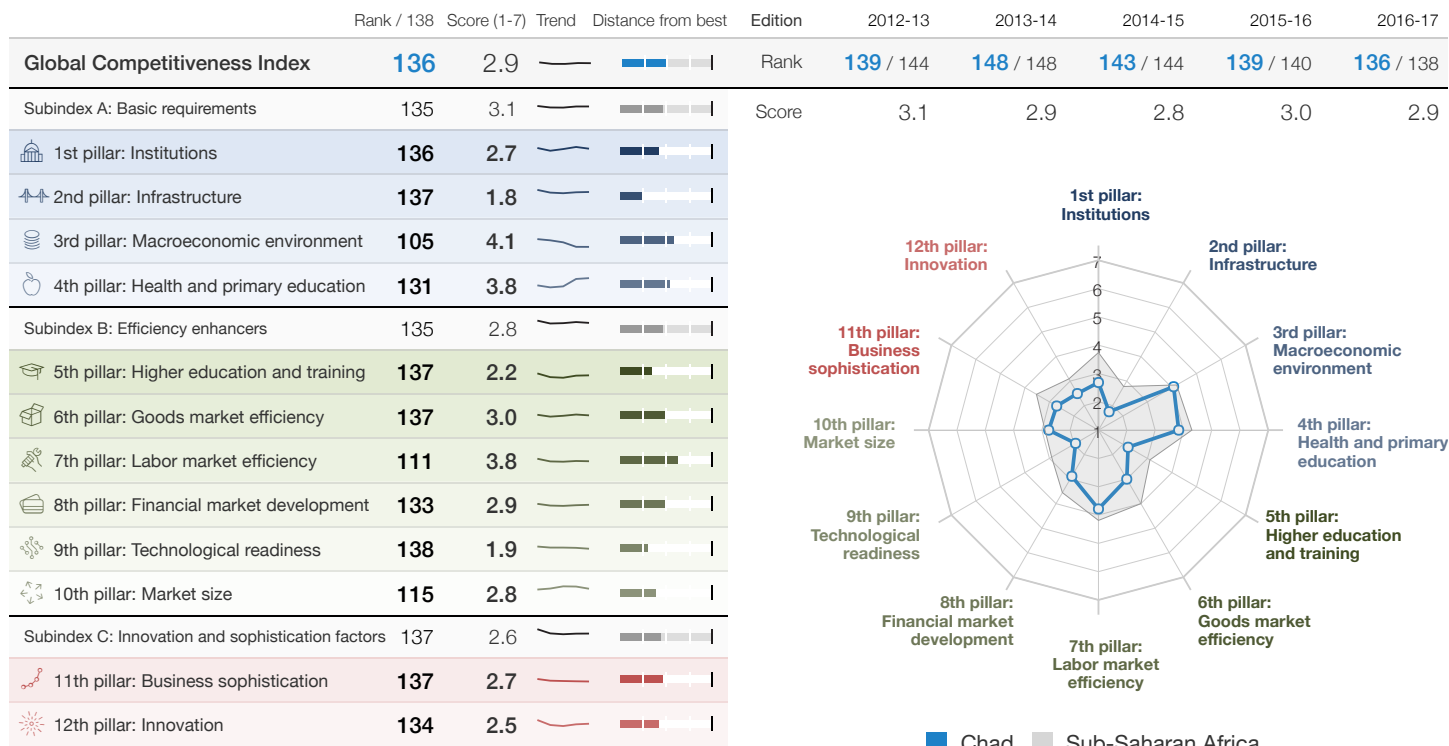
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	71	4.0		6th pillar: Goods market efficiency	97	4.1	
1.01 Property rights	70	4.3		6.01 Intensity of local competition	120	4.4	
1.02 Intellectual property protection	91	3.7		6.02 Extent of market dominance	68	3.7	
1.03 Diversion of public funds	52	3.9		6.03 Effectiveness of anti-monopoly policy	88	3.5	
1.04 Public trust in politicians	50	3.5		6.04 Effect of taxation on incentives to invest	119	2.9	
1.05 Irregular payments and bribes	58	4.2		6.05 Total tax rate % profits	66	36.5	
1.06 Judicial independence	53	4.3		6.06 No. of procedures to start a business	76	7	
1.07 Favoritism in decisions of government officials	52	3.4		6.07 Time to start a business days	56	10.0	
1.08 Wastefulness of government spending	44	3.6		6.08 Agricultural policy costs	48	4.1	
1.09 Burden of government regulation	52	3.6		6.09 Prevalence of non-tariff barriers	99	4.0	
1.10 Efficiency of legal framework in settling disputes	89	3.3		6.10 Trade tariffs % duty	94	8.8	
1.11 Efficiency of legal framework in challenging regs	76	3.4		6.11 Prevalence of foreign ownership	78	4.4	
1.12 Transparency of government policymaking	69	4.1		6.12 Business impact of rules on FDI	70	4.6	
1.13 Business costs of terrorism	70	5.2		6.13 Burden of customs procedures	94	3.6	
1.14 Business costs of crime and violence	95	4.1		6.14 Imports % GDP	43	54.1	
1.15 Organized crime	84	4.5		6.15 Degree of customer orientation	126	3.8	
1.16 Reliability of police services	77	4.3		6.16 Buyer sophistication	85	3.2	
1.17 Ethical behavior of firms	59	4.0		7th pillar: Labor market efficiency	116	3.7	
1.18 Strength of auditing and reporting standards	102	4.0		7.01 Cooperation in labor-employer relations	107	4.0	
1.19 Efficacy of corporate boards	112	4.3		7.02 Flexibility of wage determination	64	5.1	
1.20 Protection of minority shareholders' interests	90	3.8		7.03 Hiring and firing practices	86	3.6	
1.21 Strength of investor protection 0-10 (best)	126	3.7		7.04 Redundancy costs weeks of salary	121	29.5	
2nd pillar: Infrastructure	94	3.4		7.05 Effect of taxation on incentives to work	87	3.7	
2.01 Quality of overall infrastructure	86	3.6		7.06 Pay and productivity	103	3.5	
2.02 Quality of roads	66	4.1		7.07 Reliance on professional management	116	3.5	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	76	3.4	
2.04 Quality of port infrastructure	95	3.4		7.09 Country capacity to attract talent	79	3.2	
2.05 Quality of air transport infrastructure	102	3.7		7.10 Female participation in the labor force ratio to men	101	0.65	
2.06 Available airline seat kilometers millions/week	98	55.6		8th pillar: Financial market development	112	3.4	
2.07 Quality of electricity supply	107	3.3		8.01 Financial services meeting business needs	118	3.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	51	127.2		8.02 Affordability of financial services	101	3.3	
2.09 Fixed-telephone lines /100 pop.	78	11.5		8.03 Financing through local equity market	85	3.4	
3rd pillar: Macroeconomic environment	107	4.0		8.04 Ease of access to loans	107	3.2	
3.01 Government budget balance % GDP	100	-4.8		8.05 Venture capital availability	74	2.8	
3.02 Gross national savings % GDP	17	31.5		8.06 Soundness of banks	86	4.5	
3.03 Inflation annual % change	51	0.1		8.07 Regulation of securities exchanges	78	4.1	
3.04 Government debt % GDP	132	119.3		8.08 Legal rights index 0-10 (best)	108	2	
3.05 Country credit rating 0-100 (best)	103	-		9th pillar: Technological readiness	78	3.8	
4th pillar: Health and primary education	58	5.9		9.01 Availability of latest technologies	79	4.5	
4.01 Malaria incidence cases/100,000 pop.	20	9.7		9.02 Firm-level technology absorption	87	4.3	
4.02 Business impact of malaria	20	5.5		9.03 FDI and technology transfer	65	4.4	
4.03 Tuberculosis incidence cases/100,000 pop.	100	138.0		9.04 Internet users % pop.	90	43.0	
4.04 Business impact of tuberculosis	81	5.3		9.05 Fixed-broadband Internet subscriptions /100 pop.	96	3.0	
4.05 HIV prevalence % adult pop.	106	1.1		9.06 Internet bandwidth kb/s/user	96	17.1	
4.06 Business impact of HIV/AIDS	74	5.4		9.07 Mobile-broadband subscriptions /100 pop.	38	72.9	
4.07 Infant mortality deaths/1,000 live births	92	20.7		10th pillar: Market size	137	1.4	
4.08 Life expectancy years	84	73.1		10.01 Domestic market size index	137	1.0	
4.09 Quality of primary education	60	4.2		10.02 Foreign market size index	135	2.4	
4.10 Primary education enrollment rate net %	24	98.2		10.03 GDP (PPP) PPP \$ billions	137	3.4	
5th pillar: Higher education and training	79	4.1		10.04 Exports % GDP	68	34.8	
5.01 Secondary education enrollment rate gross %	69	92.6		11th pillar: Business sophistication	108	3.5	
5.02 Tertiary education enrollment rate gross %	95	23.0		11.01 Local supplier quantity	130	3.6	
5.03 Quality of the education system	58	4.0		11.02 Local supplier quality	119	3.6	
5.04 Quality of math and science education	71	4.0		11.03 State of cluster development	85	3.5	
5.05 Quality of management schools	62	4.3		11.04 Nature of competitive advantage	67	3.5	
5.06 Internet access in schools	59	4.5		11.05 Value chain breadth	71	3.7	
5.07 Local availability of specialized training services	75	4.2		11.06 Control of international distribution	103	3.1	
5.08 Extent of staff training	113	3.4		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

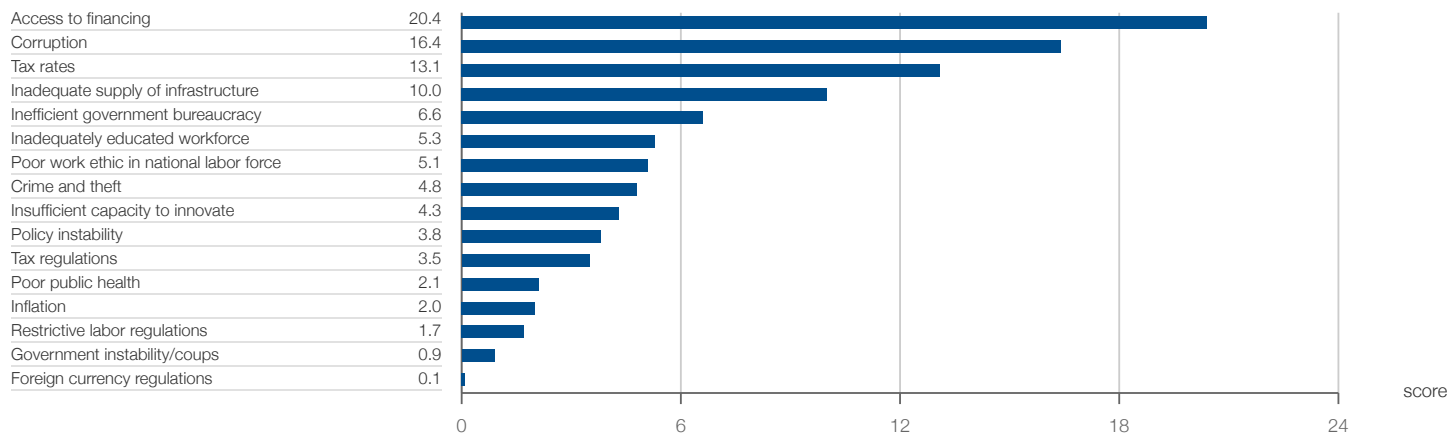
Population (millions)	11.6	GDP per capita (US\$)	941.9
GDP (US\$ billions)	10.9	GDP (PPP) % world GDP	0.03

Performance overview



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.

The Global Competitiveness Index in detail

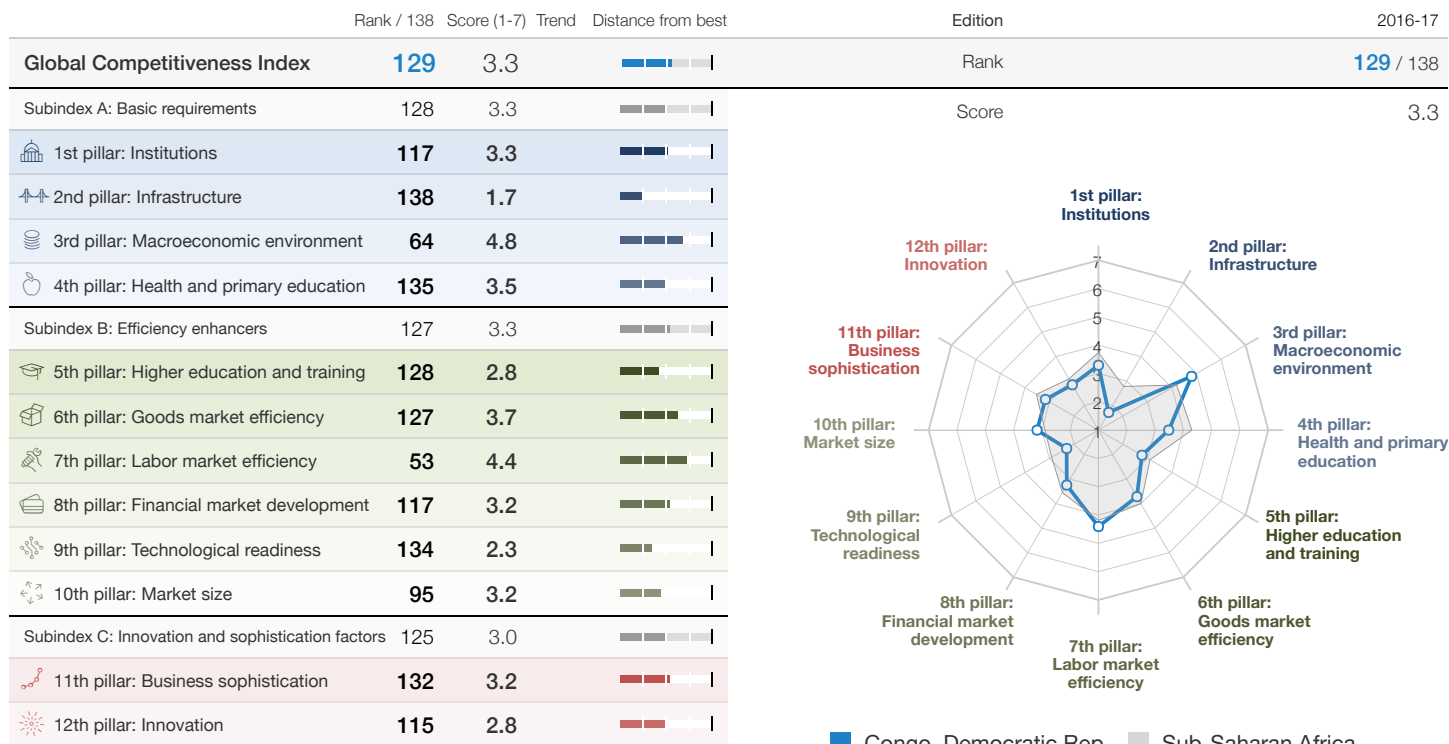
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	136	2.7		6th pillar: Goods market efficiency	137	3.0	
1.01 Property rights	133	3.0		6.01 Intensity of local competition	137	3.6	
1.02 Intellectual property protection	133	2.8		6.02 Extent of market dominance	138	2.1	
1.03 Diversion of public funds	137	1.6		6.03 Effectiveness of anti-monopoly policy	135	2.5	
1.04 Public trust in politicians	105	2.4		6.04 Effect of taxation on incentives to invest	129	2.6	
1.05 Irregular payments and bribes	136	2.1		6.05 Total tax rate % profits	127	63.5	
1.06 Judicial independence	130	2.2		6.06 No. of procedures to start a business	108	9	
1.07 Favoritism in decisions of government officials	113	2.3		6.07 Time to start a business days	131	60.0	
1.08 Wastefulness of government spending	100	2.6		6.08 Agricultural policy costs	125	3.0	
1.09 Burden of government regulation	95	3.2		6.09 Prevalence of non-tariff barriers	135	3.1	
1.10 Efficiency of legal framework in settling disputes	105	3.0		6.10 Trade tariffs % duty	131	14.3	
1.11 Efficiency of legal framework in challenging regs	114	2.7		6.11 Prevalence of foreign ownership	131	3.1	
1.12 Transparency of government policymaking	135	2.7		6.12 Business impact of rules on FDI	129	3.2	
1.13 Business costs of terrorism	136	2.6		6.13 Burden of customs procedures	137	2.4	
1.14 Business costs of crime and violence	123	3.0		6.14 Imports % GDP	83	36.9	
1.15 Organized crime	128	3.1		6.15 Degree of customer orientation	138	3.0	
1.16 Reliability of police services	124	2.9		6.16 Buyer sophistication	131	2.3	
1.17 Ethical behavior of firms	135	2.7		7th pillar: Labor market efficiency	111	3.8	
1.18 Strength of auditing and reporting standards	136	2.8		7.01 Cooperation in labor-employer relations	130	3.5	
1.19 Efficacy of corporate boards	134	3.7		7.02 Flexibility of wage determination	88	4.8	
1.20 Protection of minority shareholders' interests	130	3.3		7.03 Hiring and firing practices	105	3.3	
1.21 Strength of investor protection 0-10 (best)	120	3.8		7.04 Redundancy costs weeks of salary	50	13.0	
2nd pillar: Infrastructure	137	1.8		7.05 Effect of taxation on incentives to work	99	3.6	
2.01 Quality of overall infrastructure	137	1.7		7.06 Pay and productivity	136	2.5	
2.02 Quality of roads	127	2.6		7.07 Reliance on professional management	137	2.4	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	112	2.7	
2.04 Quality of port infrastructure	131	2.0		7.09 Country capacity to attract talent	90	3.0	
2.05 Quality of air transport infrastructure	125	2.9		7.10 Female participation in the labor force ratio to men	63	0.82	
2.06 Available airline seat kilometers millions/week	130	10.2		8th pillar: Financial market development	133	2.9	
2.07 Quality of electricity supply	131	1.9		8.01 Financial services meeting business needs	135	2.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	137	40.2		8.02 Affordability of financial services	134	2.4	
2.09 Fixed-telephone lines /100 pop.	136	0.1		8.03 Financing through local equity market	126	2.5	
3rd pillar: Macroeconomic environment	105	4.1		8.04 Ease of access to loans	131	2.6	
3.01 Government budget balance % GDP	102	-4.9		8.05 Venture capital availability	132	2.0	
3.02 Gross national savings % GDP	105	14.4		8.06 Soundness of banks	130	3.2	
3.03 Inflation annual % change	66	3.6		8.07 Regulation of securities exchanges	132	2.8	
3.04 Government debt % GDP	50	39.3		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	135	-		9th pillar: Technological readiness	138	1.9	
4th pillar: Health and primary education	131	3.8		9.01 Availability of latest technologies	138	2.7	
4.01 Malaria incidence cases/100,000 pop.	53	13983.9		9.02 Firm-level technology absorption	137	3.1	
4.02 Business impact of malaria	70	2.8		9.03 FDI and technology transfer	136	2.8	
4.03 Tuberculosis incidence cases/100,000 pop.	106	159.0		9.04 Internet users % pop.	137	2.7	
4.04 Business impact of tuberculosis	135	3.4		9.05 Fixed-broadband Internet subscriptions /100 pop.	128	0.1	
4.05 HIV prevalence % adult pop.	121	2.5		9.06 Internet bandwidth kb/s/user	130	2.6	
4.06 Business impact of HIV/AIDS	132	3.4		9.07 Mobile-broadband subscriptions /100 pop.	138	1.4	
4.07 Infant mortality deaths/1,000 live births	137	85.0		10th pillar: Market size	115	2.8	
4.08 Life expectancy years	136	51.6		10.01 Domestic market size index	111	2.5	
4.09 Quality of primary education	129	2.5		10.02 Foreign market size index	118	3.4	
4.10 Primary education enrollment rate net %	124	84.4		10.03 GDP (PPP) PPP \$ billions	113	30.5	
5th pillar: Higher education and training	137	2.2		10.04 Exports % GDP	101	24.5	
5.01 Secondary education enrollment rate gross %	138	22.4		11th pillar: Business sophistication	137	2.7	
5.02 Tertiary education enrollment rate gross %	134	3.4		11.01 Local supplier quantity	104	4.1	
5.03 Quality of the education system	129	2.5		11.02 Local supplier quality	136	3.0	
5.04 Quality of math and science education	121	2.8		11.03 State of cluster development	136	2.6	
5.05 Quality of management schools	131	3.1		11.04 Nature of competitive advantage	129	2.4	
5.06 Internet access in schools	138	1.7		11.05 Value chain breadth	137	2.4	
5.07 Local availability of specialized training services	130	3.3		11.06 Control of international distribution	138	2.3	
5.08 Extent of staff training	136	2.9		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

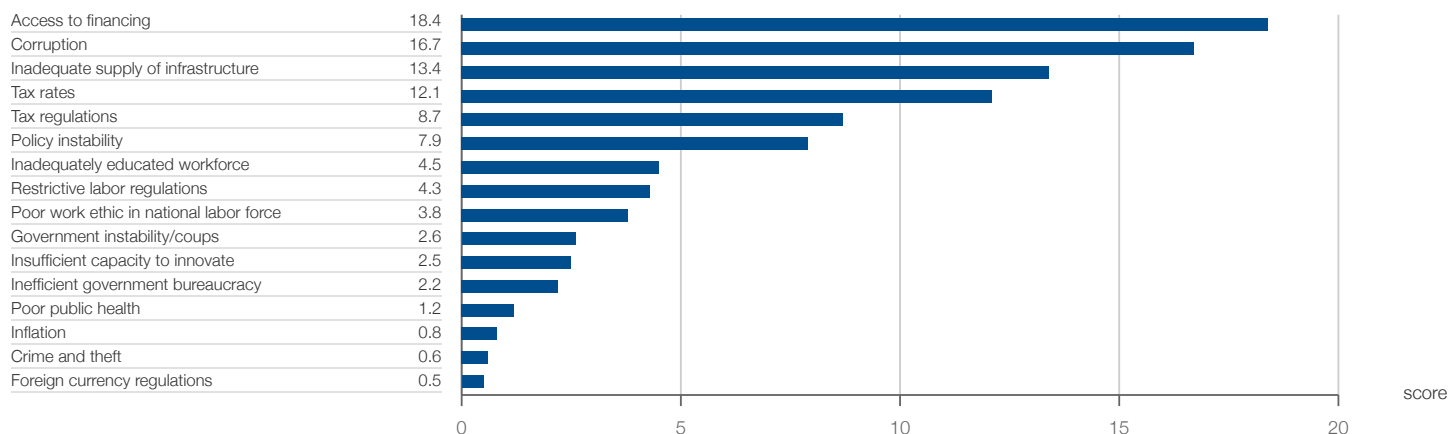
Population (millions)	81.7	GDP per capita (US\$)	475.9
GDP (US\$ billions)	38.9	GDP (PPP) % world GDP	0.06

Performance overview



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	

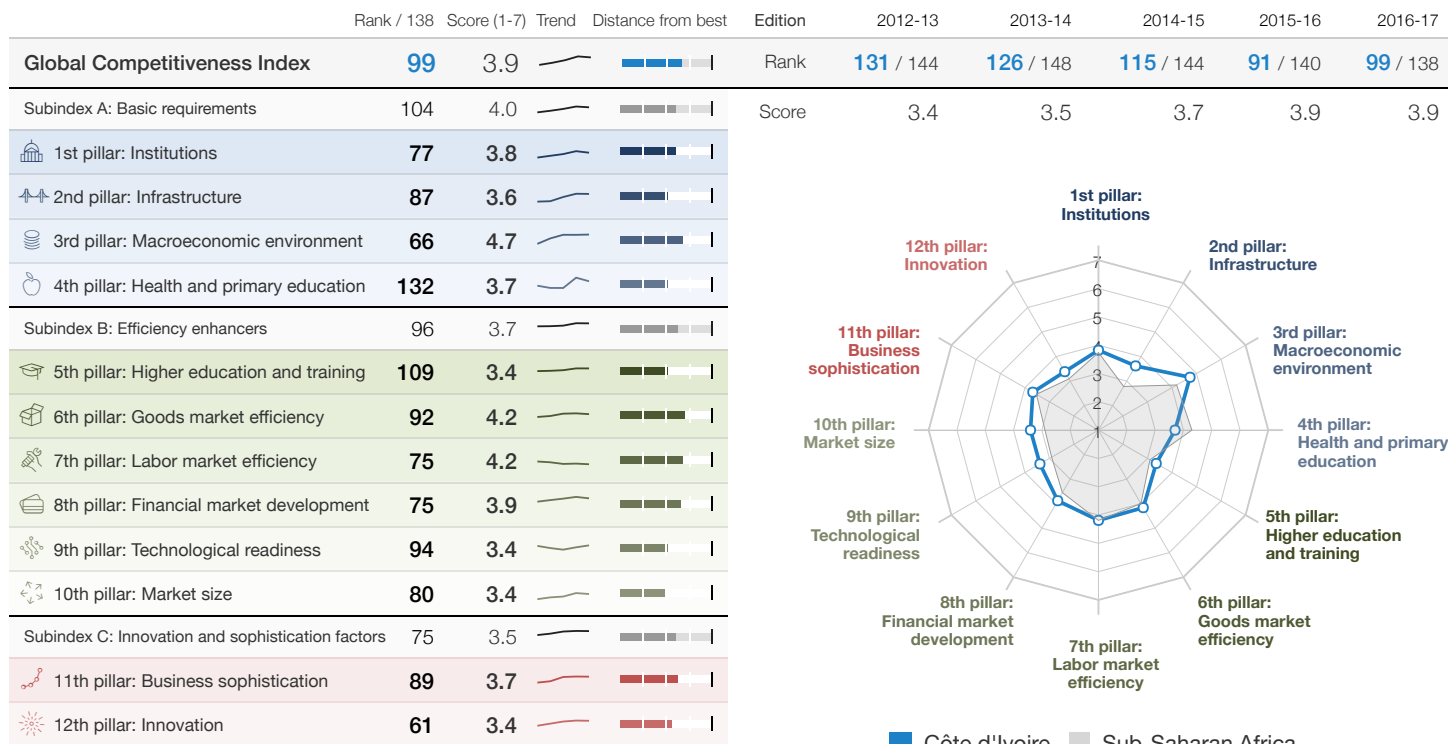
	Rank / 138	Value	Trend
6th pillar: Goods market efficiency	127	3.7	
6.01 Intensity of local competition	102	4.7	
6.02 Extent of market dominance	106	3.3	
6.03 Effectiveness of anti-monopoly policy	93	3.4	
6.04 Effect of taxation on incentives to invest	100	3.2	
6.05 Total tax rate % profits	118	54.6	
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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

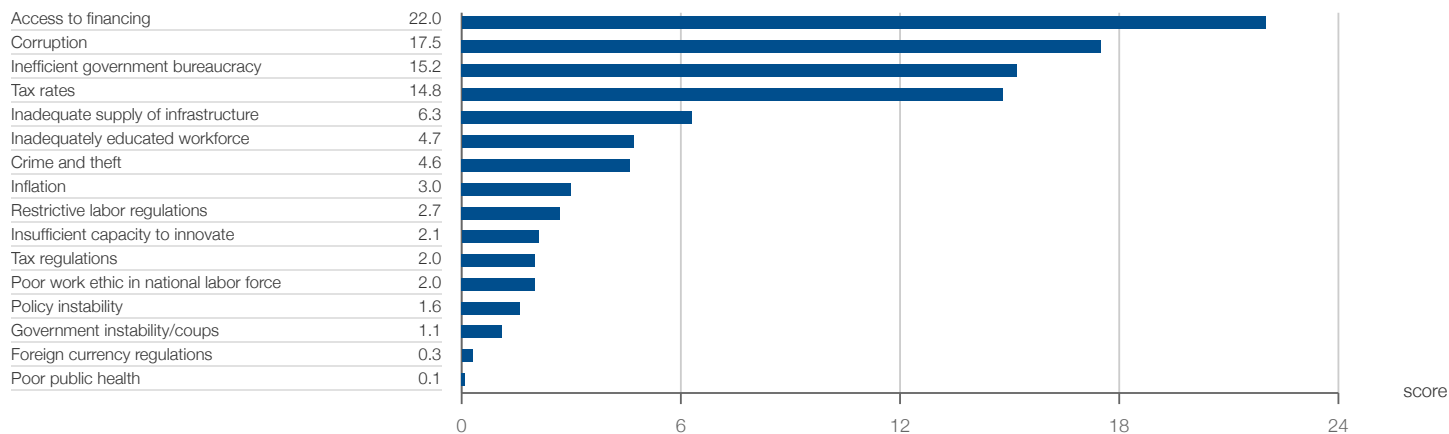
Population (millions)	23.7	GDP per capita (US\$)	1314.7
GDP (US\$ billions)	31.2	GDP (PPP) % world GDP	0.07

Performance overview



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		Rank / 138	Value	Trend
1st pillar: Institutions	77	3.8		6th pillar: Goods market efficiency	92	4.2	
1.01 Property rights	72	4.2		6.01 Intensity of local competition	95	4.8	
1.02 Intellectual property protection	90	3.7		6.02 Extent of market dominance	79	3.5	
1.03 Diversion of public funds	82	3.3		6.03 Effectiveness of anti-monopoly policy	76	3.6	
1.04 Public trust in politicians	48	3.6		6.04 Effect of taxation on incentives to invest	118	2.9	
1.05 Irregular payments and bribes	88	3.6		6.05 Total tax rate % profits	116	51.9	
1.06 Judicial independence	87	3.6		6.06 No. of procedures to start a business	22	4	
1.07 Favoritism in decisions of government officials	62	3.2		6.07 Time to start a business days	42	7.0	
1.08 Wastefulness of government spending	39	3.7		6.08 Agricultural policy costs	19	4.6	
1.09 Burden of government regulation	27	4.0		6.09 Prevalence of non-tariff barriers	128	3.4	
1.10 Efficiency of legal framework in settling disputes	41	4.2		6.10 Trade tariffs % duty	105	9.9	
1.11 Efficiency of legal framework in challenging regs	63	3.6		6.11 Prevalence of foreign ownership	46	5.0	
1.12 Transparency of government policymaking	50	4.4		6.12 Business impact of rules on FDI	57	4.8	
1.13 Business costs of terrorism	84	4.9		6.13 Burden of customs procedures	68	4.1	
1.14 Business costs of crime and violence	106	3.8		6.14 Imports % GDP	76	38.7	
1.15 Organized crime	127	3.2		6.15 Degree of customer orientation	88	4.4	
1.16 Reliability of police services	87	4.1		6.16 Buyer sophistication	104	2.9	
1.17 Ethical behavior of firms	73	3.8		7th pillar: Labor market efficiency	75	4.2	
1.18 Strength of auditing and reporting standards	98	4.1		7.01 Cooperation in labor-employer relations	58	4.5	
1.19 Efficacy of corporate boards	80	4.8		7.02 Flexibility of wage determination	67	5.0	
1.20 Protection of minority shareholders' interests	68	4.1		7.03 Hiring and firing practices	65	3.8	
1.21 Strength of investor protection 0-10 (best)	120	3.8		7.04 Redundancy costs weeks of salary	53	13.1	
2nd pillar: Infrastructure	87	3.6		7.05 Effect of taxation on incentives to work	29	4.4	
2.01 Quality of overall infrastructure	60	4.2		7.06 Pay and productivity	82	3.8	
2.02 Quality of roads	42	4.7		7.07 Reliance on professional management	63	4.3	
2.03 Quality of railroad infrastructure	71	2.7		7.08 Country capacity to retain talent	61	3.6	
2.04 Quality of port infrastructure	28	5.2		7.09 Country capacity to attract talent	48	3.7	
2.05 Quality of air transport infrastructure	38	5.2		7.10 Female participation in the labor force ratio to men	102	0.65	
2.06 Available airline seat kilometers millions/week	93	65.5		8th pillar: Financial market development	75	3.9	
2.07 Quality of electricity supply	100	3.6		8.01 Financial services meeting business needs	104	3.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	62	119.3		8.02 Affordability of financial services	90	3.5	
2.09 Fixed-telephone lines /100 pop.	118	1.3		8.03 Financing through local equity market	44	4.1	
3rd pillar: Macroeconomic environment	66	4.7		8.04 Ease of access to loans	126	2.7	
3.01 Government budget balance % GDP	70	-3.2		8.05 Venture capital availability	77	2.7	
3.02 Gross national savings % GDP	87	16.4		8.06 Soundness of banks	66	4.9	
3.03 Inflation annual % change	1	1.2		8.07 Regulation of securities exchanges	67	4.4	
3.04 Government debt % GDP	34	34.7		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	93	-		9th pillar: Technological readiness	94	3.4	
4th pillar: Health and primary education	132	3.7		9.01 Availability of latest technologies	59	4.9	
4.01 Malaria incidence cases/100,000 pop.	67	37459.8		9.02 Firm-level technology absorption	69	4.5	
4.02 Business impact of malaria	40	4.6		9.03 FDI and technology transfer	60	4.5	
4.03 Tuberculosis incidence cases/100,000 pop.	109	165.0		9.04 Internet users % pop.	110	21.0	
4.04 Business impact of tuberculosis	119	4.1		9.05 Fixed-broadband Internet subscriptions /100 pop.	117	0.5	
4.05 HIV prevalence % adult pop.	124	3.5		9.06 Internet bandwidth kb/s/user	120	5.2	
4.06 Business impact of HIV/AIDS	107	4.5		9.07 Mobile-broadband subscriptions /100 pop.	84	40.4	
4.07 Infant mortality deaths/1,000 live births	132	66.6		10th pillar: Market size	80	3.4	
4.08 Life expectancy years	135	51.6		10.01 Domestic market size index	84	3.2	
4.09 Quality of primary education	69	4.1		10.02 Foreign market size index	81	4.2	
4.10 Primary education enrollment rate net %	131	74.7		10.03 GDP (PPP) PPP \$ billions	81	78.6	
5th pillar: Higher education and training	109	3.4		10.04 Exports % GDP	64	35.4	
5.01 Secondary education enrollment rate gross %	125	40.1		11th pillar: Business sophistication	89	3.7	
5.02 Tertiary education enrollment rate gross %	119	8.7		11.01 Local supplier quantity	96	4.2	
5.03 Quality of the education system	49	4.1		11.02 Local supplier quality	71	4.3	
5.04 Quality of math and science education	43	4.6		11.03 State of cluster development	131	2.8	
5.05 Quality of management schools	51	4.5		11.04 Nature of competitive advantage	99	3.0	
5.06 Internet access in schools	98	3.7		11.05 Value chain breadth	74	3.7	
5.07 Local availability of specialized training services	46	4.7		11.06 Control of international distribution	123	2.9	
5.08 Extent of staff training	37	4.4		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	

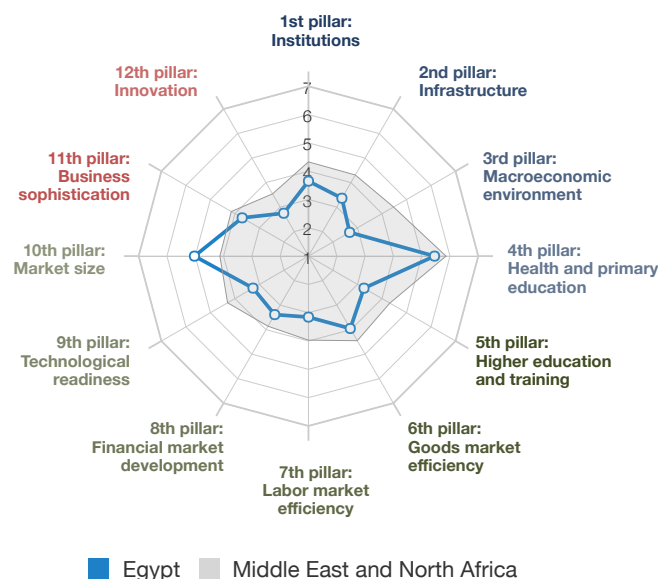
Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at <http://gcr.weforum.org/>

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	Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Global Competitiveness Index	115	3.7			Rank	107 / 144	118 / 148	119 / 144	116 / 140	115 / 138
Subindex A: Basic requirements	117	3.8			Score	3.7	3.6	3.6	3.7	3.7
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								

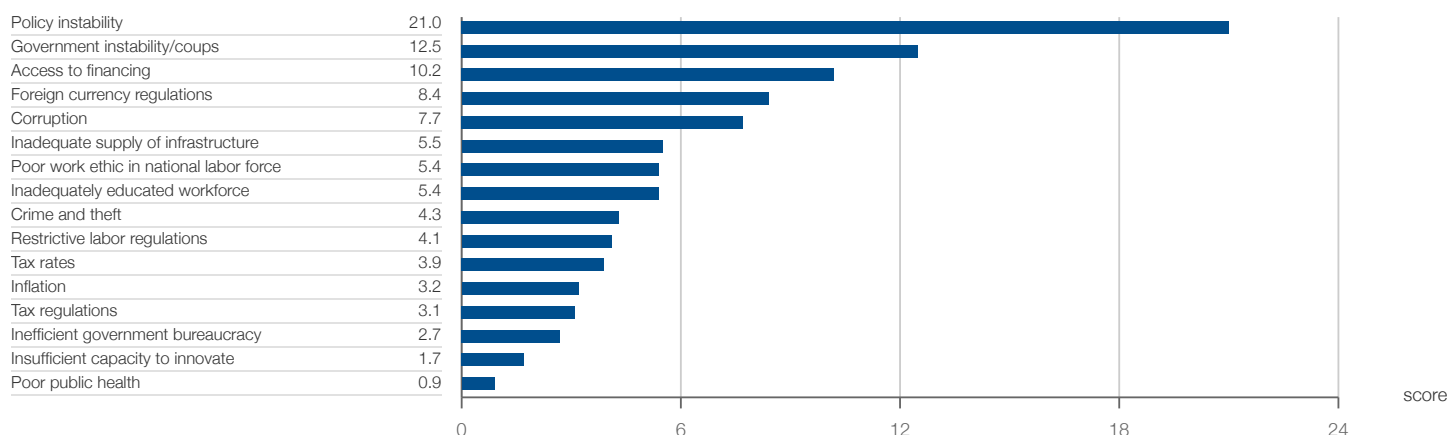


Egypt remains stable at 115th position this year. To create growth and employment, Egypt could build on its large market size (25th); its business sector, which by some accounts appears more sophisticated than those of neighboring countries (85th); and its geographical proximity to the large European 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.

The Global Competitiveness Index in detail

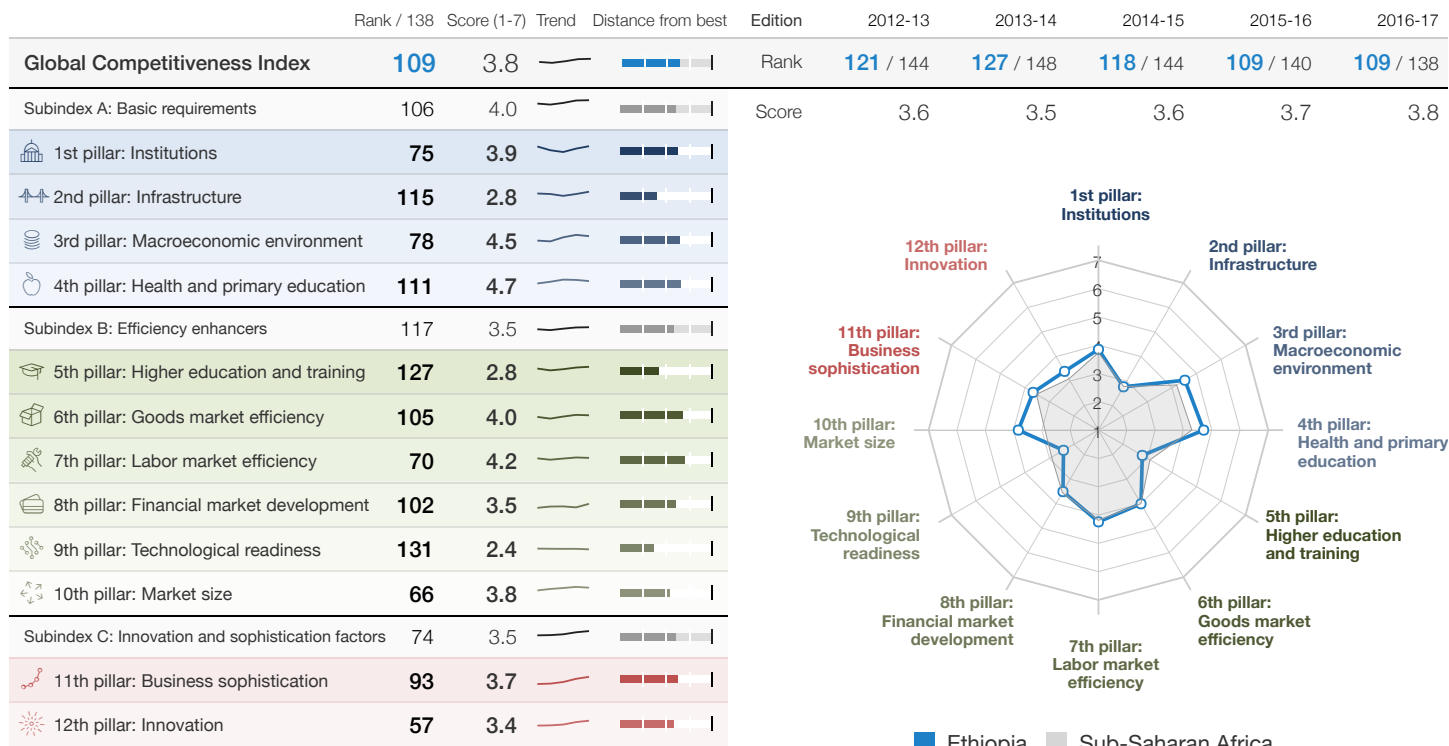
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	87	3.6		6th pillar: Goods market efficiency	112	4.0	
1.01 Property rights	100	3.9		6.01 Intensity of local competition	127	4.2	
1.02 Intellectual property protection	124	3.2		6.02 Extent of market dominance	103	3.3	
1.03 Diversion of public funds	67	3.5		6.03 Effectiveness of anti-monopoly policy	78	3.6	
1.04 Public trust in politicians	84	2.8		6.04 Effect of taxation on incentives to invest	84	3.4	
1.05 Irregular payments and bribes	64	4.1		6.05 Total tax rate % profits	96	45.0	
1.06 Judicial independence	47	4.5		6.06 No. of procedures to start a business	76	7	
1.07 Favoritism in decisions of government officials	28	4.1		6.07 Time to start a business days	48	8.0	
1.08 Wastefulness of government spending	122	2.2		6.08 Agricultural policy costs	130	2.9	
1.09 Burden of government regulation	63	3.5		6.09 Prevalence of non-tariff barriers	100	4.0	
1.10 Efficiency of legal framework in settling disputes	81	3.4		6.10 Trade tariffs % duty	126	13.6	
1.11 Efficiency of legal framework in challenging regs	72	3.4		6.11 Prevalence of foreign ownership	125	3.4	
1.12 Transparency of government policymaking	97	3.7		6.12 Business impact of rules on FDI	114	3.8	
1.13 Business costs of terrorism	135	2.7		6.13 Burden of customs procedures	80	3.8	
1.14 Business costs of crime and violence	124	2.9		6.14 Imports % GDP	120	24.7	
1.15 Organized crime	119	3.7		6.15 Degree of customer orientation	55	4.9	
1.16 Reliability of police services	114	3.3		6.16 Buyer sophistication	116	2.8	
1.17 Ethical behavior of firms	77	3.8		7th pillar: Labor market efficiency	135	3.2	
1.18 Strength of auditing and reporting standards	84	4.3		7.01 Cooperation in labor-employer relations	96	4.1	
1.19 Efficacy of corporate boards	131	3.9		7.02 Flexibility of wage determination	72	5.0	
1.20 Protection of minority shareholders' interests	83	3.9		7.03 Hiring and firing practices	61	3.9	
1.21 Strength of investor protection 0-10 (best)	101	4.5		7.04 Redundancy costs weeks of salary	129	36.9	
2nd pillar: Infrastructure	96	3.4		7.05 Effect of taxation on incentives to work	104	3.4	
2.01 Quality of overall infrastructure	108	3.1		7.06 Pay and productivity	125	3.2	
2.02 Quality of roads	107	3.0		7.07 Reliance on professional management	133	3.1	
2.03 Quality of railroad infrastructure	73	2.6		7.08 Country capacity to retain talent	104	2.9	
2.04 Quality of port infrastructure	58	4.3		7.09 Country capacity to attract talent	103	2.7	
2.05 Quality of air transport infrastructure	52	4.8		7.10 Female participation in the labor force ratio to men	133	0.31	
2.06 Available airline seat kilometers millions/week	41	590.1		8th pillar: Financial market development	111	3.4	
2.07 Quality of electricity supply	102	3.5		8.01 Financial services meeting business needs	54	4.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	82	111.0		8.02 Affordability of financial services	72	3.8	
2.09 Fixed-telephone lines /100 pop.	95	7.4		8.03 Financing through local equity market	58	3.8	
3rd pillar: Macroeconomic environment	134	2.7		8.04 Ease of access to loans	136	1.9	
3.01 Government budget balance % GDP	132	-11.7		8.05 Venture capital availability	98	2.5	
3.02 Gross national savings % GDP	121	10.9		8.06 Soundness of banks	70	4.8	
3.03 Inflation annual % change	130	11.0		8.07 Regulation of securities exchanges	105	3.7	
3.04 Government debt % GDP	117	87.7		8.08 Legal rights index 0-10 (best)	108	2	
3.05 Country credit rating 0-100 (best)	98	-		9th pillar: Technological readiness	99	3.3	
4th pillar: Health and primary education	89	5.5		9.01 Availability of latest technologies	117	3.9	
4.01 Malaria incidence cases/100,000 pop.	N/Apl.	P.R.		9.02 Firm-level technology absorption	121	3.8	
4.02 Business impact of malaria	1	6.8		9.03 FDI and technology transfer	71	4.4	
4.03 Tuberculosis incidence cases/100,000 pop.	38	15.0		9.04 Internet users % pop.	96	35.9	
4.04 Business impact of tuberculosis	16	6.7		9.05 Fixed-broadband Internet subscriptions /100 pop.	87	4.5	
4.05 HIV prevalence % adult pop.	1	0.1		9.06 Internet bandwidth kb/s/user	105	11.3	
4.06 Business impact of HIV/AIDS	1	6.9		9.07 Mobile-broadband subscriptions /100 pop.	72	50.7	
4.07 Infant mortality deaths/1,000 live births	91	20.3		10th pillar: Market size	25	5.0	
4.08 Life expectancy years	93	71.1		10.01 Domestic market size index	19	5.1	
4.09 Quality of primary education	134	2.1		10.02 Foreign market size index	49	5.0	
4.10 Primary education enrollment rate net %	28	98.0		10.03 GDP (PPP) PPP \$ billions	23	1047.9	
5th pillar: Higher education and training	112	3.3		10.04 Exports % GDP	132	11.2	
5.01 Secondary education enrollment rate gross %	85	86.1		11th pillar: Business sophistication	85	3.7	
5.02 Tertiary education enrollment rate gross %	81	31.7		11.01 Local supplier quantity	64	4.5	
5.03 Quality of the education system	135	2.1		11.02 Local supplier quality	106	3.8	
5.04 Quality of math and science education	130	2.6		11.03 State of cluster development	32	4.3	
5.05 Quality of management schools	138	2.5		11.04 Nature of competitive advantage	89	3.2	
5.06 Internet access in schools	133	2.6		11.05 Value chain breadth	72	3.7	
5.07 Local availability of specialized training services	136	2.7		11.06 Control of international distribution	116	3.0	
5.08 Extent of staff training	137	2.7		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

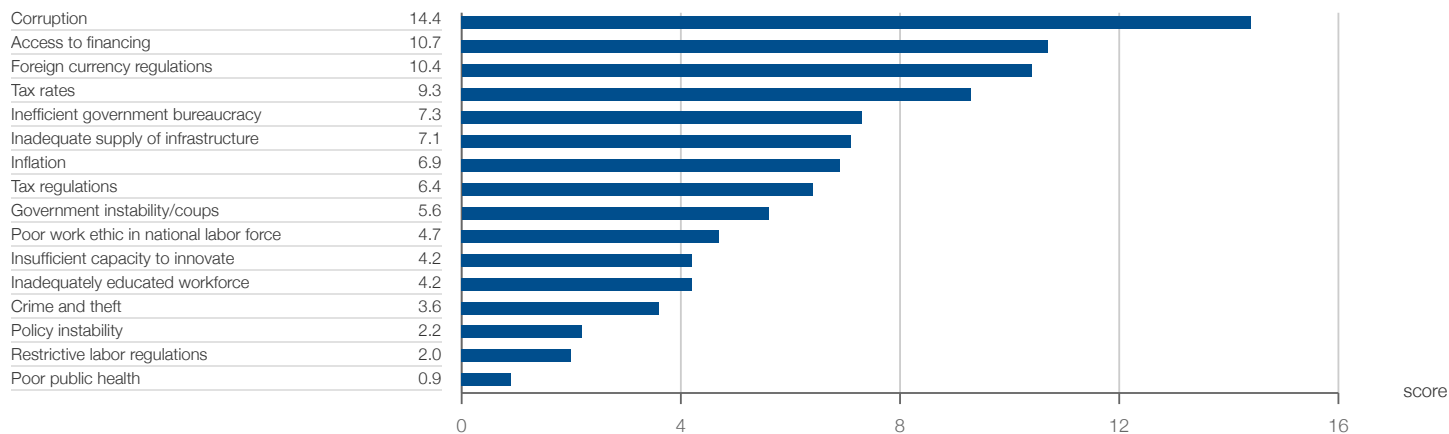
Population (millions)	89.8	GDP per capita (US\$)	686.6
GDP (US\$ billions)	61.6	GDP (PPP) % world GDP	0.14

Performance overview



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.

The Global Competitiveness Index in detail

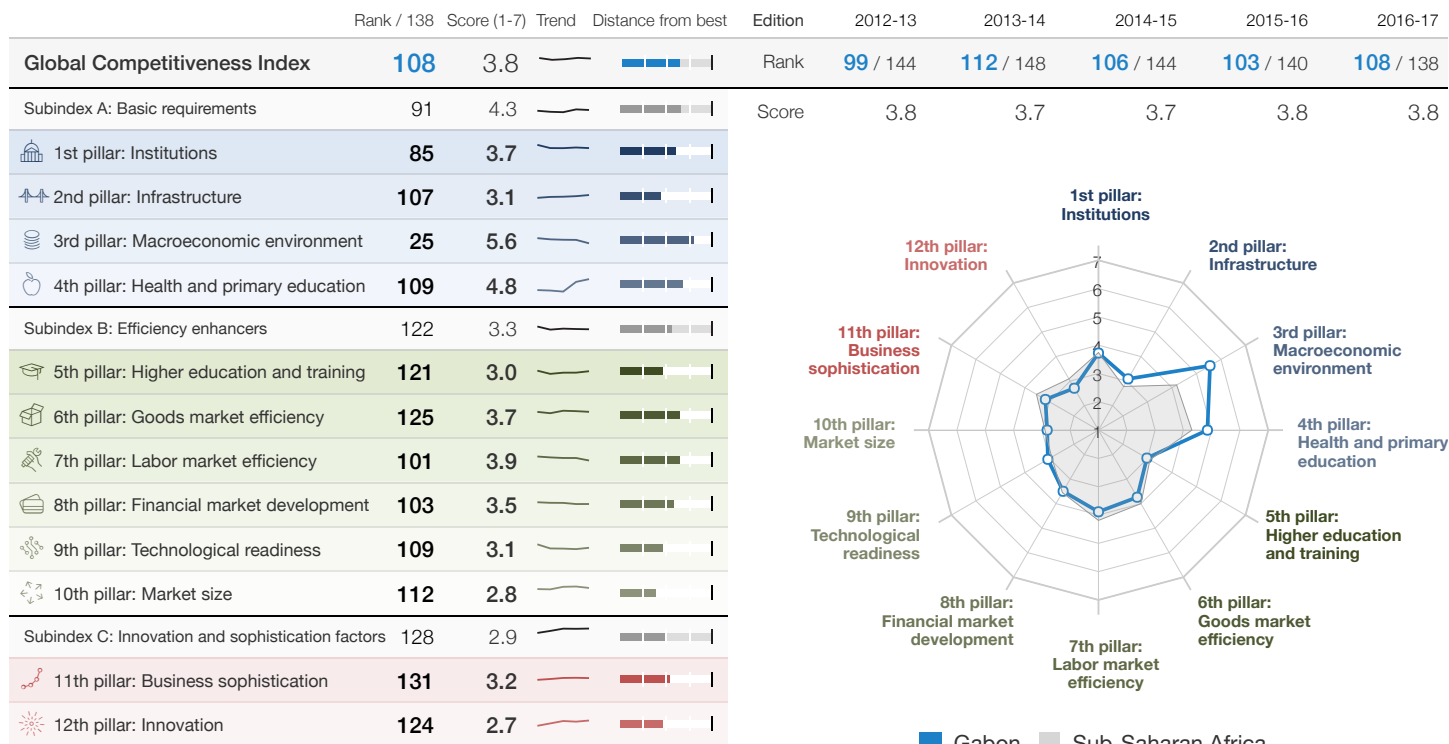
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	75	3.9		6th pillar: Goods market efficiency	105	4.0	
1.01 Property rights	90	4.0		6.01 Intensity of local competition	135	3.9	
1.02 Intellectual property protection	88	3.8		6.02 Extent of market dominance	58	3.8	
1.03 Diversion of public funds	49	4.0		6.03 Effectiveness of anti-monopoly policy	57	3.8	
1.04 Public trust in politicians	41	3.8		6.04 Effect of taxation on incentives to invest	50	3.9	
1.05 Irregular payments and bribes	93	3.5		6.05 Total tax rate % profits	46	32.1	
1.06 Judicial independence	73	3.8		6.06 No. of procedures to start a business	122	11	
1.07 Favoritism in decisions of government officials	34	3.9		6.07 Time to start a business days	98	19.0	
1.08 Wastefulness of government spending	55	3.4		6.08 Agricultural policy costs	45	4.1	
1.09 Burden of government regulation	55	3.6		6.09 Prevalence of non-tariff barriers	123	3.6	
1.10 Efficiency of legal framework in settling disputes	55	4.0		6.10 Trade tariffs % duty	122	13.0	
1.11 Efficiency of legal framework in challenging regs	53	3.7		6.11 Prevalence of foreign ownership	109	3.8	
1.12 Transparency of government policymaking	98	3.7		6.12 Business impact of rules on FDI	117	3.7	
1.13 Business costs of terrorism	117	4.2		6.13 Burden of customs procedures	96	3.6	
1.14 Business costs of crime and violence	91	4.1		6.14 Imports % GDP	77	38.4	
1.15 Organized crime	93	4.3		6.15 Degree of customer orientation	132	3.7	
1.16 Reliability of police services	92	3.9		6.16 Buyer sophistication	60	3.5	
1.17 Ethical behavior of firms	63	3.9		7th pillar: Labor market efficiency	70	4.2	
1.18 Strength of auditing and reporting standards	112	3.8		7.01 Cooperation in labor-employer relations	117	3.8	
1.19 Efficacy of corporate boards	132	3.8		7.02 Flexibility of wage determination	116	4.2	
1.20 Protection of minority shareholders' interests	91	3.8		7.03 Hiring and firing practices	87	3.6	
1.21 Strength of investor protection 0-10 (best)	129	3.5		7.04 Redundancy costs weeks of salary	84	19.1	
2nd pillar: Infrastructure	115	2.8		7.05 Effect of taxation on incentives to work	50	4.2	
2.01 Quality of overall infrastructure	94	3.4		7.06 Pay and productivity	79	3.8	
2.02 Quality of roads	83	3.7		7.07 Reliance on professional management	107	3.6	
2.03 Quality of railroad infrastructure	48	3.4		7.08 Country capacity to retain talent	63	3.6	
2.04 Quality of port infrastructure	90	3.5		7.09 Country capacity to attract talent	43	3.8	
2.05 Quality of air transport infrastructure	105	3.7		7.10 Female participation in the labor force ratio to men	41	0.88	
2.06 Available airline seat kilometers millions/week	52	398.3		8th pillar: Financial market development	102	3.5	
2.07 Quality of electricity supply	104	3.4		8.01 Financial services meeting business needs	113	3.6	
2.08 Mobile-cellular telephone subscriptions /100 pop.	136	42.8		8.02 Affordability of financial services	70	3.8	
2.09 Fixed-telephone lines /100 pop.	124	0.9		8.03 Financing through local equity market	61	3.7	
3rd pillar: Macroeconomic environment	78	4.5		8.04 Ease of access to loans	79	3.7	
3.01 Government budget balance % GDP	52	-2.5		8.05 Venture capital availability	35	3.4	
3.02 Gross national savings % GDP	36	27.0		8.06 Soundness of banks	116	3.8	
3.03 Inflation annual % change	129	10.1		8.07 Regulation of securities exchanges	94	3.8	
3.04 Government debt % GDP	70	48.6		8.08 Legal rights index 0-10 (best)	97	3	
3.05 Country credit rating 0-100 (best)	123	-		9th pillar: Technological readiness	131	2.4	
4th pillar: Health and primary education	111	4.7		9.01 Availability of latest technologies	123	3.7	
4.01 Malaria incidence cases/100,000 pop.	46	3919.2		9.02 Firm-level technology absorption	130	3.5	
4.02 Business impact of malaria	33	5.0		9.03 FDI and technology transfer	102	3.9	
4.03 Tuberculosis incidence cases/100,000 pop.	116	207.0		9.04 Internet users % pop.	127	11.6	
4.04 Business impact of tuberculosis	114	4.3		9.05 Fixed-broadband Internet subscriptions /100 pop.	113	0.7	
4.05 HIV prevalence % adult pop.	111	1.2		9.06 Internet bandwidth kb/s/user	134	2.0	
4.06 Business impact of HIV/AIDS	116	4.2		9.07 Mobile-broadband subscriptions /100 pop.	123	11.9	
4.07 Infant mortality deaths/1,000 live births	117	41.4		10th pillar: Market size	66	3.8	
4.08 Life expectancy years	115	64.0		10.01 Domestic market size index	61	3.8	
4.09 Quality of primary education	107	3.1		10.02 Foreign market size index	96	3.9	
4.10 Primary education enrollment rate net %	120	85.8		10.03 GDP (PPP) PPP \$ billions	65	161.6	
5th pillar: Higher education and training	127	2.8		10.04 Exports % GDP	133	10.8	
5.01 Secondary education enrollment rate gross %	133	36.2		11th pillar: Business sophistication	93	3.7	
5.02 Tertiary education enrollment rate gross %	121	8.1		11.01 Local supplier quantity	131	3.6	
5.03 Quality of the education system	83	3.5		11.02 Local supplier quality	121	3.6	
5.04 Quality of math and science education	97	3.5		11.03 State of cluster development	84	3.5	
5.05 Quality of management schools	120	3.5		11.04 Nature of competitive advantage	59	3.6	
5.06 Internet access in schools	99	3.7		11.05 Value chain breadth	55	3.9	
5.07 Local availability of specialized training services	101	3.9		11.06 Control of international distribution	45	4.0	
5.08 Extent of staff training	99	3.6		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

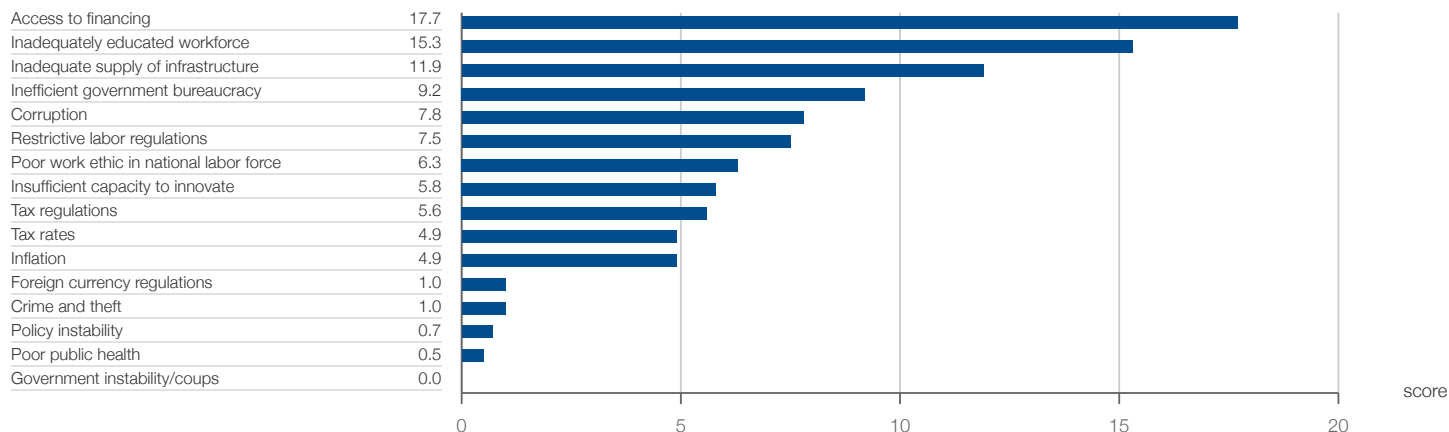
Population (millions)	1.9	GDP per capita (US\$)	7735.9
GDP (US\$ billions)	14.3	GDP (PPP) % world GDP	0.03

Performance overview



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.

The Global Competitiveness Index in detail

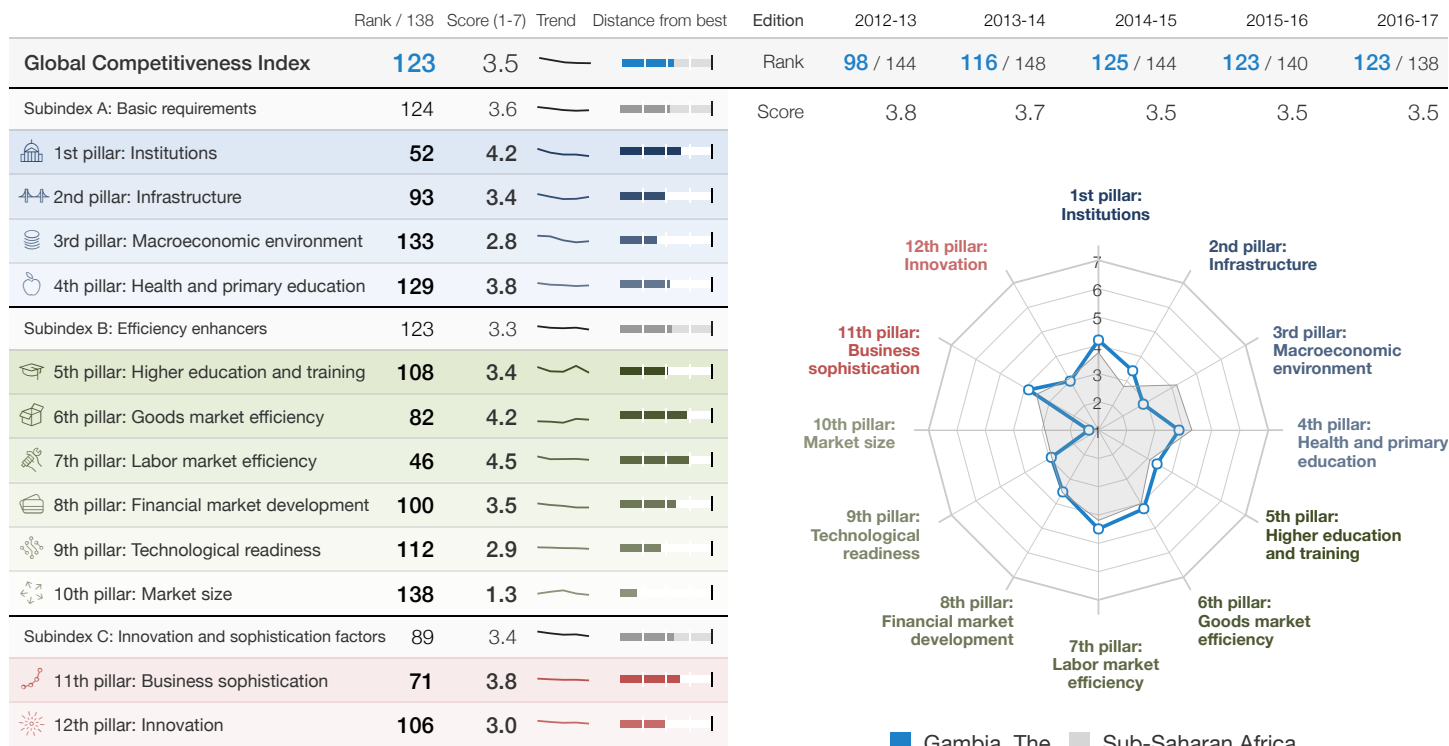
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	85	3.7		6th pillar: Goods market efficiency	125	3.7	
1.01 Property rights	83	4.1		6.01 Intensity of local competition	134	4.0	
1.02 Intellectual property protection	102	3.6		6.02 Extent of market dominance	131	2.8	
1.03 Diversion of public funds	100	2.9		6.03 Effectiveness of anti-monopoly policy	103	3.3	
1.04 Public trust in politicians	71	3.0		6.04 Effect of taxation on incentives to invest	65	3.7	
1.05 Irregular payments and bribes	98	3.5		6.05 Total tax rate % profits	97	45.7	
1.06 Judicial independence	108	3.1		6.06 No. of procedures to start a business	76	7	
1.07 Favoritism in decisions of government officials	78	3.0		6.07 Time to start a business days	128	50.0	
1.08 Wastefulness of government spending	66	3.2		6.08 Agricultural policy costs	122	3.1	
1.09 Burden of government regulation	79	3.4		6.09 Prevalence of non-tariff barriers	132	3.3	
1.10 Efficiency of legal framework in settling disputes	84	3.4		6.10 Trade tariffs % duty	124	13.4	
1.11 Efficiency of legal framework in challenging regs	97	3.0		6.11 Prevalence of foreign ownership	23	5.4	
1.12 Transparency of government policymaking	61	4.3		6.12 Business impact of rules on FDI	72	4.6	
1.13 Business costs of terrorism	61	5.4		6.13 Burden of customs procedures	92	3.6	
1.14 Business costs of crime and violence	73	4.6		6.14 Imports % GDP	106	30.5	
1.15 Organized crime	73	4.9		6.15 Degree of customer orientation	118	3.9	
1.16 Reliability of police services	90	3.9		6.16 Buyer sophistication	94	3.0	
1.17 Ethical behavior of firms	82	3.7		7th pillar: Labor market efficiency	101	3.9	
1.18 Strength of auditing and reporting standards	100	4.1		7.01 Cooperation in labor-employer relations	98	4.1	
1.19 Efficacy of corporate boards	32	5.4		7.02 Flexibility of wage determination	101	4.5	
1.20 Protection of minority shareholders' interests	63	4.1		7.03 Hiring and firing practices	98	3.4	
1.21 Strength of investor protection 0-10 (best)	120	3.8		7.04 Redundancy costs weeks of salary	80	18.8	
2nd pillar: Infrastructure	107	3.1		7.05 Effect of taxation on incentives to work	21	4.6	
2.01 Quality of overall infrastructure	119	2.9		7.06 Pay and productivity	131	3.1	
2.02 Quality of roads	121	2.8		7.07 Reliance on professional management	97	3.8	
2.03 Quality of railroad infrastructure	64	2.8		7.08 Country capacity to retain talent	93	3.2	
2.04 Quality of port infrastructure	101	3.2		7.09 Country capacity to attract talent	59	3.5	
2.05 Quality of air transport infrastructure	108	3.6		7.10 Female participation in the labor force ratio to men	92	0.70	
2.06 Available airline seat kilometers millions/week	111	33.3		8th pillar: Financial market development	103	3.5	
2.07 Quality of electricity supply	114	2.9		8.01 Financial services meeting business needs	122	3.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	10	168.9		8.02 Affordability of financial services	128	2.7	
2.09 Fixed-telephone lines /100 pop.	120	1.1		8.03 Financing through local equity market	87	3.3	
3rd pillar: Macroeconomic environment	25	5.6		8.04 Ease of access to loans	118	3.0	
3.01 Government budget balance % GDP	48	-2.3		8.05 Venture capital availability	118	2.2	
3.02 Gross national savings % GDP	9	34.8		8.06 Soundness of banks	89	4.4	
3.03 Inflation annual % change	55	0.1		8.07 Regulation of securities exchanges	96	3.8	
3.04 Government debt % GDP	62	43.9		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	89	-		9th pillar: Technological readiness	109	3.1	
4th pillar: Health and primary education	109	4.8		9.01 Availability of latest technologies	113	4.0	
4.01 Malaria incidence cases/100,000 pop.	55	20738.6		9.02 Firm-level technology absorption	107	4.1	
4.02 Business impact of malaria	66	3.2		9.03 FDI and technology transfer	113	3.7	
4.03 Tuberculosis incidence cases/100,000 pop.	134	444.0		9.04 Internet users % pop.	104	23.5	
4.04 Business impact of tuberculosis	105	4.4		9.05 Fixed-broadband Internet subscriptions /100 pop.	114	0.6	
4.05 HIV prevalence % adult pop.	125	3.9		9.06 Internet bandwidth kb/s/user	107	8.5	
4.06 Business impact of HIV/AIDS	117	4.1		9.07 Mobile-broadband subscriptions /100 pop.	99	33.1	
4.07 Infant mortality deaths/1,000 live births	113	36.1		10th pillar: Market size	112	2.8	
4.08 Life expectancy years	114	64.4		10.01 Domestic market size index	110	2.5	
4.09 Quality of primary education	87	3.6		10.02 Foreign market size index	111	3.6	
4.10 Primary education enrollment rate net %	67	95.2		10.03 GDP (PPP) PPP \$ billions	108	34.6	
5th pillar: Higher education and training	121	3.0		10.04 Exports % GDP	85	30.1	
5.01 Secondary education enrollment rate gross %	115	53.3		11th pillar: Business sophistication	131	3.2	
5.02 Tertiary education enrollment rate gross %	120	8.4		11.01 Local supplier quantity	133	3.5	
5.03 Quality of the education system	116	2.9		11.02 Local supplier quality	124	3.5	
5.04 Quality of math and science education	95	3.6		11.03 State of cluster development	132	2.8	
5.05 Quality of management schools	98	3.8		11.04 Nature of competitive advantage	100	3.0	
5.06 Internet access in schools	121	3.2		11.05 Value chain breadth	132	2.9	
5.07 Local availability of specialized training services	128	3.4		11.06 Control of international distribution	134	2.7	
5.08 Extent of staff training	84	3.7		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

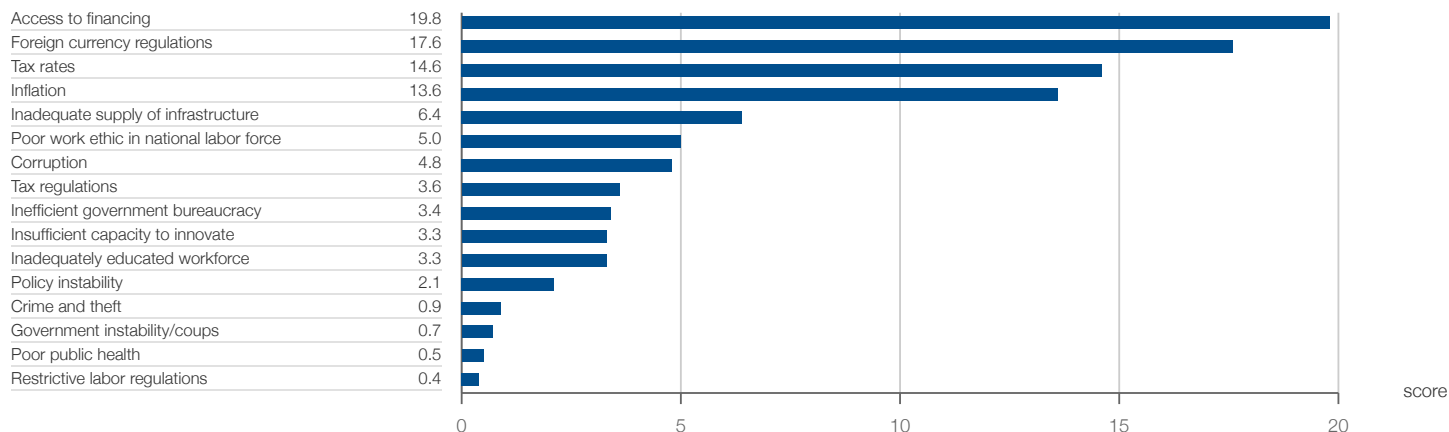
Population (millions)	2.0	GDP per capita (US\$)	450.9
GDP (US\$ billions)	0.9	GDP (PPP) % world GDP	0.00

Performance overview



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

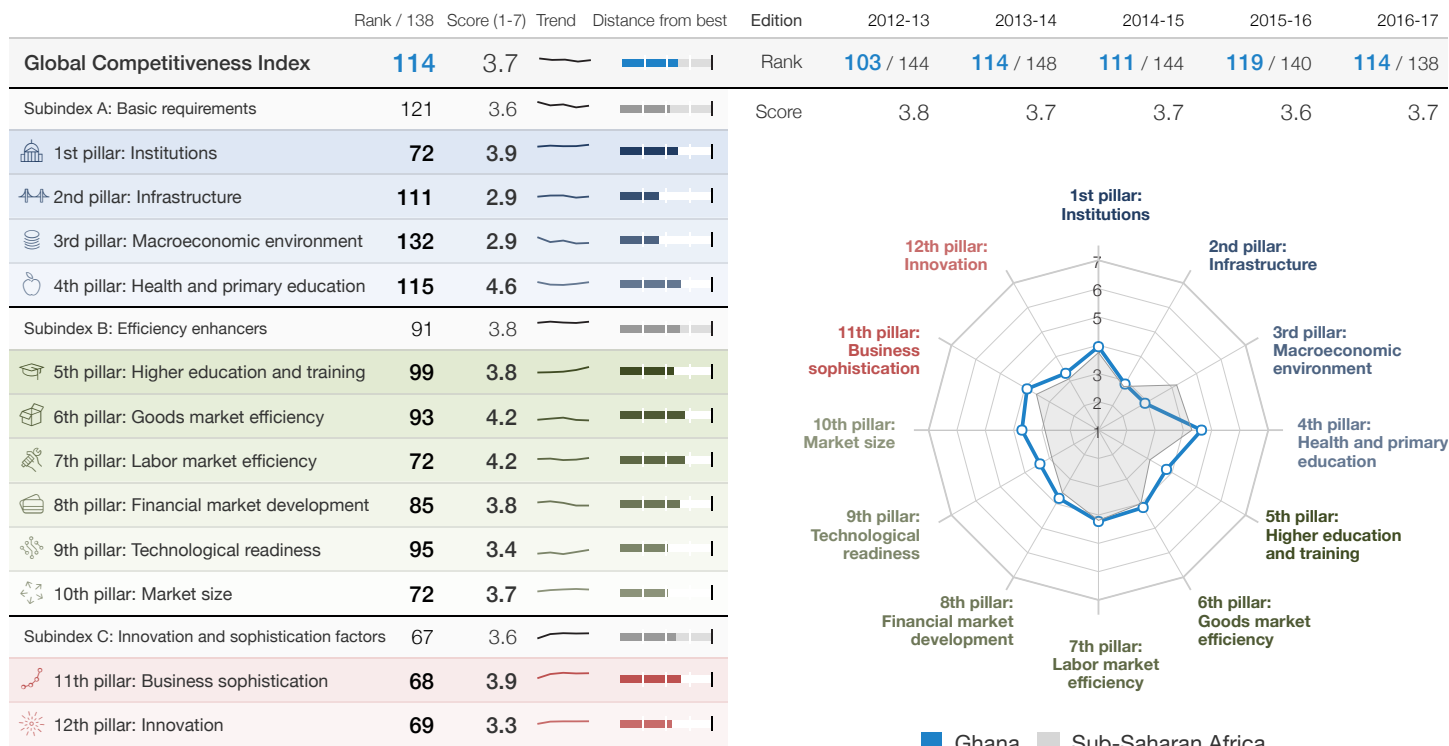
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	52	4.2		6th pillar: Goods market efficiency	82	4.2	
1.01 Property rights	75	4.2		6.01 Intensity of local competition	85	4.8	
1.02 Intellectual property protection	86	3.8		6.02 Extent of market dominance	52	3.9	
1.03 Diversion of public funds	45	4.1		6.03 Effectiveness of anti-monopoly policy	39	4.1	
1.04 Public trust in politicians	44	3.7		6.04 Effect of taxation on incentives to invest	72	3.6	
1.05 Irregular payments and bribes	68	4.0		6.05 Total tax rate % profits	125	63.3	
1.06 Judicial independence	93	3.5		6.06 No. of procedures to start a business	76	7	
1.07 Favoritism in decisions of government officials	33	3.9		6.07 Time to start a business days	107	25.0	
1.08 Wastefulness of government spending	27	4.0		6.08 Agricultural policy costs	9	5.0	
1.09 Burden of government regulation	15	4.4		6.09 Prevalence of non-tariff barriers	77	4.3	
1.10 Efficiency of legal framework in settling disputes	45	4.2		6.10 Trade tariffs % duty	130	14.3	
1.11 Efficiency of legal framework in challenging regs	56	3.6		6.11 Prevalence of foreign ownership	49	4.9	
1.12 Transparency of government policymaking	42	4.5		6.12 Business impact of rules on FDI	58	4.8	
1.13 Business costs of terrorism	62	5.4		6.13 Burden of customs procedures	53	4.4	
1.14 Business costs of crime and violence	37	5.3		6.14 Imports % GDP	42	54.2	
1.15 Organized crime	38	5.5		6.15 Degree of customer orientation	62	4.7	
1.16 Reliability of police services	48	4.9		6.16 Buyer sophistication	117	2.7	
1.17 Ethical behavior of firms	58	4.0		7th pillar: Labor market efficiency	46	4.5	
1.18 Strength of auditing and reporting standards	90	4.2		7.01 Cooperation in labor-employer relations	66	4.4	
1.19 Efficacy of corporate boards	59	5.0		7.02 Flexibility of wage determination	24	5.6	
1.20 Protection of minority shareholders' interests	77	4.0		7.03 Hiring and firing practices	52	4.0	
1.21 Strength of investor protection 0-10 (best)	126	3.7		7.04 Redundancy costs weeks of salary	107	26.0	
2nd pillar: Infrastructure	93	3.4		7.05 Effect of taxation on incentives to work	45	4.2	
2.01 Quality of overall infrastructure	82	3.7		7.06 Pay and productivity	56	4.2	
2.02 Quality of roads	74	3.9		7.07 Reliance on professional management	49	4.6	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	67	3.5	
2.04 Quality of port infrastructure	68	4.0		7.09 Country capacity to attract talent	55	3.6	
2.05 Quality of air transport infrastructure	79	4.1		7.10 Female participation in the labor force ratio to men	42	0.88	
2.06 Available airline seat kilometers millions/week	128	13.2		8th pillar: Financial market development	100	3.5	
2.07 Quality of electricity supply	101	3.5		8.01 Financial services meeting business needs	85	4.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	39	131.3		8.02 Affordability of financial services	69	3.8	
2.09 Fixed-telephone lines /100 pop.	110	2.3		8.03 Financing through local equity market	122	2.6	
3rd pillar: Macroeconomic environment	133	2.8		8.04 Ease of access to loans	120	2.9	
3.01 Government budget balance % GDP	115	-6.5		8.05 Venture capital availability	102	2.4	
3.02 Gross national savings % GDP	130	4.6		8.06 Soundness of banks	76	4.7	
3.03 Inflation annual % change	116	6.8		8.07 Regulation of securities exchanges	86	4.0	
3.04 Government debt % GDP	121	91.6		8.08 Legal rights index 0-10 (best)	86	4	
3.05 Country credit rating 0-100 (best)	130	-		9th pillar: Technological readiness	112	2.9	
4th pillar: Health and primary education	129	3.8		9.01 Availability of latest technologies	98	4.3	
4.01 Malaria incidence cases/100,000 pop.	59	22819.2		9.02 Firm-level technology absorption	91	4.2	
4.02 Business impact of malaria	54	3.8		9.03 FDI and technology transfer	92	4.0	
4.03 Tuberculosis incidence cases/100,000 pop.	114	174.0		9.04 Internet users % pop.	122	17.1	
4.04 Business impact of tuberculosis	87	5.1		9.05 Fixed-broadband Internet subscriptions /100 pop.	123	0.2	
4.05 HIV prevalence % adult pop.	120	1.8		9.06 Internet bandwidth kb/s/user	100	13.3	
4.06 Business impact of HIV/AIDS	79	5.3		9.07 Mobile-broadband subscriptions /100 pop.	125	10.0	
4.07 Infant mortality deaths/1,000 live births	123	47.9		10th pillar: Market size	138	1.3	
4.08 Life expectancy years	123	60.2		10.01 Domestic market size index	138	1.0	
4.09 Quality of primary education	62	4.2		10.02 Foreign market size index	136	2.4	
4.10 Primary education enrollment rate net %	135	67.9		10.03 GDP (PPP) PPP \$ billions	138	3.3	
5th pillar: Higher education and training	108	3.4		10.04 Exports % GDP	67	34.9	
5.01 Secondary education enrollment rate gross %	111	57.5		11th pillar: Business sophistication	71	3.8	
5.02 Tertiary education enrollment rate gross %	135	3.1		11.01 Local supplier quantity	67	4.5	
5.03 Quality of the education system	40	4.3		11.02 Local supplier quality	64	4.3	
5.04 Quality of math and science education	104	3.4		11.03 State of cluster development	60	3.8	
5.05 Quality of management schools	68	4.2		11.04 Nature of competitive advantage	69	3.5	
5.06 Internet access in schools	96	3.7		11.05 Value chain breadth	76	3.7	
5.07 Local availability of specialized training services	64	4.3		11.06 Control of international distribution	94	3.3	
5.08 Extent of staff training	88	3.7		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

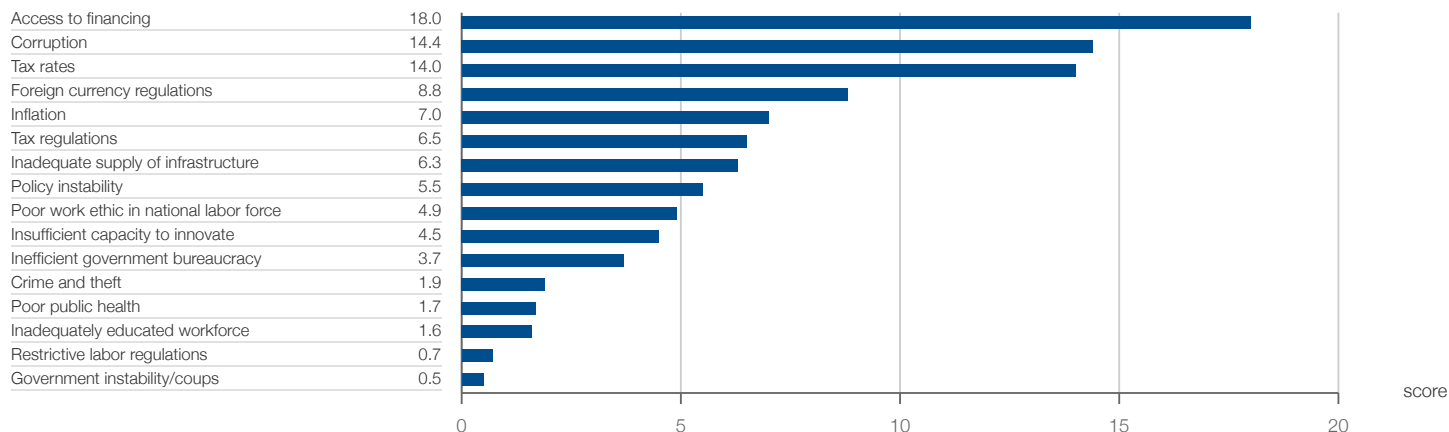
Population (millions)	26.9	GDP per capita (US\$)	1340.4
GDP (US\$ billions)	36.0	GDP (PPP) % world GDP	0.10

Performance overview



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.

The Global Competitiveness Index in detail

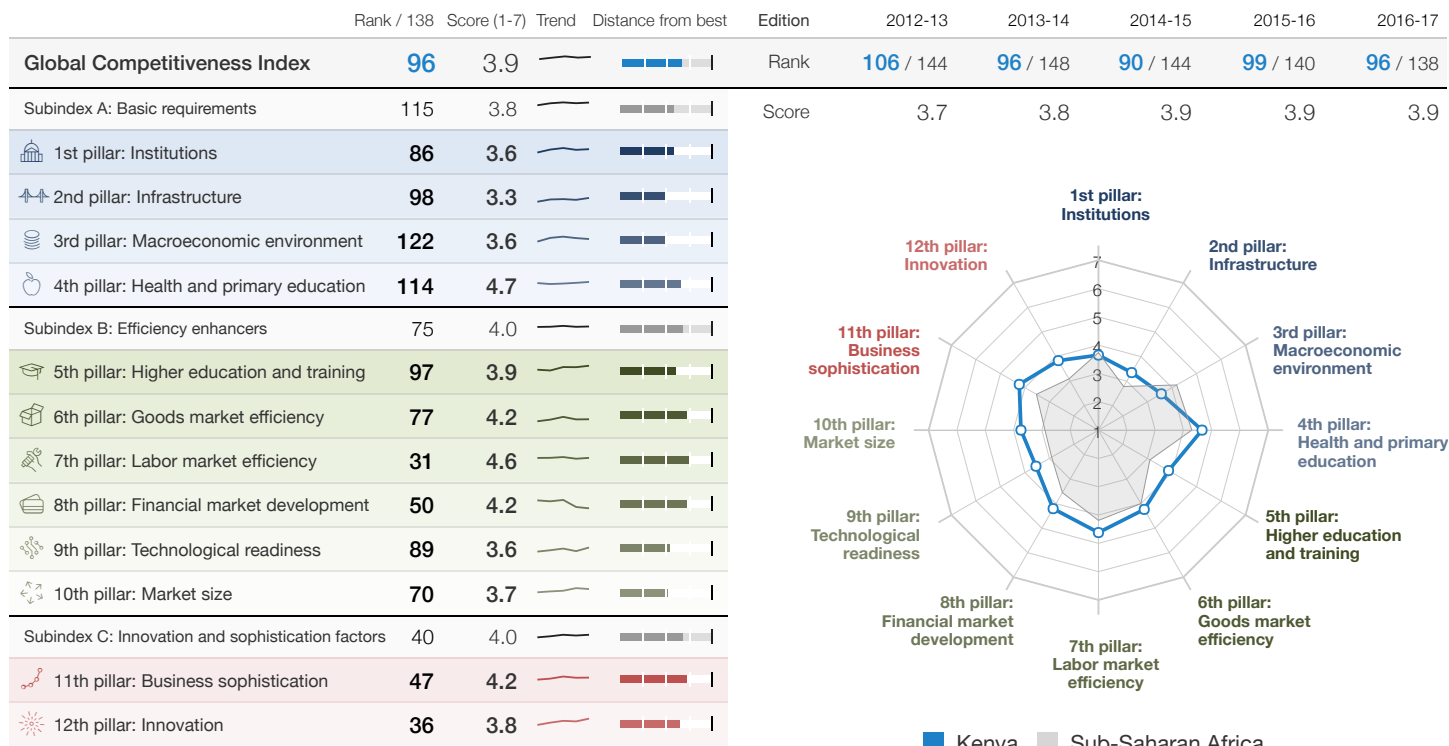
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	72	3.9		6th pillar: Goods market efficiency	93	4.2	
1.01 Property rights	68	4.3		6.01 Intensity of local competition	72	5.1	
1.02 Intellectual property protection	78	3.9		6.02 Extent of market dominance	50	3.9	
1.03 Diversion of public funds	90	3.1		6.03 Effectiveness of anti-monopoly policy	91	3.4	
1.04 Public trust in politicians	67	3.1		6.04 Effect of taxation on incentives to invest	80	3.4	
1.05 Irregular payments and bribes	109	3.1		6.05 Total tax rate % profits	49	32.7	
1.06 Judicial independence	46	4.6		6.06 No. of procedures to start a business	94	8	
1.07 Favoritism in decisions of government officials	83	2.9		6.07 Time to start a business days	81	14.0	
1.08 Wastefulness of government spending	49	3.5		6.08 Agricultural policy costs	77	3.7	
1.09 Burden of government regulation	62	3.5		6.09 Prevalence of non-tariff barriers	61	4.5	
1.10 Efficiency of legal framework in settling disputes	44	4.2		6.10 Trade tariffs % duty	111	10.2	
1.11 Efficiency of legal framework in challenging regs	44	3.9		6.11 Prevalence of foreign ownership	40	5.1	
1.12 Transparency of government policymaking	85	3.9		6.12 Business impact of rules on FDI	73	4.5	
1.13 Business costs of terrorism	88	4.8		6.13 Burden of customs procedures	79	3.8	
1.14 Business costs of crime and violence	88	4.2		6.14 Imports % GDP	52	50.6	
1.15 Organized crime	82	4.6		6.15 Degree of customer orientation	93	4.3	
1.16 Reliability of police services	58	4.7		6.16 Buyer sophistication	120	2.7	
1.17 Ethical behavior of firms	64	3.9		7th pillar: Labor market efficiency	72	4.2	
1.18 Strength of auditing and reporting standards	93	4.2		7.01 Cooperation in labor-employer relations	59	4.5	
1.19 Efficacy of corporate boards	56	5.0		7.02 Flexibility of wage determination	92	4.7	
1.20 Protection of minority shareholders' interests	52	4.2		7.03 Hiring and firing practices	29	4.4	
1.21 Strength of investor protection 0-10 (best)	63	5.7		7.04 Redundancy costs weeks of salary	131	49.8	
2nd pillar: Infrastructure	111	2.9		7.05 Effect of taxation on incentives to work	46	4.2	
2.01 Quality of overall infrastructure	103	3.2		7.06 Pay and productivity	99	3.6	
2.02 Quality of roads	86	3.5		7.07 Reliance on professional management	35	4.7	
2.03 Quality of railroad infrastructure	96	1.8		7.08 Country capacity to retain talent	48	3.8	
2.04 Quality of port infrastructure	82	3.7		7.09 Country capacity to attract talent	45	3.8	
2.05 Quality of air transport infrastructure	92	4.0		7.10 Female participation in the labor force ratio to men	7	0.97	
2.06 Available airline seat kilometers millions/week	78	120.8		8th pillar: Financial market development	85	3.8	
2.07 Quality of electricity supply	126	2.2		8.01 Financial services meeting business needs	90	4.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	43	129.7		8.02 Affordability of financial services	110	3.2	
2.09 Fixed-telephone lines /100 pop.	123	1.0		8.03 Financing through local equity market	66	3.7	
3rd pillar: Macroeconomic environment	132	2.9		8.04 Ease of access to loans	104	3.3	
3.01 Government budget balance % GDP	104	-5.0		8.05 Venture capital availability	105	2.4	
3.02 Gross national savings % GDP	95	15.6		8.06 Soundness of banks	87	4.5	
3.03 Inflation annual % change	133	17.2		8.07 Regulation of securities exchanges	92	3.9	
3.04 Government debt % GDP	105	73.3		8.08 Legal rights index 0-10 (best)	28	7	
3.05 Country credit rating 0-100 (best)	111	-		9th pillar: Technological readiness	95	3.4	
4th pillar: Health and primary education	115	4.6		9.01 Availability of latest technologies	115	3.9	
4.01 Malaria incidence cases/100,000 pop.	63	30985.6		9.02 Firm-level technology absorption	95	4.2	
4.02 Business impact of malaria	56	3.7		9.03 FDI and technology transfer	80	4.2	
4.03 Tuberculosis incidence cases/100,000 pop.	109	165.0		9.04 Internet users % pop.	105	23.5	
4.04 Business impact of tuberculosis	101	4.6		9.05 Fixed-broadband Internet subscriptions /100 pop.	120	0.3	
4.05 HIV prevalence % adult pop.	117	1.5		9.06 Internet bandwidth kb/s/user	128	2.8	
4.06 Business impact of HIV/AIDS	91	4.9		9.07 Mobile-broadband subscriptions /100 pop.	48	66.8	
4.07 Infant mortality deaths/1,000 live births	119	42.8		10th pillar: Market size	72	3.7	
4.08 Life expectancy years	121	61.3		10.01 Domestic market size index	72	3.5	
4.09 Quality of primary education	97	3.4		10.02 Foreign market size index	68	4.5	
4.10 Primary education enrollment rate net %	95	91.1		10.03 GDP (PPP) PPP \$ billions	73	114.7	
5th pillar: Higher education and training	99	3.8		10.04 Exports % GDP	51	42.4	
5.01 Secondary education enrollment rate gross %	100	71.0		11th pillar: Business sophistication	68	3.9	
5.02 Tertiary education enrollment rate gross %	107	15.6		11.01 Local supplier quantity	65	4.5	
5.03 Quality of the education system	60	3.9		11.02 Local supplier quality	95	4.0	
5.04 Quality of math and science education	93	3.7		11.03 State of cluster development	45	4.0	
5.05 Quality of management schools	53	4.5		11.04 Nature of competitive advantage	79	3.3	
5.06 Internet access in schools	95	3.7		11.05 Value chain breadth	57	3.9	
5.07 Local availability of specialized training services	53	4.6		11.06 Control of international distribution	92	3.3	
5.08 Extent of staff training	64	4.0		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

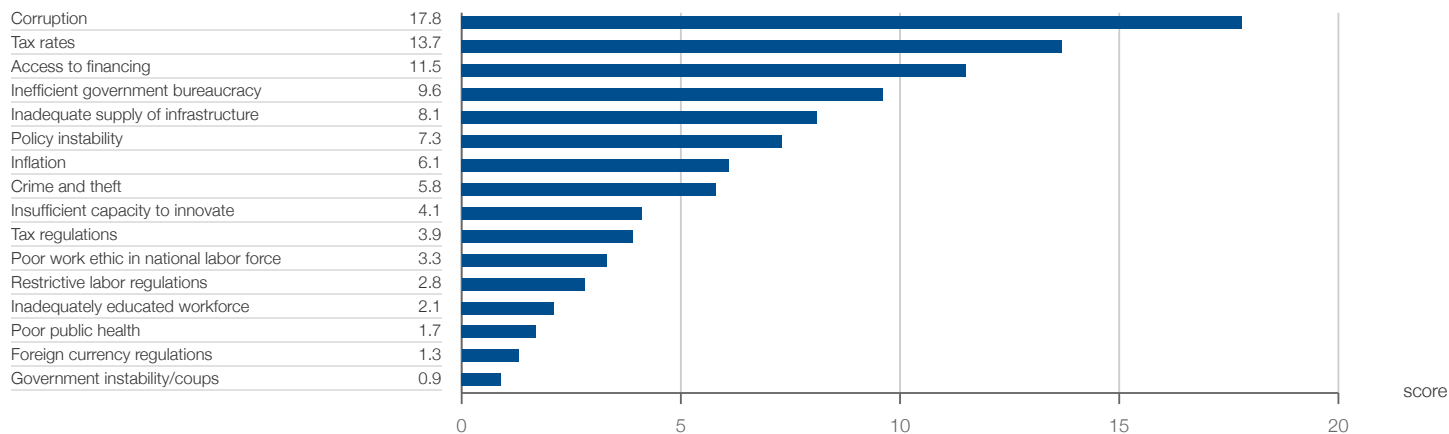
Population (millions)	44.2	GDP per capita (US\$)	1388.5
GDP (US\$ billions)	61.4	GDP (PPP) % world GDP	0.13

Performance overview



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.

The Global Competitiveness Index in detail

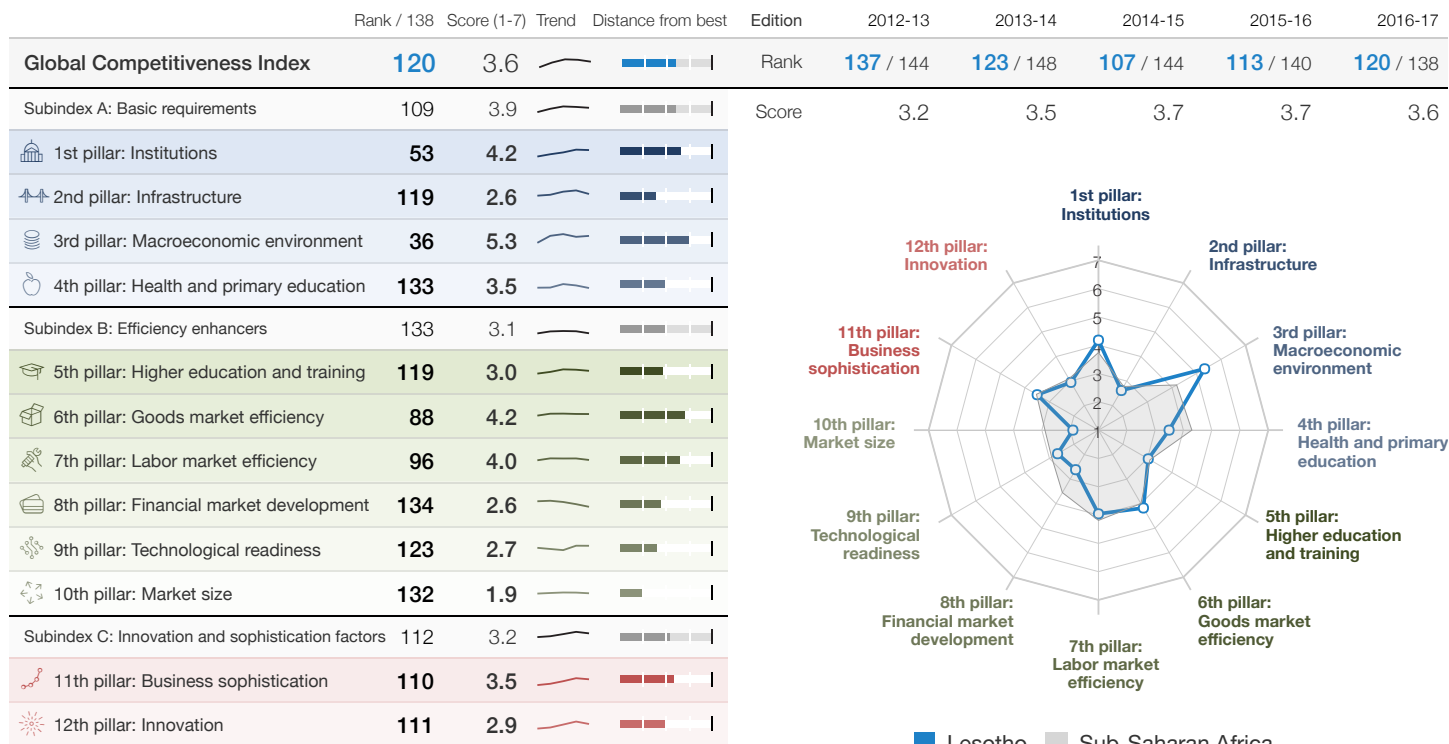
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	86	3.6		6th pillar: Goods market efficiency	77	4.2	
1.01 Property rights	59	4.4		6.01 Intensity of local competition	19	5.6	
1.02 Intellectual property protection	76	4.0		6.02 Extent of market dominance	60	3.8	
1.03 Diversion of public funds	89	3.1		6.03 Effectiveness of anti-monopoly policy	71	3.7	
1.04 Public trust in politicians	78	2.9		6.04 Effect of taxation on incentives to invest	71	3.6	
1.05 Irregular payments and bribes	113	3.0		6.05 Total tax rate % profits	69	37.1	
1.06 Judicial independence	62	4.0		6.06 No. of procedures to start a business	122	11	
1.07 Favoritism in decisions of government officials	92	2.7		6.07 Time to start a business days	109	26.0	
1.08 Wastefulness of government spending	62	3.3		6.08 Agricultural policy costs	54	4.0	
1.09 Burden of government regulation	36	3.9		6.09 Prevalence of non-tariff barriers	90	4.2	
1.10 Efficiency of legal framework in settling disputes	56	3.9		6.10 Trade tariffs % duty	97	9.6	
1.11 Efficiency of legal framework in challenging regs	50	3.8		6.11 Prevalence of foreign ownership	59	4.7	
1.12 Transparency of government policymaking	55	4.3		6.12 Business impact of rules on FDI	86	4.4	
1.13 Business costs of terrorism	137	2.6		6.13 Burden of customs procedures	76	3.9	
1.14 Business costs of crime and violence	128	2.8		6.14 Imports % GDP	108	30.3	
1.15 Organized crime	125	3.3		6.15 Degree of customer orientation	58	4.8	
1.16 Reliability of police services	93	3.9		6.16 Buyer sophistication	97	3.0	
1.17 Ethical behavior of firms	78	3.8		7th pillar: Labor market efficiency	31	4.6	
1.18 Strength of auditing and reporting standards	86	4.3		7.01 Cooperation in labor-employer relations	95	4.2	
1.19 Efficacy of corporate boards	43	5.1		7.02 Flexibility of wage determination	45	5.3	
1.20 Protection of minority shareholders' interests	62	4.1		7.03 Hiring and firing practices	44	4.1	
1.21 Strength of investor protection 0-10 (best)	96	4.7		7.04 Redundancy costs weeks of salary	15	6.4	
2nd pillar: Infrastructure	98	3.3		7.05 Effect of taxation on incentives to work	70	3.9	
2.01 Quality of overall infrastructure	56	4.3		7.06 Pay and productivity	74	3.9	
2.02 Quality of roads	61	4.2		7.07 Reliance on professional management	69	4.3	
2.03 Quality of railroad infrastructure	61	2.8		7.08 Country capacity to retain talent	53	3.7	
2.04 Quality of port infrastructure	64	4.2		7.09 Country capacity to attract talent	35	3.9	
2.05 Quality of air transport infrastructure	48	4.8		7.10 Female participation in the labor force ratio to men	51	0.86	
2.06 Available airline seat kilometers millions/week	62	264.4		8th pillar: Financial market development	50	4.2	
2.07 Quality of electricity supply	96	3.9		8.01 Financial services meeting business needs	59	4.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	121	80.7		8.02 Affordability of financial services	96	3.5	
2.09 Fixed-telephone lines /100 pop.	134	0.2		8.03 Financing through local equity market	28	4.5	
3rd pillar: Macroeconomic environment	122	3.6		8.04 Ease of access to loans	50	4.3	
3.01 Government budget balance % GDP	126	-8.4		8.05 Venture capital availability	64	2.9	
3.02 Gross national savings % GDP	104	14.4		8.06 Soundness of banks	88	4.5	
3.03 Inflation annual % change	115	6.6		8.07 Regulation of securities exchanges	61	4.5	
3.04 Government debt % GDP	77	52.7		8.08 Legal rights index 0-10 (best)	28	7	
3.05 Country credit rating 0-100 (best)	94	-		9th pillar: Technological readiness	89	3.6	
4th pillar: Health and primary education	114	4.7		9.01 Availability of latest technologies	47	5.2	
4.01 Malaria incidence cases/100,000 pop.	54	14488.4		9.02 Firm-level technology absorption	35	5.1	
4.02 Business impact of malaria	42	4.5		9.03 FDI and technology transfer	48	4.6	
4.03 Tuberculosis incidence cases/100,000 pop.	121	246.0		9.04 Internet users % pop.	84	45.6	
4.04 Business impact of tuberculosis	100	4.6		9.05 Fixed-broadband Internet subscriptions /100 pop.	119	0.3	
4.05 HIV prevalence % adult pop.	127	5.3		9.06 Internet bandwidth kb/s/user	71	40.1	
4.06 Business impact of HIV/AIDS	119	4.0		9.07 Mobile-broadband subscriptions /100 pop.	116	15.5	
4.07 Infant mortality deaths/1,000 live births	111	35.5		10th pillar: Market size	70	3.7	
4.08 Life expectancy years	120	61.6		10.01 Domestic market size index	65	3.6	
4.09 Quality of primary education	76	3.9		10.02 Foreign market size index	86	4.0	
4.10 Primary education enrollment rate net %	122	84.9		10.03 GDP (PPP) PPP \$ billions	68	141.9	
5th pillar: Higher education and training	97	3.9		10.04 Exports % GDP	125	15.6	
5.01 Secondary education enrollment rate gross %	106	67.6		11th pillar: Business sophistication	47	4.2	
5.02 Tertiary education enrollment rate gross %	132	4.0		11.01 Local supplier quantity	25	4.9	
5.03 Quality of the education system	35	4.4		11.02 Local supplier quality	52	4.4	
5.04 Quality of math and science education	68	4.1		11.03 State of cluster development	39	4.2	
5.05 Quality of management schools	45	4.6		11.04 Nature of competitive advantage	52	3.8	
5.06 Internet access in schools	87	3.9		11.05 Value chain breadth	42	4.2	
5.07 Local availability of specialized training services	41	4.8		11.06 Control of international distribution	67	3.7	
5.08 Extent of staff training	43	4.3		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

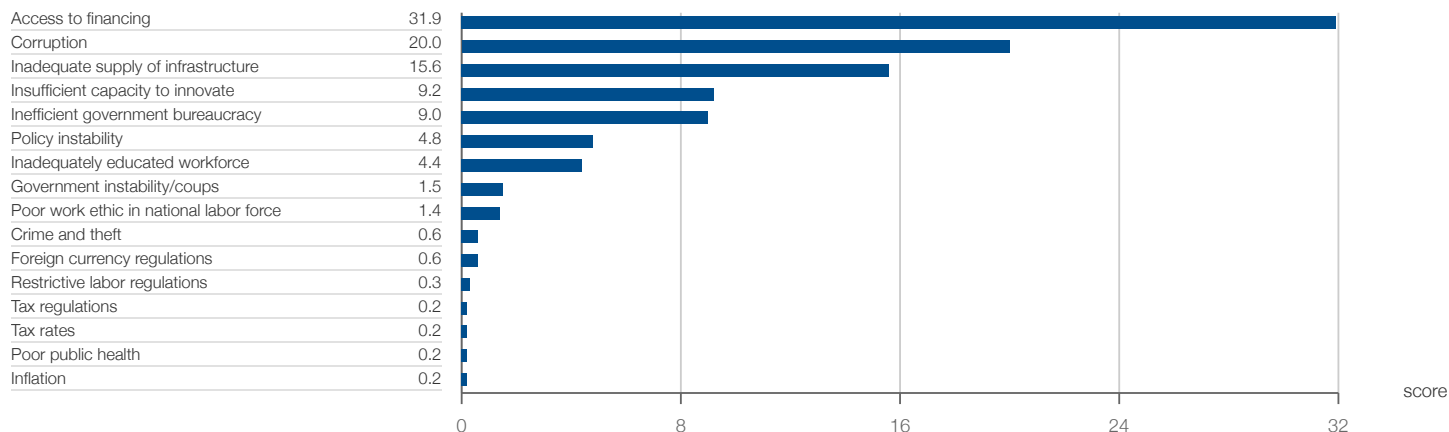
Population (millions)	1.9	GDP per capita (US\$)	1051.6
GDP (US\$ billions)	2.0	GDP (PPP) % world GDP	0.01

Performance overview



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.

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	53	4.2		6th pillar: Goods market efficiency	88	4.2	
1.01 Property rights	76	4.2		6.01 Intensity of local competition	86	4.8	
1.02 Intellectual property protection	75	4.0		6.02 Extent of market dominance	86	3.5	
1.03 Diversion of public funds	53	3.9		6.03 Effectiveness of anti-monopoly policy	102	3.3	
1.04 Public trust in politicians	60	3.2		6.04 Effect of taxation on incentives to invest	67	3.6	
1.05 Irregular payments and bribes	128	2.7		6.05 Total tax rate % profits	6	13.6	
1.06 Judicial independence	48	4.5		6.06 No. of procedures to start a business	76	7	
1.07 Favoritism in decisions of government officials	57	3.3		6.07 Time to start a business days	115	29.0	
1.08 Wastefulness of government spending	40	3.7		6.08 Agricultural policy costs	83	3.6	
1.09 Burden of government regulation	19	4.2		6.09 Prevalence of non-tariff barriers	126	3.6	
1.10 Efficiency of legal framework in settling disputes	70	3.6		6.10 Trade tariffs % duty	83	6.5	
1.11 Efficiency of legal framework in challenging regs	65	3.5		6.11 Prevalence of foreign ownership	94	4.2	
1.12 Transparency of government policymaking	105	3.7		6.12 Business impact of rules on FDI	108	3.9	
1.13 Business costs of terrorism	1	6.7		6.13 Burden of customs procedures	107	3.4	
1.14 Business costs of crime and violence	2	6.4		6.14 Imports % GDP	7	102.0	
1.15 Organized crime	9	6.4		6.15 Degree of customer orientation	135	3.5	
1.16 Reliability of police services	32	5.7		6.16 Buyer sophistication	36	3.8	
1.17 Ethical behavior of firms	53	4.1		7th pillar: Labor market efficiency	96	4.0	
1.18 Strength of auditing and reporting standards	114	3.8		7.01 Cooperation in labor-employer relations	120	3.7	
1.19 Efficacy of corporate boards	135	3.6		7.02 Flexibility of wage determination	130	3.5	
1.20 Protection of minority shareholders' interests	120	3.4		7.03 Hiring and firing practices	79	3.6	
1.21 Strength of investor protection 0-10 (best)	86	5.2		7.04 Redundancy costs weeks of salary	62	15.0	
2nd pillar: Infrastructure	119	2.6		7.05 Effect of taxation on incentives to work	95	3.6	
2.01 Quality of overall infrastructure	97	3.4		7.06 Pay and productivity	96	3.6	
2.02 Quality of roads	99	3.2		7.07 Reliance on professional management	109	3.6	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	90	3.2	
2.04 Quality of port infrastructure	n/a	n/a		7.09 Country capacity to attract talent	78	3.2	
2.05 Quality of air transport infrastructure	138	1.0		7.10 Female participation in the labor force ratio to men	70	0.81	
2.06 Available airline seat kilometers millions/week	138	0.3		8th pillar: Financial market development	134	2.6	
2.07 Quality of electricity supply	105	3.4		8.01 Financial services meeting business needs	137	2.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	90	105.5		8.02 Affordability of financial services	136	2.3	
2.09 Fixed-telephone lines /100 pop.	112	2.1		8.03 Financing through local equity market	121	2.6	
3rd pillar: Macroeconomic environment	36	5.3		8.04 Ease of access to loans	138	1.7	
3.01 Government budget balance % GDP	15	0.1		8.05 Venture capital availability	126	2.1	
3.02 Gross national savings % GDP	35	27.0		8.06 Soundness of banks	137	2.3	
3.03 Inflation annual % change	98	4.8		8.07 Regulation of securities exchanges	121	3.2	
3.04 Government debt % GDP	88	60.0		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	92	-		9th pillar: Technological readiness	123	2.7	
4th pillar: Health and primary education	133	3.5		9.01 Availability of latest technologies	129	3.4	
4.01 Malaria incidence cases/100,000 pop.	n/a	S.L.		9.02 Firm-level technology absorption	131	3.5	
4.02 Business impact of malaria	N/Appl.	N/Appl.		9.03 FDI and technology transfer	129	3.3	
4.03 Tuberculosis incidence cases/100,000 pop.	138	852.0		9.04 Internet users % pop.	124	16.1	
4.04 Business impact of tuberculosis	85	5.2		9.05 Fixed-broadband Internet subscriptions /100 pop.	127	0.1	
4.05 HIV prevalence % adult pop.	136	23.4		9.06 Internet bandwidth kb/s/user	124	3.9	
4.06 Business impact of HIV/AIDS	111	4.4		9.07 Mobile-broadband subscriptions /100 pop.	92	37.7	
4.07 Infant mortality deaths/1,000 live births	133	69.2		10th pillar: Market size	132	1.9	
4.08 Life expectancy years	138	49.7		10.01 Domestic market size index	133	1.6	
4.09 Quality of primary education	98	3.3		10.02 Foreign market size index	131	2.7	
4.10 Primary education enrollment rate net %	129	80.2		10.03 GDP (PPP) PPP \$ billions	134	5.8	
5th pillar: Higher education and training	119	3.0		10.04 Exports % GDP	60	36.1	
5.01 Secondary education enrollment rate gross %	116	52.2		11th pillar: Business sophistication	110	3.5	
5.02 Tertiary education enrollment rate gross %	117	9.8		11.01 Local supplier quantity	88	4.3	
5.03 Quality of the education system	62	3.8		11.02 Local supplier quality	85	4.1	
5.04 Quality of math and science education	126	2.6		11.03 State of cluster development	91	3.5	
5.05 Quality of management schools	71	4.1		11.04 Nature of competitive advantage	78	3.3	
5.06 Internet access in schools	117	3.4		11.05 Value chain breadth	118	3.3	
5.07 Local availability of specialized training services	105	3.8		11.06 Control of international distribution	96	3.3	
5.08 Extent of staff training	107	3.5		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	

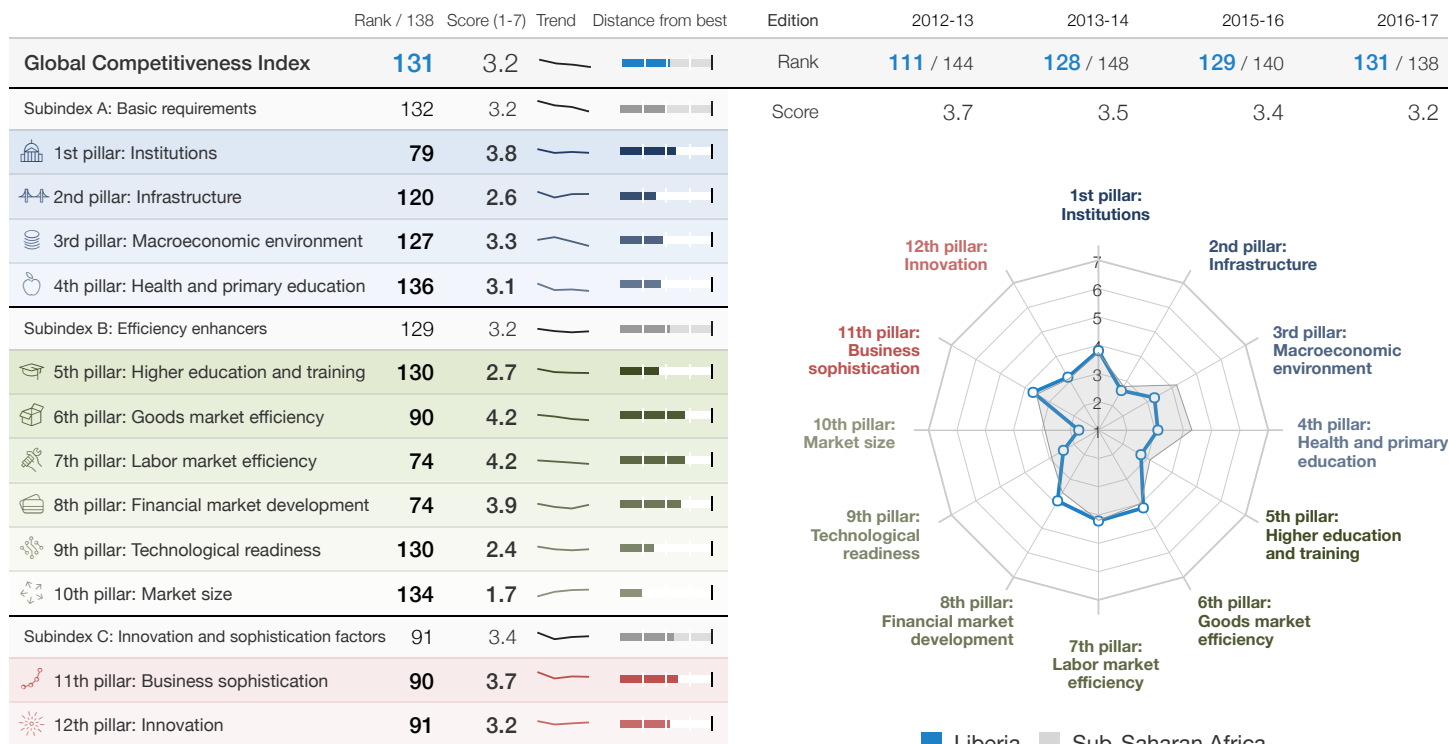
Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at <http://gcr.weforum.org/>

Liberia 131st / 138

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

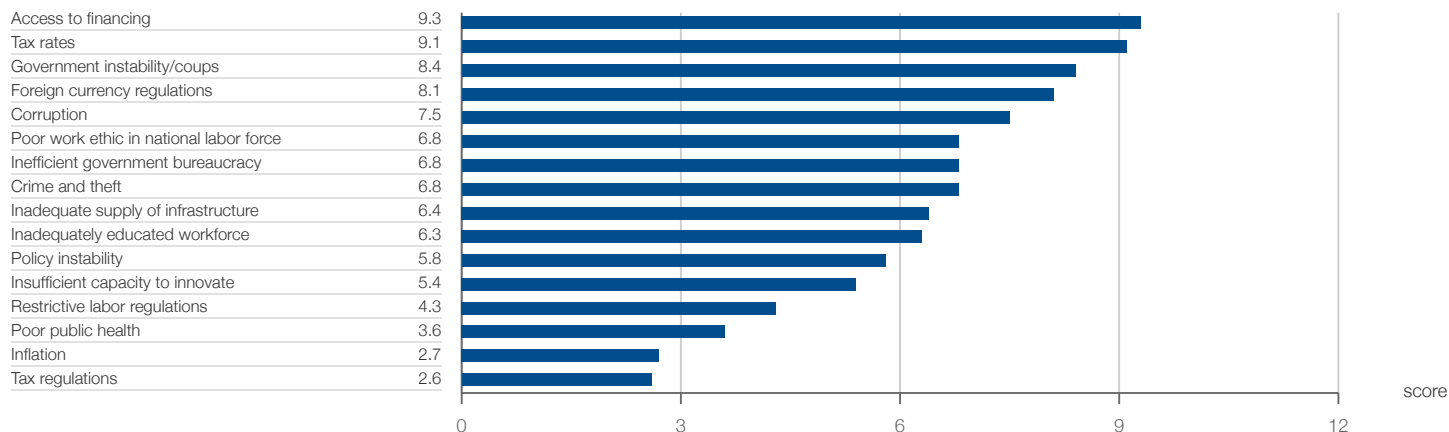
Population (millions)	4.3	GDP per capita (US\$)	473.6
GDP (US\$ billions)	2.0	GDP (PPP) % world GDP	0.00

Performance overview



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.

The Global Competitiveness Index in detail

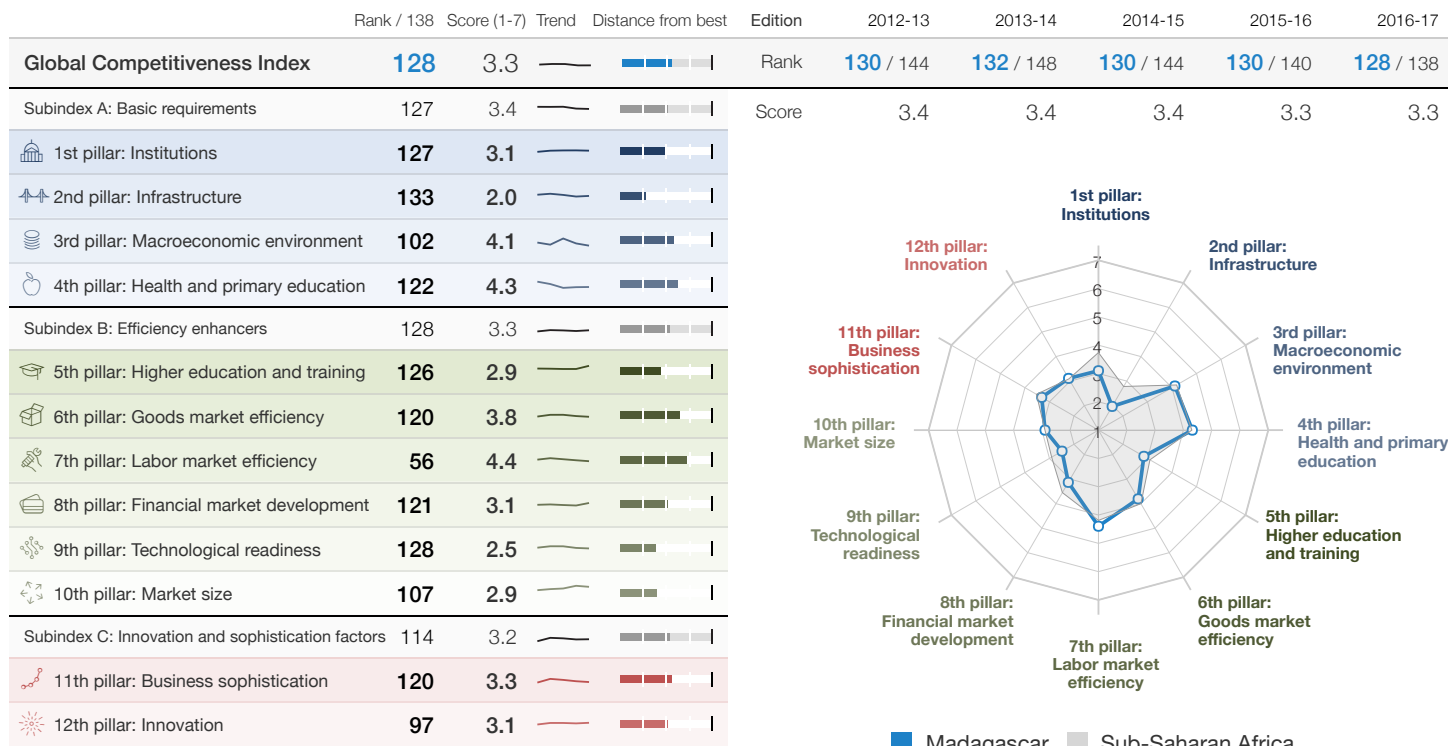
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	79	3.8		6th pillar: Goods market efficiency	90	4.2	
1.01 Property rights	77	4.2		6.01 Intensity of local competition	132	4.1	
1.02 Intellectual property protection	94	3.7		6.02 Extent of market dominance	72	3.6	
1.03 Diversion of public funds	47	4.0		6.03 Effectiveness of anti-monopoly policy	80	3.6	
1.04 Public trust in politicians	45	3.6		6.04 Effect of taxation on incentives to invest	31	4.2	
1.05 Irregular payments and bribes	73	3.9		6.05 Total tax rate % profits	101	47.8	
1.06 Judicial independence	78	3.8		6.06 No. of procedures to start a business	22	4	
1.07 Favoritism in decisions of government officials	42	3.7		6.07 Time to start a business days	24	4.5	
1.08 Wastefulness of government spending	29	3.9		6.08 Agricultural policy costs	92	3.5	
1.09 Burden of government regulation	34	3.9		6.09 Prevalence of non-tariff barriers	118	3.7	
1.10 Efficiency of legal framework in settling disputes	59	3.8		6.10 Trade tariffs % duty	115	10.7	
1.11 Efficiency of legal framework in challenging regs	54	3.7		6.11 Prevalence of foreign ownership	89	4.2	
1.12 Transparency of government policymaking	117	3.5		6.12 Business impact of rules on FDI	120	3.6	
1.13 Business costs of terrorism	114	4.3		6.13 Burden of customs procedures	91	3.7	
1.14 Business costs of crime and violence	92	4.1		6.14 Imports % GDP	5	140.3	
1.15 Organized crime	98	4.3		6.15 Degree of customer orientation	108	4.1	
1.16 Reliability of police services	103	3.6		6.16 Buyer sophistication	75	3.3	
1.17 Ethical behavior of firms	91	3.6		7th pillar: Labor market efficiency	74	4.2	
1.18 Strength of auditing and reporting standards	118	3.8		7.01 Cooperation in labor-employer relations	127	3.7	
1.19 Efficacy of corporate boards	126	4.1		7.02 Flexibility of wage determination	128	3.8	
1.20 Protection of minority shareholders' interests	92	3.8		7.03 Hiring and firing practices	66	3.8	
1.21 Strength of investor protection 0-10 (best)	138	2.8		7.04 Redundancy costs weeks of salary	106	25.6	
2nd pillar: Infrastructure	120	2.6		7.05 Effect of taxation on incentives to work	86	3.7	
2.01 Quality of overall infrastructure	118	2.9		7.06 Pay and productivity	72	3.9	
2.02 Quality of roads	104	3.1		7.07 Reliance on professional management	79	4.1	
2.03 Quality of railroad infrastructure	65	2.8		7.08 Country capacity to retain talent	45	3.8	
2.04 Quality of port infrastructure	93	3.5		7.09 Country capacity to attract talent	41	3.8	
2.05 Quality of air transport infrastructure	114	3.2		7.10 Female participation in the labor force ratio to men	23	0.92	
2.06 Available airline seat kilometers millions/week	131	10.1		8th pillar: Financial market development	74	3.9	
2.07 Quality of electricity supply	117	2.8		8.01 Financial services meeting business needs	100	3.8	
2.08 Mobile-cellular telephone subscriptions /100 pop.	120	81.1		8.02 Affordability of financial services	78	3.6	
2.09 Fixed-telephone lines /100 pop.	133	0.2		8.03 Financing through local equity market	63	3.7	
3rd pillar: Macroeconomic environment	127	3.3		8.04 Ease of access to loans	84	3.6	
3.01 Government budget balance % GDP	133	-12.0		8.05 Venture capital availability	45	3.2	
3.02 Gross national savings % GDP	131	4.4		8.06 Soundness of banks	113	4.0	
3.03 Inflation annual % change	122	7.7		8.07 Regulation of securities exchanges	107	3.7	
3.04 Government debt % GDP	53	40.0		8.08 Legal rights index 0-10 (best)	20	8	
3.05 Country credit rating 0-100 (best)	132	-		9th pillar: Technological readiness	130	2.4	
4th pillar: Health and primary education	136	3.1		9.01 Availability of latest technologies	134	3.0	
4.01 Malaria incidence cases/100,000 pop.	66	36392.1		9.02 Firm-level technology absorption	126	3.7	
4.02 Business impact of malaria	60	3.4		9.03 FDI and technology transfer	120	3.6	
4.03 Tuberculosis incidence cases/100,000 pop.	125	308.0		9.04 Internet users % pop.	132	5.9	
4.04 Business impact of tuberculosis	133	3.6		9.05 Fixed-broadband Internet subscriptions /100 pop.	125	0.2	
4.05 HIV prevalence % adult pop.	111	1.2		9.06 Internet bandwidth kb/s/user	109	7.5	
4.06 Business impact of HIV/AIDS	106	4.5		9.07 Mobile-broadband subscriptions /100 pop.	108	20.5	
4.07 Infant mortality deaths/1,000 live births	125	52.8		10th pillar: Market size	134	1.7	
4.08 Life expectancy years	122	60.8		10.01 Domestic market size index	135	1.5	
4.09 Quality of primary education	108	3.1		10.02 Foreign market size index	137	2.2	
4.10 Primary education enrollment rate net %	138	37.7		10.03 GDP (PPP) PPP \$ billions	136	3.7	
5th pillar: Higher education and training	130	2.7		10.04 Exports % GDP	104	23.7	
5.01 Secondary education enrollment rate gross %	131	37.9		11th pillar: Business sophistication	90	3.7	
5.02 Tertiary education enrollment rate gross %	112	11.6		11.01 Local supplier quantity	117	3.9	
5.03 Quality of the education system	94	3.3		11.02 Local supplier quality	101	3.9	
5.04 Quality of math and science education	103	3.4		11.03 State of cluster development	83	3.6	
5.05 Quality of management schools	123	3.4		11.04 Nature of competitive advantage	55	3.7	
5.06 Internet access in schools	126	3.1		11.05 Value chain breadth	101	3.5	
5.07 Local availability of specialized training services	122	3.6		11.06 Control of international distribution	73	3.6	
5.08 Extent of staff training	71	3.9		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

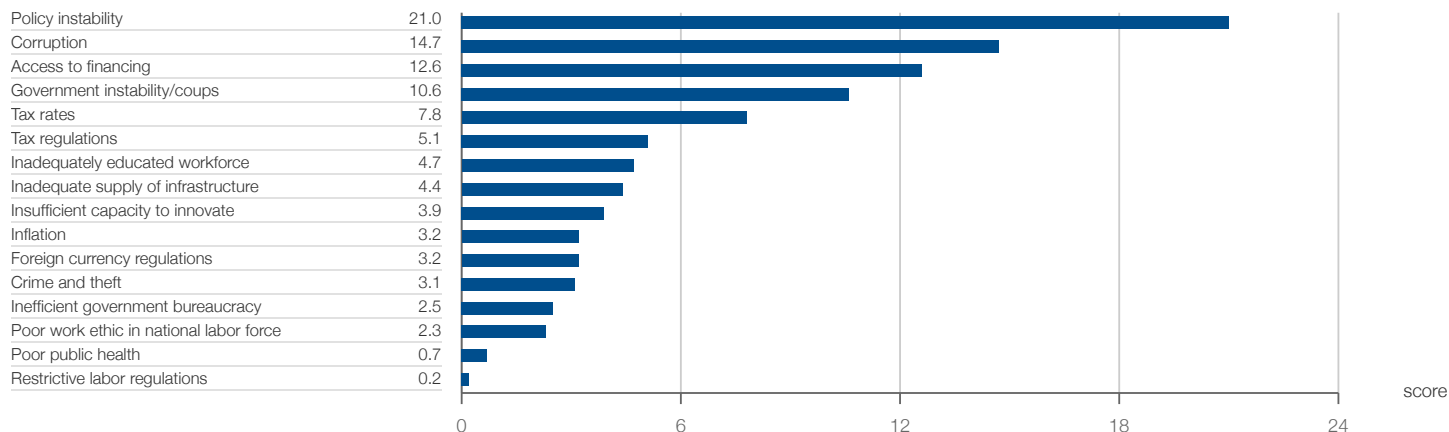
Population (millions)	24.2	GDP per capita (US\$)	401.8
GDP (US\$ billions)	9.7	GDP (PPP) % world GDP	0.03

Performance overview



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		Rank / 138	Value	Trend
1st pillar: Institutions	127	3.1		6th pillar: Goods market efficiency	120	3.8	
1.01 Property rights	127	3.2		6.01 Intensity of local competition	110	4.6	
1.02 Intellectual property protection	107	3.4		6.02 Extent of market dominance	123	3.0	
1.03 Diversion of public funds	111	2.6		6.03 Effectiveness of anti-monopoly policy	133	2.6	
1.04 Public trust in politicians	108	2.2		6.04 Effect of taxation on incentives to invest	99	3.3	
1.05 Irregular payments and bribes	127	2.7		6.05 Total tax rate % profits	73	38.1	
1.06 Judicial independence	126	2.5		6.06 No. of procedures to start a business	108	9	
1.07 Favoritism in decisions of government officials	104	2.6		6.07 Time to start a business days	77	13.0	
1.08 Wastefulness of government spending	110	2.4		6.08 Agricultural policy costs	113	3.2	
1.09 Burden of government regulation	94	3.2		6.09 Prevalence of non-tariff barriers	134	3.1	
1.10 Efficiency of legal framework in settling disputes	122	2.7		6.10 Trade tariffs % duty	90	7.7	
1.11 Efficiency of legal framework in challenging regs	128	2.5		6.11 Prevalence of foreign ownership	97	4.2	
1.12 Transparency of government policymaking	137	2.6		6.12 Business impact of rules on FDI	105	4.0	
1.13 Business costs of terrorism	96	4.8		6.13 Burden of customs procedures	120	3.2	
1.14 Business costs of crime and violence	111	3.6		6.14 Imports % GDP	68	42.8	
1.15 Organized crime	115	3.8		6.15 Degree of customer orientation	78	4.5	
1.16 Reliability of police services	123	2.9		6.16 Buyer sophistication	130	2.4	
1.17 Ethical behavior of firms	110	3.3		7th pillar: Labor market efficiency	56	4.4	
1.18 Strength of auditing and reporting standards	125	3.6		7.01 Cooperation in labor-employer relations	94	4.2	
1.19 Efficacy of corporate boards	103	4.4		7.02 Flexibility of wage determination	90	4.8	
1.20 Protection of minority shareholders' interests	135	3.0		7.03 Hiring and firing practices	70	3.7	
1.21 Strength of investor protection 0-10 (best)	90	5.0		7.04 Redundancy costs weeks of salary	59	14.7	
2nd pillar: Infrastructure	133	2.0		7.05 Effect of taxation on incentives to work	58	4.0	
2.01 Quality of overall infrastructure	122	2.7		7.06 Pay and productivity	111	3.5	
2.02 Quality of roads	138	2.0		7.07 Reliance on professional management	103	3.7	
2.03 Quality of railroad infrastructure	95	1.8		7.08 Country capacity to retain talent	105	2.9	
2.04 Quality of port infrastructure	94	3.5		7.09 Country capacity to attract talent	71	3.3	
2.05 Quality of air transport infrastructure	122	3.2		7.10 Female participation in the labor force ratio to men	11	0.95	
2.06 Available airline seat kilometers millions/week	110	33.4		8th pillar: Financial market development	121	3.1	
2.07 Quality of electricity supply	130	1.9		8.01 Financial services meeting business needs	103	3.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	135	46.0		8.02 Affordability of financial services	122	2.9	
2.09 Fixed-telephone lines /100 pop.	121	1.0		8.03 Financing through local equity market	117	2.7	
3rd pillar: Macroeconomic environment	102	4.1		8.04 Ease of access to loans	121	2.9	
3.01 Government budget balance % GDP	82	-3.7		8.05 Venture capital availability	89	2.6	
3.02 Gross national savings % GDP	101	14.9		8.06 Soundness of banks	104	4.2	
3.03 Inflation annual % change	120	7.4		8.07 Regulation of securities exchanges	126	3.2	
3.04 Government debt % GDP	37	35.6		8.08 Legal rights index 0-10 (best)	97	3	
3.05 Country credit rating 0-100 (best)	125	-		9th pillar: Technological readiness	128	2.5	
4th pillar: Health and primary education	122	4.3		9.01 Availability of latest technologies	121	3.8	
4.01 Malaria incidence cases/100,000 pop.	47	5090.8		9.02 Firm-level technology absorption	89	4.3	
4.02 Business impact of malaria	61	3.4		9.03 FDI and technology transfer	108	3.8	
4.03 Tuberculosis incidence cases/100,000 pop.	120	235.0		9.04 Internet users % pop.	135	4.2	
4.04 Business impact of tuberculosis	107	4.4		9.05 Fixed-broadband Internet subscriptions /100 pop.	132	0.1	
4.05 HIV prevalence % adult pop.	60	0.3		9.06 Internet bandwidth kb/s/user	102	12.4	
4.06 Business impact of HIV/AIDS	86	5.0		9.07 Mobile-broadband subscriptions /100 pop.	128	9.0	
4.07 Infant mortality deaths/1,000 live births	112	35.9		10th pillar: Market size	107	2.9	
4.08 Life expectancy years	110	65.1		10.01 Domestic market size index	105	2.6	
4.09 Quality of primary education	112	3.0		10.02 Foreign market size index	106	3.7	
4.10 Primary education enrollment rate net %	130	77.1		10.03 GDP (PPP) PPP \$ billions	106	35.4	
5th pillar: Higher education and training	126	2.9		10.04 Exports % GDP	69	34.6	
5.01 Secondary education enrollment rate gross %	129	38.4		11th pillar: Business sophistication	120	3.3	
5.02 Tertiary education enrollment rate gross %	131	4.2		11.01 Local supplier quantity	95	4.2	
5.03 Quality of the education system	115	2.9		11.02 Local supplier quality	108	3.7	
5.04 Quality of math and science education	82	3.8		11.03 State of cluster development	110	3.1	
5.05 Quality of management schools	82	4.0		11.04 Nature of competitive advantage	131	2.3	
5.06 Internet access in schools	104	3.6		11.05 Value chain breadth	124	3.1	
5.07 Local availability of specialized training services	98	3.9		11.06 Control of international distribution	130	2.8	
5.08 Extent of staff training	96	3.6		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	

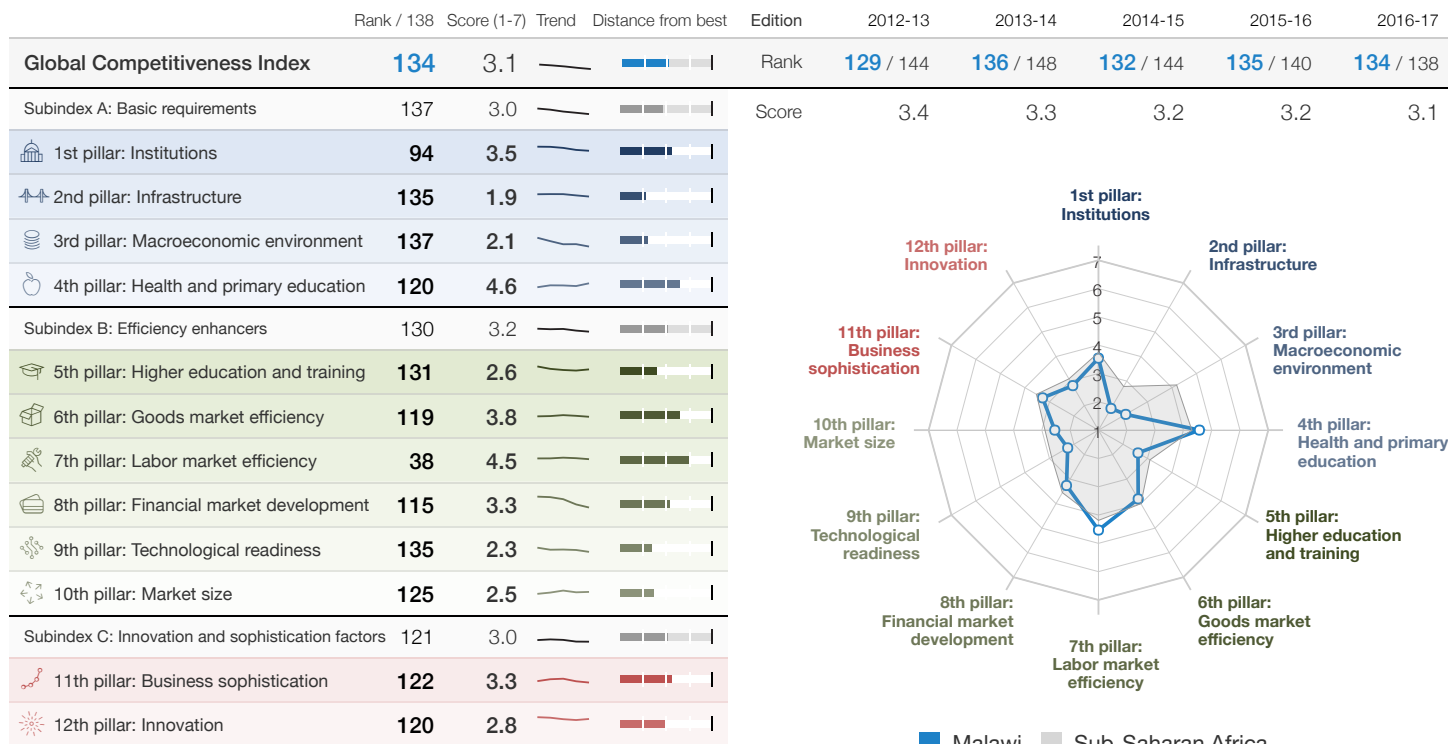
Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at <http://gcr.weforum.org/>

Malawi 134th / 138

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

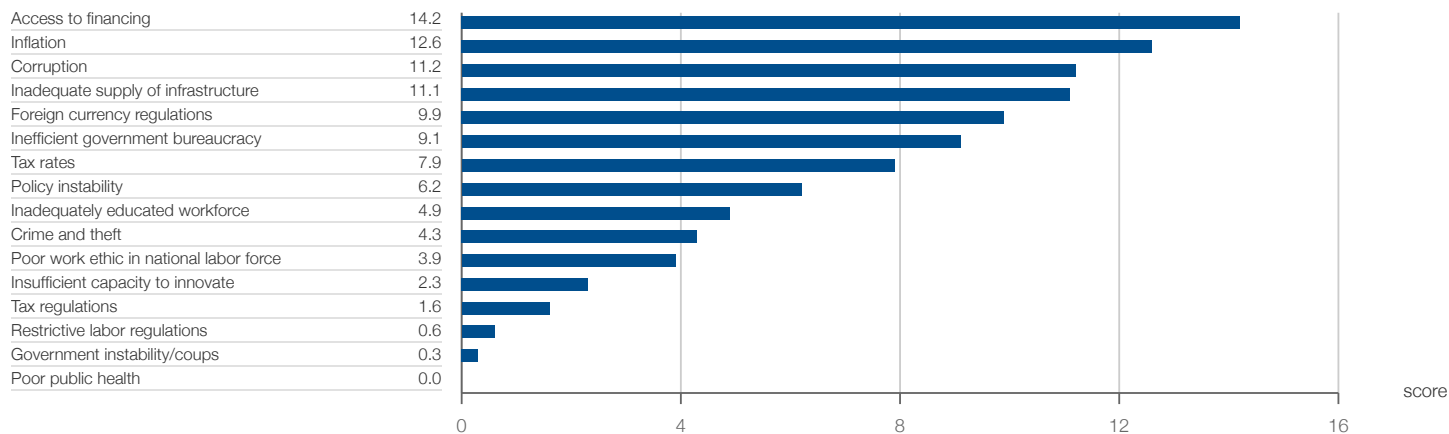
Population (millions)	18.1	GDP per capita (US\$)	354.3
GDP (US\$ billions)	6.4	GDP (PPP) % world GDP	0.02

Performance overview



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

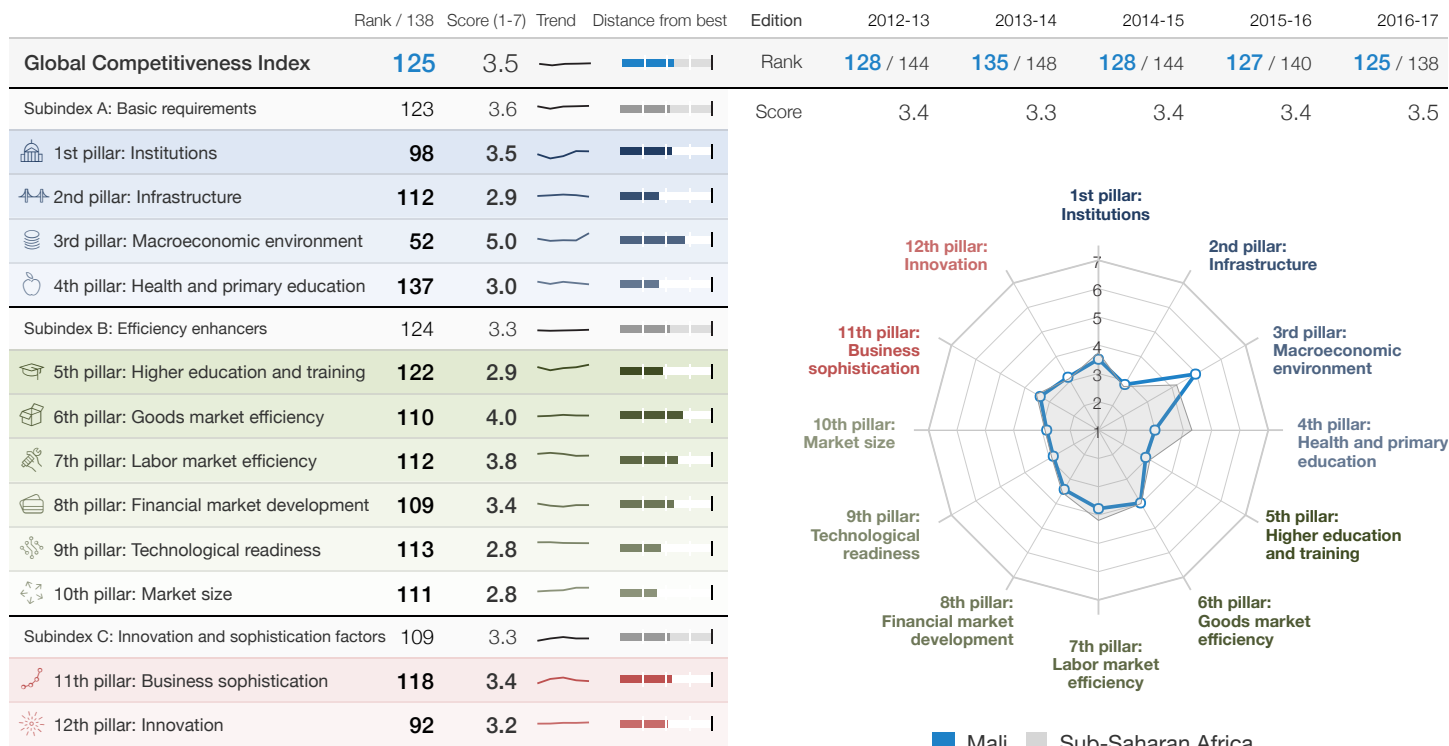
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	94	3.5		6th pillar: Goods market efficiency	119	3.8	
1.01 Property rights	96	4.0		6.01 Intensity of local competition	113	4.6	
1.02 Intellectual property protection	119	3.3		6.02 Extent of market dominance	125	2.9	
1.03 Diversion of public funds	119	2.5		6.03 Effectiveness of anti-monopoly policy	111	3.1	
1.04 Public trust in politicians	115	2.1		6.04 Effect of taxation on incentives to invest	117	2.9	
1.05 Irregular payments and bribes	108	3.1		6.05 Total tax rate % profits	57	34.5	
1.06 Judicial independence	57	4.1		6.06 No. of procedures to start a business	94	8	
1.07 Favoritism in decisions of government officials	114	2.3		6.07 Time to start a business days	123	38.0	
1.08 Wastefulness of government spending	101	2.6		6.08 Agricultural policy costs	104	3.3	
1.09 Burden of government regulation	76	3.4		6.09 Prevalence of non-tariff barriers	31	4.8	
1.10 Efficiency of legal framework in settling disputes	100	3.1		6.10 Trade tariffs % duty	109	9.9	
1.11 Efficiency of legal framework in challenging regs	78	3.3		6.11 Prevalence of foreign ownership	50	4.8	
1.12 Transparency of government policymaking	94	3.8		6.12 Business impact of rules on FDI	64	4.7	
1.13 Business costs of terrorism	8	6.2		6.13 Burden of customs procedures	104	3.5	
1.14 Business costs of crime and violence	120	3.3		6.14 Imports % GDP	53	49.9	
1.15 Organized crime	83	4.5		6.15 Degree of customer orientation	116	4.0	
1.16 Reliability of police services	96	3.8		6.16 Buyer sophistication	129	2.4	
1.17 Ethical behavior of firms	99	3.5		7th pillar: Labor market efficiency	38	4.5	
1.18 Strength of auditing and reporting standards	81	4.4		7.01 Cooperation in labor-employer relations	102	4.1	
1.19 Efficacy of corporate boards	61	5.0		7.02 Flexibility of wage determination	36	5.4	
1.20 Protection of minority shareholders' interests	104	3.6		7.03 Hiring and firing practices	74	3.7	
1.21 Strength of investor protection 0-10 (best)	96	4.7		7.04 Redundancy costs weeks of salary	71	16.6	
2nd pillar: Infrastructure	135	1.9		7.05 Effect of taxation on incentives to work	98	3.6	
2.01 Quality of overall infrastructure	125	2.5		7.06 Pay and productivity	101	3.6	
2.02 Quality of roads	112	2.9		7.07 Reliance on professional management	54	4.5	
2.03 Quality of railroad infrastructure	94	1.8		7.08 Country capacity to retain talent	88	3.2	
2.04 Quality of port infrastructure	130	2.2		7.09 Country capacity to attract talent	95	3.0	
2.05 Quality of air transport infrastructure	136	2.4		7.10 Female participation in the labor force ratio to men	5	1.01	
2.06 Available airline seat kilometers millions/week	133	8.1		8th pillar: Financial market development	115	3.3	
2.07 Quality of electricity supply	125	2.3		8.01 Financial services meeting business needs	115	3.5	
2.08 Mobile-cellular telephone subscriptions /100 pop.	138	35.3		8.02 Affordability of financial services	138	2.1	
2.09 Fixed-telephone lines /100 pop.	131	0.3		8.03 Financing through local equity market	101	3.0	
3rd pillar: Macroeconomic environment	137	2.1		8.04 Ease of access to loans	127	2.7	
3.01 Government budget balance % GDP	112	-5.9		8.05 Venture capital availability	136	1.7	
3.02 Gross national savings % GDP	132	4.1		8.06 Soundness of banks	94	4.4	
3.03 Inflation annual % change	134	21.9		8.07 Regulation of securities exchanges	93	3.9	
3.04 Government debt % GDP	115	83.4		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	128	-		9th pillar: Technological readiness	135	2.3	
4th pillar: Health and primary education	120	4.6		9.01 Availability of latest technologies	131	3.3	
4.01 Malaria incidence cases/100,000 pop.	56	20964.0		9.02 Firm-level technology absorption	132	3.4	
4.02 Business impact of malaria	67	3.1		9.03 FDI and technology transfer	130	3.3	
4.03 Tuberculosis incidence cases/100,000 pop.	118	227.0		9.04 Internet users % pop.	129	9.3	
4.04 Business impact of tuberculosis	131	3.7		9.05 Fixed-broadband Internet subscriptions /100 pop.	136	0.0	
4.05 HIV prevalence % adult pop.	130	10.0		9.06 Internet bandwidth kb/s/user	132	2.4	
4.06 Business impact of HIV/AIDS	136	3.1		9.07 Mobile-broadband subscriptions /100 pop.	114	16.6	
4.07 Infant mortality deaths/1,000 live births	121	43.4		10th pillar: Market size	125	2.5	
4.08 Life expectancy years	119	62.7		10.01 Domestic market size index	123	2.3	
4.09 Quality of primary education	132	2.4		10.02 Foreign market size index	126	3.2	
4.10 Primary education enrollment rate net %	36	97.5		10.03 GDP (PPP) PPP \$ billions	124	20.4	
5th pillar: Higher education and training	131	2.6		10.04 Exports % GDP	106	23.0	
5.01 Secondary education enrollment rate gross %	127	39.5		11th pillar: Business sophistication	122	3.3	
5.02 Tertiary education enrollment rate gross %	138	0.8		11.01 Local supplier quantity	107	4.0	
5.03 Quality of the education system	100	3.2		11.02 Local supplier quality	133	3.3	
5.04 Quality of math and science education	125	2.7		11.03 State of cluster development	129	2.9	
5.05 Quality of management schools	133	3.0		11.04 Nature of competitive advantage	122	2.6	
5.06 Internet access in schools	132	2.6		11.05 Value chain breadth	129	3.0	
5.07 Local availability of specialized training services	123	3.5		11.06 Control of international distribution	133	2.8	
5.08 Extent of staff training	65	3.9		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

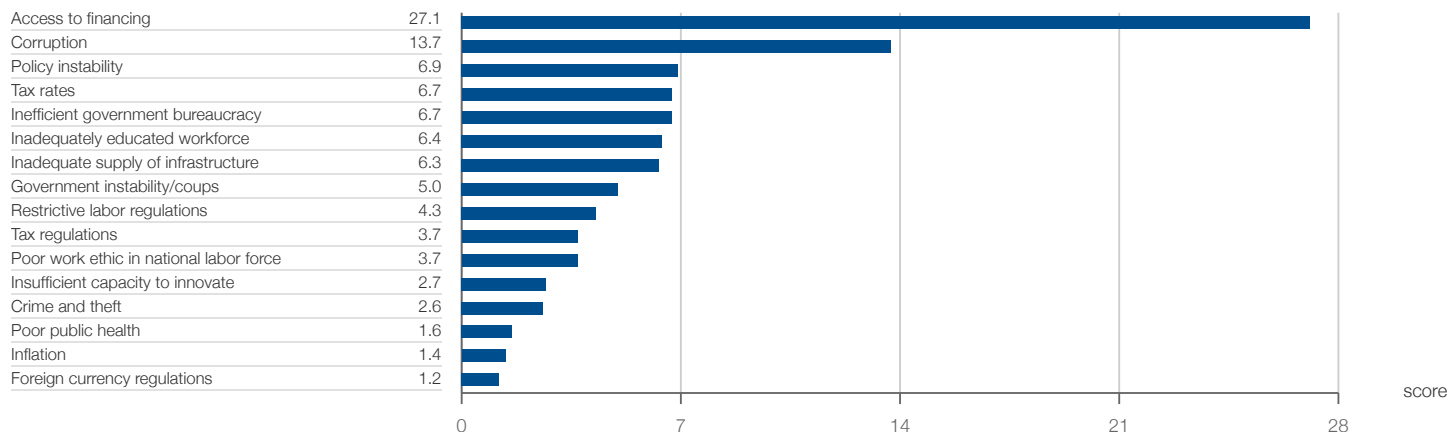
Population (millions)	16.3	GDP per capita (US\$)	801.8
GDP (US\$ billions)	13.1	GDP (PPP) % world GDP	0.03

Performance overview



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.

The Global Competitiveness Index in detail

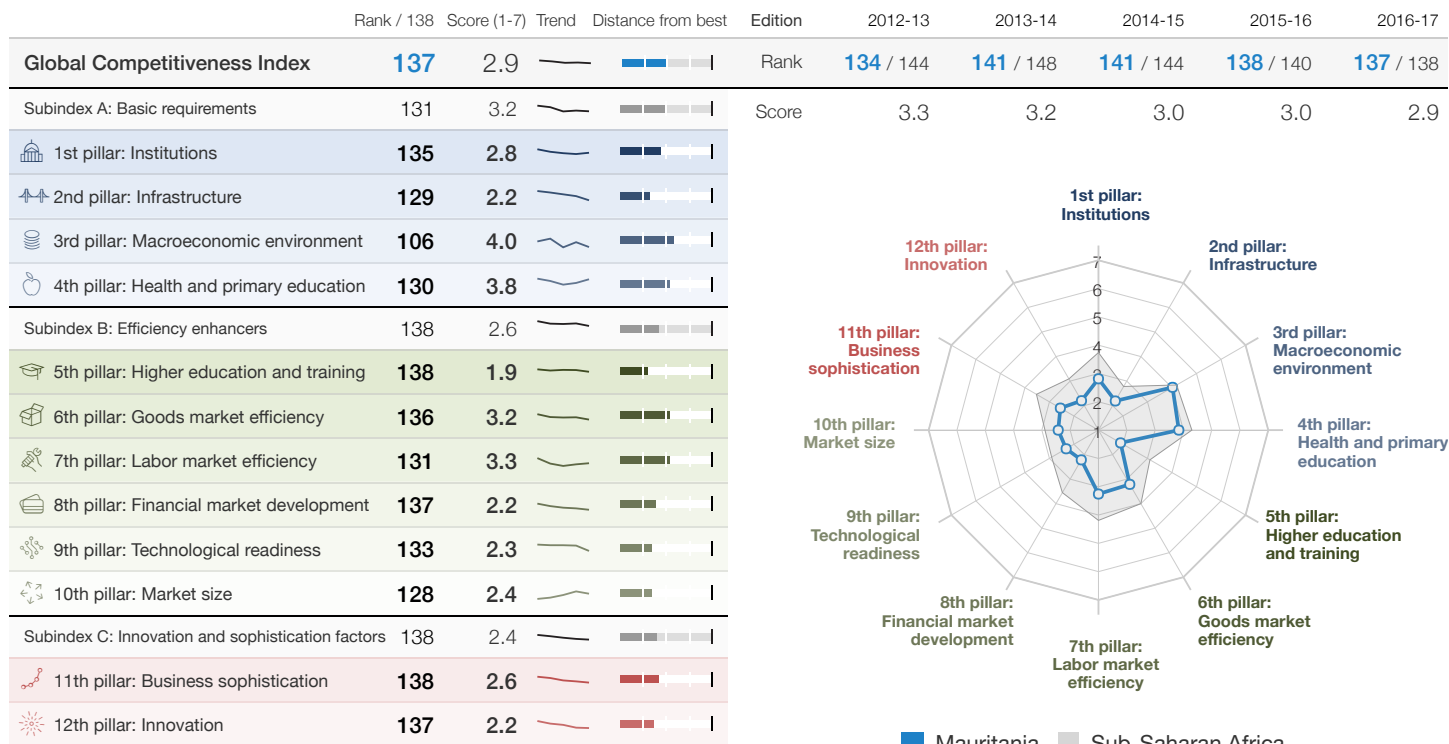
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	98	3.5		6th pillar: Goods market efficiency	110	4.0	
1.01 Property rights	113	3.7		6.01 Intensity of local competition	121	4.4	
1.02 Intellectual property protection	82	3.9		6.02 Extent of market dominance	37	4.1	
1.03 Diversion of public funds	75	3.4		6.03 Effectiveness of anti-monopoly policy	66	3.7	
1.04 Public trust in politicians	59	3.2		6.04 Effect of taxation on incentives to invest	81	3.4	
1.05 Irregular payments and bribes	125	2.8		6.05 Total tax rate % profits	102	48.3	
1.06 Judicial independence	84	3.7		6.06 No. of procedures to start a business	41	5	
1.07 Favoritism in decisions of government officials	56	3.3		6.07 Time to start a business days	53	8.5	
1.08 Wastefulness of government spending	71	3.2		6.08 Agricultural policy costs	80	3.7	
1.09 Burden of government regulation	73	3.4		6.09 Prevalence of non-tariff barriers	122	3.6	
1.10 Efficiency of legal framework in settling disputes	63	3.7		6.10 Trade tariffs % duty	104	9.9	
1.11 Efficiency of legal framework in challenging regs	68	3.5		6.11 Prevalence of foreign ownership	122	3.5	
1.12 Transparency of government policymaking	101	3.7		6.12 Business impact of rules on FDI	119	3.6	
1.13 Business costs of terrorism	126	3.2		6.13 Burden of customs procedures	117	3.3	
1.14 Business costs of crime and violence	113	3.6		6.14 Imports % GDP	109	30.1	
1.15 Organized crime	114	3.9		6.15 Degree of customer orientation	107	4.1	
1.16 Reliability of police services	102	3.6		6.16 Buyer sophistication	125	2.6	
1.17 Ethical behavior of firms	103	3.5		7th pillar: Labor market efficiency	112	3.8	
1.18 Strength of auditing and reporting standards	134	3.3		7.01 Cooperation in labor-employer relations	84	4.2	
1.19 Efficacy of corporate boards	102	4.4		7.02 Flexibility of wage determination	117	4.2	
1.20 Protection of minority shareholders' interests	121	3.4		7.03 Hiring and firing practices	53	3.9	
1.21 Strength of investor protection 0-10 (best)	129	3.5		7.04 Redundancy costs weeks of salary	55	13.6	
2nd pillar: Infrastructure	112	2.9		7.05 Effect of taxation on incentives to work	79	3.8	
2.01 Quality of overall infrastructure	128	2.4		7.06 Pay and productivity	120	3.3	
2.02 Quality of roads	97	3.2		7.07 Reliance on professional management	121	3.4	
2.03 Quality of railroad infrastructure	84	2.2		7.08 Country capacity to retain talent	74	3.5	
2.04 Quality of port infrastructure	125	2.3		7.09 Country capacity to attract talent	72	3.3	
2.05 Quality of air transport infrastructure	110	3.5		7.10 Female participation in the labor force ratio to men	114	0.62	
2.06 Available airline seat kilometers millions/week	112	32.3		8th pillar: Financial market development	109	3.4	
2.07 Quality of electricity supply	116	2.8		8.01 Financial services meeting business needs	128	3.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	31	139.6		8.02 Affordability of financial services	119	3.0	
2.09 Fixed-telephone lines /100 pop.	122	1.0		8.03 Financing through local equity market	96	3.1	
3rd pillar: Macroeconomic environment	52	5.0		8.04 Ease of access to loans	93	3.4	
3.01 Government budget balance % GDP	43	-2.1		8.05 Venture capital availability	88	2.6	
3.02 Gross national savings % GDP	65	21.2		8.06 Soundness of banks	118	3.8	
3.03 Inflation annual % change	1	1.4		8.07 Regulation of securities exchanges	115	3.5	
3.04 Government debt % GDP	42	36.3		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	126	-		9th pillar: Technological readiness	113	2.8	
4th pillar: Health and primary education	137	3.0		9.01 Availability of latest technologies	109	4.0	
4.01 Malaria incidence cases/100,000 pop.	69	42725.0		9.02 Firm-level technology absorption	117	3.9	
4.02 Business impact of malaria	65	3.2		9.03 FDI and technology transfer	106	3.8	
4.03 Tuberculosis incidence cases/100,000 pop.	75	58.0		9.04 Internet users % pop.	128	10.3	
4.04 Business impact of tuberculosis	123	4.0		9.05 Fixed-broadband Internet subscriptions /100 pop.	134	0.0	
4.05 HIV prevalence % adult pop.	115	1.4		9.06 Internet bandwidth kb/s/user	136	1.3	
4.06 Business impact of HIV/AIDS	122	3.9		9.07 Mobile-broadband subscriptions /100 pop.	111	18.8	
4.07 Infant mortality deaths/1,000 live births	135	74.5		10th pillar: Market size	111	2.8	
4.08 Life expectancy years	128	58.0		10.01 Domestic market size index	103	2.6	
4.09 Quality of primary education	106	3.1		10.02 Foreign market size index	120	3.4	
4.10 Primary education enrollment rate net %	137	59.4		10.03 GDP (PPP) PPP \$ billions	104	35.8	
5th pillar: Higher education and training	122	2.9		10.04 Exports % GDP	111	20.3	
5.01 Secondary education enrollment rate gross %	121	43.5		11th pillar: Business sophistication	118	3.4	
5.02 Tertiary education enrollment rate gross %	124	6.9		11.01 Local supplier quantity	103	4.1	
5.03 Quality of the education system	101	3.2		11.02 Local supplier quality	115	3.7	
5.04 Quality of math and science education	101	3.5		11.03 State of cluster development	92	3.4	
5.05 Quality of management schools	91	3.8		11.04 Nature of competitive advantage	102	3.0	
5.06 Internet access in schools	100	3.7		11.05 Value chain breadth	128	3.0	
5.07 Local availability of specialized training services	88	4.1		11.06 Control of international distribution	108	3.1	
5.08 Extent of staff training	111	3.5		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

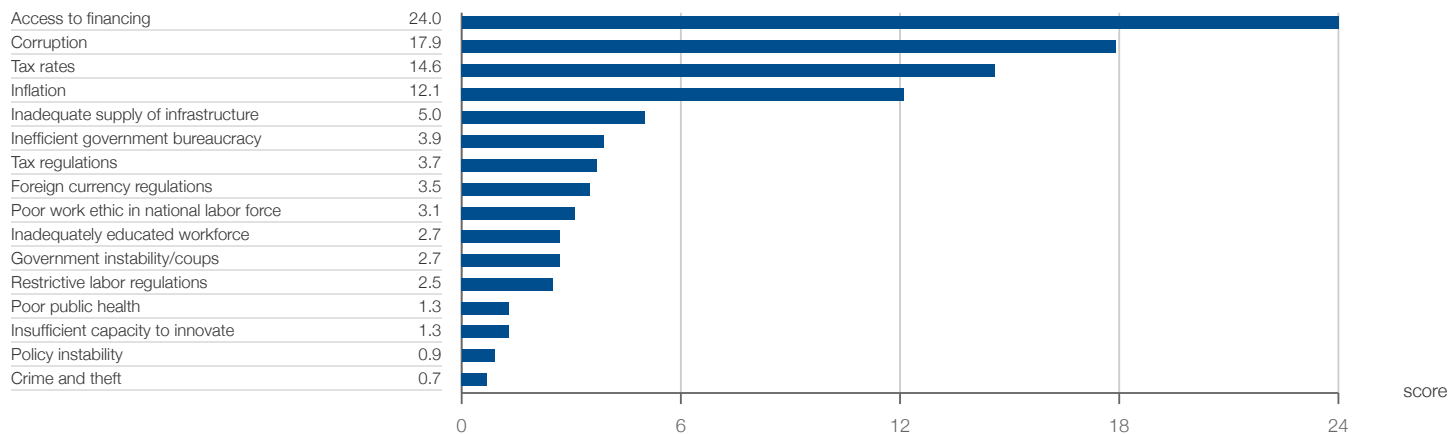
Population (millions)	3.7	GDP per capita (US\$)	1282.3
GDP (US\$ billions)	4.8	GDP (PPP) % world GDP	0.01

Performance overview



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

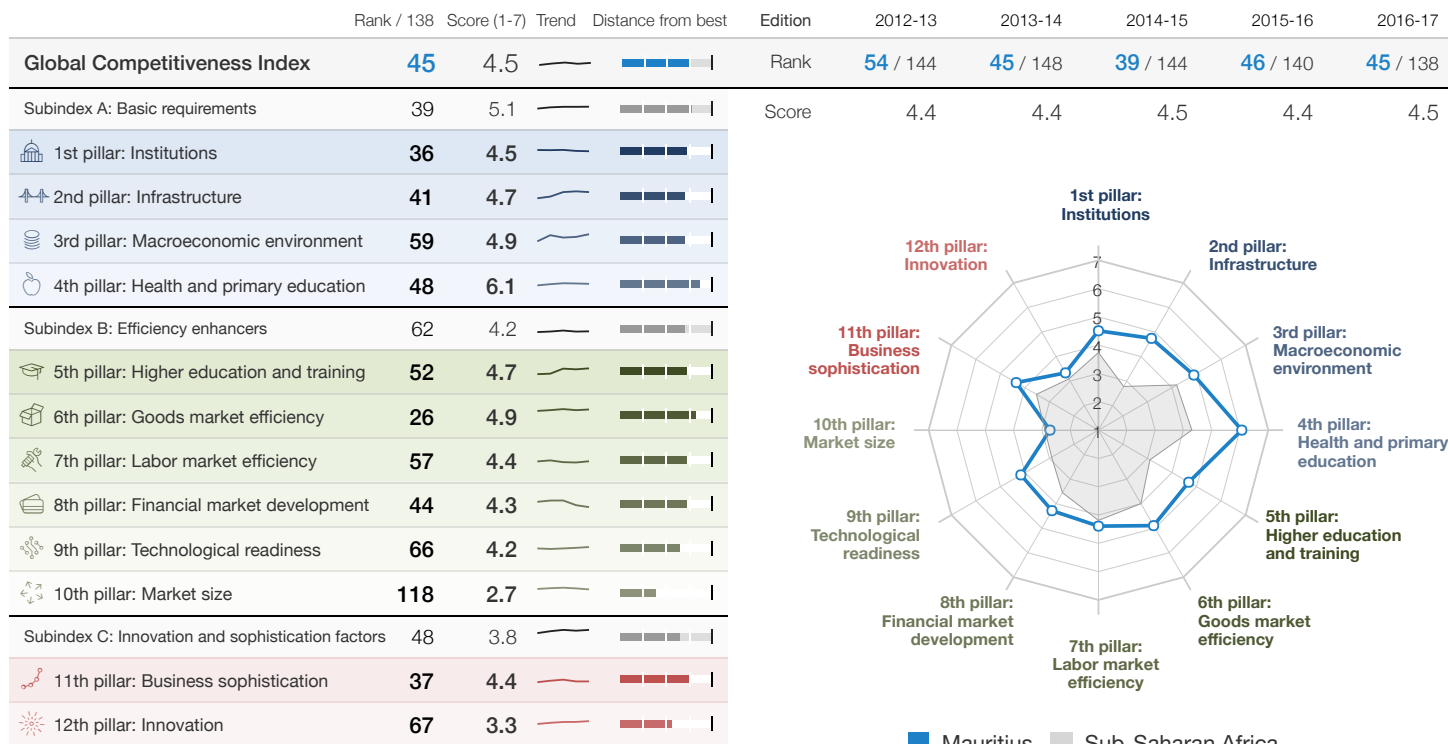
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	135	2.8		6th pillar: Goods market efficiency	136	3.2	
1.01 Property rights	136	2.7		6.01 Intensity of local competition	101	4.7	
1.02 Intellectual property protection	134	2.8		6.02 Extent of market dominance	137	2.1	
1.03 Diversion of public funds	95	3.0		6.03 Effectiveness of anti-monopoly policy	137	2.4	
1.04 Public trust in politicians	43	3.8		6.04 Effect of taxation on incentives to invest	131	2.5	
1.05 Irregular payments and bribes	138	1.9		6.05 Total tax rate % profits	134	71.3	
1.06 Judicial independence	119	2.8		6.06 No. of procedures to start a business	54	6	
1.07 Favoritism in decisions of government officials	48	3.5		6.07 Time to start a business days	48	8.0	
1.08 Wastefulness of government spending	95	2.6		6.08 Agricultural policy costs	105	3.3	
1.09 Burden of government regulation	91	3.2		6.09 Prevalence of non-tariff barriers	138	2.6	
1.10 Efficiency of legal framework in settling disputes	131	2.4		6.10 Trade tariffs % duty	110	9.9	
1.11 Efficiency of legal framework in challenging regs	132	2.3		6.11 Prevalence of foreign ownership	129	3.2	
1.12 Transparency of government policymaking	134	2.8		6.12 Business impact of rules on FDI	136	2.7	
1.13 Business costs of terrorism	129	3.2		6.13 Burden of customs procedures	133	2.9	
1.14 Business costs of crime and violence	117	3.4		6.14 Imports % GDP	40	54.7	
1.15 Organized crime	129	3.1		6.15 Degree of customer orientation	137	3.1	
1.16 Reliability of police services	137	2.1		6.16 Buyer sophistication	137	1.9	
1.17 Ethical behavior of firms	138	2.5		7th pillar: Labor market efficiency	131	3.3	
1.18 Strength of auditing and reporting standards	137	2.5		7.01 Cooperation in labor-employer relations	63	4.4	
1.19 Efficacy of corporate boards	138	2.2		7.02 Flexibility of wage determination	108	4.4	
1.20 Protection of minority shareholders' interests	138	2.3		7.03 Hiring and firing practices	69	3.8	
1.21 Strength of investor protection 0-10 (best)	108	4.3		7.04 Redundancy costs weeks of salary	36	10.4	
2nd pillar: Infrastructure	129	2.2		7.05 Effect of taxation on incentives to work	81	3.8	
2.01 Quality of overall infrastructure	138	1.6		7.06 Pay and productivity	138	2.1	
2.02 Quality of roads	135	2.3		7.07 Reliance on professional management	138	2.1	
2.03 Quality of railroad infrastructure	90	2.0		7.08 Country capacity to retain talent	103	2.9	
2.04 Quality of port infrastructure	115	2.9		7.09 Country capacity to attract talent	129	2.1	
2.05 Quality of air transport infrastructure	135	2.4		7.10 Female participation in the labor force ratio to men	124	0.46	
2.06 Available airline seat kilometers millions/week	129	11.7		8th pillar: Financial market development	137	2.2	
2.07 Quality of electricity supply	122	2.4		8.01 Financial services meeting business needs	138	2.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	110	89.3		8.02 Affordability of financial services	135	2.3	
2.09 Fixed-telephone lines /100 pop.	119	1.3		8.03 Financing through local equity market	135	2.1	
3rd pillar: Macroeconomic environment	106	4.0		8.04 Ease of access to loans	134	2.1	
3.01 Government budget balance % GDP	76	-3.5		8.05 Venture capital availability	128	2.0	
3.02 Gross national savings % GDP	91	16.3		8.06 Soundness of banks	135	2.4	
3.03 Inflation annual % change	37	0.5		8.07 Regulation of securities exchanges	135	2.4	
3.04 Government debt % GDP	112	78.1		8.08 Legal rights index 0-10 (best)	108	2	
3.05 Country credit rating 0-100 (best)	131	-		9th pillar: Technological readiness	133	2.3	
4th pillar: Health and primary education	130	3.8		9.01 Availability of latest technologies	132	3.3	
4.01 Malaria incidence cases/100,000 pop.	45	1813.8		9.02 Firm-level technology absorption	134	3.4	
4.02 Business impact of malaria	50	4.0		9.03 FDI and technology transfer	138	2.4	
4.03 Tuberculosis incidence cases/100,000 pop.	96	111.0		9.04 Internet users % pop.	125	15.2	
4.04 Business impact of tuberculosis	136	3.4		9.05 Fixed-broadband Internet subscriptions /100 pop.	121	0.2	
4.05 HIV prevalence % adult pop.	98	0.7		9.06 Internet bandwidth kb/s/user	135	1.5	
4.06 Business impact of HIV/AIDS	128	3.7		9.07 Mobile-broadband subscriptions /100 pop.	105	23.1	
4.07 Infant mortality deaths/1,000 live births	130	65.1		10th pillar: Market size	128	2.4	
4.08 Life expectancy years	118	63.0		10.01 Domestic market size index	127	2.2	
4.09 Quality of primary education	138	2.0		10.02 Foreign market size index	125	3.2	
4.10 Primary education enrollment rate net %	132	74.4		10.03 GDP (PPP) PPP \$ billions	127	16.3	
5th pillar: Higher education and training	138	1.9		10.04 Exports % GDP	72	33.1	
5.01 Secondary education enrollment rate gross %	135	29.9		11th pillar: Business sophistication	138	2.6	
5.02 Tertiary education enrollment rate gross %	128	5.6		11.01 Local supplier quantity	124	3.8	
5.03 Quality of the education system	137	2.1		11.02 Local supplier quality	138	2.6	
5.04 Quality of math and science education	132	2.5		11.03 State of cluster development	135	2.7	
5.05 Quality of management schools	137	2.6		11.04 Nature of competitive advantage	137	2.1	
5.06 Internet access in schools	135	2.2		11.05 Value chain breadth	138	2.4	
5.07 Local availability of specialized training services	138	2.5		11.06 Control of international distribution	132	2.8	
5.08 Extent of staff training	138	2.2		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

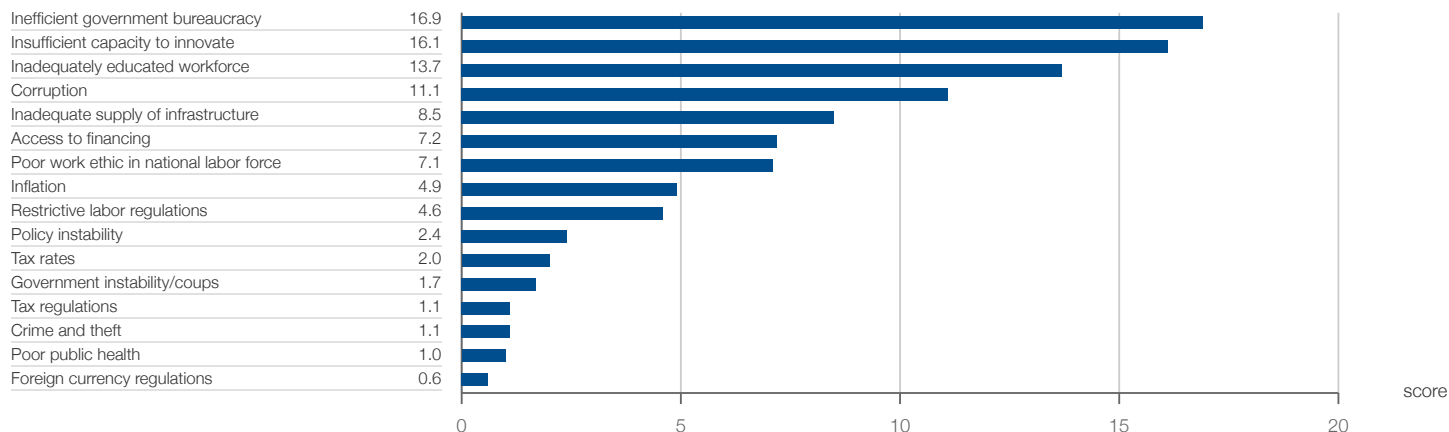
Population (millions)	1.3	GDP per capita (US\$)	9218.4
GDP (US\$ billions)	11.6	GDP (PPP) % world GDP	0.02

Performance overview



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

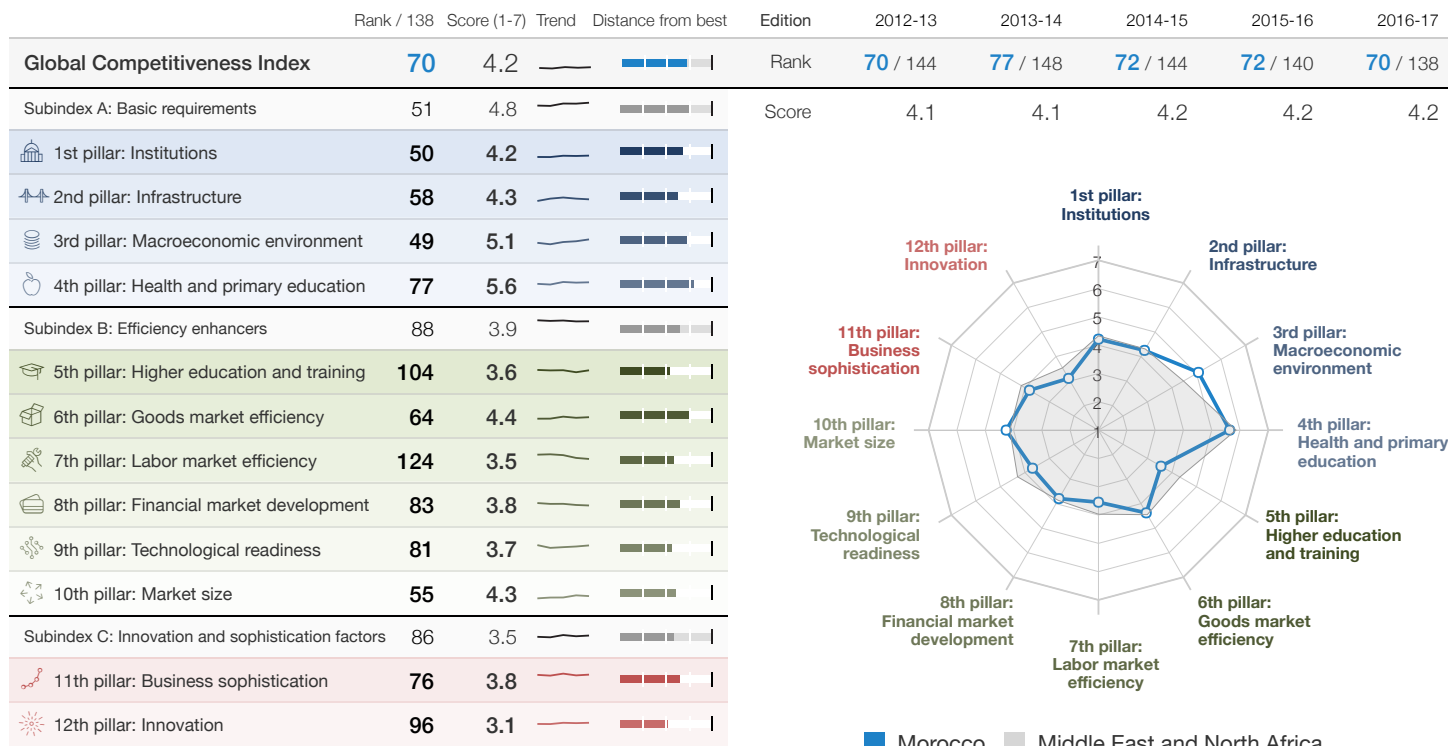
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	36	4.5		6th pillar: Goods market efficiency	26	4.9	
1.01 Property rights	39	5.0		6.01 Intensity of local competition	48	5.3	
1.02 Intellectual property protection	45	4.5		6.02 Extent of market dominance	101	3.3	
1.03 Diversion of public funds	56	3.9		6.03 Effectiveness of anti-monopoly policy	37	4.1	
1.04 Public trust in politicians	61	3.1		6.04 Effect of taxation on incentives to invest	8	5.3	
1.05 Irregular payments and bribes	45	4.6		6.05 Total tax rate % profits	19	22.4	
1.06 Judicial independence	33	5.0		6.06 No. of procedures to start a business	41	5	
1.07 Favoritism in decisions of government officials	71	3.0		6.07 Time to start a business days	34	6.0	
1.08 Wastefulness of government spending	46	3.6		6.08 Agricultural policy costs	47	4.1	
1.09 Burden of government regulation	39	3.8		6.09 Prevalence of non-tariff barriers	37	4.7	
1.10 Efficiency of legal framework in settling disputes	28	4.7		6.10 Trade tariffs % duty	3	0.7	
1.11 Efficiency of legal framework in challenging regs	31	4.4		6.11 Prevalence of foreign ownership	57	4.7	
1.12 Transparency of government policymaking	28	4.8		6.12 Business impact of rules on FDI	37	5.1	
1.13 Business costs of terrorism	28	5.9		6.13 Burden of customs procedures	36	4.7	
1.14 Business costs of crime and violence	43	5.2		6.14 Imports % GDP	36	60.0	
1.15 Organized crime	22	5.8		6.15 Degree of customer orientation	32	5.1	
1.16 Reliability of police services	52	4.8		6.16 Buyer sophistication	34	3.8	
1.17 Ethical behavior of firms	41	4.4		7th pillar: Labor market efficiency	57	4.4	
1.18 Strength of auditing and reporting standards	57	4.8		7.01 Cooperation in labor-employer relations	35	4.8	
1.19 Efficacy of corporate boards	35	5.3		7.02 Flexibility of wage determination	102	4.5	
1.20 Protection of minority shareholders' interests	34	4.7		7.03 Hiring and firing practices	37	4.3	
1.21 Strength of investor protection 0-10 (best)	29	6.5		7.04 Redundancy costs weeks of salary	37	10.6	
2nd pillar: Infrastructure	41	4.7		7.05 Effect of taxation on incentives to work	14	5.0	
2.01 Quality of overall infrastructure	42	4.6		7.06 Pay and productivity	50	4.3	
2.02 Quality of roads	44	4.7		7.07 Reliance on professional management	53	4.5	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	49	3.8	
2.04 Quality of port infrastructure	63	4.2		7.09 Country capacity to attract talent	32	4.0	
2.05 Quality of air transport infrastructure	53	4.8		7.10 Female participation in the labor force ratio to men	108	0.64	
2.06 Available airline seat kilometers millions/week	67	199.9		8th pillar: Financial market development	44	4.3	
2.07 Quality of electricity supply	50	5.4		8.01 Financial services meeting business needs	43	4.6	
2.08 Mobile-cellular telephone subscriptions /100 pop.	30	140.6		8.02 Affordability of financial services	44	4.2	
2.09 Fixed-telephone lines /100 pop.	35	30.3		8.03 Financing through local equity market	43	4.1	
3rd pillar: Macroeconomic environment	59	4.9		8.04 Ease of access to loans	43	4.3	
3.01 Government budget balance % GDP	75	-3.4		8.05 Venture capital availability	62	3.0	
3.02 Gross national savings % GDP	69	20.4		8.06 Soundness of banks	59	5.2	
3.03 Inflation annual % change	1	1.3		8.07 Regulation of securities exchanges	65	4.4	
3.04 Government debt % GDP	85	58.1		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	57	-		9th pillar: Technological readiness	66	4.2	
4th pillar: Health and primary education	48	6.1		9.01 Availability of latest technologies	57	4.9	
4.01 Malaria incidence cases/100,000 pop.	n/a	M.F.		9.02 Firm-level technology absorption	51	4.7	
4.02 Business impact of malaria	N/Appl.	N/Appl.		9.03 FDI and technology transfer	61	4.5	
4.03 Tuberculosis incidence cases/100,000 pop.	50	22.0		9.04 Internet users % pop.	78	50.1	
4.04 Business impact of tuberculosis	52	6.0		9.05 Fixed-broadband Internet subscriptions /100 pop.	55	15.7	
4.05 HIV prevalence % adult pop.	102	0.9		9.06 Internet bandwidth kb/s/user	76	33.9	
4.06 Business impact of HIV/AIDS	70	5.6		9.07 Mobile-broadband subscriptions /100 pop.	93	37.0	
4.07 Infant mortality deaths/1,000 live births	66	11.8		10th pillar: Market size	118	2.7	
4.08 Life expectancy years	76	74.2		10.01 Domestic market size index	120	2.4	
4.09 Quality of primary education	46	4.5		10.02 Foreign market size index	108	3.6	
4.10 Primary education enrollment rate net %	56	96.2		10.03 GDP (PPP) PPP \$ billions	120	24.6	
5th pillar: Higher education and training	52	4.7		10.04 Exports % GDP	45	44.0	
5.01 Secondary education enrollment rate gross %	57	97.9		11th pillar: Business sophistication	37	4.4	
5.02 Tertiary education enrollment rate gross %	73	38.7		11.01 Local supplier quantity	33	4.8	
5.03 Quality of the education system	47	4.2		11.02 Local supplier quality	53	4.4	
5.04 Quality of math and science education	41	4.6		11.03 State of cluster development	40	4.1	
5.05 Quality of management schools	46	4.6		11.04 Nature of competitive advantage	42	4.1	
5.06 Internet access in schools	67	4.2		11.05 Value chain breadth	28	4.5	
5.07 Local availability of specialized training services	56	4.5		11.06 Control of international distribution	36	4.2	
5.08 Extent of staff training	32	4.6		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

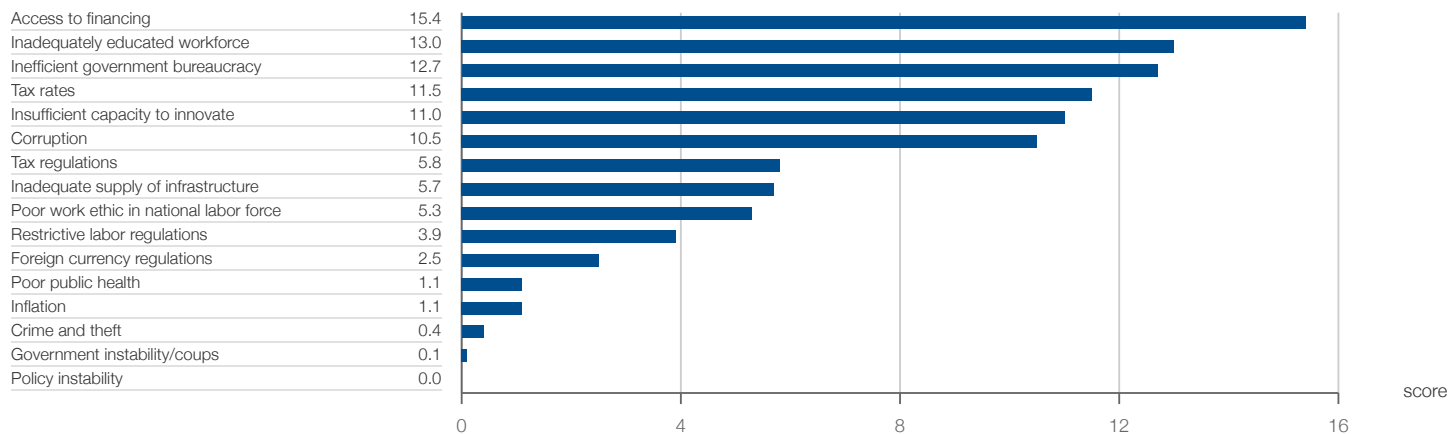
Population (millions)	33.5	GDP per capita (US\$)	3078.6
GDP (US\$ billions)	103.1	GDP (PPP) % world GDP	0.24

Performance overview



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.

The Global Competitiveness Index in detail

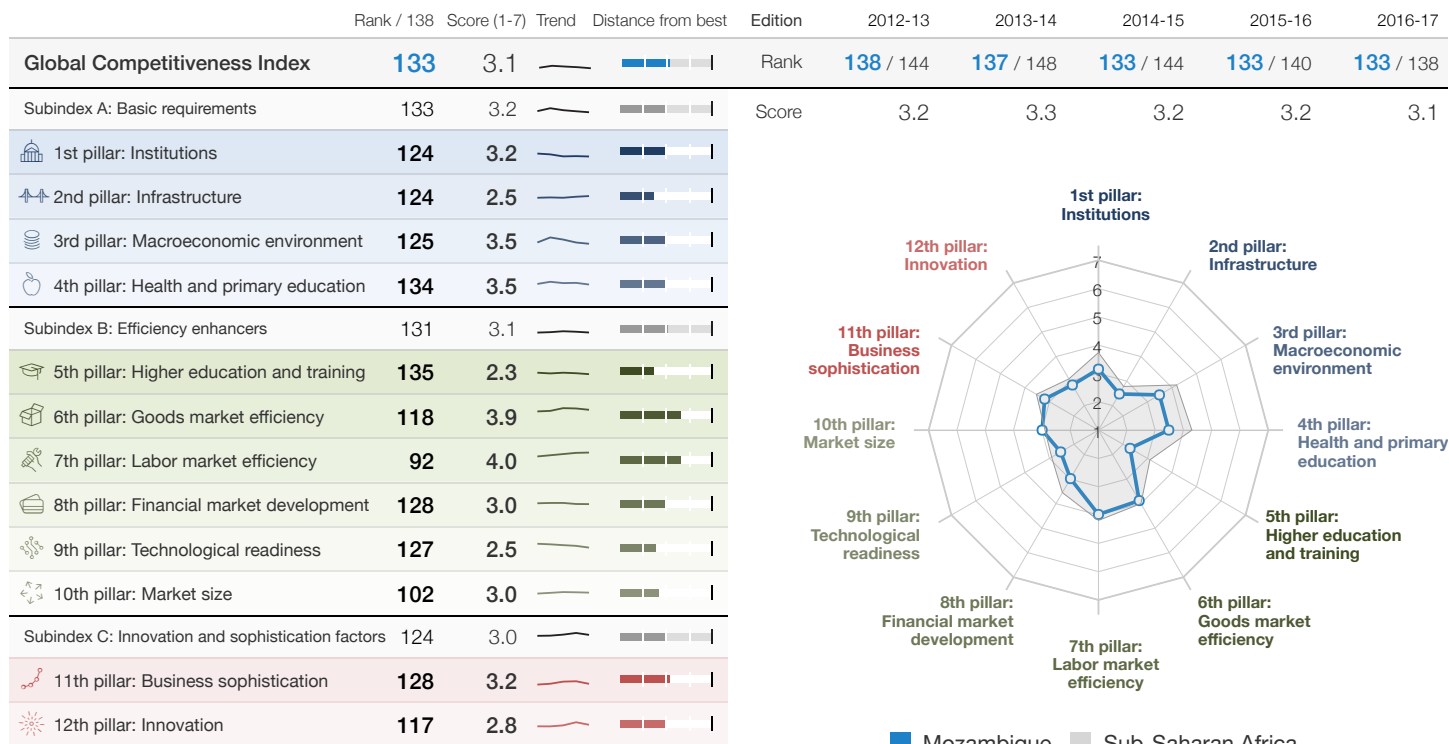
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	50	4.2		6th pillar: Goods market efficiency	64	4.4	
1.01 Property rights	46	4.7		6.01 Intensity of local competition	70	5.1	
1.02 Intellectual property protection	55	4.3		6.02 Extent of market dominance	64	3.7	
1.03 Diversion of public funds	48	4.0		6.03 Effectiveness of anti-monopoly policy	84	3.5	
1.04 Public trust in politicians	53	3.4		6.04 Effect of taxation on incentives to invest	36	4.1	
1.05 Irregular payments and bribes	74	3.9		6.05 Total tax rate % profits	106	49.1	
1.06 Judicial independence	83	3.7		6.06 No. of procedures to start a business	22	4	
1.07 Favoritism in decisions of government officials	47	3.5		6.07 Time to start a business days	56	10.0	
1.08 Wastefulness of government spending	43	3.6		6.08 Agricultural policy costs	14	4.7	
1.09 Burden of government regulation	57	3.6		6.09 Prevalence of non-tariff barriers	124	3.6	
1.10 Efficiency of legal framework in settling disputes	71	3.6		6.10 Trade tariffs % duty	113	10.4	
1.11 Efficiency of legal framework in challenging regs	64	3.6		6.11 Prevalence of foreign ownership	53	4.8	
1.12 Transparency of government policymaking	49	4.5		6.12 Business impact of rules on FDI	39	5.0	
1.13 Business costs of terrorism	43	5.7		6.13 Burden of customs procedures	60	4.3	
1.14 Business costs of crime and violence	29	5.4		6.14 Imports % GDP	67	43.2	
1.15 Organized crime	31	5.7		6.15 Degree of customer orientation	75	4.6	
1.16 Reliability of police services	28	5.8		6.16 Buyer sophistication	84	3.2	
1.17 Ethical behavior of firms	80	3.7		7th pillar: Labor market efficiency	124	3.5	
1.18 Strength of auditing and reporting standards	65	4.6		7.01 Cooperation in labor-employer relations	122	3.7	
1.19 Efficacy of corporate boards	78	4.8		7.02 Flexibility of wage determination	47	5.3	
1.20 Protection of minority shareholders' interests	46	4.3		7.03 Hiring and firing practices	103	3.3	
1.21 Strength of investor protection 0-10 (best)	90	5.0		7.04 Redundancy costs weeks of salary	91	20.7	
2nd pillar: Infrastructure	58	4.3		7.05 Effect of taxation on incentives to work	54	4.1	
2.01 Quality of overall infrastructure	50	4.5		7.06 Pay and productivity	114	3.4	
2.02 Quality of roads	55	4.4		7.07 Reliance on professional management	84	4.0	
2.03 Quality of railroad infrastructure	37	3.9		7.08 Country capacity to retain talent	91	3.2	
2.04 Quality of port infrastructure	38	4.8		7.09 Country capacity to attract talent	68	3.4	
2.05 Quality of air transport infrastructure	55	4.7		7.10 Female participation in the labor force ratio to men	132	0.34	
2.06 Available airline seat kilometers millions/week	48	474.4		8th pillar: Financial market development	83	3.8	
2.07 Quality of electricity supply	53	5.3		8.01 Financial services meeting business needs	95	3.9	
2.08 Mobile-cellular telephone subscriptions /100 pop.	53	126.9		8.02 Affordability of financial services	80	3.6	
2.09 Fixed-telephone lines /100 pop.	98	6.5		8.03 Financing through local equity market	48	4.0	
3rd pillar: Macroeconomic environment	49	5.1		8.04 Ease of access to loans	87	3.6	
3.01 Government budget balance % GDP	93	-4.3		8.05 Venture capital availability	91	2.6	
3.02 Gross national savings % GDP	16	32.0		8.06 Soundness of banks	61	5.1	
3.03 Inflation annual % change	1	1.6		8.07 Regulation of securities exchanges	37	5.1	
3.04 Government debt % GDP	92	63.7		8.08 Legal rights index 0-10 (best)	108	2	
3.05 Country credit rating 0-100 (best)	69	-		9th pillar: Technological readiness	81	3.7	
4th pillar: Health and primary education	77	5.6		9.01 Availability of latest technologies	50	5.0	
4.01 Malaria incidence cases/100,000 pop.	n/a	M.F.		9.02 Firm-level technology absorption	63	4.6	
4.02 Business impact of malaria	N/Appl.	N/Appl.		9.03 FDI and technology transfer	58	4.5	
4.03 Tuberculosis incidence cases/100,000 pop.	94	106.0		9.04 Internet users % pop.	67	57.1	
4.04 Business impact of tuberculosis	69	5.7		9.05 Fixed-broadband Internet subscriptions /100 pop.	93	3.4	
4.05 HIV prevalence % adult pop.	1	0.1		9.06 Internet bandwidth kb/s/user	92	18.3	
4.06 Business impact of HIV/AIDS	61	5.7		9.07 Mobile-broadband subscriptions /100 pop.	88	39.3	
4.07 Infant mortality deaths/1,000 live births	96	23.7		10th pillar: Market size	55	4.3	
4.08 Life expectancy years	80	74.0		10.01 Domestic market size index	49	4.1	
4.09 Quality of primary education	118	2.9		10.02 Foreign market size index	55	4.8	
4.10 Primary education enrollment rate net %	22	98.4		10.03 GDP (PPP) PPP \$ billions	55	273.5	
5th pillar: Higher education and training	104	3.6		10.04 Exports % GDP	70	34.5	
5.01 Secondary education enrollment rate gross %	101	69.1		11th pillar: Business sophistication	76	3.8	
5.02 Tertiary education enrollment rate gross %	92	24.6		11.01 Local supplier quantity	51	4.6	
5.03 Quality of the education system	119	2.8		11.02 Local supplier quality	73	4.2	
5.04 Quality of math and science education	72	4.0		11.03 State of cluster development	79	3.6	
5.05 Quality of management schools	76	4.1		11.04 Nature of competitive advantage	103	3.0	
5.06 Internet access in schools	109	3.6		11.05 Value chain breadth	78	3.7	
5.07 Local availability of specialized training services	83	4.1		11.06 Control of international distribution	71	3.6	
5.08 Extent of staff training	126	3.2		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

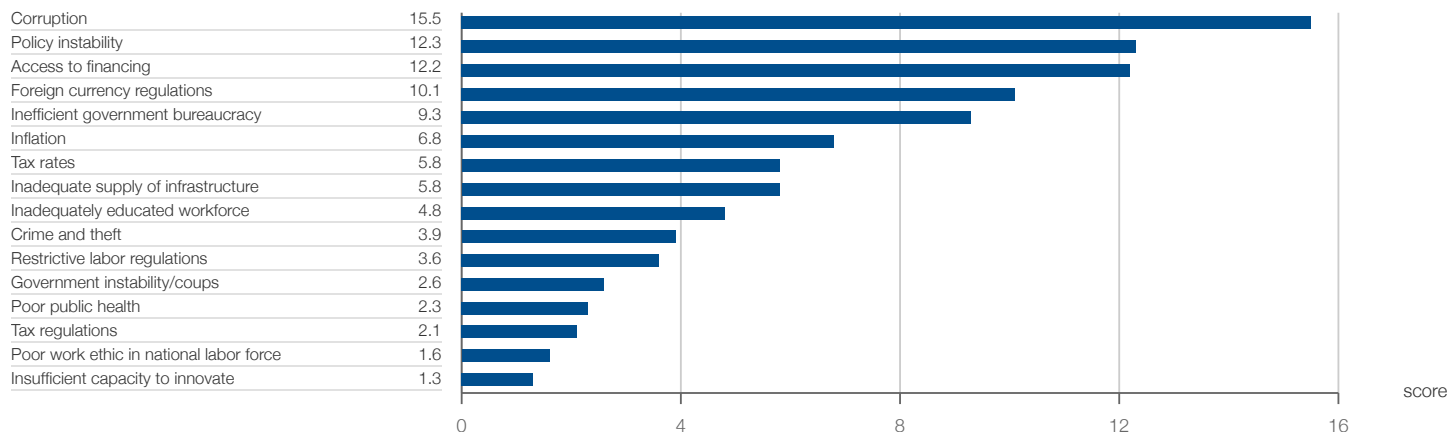
Population (millions)	28.0	GDP per capita (US\$)	534.9
GDP (US\$ billions)	15.0	GDP (PPP) % world GDP	0.03

Performance overview



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

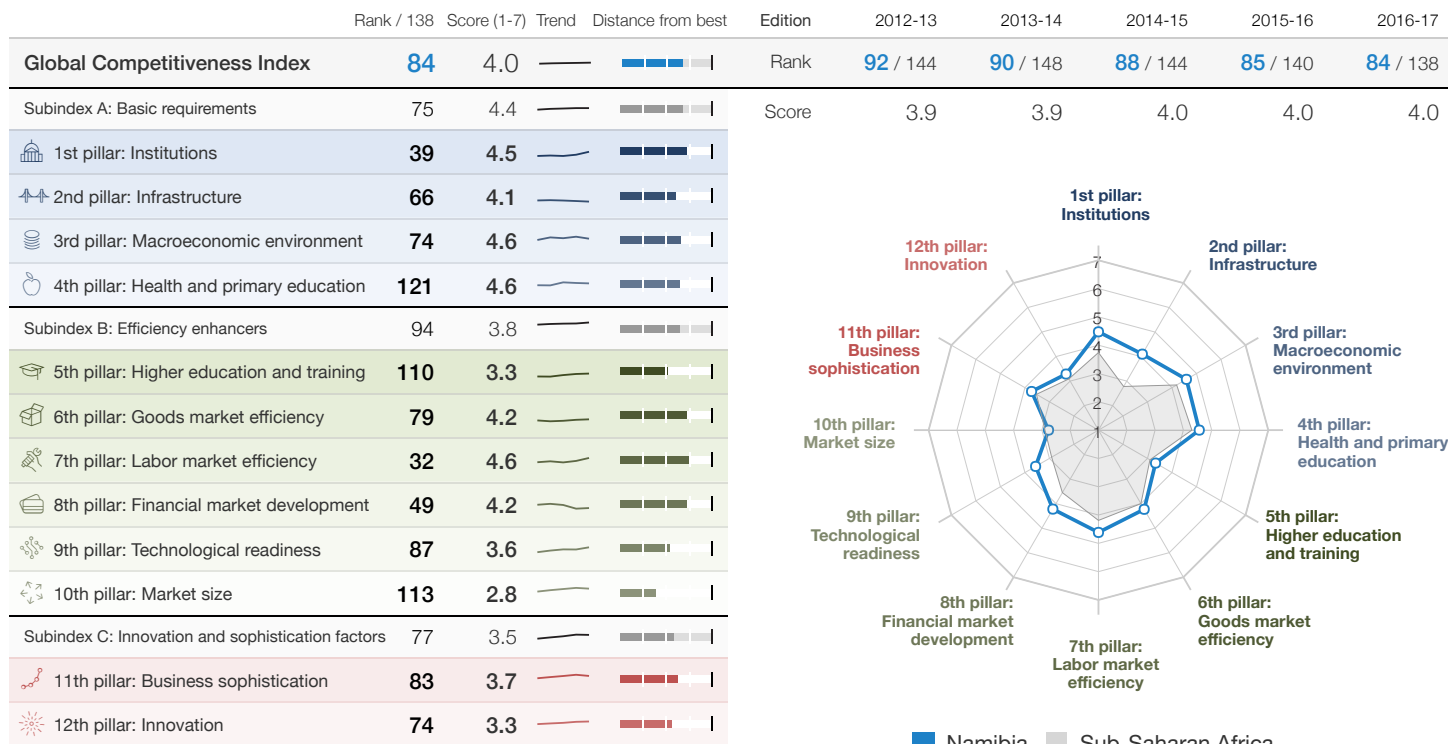
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	124	3.2		6th pillar: Goods market efficiency	118	3.9	
1.01 Property rights	116	3.6		6.01 Intensity of local competition	117	4.5	
1.02 Intellectual property protection	128	3.2		6.02 Extent of market dominance	120	3.0	
1.03 Diversion of public funds	124	2.4		6.03 Effectiveness of anti-monopoly policy	128	2.7	
1.04 Public trust in politicians	93	2.6		6.04 Effect of taxation on incentives to invest	83	3.4	
1.05 Irregular payments and bribes	117	3.0		6.05 Total tax rate % profits	65	36.1	
1.06 Judicial independence	112	2.9		6.06 No. of procedures to start a business	116	10	
1.07 Favoritism in decisions of government officials	110	2.4		6.07 Time to start a business days	98	19.0	
1.08 Wastefulness of government spending	91	2.7		6.08 Agricultural policy costs	106	3.3	
1.09 Burden of government regulation	90	3.2		6.09 Prevalence of non-tariff barriers	109	3.9	
1.10 Efficiency of legal framework in settling disputes	102	3.0		6.10 Trade tariffs % duty	88	7.6	
1.11 Efficiency of legal framework in challenging regs	122	2.6		6.11 Prevalence of foreign ownership	69	4.5	
1.12 Transparency of government policymaking	122	3.4		6.12 Business impact of rules on FDI	79	4.4	
1.13 Business costs of terrorism	112	4.3		6.13 Burden of customs procedures	100	3.5	
1.14 Business costs of crime and violence	118	3.3		6.14 Imports % GDP	19	77.4	
1.15 Organized crime	121	3.6		6.15 Degree of customer orientation	134	3.6	
1.16 Reliability of police services	127	2.8		6.16 Buyer sophistication	109	2.9	
1.17 Ethical behavior of firms	126	3.1		7th pillar: Labor market efficiency	92	4.0	
1.18 Strength of auditing and reporting standards	124	3.6		7.01 Cooperation in labor-employer relations	123	3.7	
1.19 Efficacy of corporate boards	122	4.1		7.02 Flexibility of wage determination	114	4.3	
1.20 Protection of minority shareholders' interests	125	3.4		7.03 Hiring and firing practices	96	3.5	
1.21 Strength of investor protection 0-10 (best)	86	5.2		7.04 Redundancy costs weeks of salary	130	37.5	
2nd pillar: Infrastructure	124	2.5		7.05 Effect of taxation on incentives to work	63	4.0	
2.01 Quality of overall infrastructure	123	2.6		7.06 Pay and productivity	133	2.9	
2.02 Quality of roads	133	2.4		7.07 Reliance on professional management	126	3.3	
2.03 Quality of railroad infrastructure	78	2.4		7.08 Country capacity to retain talent	77	3.4	
2.04 Quality of port infrastructure	92	3.5		7.09 Country capacity to attract talent	57	3.6	
2.05 Quality of air transport infrastructure	113	3.4		7.10 Female participation in the labor force ratio to men	1	1.11	
2.06 Available airline seat kilometers millions/week	104	42.8		8th pillar: Financial market development	128	3.0	
2.07 Quality of electricity supply	118	2.8		8.01 Financial services meeting business needs	124	3.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	126	74.2		8.02 Affordability of financial services	123	2.9	
2.09 Fixed-telephone lines /100 pop.	128	0.3		8.03 Financing through local equity market	116	2.7	
3rd pillar: Macroeconomic environment	125	3.5		8.04 Ease of access to loans	105	3.2	
3.01 Government budget balance % GDP	113	-6.0		8.05 Venture capital availability	113	2.3	
3.02 Gross national savings % GDP	138	-13.1		8.06 Soundness of banks	110	4.1	
3.03 Inflation annual % change	1	2.4		8.07 Regulation of securities exchanges	111	3.6	
3.04 Government debt % GDP	108	74.8		8.08 Legal rights index 0-10 (best)	127	1	
3.05 Country credit rating 0-100 (best)	116	-		9th pillar: Technological readiness	127	2.5	
4th pillar: Health and primary education	134	3.5		9.01 Availability of latest technologies	124	3.7	
4.01 Malaria incidence cases/100,000 pop.	65	34170.7		9.02 Firm-level technology absorption	118	3.9	
4.02 Business impact of malaria	59	3.6		9.03 FDI and technology transfer	101	3.9	
4.03 Tuberculosis incidence cases/100,000 pop.	135	551.0		9.04 Internet users % pop.	130	9.0	
4.04 Business impact of tuberculosis	120	4.1		9.05 Fixed-broadband Internet subscriptions /100 pop.	129	0.1	
4.05 HIV prevalence % adult pop.	131	10.6		9.06 Internet bandwidth kb/s/user	116	6.1	
4.06 Business impact of HIV/AIDS	129	3.6		9.07 Mobile-broadband subscriptions /100 pop.	126	9.4	
4.07 Infant mortality deaths/1,000 live births	127	56.7		10th pillar: Market size	102	3.0	
4.08 Life expectancy years	133	55.0		10.01 Domestic market size index	96	2.8	
4.09 Quality of primary education	135	2.1		10.02 Foreign market size index	109	3.6	
4.10 Primary education enrollment rate net %	110	87.6		10.03 GDP (PPP) PPP \$ billions	110	33.2	
5th pillar: Higher education and training	135	2.3		10.04 Exports % GDP	77	32.5	
5.01 Secondary education enrollment rate gross %	137	24.5		11th pillar: Business sophistication	128	3.2	
5.02 Tertiary education enrollment rate gross %	126	6.0		11.01 Local supplier quantity	129	3.6	
5.03 Quality of the education system	123	2.7		11.02 Local supplier quality	135	3.2	
5.04 Quality of math and science education	128	2.6		11.03 State of cluster development	114	3.1	
5.05 Quality of management schools	135	2.9		11.04 Nature of competitive advantage	108	2.9	
5.06 Internet access in schools	128	3.1		11.05 Value chain breadth	119	3.3	
5.07 Local availability of specialized training services	134	3.0		11.06 Control of international distribution	119	2.9	
5.08 Extent of staff training	132	3.1		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	

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Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

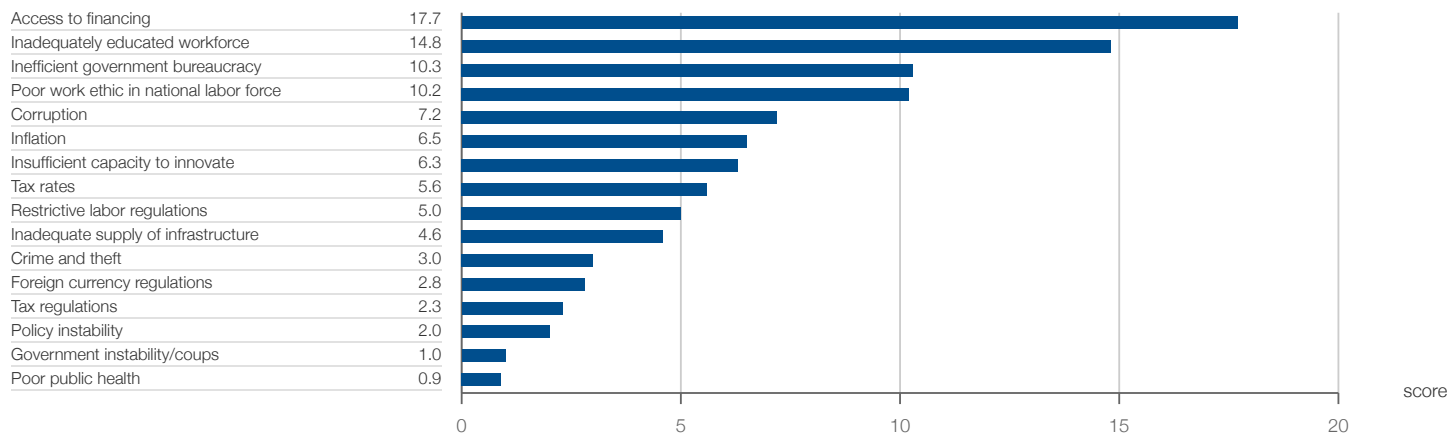
Population (millions)	2.2	GDP per capita (US\$)	5776.9
GDP (US\$ billions)	12.8	GDP (PPP) % world GDP	0.02

Performance overview



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		Rank / 138	Value	Trend
1st pillar: Institutions	39	4.5		6th pillar: Goods market efficiency	79	4.2	
1.01 Property rights	34	5.2		6.01 Intensity of local competition	103	4.7	
1.02 Intellectual property protection	40	4.7		6.02 Extent of market dominance	91	3.4	
1.03 Diversion of public funds	58	3.8		6.03 Effectiveness of anti-monopoly policy	48	3.9	
1.04 Public trust in politicians	46	3.6		6.04 Effect of taxation on incentives to invest	30	4.2	
1.05 Irregular payments and bribes	60	4.2		6.05 Total tax rate % profits	17	21.3	
1.06 Judicial independence	30	5.2		6.06 No. of procedures to start a business	116	10	
1.07 Favoritism in decisions of government officials	69	3.0		6.07 Time to start a business days	132	66.0	
1.08 Wastefulness of government spending	72	3.2		6.08 Agricultural policy costs	39	4.2	
1.09 Burden of government regulation	32	4.0		6.09 Prevalence of non-tariff barriers	41	4.6	
1.10 Efficiency of legal framework in settling disputes	33	4.6		6.10 Trade tariffs % duty	82	6.4	
1.11 Efficiency of legal framework in challenging regs	25	4.5		6.11 Prevalence of foreign ownership	38	5.1	
1.12 Transparency of government policymaking	32	4.8		6.12 Business impact of rules on FDI	77	4.5	
1.13 Business costs of terrorism	14	6.2		6.13 Burden of customs procedures	57	4.3	
1.14 Business costs of crime and violence	90	4.2		6.14 Imports % GDP	26	66.3	
1.15 Organized crime	60	5.1		6.15 Degree of customer orientation	131	3.7	
1.16 Reliability of police services	65	4.4		6.16 Buyer sophistication	54	3.6	
1.17 Ethical behavior of firms	45	4.3		7th pillar: Labor market efficiency	32	4.6	
1.18 Strength of auditing and reporting standards	33	5.3		7.01 Cooperation in labor-employer relations	62	4.4	
1.19 Efficacy of corporate boards	65	4.9		7.02 Flexibility of wage determination	89	4.8	
1.20 Protection of minority shareholders' interests	30	4.9		7.03 Hiring and firing practices	88	3.6	
1.21 Strength of investor protection 0-10 (best)	63	5.7		7.04 Redundancy costs weeks of salary	31	9.6	
2nd pillar: Infrastructure	66	4.1		7.05 Effect of taxation on incentives to work	31	4.4	
2.01 Quality of overall infrastructure	45	4.5		7.06 Pay and productivity	90	3.7	
2.02 Quality of roads	23	5.2		7.07 Reliance on professional management	47	4.6	
2.03 Quality of railroad infrastructure	50	3.2		7.08 Country capacity to retain talent	51	3.8	
2.04 Quality of port infrastructure	24	5.3		7.09 Country capacity to attract talent	40	3.8	
2.05 Quality of air transport infrastructure	57	4.6		7.10 Female participation in the labor force ratio to men	37	0.89	
2.06 Available airline seat kilometers millions/week	105	41.5		8th pillar: Financial market development	49	4.2	
2.07 Quality of electricity supply	46	5.5		8.01 Financial services meeting business needs	49	4.6	
2.08 Mobile-cellular telephone subscriptions /100 pop.	97	102.1		8.02 Affordability of financial services	68	3.8	
2.09 Fixed-telephone lines /100 pop.	94	7.6		8.03 Financing through local equity market	59	3.7	
3rd pillar: Macroeconomic environment	74	4.6		8.04 Ease of access to loans	74	3.8	
3.01 Government budget balance % GDP	111	-5.9		8.05 Venture capital availability	84	2.6	
3.02 Gross national savings % GDP	74	19.6		8.06 Soundness of banks	40	5.6	
3.03 Inflation annual % change	60	3.4		8.07 Regulation of securities exchanges	38	5.1	
3.04 Government debt % GDP	21	27.2		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	64	-		9th pillar: Technological readiness	87	3.6	
4th pillar: Health and primary education	121	4.6		9.01 Availability of latest technologies	51	5.0	
4.01 Malaria incidence cases/100,000 pop.	36	370.4		9.02 Firm-level technology absorption	66	4.5	
4.02 Business impact of malaria	41	4.6		9.03 FDI and technology transfer	72	4.4	
4.03 Tuberculosis incidence cases/100,000 pop.	136	561.0		9.04 Internet users % pop.	106	22.3	
4.04 Business impact of tuberculosis	127	3.9		9.05 Fixed-broadband Internet subscriptions /100 pop.	102	1.7	
4.05 HIV prevalence % adult pop.	133	16.0		9.06 Internet bandwidth kb/s/user	87	22.5	
4.06 Business impact of HIV/AIDS	131	3.4		9.07 Mobile-broadband subscriptions /100 pop.	53	62.1	
4.07 Infant mortality deaths/1,000 live births	106	32.8		10th pillar: Market size	113	2.8	
4.08 Life expectancy years	112	64.7		10.01 Domestic market size index	115	2.5	
4.09 Quality of primary education	88	3.5		10.02 Foreign market size index	112	3.6	
4.10 Primary education enrollment rate net %	105	89.7		10.03 GDP (PPP) PPP \$ billions	117	25.3	
5th pillar: Higher education and training	110	3.3		10.04 Exports % GDP	54	40.4	
5.01 Secondary education enrollment rate gross %	108	64.8		11th pillar: Business sophistication	83	3.7	
5.02 Tertiary education enrollment rate gross %	118	9.3		11.01 Local supplier quantity	136	3.4	
5.03 Quality of the education system	92	3.3		11.02 Local supplier quality	90	4.0	
5.04 Quality of math and science education	114	3.1		11.03 State of cluster development	73	3.7	
5.05 Quality of management schools	115	3.6		11.04 Nature of competitive advantage	61	3.6	
5.06 Internet access in schools	115	3.4		11.05 Value chain breadth	94	3.6	
5.07 Local availability of specialized training services	108	3.8		11.06 Control of international distribution	90	3.4	
5.08 Extent of staff training	44	4.3		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	

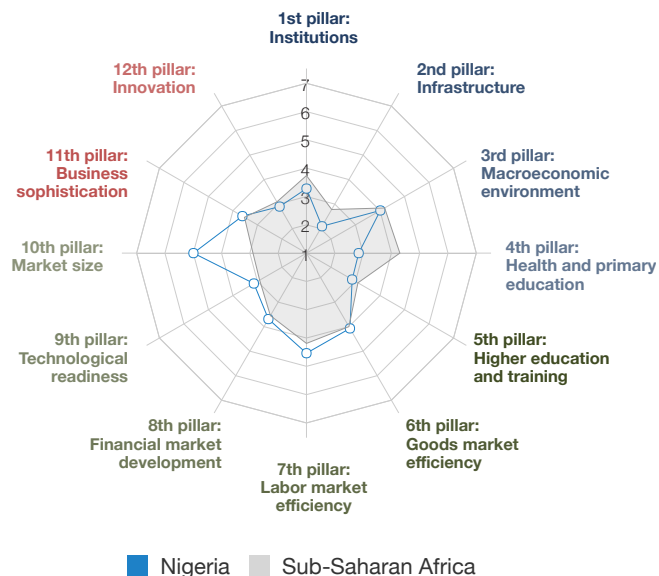
Note: Values are on a 1-to-7 scale unless indicated otherwise. Trend lines depict evolution in values since the 2012-2013 edition (or earliest edition available). For detailed definitions, sources, and periods, consult the interactive Country/Economy Profiles and Rankings at <http://gcr.weforum.org/>

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	Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Global Competitiveness Index	127	3.4			Rank	115 / 144	120 / 148	127 / 144	124 / 140	127 / 138
Subindex A: Basic requirements	136	3.1			Score	3.7	3.6	3.4	3.5	3.4
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								

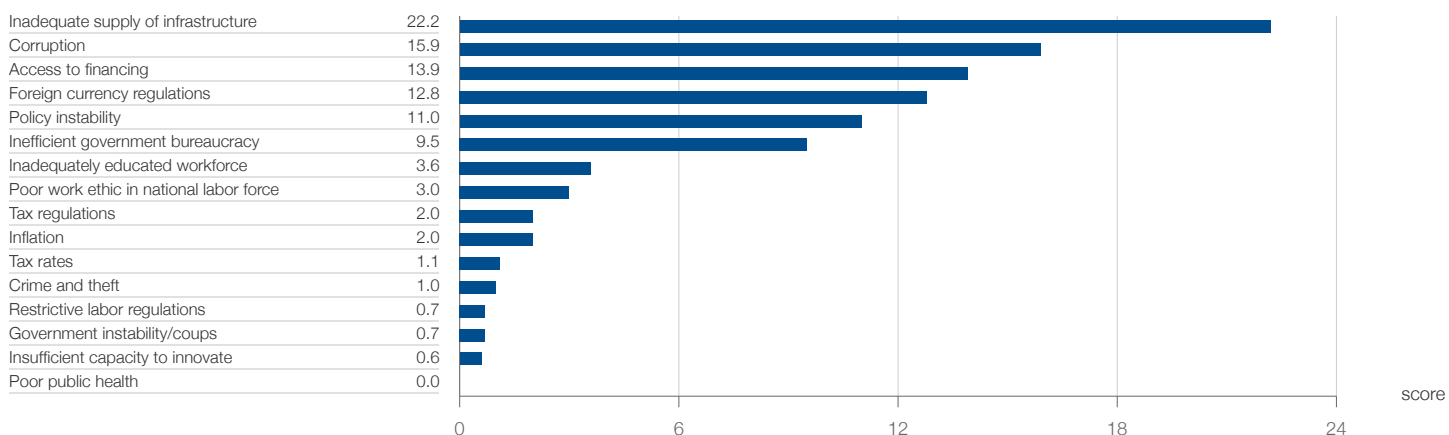


Nigeria is among the African economies hardest hit by the reduction in commodity prices, falling three places to 127th overall almost entirely due to its weaker macroeconomic environment (down 32 place since ACR 2015) and financial sector (down 22 places since ACR 2015). Although still relatively low, 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

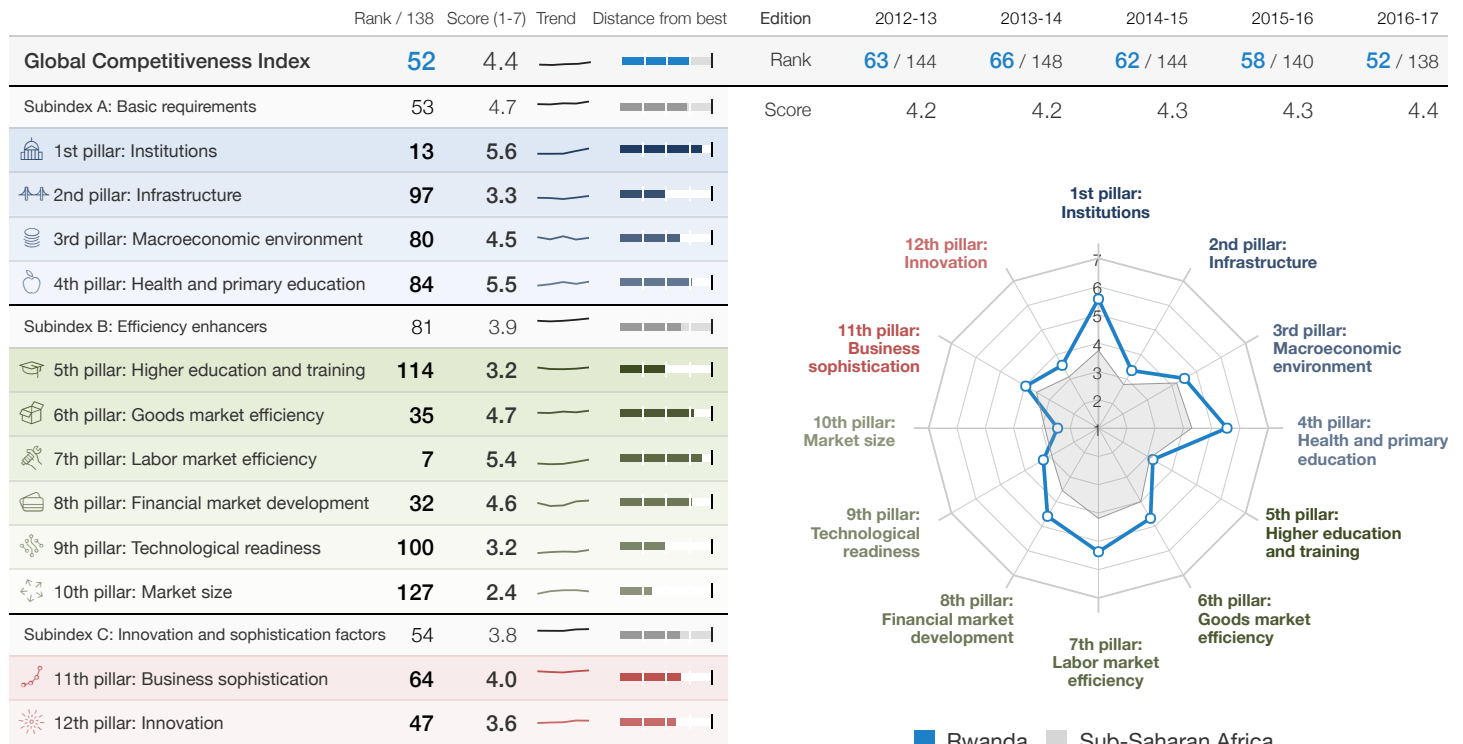
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	118	3.3		6th pillar: Goods market efficiency	98	4.1	
1.01 Property rights	95	4.0		6.01 Intensity of local competition	75	5.0	
1.02 Intellectual property protection	112	3.4		6.02 Extent of market dominance	66	3.7	
1.03 Diversion of public funds	127	2.2		6.03 Effectiveness of anti-monopoly policy	124	2.8	
1.04 Public trust in politicians	131	1.7		6.04 Effect of taxation on incentives to invest	27	4.2	
1.05 Irregular payments and bribes	129	2.6		6.05 Total tax rate % profits	55	33.3	
1.06 Judicial independence	76	3.8		6.06 No. of procedures to start a business	107	9	
1.07 Favoritism in decisions of government officials	127	2.1		6.07 Time to start a business days	119	30.8	
1.08 Wastefulness of government spending	126	2.2		6.08 Agricultural policy costs	43	4.1	
1.09 Burden of government regulation	107	3.0		6.09 Prevalence of non-tariff barriers	30	4.8	
1.10 Efficiency of legal framework in settling disputes	86	3.3		6.10 Trade tariffs % duty	102	9.7	
1.11 Efficiency of legal framework in challenging regs	85	3.2		6.11 Prevalence of foreign ownership	52	4.8	
1.12 Transparency of government policymaking	113	3.5		6.12 Business impact of rules on FDI	33	5.1	
1.13 Business costs of terrorism	132	3.0		6.13 Burden of customs procedures	132	2.9	
1.14 Business costs of crime and violence	121	3.1		6.14 Imports % GDP	137	13.6	
1.15 Organized crime	110	4.0		6.15 Degree of customer orientation	123	3.9	
1.16 Reliability of police services	121	3.0		6.16 Buyer sophistication	93	3.0	
1.17 Ethical behavior of firms	117	3.2		7th pillar: Labor market efficiency	37	4.5	
1.18 Strength of auditing and reporting standards	56	4.9		7.01 Cooperation in labor-employer relations	86	4.2	
1.19 Efficacy of corporate boards	49	5.1		7.02 Flexibility of wage determination	40	5.4	
1.20 Protection of minority shareholders' interests	50	4.2		7.03 Hiring and firing practices	16	4.8	
1.21 Strength of investor protection 0-10 (best)	20	6.8		7.04 Redundancy costs weeks of salary	64	15.4	
2nd pillar: Infrastructure	132	2.1		7.05 Effect of taxation on incentives to work	11	5.1	
2.01 Quality of overall infrastructure	132	2.3		7.06 Pay and productivity	71	3.9	
2.02 Quality of roads	126	2.6		7.07 Reliance on professional management	33	4.8	
2.03 Quality of railroad infrastructure	103	1.5		7.08 Country capacity to retain talent	80	3.3	
2.04 Quality of port infrastructure	117	2.8		7.09 Country capacity to attract talent	50	3.7	
2.05 Quality of air transport infrastructure	119	3.2		7.10 Female participation in the labor force ratio to men	83	0.76	
2.06 Available airline seat kilometers millions/week	55	318.0		8th pillar: Financial market development	89	3.7	
2.07 Quality of electricity supply	137	1.4		8.01 Financial services meeting business needs	101	3.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	118	82.2		8.02 Affordability of financial services	132	2.5	
2.09 Fixed-telephone lines /100 pop.	137	0.1		8.03 Financing through local equity market	46	4.1	
3rd pillar: Macroeconomic environment	108	4.0		8.04 Ease of access to loans	129	2.6	
3.01 Government budget balance % GDP	86	-4.0		8.05 Venture capital availability	130	2.0	
3.02 Gross national savings % GDP	116	12.0		8.06 Soundness of banks	83	4.5	
3.03 Inflation annual % change	125	9.0		8.07 Regulation of securities exchanges	49	4.7	
3.04 Government debt % GDP	7	11.5		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	88	-		9th pillar: Technological readiness	105	3.1	
4th pillar: Health and primary education	138	2.8		9.01 Availability of latest technologies	97	4.3	
4.01 Malaria incidence cases/100,000 pop.	64	33243.9		9.02 Firm-level technology absorption	83	4.3	
4.02 Business impact of malaria	58	3.6		9.03 FDI and technology transfer	73	4.3	
4.03 Tuberculosis incidence cases/100,000 pop.	127	322.0		9.04 Internet users % pop.	83	47.4	
4.04 Business impact of tuberculosis	91	5.0		9.05 Fixed-broadband Internet subscriptions /100 pop.	135	0.0	
4.05 HIV prevalence % adult pop.	123	3.2		9.06 Internet bandwidth kb/s/user	127	3.0	
4.06 Business impact of HIV/AIDS	105	4.5		9.07 Mobile-broadband subscriptions /100 pop.	107	21.0	
4.07 Infant mortality deaths/1,000 live births	134	69.4		10th pillar: Market size	26	5.0	
4.08 Life expectancy years	134	52.8		10.01 Domestic market size index	21	5.0	
4.09 Quality of primary education	124	2.8		10.02 Foreign market size index	51	4.9	
4.10 Primary education enrollment rate net %	136	63.8		10.03 GDP (PPP) PPP \$ billions	22	1091.7	
5th pillar: Higher education and training	125	2.9		10.04 Exports % GDP	134	10.4	
5.01 Secondary education enrollment rate gross %	120	43.8		11th pillar: Business sophistication	99	3.6	
5.02 Tertiary education enrollment rate gross %	114	10.4		11.01 Local supplier quantity	44	4.7	
5.03 Quality of the education system	118	2.8		11.02 Local supplier quality	103	3.8	
5.04 Quality of math and science education	124	2.7		11.03 State of cluster development	88	3.5	
5.05 Quality of management schools	94	3.8		11.04 Nature of competitive advantage	128	2.4	
5.06 Internet access in schools	129	3.1		11.05 Value chain breadth	106	3.4	
5.07 Local availability of specialized training services	91	4.1		11.06 Control of international distribution	127	2.9	
5.08 Extent of staff training	68	3.9		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

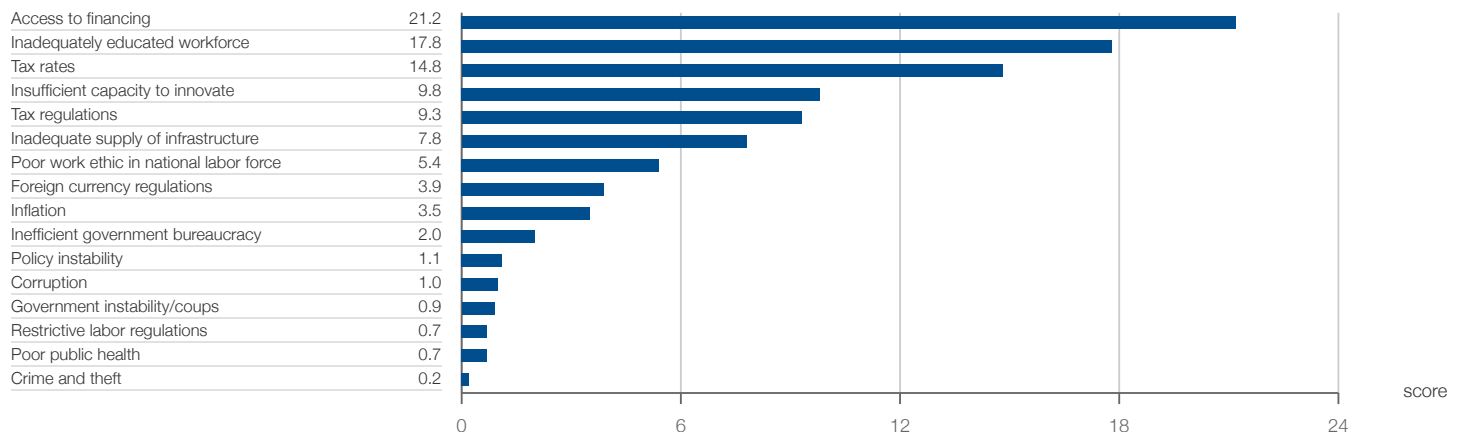
Population (millions)	11.3	GDP per capita (US\$)	731.5
GDP (US\$ billions)	8.3	GDP (PPP) % world GDP	0.02

Performance overview



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.

The Global Competitiveness Index in detail

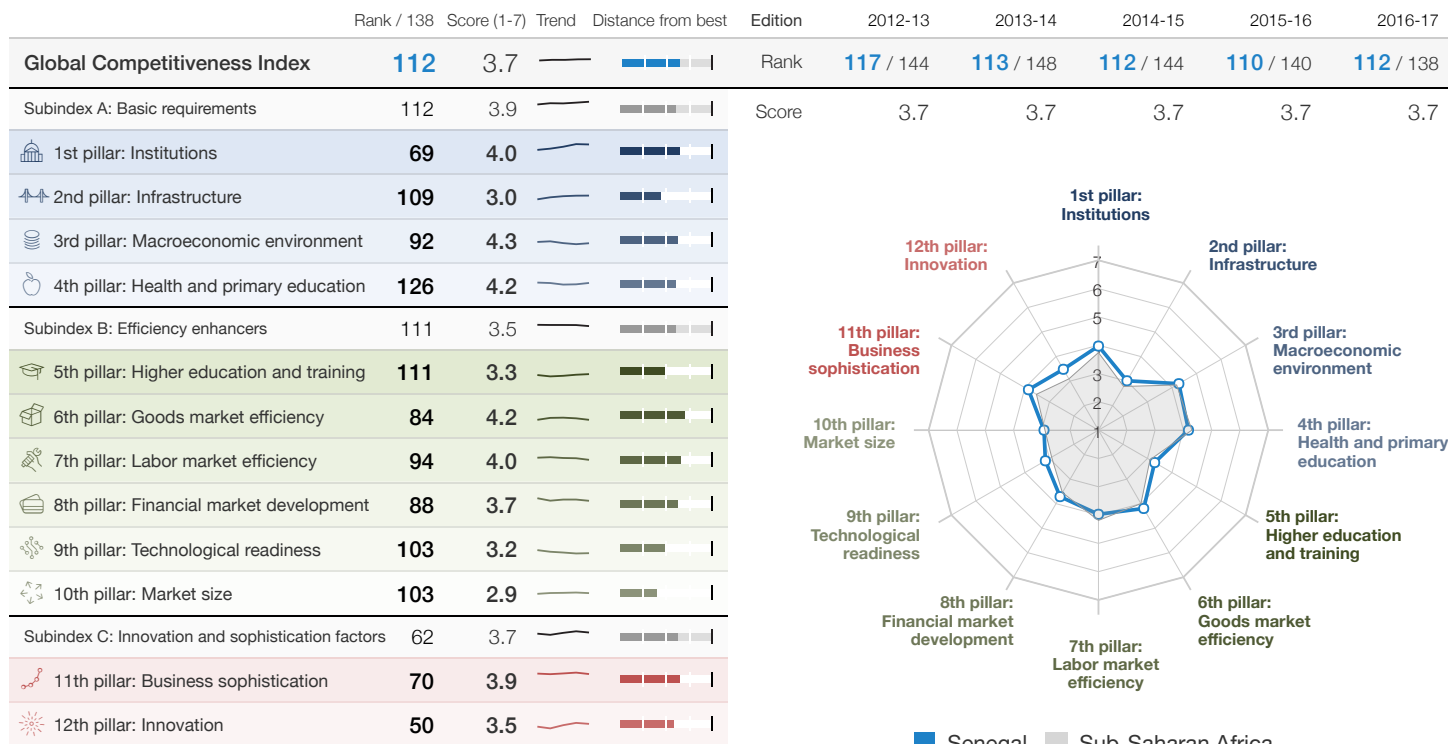
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	13	5.6		6th pillar: Goods market efficiency	35	4.7	
1.01 Property rights	22	5.7		6.01 Intensity of local competition	77	5.0	
1.02 Intellectual property protection	28	5.3		6.02 Extent of market dominance	34	4.2	
1.03 Diversion of public funds	16	5.6		6.03 Effectiveness of anti-monopoly policy	26	4.5	
1.04 Public trust in politicians	7	5.7		6.04 Effect of taxation on incentives to invest	29	4.2	
1.05 Irregular payments and bribes	20	5.9		6.05 Total tax rate % profits	51	33.0	
1.06 Judicial independence	25	5.5		6.06 No. of procedures to start a business	76	7	
1.07 Favoritism in decisions of government officials	9	5.2		6.07 Time to start a business days	28	5.5	
1.08 Wastefulness of government spending	4	5.7		6.08 Agricultural policy costs	5	5.2	
1.09 Burden of government regulation	2	5.5		6.09 Prevalence of non-tariff barriers	68	4.4	
1.10 Efficiency of legal framework in settling disputes	11	5.5		6.10 Trade tariffs % duty	100	9.7	
1.11 Efficiency of legal framework in challenging regs	14	5.1		6.11 Prevalence of foreign ownership	61	4.6	
1.12 Transparency of government policymaking	9	5.9		6.12 Business impact of rules on FDI	8	5.7	
1.13 Business costs of terrorism	9	6.2		6.13 Burden of customs procedures	11	5.4	
1.14 Business costs of crime and violence	5	6.3		6.14 Imports % GDP	84	36.3	
1.15 Organized crime	6	6.4		6.15 Degree of customer orientation	37	5.1	
1.16 Reliability of police services	6	6.4		6.16 Buyer sophistication	88	3.1	
1.17 Ethical behavior of firms	21	5.3		7th pillar: Labor market efficiency	7	5.4	
1.18 Strength of auditing and reporting standards	40	5.2		7.01 Cooperation in labor-employer relations	18	5.3	
1.19 Efficacy of corporate boards	27	5.5		7.02 Flexibility of wage determination	28	5.5	
1.20 Protection of minority shareholders' interests	23	5.0		7.03 Hiring and firing practices	13	4.8	
1.21 Strength of investor protection 0-10 (best)	79	5.3		7.04 Redundancy costs weeks of salary	47	13.0	
2nd pillar: Infrastructure	97	3.3		7.05 Effect of taxation on incentives to work	9	5.2	
2.01 Quality of overall infrastructure	41	4.6		7.06 Pay and productivity	45	4.4	
2.02 Quality of roads	31	5.0		7.07 Reliance on professional management	31	4.9	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	20	4.7	
2.04 Quality of port infrastructure	104	3.2		7.09 Country capacity to attract talent	14	4.9	
2.05 Quality of air transport infrastructure	56	4.6		7.10 Female participation in the labor force ratio to men	2	1.05	
2.06 Available airline seat kilometers millions/week	120	24.4		8th pillar: Financial market development	32	4.6	
2.07 Quality of electricity supply	90	4.2		8.01 Financial services meeting business needs	66	4.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	128	70.5		8.02 Affordability of financial services	73	3.7	
2.09 Fixed-telephone lines /100 pop.	135	0.1		8.03 Financing through local equity market	70	3.6	
3rd pillar: Macroeconomic environment	80	4.5		8.04 Ease of access to loans	64	4.0	
3.01 Government budget balance % GDP	61	-2.8		8.05 Venture capital availability	37	3.3	
3.02 Gross national savings % GDP	120	11.2		8.06 Soundness of banks	78	4.6	
3.03 Inflation annual % change	1	2.5		8.07 Regulation of securities exchanges	36	5.1	
3.04 Government debt % GDP	33	34.6		8.08 Legal rights index 0-10 (best)	4	11	
3.05 Country credit rating 0-100 (best)	110	-		9th pillar: Technological readiness	100	3.2	
4th pillar: Health and primary education	84	5.5		9.01 Availability of latest technologies	49	5.1	
4.01 Malaria incidence cases/100,000 pop.	50	11462.3		9.02 Firm-level technology absorption	52	4.7	
4.02 Business impact of malaria	37	4.8		9.03 FDI and technology transfer	37	4.8	
4.03 Tuberculosis incidence cases/100,000 pop.	81	63.0		9.04 Internet users % pop.	119	18.0	
4.04 Business impact of tuberculosis	84	5.3		9.05 Fixed-broadband Internet subscriptions /100 pop.	124	0.2	
4.05 HIV prevalence % adult pop.	122	2.8		9.06 Internet bandwidth kb/s/user	119	5.7	
4.06 Business impact of HIV/AIDS	97	4.7		9.07 Mobile-broadband subscriptions /100 pop.	104	25.9	
4.07 Infant mortality deaths/1,000 live births	105	31.1		10th pillar: Market size	127	2.4	
4.08 Life expectancy years	116	64.0		10.01 Domestic market size index	125	2.3	
4.09 Quality of primary education	52	4.3		10.02 Foreign market size index	130	2.8	
4.10 Primary education enrollment rate net %	59	96.1		10.03 GDP (PPP) PPP \$ billions	123	20.4	
5th pillar: Higher education and training	114	3.2		10.04 Exports % GDP	129	12.2	
5.01 Secondary education enrollment rate gross %	128	39.1		11th pillar: Business sophistication	64	4.0	
5.02 Tertiary education enrollment rate gross %	122	7.5		11.01 Local supplier quantity	82	4.3	
5.03 Quality of the education system	46	4.2		11.02 Local supplier quality	76	4.2	
5.04 Quality of math and science education	54	4.4		11.03 State of cluster development	41	4.1	
5.05 Quality of management schools	59	4.3		11.04 Nature of competitive advantage	51	3.9	
5.06 Internet access in schools	64	4.4		11.05 Value chain breadth	73	3.7	
5.07 Local availability of specialized training services	92	4.1		11.06 Control of international distribution	88	3.4	
5.08 Extent of staff training	55	4.1		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

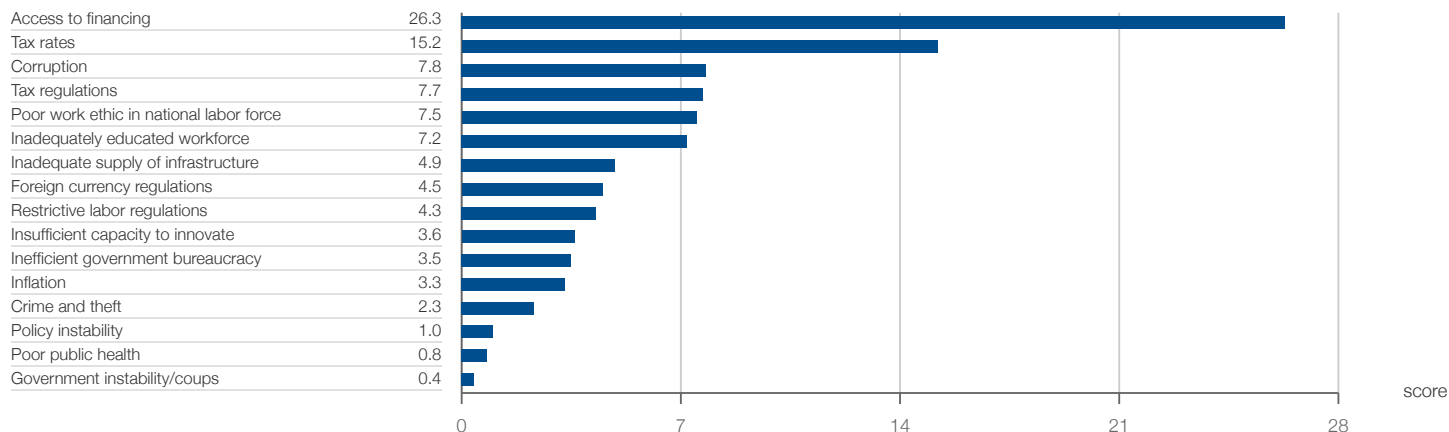
Population (millions)	15.0	GDP per capita (US\$)	913.0
GDP (US\$ billions)	13.7	GDP (PPP) % world GDP	0.03

Performance overview



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

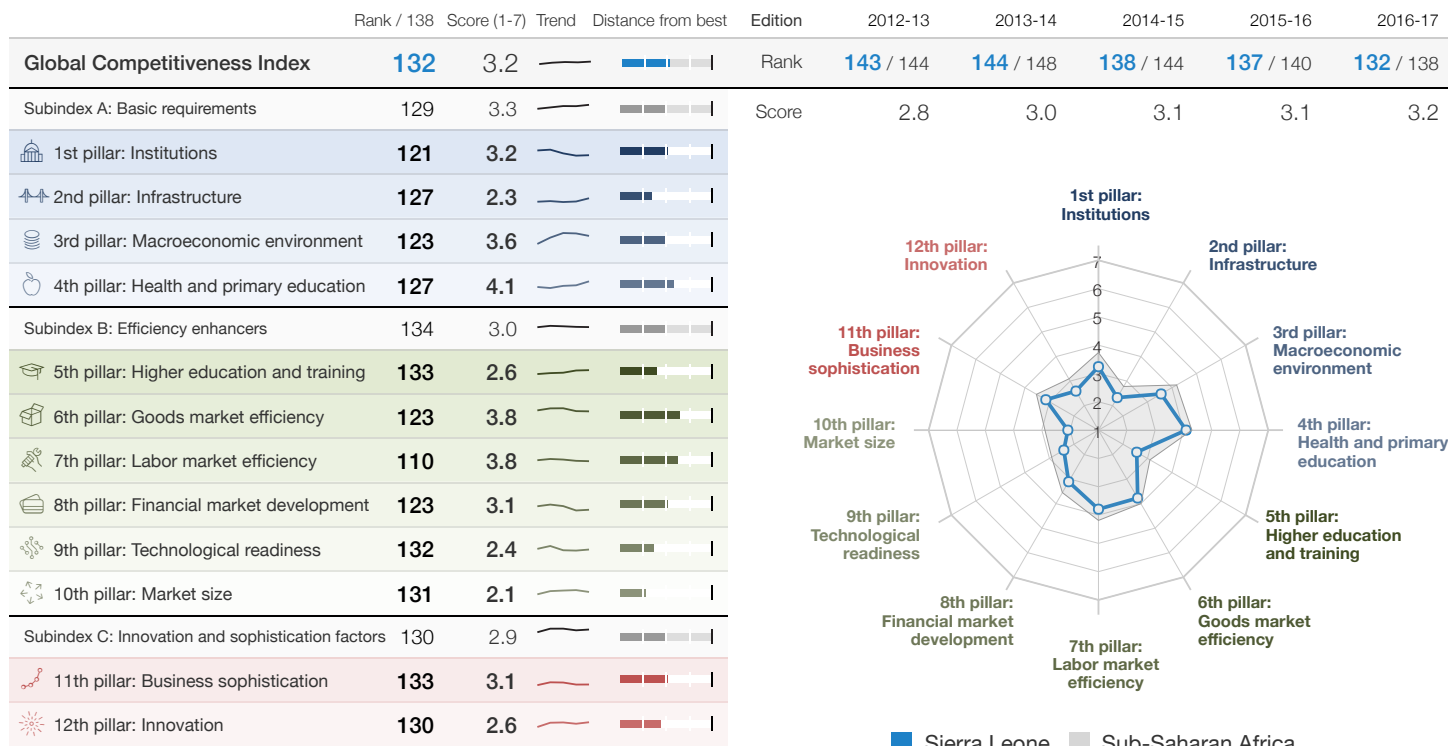
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	69	4.0		6th pillar: Goods market efficiency	84	4.2	
1.01 Property rights	78	4.2		6.01 Intensity of local competition	54	5.2	
1.02 Intellectual property protection	57	4.3		6.02 Extent of market dominance	45	3.9	
1.03 Diversion of public funds	73	3.5		6.03 Effectiveness of anti-monopoly policy	81	3.5	
1.04 Public trust in politicians	58	3.2		6.04 Effect of taxation on incentives to invest	91	3.4	
1.05 Irregular payments and bribes	85	3.6		6.05 Total tax rate % profits	99	47.3	
1.06 Judicial independence	86	3.6		6.06 No. of procedures to start a business	22	4	
1.07 Favoritism in decisions of government officials	59	3.3		6.07 Time to start a business days	34	6.0	
1.08 Wastefulness of government spending	47	3.6		6.08 Agricultural policy costs	76	3.7	
1.09 Burden of government regulation	51	3.7		6.09 Prevalence of non-tariff barriers	120	3.7	
1.10 Efficiency of legal framework in settling disputes	35	4.5		6.10 Trade tariffs % duty	106	9.9	
1.11 Efficiency of legal framework in challenging regs	38	4.1		6.11 Prevalence of foreign ownership	63	4.6	
1.12 Transparency of government policymaking	73	4.1		6.12 Business impact of rules on FDI	89	4.3	
1.13 Business costs of terrorism	90	4.8		6.13 Burden of customs procedures	50	4.4	
1.14 Business costs of crime and violence	69	4.7		6.14 Imports % GDP	60	46.1	
1.15 Organized crime	76	4.9		6.15 Degree of customer orientation	77	4.5	
1.16 Reliability of police services	43	5.1		6.16 Buyer sophistication	119	2.7	
1.17 Ethical behavior of firms	75	3.8		7th pillar: Labor market efficiency	94	4.0	
1.18 Strength of auditing and reporting standards	107	3.9		7.01 Cooperation in labor-employer relations	77	4.3	
1.19 Efficacy of corporate boards	87	4.7		7.02 Flexibility of wage determination	96	4.6	
1.20 Protection of minority shareholders' interests	59	4.2		7.03 Hiring and firing practices	80	3.6	
1.21 Strength of investor protection 0-10 (best)	120	3.8		7.04 Redundancy costs weeks of salary	60	14.7	
2nd pillar: Infrastructure	109	3.0		7.05 Effect of taxation on incentives to work	44	4.2	
2.01 Quality of overall infrastructure	121	2.8		7.06 Pay and productivity	91	3.7	
2.02 Quality of roads	71	4.0		7.07 Reliance on professional management	75	4.1	
2.03 Quality of railroad infrastructure	85	2.2		7.08 Country capacity to retain talent	85	3.3	
2.04 Quality of port infrastructure	54	4.4		7.09 Country capacity to attract talent	65	3.5	
2.05 Quality of air transport infrastructure	85	4.1		7.10 Female participation in the labor force ratio to men	106	0.65	
2.06 Available airline seat kilometers millions/week	88	84.9		8th pillar: Financial market development	88	3.7	
2.07 Quality of electricity supply	111	3.2		8.01 Financial services meeting business needs	107	3.7	
2.08 Mobile-cellular telephone subscriptions /100 pop.	98	99.9		8.02 Affordability of financial services	111	3.2	
2.09 Fixed-telephone lines /100 pop.	113	2.0		8.03 Financing through local equity market	69	3.6	
3rd pillar: Macroeconomic environment	92	4.3		8.04 Ease of access to loans	100	3.3	
3.01 Government budget balance % GDP	99	-4.8		8.05 Venture capital availability	83	2.6	
3.02 Gross national savings % GDP	82	17.7		8.06 Soundness of banks	82	4.5	
3.03 Inflation annual % change	54	0.1		8.07 Regulation of securities exchanges	90	3.9	
3.04 Government debt % GDP	83	56.8		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	91	-		9th pillar: Technological readiness	103	3.2	
4th pillar: Health and primary education	126	4.2		9.01 Availability of latest technologies	69	4.8	
4.01 Malaria incidence cases/100,000 pop.	51	12267.8		9.02 Firm-level technology absorption	45	4.9	
4.02 Business impact of malaria	51	3.9		9.03 FDI and technology transfer	103	3.9	
4.03 Tuberculosis incidence cases/100,000 pop.	100	138.0		9.04 Internet users % pop.	108	21.7	
4.04 Business impact of tuberculosis	99	4.6		9.05 Fixed-broadband Internet subscriptions /100 pop.	112	0.7	
4.05 HIV prevalence % adult pop.	85	0.5		9.06 Internet bandwidth kb/s/user	111	6.9	
4.06 Business impact of HIV/AIDS	102	4.6		9.07 Mobile-broadband subscriptions /100 pop.	103	26.4	
4.07 Infant mortality deaths/1,000 live births	118	41.7		10th pillar: Market size	103	2.9	
4.08 Life expectancy years	107	66.4		10.01 Domestic market size index	100	2.7	
4.09 Quality of primary education	84	3.7		10.02 Foreign market size index	114	3.5	
4.10 Primary education enrollment rate net %	134	71.1		10.03 GDP (PPP) PPP \$ billions	102	36.7	
5th pillar: Higher education and training	111	3.3		10.04 Exports % GDP	103	24.0	
5.01 Secondary education enrollment rate gross %	126	40.1		11th pillar: Business sophistication	70	3.9	
5.02 Tertiary education enrollment rate gross %	123	7.4		11.01 Local supplier quantity	52	4.6	
5.03 Quality of the education system	82	3.6		11.02 Local supplier quality	69	4.3	
5.04 Quality of math and science education	85	3.8		11.03 State of cluster development	74	3.7	
5.05 Quality of management schools	35	4.9		11.04 Nature of competitive advantage	82	3.3	
5.06 Internet access in schools	48	4.7		11.05 Value chain breadth	58	3.9	
5.07 Local availability of specialized training services	31	5.0		11.06 Control of international distribution	89	3.4	
5.08 Extent of staff training	91	3.7		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

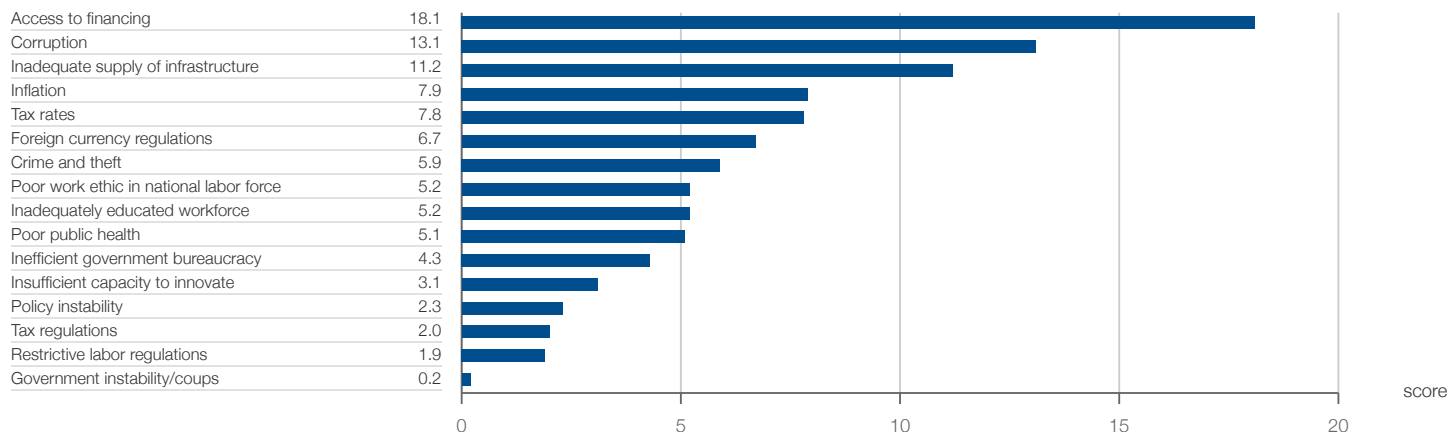
Population (millions)	6.3	GDP per capita (US\$)	659.4
GDP (US\$ billions)	4.2	GDP (PPP) % world GDP	0.01

Performance overview



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.

The Global Competitiveness Index in detail

	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	121	3.2		6th pillar: Goods market efficiency	123	3.8	
1.01 Property rights	121	3.5		6.01 Intensity of local competition	131	4.1	
1.02 Intellectual property protection	122	3.3		6.02 Extent of market dominance	126	2.9	
1.03 Diversion of public funds	116	2.5		6.03 Effectiveness of anti-monopoly policy	131	2.6	
1.04 Public trust in politicians	87	2.6		6.04 Effect of taxation on incentives to invest	90	3.4	
1.05 Irregular payments and bribes	134	2.4		6.05 Total tax rate % profits	42	31.0	
1.06 Judicial independence	124	2.7		6.06 No. of procedures to start a business	54	6	
1.07 Favoritism in decisions of government officials	111	2.4		6.07 Time to start a business days	56	10.0	
1.08 Wastefulness of government spending	76	3.0		6.08 Agricultural policy costs	115	3.2	
1.09 Burden of government regulation	80	3.4		6.09 Prevalence of non-tariff barriers	116	3.7	
1.10 Efficiency of legal framework in settling disputes	88	3.3		6.10 Trade tariffs % duty	128	13.8	
1.11 Efficiency of legal framework in challenging regs	124	2.5		6.11 Prevalence of foreign ownership	66	4.5	
1.12 Transparency of government policymaking	104	3.7		6.12 Business impact of rules on FDI	78	4.5	
1.13 Business costs of terrorism	100	4.7		6.13 Burden of customs procedures	122	3.2	
1.14 Business costs of crime and violence	105	3.8		6.14 Imports % GDP	39	56.4	
1.15 Organized crime	101	4.2		6.15 Degree of customer orientation	121	3.9	
1.16 Reliability of police services	107	3.5		6.16 Buyer sophistication	128	2.4	
1.17 Ethical behavior of firms	119	3.2		7th pillar: Labor market efficiency	110	3.8	
1.18 Strength of auditing and reporting standards	117	3.8		7.01 Cooperation in labor-employer relations	104	4.1	
1.19 Efficacy of corporate boards	110	4.4		7.02 Flexibility of wage determination	105	4.4	
1.20 Protection of minority shareholders' interests	124	3.4		7.03 Hiring and firing practices	77	3.7	
1.21 Strength of investor protection 0-10 (best)	79	5.3		7.04 Redundancy costs weeks of salary	135	75.5	
2nd pillar: Infrastructure	127	2.3		7.05 Effect of taxation on incentives to work	90	3.7	
2.01 Quality of overall infrastructure	129	2.4		7.06 Pay and productivity	121	3.3	
2.02 Quality of roads	122	2.8		7.07 Reliance on professional management	105	3.7	
2.03 Quality of railroad infrastructure	N/Appl.	N/Appl.		7.08 Country capacity to retain talent	96	3.0	
2.04 Quality of port infrastructure	111	3.0		7.09 Country capacity to attract talent	89	3.1	
2.05 Quality of air transport infrastructure	128	2.7		7.10 Female participation in the labor force ratio to men	9	0.97	
2.06 Available airline seat kilometers millions/week	134	7.7		8th pillar: Financial market development	123	3.1	
2.07 Quality of electricity supply	127	2.2		8.01 Financial services meeting business needs	127	3.3	
2.08 Mobile-cellular telephone subscriptions /100 pop.	109	89.5		8.02 Affordability of financial services	129	2.7	
2.09 Fixed-telephone lines /100 pop.	130	0.3		8.03 Financing through local equity market	114	2.7	
3rd pillar: Macroeconomic environment	123	3.6		8.04 Ease of access to loans	128	2.6	
3.01 Government budget balance % GDP	95	-4.4		8.05 Venture capital availability	127	2.1	
3.02 Gross national savings % GDP	133	3.9		8.06 Soundness of banks	120	3.7	
3.03 Inflation annual % change	124	9.0		8.07 Regulation of securities exchanges	119	3.4	
3.04 Government debt % GDP	67	46.1		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	133	-		9th pillar: Technological readiness	132	2.4	
4th pillar: Health and primary education	127	4.1		9.01 Availability of latest technologies	135	3.0	
4.01 Malaria incidence cases/100,000 pop.	68	39584.4		9.02 Firm-level technology absorption	123	3.7	
4.02 Business impact of malaria	69	2.9		9.03 FDI and technology transfer	125	3.4	
4.03 Tuberculosis incidence cases/100,000 pop.	126	310.0		9.04 Internet users % pop.	138	2.5	
4.04 Business impact of tuberculosis	116	4.2		9.05 Fixed-broadband Internet subscriptions /100 pop.	n/a	n/a	
4.05 HIV prevalence % adult pop.	115	1.4		9.06 Internet bandwidth kb/s/user	133	2.0	
4.06 Business impact of HIV/AIDS	112	4.3		9.07 Mobile-broadband subscriptions /100 pop.	117	15.2	
4.07 Infant mortality deaths/1,000 live births	138	87.1		10th pillar: Market size	131	2.1	
4.08 Life expectancy years	137	50.9		10.01 Domestic market size index	130	1.9	
4.09 Quality of primary education	119	2.9		10.02 Foreign market size index	134	2.7	
4.10 Primary education enrollment rate net %	31	97.9		10.03 GDP (PPP) PPP \$ billions	131	10.0	
5th pillar: Higher education and training	133	2.6		10.04 Exports % GDP	115	19.6	
5.01 Secondary education enrollment rate gross %	123	43.4		11th pillar: Business sophistication	133	3.1	
5.02 Tertiary education enrollment rate gross %	137	2.2		11.01 Local supplier quantity	106	4.1	
5.03 Quality of the education system	110	3.0		11.02 Local supplier quality	131	3.4	
5.04 Quality of math and science education	123	2.7		11.03 State of cluster development	120	3.0	
5.05 Quality of management schools	129	3.2		11.04 Nature of competitive advantage	121	2.7	
5.06 Internet access in schools	134	2.4		11.05 Value chain breadth	131	2.9	
5.07 Local availability of specialized training services	131	3.3		11.06 Control of international distribution	135	2.7	
5.08 Extent of staff training	105	3.5		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/>

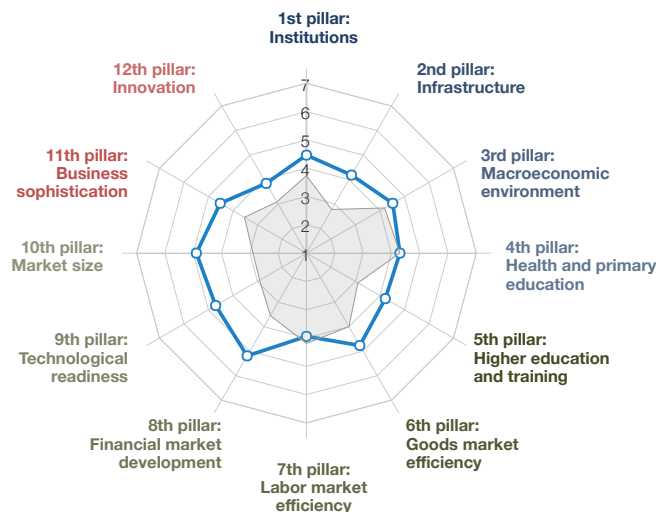
South Africa 47th / 138

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	Edition	2012-13	2013-14	2014-15	2015-16	2016-17
Global Competitiveness Index	47	4.5	—	■	Rank	52 / 144	53 / 148	56 / 144	49 / 140	47 / 138
Subindex A: Basic requirements	84	4.4	—	■	Score	4.4	4.4	4.4	4.4	4.5
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	—	■						

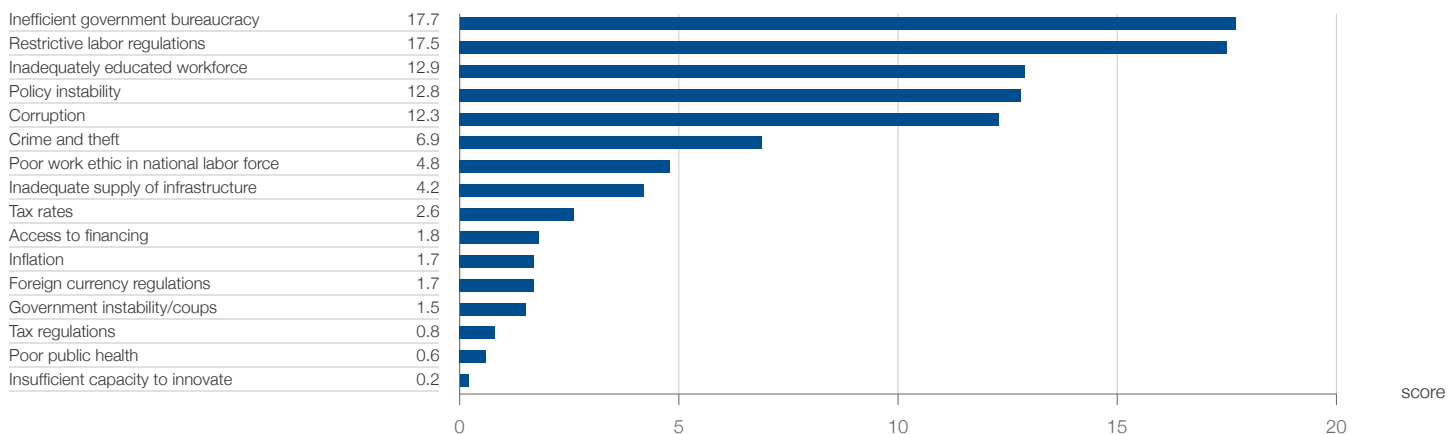


South Africa slightly improves both its score and ranking (47th). It has been relatively less affected by commodity price falls than other economies in the region, and has registered marginal improvements in almost all aspects of competitiveness. Most significant areas of progress include enhanced competition, 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

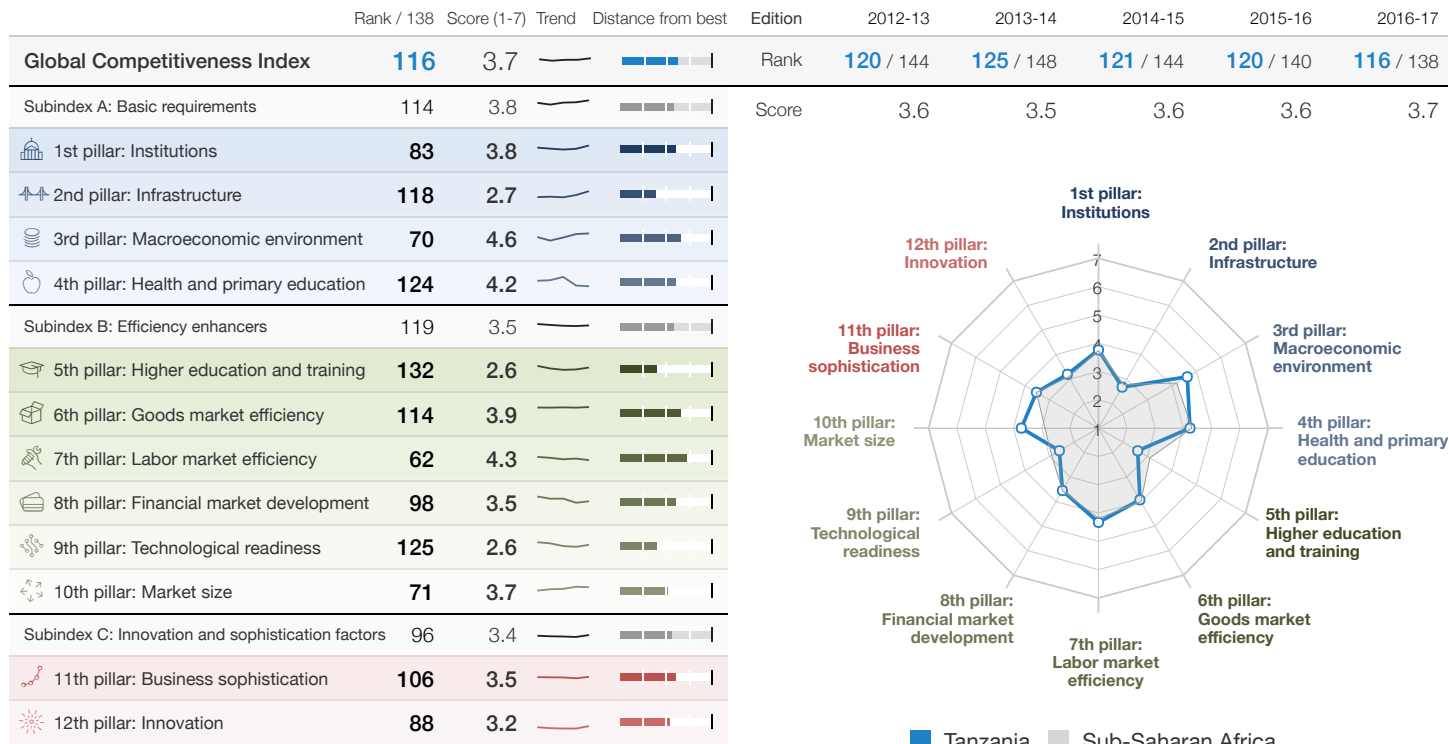
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	40	4.5		6th pillar: Goods market efficiency	28	4.8	
1.01 Property rights	29	5.4		6.01 Intensity of local competition	30	5.5	
1.02 Intellectual property protection	21	5.7		6.02 Extent of market dominance	30	4.2	
1.03 Diversion of public funds	96	3.0		6.03 Effectiveness of anti-monopoly policy	7	5.4	
1.04 Public trust in politicians	109	2.2		6.04 Effect of taxation on incentives to invest	41	4.0	
1.05 Irregular payments and bribes	53	4.4		6.05 Total tax rate % profits	31	28.8	
1.06 Judicial independence	16	5.8		6.06 No. of procedures to start a business	54	6	
1.07 Favoritism in decisions of government officials	115	2.3		6.07 Time to start a business days	125	46.0	
1.08 Wastefulness of government spending	88	2.8		6.08 Agricultural policy costs	70	3.7	
1.09 Burden of government regulation	106	3.0		6.09 Prevalence of non-tariff barriers	35	4.7	
1.10 Efficiency of legal framework in settling disputes	9	5.6		6.10 Trade tariffs % duty	78	6.2	
1.11 Efficiency of legal framework in challenging regs	10	5.3		6.11 Prevalence of foreign ownership	31	5.2	
1.12 Transparency of government policymaking	44	4.5		6.12 Business impact of rules on FDI	61	4.7	
1.13 Business costs of terrorism	64	5.3		6.13 Burden of customs procedures	65	4.2	
1.14 Business costs of crime and violence	133	2.4		6.14 Imports % GDP	78	38.3	
1.15 Organized crime	99	4.2		6.15 Degree of customer orientation	36	5.1	
1.16 Reliability of police services	115	3.3		6.16 Buyer sophistication	22	4.2	
1.17 Ethical behavior of firms	36	4.5		7th pillar: Labor market efficiency	97	3.9	
1.18 Strength of auditing and reporting standards	1	6.7		7.01 Cooperation in labor-employer relations	138	2.5	
1.19 Efficacy of corporate boards	3	6.3		7.02 Flexibility of wage determination	135	2.8	
1.20 Protection of minority shareholders' interests	1	6.2		7.03 Hiring and firing practices	135	2.3	
1.21 Strength of investor protection 0-10 (best)	14	7.2		7.04 Redundancy costs weeks of salary	28	9.3	
2nd pillar: Infrastructure	64	4.2		7.05 Effect of taxation on incentives to work	59	4.0	
2.01 Quality of overall infrastructure	59	4.2		7.06 Pay and productivity	98	3.6	
2.02 Quality of roads	29	5.0		7.07 Reliance on professional management	21	5.5	
2.03 Quality of railroad infrastructure	40	3.8		7.08 Country capacity to retain talent	69	3.5	
2.04 Quality of port infrastructure	37	4.9		7.09 Country capacity to attract talent	53	3.6	
2.05 Quality of air transport infrastructure	10	6.0		7.10 Female participation in the labor force ratio to men	69	0.81	
2.06 Available airline seat kilometers millions/week	28	1218.6		8th pillar: Financial market development	11	5.2	
2.07 Quality of electricity supply	112	3.0		8.01 Financial services meeting business needs	2	6.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	15	159.3		8.02 Affordability of financial services	27	4.6	
2.09 Fixed-telephone lines /100 pop.	93	7.7		8.03 Financing through local equity market	1	5.9	
3rd pillar: Macroeconomic environment	79	4.5		8.04 Ease of access to loans	12	5.2	
3.01 Government budget balance % GDP	90	-4.0		8.05 Venture capital availability	53	3.0	
3.02 Gross national savings % GDP	97	15.1		8.06 Soundness of banks	2	6.6	
3.03 Inflation annual % change	95	4.6		8.07 Regulation of securities exchanges	3	6.2	
3.04 Government debt % GDP	73	50.1		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	63	-		9th pillar: Technological readiness	49	4.7	
4th pillar: Health and primary education	123	4.3		9.01 Availability of latest technologies	44	5.4	
4.01 Malaria incidence cases/100,000 pop.	25	35.2		9.02 Firm-level technology absorption	22	5.4	
4.02 Business impact of malaria	30	5.1		9.03 FDI and technology transfer	52	4.6	
4.03 Tuberculosis incidence cases/100,000 pop.	137	834.0		9.04 Internet users % pop.	75	51.9	
4.04 Business impact of tuberculosis	130	3.7		9.05 Fixed-broadband Internet subscriptions /100 pop.	86	5.3	
4.05 HIV prevalence % adult pop.	135	18.9		9.06 Internet bandwidth kb/s/user	21	147.6	
4.06 Business impact of HIV/AIDS	130	3.4		9.07 Mobile-broadband subscriptions /100 pop.	57	59.5	
4.07 Infant mortality deaths/1,000 live births	107	33.6		10th pillar: Market size	30	4.9	
4.08 Life expectancy years	130	57.2		10.01 Domestic market size index	27	4.8	
4.09 Quality of primary education	126	2.7		10.02 Foreign market size index	34	5.3	
4.10 Primary education enrollment rate net %	44	97.1		10.03 GDP (PPP) PPP \$ billions	30	723.5	
5th pillar: Higher education and training	77	4.2		10.04 Exports % GDP	81	30.8	
5.01 Secondary education enrollment rate gross %	67	93.8		11th pillar: Business sophistication	30	4.5	
5.02 Tertiary education enrollment rate gross %	99	19.7		11.01 Local supplier quantity	39	4.7	
5.03 Quality of the education system	134	2.3		11.02 Local supplier quality	34	4.9	
5.04 Quality of math and science education	138	2.2		11.03 State of cluster development	30	4.4	
5.05 Quality of management schools	21	5.4		11.04 Nature of competitive advantage	71	3.4	
5.06 Internet access in schools	111	3.5		11.05 Value chain breadth	52	4.1	
5.07 Local availability of specialized training services	33	5.0		11.06 Control of international distribution	31	4.3	
5.08 Extent of staff training	19	5.0		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

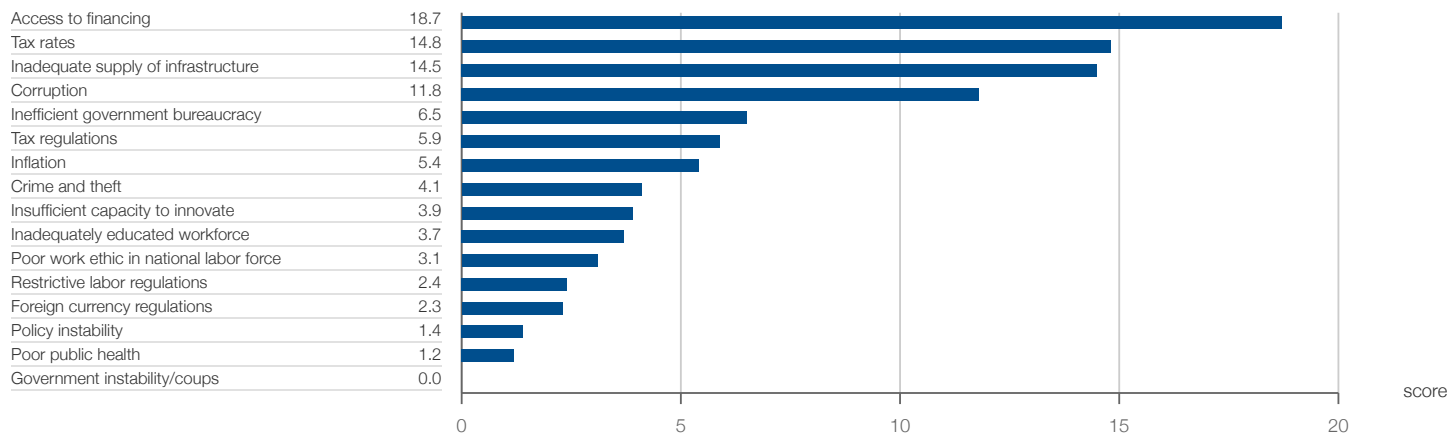
Population (millions)	47.7	GDP per capita (US\$)	941.8
GDP (US\$ billions)	44.9	GDP (PPP) % world GDP	0.12

Performance overview



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.

The Global Competitiveness Index in detail

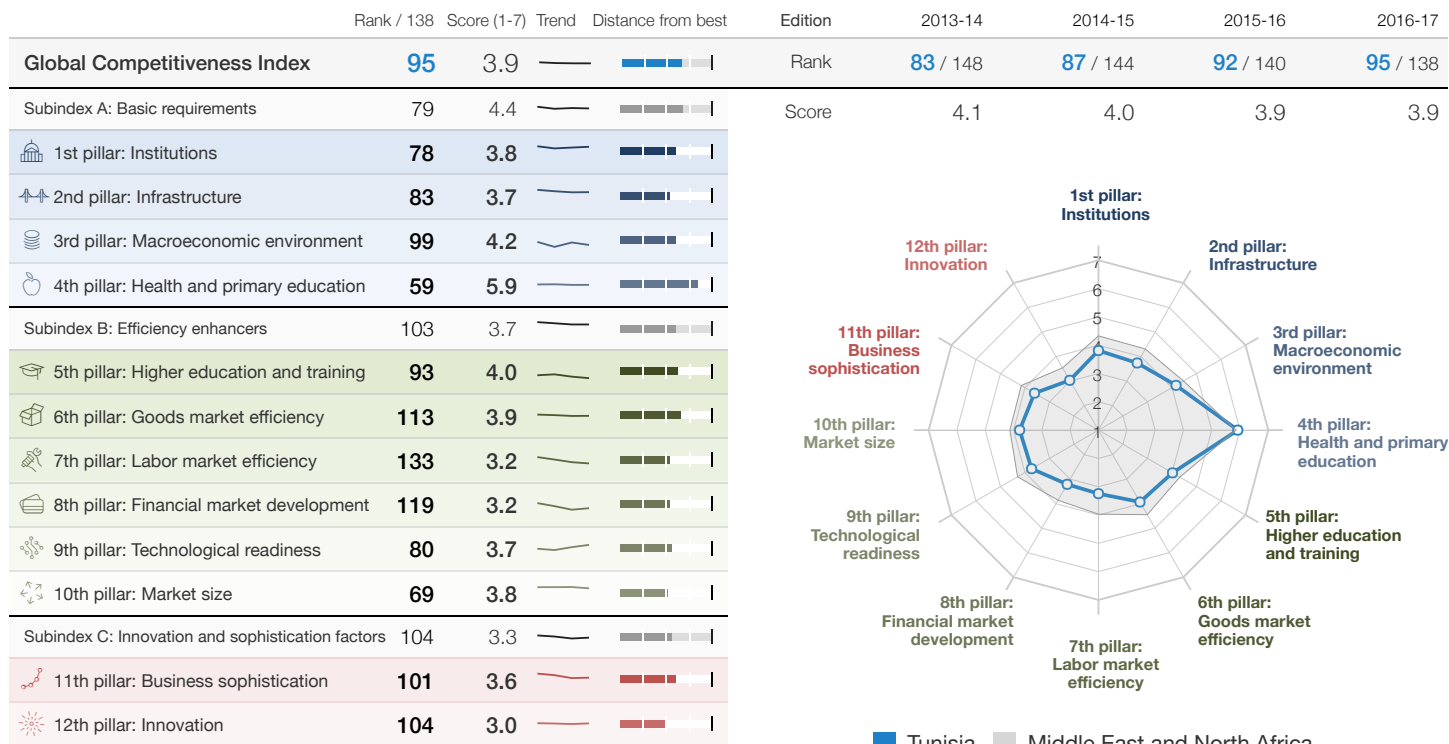
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	83	3.8		6th pillar: Goods market efficiency	114	3.9	
1.01 Property rights	102	3.9		6.01 Intensity of local competition	99	4.7	
1.02 Intellectual property protection	101	3.6		6.02 Extent of market dominance	90	3.4	
1.03 Diversion of public funds	86	3.2		6.03 Effectiveness of anti-monopoly policy	60	3.7	
1.04 Public trust in politicians	54	3.4		6.04 Effect of taxation on incentives to invest	102	3.2	
1.05 Irregular payments and bribes	121	2.9		6.05 Total tax rate % profits	92	43.9	
1.06 Judicial independence	71	3.9		6.06 No. of procedures to start a business	108	9	
1.07 Favoritism in decisions of government officials	60	3.3		6.07 Time to start a business days	109	26.0	
1.08 Wastefulness of government spending	83	2.9		6.08 Agricultural policy costs	74	3.7	
1.09 Burden of government regulation	59	3.5		6.09 Prevalence of non-tariff barriers	97	4.1	
1.10 Efficiency of legal framework in settling disputes	51	4.0		6.10 Trade tariffs % duty	103	9.8	
1.11 Efficiency of legal framework in challenging regs	55	3.7		6.11 Prevalence of foreign ownership	90	4.2	
1.12 Transparency of government policymaking	74	4.1		6.12 Business impact of rules on FDI	93	4.2	
1.13 Business costs of terrorism	99	4.7		6.13 Burden of customs procedures	97	3.6	
1.14 Business costs of crime and violence	87	4.2		6.14 Imports % GDP	114	28.6	
1.15 Organized crime	71	4.9		6.15 Degree of customer orientation	106	4.1	
1.16 Reliability of police services	76	4.3		6.16 Buyer sophistication	112	2.8	
1.17 Ethical behavior of firms	83	3.7		7th pillar: Labor market efficiency	62	4.3	
1.18 Strength of auditing and reporting standards	111	3.8		7.01 Cooperation in labor-employer relations	116	3.8	
1.19 Efficacy of corporate boards	113	4.3		7.02 Flexibility of wage determination	85	4.8	
1.20 Protection of minority shareholders' interests	74	4.0		7.03 Hiring and firing practices	72	3.7	
1.21 Strength of investor protection 0-10 (best)	101	4.5		7.04 Redundancy costs weeks of salary	28	9.3	
2nd pillar: Infrastructure	118	2.7		7.05 Effect of taxation on incentives to work	117	3.1	
2.01 Quality of overall infrastructure	90	3.5		7.06 Pay and productivity	109	3.5	
2.02 Quality of roads	90	3.4		7.07 Reliance on professional management	87	4.0	
2.03 Quality of railroad infrastructure	76	2.5		7.08 Country capacity to retain talent	73	3.5	
2.04 Quality of port infrastructure	99	3.4		7.09 Country capacity to attract talent	58	3.6	
2.05 Quality of air transport infrastructure	123	3.2		7.10 Female participation in the labor force ratio to men	31	0.90	
2.06 Available airline seat kilometers millions/week	80	107.6		8th pillar: Financial market development	98	3.5	
2.07 Quality of electricity supply	113	2.9		8.01 Financial services meeting business needs	96	3.8	
2.08 Mobile-cellular telephone subscriptions /100 pop.	124	75.9		8.02 Affordability of financial services	118	3.0	
2.09 Fixed-telephone lines /100 pop.	129	0.3		8.03 Financing through local equity market	78	3.4	
3rd pillar: Macroeconomic environment	70	4.6		8.04 Ease of access to loans	78	3.7	
3.01 Government budget balance % GDP	83	-3.7		8.05 Venture capital availability	93	2.6	
3.02 Gross national savings % GDP	54	22.6		8.06 Soundness of banks	108	4.1	
3.03 Inflation annual % change	106	5.6		8.07 Regulation of securities exchanges	99	3.8	
3.04 Government debt % GDP	54	40.5		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	109	-		9th pillar: Technological readiness	125	2.6	
4th pillar: Health and primary education	124	4.2		9.01 Availability of latest technologies	122	3.7	
4.01 Malaria incidence cases/100,000 pop.	49	10999.1		9.02 Firm-level technology absorption	98	4.2	
4.02 Business impact of malaria	68	3.0		9.03 FDI and technology transfer	96	4.0	
4.03 Tuberculosis incidence cases/100,000 pop.	129	327.0		9.04 Internet users % pop.	133	5.4	
4.04 Business impact of tuberculosis	115	4.2		9.05 Fixed-broadband Internet subscriptions /100 pop.	122	0.2	
4.05 HIV prevalence % adult pop.	127	5.3		9.06 Internet bandwidth kb/s/user	123	4.1	
4.06 Business impact of HIV/AIDS	126	3.8		9.07 Mobile-broadband subscriptions /100 pop.	137	3.2	
4.07 Infant mortality deaths/1,000 live births	110	35.2		10th pillar: Market size	71	3.7	
4.08 Life expectancy years	111	64.9		10.01 Domestic market size index	68	3.6	
4.09 Quality of primary education	117	3.0		10.02 Foreign market size index	83	4.1	
4.10 Primary education enrollment rate net %	128	80.9		10.03 GDP (PPP) PPP \$ billions	69	138.5	
5th pillar: Higher education and training	132	2.6		10.04 Exports % GDP	117	19.1	
5.01 Secondary education enrollment rate gross %	134	32.3		11th pillar: Business sophistication	106	3.5	
5.02 Tertiary education enrollment rate gross %	133	3.6		11.01 Local supplier quantity	79	4.4	
5.03 Quality of the education system	96	3.3		11.02 Local supplier quality	117	3.6	
5.04 Quality of math and science education	122	2.8		11.03 State of cluster development	72	3.7	
5.05 Quality of management schools	126	3.3		11.04 Nature of competitive advantage	98	3.0	
5.06 Internet access in schools	123	3.1		11.05 Value chain breadth	116	3.3	
5.07 Local availability of specialized training services	103	3.9		11.06 Control of international distribution	106	3.1	
5.08 Extent of staff training	108	3.5		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

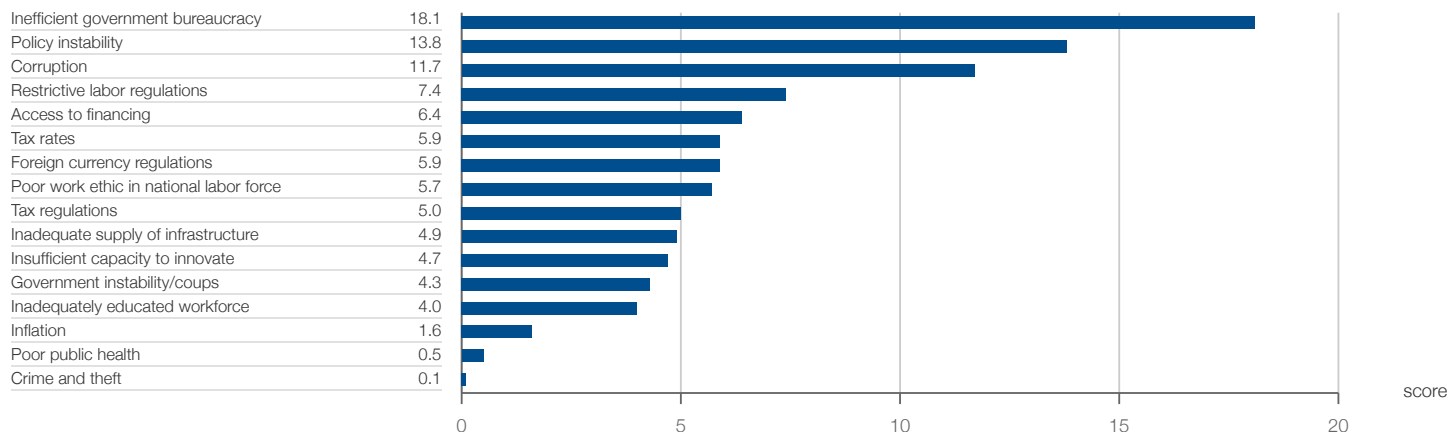
Population (millions)	11.1	GDP per capita (US\$)	3922.7
GDP (US\$ billions)	43.6	GDP (PPP) % world GDP	0.11

Performance overview



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.

The Global Competitiveness Index in detail

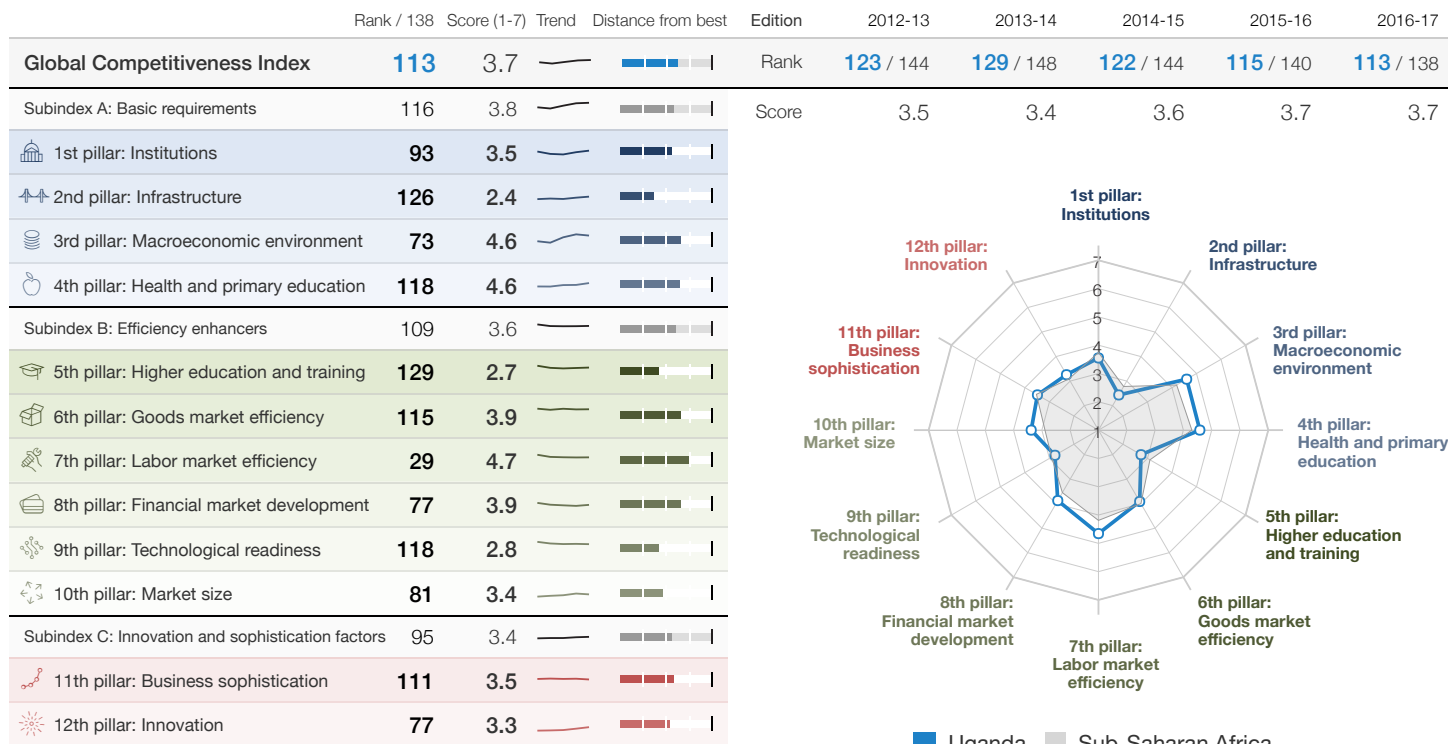
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	78	3.8		6th pillar: Goods market efficiency	113	3.9	
1.01 Property rights	49	4.5		6.01 Intensity of local competition	84	4.9	
1.02 Intellectual property protection	79	3.9		6.02 Extent of market dominance	100	3.3	
1.03 Diversion of public funds	46	4.1		6.03 Effectiveness of anti-monopoly policy	95	3.4	
1.04 Public trust in politicians	63	3.1		6.04 Effect of taxation on incentives to invest	58	3.8	
1.05 Irregular payments and bribes	95	3.5		6.05 Total tax rate % profits	122	59.9	
1.06 Judicial independence	75	3.8		6.06 No. of procedures to start a business	116	10	
1.07 Favoritism in decisions of government officials	50	3.4		6.07 Time to start a business days	67	11.0	
1.08 Wastefulness of government spending	65	3.3		6.08 Agricultural policy costs	98	3.4	
1.09 Burden of government regulation	104	3.0		6.09 Prevalence of non-tariff barriers	117	3.7	
1.10 Efficiency of legal framework in settling disputes	64	3.7		6.10 Trade tariffs % duty	116	10.8	
1.11 Efficiency of legal framework in challenging regs	66	3.5		6.11 Prevalence of foreign ownership	100	4.1	
1.12 Transparency of government policymaking	91	3.8		6.12 Business impact of rules on FDI	90	4.3	
1.13 Business costs of terrorism	127	3.2		6.13 Burden of customs procedures	128	3.0	
1.14 Business costs of crime and violence	94	4.1		6.14 Imports % GDP	46	52.3	
1.15 Organized crime	87	4.4		6.15 Degree of customer orientation	96	4.3	
1.16 Reliability of police services	74	4.3		6.16 Buyer sophistication	100	3.0	
1.17 Ethical behavior of firms	94	3.5		7th pillar: Labor market efficiency	133	3.2	
1.18 Strength of auditing and reporting standards	92	4.2		7.01 Cooperation in labor-employer relations	128	3.6	
1.19 Efficacy of corporate boards	101	4.5		7.02 Flexibility of wage determination	129	3.8	
1.20 Protection of minority shareholders' interests	61	4.1		7.03 Hiring and firing practices	126	2.8	
1.21 Strength of investor protection 0-10 (best)	90	5.0		7.04 Redundancy costs weeks of salary	45	12.1	
2nd pillar: Infrastructure	83	3.7		7.05 Effect of taxation on incentives to work	83	3.8	
2.01 Quality of overall infrastructure	84	3.7		7.06 Pay and productivity	132	3.0	
2.02 Quality of roads	87	3.5		7.07 Reliance on professional management	94	3.8	
2.03 Quality of railroad infrastructure	63	2.8		7.08 Country capacity to retain talent	110	2.8	
2.04 Quality of port infrastructure	100	3.3		7.09 Country capacity to attract talent	123	2.3	
2.05 Quality of air transport infrastructure	97	3.9		7.10 Female participation in the labor force ratio to men	127	0.36	
2.06 Available airline seat kilometers millions/week	76	139.2		8th pillar: Financial market development	119	3.2	
2.07 Quality of electricity supply	60	5.1		8.01 Financial services meeting business needs	109	3.6	
2.08 Mobile-cellular telephone subscriptions /100 pop.	42	129.9		8.02 Affordability of financial services	100	3.3	
2.09 Fixed-telephone lines /100 pop.	88	8.4		8.03 Financing through local equity market	62	3.7	
3rd pillar: Macroeconomic environment	99	4.2		8.04 Ease of access to loans	102	3.3	
3.01 Government budget balance % GDP	94	-4.4		8.05 Venture capital availability	111	2.3	
3.02 Gross national savings % GDP	109	12.9		8.06 Soundness of banks	127	3.4	
3.03 Inflation annual % change	100	4.9		8.07 Regulation of securities exchanges	77	4.1	
3.04 Government debt % GDP	81	54.5		8.08 Legal rights index 0-10 (best)	108	2	
3.05 Country credit rating 0-100 (best)	75	-		9th pillar: Technological readiness	80	3.7	
4th pillar: Health and primary education	59	5.9		9.01 Availability of latest technologies	76	4.6	
4.01 Malaria incidence cases/100,000 pop.	n/a	S.L.		9.02 Firm-level technology absorption	106	4.1	
4.02 Business impact of malaria	N/Appl.	N/Appl.		9.03 FDI and technology transfer	81	4.2	
4.03 Tuberculosis incidence cases/100,000 pop.	60	33.0		9.04 Internet users % pop.	82	48.5	
4.04 Business impact of tuberculosis	73	5.6		9.05 Fixed-broadband Internet subscriptions /100 pop.	88	4.3	
4.05 HIV prevalence % adult pop.	1	0.1		9.06 Internet bandwidth kb/s/user	77	33.8	
4.06 Business impact of HIV/AIDS	67	5.7		9.07 Mobile-broadband subscriptions /100 pop.	52	62.6	
4.07 Infant mortality deaths/1,000 live births	68	12.1		10th pillar: Market size	69	3.8	
4.08 Life expectancy years	78	74.1		10.01 Domestic market size index	69	3.6	
4.09 Quality of primary education	85	3.6		10.02 Foreign market size index	67	4.5	
4.10 Primary education enrollment rate net %	21	98.6		10.03 GDP (PPP) PPP \$ billions	71	127.0	
5th pillar: Higher education and training	93	4.0		10.04 Exports % GDP	55	39.2	
5.01 Secondary education enrollment rate gross %	82	87.6		11th pillar: Business sophistication	101	3.6	
5.02 Tertiary education enrollment rate gross %	79	34.6		11.01 Local supplier quantity	56	4.6	
5.03 Quality of the education system	107	3.1		11.02 Local supplier quality	92	4.0	
5.04 Quality of math and science education	57	4.4		11.03 State of cluster development	106	3.2	
5.05 Quality of management schools	78	4.1		11.04 Nature of competitive advantage	123	2.6	
5.06 Internet access in schools	112	3.5		11.05 Value chain breadth	89	3.6	
5.07 Local availability of specialized training services	118	3.6		11.06 Control of international distribution	83	3.4	
5.08 Extent of staff training	114	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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

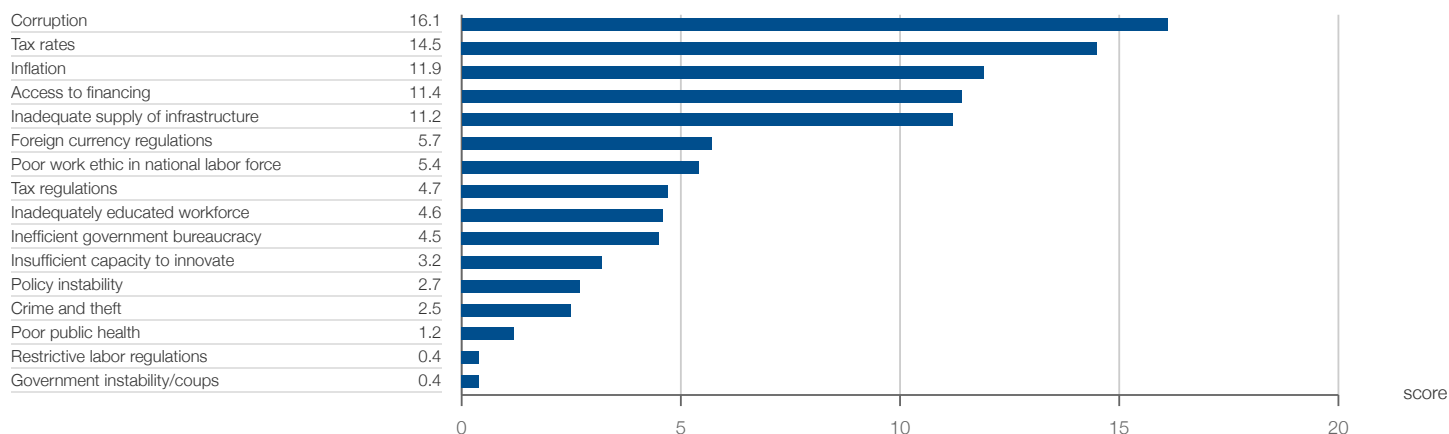
Population (millions)	39.9	GDP per capita (US\$)	620.2
GDP (US\$ billions)	24.7	GDP (PPP) % world GDP	0.07

Performance overview



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.

The Global Competitiveness Index in detail

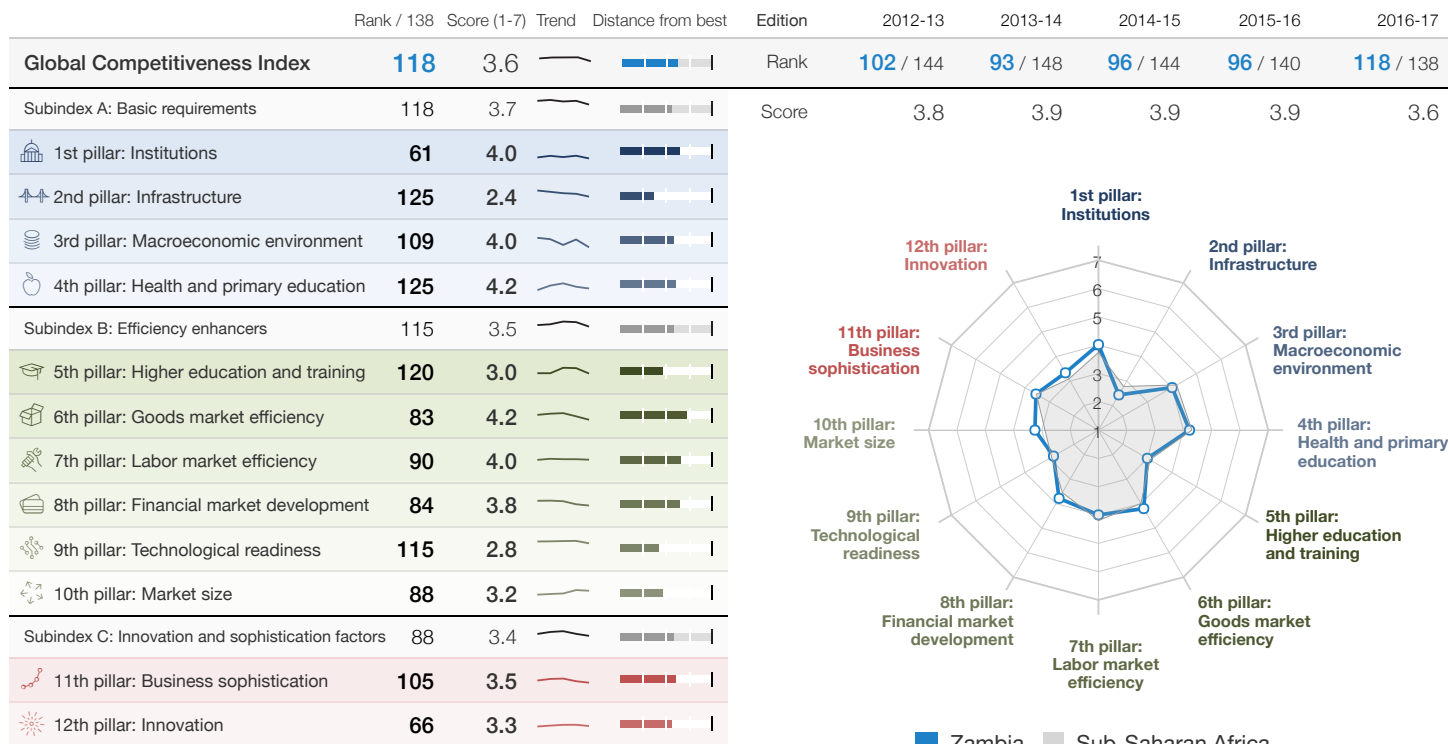
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	93	3.5		6th pillar: Goods market efficiency	115	3.9	
1.01 Property rights	73	4.2		6.01 Intensity of local competition	45	5.3	
1.02 Intellectual property protection	104	3.5		6.02 Extent of market dominance	117	3.1	
1.03 Diversion of public funds	117	2.5		6.03 Effectiveness of anti-monopoly policy	108	3.2	
1.04 Public trust in politicians	98	2.4		6.04 Effect of taxation on incentives to invest	114	3.0	
1.05 Irregular payments and bribes	118	3.0		6.05 Total tax rate % profits	66	36.5	
1.06 Judicial independence	89	3.6		6.06 No. of procedures to start a business	135	15	
1.07 Favoritism in decisions of government officials	101	2.6		6.07 Time to start a business days	112	27.0	
1.08 Wastefulness of government spending	103	2.5		6.08 Agricultural policy costs	75	3.7	
1.09 Burden of government regulation	43	3.7		6.09 Prevalence of non-tariff barriers	48	4.6	
1.10 Efficiency of legal framework in settling disputes	60	3.8		6.10 Trade tariffs % duty	101	9.7	
1.11 Efficiency of legal framework in challenging regs	70	3.5		6.11 Prevalence of foreign ownership	28	5.3	
1.12 Transparency of government policymaking	63	4.3		6.12 Business impact of rules on FDI	31	5.2	
1.13 Business costs of terrorism	123	3.7		6.13 Burden of customs procedures	66	4.1	
1.14 Business costs of crime and violence	112	3.6		6.14 Imports % GDP	93	34.4	
1.15 Organized crime	109	4.1		6.15 Degree of customer orientation	86	4.4	
1.16 Reliability of police services	88	4.0		6.16 Buyer sophistication	126	2.5	
1.17 Ethical behavior of firms	89	3.6		7th pillar: Labor market efficiency	29	4.7	
1.18 Strength of auditing and reporting standards	97	4.1		7.01 Cooperation in labor-employer relations	49	4.6	
1.19 Efficacy of corporate boards	50	5.1		7.02 Flexibility of wage determination	11	6.0	
1.20 Protection of minority shareholders' interests	93	3.8		7.03 Hiring and firing practices	41	4.1	
1.21 Strength of investor protection 0-10 (best)	86	5.2		7.04 Redundancy costs weeks of salary	23	8.7	
2nd pillar: Infrastructure	126	2.4		7.05 Effect of taxation on incentives to work	94	3.7	
2.01 Quality of overall infrastructure	98	3.4		7.06 Pay and productivity	106	3.5	
2.02 Quality of roads	88	3.5		7.07 Reliance on professional management	83	4.0	
2.03 Quality of railroad infrastructure	99	1.6		7.08 Country capacity to retain talent	95	3.1	
2.04 Quality of port infrastructure	121	2.5		7.09 Country capacity to attract talent	92	3.0	
2.05 Quality of air transport infrastructure	120	3.2		7.10 Female participation in the labor force ratio to men	15	0.95	
2.06 Available airline seat kilometers millions/week	102	45.6		8th pillar: Financial market development	77	3.9	
2.07 Quality of electricity supply	103	3.4		8.01 Financial services meeting business needs	84	4.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	133	50.4		8.02 Affordability of financial services	120	3.0	
2.09 Fixed-telephone lines /100 pop.	125	0.8		8.03 Financing through local equity market	81	3.4	
3rd pillar: Macroeconomic environment	73	4.6		8.04 Ease of access to loans	55	4.1	
3.01 Government budget balance % GDP	67	-2.9		8.05 Venture capital availability	97	2.5	
3.02 Gross national savings % GDP	83	17.7		8.06 Soundness of banks	77	4.7	
3.03 Inflation annual % change	108	5.8		8.07 Regulation of securities exchanges	68	4.4	
3.04 Government debt % GDP	36	35.4		8.08 Legal rights index 0-10 (best)	46	6	
3.05 Country credit rating 0-100 (best)	95	-		9th pillar: Technological readiness	118	2.8	
4th pillar: Health and primary education	118	4.6		9.01 Availability of latest technologies	105	4.1	
4.01 Malaria incidence cases/100,000 pop.	58	21438.2		9.02 Firm-level technology absorption	102	4.1	
4.02 Business impact of malaria	63	3.3		9.03 FDI and technology transfer	75	4.3	
4.03 Tuberculosis incidence cases/100,000 pop.	107	161.0		9.04 Internet users % pop.	115	19.2	
4.04 Business impact of tuberculosis	110	4.3		9.05 Fixed-broadband Internet subscriptions /100 pop.	118	0.3	
4.05 HIV prevalence % adult pop.	129	7.3		9.06 Internet bandwidth kb/s/user	121	4.6	
4.06 Business impact of HIV/AIDS	135	3.1		9.07 Mobile-broadband subscriptions /100 pop.	112	18.3	
4.07 Infant mortality deaths/1,000 live births	114	37.7		10th pillar: Market size	81	3.4	
4.08 Life expectancy years	127	58.5		10.01 Domestic market size index	78	3.3	
4.09 Quality of primary education	122	2.8		10.02 Foreign market size index	103	3.7	
4.10 Primary education enrollment rate net %	82	93.7		10.03 GDP (PPP) PPP \$ billions	80	79.9	
5th pillar: Higher education and training	129	2.7		10.04 Exports % GDP	121	16.9	
5.01 Secondary education enrollment rate gross %	136	27.6		11th pillar: Business sophistication	111	3.5	
5.02 Tertiary education enrollment rate gross %	129	4.5		11.01 Local supplier quantity	48	4.7	
5.03 Quality of the education system	90	3.4		11.02 Local supplier quality	122	3.6	
5.04 Quality of math and science education	116	3.1		11.03 State of cluster development	89	3.5	
5.05 Quality of management schools	100	3.8		11.04 Nature of competitive advantage	114	2.8	
5.06 Internet access in schools	125	3.1		11.05 Value chain breadth	103	3.4	
5.07 Local availability of specialized training services	79	4.1		11.06 Control of international distribution	125	2.9	
5.08 Extent of staff training	95	3.6		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

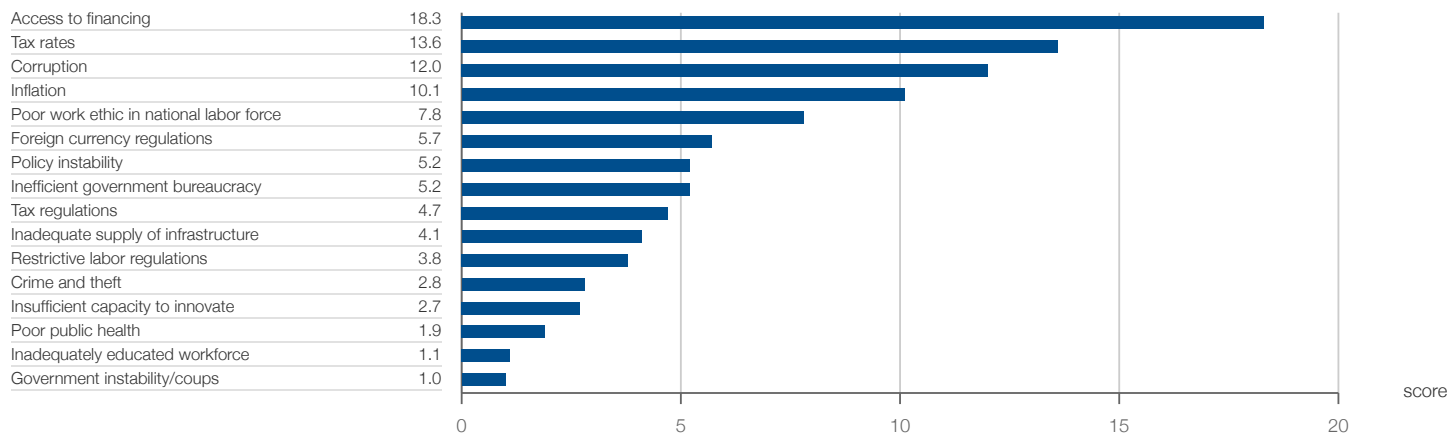
Population (millions)	16.2	GDP per capita (US\$)	1350.2
GDP (US\$ billions)	21.9	GDP (PPP) % world GDP	0.06

Performance overview



Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



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The Global Competitiveness Index in detail

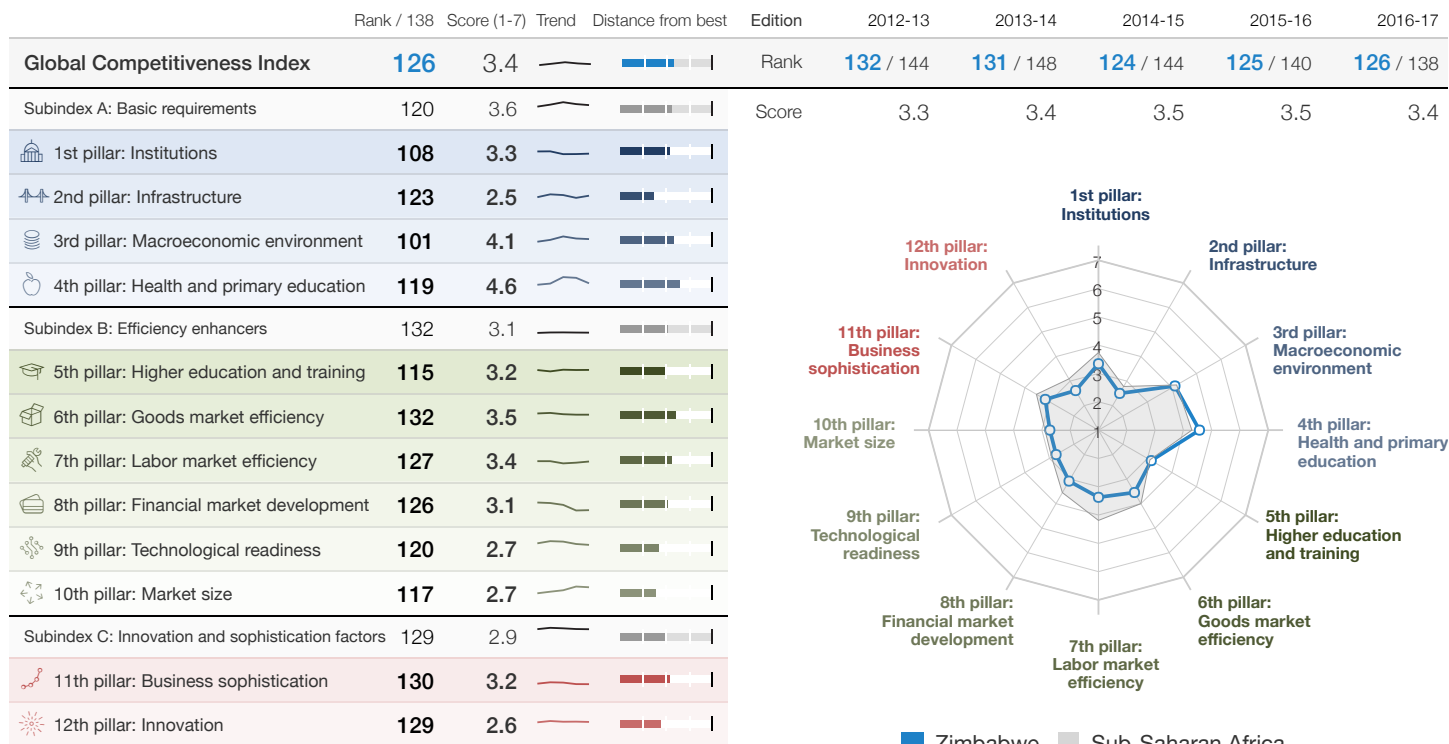
	Rank / 138	Value	Trend		Rank / 138	Value	Trend
1st pillar: Institutions	61	4.0		6th pillar: Goods market efficiency	83	4.2	
1.01 Property rights	53	4.5		6.01 Intensity of local competition	63	5.2	
1.02 Intellectual property protection	64	4.2		6.02 Extent of market dominance	73	3.6	
1.03 Diversion of public funds	74	3.4		6.03 Effectiveness of anti-monopoly policy	99	3.3	
1.04 Public trust in politicians	68	3.0		6.04 Effect of taxation on incentives to invest	88	3.4	
1.05 Irregular payments and bribes	96	3.5		6.05 Total tax rate % profits	11	18.6	
1.06 Judicial independence	67	4.0		6.06 No. of procedures to start a business	54	6	
1.07 Favoritism in decisions of government officials	87	2.8		6.07 Time to start a business days	46	7.5	
1.08 Wastefulness of government spending	48	3.6		6.08 Agricultural policy costs	66	3.8	
1.09 Burden of government regulation	47	3.7		6.09 Prevalence of non-tariff barriers	57	4.5	
1.10 Efficiency of legal framework in settling disputes	49	4.1		6.10 Trade tariffs % duty	114	10.6	
1.11 Efficiency of legal framework in challenging regs	58	3.6		6.11 Prevalence of foreign ownership	11	5.6	
1.12 Transparency of government policymaking	53	4.4		6.12 Business impact of rules on FDI	35	5.1	
1.13 Business costs of terrorism	37	5.8		6.13 Burden of customs procedures	102	3.5	
1.14 Business costs of crime and violence	67	4.7		6.14 Imports % GDP	82	37.0	
1.15 Organized crime	63	5.0		6.15 Degree of customer orientation	98	4.3	
1.16 Reliability of police services	112	3.4		6.16 Buyer sophistication	124	2.7	
1.17 Ethical behavior of firms	48	4.2		7th pillar: Labor market efficiency	90	4.0	
1.18 Strength of auditing and reporting standards	109	3.9		7.01 Cooperation in labor-employer relations	73	4.3	
1.19 Efficacy of corporate boards	54	5.0		7.02 Flexibility of wage determination	52	5.2	
1.20 Protection of minority shareholders' interests	58	4.2		7.03 Hiring and firing practices	34	4.3	
1.21 Strength of investor protection 0-10 (best)	79	5.3		7.04 Redundancy costs weeks of salary	132	50.5	
2nd pillar: Infrastructure	125	2.4		7.05 Effect of taxation on incentives to work	88	3.7	
2.01 Quality of overall infrastructure	100	3.3		7.06 Pay and productivity	93	3.7	
2.02 Quality of roads	85	3.5		7.07 Reliance on professional management	73	4.2	
2.03 Quality of railroad infrastructure	74	2.6		7.08 Country capacity to retain talent	65	3.5	
2.04 Quality of port infrastructure	128	2.2		7.09 Country capacity to attract talent	39	3.9	
2.05 Quality of air transport infrastructure	121	3.2		7.10 Female participation in the labor force ratio to men	46	0.87	
2.06 Available airline seat kilometers millions/week	107	38.5		8th pillar: Financial market development	84	3.8	
2.07 Quality of electricity supply	120	2.5		8.01 Financial services meeting business needs	88	4.0	
2.08 Mobile-cellular telephone subscriptions /100 pop.	125	74.5		8.02 Affordability of financial services	117	3.0	
2.09 Fixed-telephone lines /100 pop.	126	0.7		8.03 Financing through local equity market	64	3.7	
3rd pillar: Macroeconomic environment	109	4.0		8.04 Ease of access to loans	94	3.4	
3.01 Government budget balance % GDP	124	-8.1		8.05 Venture capital availability	116	2.2	
3.02 Gross national savings % GDP	19	31.1		8.06 Soundness of banks	109	4.1	
3.03 Inflation annual % change	128	10.1		8.07 Regulation of securities exchanges	69	4.3	
3.04 Government debt % GDP	78	52.9		8.08 Legal rights index 0-10 (best)	28	7	
3.05 Country credit rating 0-100 (best)	90	-		9th pillar: Technological readiness	115	2.8	
4th pillar: Health and primary education	125	4.2		9.01 Availability of latest technologies	102	4.1	
4.01 Malaria incidence cases/100,000 pop.	57	20990.6		9.02 Firm-level technology absorption	100	4.2	
4.02 Business impact of malaria	53	3.9		9.03 FDI and technology transfer	76	4.3	
4.03 Tuberculosis incidence cases/100,000 pop.	133	406.0		9.04 Internet users % pop.	110	21.0	
4.04 Business impact of tuberculosis	111	4.3		9.05 Fixed-broadband Internet subscriptions /100 pop.	126	0.1	
4.05 HIV prevalence % adult pop.	132	12.4		9.06 Internet bandwidth kb/s/user	125	3.2	
4.06 Business impact of HIV/AIDS	123	3.9		9.07 Mobile-broadband subscriptions /100 pop.	119	13.8	
4.07 Infant mortality deaths/1,000 live births	120	43.3		10th pillar: Market size	88	3.2	
4.08 Life expectancy years	124	60.0		10.01 Domestic market size index	89	3.0	
4.09 Quality of primary education	100	3.3		10.02 Foreign market size index	94	3.9	
4.10 Primary education enrollment rate net %	112	87.4		10.03 GDP (PPP) PPP \$ billions	91	62.7	
5th pillar: Higher education and training	120	3.0		10.04 Exports % GDP	92	28.8	
5.01 Secondary education enrollment rate gross %	132	37.0		11th pillar: Business sophistication	105	3.5	
5.02 Tertiary education enrollment rate gross %	136	2.2		11.01 Local supplier quantity	81	4.4	
5.03 Quality of the education system	53	4.1		11.02 Local supplier quality	126	3.5	
5.04 Quality of math and science education	96	3.6		11.03 State of cluster development	68	3.7	
5.05 Quality of management schools	95	3.8		11.04 Nature of competitive advantage	119	2.7	
5.06 Internet access in schools	107	3.6		11.05 Value chain breadth	111	3.4	
5.07 Local availability of specialized training services	63	4.4		11.06 Control of international distribution	120	2.9	
5.08 Extent of staff training	77	3.8		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/>

Key Indicators, 2015 Source: International Monetary Fund; World Economic Outlook Database (April 2016)

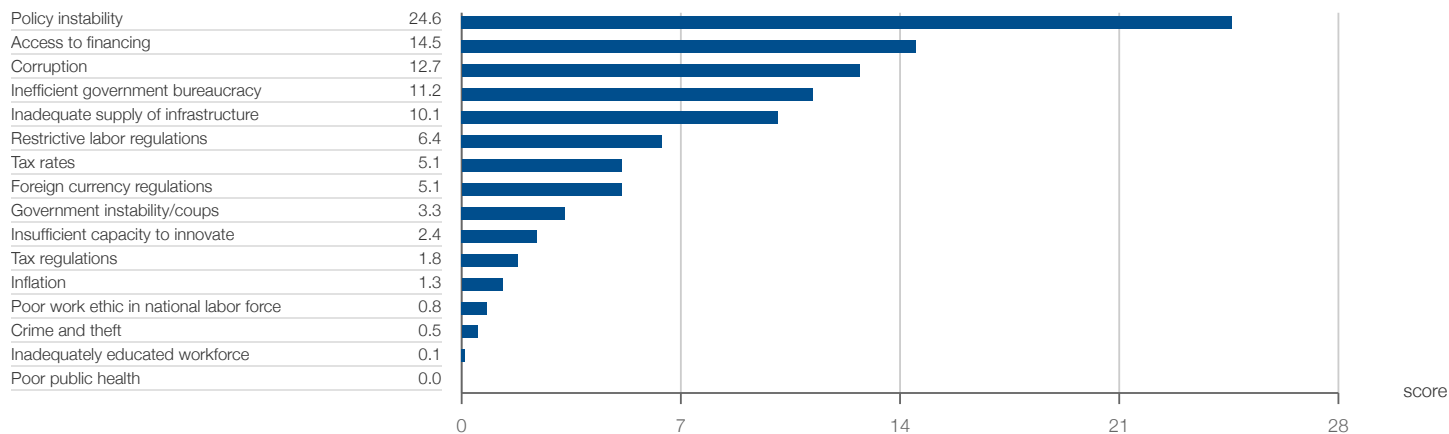
Population (millions)	13.4	GDP per capita (US\$)	1064.3
GDP (US\$ billions)	14.3	GDP (PPP) % world GDP	0.03

Performance overview



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		Rank / 138	Value	Trend
1st pillar: Institutions	108	3.3		6th pillar: Goods market efficiency	132	3.5	
1.01 Property rights	137	2.6		6.01 Intensity of local competition	90	4.8	
1.02 Intellectual property protection	97	3.6		6.02 Extent of market dominance	112	3.2	
1.03 Diversion of public funds	109	2.7		6.03 Effectiveness of anti-monopoly policy	92	3.4	
1.04 Public trust in politicians	134	1.6		6.04 Effect of taxation on incentives to invest	115	3.0	
1.05 Irregular payments and bribes	99	3.4		6.05 Total tax rate % profits	50	32.8	
1.06 Judicial independence	115	2.9		6.06 No. of procedures to start a business	108	9	
1.07 Favoritism in decisions of government officials	133	1.9		6.07 Time to start a business days	137	90.0	
1.08 Wastefulness of government spending	127	2.1		6.08 Agricultural policy costs	137	2.3	
1.09 Burden of government regulation	130	2.4		6.09 Prevalence of non-tariff barriers	70	4.4	
1.10 Efficiency of legal framework in settling disputes	83	3.4		6.10 Trade tariffs % duty	133	14.6	
1.11 Efficiency of legal framework in challenging regs	112	2.7		6.11 Prevalence of foreign ownership	106	4.0	
1.12 Transparency of government policymaking	112	3.5		6.12 Business impact of rules on FDI	138	2.2	
1.13 Business costs of terrorism	5	6.4		6.13 Burden of customs procedures	131	3.0	
1.14 Business costs of crime and violence	65	4.8		6.14 Imports % GDP	75	39.8	
1.15 Organized crime	41	5.5		6.15 Degree of customer orientation	117	4.0	
1.16 Reliability of police services	108	3.5		6.16 Buyer sophistication	115	2.8	
1.17 Ethical behavior of firms	108	3.4		7th pillar: Labor market efficiency	127	3.4	
1.18 Strength of auditing and reporting standards	50	4.9		7.01 Cooperation in labor-employer relations	108	4.0	
1.19 Efficacy of corporate boards	83	4.7		7.02 Flexibility of wage determination	134	2.9	
1.20 Protection of minority shareholders' interests	73	4.0		7.03 Hiring and firing practices	134	2.3	
1.21 Strength of investor protection 0-10 (best)	73	5.5		7.04 Redundancy costs weeks of salary	136	82.3	
2nd pillar: Infrastructure	123	2.5		7.05 Effect of taxation on incentives to work	53	4.1	
2.01 Quality of overall infrastructure	111	3.1		7.06 Pay and productivity	123	3.3	
2.02 Quality of roads	101	3.2		7.07 Reliance on professional management	42	4.7	
2.03 Quality of railroad infrastructure	83	2.3		7.08 Country capacity to retain talent	129	2.4	
2.04 Quality of port infrastructure	106	3.2		7.09 Country capacity to attract talent	124	2.3	
2.05 Quality of air transport infrastructure	107	3.6		7.10 Female participation in the labor force ratio to men	36	0.89	
2.06 Available airline seat kilometers millions/week	121	23.2		8th pillar: Financial market development	126	3.1	
2.07 Quality of electricity supply	124	2.3		8.01 Financial services meeting business needs	126	3.4	
2.08 Mobile-cellular telephone subscriptions /100 pop.	115	84.8		8.02 Affordability of financial services	137	2.2	
2.09 Fixed-telephone lines /100 pop.	111	2.2		8.03 Financing through local equity market	102	3.0	
3rd pillar: Macroeconomic environment	101	4.1		8.04 Ease of access to loans	125	2.8	
3.01 Government budget balance % GDP	26	-1.2		8.05 Venture capital availability	137	1.7	
3.02 Gross national savings % GDP	136	-4.3		8.06 Soundness of banks	128	3.3	
3.03 Inflation annual % change	109	-2.4		8.07 Regulation of securities exchanges	95	3.8	
3.04 Government debt % GDP	79	53.0		8.08 Legal rights index 0-10 (best)	68	5	
3.05 Country credit rating 0-100 (best)	137	-		9th pillar: Technological readiness	120	2.7	
4th pillar: Health and primary education	119	4.6		9.01 Availability of latest technologies	108	4.0	
4.01 Malaria incidence cases/100,000 pop.	48	6559.2		9.02 Firm-level technology absorption	115	3.9	
4.02 Business impact of malaria	35	4.9		9.03 FDI and technology transfer	134	2.8	
4.03 Tuberculosis incidence cases/100,000 pop.	123	278.0		9.04 Internet users % pop.	123	16.4	
4.04 Business impact of tuberculosis	113	4.3		9.05 Fixed-broadband Internet subscriptions /100 pop.	107	1.1	
4.05 HIV prevalence % adult pop.	134	16.7		9.06 Internet bandwidth kb/s/user	114	6.4	
4.06 Business impact of HIV/AIDS	120	3.9		9.07 Mobile-broadband subscriptions /100 pop.	90	39.0	
4.07 Infant mortality deaths/1,000 live births	122	46.6		10th pillar: Market size	117	2.7	
4.08 Life expectancy years	129	57.5		10.01 Domestic market size index	114	2.5	
4.09 Quality of primary education	50	4.4		10.02 Foreign market size index	122	3.4	
4.10 Primary education enrollment rate net %	119	85.9		10.03 GDP (PPP) PPP \$ billions	115	28.1	
5th pillar: Higher education and training	115	3.2		10.04 Exports % GDP	100	24.7	
5.01 Secondary education enrollment rate gross %	118	47.6		11th pillar: Business sophistication	130	3.2	
5.02 Tertiary education enrollment rate gross %	127	5.9		11.01 Local supplier quantity	126	3.7	
5.03 Quality of the education system	51	4.1		11.02 Local supplier quality	123	3.6	
5.04 Quality of math and science education	64	4.3		11.03 State of cluster development	134	2.7	
5.05 Quality of management schools	102	3.8		11.04 Nature of competitive advantage	124	2.5	
5.06 Internet access in schools	116	3.4		11.05 Value chain breadth	134	2.8	
5.07 Local availability of specialized training services	86	4.1		11.06 Control of international distribution	136	2.6	
5.08 Extent of staff training	90	3.7		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/>

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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.