The Africa Competitiveness Report 2013

WORLD ECONOMIC FORUM

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Insight Report

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The terms *country* and *nation* as used in this report do not in all cases refer to a territorial entity that is a state as understood by international law and practice. The terms cover well-defined, geographically self-contained economic areas that may not be states but for which statistical data are maintained on a separate and independent basis.

Contents

Preface

DONALD KABERUKA, President, African Development Bank Group
CHRISTIAN FRIIS BACH, Danish Minister for Development Cooperation
KLAUS SCHWAB, Executive Chairman, World Economic Forum
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The Africa Competitiveness Report 2013, the fourth report jointly published by our organizations, comes out at a time when international interest in Africa is surging and the continent is seen both as an investment destination of choice and as a region marked by greater prosperity and development.

Talk of an "African economic renaissance" continues to grow: the continent has experienced an average growth rate of more than 5 percent over the past decade, when much of the developed world still struggles to recover from crisis. However, Africa will need to translate this impressive economic growth into rapidly improving living standards for all Africans, as has happened in other regions with a similar growth performance. This is imperative if the continent is to take advantage of its historic opportunity to end poverty and embrace shared prosperity. Decisions and actions today will have a strong bearing on whether Africa places itself on an inclusive and sustainable growth path.

On a biennial basis, *The Africa Competitiveness Report* highlights areas requiring policy action and investment to ensure Africa lays the foundation for inclusive and sustained growth. The *Report* leverages the knowledge and expertise of the African Development Bank, the World Bank Group, and the World Economic Forum to present a policy vision that can help Africa connect its markets and communities through increased regional integration.

Through a comprehensive analysis of Africa's most pressing competitiveness challenges, the *Report* discusses the barriers to increased trade, including the state of Africa's infrastructure and its legal and regulatory environment. It similarly considers how innovative public-private partnerships, often anchored to potential growth poles, can serve as incubators for self-sustaining industrialization, more jobs, greater opportunities, and more dynamic regional integration. The *Report* also delivers detailed competitiveness profiles for 38 African countries, providing a comprehensive summary of the drivers of productivity and competitiveness within the continent.

We hope that this year's *Report* will stimulate enthusiastic discussion among government, business, and community leaders about what we can all do together to better connect Africa's markets, to advance regional integration within the continent, and to ensure that the benefits of growth are equitably shared. For regional integration, a vibrant private sector—as the producer of tradable goods and services—will play a key role. Businesses can advocate for reforms that enhance competitiveness at the national level and lend their support to initiatives that facilitate trade beyond national borders. Governments can lay the foundations for the sound business climate required for firms to prosper, and can provide the legal and regulatory frameworks required for regional integration.

Africa is at an auspicious moment in history, when the successes of past decades and an increasingly favorable economic outlook combine to give the continent an unprecedented opportunity to boost investments and spur regional integration to end poverty within a generation.

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Overview

The Africa Competitiveness Report 2013 comes out at a time of growing international attention focused on Africa as an investment destination and mounting talk of an African economic renaissance. This increased optimism is being spurred on by a decade of historically strong growth, with many countries in Africa relatively unscathed by the global economic crisis, thanks to prudent macroeconomic management.[1] However, growth remains unevenly spread across the region and has not yet translated to a rise in living standards comparable to those observed in other rapidly growing developing regions. Further, the turbulence in North Africa has slowed growth in some of those countries. More generally, the question of how sustainable and inclusive Africa's growth will be going forward remains. Many efforts are still needed for African economies to diversify and enhance their competitiveness so that they can absorb the 10 million new entrants to the labor force every year.[2] Indeed, the *African Economic Outlook* (AEO) report in 2012 highlights the fast but jobless growth pattern on the continent: as a result of the youngest population in the world—200 million young people between the ages of 15 and 24—coupled with improved levels of education, Africa faces the challenge—and opportunity—of a youth bulge.

Africa is at a crossroads, and decisions and actions taken today will have a strong bearing on whether it places itself on a path similar to that of other regions such as developing Asia, allowing it to transition from resource-driven to higher-value-added growth. In this context, this *Report* will assess the extent to which African economies have laid the foundations and made the necessary investments for sustained growth.

The 2011 *Africa Competitiveness Report* examined Africa's human resources and services industries and looked at the efforts required to improve higher education, strengthen women's entrepreneurship, and capitalize on the emerging Travel & Tourism industry. Building on this work, this year's *Africa Competitiveness Report* focuses on the potential of regional integration as a stepping stone for building economies of scale, increasing competition, and fostering economic diversification. Information on the key data sources used in this *Report* can be found in Boxes 1 and 2. Although human capital development continues to be critical for developing competitiveness in Africa, this year's *Report* leverages the research, expertise, and substantial amount of work on regional integration that has been carried out by its partner organizations—the World Economic Forum, the World Bank, and the African Development Bank. The aim is to provide a better understanding of the benefits of regional integration for higher-value-added growth and to discuss current constraints and the policy environment required to develop the necessary infrastructure for connecting Africa's markets in a sustainable way. It is based on the assumption that regional integration could be an important way to reinforce competitiveness across the continent. Such integration is, however, not an end in itself, but a reinforcing process. Both regional integration and competitiveness challenges must be addressed at the same time within a country to lay the basis for a strong and thriving private sector, and hence, increased productivity. Against this backdrop, the *Report* begins with an assessment of the different factors that affect Africa's economic competitiveness. Chapter 1.1 of the *Report* outlines the competitiveness challenges faced by the continent.

ASSESSING THE COMPETITIVENESS OF AFRICAN COUNTRIES

Many African countries continue to feature among the least competitive economies in the world. By *competitiveness* we mean all of 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. In other words, more competitive economies tend to be able to produce higher levels of income for their citizens. Competitiveness also determines the rates of return obtained by investment. Because the rates of return are the fundamental drivers of growth rates, a more competitive economy is one that is likely to grow faster over the medium to long term.

Chapter 1.1 of the *Report* analyzes competitiveness across the continent and looks at a broad range of factors that impact productivity in African countries. The Global Competitiveness Index (GCI) identifies the majority of African countries as among the least competitive in the world, and notes that Africa must make headway

Box 1: Data used in this *Report*

The Executive Opinion Survey

The Executive Opinion Survey (the Survey) conducted annually by the World Economic Forum captures the perceptions of leading business executives on numerous dimensions of the economy from a cross-section of firms representing its main sectors. The Survey compiles data in the following areas: infrastructure, financial environment, innovation and technology, foreign trade and investment, domestic competition, company operations and strategy, government and public institutions, education and human capital, corruption, ethics and social responsibility, Travel & Tourism, environment, and health. All these areas feed into the 12 pillars of the Global Competitiveness Index. In the Survey, business leaders are asked to assess specific aspects of the business environment in the country in which they operate. For each question, respondents are asked to give their opinion about the situation in their country of residence, compared with a global norm.

The Survey gauges the current condition of a given economy's business climate. The data generated from the Survey comprise the core qualitative ingredient of the Global Competitiveness Index as well as a number of other development-related studies and indexes carried out by the Forum and other institutions. The most recent Survey data cover a record 144 economies, with responses of over 14,000 business executives worldwide, almost 3,000 of whom are from 38 African countries. To conduct the Survey in each country, the World Economic Forum relies on a network of over 160 Partner Institutes. Typically, the Partner Institutes are recognized economics departments of national universities, independent research institutes, or business organizations. More information on the Executive Opinion Survey can be found in Chapter 1.3 of *The Global Competitiveness Report 2012–2013.*

Doing Business Indicators

The World Bank's Doing Business Indicators are updated on an annual basis, providing a quantitative measure of a particular aspect relevant to competitiveness: business regulations relevant to the operation of domestic small- to medium-sized enterprises (SMEs) throughout their life cycle. Specifically, they cover the following topics: Starting a Business, Dealing with Construction Permits, Registering Property, Getting Credit, Protecting Investors, Paying Taxes, Trading Across Borders, Enforcing Contracts, and Closing a Business. The indicators are built on the basis of standardized scenarios that permit consistency of approach and straightforward comparisons across countries. They also enable the tracking of reform efforts over time. Ease of use makes this a useful tool for policy analysis. The Doing Business data are updated annually; the most recent report (published in September 2012) covers 185 economies, over 50 of them in Africa. Subnational Doing Business Rankings are now also available for some African countries, including Egypt, Kenya, Morocco, and Nigeria. Some of these indicators are included in the Global Competitiveness Index. For more information, visit www.doingbusiness.org.

Enterprise Surveys

The World Bank's Enterprise Surveys provide another important point of reference, collecting both perception and objective indicators of the business environment in each country. Although not carried out in every country in every year, the Enterprise Surveys are made up of larger sample sizes that allow for a nuanced analysis of the results—for example, by economic sector and gender of respondent. The data are collected through face-to-face interviews with hundreds of entrepreneurs; hence responses reflect the managers' actual experiences. The data collected span all major investment climate topics, ranging from infrastructure to access to finance and from corruption to crime. Detailed productivity information includes firm finances, costs such as labor and materials, sales, and investment.

The breadth and depth of data allow for cross-country analysis by firm attributes (size, ownership, industry, etc.), and can probe the relationship between investment climate characteristics and firm productivity. Every year, 15–30 Enterprise Surveys are implemented, with updates planned for each country every three to five years. This reflects the intense nature of administering firm surveys, given that firms are required to respond to many detailed questions. So far, over 135 countries have been surveyed, including over 130,000 entrepreneurs, senior managers, and CEOs all over the world.

in many areas in order to set itself on a sustainable growth trajectory going forward. It shows that the gap with comparable regions—such as Southeast Asia and Latin America and the Caribbean—is particularly large in the basic building blocks for a competitive economy: governance and institutions, infrastructure, and education. Beyond these gaps, countries (with the exception of South Africa, Egypt, and the oil-exporting economies) suffer from small market sizes. Moreover, despite the rapid rise in mobile telephone subscriptions, Africa trails other regions significantly in its use of information and communication technologies (ICTs). Furthermore, the chapter finds wide regional differences in competitiveness across the continent, as captured in findings such as the placement of South Africa in the top half of the rankings at 52nd, while Burundi is the lowest ranked country out of all assessed at 144th.

Recognizing the continent's heterogeneity, the chapter explores in greater detail the main competitiveness challenges by classifying Africa's economies into oil and gas exporters, middle-income economies, non-fragile low-income economies, and fragile economies.[3] We see that oil- and gas-exporting economies perform as poorly as fragile economies in 9 out of the 12 competitiveness pillars, calling into question whether these countries' high economic growth rates are sustainable. We further observe that non-fragile low-income economies do particularly well in the areas of financial, goods, and labor market efficiency. Middle-income economies, while generally faring better, face

many of the same competitiveness challenges as their peers.

These competitiveness figures bring to the fore the important question of whether, while enjoying high rates of growth, African countries have been making the types of investments and implementing policies that can put their economies on sustainable growth paths so that they can create enough jobs to benefit from, rather than suffer from, Africa's youth bulge. Given the importance of social and environmental sustainability for growth and development going forward, Africa's economies are also assessed according to these criteria, demonstrating that all eight African economies in the sample do worse when social and environmental variables are taken into account.

REGIONAL INTEGRATION

Efforts to foster trade through regional integration will be critical for Africa to diversify its economies and increase the region's competitiveness. Participating in both intra-Africa and international trade and investment flows can fuel competitiveness in a number of ways. Increased cross-border trade can lead to a virtuous cycle of more competition in domestic markets that—coupled with the exploitation of economies of scale—lowers the costs of goods and services while increasing their variety, thereby generating more economic activity, such as the development of the manufacturing or services sectors. This, in turn, has the potential to create strong backward and forward linkages within the economy. For African countries, two inter-related challenges are critical: to diversify the export base to reduce vulnerability stemming from commodity price swings, and to tighten regional integration. A recent World Bank report shows that countries are losing out on billions of dollars in potential trade every year because of the region's fragmented regional market,[4] and because cross-border production networks that have spurred economic dynamism in other regions, especially East Asia, have yet to materialize in Africa.

TRADE LIBERALIZATION

Africa has failed to benefit from trade liberalization to the same extent as other regions, such as Asia and some countries in Latin America. Chapter 2.1, therefore, looks at how to strengthen the trade performance of African economies. The Enabling Trade Index (ETI) points to a number of strengths and many challenges to developing trade on the African continent. Access to African markets has been significantly liberalized in most countries, and the business environment is often more conducive to corporate activity than it is in other regions, although regional differences between East, Southern, and West Africa remain. However, inefficient border administration reduces the price competitiveness of African exports in global markets and adds to the cost of imports. The transport and communications infrastructure is far less developed than in other regions, which also significantly raises the cost of trading, particularly for landlocked economies. The chapter also corroborates that access to finance and identifying potential markets and buyers are considered the most important bottlenecks to exporting across Africa. This suggests that further developing the financial services sector, as outlined in Chapter 1.1, would be beneficial for trade; there is also a need and a demand for accessible business services that could help exporters identify markets and buyers.

AFRICA'S DEEP AND PERSISTENT INFRASTRUCTURE DEFICIT

Together with border administration, the insufficient amount and quality of infrastructure is one of the major impediments to developing trade in Africa and improving competitiveness; closing this deficit is part of the solution (see Chapters 2.1 and 2.2). While over half of Africa's improved growth performance can be attributed to improvements in infrastructure, US$93 billion annually until 2020 is still needed for infrastructure development.[5] And increased urbanization, growing consumer markets,

Box 2: The African Development Bank: Knowledge to improve investment climate and competitiveness

The *African Economic Outlook* (AEO) is jointly produced by the African Development Bank (AfDB), the Organisation for Economic Co-operation and Development (OECD) Development Centre, the United Nations Development Programme (UNDP), and the United Nations Economic Commission for Africa (UNECA). It reviews recent economic developments in Africa by adopting a comparative approach and a common analytical framework. It provides forecasts for key macroeconomic variables. The AEO surveys and analyzes the current socioeconomic performance of African economies and provides information on a country-by-country basis on their socioeconomic progress as well as on the short- to medium-term prospects of these countries. It also provides an overview of specific international developments that may impact African economies.

Each year, the AEO addresses a specific theme that focuses on a critical area of Africa's socioeconomic development. The 2012 theme was Promoting Youth Employment. The 2013 edition of the AEO, with the theme of Structural Transformation and Natural Management, covers 53 African countries and is currently being prepared. The key objectives of the AEO are to broaden the knowledge base of African economies and to offer valuable support for policymaking, investment decisions, and donors' interventions. Another important objective is to assist in capacity building. Through the involvement of African experts and institutions in its preparation, the AEO increases research capacity and reinforces the ownership of local African experts in that research. For more information, visit www.africaneconomicoutlook.org.

and broader ties to the global economy are putting additional pressure on the need for African economies to invest more in infrastructure. Developing adequate and efficient infrastructure will assist African economies to increase productivity, especially in manufacturing and service delivery. This in turn will create more jobs and increase attractive investment opportunities as well as encourage the efficient use of natural resources. Improved and efficient infrastructure will also contribute to social development in the areas of health and education and reduce societal inequalities through a more equitable distribution of national wealth.

Chapter 2.2 therefore looks at infrastructure development in the sectors of energy, transportation, and ICTs. The chapter shows that, in general, progress has been very slow or even negative in terms of electricity generation and the provision of paved roads, while the uptake of mobile telephone subscriptions has been impressively rapid during the last decade. The chapter argues that, at the regional level, urgent attention should be given to the development of regional infrastructure to achieve economies of scale. Africa needs well-structured networks linking production centers and distribution hubs across the continent to deepen regional trade and integration. Reducing this significant infrastructure deficit will help to increase Africa's competitiveness. Very important for building the necessary infrastructure will be (1) planning for adequate maintenance in all sectors, including the new ICT sector; (2) removing regulatory and institutional bottlenecks; and (3) interconnecting infrastructure so as to maximize the benefits from regional integration.

COMPREHENSIVE POLICY MIX NEEDED

Infrastructure development needs to be supported by a comprehensive policy mix to reinforce the backward and forward linkages of infrastructure investments in the economy. In this context, Chapter 2.3 discusses growth poles as a successful and innovative approach that links infrastructure investments to the development of industries and that can set into motion a reinforcing cycle of forward and backward linkages. Growth poles are multi-year, generally public-private investments aiming to accelerate growth in the industries that engage in export and to support infrastructure around already-existing opportunities in the economy, such as a natural resource (such as a mine) or an agglomeration economy (such as a boom city). Growth poles are built on the assumption that there is a need for simultaneous, coordinated investments in many sectors to encourage self-sustaining industrialization that could increase market size, thereby attracting more investment and employment. By bringing together investors from both the public and private sectors to share risks, growth poles can reduce the costs of infrastructure projects and especially incentivize the local private sector's participation in these projects. Growth pole projects can be a boost to regional integration, as they often attract foreign direct investment, are built across borders, and have spillovers beyond national economies. Growth poles can thus be important spurs for national competitiveness, and can be especially effective by reinforcing the capacity for regional integration and increasing business sophistication.

POLICY RECOMMENDATIONS

Several policy recommendations flow from the analysis in this *Report.* Individually each recommendation could facilitate trade and regional integration, and jointly they could be important drivers for more regional integration across Africa and for improving the region's competitiveness.

Simplifying import-export procedures: Chapter 2.1 shows that reducing import-export procedures lends itself to relatively rapid gains from trade facilitation, while countries are putting in place the necessary infrastructure that proves critical to more regional integration in the medium to long run. More specifically, streamlining border administration to reduce the cost of procedures and delays during clearance, along with improving the coordination of the clearance process, could be instrumental in providing these rapid gains. An example of this approach is seen in the Uganda-Kenya revenue authorities digital exchange platform (see Chapter 2.1, Box 3).

Developing and leveraging ICTs: Chapter 2.1 shows that improvements in ICTs could also further support and help make more transparent the administrative processes in regard to trade facilitation. Furthering this, Chapter 2.2 highlights the urgent need (1) to liberalize the subsector in countries still dominated by government monopolies, as well as to avoid policy reversals, which create uncertainty; (2) to improve private-sector participation, particularly in the backbone infrastructure, so as to enhance terrestrial connectivity; (3) to create an open, dynamic, and responsive legal and regulatory framework that responds to new advances such as mobile money; and (4) to anticipate plans for adequate maintenance.

Improving energy: From an in-depth analysis of Africa's energy sector, Chapter 2.2 recommends that policymakers should (1) reconsider subsidies and tariffs that are not cost-reflective and that prevent crucial investments; (2) invest in the diversification of the energy mix to reduce vulnerability of one source of energy and ensure sustainability; (3) promote energy efficiency and pursue green energy, which will address the energy deficit at no further cost to the environment; and (4) build competitive regional power pools coupled with the requisite legal and regulatory framework.

Improving transportation: In the transportation sector, outdated infrastructure and limited maintenance call for a pressing rehabilitation in all subsectors. Transport infrastructure is particularly important for

landlocked countries that face prohibitive costs in getting their goods to market, thereby undermining their competitiveness. Policymakers should encourage and facilitate investment in (1) upgrading rail transport links to ensure cost-effective transportation of bulky exports; (2) increasing capacity storage in the port sector; and (3) improving feeder and rural roads, thereby enhancing inclusiveness.

Building growth poles: Linked to but going beyond improving infrastructure, growth poles are an innovative means to link regional integration and develop productive capacity. Chapter 2.3 highlights policy lessons for building growth poles. It shows that growth poles can be an important means of creating dialogue among stakeholders, but they require a thorough upfront analysis and need to incorporate clear leadership on the implementation side. In dialogue with the private sector and other stakeholders, policymakers will then need to deal with three kinds of challenges: (1) policy coordination is key. Consideration must be given to how growth poles get picked and how specific transactions get selected. Responding to these challenges requires both institutional (horizontal) coordination, and effective coordination of implementation arrangements. (2) A monitoring and evaluation framework for growth pole investments must be established from the outset of the projects as a key measure for increasing the accountability and transparency of these investments. (3) Successful risk management of growth poles needs to recognize the specific risks associated with them (including risk-sharing and risk-management challenges, payment challenges, and demand and construction risk challenges).

A coordinated effort by several African countries is needed for the full positive impact of these recommendations, each building the necessary policy environments and building the required infrastructure that will facilitate regional integration. However, regional integration is not an end in itself. Efforts to close Africa's competitiveness gap—particularly in the areas of institutions, education and skills, and technological adoption—will be critical for African economies to build their productive capacities: putting in place the necessary factors to move up the value chain will lay the basis for a transformative manufacturing and services sector that will provide the goods and services that will be traded. Efforts are underway in some parts of the continent, but in order to truly improve Africa's productivity and competitiveness and see a rapid rise in living standards, such efforts must be scaled up and accelerated.

The final section of the *Report* provides detailed competitiveness profiles for the 38 African countries included in the World Economic Forum's Global Competitiveness Index. These profiles present the detailed rankings that underlie the broader global competitiveness rankings.

NOTES

1 See, for example, IMF 2008. Furthermore, a recent IMF Working Paper (IMF 2013) shows that economic growth in sub-Saharan Africa was less volatile between 1995 and 2010 than it was between 1980 and 1994.

2 AfDB et al. 2012.

3 We follow the IMF's country classification applied in the *Regional Economic Outlooks* on sub-Saharan Africa based on the most recent data on per capita gross national income (averaged over three years) and the 2010 World Bank's (IDA) Resource Allocation Index (IRAI). Oil-exporting countries are those where oil exports make up for more than 30 percent of total exports. Middle-income countries not classified as oil exporter or fragile countries are those that had an average income per capital gross national income in the years 2008–10 of more than US$992.7 and an IRAI score higher than 3.2; low-income countries not classified as fragile or oil exporters had average income per capital gross national income in the years 2008–10 of less than US$992.7; and fragile countries not classified as oil exporters had IRAI scores of 3.2 or less (see IMF 2012). The criteria are extended to North African economies.

4 World Bank 2012.

5 AfDB Group 2010.

REFERENCES

AfDB Group (African Development Bank Group). 2010. "Infrastructure Deficit and Opportunities in Africa." *Economic Brief* 1 (September). Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/ECON%20Brief_Infrastructure%20Deficit%20and%20Opportunities%20in%20Africa_Vol%201%20Issue%202.pdf.

AfDB (African Development Bank), OECD (Organisation for Economic Co-operation and Development), UNDP (United Nations Development Programme), and UNECA (United Nations Economic Commission for Africa). 2012. *African Economic Outlook 2012.* Paris: OECD Publishing. Available at http://www.africaneconomicoutlook.org/en/.

IMF (International Monetary Fund). 2008. "The Great Sub-Saharan African Growth Takeoff: Lessons and Prospects." *Sub-Saharan Africa Regional Economic Outlook,* Fall. Washington, DC: IMF.

———. 2012. *Regional Economic Outlook: Sub-Saharan Africa: Sustaining Growth amid Global Uncertainty,* April. Available at http://www.imf.org/external/pubs/ft/reo/2012/afr/eng/sreo0412.pdf.

———. 2013. "The Quality of the Recent High-Growth Episode in Sub-Saharan Africa." *IMF Working Paper* No. WP/13/53. Washington, DC: IMF.

World Bank. 2012. *De-Fragmenting Africa: Deepening Regional Integration in Goods and Services.* Washington, DC: World Bank. Available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/03/000333038_20120503000714/Rendered/PDF/684900ESW0Whit00Box367921B00PUBLIC0.pdf.

World Economic Forum. 2012. *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum.

Part 1

Assessing Africa's Competitiveness

CHAPTER 1.1

Assessing Africa's Competitiveness in an International Context

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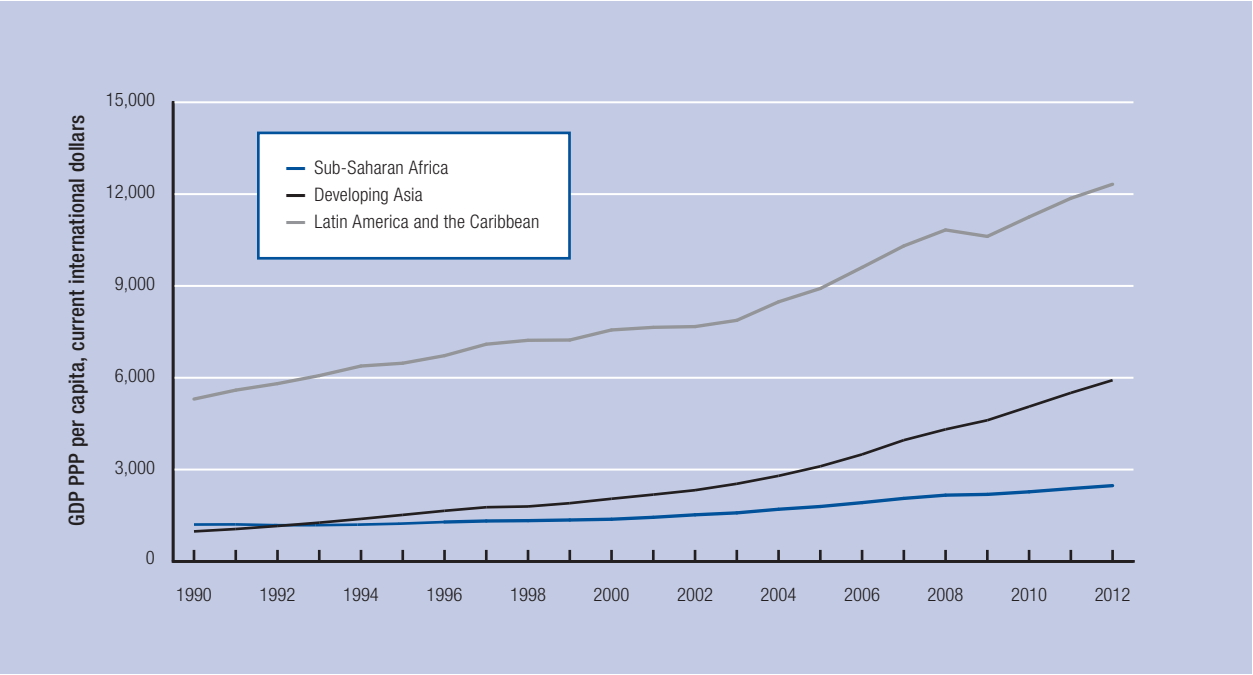
After two difficult decades, Africa has enjoyed a period of high, sustained economic growth. Since the early 2000s, African countries have registered consistent growth rates well above 5 percent on average, a rate that has been only temporarily interrupted by the global economic downturn. Indeed, Africa has weathered the crisis remarkably well: since our last *Report,* the region has bounced back rapidly and seen slow but steady upward growth at a time when much of the rest of the world is struggling and many countries are actually experiencing a double-dip recession. But two recent developments will be of critical importance for Africa's future path: the continent's population has reached the 1 billion mark—or 15 percent of the world's total—and is projected to increase to 20 percent by 2030.[1] In this context, events such as the Arab Spring highlight the tensions that can arise from a growing population without accompanying economic and social progress that will ensure decent living standards, employment, and fair opportunities to better people's lives.

Thus, although this period of growth has given rise to increased optimism about Africa's economic prospects, supported by advances in information and communication technologies (ICT) development and auspicious projections about Africa's rapidly growing new consumer base on the one hand, on the other hand, many African economies continue to figure among the least competitive in the Global Competitiveness Index (GCI)—14 out of the 20 lowest-ranked economies are African. They underperform by a wide margin on human development indicators,[2] and armed conflict and recurrent food crises continue to make headline news. Indeed, for many African economies, sources of growth are insufficiently diversified. Mineral exports make up over half of the region's total exports, rendering them vulnerable to commodity shocks. The share of gross domestic product (GDP) held by the manufacturing sector has remained largely unchanged since the 1970s,[3] and more than two-thirds of the labor force is employed in the agricultural sector, implying limited structural transformation.[4]

In view of these evident concerns, the pertinent question is one of countries' competitiveness: are policymakers putting into place the fundamentals that will keep them growing rapidly, placing them on the higher growth trajectories needed to ensure rapid increases in living standards? In this chapter we hope to shed further light on Africa's potential for sustained and inclusive growth. We will also explore the extent to which growth in the region can be maintained over the longer term while ensuring environmental and social sustainability. As the chapter will show, Africa still must make headway in a number of areas in order to set itself on a sustainable growth trajectory going forward.

Figure 1: Prosperity and economic growth



Source: IMF, 2012c.

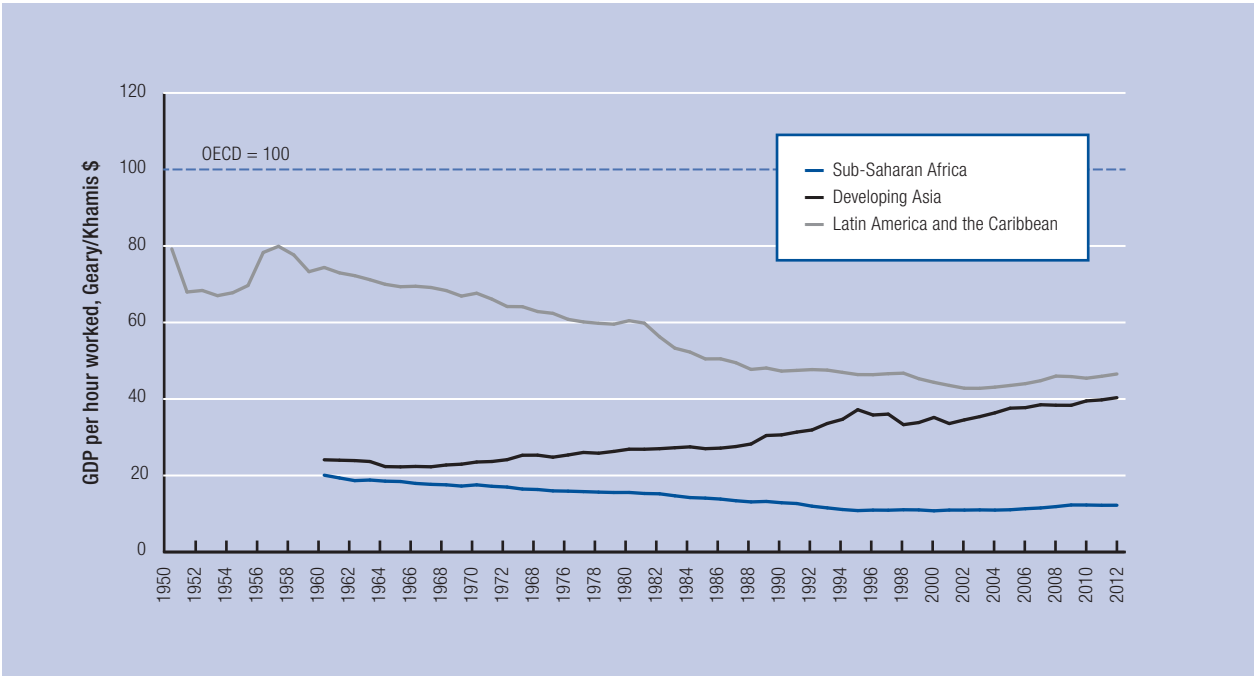
AFRICA'S COMPETITIVENESS CHALLENGE

Overall, high economic growth rates have not yet translated into the rapidly improving living standards that have been seen in other regions with a similar growth performance. Africa's growth rates have averaged well above 5 percent in the past decade, after 20 difficult years of flat and often negative growth in several countries. The question going forward is whether Africa will be able to maintain these impressive growth rates, and whether future growth will be built on the types of productivity enhancements that are associated with rising living standards. To date, given the low starting point and the comparatively shorter period of above-average growth, and despite the continent's impressive resilience to the recent financial and economic crisis, economic growth has not yet led to the same magnitude of rising living standards that has been observed in other regions with similar growth performance (see Figure 1).

Low and falling productivity figures are at the core of these differences in living standards. Figure 2 compares labor productivity—as a proxy for overall productivity—for Africa with that of other regions for the past 50 years. Although Africa and developing Asia started from similar, very low levels, labor in developing Asia has since become more productive, effectively converging with the Organisation for Economic Co-operation and Development (OECD) average. Figure 2 further shows that Africa, in contrast, has not only been trailing Southeast Asia, but in fact the productivity gap deepened between 1960 and 2000. However, the slight recovery in productivity seen since the early 2000s provides something of a silver lining, indicating that economic growth is increasingly driven by rising productivity in some African countries. Indeed, the International Monetary Fund (IMF) examines productivity figures at a disaggregate level for 1995–2010, analyzing the extent to which structural transformation—defined as the shift of workers from low to high-average productivity activities—occurred in sub-Saharan Africa. The findings show that structural transformation has seen some countries (Ethiopia, Kenya, Mozambique, and Tanzania) developing a manufacturing sector, and Kenya and Mauritius developing a service sector, although the report notes that the remaining African economies have registered only slow growth in labor productivity.[5]

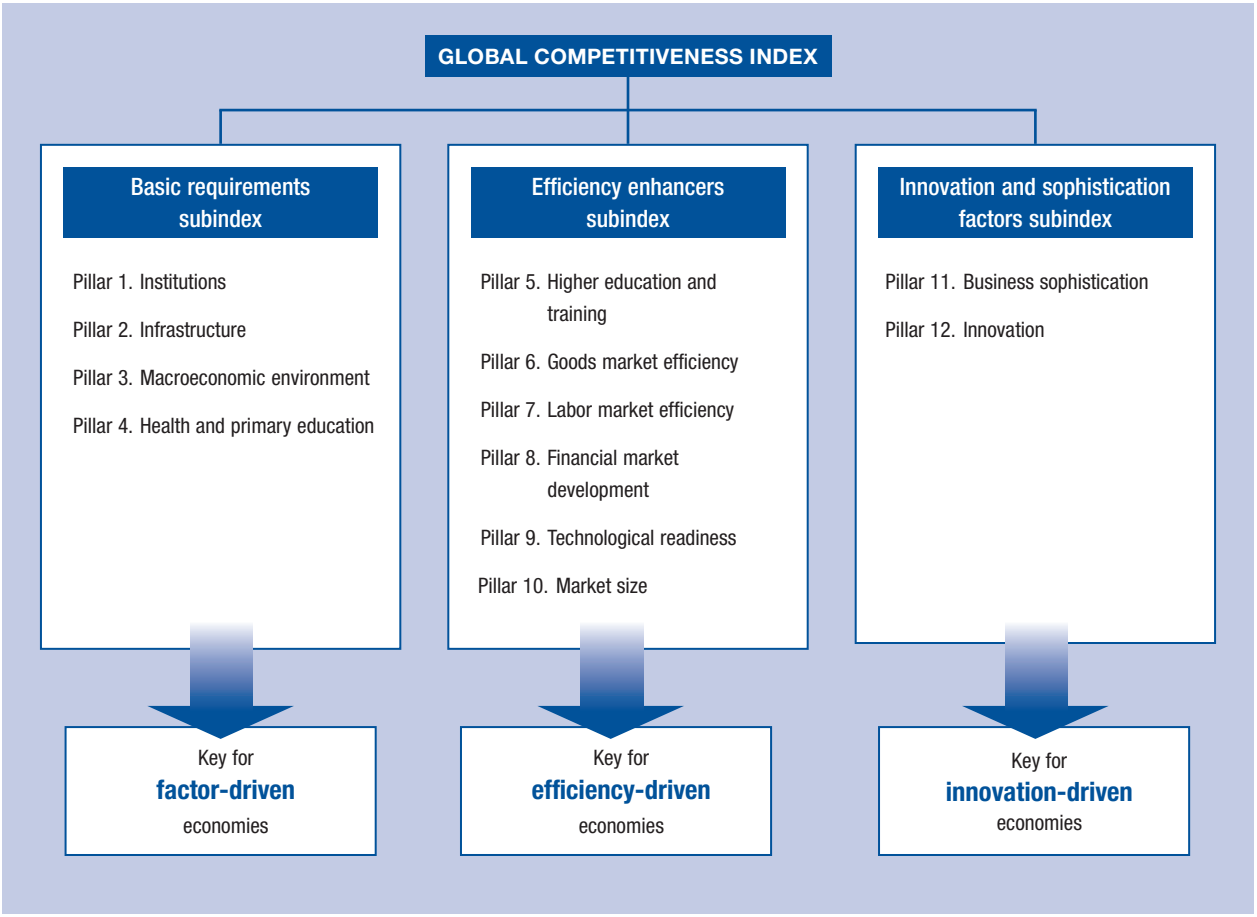
Identifying the drivers of productivity needed to ensure rapid and sustained increases in living standards is the goal of the GCI, which defines *competitiveness* as *the set of institutions, policies, and factors that determine the level of productivity of a country.* The current and future levels of productivity, in turn, set the sustainable level of prosperity that can be earned by an economy. In other words, more competitive economies tend to be able to produce higher levels of income for their citizens. The measurement of competitiveness is a complex undertaking. To address this complexity, the idea that many different factors matter for competitiveness is reflected by the 12 distinct pillars of the Index:[6] institutions (public and private), infrastructure, the macroeconomic environment, health and primary

Figure 2: Africa's falling productivity



Sources: The Conference Board *Total Economy Database*™, January 2013, http://www.conference-board.org/data/economydatabase; authors' calculation.
Note: The database begins in 1960 for Africa and Developing Southeast Asia.

Figure 3: The Global Competitiveness Index framework



Source: World Economic Forum, 2012.

Table 1: African economies by stages of development

Stage	African countries	Other countries in this stage	Important areas for competitiveness
Stage 1 (factor-driven) GDP per capita < US$2,000	Benin, Burkina Faso, Burundi, Cameroon, Chad, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, Zambia, Zimbabwe	Bangladesh, Nicaragua, Pakistan, Vietnam, Yemen	Basic requirements (60 percent), efficiency enhancers (35 percent), and innovation factors (5 percent)
Transition from 1 to 2 GDP per capita US$2,000 to US$3,000	Algeria, Botswana, Egypt, Gabon, Libya	Azerbaijan, Bolivia, Brunei Darussalam, Iran, Islamic Rep., Venezuela	Basic requirements (between 40 percent and 60 percent), efficiency enhancers (between 35 percent and 50 percent), and innovation factors (between 5 percent and 10 percent)*
Stage 2 (efficiency-driven) GDP per capita US$3,000 to US$9,000	Cape Verde, Mauritius, Morocco, Namibia, South Africa, Swaziland	Albania, Belize, China, Costa Rica, Indonesia, Jordan, Mexico	Basic requirements (40 percent), efficiency enhancers (50 percent), and innovation factors (10 percent)
Transition from 2 to 3 GDP per capita US$9,000 to US$17,000	Seychelles	Argentina, Brazil, Chile, Croatia, Malaysia, Mexico, Russian Federation, Turkey	Basic requirements (between 20 percent and 40 percent), efficiency enhancers (50 percent), and innovation factors (between 10 percent and 30 percent)*
Stage 3 (innovation-driven) GDP per capita > US$17,000		Germany, Republic of Korea, Norway, Spain, United Kingdom, United States	Basic requirements (20 percent), efficiency enhancers (50 percent), and innovation factors (30 percent)*

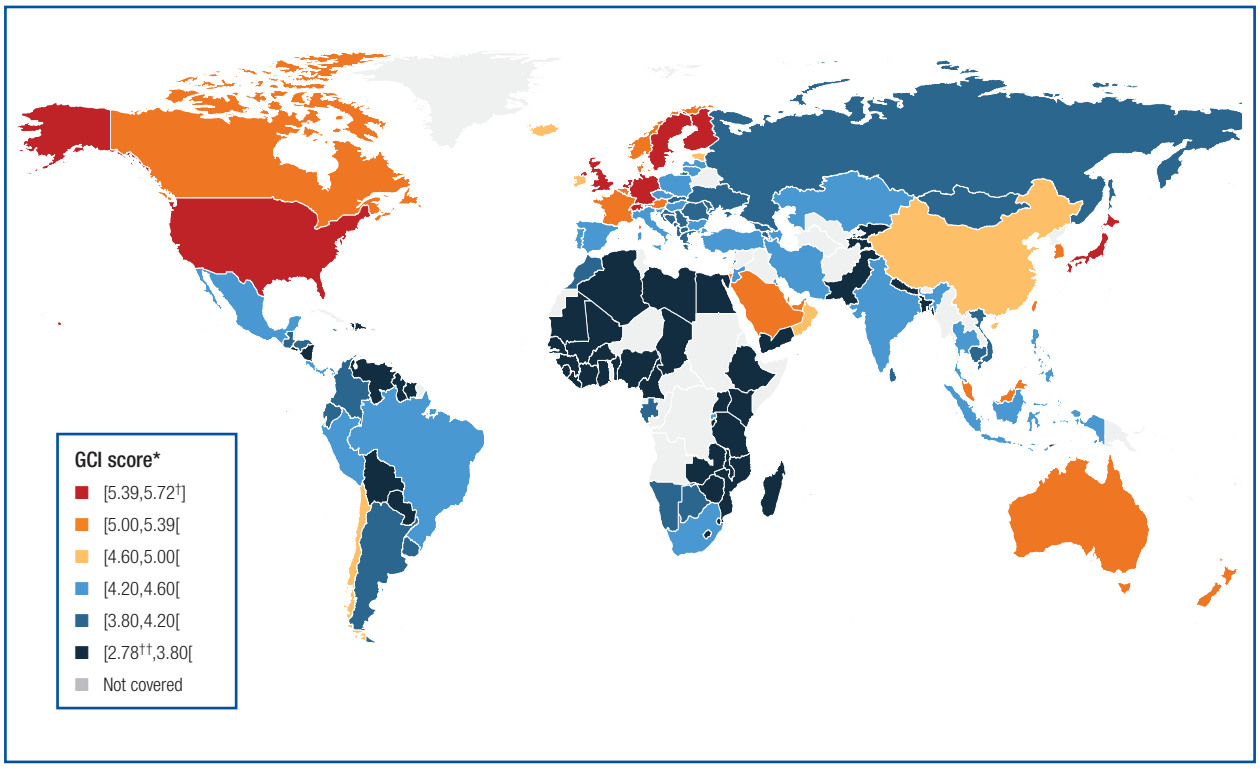
Source: World Economic Forum, 2012.
Note: Countries with a share of mineral exports in their total exports greater than 70 percent are moved toward a lower stage of development.

education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation (see Figure 3). Improving competitiveness across the 12 GCI pillars would be important for meeting Africa's sustainable growth challenge.

The GCI takes into account the fact that countries around the world are at different stages of economic development and offers guidance on the priority areas for reforms. Specifically, the GCI distinguishes three stages of development. In their first stage, economies are *factor-driven* and countries compete based on their factor endowments—primarily unskilled labor and natural resources. Maintaining competitiveness in this stage depends primarily 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 is driven by 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 latest technological developments (pillar 9), and the size of the domestic and foreign markets available to the country's companies (pillar 10). Finally, as countries move into the third, *innovation-driven* stage, they are able to sustain higher wages and the associated standard of living only if their businesses are able to compete with new and unique products. At this stage, companies must compete through producing new and different goods using the most sophisticated production and business processes (pillar 11) and innovation (pillar 12).

Table 1 provides a detailed overview of the stages of development of African economies and places these into context with other regions.[7] It suggests that a competitiveness agenda for most African countries, classified as factor-driven economies, should make putting into place the basic fundamentals as their first critical step toward improving productivity and competitiveness. That is, these economies should prioritize providing sound institutions and macroeconomic policies, adequate infrastructure, and the means for ensuring a healthy and literate workforce before moving on to the next stages. This is particularly important for the five countries (Algeria, Botswana, Egypt, Gabon, and Libya) that are currently transitioning to the second—efficiency-driven—stage of development, which will require them to move into more efficient production processes and increase product quality to maintain growth. Six other African economies are currently in the efficiency-driven stage of the GCI, where higher education and market efficiencies (goods, labor, financial) take a more

Figure 4: The GCI heat map



Source: World Economic Forum, 2012.
* The interval [*x*,*y*[is inclusive of *x* but exclusive of *y*. †Highest value; ††lowest value.

prominent role. Only one African economy—Seychelles—is currently transitioning to the innovation-driven stage. For Seychelles to increase its competitiveness, therefore, more needs to be done to put into place a skilled workforce and a business environment that is supportive for innovation. However, it is important to bear in mind that the sequencing proposed by the GCI serves as a guideline rather than carved-in-stone policies, and a holistic competitiveness agenda needs to consider the country-specific context and unique challenges.

The next section will assess the overall competitiveness of Africa. To get a sense of how the region's performance stands in international comparison, we also show the results of relevant regions and countries (Southeast Asia, Latin America and the Caribbean, and the BRIC economies).[8]

COUNTRY COVERAGE

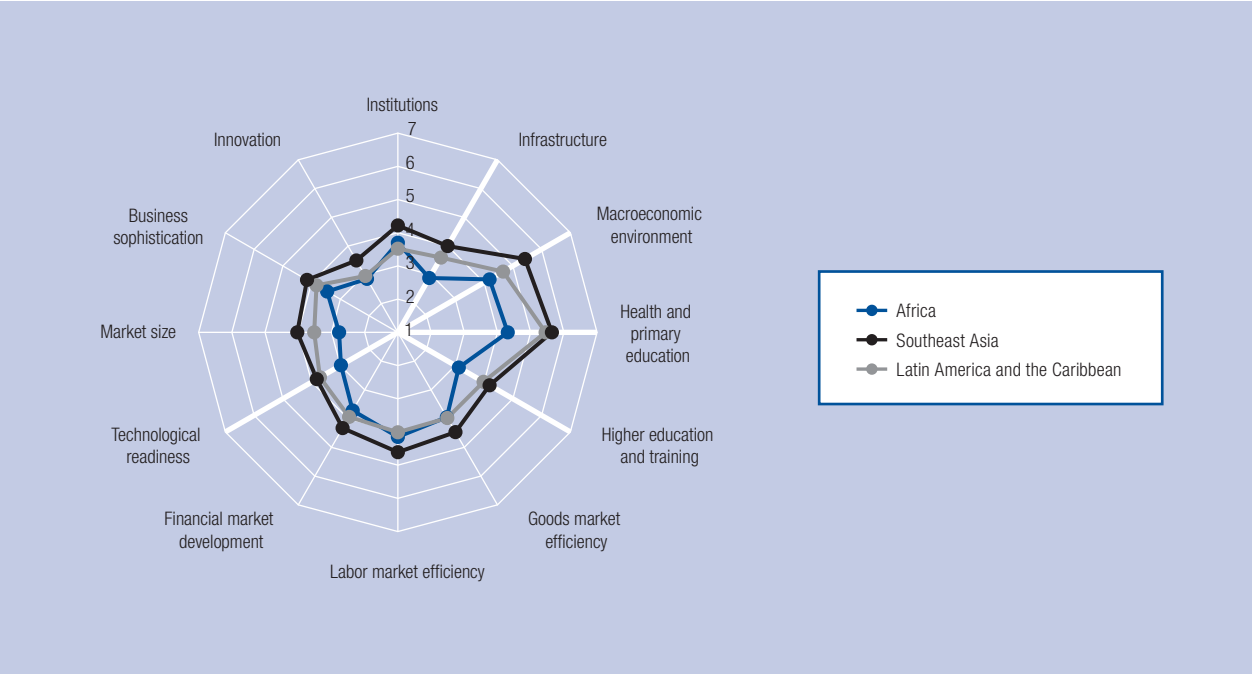
This year's *Report* features 38 African economies. The newly covered countries are Gabon, Guinea, Liberia, Seychelles, and Sierra Leone. Two previously covered countries—Angola and Tunisia—have not been included this year. For Angola, sufficient Executive Opinion Survey data could not be collected.[9] In the case of Tunisia, results are not reported because of an important structural break in the data, which does not allow for comparison with previous years.

AFRICA'S PERFORMANCE IN AN INTERNATIONAL CONTEXT

On average, African economies trail the rest of the world in competitiveness: 14 out of the 20 least competitive economies are from Africa. Figure 4 identifies competitiveness "hotspots" and the regions or countries with weak performance according to the GCI. The 10 best-performing countries are shaded in dark red. The remaining countries are shaded in increasingly "cooler" tones moving from orange (the second-best-performing group) through yellow, light blue, medium blue, and dark blue; this last color identifies the least-competitive economies according to the GCI. As shown on the map, a vast majority of African countries covered in this *Report* fall into the group of least-competitive economies (dark blue). Outside of Africa, only eight Latin American countries (Bolivia, Dominican Republic, El Salvador, Guyana, Haiti, Nicaragua, Paraguay, Suriname), four Asian economies (Bangladesh, Nepal, Pakistan, Timor-Leste), and one country each from the Middle East and Central Asian regions (Yemen, Kyrgyz Republic) perform similarly. However, within Africa, Botswana, Gabon, Morocco, Namibia, Seychelles (medium blue), and Mauritius, Rwanda, and South Africa (light blue) are somewhat more competitive.

Africa's competitiveness as a whole trails Southeast Asia and Latin America and the Caribbean; the biggest gaps are seen in the quality of institutions,

Figure 5: Africa's performance in regional comparison



Source: World Economic Forum, 2012.
Note: The sample includes Africa: Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Côte d'Ivoire, Egypt, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe; Southeast Asia: Brunei Darussalam, Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Timor-Leste, and Vietnam; Latin America and the Caribbean: Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.

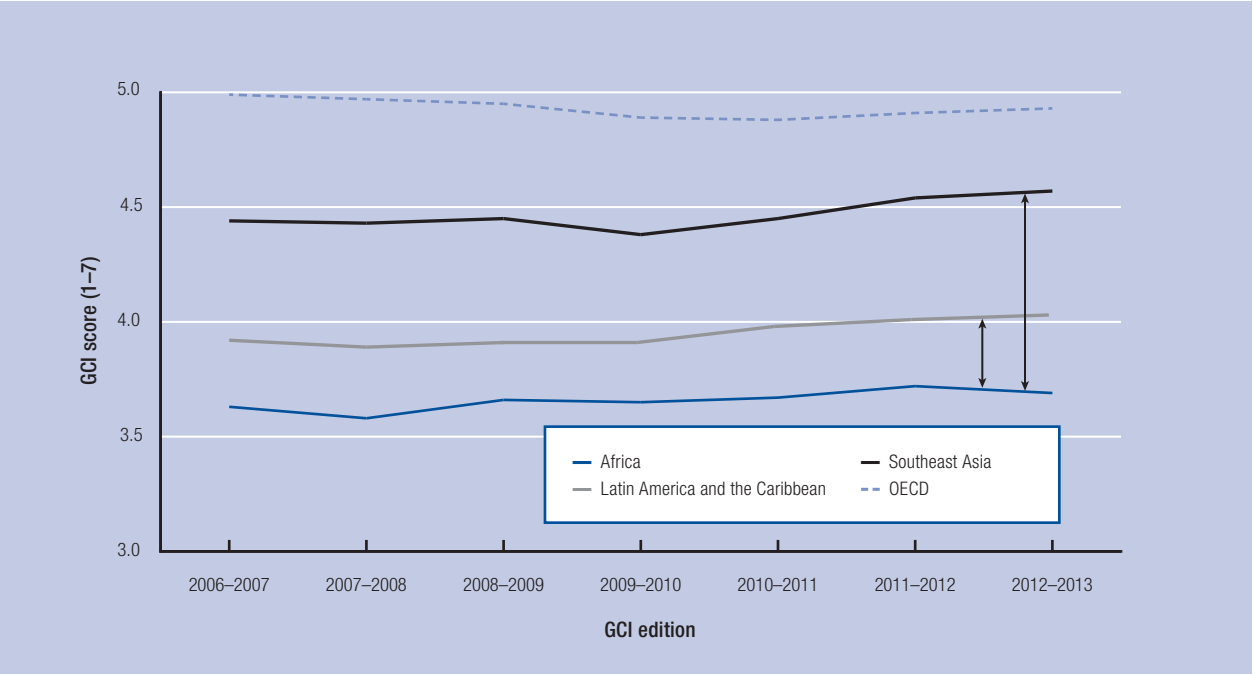
infrastructure, macroeconomic stability, education, and ICTs. Comparing Africa's performance with other, more advanced regions helps to identify the region's overall strengths and weaknesses. Southeast Asia provides an insightful benchmark for a large number of African economies: although both regions registered approximately the same levels of GDP per capita in the 1960s, developing Asia has since risen considerably more rapidly than sub-Saharan Africa (see Figure 1). Figure 5 shows that African economies consistently underperform the Southeast Asian average across all competitiveness pillars. Although Africa's financial, goods, and labor markets are well developed (on a par, or nearly on a par, with Latin America) these economies feature wide deficits in the areas of basic requirements.

A particular point of concern is the continent's weak institutions: although Africa on average does as well as Latin America in this pillar, both regions have institutions that receive scores below the middle value of 4 (on a scale of 1–7). This suggests that more must be done to increase the capacity of the public sector to set the framework for the economy to run efficiently, which could generate critical spillovers into other dimensions of competitiveness.

Figure 5 also points out Africa's pronounced infrastructure deficit, which will be explored further in Chapter 2.2 of this *Report.* The region also needs to remain vigilant with regard to its macroeconomic stability as defined by the GCI,[10] although this is improving. The region's savings rate (on average, 17 percent of GDP) and government budget balance (on average, –4 percent of GDP) is worse than that of other regions. However, following debt cancellation for a number of countries, overall its government debt is now in line with that of other regions. In fact, improvements in macroeconomic performance, coupled with its limited integration into the global economy, have helped to mitigate the effects of the global economic crisis. More generally, it should be noted that sub-Saharan Africa has made considerable progress in ensuring sounder macroeconomic policies over the past 15 years and has reached levels of macroeconomic performance similar to that of other developing countries.[11]

However, the region is trailing significantly in technological readiness, which measures the agility with which an economy adopts existing technologies to enhance the productivity of its industries, with a specific emphasis on its capacity to fully leverage ICTs. This is important in view of the changing role of ICTs. Indeed, they have become critical tools in today's economy, accounting for a significant share of value-added and employment in advanced economies and supporting efficiency gain and enabling transformative innovation. Although Africa has registered rapid improvement in ICT use, particularly in terms of mobile telephone

Figure 6: Trends in GCI scores, 2006–12



Sources: World Economic Forum, *The Global Competitiveness Report* (various editions); authors' calculations.
Notes: All data refer to the 2005 constant sample. The constant sample includes Africa: Algeria, Benin, Botswana, Cameroon, Chad, Egypt, Ethiopia, Gambia, Kenya, Madagascar, Mali, Mauritius, Morocco, Mozambique, Namibia, Nigeria, South Africa, Tanzania, Uganda, and Zimbabwe; Southeast Asia: Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam; Latin America and the Caribbean: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

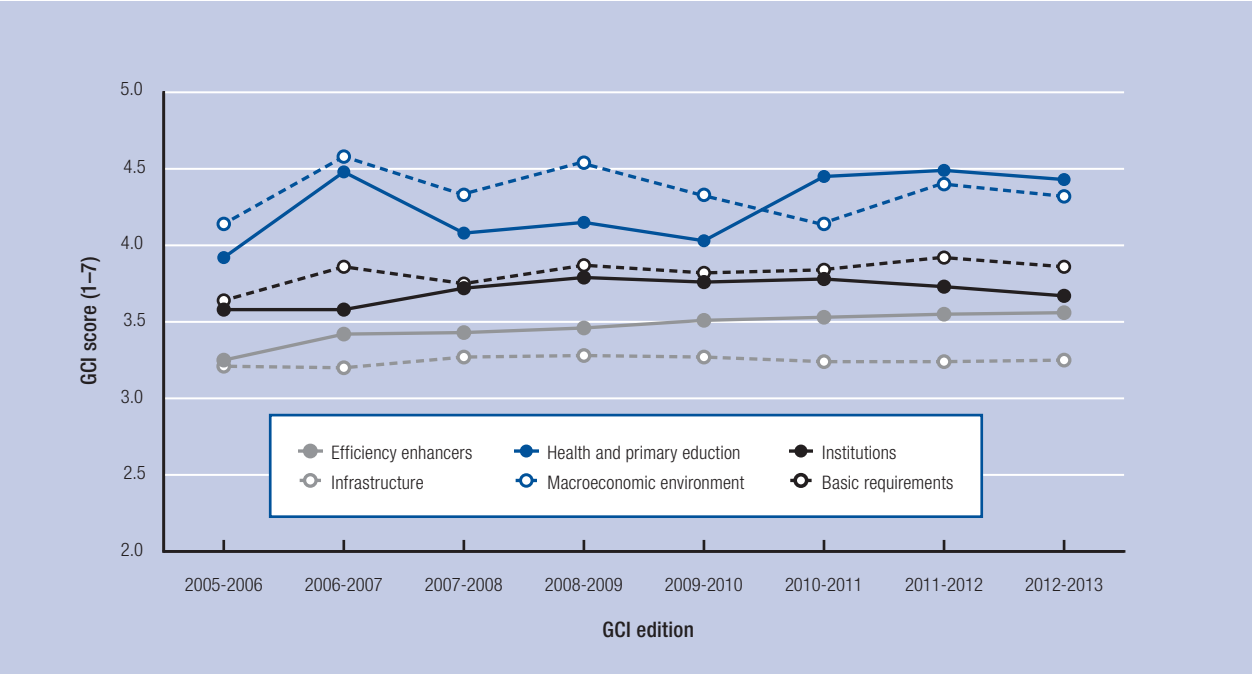
subscriptions, it started from a low base. Going forward, African economies need not only to make the types of investment necessary to build out the ICT infrastructure, but also to create an enabling environment to fully leverage ICT uptake to boost economic and social impacts.[12] The M-PESA mobile payment system in Kenya (see Chapter 2.2) and improved e-government services are examples of important steps in the right direction.

Finally, the region is neglecting its talent pool, underperforming significantly in educating and providing a healthy environment for its citizens. This is a pressing concern in view of the region's youth unemployment challenge and the large number of people who will enter the labor market in the coming years. In the short term, absorbing the enormous number of new labor-market entrants will require the development of job-intensive sectors. In the longer term, moving up the value chain into more-advanced manufacturing and services sectors will require significant and immediate investment in education in order to provide a workforce that can move beyond simple production processes. In this context, education will play an even more prominent role in ensuring knowledge spillovers from the natural resource sector to the domestic economy. This will happen only through skills and training, particularly in the context of facilitating the adoption of new technology and strengthening a science agenda and innovation, which is becoming ever more important to ensure that the continent can compete with other emerging regions.

Africa has not remained stagnant, however, but has been improving its competitiveness, although change has been gradual and modest. Reducing the competitiveness divide between African economies and other, more advanced regions will be critical for placing the region on a firmly sustainable growth and development path. To complement the static analysis, Figure 6 shows the trends in average GCI scores based on the constant sample of the 20 African economies that have been included since the Index was introduced in 2006. Their performance is benchmarked against that of the OECD average, providing a sense of how these regions compare with a group of the world's more advanced economies. It is also measured against the performance of Southeast Asia and Latin America, which are more comparable benchmarks in terms of stage of development. Although Africa has increased its score from 3.6 points seven years ago up to 3.7 (on a scale of 1–7), converging gradually with the performance of the OECD countries until last year, the region has not managed to close the gap with developing Asia and Latin America. Overall, Africa remains the lowest-performing region in the GCI sample.

To gain a better understanding of the drivers of the region's competitiveness and future trends,

Figure 7: Trends in factor-driven and efficiency scores: Africa



Sources: World Economic Forum, *The Global Competitiveness Report* (various editions); authors' calculations.
Note: The constant sample includes Algeria, Benin, Botswana, Cameroon, Chad, Egypt, Ethiopia, Gambia, Kenya, Madagascar, Mali, Mauritius, Morocco, Mozambique, Namibia, Nigeria, South Africa, Tanzania, Uganda, and Zimbabwe.

Figure 7 presents the evolution of scores in basic requirements and the respective pillars that make up that subindex for 2005–12. The figure also presents the average performance of the six pillars making up the efficiency-enhancers subindex. The reason for focusing on these two areas is that—as described above—the GCI classifies most African economies into the factor-driven and efficiency-driven stages of development (see Table 1), meaning that these two subindexes capture those elements that are currently the most critical for the competitiveness of these countries.

Overall, the trend confirms Africa's steady and continuous but gradual improvement in those areas that make up the efficiency pillars of the GCI. The graph also reveals that until 2009–10, gains in African competitiveness from 2005 levels stemmed from improvements in institutional quality, infrastructure development—which showed a promising upward trend between 2006 and 2010 from very low levels—and improved macroeconomic conditions. However, improving the quality of institutions and strengthening infrastructure have, since 2010, come to a near standstill or even deteriorated across a number of African economies. Likewise, initial improvements in macroeconomic stability in the pre-crisis years entered a period of decline in 2008–10 on the back of concerns about deteriorating public finances, increased food prices, and double-digit inflation in many countries. A notable improvement was also registered in the region's health and primary education assessments, reflecting improved health outcomes and gradually higher primary enrollment rates. This improvement was especially strong in 2009–10, but it leveled off in 2010–11 and this year has seen a slight decline.

On a less positive note, the figure confirms the continent's persistent and worrisome infrastructure deficit (see Chapters 2.2 and 2.3 for a more detailed analysis). Despite gradual improvements in the run-up to the global financial crisis, the quality and quantity of infrastructure has largely stagnated at low levels since. This stagnation is partially the consequence of a decline in investment following the crisis. This infrastructure deficit is particularly striking given gradual improvements across the various efficiency enhancers (e.g., market efficiency, technological readiness) in recent years. It is even more urgent in view of Africa's rapid population growth and increased urbanization: with 41 percent of the African population living in cities, and a foreseen 1 percent increase every two years, the need to ramp up infrastructure to cope with these demographic pressures is critical.[13] Removing the infrastructure bottleneck would—among other measures explored further in Chapter 2.2—help to boost intra-regional trade and diversify external trade, thereby making Africa more resilient to external shocks.

AFRICA'S COMPETITIVENESS DIVIDE

Aggregate competitiveness figures do not point to a uniform condition, but instead they mask wide differences among African economies themselves, suggesting a competitiveness divide across the continent. This is reflected in the wide range of results among African economies in the GCI, ranking from 52nd (South Africa) to 144th, or last of all countries (Burundi). Table 2 matches the GCI score of Figure 4 with the rank performance of all African economies and comparator regions and countries. South Africa and Mauritius are the continent's top performers, ranked 52nd and 54th, respectively, just below the Southeast Asian average and above emerging market economies of India and Russia. They are followed by a second cluster of countries—Rwanda (63rd), Morocco (70th), Seychelles (76th), and Botswana (79th)—which are more competitive than Latin America on average. A third group of African economies—Namibia, Gambia, Gabon, Zambia, Ghana, Kenya, and Egypt—cluster between the Latin American and North African averages. Algeria (110th) and Libya (113th) do worse than the North African average, while Liberia, Cameroon, Senegal, Benin, and Tanzania do better than the sub-Saharan average. The countries at the bottom of the table are outperformed by all other countries and regions.

Against this backdrop, regional integration could be an important way to reinforce competitiveness across the continent. Increased cross-border trade would enlarge market size (an area where the region is significantly lagging behind) and boost competition (as measured in the GCI's goods market efficiency pillar), and thereby increase the variety of products and services. This in turn would facilitate the creation of new manufacturing and services industries. Regional integration, however, is not an end in itself, but a reinforcing process that requires addressing competitiveness challenges within the country to lay the basis for a strong and striving private sector and, hence, increased productivity.

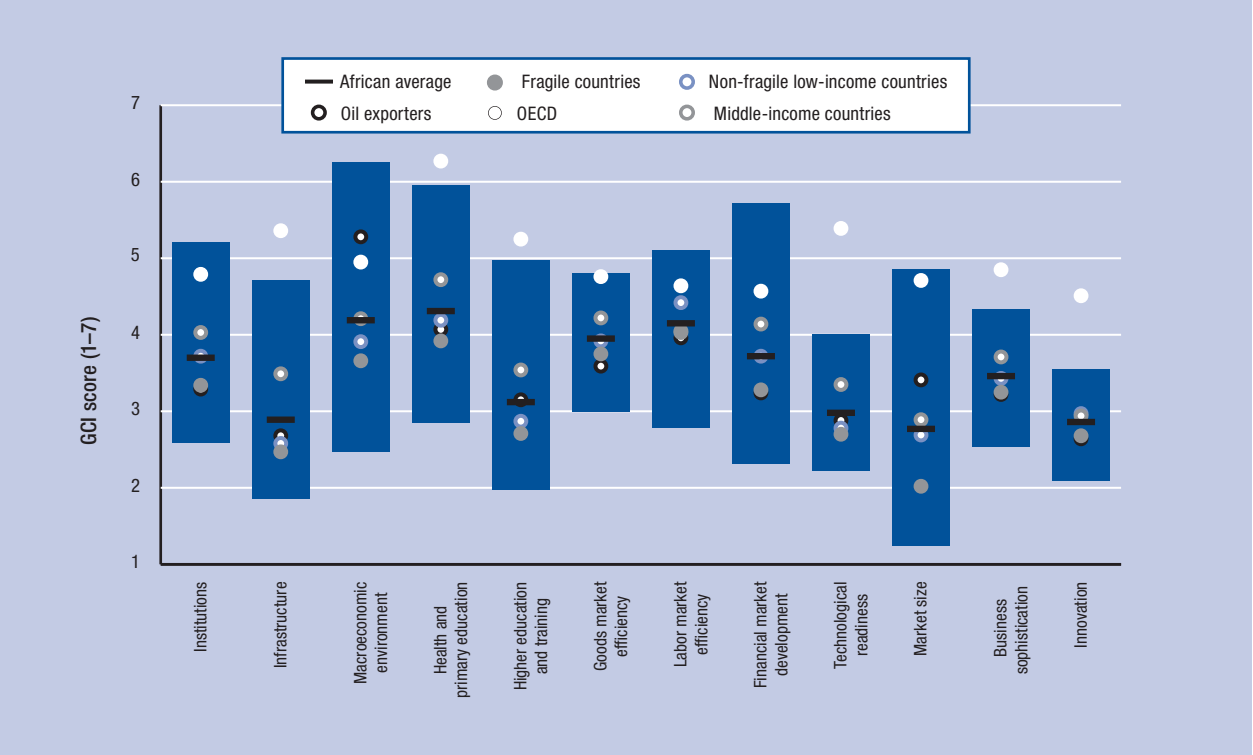
These wide differences in the overall performance of African countries demonstrate that challenges faced by individual countries and country groups are diverse, and that there is no one-size-fits-all blueprint for improving competitiveness. African middle-income economies, such as South Africa, face very different challenges than lower-income economies, such as Burundi; those natural resource–abundant economies face yet another set of competitiveness challenges, quite different from those of largely agrarian economies. Naturally, priorities for fragile economies are to restore stability. Against this backdrop, following the IMF's classification, the next section looks at four distinct groups of African economies: oil exporters, middle-income economies, non-fragile low-income economies, and fragile economies.[14] The aim of this classification is to facilitate discussion and draw out some general conclusions on the strengths and weaknesses of these country groups. Yet it is important

Table 2: The Global Competitiveness Index 2012–2013: Africa and selected comparator economies

	GCI 2012–2013			GCI 2011–12
Economy	Rank/144	Direction	Score	Rank
China	29	↓	4.8	26
Southeast Asian average			**4.5**	
Brazil	48	↑	4.4	53
South Africa	52	↓	4.4	50
Mauritius	54	→	4.4	54
India	59	↓	4.3	56
Rwanda	63	↑	4.2	70
Russian Federation	67	↓	4.2	66
Morocco	70	↑	4.1	73
Seychelles	76		4.1	n/a
Botswana	79	↑	4.1	80
Latin America and the Caribbean average			**4.0**	
Namibia	92	↓	3.9	83
Gambia, The	98	↑	3.8	99
Gabon	99		3.8	n/a
Zambia	102	↑	3.8	113
Ghana	103	↑	3.8	114
Kenya	106	↓	3.7	102
Egypt	107	↓	3.7	94
North African average			**3.8**	
Algeria	110	↓	3.7	87
Liberia	111		3.7	n/a
Cameroon	112	↑	3.7	116
Libya	113		3.7	n/a
Senegal	117	↓	3.7	111
Benin	119	↓	3.6	104
Tanzania	120	→	3.6	120
Sub-Saharan African average			**3.6**	
Ethiopia	121	↓	3.6	106
Cape Verde	122	↓	3.5	119
Uganda	123	↓	3.5	121
Nigeria	115	↑	3.5	127
Mali	128	→	3.4	128
Malawi	129	↓	3.4	117
Madagascar	130	→	3.4	130
Côte d'Ivoire	131	↓	3.4	129
Zimbabwe	132	→	3.3	132
Burkina Faso	133	↑	3.3	136
Mauritania	134	↑	3.3	137
Swaziland	135	↓	3.3	134
Lesotho	137	↓	3.2	135
Mozambique	138	↓	3.2	133
Chad	139	↑	3.1	142
Guinea	141		2.9	n/a
Sierra Leone	143		2.8	n/a
Burundi	144	↓	2.8	140

Sources: World Economic Forum 2011, 2012.

Figure 8: GCI score dispersion among groups of African economies, OECD comparison



Sources: World Economic Forum, 2012; authors' calculations.
Note: The sample includes oil exporters: Algeria, Cameroon, Chad, Gabon, Libya, and Nigeria; middle-income countries: Botswana, Cape Verde, Egypt, Ghana, Lesotho, Mauritius, Morocco, Namibia, Senegal, Seychelles, South Africa, Swaziland, and Zambia; non-fragile, low-income economies: Benin, Burkina Faso, Ethiopia, Gambia, Kenya, Madagascar, Malawi, Mali, Mozambique, Rwanda, Sierra Leone, Tanzania, and Uganda; fragile economies: Burundi, Côte d'Ivoire, Guinea, Liberia, Mauritania, and Zimbabwe.

to note the limitations of such a general analysis, which restricts us to formulating generalities. These of course would need to be confirmed by an in-depth country analysis of the specific challenges and priorities of individual countries.[15]

Figure 8 breaks down the performance of these four country groups across all 12 competitiveness pillars. In addition, it shows the average performance of the OECD as an international benchmark (shown by a white dot) and the African average (shown by a black bar).

There would appear to be a "tale of two Africas" in the areas of education, infrastructure, macroeconomic and financial stability, and market size. To start with, Figure 8 provides a sense of divergence in score of the 38 African economies covered in this year's GCI. This is complemented by Table 3, which shows the three best- and worst-performing economies in the sample. The figure shows that divergences in Africa are particularly large in the areas mentioned above.

With regard to the depth of financial markets, we see, for example, that Africa hosts some countries that perform very well on the one hand, and a cluster of countries that exhibit below-average performances on the other, indicating that Africa's good performance at the aggregate level is skewed by a few extremely well performing economies in this pillar. South Africa ranks 3rd in global comparison, registering a score of close to 6 and thereby leading any other African economy by a wide margin. Indeed, Kenya, the second-best-performing economy—comes in only at 24th place, scoring a full point lower on the GCI scale of 1–7. These two accomplishments stand in stark contrast to the large number of African economies with rudimentary financial markets, including two North African economies (Libya at 140th and Algeria at 142nd) and Burundi (144th), which closes the global rankings. The degree of natural resource abundance and exploitation adds to the divergence, with the oil-exporting economies of Gabon (9th), Algeria (23rd), and Nigeria (39th) leading in the areas of macroeconomic stability—largely attributable to a better fiscal position that results from strong resource revenues—and market size by a wide margin.[16] The fact that resource-abundant countries register considerably stronger fiscal positions suggests that these economies need to ensure that windfall revenues are managed and re-invested wisely and take into account the longer term, as discussed later.

The same holds true for infrastructure and educational performance. In the context of Africa's large infrastructure deficit (noted earlier in the chapter), the bar chart of Figure 8 provides some additional information on the divergence in performance. Although Seychelles receives the region's best assessment (42nd), followed by Mauritius (54th), Namibia (59th), and South Africa (63rd), the majority of countries in the sample score lower than 3 (out of 7), with, for example, Burundi scoring

Table 3: Three best- and worst-performing African countries, by pillar (out of 144)

1st pillar: Institutions

Country	Rank	Score
Rwanda	20	5.2
Botswana	33	4.8
Gambia, The	35	4.7
…	…	…
Chad	140	2.7
Algeria	141	2.7
Burundi	142	2.6

2nd pillar: Infrastructure

Country	Rank	Score
Seychelles	42	4.7
Mauritius	54	4.3
Namibia	59	4.2
…	…	…
Chad	140	1.9
Burundi	141	1.9
Guinea	142	1.9

3rd pillar: Macroeconomic environment

Country	Rank	Score
Gabon	9	6.2
Algeria	23	5.7
Nigeria	39	5.2
…	…	…
Egypt	138	3.1
Guinea	142	2.6
Sierra Leone	143	2.5

4th pillar: Health and primary education

Country	Rank	Score
Seychelles	47	5.9
Mauritius	54	5.9
Cape Verde	71	5.7
…	…	…
Nigeria	142	3.2
Sierra Leone	143	3.0
Chad	144	2.9

5th pillar: Higher education and training

Country	Rank	Score
Seychelles	31	5.0
Mauritius	65	4.3
South Africa	84	4.0
…	…	…
Sierra Leone	141	2.3
Mauritania	142	2.2
Burundi	143	2.0

6th pillar: Goods market efficiency

Country	Rank	Score
Mauritius	27	4.8
South Africa	32	4.7
Rwanda	39	4.5
…	…	…
Burundi	139	3.3
Chad	141	3.1
Algeria	143	3.0

7th pillar: Labor market efficiency

Country	Rank	Score
Rwanda	11	5.1
Uganda	23	4.8
Gambia, The	31	4.7
…	…	…
Zimbabwe	139	3.4
Egypt	142	3.1
Algeria	144	2.8

8th pillar: Financial market development

Country	Rank	Score
South Africa	3	5.7
Kenya	24	4.7
Mauritius	35	4.6
…	…	…
Libya	140	2.7
Algeria	142	2.4
Burundi	144	2.3

9th pillar: Technological readiness

Country	Rank	Score
South Africa	62	4.0
Mauritius	63	4.0
Seychelles	66	3.9
…	…	…
Guinea	142	2.5
Chad	143	2.2
Burundi	144	2.2

10th pillar: Market size

Country	Rank	Score
South Africa	25	4.8
Egypt	29	4.8
Nigeria	33	4.6
…	…	…
Seychelles	142	1.4
Cape Verde	143	1.2
Liberia	144	1.2

11th pillar: Business sophistication

Country	Rank	Score
South Africa	38	4.3
Mauritius	41	4.3
Gambia, The	59	4.1
…	…	…
Gabon	141	2.9
Burundi	143	2.7
Algeria	144	2.5

12th pillar: Innovation

Country	Rank	Score
South Africa	42	3.5
Kenya	50	3.4
Rwanda	51	3.4
…	…	…
Sierra Leone	139	2.3
Burundi	140	2.2
Algeria	141	2.1

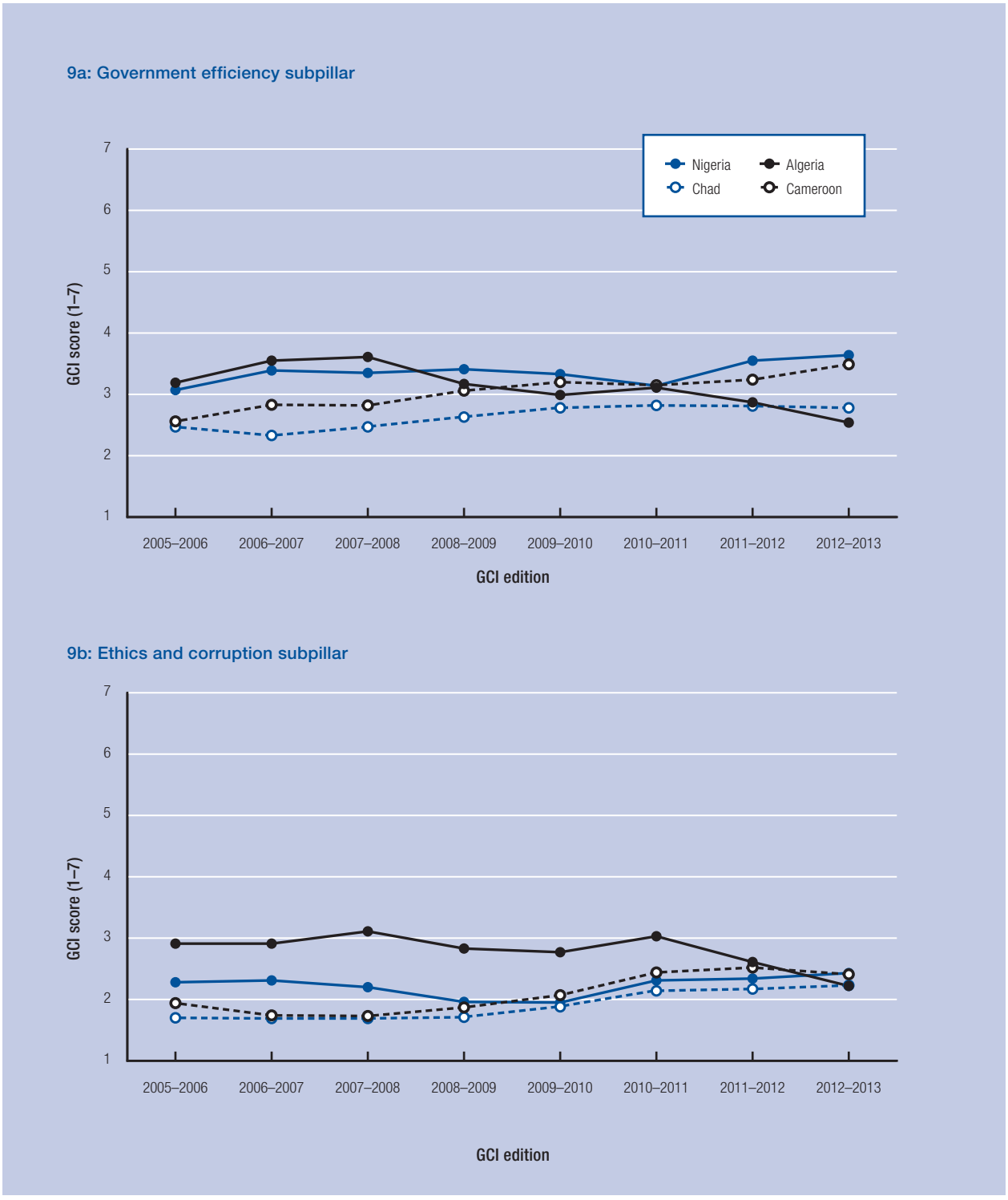
Source: World Economic Forum, 2012.

less than 2, further illustrating the immense infrastructure challenge on the continent. A similar case pertains to higher education and training—while Seychelles is again Africa's best-performing country at 31st globally, it is followed by Mauritius, which comes in at only 65th place. All other economies score worse than the mid-point of 4, with Burundi near rock bottom at 143rd place.

Oil- and gas-exporting economies perform as poorly as fragile economies in 9 out of the 12 competitiveness pillars. In view of Africa's high growth rates and natural resource abundance, there has been much debate as to whether or not commodity-led growth will be sustainable moving forward. Figure 8 informs this debate by comparing the performance of oil-exporting economies with that of the other three groups. In terms of putting into place the fundamentals for a competitive economy, oil-exporting economies perform similarly—that is to say, *as poorly*—as fragile economies across most pillars of competitiveness. Jointly, the quality of their institutions, goods, labor, and financial market efficiencies trails that of Africa's low-income economies.

While the poor quality of institutions is endogenous in clustering fragile economies, it reveals important insights into the functioning of oil-exporting economies. Although Gabon fares comparatively better (67th), its peers mostly populate the lower end of the rankings (Nigeria comes in at 117th, Chad at 140th, and Algeria at 141st) together with the fragile economies of Guinea (128th), Côte d'Ivoire (129th), and Burundi (142nd). Sound public and private institutions are a prerequisite for a stable and efficiently run economy, and they have a strong bearing on competitiveness and growth.[17] For oil-exporting economies, the poor performance of institutions raises doubts about the efficient management of resource revenues and their ability to re-allocate revenue proceeds elsewhere in the economy to lay the foundations for more diversified growth, while avoiding boom-bust cycles that could jeopardize macroeconomic

Figure 9: Trends in two GCI institutions subpillars, oil-exporting economies



Source: World Economic Forum, *The Global Competitiveness Report,* (various editions).
Note: See Appendix A for a detailed breakdown of variables.

stability. The need to boost the efficiency of revenue management is particularly important when considering that many oil-exporting economies are fiscally resource-dependent: more than half of total public revenues in Chad, Gabon, and Nigeria are resource revenues.[18] A closer look at two of the seven pillars that make up the institutional pillar of the GCI shows, however, that modest improvements have been made in the areas of ethics and corruption (which, among other indicators, gauges the extent to which public funds are being diverted) and government efficiency (measuring, among other variables, the effectiveness or wastefulness of government spending) (Figure 9). Improvements, however, come from a very low base and major efforts to strengthen public institutions will be essential going forward.

Table 4: Selected indicators of the GCI 2012–2013 for oil-exporting, fragile, and non-fragile low-income African countries

			SELECTED PILLARS OF THE GCI 2012–2013: BASIC REQUIREMENTS					
	Overall GCI 2012–2013		Institutions		Infrastructure		Health and primary education	
Country	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Oil exporters								
Gabon	99	3.8	67	3.9	117	2.7	128	4.1
Algeria	110	3.7	141	2.7	100	3.2	93	5.4
Cameroon	112	3.7	107	3.4	125	2.5	118	4.5
Libya	113	3.7	81	3.7	88	3.6	121	4.4
Nigeria	115	3.7	117	3.3	130	2.3	142	3.2
Chad	139	3.1	140	2.7	140	1.9	144	2.9
Fragile countries								
Liberia	111	3.7	45	4.3	115	2.8	130	4.1
Côte d'Ivoire	131	3.4	129	3.2	102	3.1	140	3.4
Zimbabwe	132	3.3	101	3.5	128	2.4	119	4.5
Mauritania	134	3.3	122	3.3	113	2.8	133	3.9
Guinea	141	2.9	128	3.2	142	1.9	138	3.5
Burundi	144	2.8	142	2.6	141	1.9	127	4.2
Non-fragile low-income countries								
Rwanda	63	4.2	20	5.2	96	3.2	100	5.3
Gambia, The	98	3.8	35	4.7	82	3.6	126	4.2
Kenya	106	3.7	106	3.4	103	3.1	115	4.6
Benin	119	3.6	99	3.5	122	2.6	111	4.7
Tanzania	120	3.6	86	3.6	132	2.3	113	4.6
Ethiopia	121	3.6	74	3.8	119	2.6	116	4.6
Uganda	123	3.5	102	3.5	133	2.3	123	4.4
Mali	128	3.4	120	3.3	107	3.0	141	3.4
Malawi	129	3.4	76	3.8	135	2.2	124	4.3
Madagascar	130	3.4	136	2.9	137	2.1	110	4.7
Burkina Faso	133	3.3	83	3.7	136	2.2	139	3.5
Mozambique	138	3.2	112	3.4	129	2.4	137	3.5
Sierra Leone	143	2.8	95	3.6	138	2.1	143	3.0

Source: World Economic Forum, 2012.

In addition, infrastructure is inadequate in all six oil exporters, with all countries in this group except for Libya ranking lower than 100. While there is no clear answer to whether or not commodity prices will accommodate growth in the longer term, economic growth as it stands now has not been inclusive. The majority of oil-exporting economies are very poorly assessed on the United Nations' Human Development Index (see individual competitiveness profiles in Part 3). This is worrisome because these economies will need to diversify growth to ensure that resource wealth is evenly distributed so as to make growth overall more sustainable in the long run. In order to diversify, a skilled workforce is needed. However, the rankings show that all oil exporters perform very poorly in providing education and skills—indeed, Chad ranks last (144th) on health and primary education and 140th on the higher education pillar. Finally, inefficiencies in goods and labor markets are rife. Overall, this is also reflected in this year's rankings, where first-time entrant Gabon leads the African oil exporters at 99th place, followed by Algeria, Cameroon, Nigeria, and finally Chad at 139th. Thus, despite relatively strong growth in recent years, these economies remain vulnerable to oil price shocks and will need to reinforce the drivers of productivity and competitiveness and encourage greater market diversification if they are to place their economies on more sustainable and inclusive development paths.

Table 5: Selected indicators of the GCI 2012–2013 for African middle-income economies

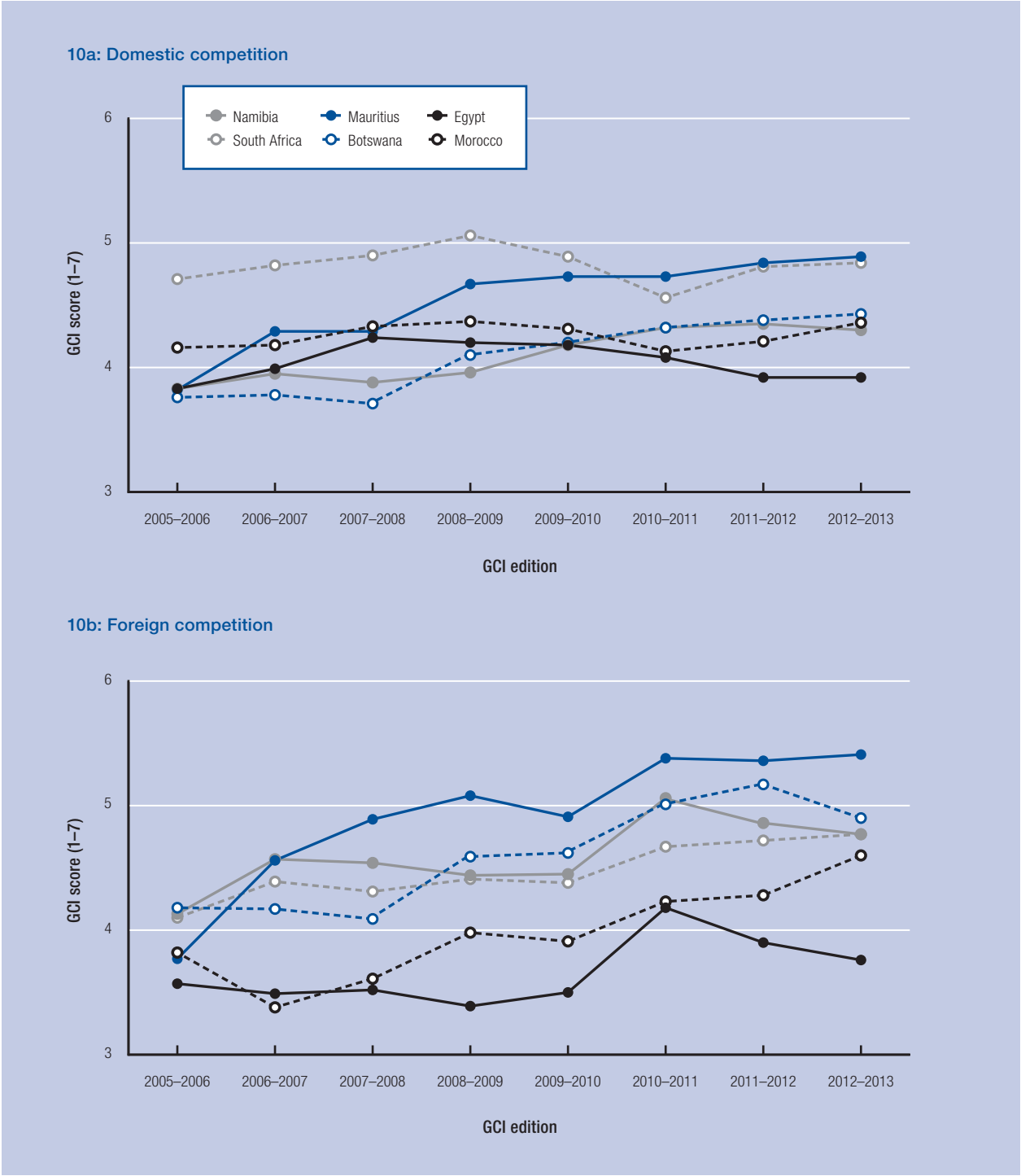
			SELECTED PILLARS OF THE GCI 2012–2013							
	Overall GCI 2012–2013		Health and primary education		Higher education		Goods market efficiency		Labor market efficiency	
Country	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
South Africa	52	4.4	132	3.9	84	4.0	32	4.7	113	3.9
Mauritius	54	4.4	54	5.9	65	4.3	27	4.8	70	4.4
Morocco	70	4.1	81	5.5	101	3.6	69	4.3	122	3.8
Seychelles	76	4.1	47	5.9	31	5.0	70	4.3	48	4.5
Botswana	79	4.1	114	4.6	95	3.7	78	4.2	60	4.5
Namibia	92	3.9	120	4.4	119	3.1	87	4.2	74	4.3
Zambia	102	3.8	129	4.1	121	3.1	42	4.5	111	4.0
Ghana	103	3.8	112	4.7	107	3.4	76	4.2	97	4.1
Egypt	107	3.7	94	5.3	109	3.3	125	3.8	142	3.1
Senegal	117	3.7	125	4.2	116	3.2	77	4.2	80	4.3
Cape Verde	122	3.5	71	5.7	99	3.6	105	3.9	126	3.7
Swaziland	135	3.3	135	3.6	125	2.9	107	3.9	119	3.9
Lesotho	137	3.2	136	3.5	135	2.7	102	4.0	116	3.9

Source: World Economic Forum, 2012.

Non-fragile low-income economies are dispersed throughout the middle to the bottom of the rankings, with Rwanda leading at 63rd and Sierra Leone at 143rd place (Table 4). This is a diverse group of countries, presenting all low-income countries that are not classified as oil-exporting or fragile, and where "economic development can be explained by reference to more conventional economic factors."[19] Mirroring the statements above, overall this group performs better than both oil-exporting and fragile economies across most pillars. The difference is particularly pronounced in the areas of institutions and labor and financial market efficiency. Kenya (ranked 24th, as discussed previously), Rwanda (ranked 49th), and Uganda (62nd) boast a deeper financial market than their peers. Similarly, Rwanda and Gambia perform well in the institutional pillar at 20th and 35th rank, respectively, pulling up the average for this group, which closes with Madagascar at 136th. Conversely, a majority in this group do comparatively well when it comes to labor market efficiency. As shown in Table 3, Rwanda, Uganda, and Gambia lead African economies in this pillar, and overall more than two-thirds of these economies are in the upper half of the global rankings. On the other hand, as for a majority of African economies, low-income economies perform poorly in the areas of infrastructure, education, and technological readiness, all placing in the bottom third of the global rankings.[20]

Africa's middle-income economies face a more complex and diverse set of competitiveness challenges. Having entered a middle-income stage, these countries will need to put into place the fundamentals that will allow them to transition to higher-value-added activities. In this light, we see some important variations in performance, ranging from South Africa at 52nd overall to Lesotho at just 137th place (Table 5). Although middle-income economies outperform their regional peers in institutional quality, they barely reach the median of this pillar (4 on a scale of 1–7). As described earlier, these countries generally have already put into place better infrastructure than their peers and they fare particularly well in the efficiency pillars of the GCI. Yet infrastructure remains inefficient and pooling financing for large-scale projects will be more difficult going forward because their middle-income status makes them ineligible for soft loans from multilateral donors. Moving on, many have relatively well-developed financial markets and, as Figure 10 suggests, have made important improvements in the areas of domestic and foreign competition that make up the goods market pillar. Stronger foreign competition stems primarily from a country lowering trade tariffs and increasing imports, which ushers in new foreign entrants, thus encouraging greater efficiency. The domestic competition pillar considers the overall business environment, taking into account the intensity of local competition, which is affected, for example, by the number of days and documents required to start up a business. Notably, Mauritius and Namibia have improved in this area over the last several years, as have Morocco and South Africa since 2011. A strong business environment is critical, as it will set the operating framework for a strong private sector and, hence, employment creation (see Box 1).

Figure 10: Trends in the GCI goods market efficiency competition subpillars, middle-income countries



Source: World Economic Forum, *The Global Competitiveness Report,* (various editions).
Note: See Appendix A for a detailed breakdown of variables.

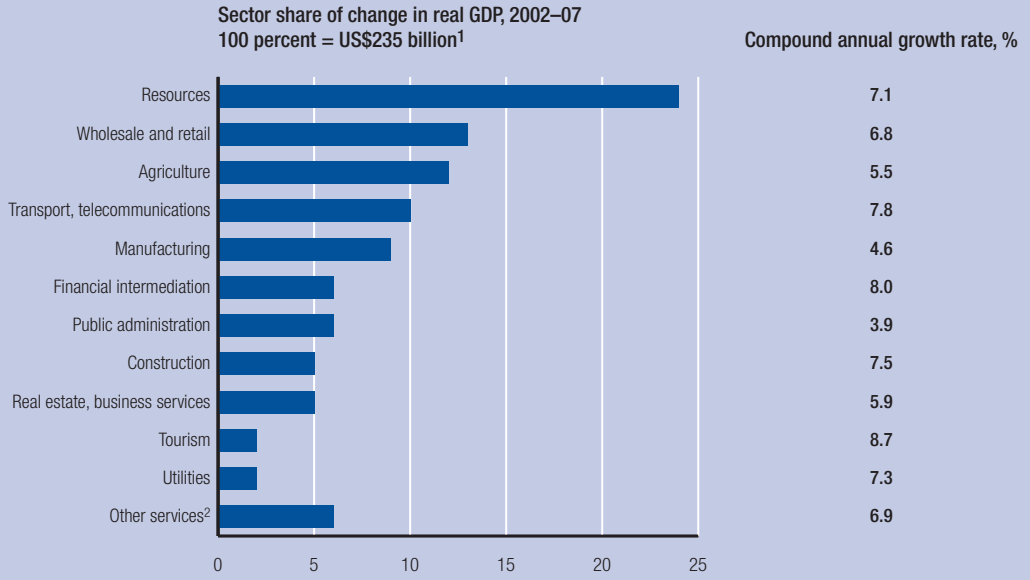
There has been important progress. Yet, moving forward, the business environment will require a talent pool on which businesses can draw, and this is an area where most middle-income economies have reached a bottleneck. With the exception of Mauritius and Seychelles, all middle-income countries navigate somewhere in the lower half of the rankings of those pillars that gauge the country's ability to fully leverage its human resource potential. South Africa, for example, ranks just 113th in the labor market efficiency pillar and has a university enrollment rate of just 15 percent, compared with 82 percent in the United States and 95 percent in the Republic of Korea. With the exception of Morocco, gains in labor market efficiency have largely stalled in recent years. Going forward, improving basic requirements, increasing educational attainment rates, and improving education to match the skills needed by the private sector as well as making the labor market more flexible will be critical for the required structural transformation (see Box 2).

Box 1: Evolution of key emergent competitive industries and jobs in Africa

A number of emergent sectors of African economies show ample growth potential, as indicated by the widespread growth across various sectors in 2002–07. Figure A shows that the resource sector has been the main driver of economic growth in these years. This is followed closely by the wholesale and retail sector, which is projected to generate revenues of more than US$1,380 billion by 2020, effectively overtaking the resource sector (Figure B).

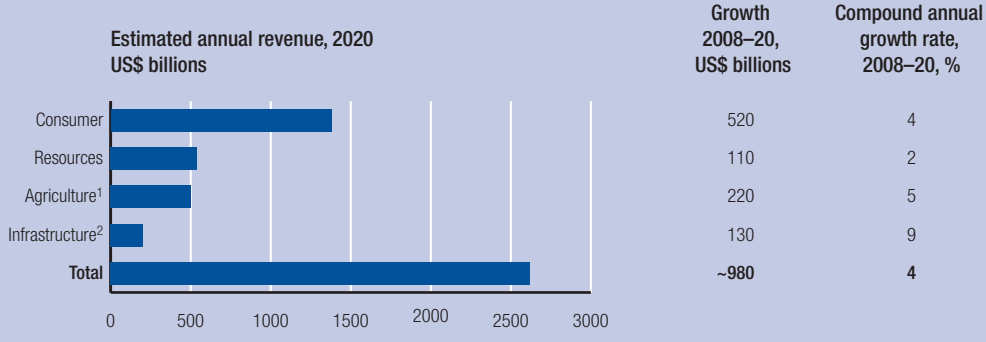
Thus, Africa's consumer sector presents a major opportunity for growth. Other labor-intensive sectors, such as agri-business and infrastructure, are also projected to offer opportunities for further growth and employment creation.

Figure A: Africa's growth widespread across sectors



Source: McKinsey Global Institute, 2010.
1 In 2005 dollars. The total is the sum of 15 countries for which data were available, and that together account for 80 percent of Africa's GDP: Algeria, Angola, Cameron, Egypt, Ethiopia, Kenya, Libya, Morocco, Nigeria, Senegal, South Africa, Sudan, Tanzania, Tunisia, and Zimbabwe.
2 Education, Health, Social Services, Household Services.

Figure B: Four groups of industries: Potential combined revenue of US$2.6 trillion by 2020



Source: McKinsey Global Institute, 2010.
1 We took the 2030 value of $880 billion and calculated straight-line equivalent for 2020.
2 Represents investment; assumes needs remain the same share of GDP through 2020.

Source: McKinsey Global Institute, 2010.

Box 2: Africa's youth unemployment challenge

Despite commendable annual economic growth rates of 5 percent annual average and notable progress achieved in the area of education, including higher education, Africa has been unable to expand employment opportunities for young people, especially the most educated ones. The mismatch between high rates of economic growth and job creation is widening income inequalities and fueling social and political tensions.

The current youth employment challenges in Africa are caused by a combination of the remarkable growth of an increasingly educated youth population, the slow pace of job creation in the formal economy, and persistent low productivity and underemployment in the informal sector. The continent's youth population is not only growing rapidly, it is also getting better educated. Africa has the most young people (15–24 years) in the world, totaling about 200 million, and it is projected to double by 2045. Projections show that 59 percent of youth (20–24 years) will have had a secondary education in 2030, compared with 42 percent today. This translates into 137 million people with a secondary education and 12 million with a tertiary education in 2030.

Unemployment of graduates and underemployment in the informal economy (where most the young people work in low-productive jobs) are factors of instability, especially among the youth in post-conflict settings and fragile states. The recent wave of discontent in North Africa illustrates the disruptive consequences of youth unemployment in general, and unemployed graduates in particular.

The public sector has been significantly downsized in many African countries over the last two decades. According to Gallup World Poll data, only 21 percent of those under 30 years of age with at least a secondary education work for the government, compared with 37 percent of adults aged 30 and over. In Egypt, Morocco, and Uganda, for example, the proportion of government workers among young people is only one-third that of adults. In South Africa, Nigeria, and Tanzania, it is around 40 percent, and in Kenya and Tunisia around 50 percent. To put this in context, in Egypt, government work accounts for over 50 percent of employment among those over 30; in Tunisia this is 35 percent; in South Africa, 25 percent; and in Kenya, 16 percent.

High vacancy rates in the presence of large-scale unemployment confirm the existence of skills mismatches and are especially substantial in middle-income countries. Although there are large numbers of unemployed young people and a constantly growing labor supply, many enterprises in Africa struggle to fill open positions. In Egypt, for example, about 1.5 million young people are unemployed, while at the same time private-sector firms cannot fill 600,000 vacancies. In South Africa the situation is even more extreme, with 3 million young people not in employment, education, or training and 600,000 unemployed university graduates versus 800,000 vacancies.

The youth employment challenge in Africa is primarily structural and therefore needs structural solutions. Given the size of the employment problem, any youth employment policy in Africa must place job creation at its center. Governments must focus on removing obstacles to the many small firms in the informal sector, helping them to grow and create decent jobs. At the same time, existing large firms must be supported to grow further and become more competitive. The middle-income countries are facing a great challenge because their employment base is very small and will need solid growth. The adverse business environment in Africa has disproportionate effects on small firms and prevents them from growing. Large firms can cope more easily, but are struggling to be competitive at the international level. Informal entrepreneurs must cope with very high levels of risk in addition to access to finance issues.

Source: Adapted from AfDB et al. 2012.

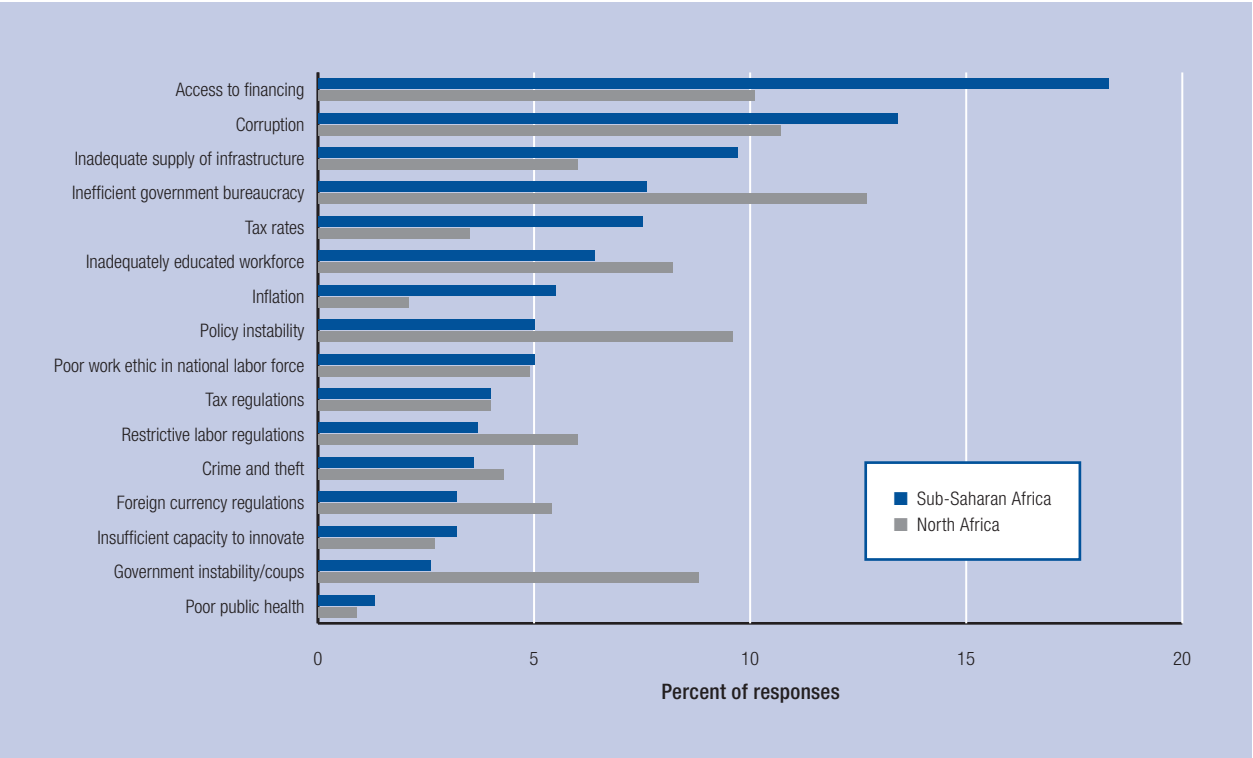
THE MOST PROBLEMATIC FACTORS FOR DOING BUSINESS IN AFRICA

The results of the GCI provide a good sense of the many factors that are holding back Africa's competitiveness. To complement this analysis, each year the World Economic Forum collects the perspective of top executives about the main bottlenecks to doing business in their countries. From a list of 16 factors, respondents are asked to select the five most problematic among them and rank them from 1 (most problematic) to 5. The Executive Opinion Survey carried out in 2012 shows that access to financing, inefficient government bureaucracy, and corruption present the most important hindrances to doing business in Africa. However, Figure 11 shows the degree to which these impede business varies according to the region. In sub-Saharan Africa, access to finance represents business leaders' biggest concern by a wide margin, confirming the lack of depth of the financial market in a majority of African economies, as previously discussed. In contrast, inefficient government bureaucracy presents the biggest concern in North Africa. Likewise, business leaders in both regions point out the lack of a sufficiently skilled workforce.

However, business in both regions faces different challenges concerning all other factors. The Executive Opinion Survey confirms that the inadequate supply of infrastructure presents a significant obstacle for businesses in sub-Saharan Africa in contrast to North Africa, where it receives a middle ranking. Sub-Saharan business leaders are also more concerned with high tax rates than their North African peers. On the other hand, government instability and coups coupled with policy uncertainty have become serious concerns for business leaders in North African countries in stark contrast to the last *Report,* where those factors were ranked at the bottom.

Inflation in sub-Saharan Africa also continues to receive attention from business leaders. This is most likely the result of rising inflation (particularly in East Africa) and the increased inflationary pressures—caused

Figure 11: The most problematic factors for doing business, sub-Saharan and North African averages



Source: World Economic Forum, Executive Opinion Survey 2012.
Note: The sample includes sub-Saharan Africa: Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Côte d'Ivoire, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe; North Africa: Algeria, Egypt, Libya, and Morocco.

by rising food and fuel prices—experienced during 2011–12 in many sub-Saharan economies. It has to be noted that, in 2012, more prudent macroeconomic policy has contained inflation more successfully, although this will be reflected only in next year's Survey results. It is interesting to note that, similar to our findings in the 2011 *Report,* public health receives little attention from business leaders. This is somewhat counterintuitive given the continent's major health challenges.

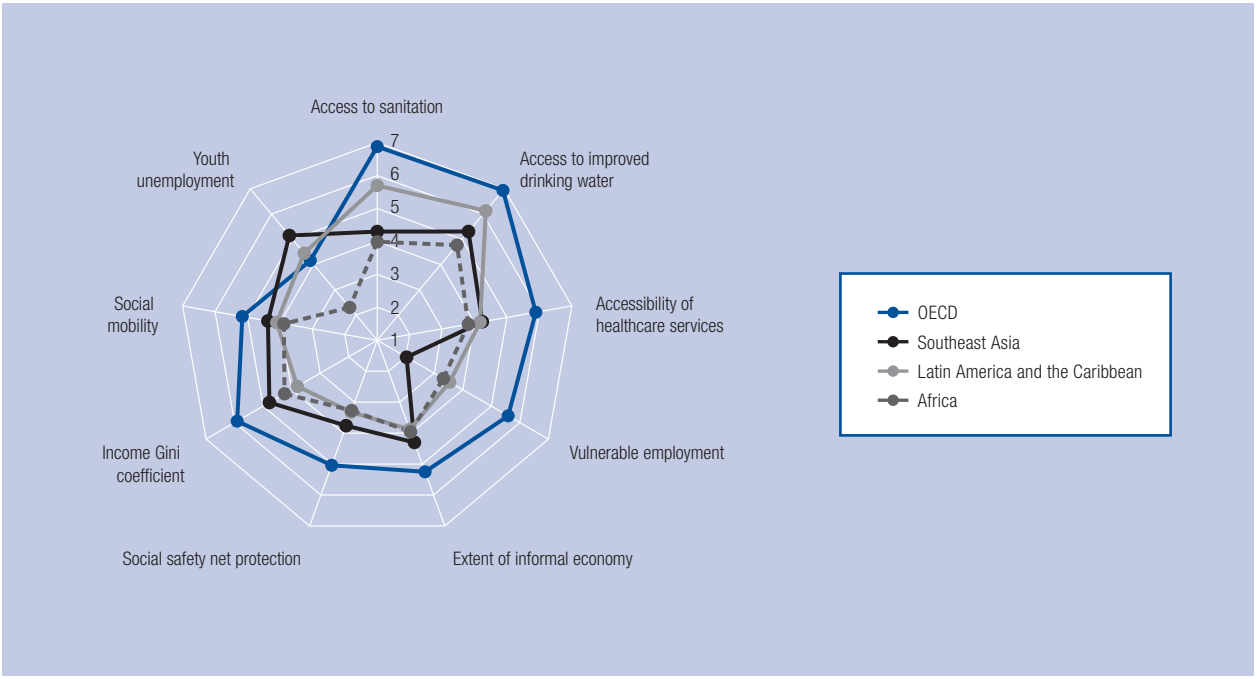
TOWARD SUSTAINABLE AND INCLUSIVE GROWTH

Improving competitiveness across the 12 GCI pillars is a solid foundation for measuring a country's capacity to raise living standards and increase productivity. Yet, although the GCI gauges a country's capacity to generate prosperity, it does not tell us everything about the extent to which prosperity is being generated in a *sustainable* way, taking into account environmental stewardship and social sustainability. Events such as the Arab Spring, increased income inequalities, and pressure on natural resources have called into question the received wisdom, accepted throughout the second half of the 20th century, that increasing productivity and economic growth for rising prosperity should be the end goal. Instead, concerns about social and environmental sustainability have taken center stage in discussions about economic development. The question of sustainable and inclusive growth is an important one for Africa in view of its rapid population growth and youth unemployment challenge, and also the continent's vast natural resources, which require sound natural resource management as an integral part of prudent economic policy. Against this backdrop, the World Economic Forum has been developing a sustainability-adjusted Global Competitiveness Index with the aim of assessing the *"set of institutions, policies, and factors that make a nation remain productive over the longer term while ensuring social and environmental sustainability"* (see Box 3).

Figures 12 and 13 show Africa's performance across specific indicators of the social and environmental sustainability pillars. Africa is compared with OECD economies—as a stringent international benchmark—as well as with Southeast Asia, which provides a sense of the continent's performance compared with another developing region. These figures are further informed by Tables 6 and 7, which report the data for each of the eight African economies and the three best-performing economies in the sustainability-adjusted GCI.

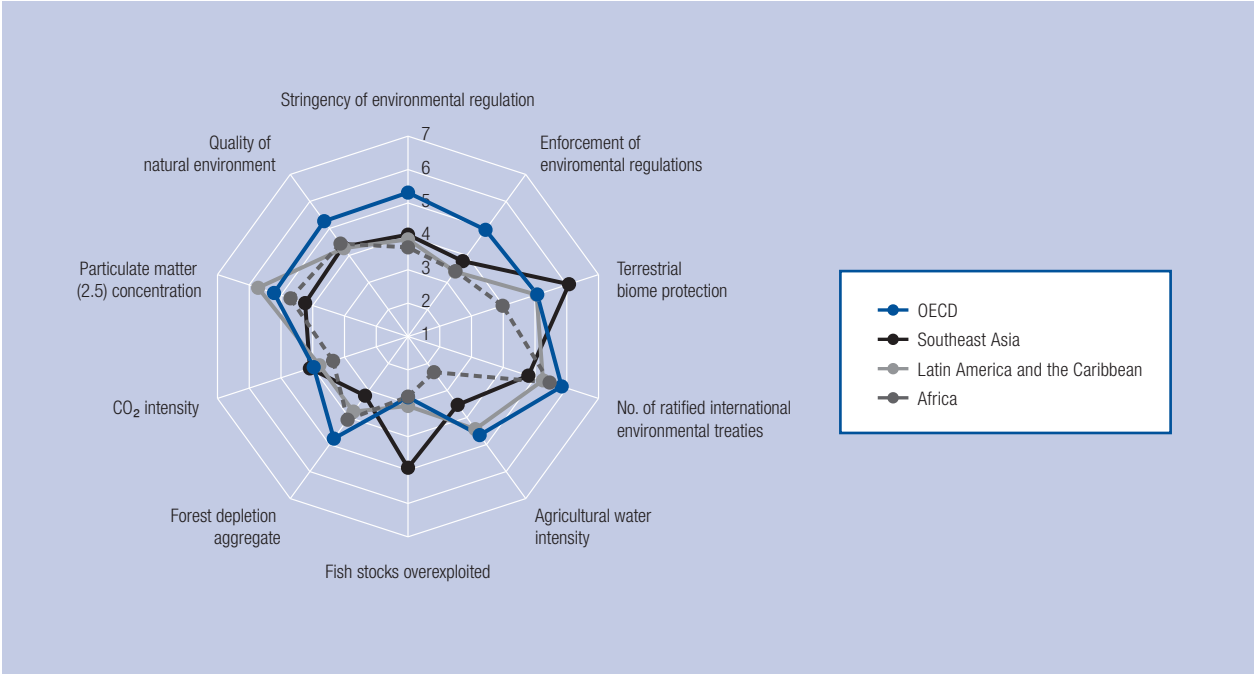
As Figure 12 shows, Africa trails advanced economies in providing access to basic necessities, such as sanitation and access to improved drinking

Figure 12: Africa's performance in the social sustainability pillar in regional comparison



Sources: World Economic Forum, 2012; authors' calculations.
Note: The sample includes Africa: Algeria, Egypt, Kenya, Mauritius, Morocco, Namibia, South Africa, and Tanzania; Southeast Asia: Cambodia, Indonesia, Malaysia, Philippines, and Vietnam; OECD: all OECD economies except for Luxembourg and Puerto Rico; Latin America and the Caribbean: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

Figure 13: Africa's performance in the environmental sustainability pillar in regional comparison



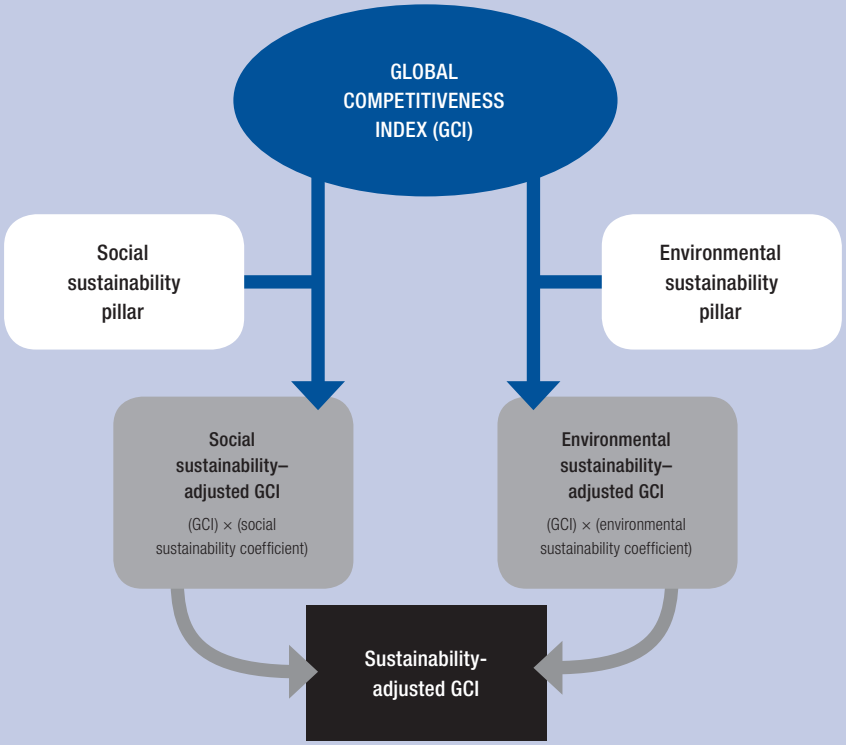
Sources: World Economic Forum, 2012; authors' calculations.
Note: The sample includes Africa: Algeria, Egypt, Kenya, Mauritius, Morocco, Namibia, South Africa, and Tanzania; Southeast Asia: Cambodia, Indonesia, Malaysia, the Philippines, and Vietnam; OECD: all OECD economies except for Luxembourg and Puerto Rico; Latin America and the Caribbean: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

Box 3: The sustainability-adjusted Global Competitiveness Index

The World Economic Forum has been developing a sustainability-adjusted Global Competitiveness Index with the aim of assessing the *"set of institutions, policies, and factors that make a nation remain productive over the longer term while ensuring social and environmental sustainability."* The adjusted index can thus be considered as an extension of the Global Competitiveness Index (GCI)—that is, while the GCI gauges a country's capacity to generate prosperity, the adjusted Index captures the extent to which prosperity is being generated in a sustainable way, taking into account environmental stewardship and social sustainability. More specifically, *environmental sustainability* is defined as the *"set of institutions, policies, and factors that ensure an efficient management of resources to enable prosperity for future generations."* The Forum's current definition of *social sustainability* is *"the set of institutions, policies, and factors that enable all members of society to experience the best possible health, participation, and security; and that maximize their potential to contribute to and benefit from the economic prosperity of the country in which they live."* Figure A presents the conceptual framework of this effort, where the GCI is adjusted by factors that drive social and environmental sustainability.

Figures B and C present the indicators that enter the sustainability-adjusted GCI. The environmental sustainability pillar focuses on the regulatory environmental framework, the extent to which economies manage renewable resources, as well as the level of pollution. The pillar has been developed in close collaboration with experts from the Center for Environmental Law and Policy (YCLEP) and the Center for International Earth Sciences Information Network (CIESIN) to identify the factors that have an impact on competitiveness.

Figure A: The structure of the sustainability-adjusted GCI



Source: World Economic Forum, 2012.
Note: Please refer to Bilbao-Osorio et al. 2012 for a more detailed presentation of the rationale and methodology.

(Cont'd)

water and healthcare services. However, there are wide cross-country divergences. As Table 6 shows, only half of the Tanzanian population has access to drinking water, in contrast to almost complete coverage in Mauritius and Egypt. In a similar fashion, only one in ten Tanzanians has access to sanitation, compared with almost everyone in Algeria and Egypt. Furthermore, healthcare accessibility is considered good in Mauritius, comparable with that of advanced economies, whereas it is considered inadequate in all other African economies.

The second subpillar evaluates the vulnerability of the population to economic exclusion. Overall, the region fares better in terms of vulnerable employment conditions than Southeast Asia, and does slightly worse in the areas of an informal economy and the extent to

Box 3: The sustainability-adjusted Global Competitiveness Index *(cont'd)*

It therefore complements the broader analysis of the Environmental Performance Index (EPI) carried out by these two organizations. The social sustainability pillar aims to capture the extent to which physiological needs, such as access to drinking water and decent healthcare, are being met, as well as the need for economic security (job security, presence of a social safety net). It also aims to measure the extent of social cohesion and opportunity (income inequality, social mobility). It is worth noting that the indicators are by no means exhaustive, and that there are a number of areas that should be covered but that are not yet included because of a lack of relevant data (inclusion of minorities, working conditions, water pollution, recycling, and waste management). Also, based on current data limitations, only a subset of 79 of the 144 countries covered by the GCI could be included in the latest edition in 2012.

Defining a functional relationship between competitiveness and sustainability and identifying and measuring the pillars and variables that are driving environmental sustainability is not a trivial task, and there is not yet sufficient evidence to suggest what shape this takes. In view of the lack of methodological guidance, the sustainability-adjusted GCI assigns equal weights to each individual element in each of the three subpillars. Each pillar measuring social and environmental sustainability is then converted into an "adjustment coefficient" with a range of 0.8 to 1.2, and these weights are then used to adjust the GCI upward or downward. This results in an adjusted score of a maximum of 20 percent lower or 20 percent higher than the underlying GCI score.

Figure B: Summary of indicators for environmental sustainability

Environmental policy	Use of renewable resources	Degradation of the environment
• Environmental regulations (stringency and enforcement)	• Agricultural water intensity	• Level of particulate matter concentration
• Number of ratified international environmental treaties	• Forest depletion (change in forest cover and forest loss)	• CO_2 intensity
• Terrestrial biome protection	• Fish stocks' overexploitation	• Quality of the natural environment

Source: World Economic Forum, 2012.

Figure C: Summary of indicators for social sustainability

Access to basic necessities	Vulnerability to shocks	Social cohesion
• Access to sanitation	• Vulnerable employment	• Income Gini index
• Access to improved drinking water	• Extent of informal economy	• Social mobility
• Access to healthcare	• Social safety net protection	• Youth unemployment

Source: World Economic Forum, 2012.

Source: World Economic Forum, 2012.

which the social safety net in these countries fails to provide protection from economic insecurity caused by job loss or disability. Again, we find a wide disparity across Africa. Vulnerable employment is less relevant in the middle-income economies of South Africa and Mauritius, and a smaller portion of these countries' workforces operate in the informal economy. However, Executive Opinion Survey data indicate that there is little opportunity in any African economy to improve one's economic situation through personal efforts regardless of the socioeconomic status of one's parents.

Figure 12 also highlights Africa's profound youth employment challenge: the continent's youth unemployment rates are significantly higher than those in Southeast Asia. This is particularly worrisome in view of its long-term consequences, as most recently witnessed

Table 6: Social sustainability pillar by indicator

Country	Access to sanitation (percent of total population)	Access to improved drinking water (percent of total population)	Accessibility of healthcare services (1–7, best)	Vulnerable employment (percent in total employment)	Extent of informal economy (1–7, best)	Social safety net protection (1–7, best)	Income Gini coefficient [0 = perfect equality; 100 = perfect inequality]	Social mobility (1–7, best)	Youth unemployment (total unemployed youth to total labor force aged 15–24)
Kenya	32	59	3.5	63.4	4.1	3.1	42.5	3.6	n/a
Mauritius	89	99	5.7	16.0	5.3	3.7	n/a	4.8	21.4
Namibia	32	93	4.0	21.1	4.3	3.5	63.9	4.2	58.9
South Africa	79	91	3.9	10.1	4.6	3.3	63.1	4.1	49.8
Tanzania	10	53	3.3	87.7	3.4	3.6	37.6	3.4	n/a
Algeria	95	83	3.9	34.4	2.8	3.2	35.3	3.0	n/a
Egypt	95	99	2.7	27.3	3.7	3.0	30.8	3.9	n/a
Morocco	70	83	3.5	50.5	3.6	2.9	40.9	4.1	21.9
Three best-performing countries									
Switzerland	100	100	6.7	9.1	6.1	6.2	29.5	6.3	7.2
Finland	100	100	6.7	9.2	6.2	6.2	25.4	6.5	20.3
Sweden	100	100	6.5	7.0	5.7	5.8	24.1	5.4	25.2

Source: World Economic Forum, 2012.

Table 7: Environmental sustainability pillar by indicator

Country	Stringency of environmental regulation (1–7, best)	Enforcement of environmental regulations (1–7, best)	Terrestrial biome protection (1–17, best)	No. of ratified international environmental treaties (no. treaties)	Agricultural water intensity (agricultural water withdrawal, percent of total renewable water resources)	Fish stocks overexploited (fraction of country's exclusive economic zone with overexploited and collapsed stocks)	Forest depletion aggregate (1–7, best)	CO_2 intensity (kilograms of CO_2 per kilogram of oil equivalent energy use)	Particulate matter (2.5) concentration (population-weighted exposure to $PM_{2.5}$ micrograms per cubic meter)	Quality of natural environment (1–7, best)
Kenya	3.9	3.8	11.4	22	7.1	0.6	4.4	0.6	4.9	4.3
Mauritius	4.0	3.6	4.8	20	17.9	0.8	5.0	3.3	n/a	4.6
Namibia	4.6	4.3	14.1	19	1.2	0.5	3.6	2.2	8.8	5.9
South Africa	4.7	3.8	6.5	21	15.7	0.8	2.5	2.9	8.1	5.3
Tanzania	3.8	3.7	17.0	21	4.8	0.7	2.9	0.3	5.8	4.5
Algeria	2.0	2.0	6.3	18	33.8	0.4	2.9	3.0	5.6	2.8
Egypt	2.8	2.7	5.9	21	103.0	0.6	6.8	3.0	15.9	4.0
Morocco	3.6	3.4	1.5	19	38.0	0.4	4.4	3.2	6.2	4.0
Three best-performing countries										
Switzerland	6.3	6.2	16.7	22	0.1	n/a	5.9	1.5	6.2	6.5
Finland	6.4	6.4	8.4	23	0.0	0.5	4.2	1.6	0.4	6.6
Sweden	6.1	6.1	7.9	24	0.1	0.7	3.8	1.0	2.6	6.3

Source: World Economic Forum, 2012.

Table 8: Adjustment to the GCI scores by sustainability indicators

			SUBINDEXES					
	GCI 2012–2013		Sustainability-adjusted GCI††		Social sustainability–adjusted GCI**		Environmental sustainability–adjusted GCI†	
Country	Rank*	Score	Score	Direction	Score	Direction	Score	Direction
Switzerland	1	5.72	6.85	↑	6.83	↑	6.87	↑
Finland	3	5.55	6.36	↑	6.45	↑	6.26	↑
Sweden	4	5.53	6.16	↗	6.17	↑	6.15	↗
Netherlands	5	5.50	6.21	↑	6.54	↑	5.88	↑
Germany	6	5.48	6.14	↗	6.37	↑	5.92	↗
China	29	4.83	4.44	↓	4.61	↘	4.27	↓
Brazil	48	4.40	4.46	→	4.22	→	4.69	↗
South Africa	52	4.37	3.80	↓	3.83	↘	3.77	↓
Mauritius	54	4.35	4.03	↘	4.40	→	3.66	↓
India	59	4.32	3.73	↓	3.70	↓	3.75	↓
Russian Federation	67	4.20	3.98	↘	4.09	→	3.87	↘
Morocco	70	4.15	3.53	↓	3.55	↓	3.52	↓
Namibia	92	3.88	3.53	↓	3.22	↓	3.84	→
Kenya	106	3.75	3.38	↓	3.01	↓	3.76	→
Egypt	107	3.73	3.38	↓	3.56	→	3.20	↓
Algeria	110	3.72	3.16	↓	3.31	↘	3.01	↓
Tanzania	120	3.60	3.24	↓	2.88	↓	3.6	→

Source: World Economic Forum, 2012.
Note: Please refer to Appendix B to understand how the coefficients are calculated.
* This is the GCI rank, as presented in Chapter 1.1 of *The Global Competitiveness Report 2012–2013*. Only the 79 countries covered by this exercise are included in the table.
** This is the score obtained by multiplying the GCI score by the social sustainability coefficient.
† This is the score obtained by multiplying the GCI score by the environmental sustainability coefficient.
†† This is the average of the social and environmental sustainability scores.

Key
↑ = GCI score changes by > +15% to +20%
↗ = GCI score changes by +5% to +15%
→ = GCI score remains stable between +5% and –5%
↘ = GCI score changes by –5% to –15%
↓ = GCI score changes by < –15% to –20%

in the North African region. The pillar looks at the income Gini coefficient as the most widely used measure of inequality, where South Africa and Namibia in particular report the highest inequality levels in the sample.[21]

Figure 13 breaks down Africa's performance in the *environmental sustainability* dimension. As the spider chart shows, Africa has ratified roughly as many environmental treaties as advanced economies, and it rates the protection of its natural habitats in a similar way. Regarding habitat protection, Table 7 shows that Tanzania, Namibia, and Kenya are starkly more successful in protecting their biomes than the remaining countries in the sample. Furthermore, environmental regulation and enforcement in Africa is as stringent as they are in other regions, although the middle score of 4 out of 7 indicates that more should be done across all countries. Again, there are wide divergences: Namibia is the best performer overall; all North African economies receive considerably lower scores.

Wide divergences can also be seen in the use of renewable resources and the degradation of the natural environment: North African economies, perhaps unsurprisingly, have higher agriculture water intensity than sub-Saharan economies. In terms of forest depletion, Mauritius does comparatively well, in contrast to Tanzania and Algeria. Finally, we see that the quality of the natural environment is considered better in sub-Saharan Africa than the one in North African economies, with Algeria ranking last. Going forward, efforts should be made to ensure environmental sustainability in Africa through economic diversification and development.[22]

Table 8 presents the country-level results of the sustainability-adjusted GCI for the eight African economies out of a total sample of 79 economies that were covered in the most recent *Global Competitiveness Report.* As a reference, the table also shows the five best-performing economies, as well as the bottom two performers. Switzerland—the number one performer

in the GCI—would actually receive a higher score if adjusted for its social and environmental sustainability. Indeed, although the effect is less pronounced, this is the case for the other top five best-performing economies. In contrast, the BRIC economies of China, India, and Russia do less well once sustainability indicators are taken into account.

Looking at the African continent, Table 8 shows that the sustainability-adjusted GCI score is more than 0.5 percentage points lower than the GCI score for Algeria, Morocco, and South Africa. Reflecting findings from the international comparison above, the table reveals that Algeria, Mauritius, and Morocco are largely affected by their poor performance in the environmental dimension, while the scores of Kenya, Namibia, and Tanzania are negatively affected by their performance in the social sustainability measures.

Sustainable competitiveness is a nascent area of research. The initial work presented in this chapter has shown the challenges in assessing sustainability, which range from data availability and quality to data interpretation and meaningful analysis.[23] Yet the extent to which economies can grow in a sustained and inclusive manner will be critical moving forward. Africa's high economic growth rates in recent years, coupled with its still largely agriculture-based economy, provide a unique opportunity to set the continent on a course for sustained and inclusive growth.

CONCLUSIONS

This chapter has analyzed the results of 38 African economies of the Global Competitiveness Index 2012–2013 and discussed Africa's potential for sustained and inclusive growth. It concludes that, despite the high economic growth of the past decade, Africa continues to be the least competitive region on average worldwide, trailing more advanced economies across all competitiveness indicators. African countries find themselves in a development stage where basic requirements, such as sound institutions and macroeconomic policies, adequate infrastructure, and a healthy and literate workforce are key to establishing a solid basis for higher-value-added sources of growth. Yet these are the areas that constitute some of the biggest gaps with other regions. Africa's profound and persistent infrastructure deficit and poor performance on education constitute important barriers to increased competitiveness. Changes over time have overall been only gradual.

A more detailed look at the performance of individual country groups reveals a competitiveness divide across the continent, as evidenced by wide divergences in performance. As in the past, South Africa and Mauritius continue to perform as well as, or better than, other emerging markets such as Brazil, India, and Russia, indicating that these countries have been relatively successful in putting in place the fundamentals for improved competitiveness. A second cluster of countries, including Rwanda, Botswana, Seychelles, and Morocco, performs better than the Latin American average, while a third and wider set of countries, including Namibia, Gambia, Gabon, Zambia, Ghana, Kenya, and Egypt, outperform the sub-Saharan African average and even the North African average.

In view of these divergences, this year's chapter further classified African economies into four specific groups of oil-exporting economies, fragile economies, non-fragile low-income economies, and middle-income economies following the IMF's *Regional Economic Outlook* classification. An interesting insight from this analysis reveals that those economies heavily focused on natural resource extraction perform on a par with fragile economies to a large extent, particularly registering an equally weak performance in the quality of their institutions. This finding has important implications for resource management and how best to use oil revenues to set their economies on a sustained and more diversified growth path. Furthermore, middle-income countries have registered improvements in the areas of domestic and foreign competition, but still have a long way to go to lay the basis for more diversified growth.

Last but not least, the chapter has looked beyond the basic drivers of productivity, presenting the World Economic Forum's work on sustainable competitiveness, and integrating the social and environmental factors that are critical for sustained growth. We see that all eight African economies that were covered in this year's sustainability-adjusted GCI are shown to be less competitive when taking into account factors of environmental and/or social sustainability.

This chapter has identified the main competitiveness challenges. Chapter 2.1 will examine regional integration in more depth by looking at trade constraints. This will be followed by chapters that explore Africa's infrastructure deficit and that offer an innovative solution through growth poles as unique public-private partnerships to boost self-industrialization while simultaneously addressing the need for infrastructure.

NOTES

1 AfDB 2012.

2 Only one country—Libya (64th)—ranks in the upper half of the Human Development Index 2011 (out of 187 economies).

3 Devajaran and Fengler 2012. This has been 10 percent of Africa's GDP compared with 35 percent in East Asia and the Pacific and 16 percent for Latin America and the Caribbean.

4 ILO 2013.

5 IMF 2012b.

6 The 12 pillars are measured using both quantitative data from public sources (such as inflation, Internet penetration, life expectancy, and school enrollment rates) as well as 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.

7 In order to capture the resource intensity of the 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 also contains all metal ores and other minerals as well as petroleum products, liquefied gas, coal, and precious stones. The data used cover the years 2006 through 2010 or most recent year available. Further information on these data can be found at http://www.intracen.org/menus/countries.htm. All countries that export more than 70 percent of mineral products are considered to be to some extent factor driven. The stage of development for these countries is adjusted downward smoothly depending on the exact primary export share. The higher the mineral export share, the stronger the adjustment and the closer the country will move to stage 1. For example, a country that exports 95 percent of mineral exports and that, based on the income criteria, would be in stage 3 will be in transition between stages 1 and 2. The income and primary exports criteria are weighted identically. Stages of development are dictated solely by income for countries that export less than 70 percent minerals. Countries that export only primary products would automatically fall into the factor-driven stage (stage 1).

8 The BRIC economies are Brazil, the Russian Federation, India, and China; they exclude South Africa.

9 For a detailed description of the Executive Opinions Survey, see Browne et al. 2012.

10 This pillar consists of quantitative data: (1) government budget balance, (2) gross national savings, (3) inflation, (4) government debt and qualitative data on (5) country credit rating. It is important to note that this pillar evaluates the stability of the macroeconomic environment, so it does not directly take into account the way in which public accounts are managed by the government. This qualitative dimension is captured in the institutions pillar of the GCI.

11 Devajaran and Fengler 2012.

12 See *The Global Information Technology Report 2013* (World Economic Forum 2013) for a detailed discussion on economic and social impact of ICTs.

13 World Bank 2012a.

14 We follow the IMF's country classification applied in the *Regional Economic Outlook*s on sub-Saharan Africa based on the most recent data on per capita gross national income (averaged over three years) and the 2010 World Bank's (IDA) Resource Allocation Index (IRAI). Oil-exporting countries are those where oil exports make up for more than 30 percent of total exports. Middle-income countries not classified as oil exporter or fragile countries are those that had an average income per capital gross national income in the years 2008–10 of more than US$992.7 and IRAI scores higher than 3.2; low-income countries not classified as fragile or oil exporters had average income per capital gross national income in the years 2008–10 of less than US$992.7 and IRAI scores higher than 3.2; and fragile countries not classified as oil exporters had IRAI scores of 3.2 or less (see IMF 2012a). The criteria are extended to North African economies.

15 See Appendix D for more detailed country-level information.

16 This pillar evaluates the stability of the macroeconomic environment, so it does not directly take into account the way in which public accounts are managed by the government. This qualitative dimension is captured in the institutional pillar of the GCI.

17 See Acemoglu et al. 2001, 2002; Easterly and Levine 1997; Rodrik et al. 2002; and Sala-i-Martín and Subramanian 2003.

18 Resource revenue as a percent of total revenue make up for more than 50 percent in Chad, Nigeria, and Gabon. IMF 2012a, Chapter 3.

19 IMF 2012a.

20 Technically speaking, Gambia ranks 94th in the higher education and training pillar.

21 As we have shown in *The Global Competitiveness Report 2012–2013,* a number of elements need to be carefully considered when comparing economies based on this indicator. To start with, the Gini index is not revealing of absolute levels of wealth—that is, hypothetically, even in the case of low inequality, a large part of the population may still be able to cover only basic necessities. In addition, it is difficult to say what the desirable level of inequality should be—to what extent, for example, should differences in skills be reflected in higher income for certain members of society. Finally, although the Gini index measures income inequality on a scale of 0 (perfect equality) to 100 (perfect inequality), practically the range in the sample of 79 economies ranges from 24 to 64, indicating that a value of over 60 already reflects strong inequality.

22 It is important to note that the sustainability-adjusted GCI is a work in progress, heavily depending on and limited by data quality and availability. The environmental sustainability pillar, as it stands, for example, may be better designed to capture environmental degradation in countries in more advanced stages of development, where the manufacturing sector plays a more prominent role, rather than those at the lower stages of development that have a higher agricultural sector and/or are reliant on natural resources. Here, the loss of soil fertility and the availability of ground water play a more prominent role. In a similar fashion, measuring environmental sustainability necessarily needs to strike a compromise in terms of indicators included—deforestation is important for countries whose habitat consists of forest, but is irrelevant in countries with arid or semi-arid habitat (North Africa). Going forward, the World Economic Forum hopes to include a wider set of African countries in its sustainability-adjusted GCI and analysis in order to support such efforts in the future.

23 See World Economic Forum 2012, Chapter 1.2, for a more detailed description.

REFERENCES

Acemoglu, D., S. Johnson, and J. Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91: 1369–401.

——. 2002. "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Distribution of Income." *Quarterly Journal of Economics* 117 (4): 1231–94.

AfDB (African Development Bank). 2012. "Briefing Note 4: Africa's Demographic Trends." *Briefing Notes for AfDB's Long-Term Strategy.* Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/FINAL%20Briefing%20Note%204%20Africas%20Demographic%20Trends.pdf.

AfDB (African Development Bank), OECD (Organisation for Economic Co-operation and Development), UNDP (United Nations Development Programme), and UNECA (United Nations Economic Commission for Africa). 2012. *African Economic Outlook 2012,* May. Paris: OECD Publishing. Available at http://www.africaneconomicoutlook.org/en/.

Bilbao-Osorio, B., J. Blanke, R. Crotti, M. Drzeniek Hanouz, B. Fidanza, T. Geiger, C. Ko, and C. Serin. 2012. "Assessing the Sustainable Competitiveness of Nations." In *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum.

Browne, C., T. Geiger, and T. Gutknecht. 2012. "The Executive Opinion Survey: The Voice of the Business Community." In *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum. 69–78.

The Conference Board. 2013. *Total Economy Database,* January. Available at http://www.conference-board.org/data/economydatabase/.

Devajaran, S. and W. Fengler. 2012. "Is Africa's Recent Economic Growth Sustainable?" *Note de l'Ifri,* October. Paris and Brussels: Ifri (Institut français des relations internationales). Available at http://www.ifri.org/?page=contribution-detail&id=7349.

Easterly W. and R. Levine. 1997. "Africa's Growth Tragedy: Policies and Ethnic Divisions." *Quarterly Journal of Economics* CXII: 1203–50.

Gallup World Poll. Available at http://www.gallup.com/strategicconsulting/en-us/worldpoll.aspx.

ILO (International Labour Organization). 2013. *Global Employment Trends: Recovering from a Second Jobs Dip.* Geneva: ILO.

IMF (International Monetary Fund). 2012a. *Regional Economic Outlook: Sub-Saharan Africa: Sustaining Growth amid Global Uncertainty,* April. Available at http://www.imf.org/external/pubs/ft/reo/2012/afr/eng/sreo0412.pdf.

———. 2012b. *Regional Economic Outlook: Sub-Saharan Africa: Maintaining Growth in an Uncertain World,* October. Available at http://www.imf.org/external/pubs/ft/reo/2012/afr/eng/sreo1012.htm.

———. 2012c. *World Economic Outlook Database,* October edition. Available at http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx.

McKinsey Global Institute. 2010. *Lions on the Move: The Progress and Potential of African Economies.* Available at http://www.mckinsey.com/insights/mgi/research/productivity_competitiveness_and_growth/lions_on_the_move.

Rodrik, D., A. Subramanian, and F. Trebbi. 2002. "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development." Mimeo, Harvard University, October.

Sala-i-Martín, X. and A. Subramanian. 2003. "Addressing the Natural Resources Curse: An Illustration from Nigeria." *NBER Working Paper* No. 9804, June. Cambridge, MA: National Bureau of Economic Research.

UNDP (United Nations Development Programme). 2011. *Human Development Index 2011: Warnings for the Future.* New York: United Nations.

UNCTAD (United Nations Conference on Trade and Development). 2011. *Economic Development in Africa Report 2011: Fostering Industrial Development in Africa in the New Global Environment.* New York and Geneva: United Nations.

World Bank. 2012a. *Africa's Pulse: An Analysis of Issues Shaping Africa's Economic Future.* October. Washington, DC: World Bank. Available at http://siteresources.worldbank.org/INTAFRICA/Resources/Africas-Pulse-brochure_Vol6.pdf.

———. 2012b. *Africa Can Help Feed Africa: Removing Barriers to Regional Trade in Food Staples.* Washington, DC: World Bank. Available at http://siteresources.worldbank.org/INTAFRICA/Resources/Africa-Can-Feed-Africa-Report.pdf.

———. 2012c. *De-Fragmenting Africa: Deepening Regional Integration in Goods and Services.* Washington, DC: World Bank. Available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/03/000333038_20120503000714/Rendered/PDF/684900ESW0Whit00Box367921B00PUBLIC0.pdf.

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

———. 2012. *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum.

———. 2013. *The Global Information Technology Report 2013.* Geneva: World Economic Forum.

Appendix A: Computation and structure of the Global Competitiveness Index 2012–2013

This appendix presents the structure of the Global Competitiveness Index 2012–2013 (GCI). The numbering of the variables matches the numbering in the Competitiveness Profiles. The number preceding the period indicates to which pillar the variable belongs (e.g., variable **1.**11 belongs to the 1st pillar and variable **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 mentioned otherwise, we use an arithmetic mean to aggregate individual variables 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 9th pillar accounts for 17 percent of this country's score in the *efficiency enhancers* subindex, irrespective of the country's stage of development. Similarly, the score achieved on the subpillar *transport infrastructure* 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 20 percent of the overall GCI score of Sweden, a country in the third 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 Algeria, currently in transition from stage 1 to stage 2, the weight on each subindex is 59.1 percent, 35.7 percent, and 5.2 percent, respectively, as reported in Algeria's competitiveness profile on page 124.

Variables 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 How to Read the Competitiveness Profiles section provides detailed information about these indicators. To make the aggregation possible, these variables are transformed onto 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 "½" 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

1st pillar: Institutions 25%

A. Public institutions 75%

1. Property rights 20%
   - 1.01 Property rights
   - 1.02 Intellectual property protection½

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
   - 1.13 Provision of government services for improved business performance

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

B. Private institutions 25%

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

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

2nd pillar: Infrastructure.....25%

A. Transport infrastructure.....50%

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

B. Electricity and telephony infrastructure.....50%

2.07 Quality of electricity supply
2.08 Mobile telephone subscriptions½
2.09 Fixed telephone lines½

3rd pillar: Macroeconomic environment.....25%

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

4th pillar: Health and primary education.....25%

A. Health.....50%

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

B. Primary education.....50%

4.09 Quality of primary education
4.10 Primary education enrollment rate*

EFFICIENCY ENHANCERS

5th pillar: Higher education and training.....17%

A. Quantity of education.....33%

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

B. Quality of education.....33%

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

C. On-the-job training.....33%

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

6th pillar: Goods market efficiency.....17%

A. Competition.....67%

1. Domestic competition.....variable[h]

6.01 Intensity of local competition
6.02 Extent of market dominance
6.03 Effectiveness of anti-monopoly policy
6.04 Extent and effect of taxation½
6.05 Total tax rate*
6.06 Number of procedures required to start a business*[i]
6.07 Time required to start a business*[i]
6.08 Agricultural policy costs

2. Foreign competition.....variable[h]

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

B. Quality of demand conditions.....33%

6.15 Degree of customer orientation
6.16 Buyer sophistication

7th pillar: Labor market efficiency.....17%

A. Flexibility.....50%

7.01 Cooperation in labor-employer relations
7.02 Flexibility of wage determination
7.03 Hiring and firing practices
7.04 Redundancy costs*
6.04 Extent and effect of taxation½

B. Efficient use of talent.....50%

7.05 Pay and productivity
7.06 Reliance on professional management½
7.07 Brain drain
7.08 Female participation in labor force*

8th pillar: Financial market development.....17%

A. Efficiency.....50%

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

B. Trustworthiness and confidence.....50%

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

9th pillar: Technological readiness.....17%

A. Technological adoption.....50%

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

B. ICT use.....50%

9.04 Internet users*
9.05 Broadband Internet subscriptions*
9.06 Internet bandwidth*
9.07 Mobile broadband subscriptions*
2.08 Mobile telephone subscriptions*½
2.09 Fixed telephone lines½

10th pillar: Market size.....17%

A. Domestic market size.....75%

10.01 Domestic market size index*[k]

B. Foreign market size.....25%

10.02 Foreign market size index*[l]

INNOVATION AND SOPHISTICATION FACTORS

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
7.06 Reliance on professional management[½]

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[½]

NOTES

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

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

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

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

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

c Formally, we have:

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

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

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

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

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

e "n/appl." is used for economies where the railroad network totals less than 50 kilometers.

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 they have been classified as non-endemic by the World Health Organization (WHO).

h The *competition* subpillar is the weighted average of two components: *domestic competition* and *foreign competition*. In both components, the included variables 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 Variables 6.06 and 6.07 combine to form one single variable.

j For variable 6.14, imports as a percentage of GDP, we first apply a log-transformation and then a min-max transformation. This indicator was formerly numbered 10.04. It still enters the computation of the market size indexes (see note k).

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 of *The Global Competitiveness Report 2012–2013*.

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 of *The Global Competitiveness Report 2012–2013*.

Appendix B: Computation and structure of the sustainability-adjusted GCI

As described in the text, the two areas of sustainability—social and environmental—are treated as independent adjustments to each country's performance in the Global Competitiveness Index (GCI). The adjustment is calculated according to the following steps.

AGGREGATION

In the first step, the individual indicators in each area are normalized on a 1-to-7 scale and aggregated by averaging the normalized scores, such that a social sustainability score and an environmental sustainability score are calculated for each country.

In the second step, these scores are normalized again on a 0.8-to-1.2 scale,[a] which is based on the distribution of each of the two sustainability components. The purpose of this methodology is to reward the countries attaining a relatively good performance on the two sustainability components while penalizing those that register a poor performance. Applying this methodology corresponds to transforming actual averages into coefficients ranging from 0.8 to 1.2. For example, the worst performer on the social sustainability pillar obtains a score of 0.8 and the best performer a 1.2. The same calculation is conducted for the environmental sustainability pillar.

Normalizing on a 0.8-to-1.2 scale and using the actual sample maximum and minimum are corroborated by the statistical distribution of the data, so as to ensure that the final data are not skewed. In the absence of empirical evidence, the selection of the impact limits (0.8–1.2) relies on the best judgment of the authors and is based on the assumption that countries can experience either an opportunity if they manage their resources well or a weakness if they do not.

The selection of this methodology is not intended to be scientific, but it represents a normative approach aimed at stimulating discussions on policy priorities and possibly stimulating scientific research in this field.

In the third step, the GCI score of each country is multiplied twice: once by its social sustainability coefficient and once by its environmental sustainability coefficient, to obtain two separate sustainability-adjusted GCI scores. Finally, an average of the two scores provides an overall measure of the sustainability adjustment.

STRUCTURE OF THE SUSTAINABILITY PILLARS

The computation of the sustainability components is based on an arithmetic mean aggregation of scores from the indicator level.[b]

Variables that are not derived from the Executive Opinion Survey (the Survey) are identified by an asterisk (*) in the following pages. To make the aggregation possible, these variables are transformed into 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 marked with a "(log)" subscript are transformed applying the logarithm (base 10) to the raw score.

Social sustainability pillar

- S01 Income Gini index*
- S02 Youth unemployment*
- S03.01 Access to sanitation*[d] $_{(log)}$
- S03.02 Access to improved drinking water*[d]
- S03.03 Access to healthcare[d]
- S04 Social safety net protection
- S05 Extent of informal economy
- S06 Social mobility
- S07 Vulnerable employment*

Environmental sustainability pillar

- S08.01 Stringency of environmental regulation[e]
- S08.02 Enforcement of environmental regulation[e]
- S09 Terrestrial biome protection*
- S10 No. of ratified international environmental treaties*
- S11 Agricultural water intensity*
- S12 CO_2 intensity*$_{(log)}$
- S13 Fish stocks overexploited*$_{(log)}$
- S14.01 Forest cover change*[f]
- S14.02 Forest loss*[f] $_{(log)}$
- S15 Particulate matter (2.5) concentration*$_{(log)}$
- S16 Quality of the natural environment

NOTES

a Formally we have

$$0.4 \times \left(\frac{\text{country score} - \text{sample minimum}}{\text{sample maximum} - \text{sample minimum}} \right) + 0.8$$

The *sample minimum* and *sample maximum* are, respectively, the lowest and highest country scores in the sample of economies covered by the sustainability-adjusted GCI in each pillar.

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

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

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 sustainability-adjusted 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., CO_2 emission, income Gini index), 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 Variables S03.01, S03.02, and S03.03 are combined to form one single variable.

e Variables S08.01 and S08.02 are combined to form one single variable.

f Variables S14.01 and S14.02 are combined to form one single variable.

Appendix C: The Global Competitiveness Index 2012–2013: Africa and comparator economies, by subindex

			SUBINDEXES					
	GCI 2012–2013		Basic requirements		Efficiency enhancers		Innovation and sophistication factors	
Country/region	Rank	Score	Rank	Score	Rank	Score	Rank	Score
NORTH AFRICA								
Morocco	70	4.15	68	4.60	79	3.94	84	3.38
Egypt	107	3.73	110	3.91	101	3.67	96	3.31
Algeria	110	3.72	89	4.22	136	3.08	144	2.31
Libya	113	3.68	102	4.06	131	3.19	127	2.92
North African average		**3.82**		**4.20**		**3.47**		**2.98**
SUB-SAHARAN AFRICA								
South Africa	52	4.37	84	4.28	37	4.53	42	3.94
Mauritius	54	4.35	52	4.80	62	4.14	63	3.63
Rwanda	63	4.24	70	4.56	94	3.77	60	3.66
Seychelles	76	4.10	46	4.86	91	3.81	87	3.36
Botswana	79	4.06	78	4.38	89	3.82	82	3.40
Namibia	92	3.88	82	4.33	105	3.64	103	3.25
Gambia, The	98	3.83	103	4.01	114	3.54	54	3.74
Gabon	99	3.82	86	4.25	116	3.52	139	2.64
Zambia	102	3.80	108	3.92	108	3.61	67	3.57
Ghana	103	3.79	112	3.85	95	3.77	102	3.27
Kenya	106	3.75	123	3.62	76	3.97	56	3.68
Liberia	111	3.71	109	3.92	121	3.36	59	3.67
Cameroon	112	3.69	115	3.80	111	3.57	95	3.31
Nigeria	115	3.67	130	3.52	78	3.96	73	3.53
Senegal	117	3.66	120	3.68	106	3.63	65	3.59
Benin	119	3.61	113	3.83	125	3.31	111	3.12
Tanzania	120	3.60	122	3.65	113	3.55	92	3.32
Ethiopia	121	3.56	118	3.74	123	3.33	125	2.96
Cape Verde	122	3.55	100	4.08	128	3.22	119	3.01
Uganda	123	3.53	132	3.48	104	3.66	101	3.27
Mali	128	3.43	125	3.55	127	3.26	114	3.11
Malawi	129	3.38	135	3.40	120	3.37	109	3.16
Madagascar	130	3.38	129	3.52	132	3.18	115	3.08
Côte d'Ivoire	131	3.36	137	3.29	115	3.53	121	2.99
Zimbabwe	132	3.34	127	3.53	135	3.08	128	2.90
Burkina Faso	133	3.34	133	3.45	129	3.22	126	2.94
Mauritania	134	3.32	124	3.60	142	2.88	118	3.01
Swaziland	135	3.28	131	3.49	130	3.21	134	2.80
Lesotho	137	3.19	136	3.32	137	3.05	137	2.72
Mozambique	138	3.17	138	3.22	133	3.10	130	2.89
Chad	139	3.05	139	3.15	141	2.91	129	2.89
Guinea	141	2.90	143	2.80	134	3.10	132	2.82
Sierra Leone	143	2.82	144	2.77	140	2.94	138	2.69
Burundi	144	2.78	142	2.94	144	2.56	142	2.42
Sub-Saharan African Average		**3.57**		**3.72**		**3.44**		**3.19**
BRICs								
China	29	4.83	31	5.25	30	4.64	34	4.05
Brazil	48	4.40	73	4.49	38	4.52	39	3.97
India	59	4.32	85	4.26	39	4.48	43	3.94
Russian Federation	67	4.20	53	4.79	54	4.26	108	3.16
BRICs average		**4.44**		**4.70**		**4.48**		**3.78**
Latin America and the Caribbean average		**3.97**		**4.31**		**3.86**		**3.39**
Southeast Asian average		**4.46**		**4.82**		**4.24**		**3.83**

Appendix D: The Global Competitiveness Index 2012–2013: Africa and comparator economies, by pillar

			SUBINDEXES (1st–5th pillars)									
	OVERALL INDEX		1st pillar: Institutions		2nd pillar: Infrastructure		3rd pillar: Macroeconomic environment		4th pillar: Health and primary education		5th pillar: Higher education and training	
Country/Region	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
NORTH AFRICA												
Morocco	70	4.15	54	4.12	61	4.14	70	4.62	81	5.53	101	3.58
Egypt	107	3.73	96	3.56	83	3.61	138	3.12	94	5.35	109	3.32
Algeria	110	3.72	141	2.66	100	3.16	23	5.71	93	5.37	108	3.38
Libya	113	3.68	81	3.69	88	3.56	73	4.60	121	4.40	103	3.56
North African average		**3.82**		**3.51**		**3.62**		**4.51**		**5.16**		**3.46**
SUB-SAHARAN AFRICA												
South Africa	52	4.37	43	4.42	63	4.13	69	4.63	132	3.93	84	3.98
Mauritius	54	4.35	39	4.59	54	4.32	87	4.41	54	5.85	65	4.29
Rwanda	63	4.24	20	5.20	96	3.22	78	4.56	100	5.27	117	3.21
Seychelles	76	4.10	47	4.25	42	4.71	79	4.55	47	5.95	31	4.98
Botswana	79	4.06	33	4.82	87	3.58	81	4.52	114	4.60	95	3.74
Namibia	92	3.88	52	4.19	59	4.18	84	4.50	120	4.44	119	3.13
Gambia, The	98	3.83	35	4.67	82	3.61	129	3.58	126	4.17	94	3.77
Gabon	99	3.82	67	3.94	117	2.71	9	6.25	128	4.11	122	3.05
Zambia	102	3.80	56	4.09	111	2.85	67	4.65	129	4.11	121	3.07
Ghana	103	3.79	75	3.82	110	2.87	108	4.07	112	4.65	107	3.40
Kenya	106	3.75	106	3.43	103	3.09	133	3.39	115	4.58	100	3.59
Liberia	111	3.71	45	4.31	115	2.77	82	4.51	130	4.10	114	3.30
Cameroon	112	3.69	107	3.40	125	2.51	59	4.79	118	4.49	115	3.25
Nigeria	115	3.67	117	3.33	130	2.28	39	5.25	142	3.20	113	3.31
Senegal	117	3.66	90	3.60	124	2.51	92	4.37	125	4.23	116	3.23
Benin	119	3.61	99	3.51	122	2.56	76	4.57	111	4.68	120	3.07
Tanzania	120	3.60	86	3.62	132	2.27	107	4.12	113	4.60	132	2.71
Ethiopia	121	3.56	74	3.83	119	2.65	114	3.92	116	4.56	134	2.67
Cape Verde	122	3.55	57	4.07	114	2.80	121	3.80	71	5.66	99	3.65
Uganda	123	3.53	102	3.49	133	2.27	119	3.83	123	4.35	127	2.86
Mali	128	3.43	120	3.31	107	2.96	74	4.59	141	3.36	130	2.77
Malawi	129	3.38	76	3.82	135	2.19	136	3.30	124	4.30	129	2.81
Madagascar	130	3.38	136	2.94	137	2.13	95	4.33	110	4.68	133	2.67
Côte d'Ivoire	131	3.36	129	3.16	102	3.10	130	3.48	140	3.40	123	2.99
Zimbabwe	132	3.34	101	3.50	128	2.40	122	3.77	119	4.47	118	3.14
Burkina Faso	133	3.34	83	3.66	136	2.18	85	4.48	139	3.48	137	2.50
Mauritania	134	3.32	122	3.29	113	2.82	89	4.40	133	3.88	142	2.23
Swaziland	135	3.28	88	3.61	99	3.17	128	3.60	135	3.57	125	2.95
Lesotho	137	3.19	121	3.30	126	2.50	113	3.93	136	3.54	135	2.65
Mozambique	138	3.17	112	3.35	129	2.36	125	3.66	137	3.52	138	2.39
Chad	139	3.05	140	2.73	140	1.89	45	5.12	144	2.85	140	2.34
Guinea	141	2.90	128	3.18	142	1.86	142	2.63	138	3.52	136	2.60
Sierra Leone	143	2.82	95	3.56	138	2.09	143	2.47	143	2.95	141	2.30
Burundi	144	2.78	142	2.59	141	1.87	137	3.15	127	4.16	143	1.98
Sub-Saharan African average		**3.57**		**3.72**		**2.81**		**4.15**		**4.21**		**3.08**
BRICs												
China	29	4.83	50	4.22	48	4.46	11	6.22	35	6.11	62	4.32
Brazil	48	4.40	79	3.78	70	4.00	62	4.73	88	5.43	66	4.27
India	59	4.32	70	3.91	84	3.60	99	4.25	101	5.27	86	3.97
Russian Federation	67	4.20	133	3.09	47	4.52	22	5.80	65	5.75	52	4.59
BRICs average		**4.44**		**3.75**		**4.15**		**5.25**		**5.64**		**4.29**
Latin America and the Caribbean average		**3.97**		**3.52**		**3.60**		**4.66**		**5.45**		**3.98**
Southeast Asian average		**4.46**		**4.22**		**4.00**		**5.42**		**5.64**		**4.19**

	SUBINDEXES (6th–12th pillars)													
	6th pillar: Goods market efficiency		7th pillar: Labor market efficiency		8th pillar: Financial market development		9th pillar: Technological readiness		10th pillar: Market size		11th pillar: Business sophistication		12th pillar: Innovation	
Country/Region	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
NORTH AFRICA														
Morocco	69	4.27	122	3.84	63	4.12	75	3.71	57	4.11	81	3.80	97	2.95
Egypt	125	3.76	142	3.06	102	3.67	91	3.43	29	4.77	83	3.77	109	2.84
Algeria	143	2.99	144	2.79	142	2.39	133	2.59	49	4.34	144	2.54	141	2.09
Libya	137	3.45	137	3.46	140	2.68	110	3.11	102	2.86	116	3.35	129	2.50
North African average		**3.62**		**3.29**		**3.22**		**3.21**		**4.02**		**3.37**		**2.98**
SUB-SAHARAN AFRICA														
South Africa	32	4.68	113	3.94	3	5.72	62	4.01	25	4.85	38	4.34	42	3.55
Mauritius	27	4.80	70	4.38	35	4.65	63	3.98	109	2.74	41	4.30	98	2.95
Rwanda	39	4.54	11	5.10	49	4.44	113	3.04	128	2.28	70	3.91	51	3.40
Seychelles	70	4.27	48	4.54	94	3.79	66	3.88	142	1.38	87	3.74	93	2.98
Botswana	78	4.20	60	4.46	53	4.39	106	3.17	97	2.94	95	3.66	73	3.13
Namibia	87	4.16	74	4.33	47	4.45	104	3.23	120	2.57	102	3.57	101	2.93
Gambia, The	94	4.10	31	4.72	69	4.07	109	3.13	141	1.42	59	4.09	52	3.38
Gabon	126	3.73	63	4.43	106	3.62	86	3.53	110	2.74	141	2.93	136	2.35
Zambia	42	4.53	111	3.97	50	4.43	115	2.96	111	2.71	75	3.84	61	3.30
Ghana	76	4.20	97	4.08	59	4.21	108	3.13	70	3.57	101	3.57	95	2.96
Kenya	93	4.10	39	4.62	24	4.74	101	3.27	75	3.52	67	3.96	50	3.41
Liberia	40	4.54	61	4.45	74	4.03	132	2.62	144	1.24	62	3.99	54	3.34
Cameroon	89	4.15	58	4.48	105	3.64	126	2.73	87	3.18	104	3.52	79	3.09
Nigeria	88	4.16	55	4.50	68	4.07	112	3.08	33	4.63	66	3.96	78	3.10
Senegal	77	4.20	80	4.27	84	3.89	95	3.37	105	2.83	72	3.89	62	3.29
Benin	132	3.66	67	4.40	112	3.55	124	2.75	122	2.45	125	3.23	84	3.01
Tanzania	110	3.89	47	4.55	85	3.87	122	2.77	77	3.50	106	3.51	75	3.12
Ethiopia	120	3.79	87	4.18	129	3.24	140	2.48	66	3.64	129	3.18	114	2.73
Cape Verde	105	3.93	126	3.72	121	3.37	90	3.43	143	1.25	118	3.34	120	2.68
Uganda	103	3.95	23	4.83	62	4.14	117	2.93	85	3.22	105	3.52	82	3.02
Mali	111	3.87	118	3.89	113	3.53	119	2.90	118	2.57	126	3.22	88	2.99
Malawi	112	3.86	43	4.58	75	4.00	134	2.54	123	2.41	115	3.38	99	2.94
Madagascar	115	3.84	54	4.50	138	2.88	135	2.54	113	2.66	122	3.28	106	2.88
Côte d'Ivoire	122	3.78	71	4.38	103	3.65	99	3.32	94	3.05	123	3.28	115	2.71
Zimbabwe	133	3.63	139	3.40	109	3.60	120	2.83	135	1.90	128	3.21	127	2.59
Burkina Faso	118	3.80	64	4.42	117	3.43	137	2.52	114	2.64	140	3.01	107	2.87
Mauritania	135	3.58	131	3.60	136	3.04	123	2.75	131	2.07	117	3.35	121	2.68
Swaziland	107	3.92	119	3.87	89	3.82	128	2.69	133	2.00	124	3.26	137	2.33
Lesotho	102	3.97	116	3.92	122	3.36	136	2.53	136	1.86	135	3.11	138	2.33
Mozambique	124	3.77	128	3.72	134	3.09	121	2.80	101	2.86	131	3.14	122	2.63
Chad	141	3.08	95	4.12	137	3.01	143	2.23	112	2.70	138	3.04	113	2.74
Guinea	127	3.71	56	4.49	135	3.07	142	2.45	129	2.27	139	3.03	125	2.62
Sierra Leone	116	3.84	114	3.92	125	3.34	141	2.46	138	1.76	136	3.10	139	2.27
Burundi	139	3.28	112	3.97	144	2.31	144	2.22	140	1.57	143	2.67	140	2.17
Sub-Saharan African average		**3.98**		**4.26**		**3.78**		**2.95**		**2.62**		**3.47**		**2.90**
BRICs														
China	59	4.31	41	4.60	54	4.31	88	3.50	2	6.82	45	4.25	33	3.85
Brazil	104	3.94	69	4.39	46	4.45	48	4.43	9	5.63	33	4.51	49	3.42
India	75	4.21	82	4.24	21	4.90	96	3.36	3	6.24	40	4.31	41	3.56
Russian Federation	134	3.62	84	4.23	130	3.19	57	4.13	7	5.76	119	3.31	85	3.01
BRICs average		**4.02**		**4.37**		**4.21**		**3.86**		**6.11**		**4.10**		**3.46**
Latin America and the Caribbean average		**3.98**		**4.01**		**3.94**		**3.71**		**3.52**		**3.83**		**2.96**
Southeast Asian average		**4.47**		**4.61**		**4.33**		**3.82**		**4.03**		**4.16**		**3.50**

Part 2

Connecting Africa's Markets in a Sustainable Way

CHAPTER 2.1

Enabling African Trade: Findings from the Enabling Trade Index

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World Economic Forum

African countries have registered high growth rates in the past 10 years and have weathered the global economic crisis rather favorably compared with other emerging economies. Yet, as discussed in Chapter 1.1, the level of gross domestic product (GDP) per capita and the pace of GDP growth have not reached levels found in other regions, such as developing Asia. From 2002 to 2012, GDP growth in developing Asia was on average 8.5 percent, while sub-Saharan Africa experienced growth rates of 5.7 percent.[1] A key difference between these two regions is their participation in global trade and investment flows. While trade in developing Asia more than doubled between 1995 and 2010, trade in sub-Saharan Africa over the same period remained at below 2 percent of total world trade.[2] Two distinct observations are of particular importance when discussing Africa's trade performance: the export base of most countries is undiversified, and regional integration is extremely low.

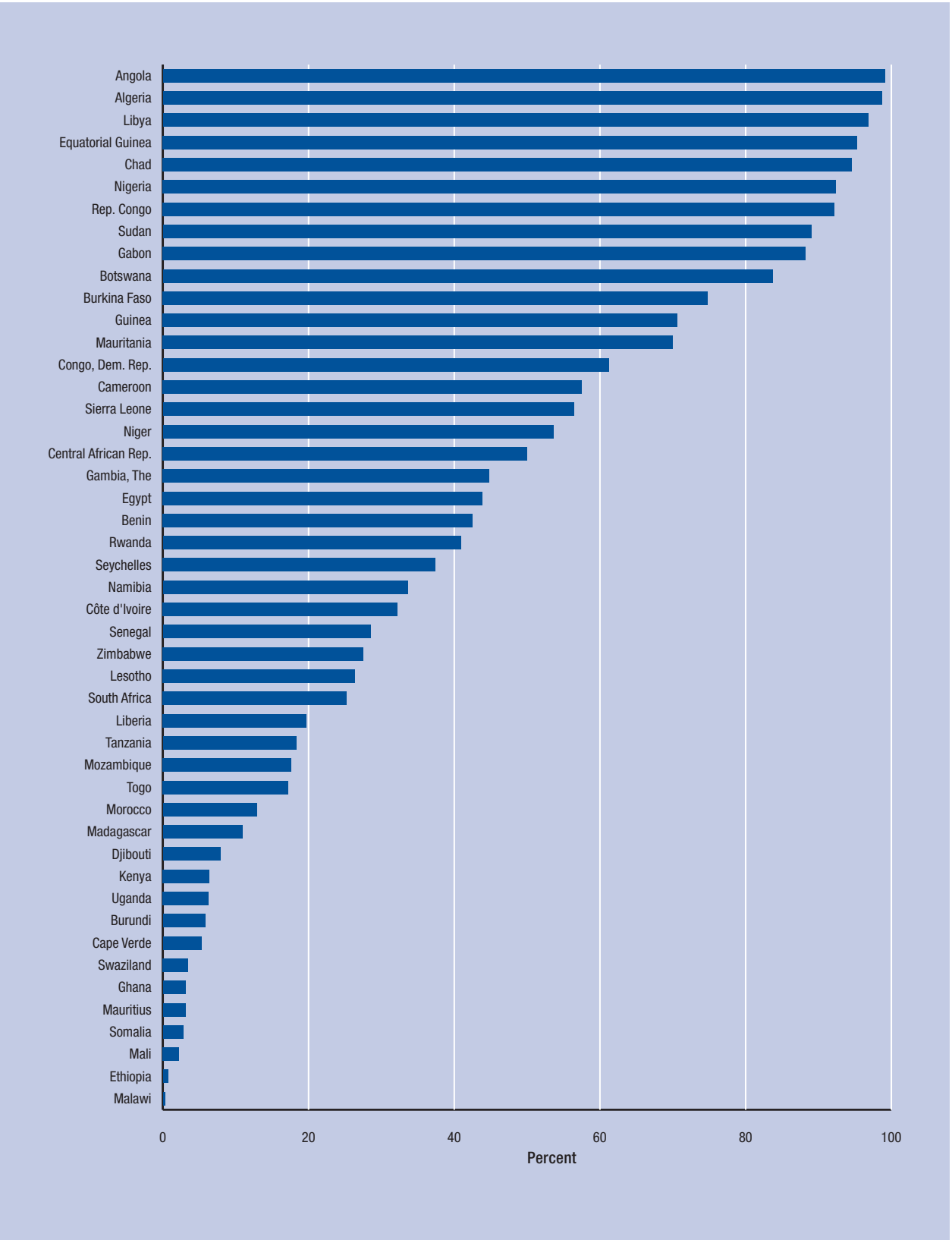
THE STATE OF AFRICAN EXPORTS

Despite efforts aimed at diversifying the export base, African exports remain highly focused on commodities. Fuels and mining products account for over half of sub-Saharan exports, compared with only about 10 percent for developing Asia and advanced economies. Indeed, when broken down to the country level, the share of mineral products accounts for more than 30 percent of total exports in more than half of all African economies, and for over 90 percent in a few cases (see Figure 1).[3] High dependence on commodity exports means that terms of trade fluctuate with commodity prices, which may have a negative effect on the country's growth. Government finances also fluctuate with commodity prices, possibly jeopardizing governments' fiscal stability and leeway. In sub-Saharan Africa alone, for example, 10 economies are fiscally dependent on natural resources.[4] In contrast, another set of countries—including Burundi, Côte d'Ivoire, Ethiopia, and Malawi—are highly dependent on agricultural exports (see Figure 2). Against this backdrop, export diversification—both in goods and services and also across geographies—is key to raising Africa's resilience to external shocks.

Many regional trading initiatives have been launched on the continent over the last several decades, yet Africa's markets remain poorly connected with each other. The share of Africa's intra-regional goods trade in total goods exports is just 12 percent, compared with 25 percent in the Association of Southeast Asian Nations, 65 percent in the European Union, and 49 percent in the North American Free Trade Agreement bloc in 2011,[5] although these estimates probably underreport the actual volume of trade because of the high levels of unregistered cross-border activity. Survey results suggest that informal border flows may comprise up to 90 percent of trade.[6]

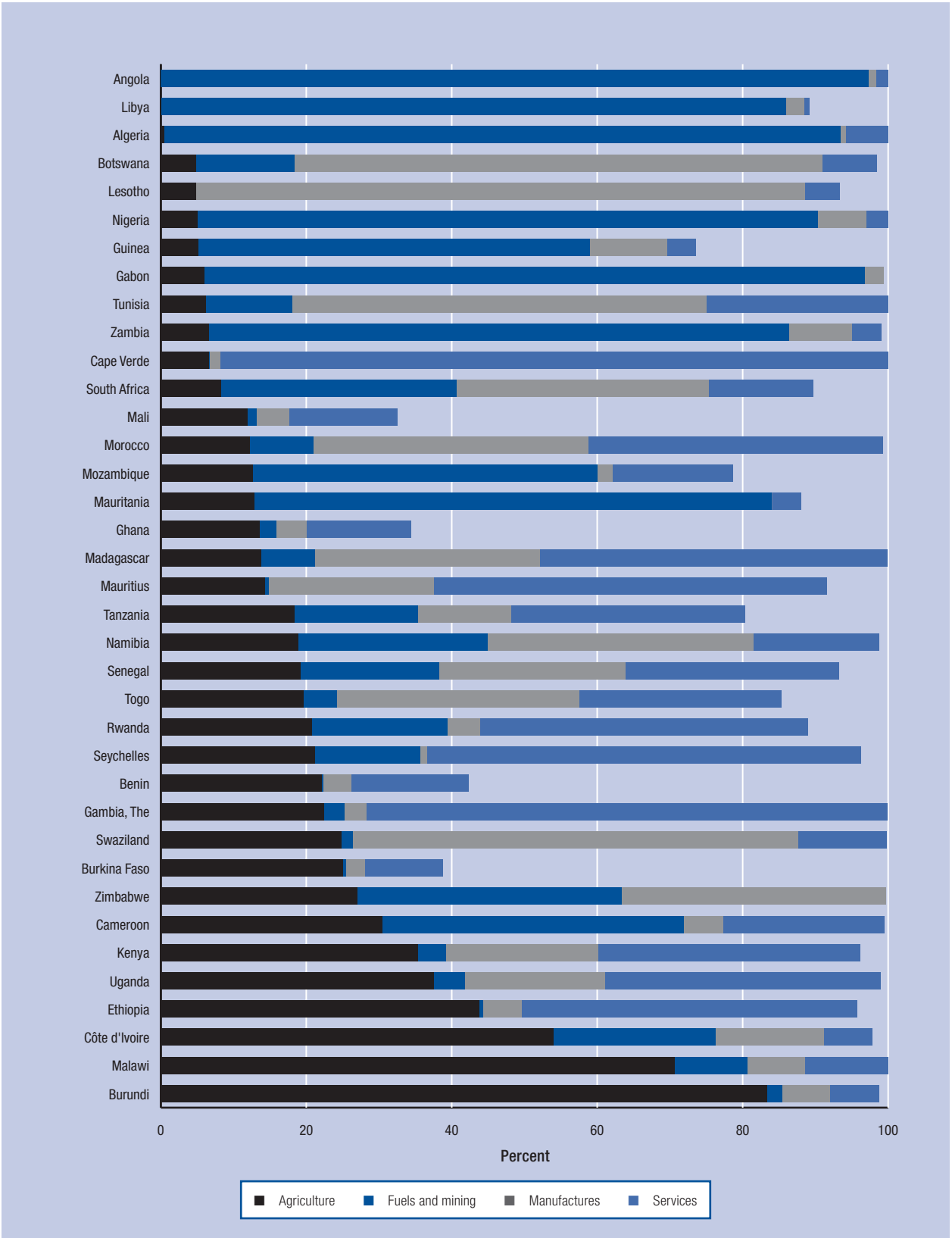
Finally, regional integration is closely linked to food security and poverty reduction. Because of their

Figure 1: Exports of mineral products as a share of total exports, 2006–10 average



Source: ITC, April 2012.

Figure 2: Export share in total exports by category, 2010



Source: Authors' calculations, based on data from the World Trade Organization's *Statistical Database, Time Series on Merchandise and Commercial Services 2000–2011.*

Notes: Chad, Liberia, and Sierra Leone do not report data on their merchandise breakdown. Note that the sum of shares does not necessarily add up to 100 because the world total merchandise trade includes other commodities and transactions that are not part of the three main commodity groups—agriculture, fuels and mining, and manufacturing. These commodities are gold, arms and ammunition, and commodities and transactions not classified elsewhere (following the United Nations Statistics Division standard international trade classification (SITC) Rev.3, section 9). Chad, Liberia, and Sierra Leone do not report data on their merchandise breakdown. Data in Figure 2 may not exactly match Figure 1. For example, more than two-thirds of exports in Botswana are pearls and precious stones, classified as mineral exports in Figure 1 and manufactures in Figure 2.

Box 1: Priorities for deepening regional trade integration in Africa

Although Africa's exports have grown significantly over the past decade and its trade has started to recover from the global financial crisis, the impact of this growth on unemployment and poverty has been disappointing for many African countries. This situation reflects export growth that is typically fueled by a limited number of mineral and primary commodities that have only narrow impacts on the wider economy, and formal sectors that remain small.

The key trade objectives for Africa, therefore, are to diversify the export base and to implement policies that allow more people to benefit from trade. Increasing and more youthful populations heighten the need for more inclusive and employment-intensive trade and offer a real opportunity for Africa to harness a significant potential comparative advantage that can drive productivity growth over a sustained period.

Effective regional integration in Africa would play a key role in delivering more diverse, inclusive, and sustained trade growth. With African leaders now calling for a continental free trade area by 2017 to boost trade and investment, a recent World Bank report shows that countries are losing out on billions of dollars in potential trade every year because of high trade barriers with their own neighbors, and that it is often easier for Africa to trade with the rest of the world than with itself.[1] According to the report *De-Fragmenting Africa: Deepening Regional Trade Integration in Goods and Services*, there are enormous opportunities for increased cross-border trade in food products, basic manufactures, and services and for a larger regional market to provide a springboard to global competitiveness in a wider range of products to reach a larger number of markets. However, these benefits are not being realized because the regional market is fragmented and cross-border production networks that have spurred economic dynamism in other regions, especially East Asia, have yet to materialize in Africa.

To reduce fragmentation, three main changes are needed:

- *Improve conditions for cross-border trade,* especially those faced by small traders—many of whom are women—by simplifying border procedures, limiting the number of agencies at the border, and increasing the professionalism of officials.
- *Remove non-tariff barriers to trade* such as restrictive rules of origin, import and export bans, and onerous and costly trade-licensing procedures.
- *Streamline regulations and immigration rules* that limit the potential for cross-border trade and investment in both goods and services.

Regional integration is a core element in both the World Bank's Africa Strategy and its Trade Strategy, which are designed to help countries create trade opportunities for their transformation and sustained growth. The World Bank doubled its support for regional integration from US$2.1 billion in 2008 to US$4.2 billion in 2011, and increased it further to US$5.7 billion in 2012.

Source: Contributed by the World Bank, International Trade Department.

Note

1 World Bank 2012.

high transaction costs and consequent low regional integration, African economies import agricultural products from global markets instead of from within their own regions. Indeed, according to a recent World Bank report, African farmers produce a mere 5 percent of Africa's cereal imports.[7] With the market of food staples and production estimated at US$50 billion per year, or three-quarters of the total agricultural output, this means that enormous growth opportunities remain unexploited.[8] This large share of non-African staple imports exposes African economies to volatile food prices. This exposure not only affects the income of the poor, who need to spend a higher income share on basic food supply, but also adversely affects macroeconomic stability through rising inflation, as was seen in East Africa in 2011 and early 2012. Furthermore, because they are small buyers, most African economies have only limited bargaining power to negotiate prices on a global scale. Regional integration is, thus, key to feeding Africa's growing population in a sustained fashion by facilitating trade from food-abundant areas to areas with a food deficit.

AFRICA'S POOR REGIONAL INTEGRATION: CAUSES AND PRIORITIES

In view of the benefits to be had, why is Africa's regional integration so poor? The reasons are complex and many. Historically, most countries have been geared toward trade with developed economies. Policies, measures, and investments were often focused on improving access to developed-country markets because of the high demand in those countries. At the same time, regional integration efforts on the continent were usually not fully implemented, so many barriers between regional markets remain in place.[9] One factor, as discussed in subsequent chapters in this *Report,* is Africa's pronounced infrastructure deficit, which is particularly pertinent for connecting markets within Africa (see Chapter 2.2 for a more detailed discussion).

Trade policies, as well as the institutional and regulatory environment, also need to be taken into account. World Bank data show that in sub-Saharan Africa it takes an average of 37 days to import goods and 31 days to export, compared with less than 20 days to export and to import in North Africa, Latin America, and Southeast Asia. The problem is even more pronounced for landlocked Africa, where it takes an average of almost 50 days to import and 40 days to export.[10] Other factors, such as border corruption and multiple road blocks, are a further impediment. For example, a truck driver on the Koutiala–Dakar corridor between Mali and Senegal has to pass through almost 100 checkpoints and border posts and is required to pay about US$437 in bribes along the route.[11] In Mali, on the Bamako–Ouagadougou route, every 100 kilometers drivers have to face about 4.5 checkpoints and have to pay about US$25 in bribes.[12] Furthermore, non-tariff measures (NTMs) in the form of quotas,

charges, discriminatory labeling, and health and sanitary regulations play an important role in undermining trade the region. Although data on NTMs are generally scarce, a recent study by the World Bank puts a price tag to their costs and shows that NTMs affected one-fifth of regional exports, or US$3.3 billion of regional trade in 2008 in Southern African Development Community (SADC) countries. Assuming that NTMs are equivalent to a 40 percent ad valorem tariff, this amounts to an estimated cost of US$1.3 billion per year.[13] Finally, crossing borders does not affect only goods and services, but also people. The lack of physical security when crossing borders, for instance, plays a critical role, particularly for women traders in the Great Lake region.

The following analysis of the results of the Enabling Trade Index (ETI) sheds additional light on the key barriers that prevent Africa from reaping the full benefits of international trade. Although the ETI does not permit an analysis of barriers to regional integration, it does indicate the barriers and enablers that exporters and importers in each country face, and thereby informs policy choices. Box 1 complements the analysis by identifying priority action areas that have been identified by the World Bank for enhancing regional integration.

USE OF *THE GLOBAL ENABLING TRADE REPORT*

The Global Enabling Trade Report (GETR) has become a widely used reference since its introduction in 2008. It forms part of the toolbox of many countries in their efforts to increase trade, and it helps companies with their investment decisions. The *Report* is also the basis for many high-level public-private dialogues facilitated around the world each year by the World Economic Forum. These dialogues focus on practical steps that can be taken by both governments and the private sector to overcome particular trade barriers in a country or region. In building a coalition for change, it has become evident that establishing an "open borders" mindset in a joint and holistic effort to tackle obstacles to the movement of both goods and people is often the most effective approach.

THE ENABLING TRADE INDEX

The ETI was developed within the context of the World Economic Forum's Industry Partnership Programme for the Supply Chain and Transport Industry, and was first published in the 2008 GETR. A number of Data Partners have collaborated in this effort: the Global Express Association (GEA), the International Air Transport Association (IATA), the International Trade Centre (ITC), the United Nations Conference on Trade and Development (UNCTAD), The World Bank, the World Customs Organization (WCO), and the World Trade Organization (WTO). We have also received significant input from companies that are part of this industry partnership program, namely Agility, Brightstar, Deutsche Post DHL, DNB Bank ASA, FedEx Corp., A.P. Möller Maersk, the Panama Canal Authority, Royal Vopak, Stena AB, Swiss International Air Lines, Transnet, UPS, Volkswagen, and AB Volvo.

The ETI measures the extent to which individual economies have developed *institutions, policies, and services facilitating the free flow of goods over borders and to destination.*[14] The structure of the Index reflects the main enablers of trade, breaking them into four overall issue areas, captured in the subindexes:

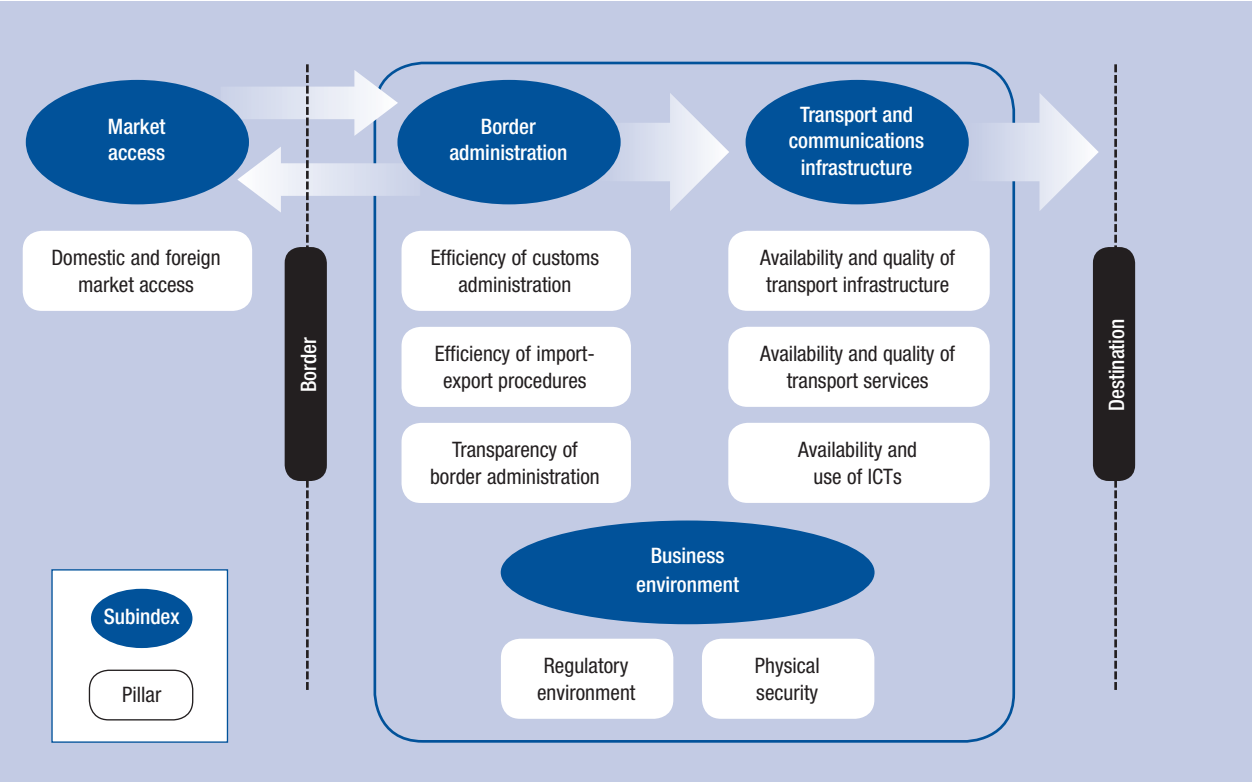
1. The *market access subindex* measures the extent to which the policy framework of the country allows foreign goods into the economy and enables access to foreign markets for its exporters.
2. The *border administration subindex* assesses the extent to which the administration at the border facilitates the entry and exit of goods.
3. The *transport and communications infrastructure subindex* takes into account whether the country has in place the transport and communications infrastructure necessary to facilitate the movement of goods within the country and across the border.
4. The *business environment subindex* looks at the quality of governance as well as at the overarching regulatory and security environment impacting the business of importers and exporters active in the country.

Each of these four subindexes is composed in turn of a number of pillars of enabling trade, of which there are nine in all. These are:

1. *Domestic and foreign market access*
2. *Efficiency of customs administration*
3. *Efficiency of import-export procedures*
4. *Transparency of border administration*
5. *Availability and quality of transport infrastructure*
6. *Availability and quality of transport services*
7. *Availability and use of ICTs*
8. *Regulatory environment*
9. *Physical security*

Each of these pillars is made up of a number of individual variables. The dataset includes both hard data and survey data from the World Economic Forum's Executive Opinion Survey (the Survey). The hard data were obtained from publicly available sources and international organizations active in the area of trade (such as IATA, the ITC, the International Telecommunication Union (ITU), UNCTAD, the UN, and the World Bank). The Survey is carried out annually by the World Economic Forum in all economies covered by our research.[15] It captures the views of top business executives on the business environment and provides unique data on many qualitative aspects of the broader

Figure 3: Composition of the four subindexes of the ETI



Source: World Economic Forum, 2012b.

business environment, including a number of specific issues related to trade. For detailed descriptions of all the indicators included in the ETI, please see Appendix C.

The nine pillars are grouped into the four subindexes described above,[16] as shown in Figure 3, and the overall score for each country is derived as an unweighted average of the subindexes.[17] The details of the composition of the ETI are shown in Appendix A. It is important to note that, although the pillars are separated out in the Index for presentational purposes, they are intrinsically linked. For example, the regulatory environment is linked to transparency at the border and the availability of transport services, as it contains data on the level of competition in a country. Furthermore, the use of ICTs has an impact on the efficiency of border administration, as ICTs have proven instrumental for making border clearance more efficient.

As econometric tests of the ETI 2009 demonstrated, the ETI has explanatory power with respect to a country's trade performance.[18] The analysis has shown that a 1 percent increase in the ETI score in an exporting country is associated with an increase of 1.7 percent in that country's exports. This effect is even higher with respect to an importing country: the model predicts that a 1 percent improvement in an importer's ETI score would lead to a 2.3 percent rise in imports. Taken together, these two effects predict that a 1 percent increase in the *average* ETI score of any given country pair would be associated with a 4 percent increase in bilateral trade, all else being equal.

Country coverage

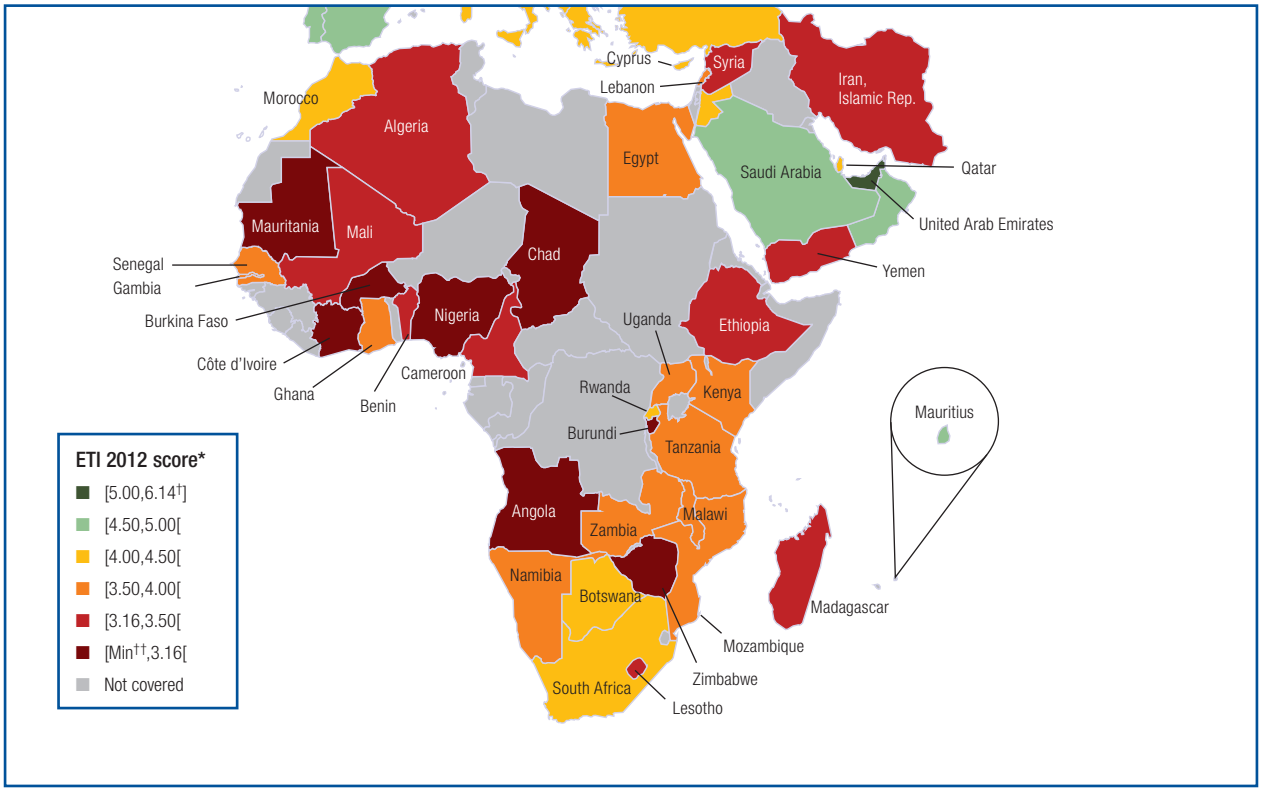
Overall, the 2012 edition of the GETR covers 132 economies and 31 African countries, of which three are in North Africa. In an effort to expand country coverage, two new African countries were added to the Index (Angola and Rwanda) as new data became available. Although Tunisia was covered in the GETR 2012, it was excluded from *The Global Competitiveness Report 2012–2013* because of a structural break in the data. To remain consistent with this decision, we do not report or discuss data on Tunisia in this chapter. As Libya was not covered in the ETI 2012 because of lack of data, the North Africa average reported below is composed of three countries out of the five that make up the region. The selected North African countries account for 60 percent of total merchandise trade in the subregion.

Results by subregion and selected countries

Figure 4 shows the ETI results for Africa on a map of the continent. It illustrates the varying ability of countries across the African continent to enable trade, and shows the results for some European and Middle Eastern countries for comparison.

Table 1 shows the ETI results—both ranks and scores—for the 2012 and 2010 editions. The middle column further shows the 2012 rank based on the

Figure 4: The ETI framework: Map of Africa



Source: World Economic Forum, 2012b.
* The interval [*x*,*y*[is inclusive of *x* but exclusive of *y*. †Highest value; ††lowest value.

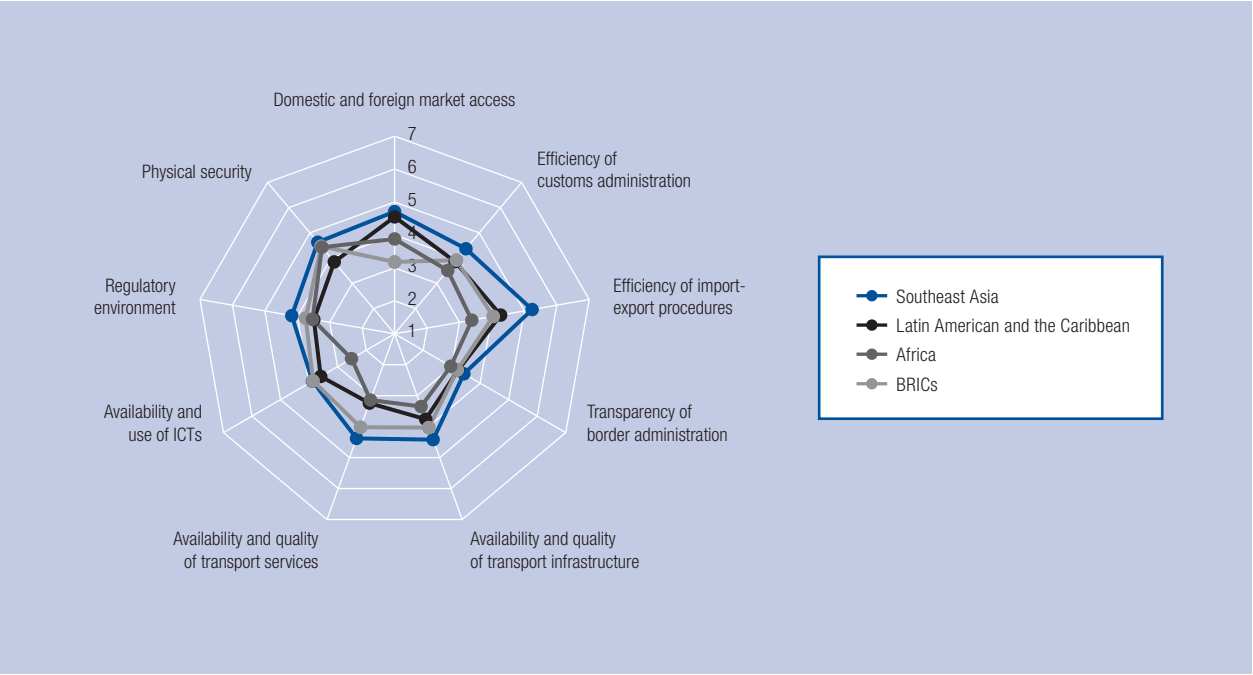
2010 constant sample. In the 2012 edition of the GETR, Mauritius (36th), Rwanda (51st), Botswana (54th), South Africa (63rd), and Morocco (64th) emerge as the best performers within the region out of 132 economies covered by the *Report* (see Table 1). However, Mauritius declines by three places in 2012, following slight falls across all four subindexes. Botswana stays constant, whereas South Africa and Morocco move up by 10 and 12 positions, respectively, considering the constant sample. In South Africa, the improvement is mainly attributable to better transport services and a higher level of physical security.[19] Furthermore, Morocco improves by 12 places, based on more efficient handling of import-export procedures than in previous years, as well as more transparent border administration and improvements in the availability and quality of transport infrastructure and in the regulatory environment.[20] Overall, these three countries have made great strides toward enabling trade, and their results on the aggregate ETI indicator reach levels close to those found in European countries, above the majority of BRIC economies.

However, Africa is also home to some of the weakest performers in terms of enabling trade, such as Chad or Burundi, which occupy the last two positions in the ETI sample. A comparison of the trends shows that, for the majority of African countries covered, the performance in the ETI has deteriorated. Overall, although the three North African countries perform on average somewhat better than their sub-Saharan neighbors (with a score of 3.7, versus 3.5 for the latter), the spread in performance is as important in North Africa as it is in sub-Saharan Africa (ranging from Morocco at 64th to Algeria at 120th). North Africa performs in line with the average of the BRIC economies and those in the Latin American region in terms of enabling trade, but has not yet achieved the level of Southeast Asia. Southeast Asia has been very successful in facilitating trade and promoting regional integration, which is reflected in the good ETI results achieved by this region.

The comparison of Africa with Southeast Asia and Latin America and the Caribbean in Figure 5 shows that, although the region underperforms both comparators on the majority of the ETI pillars, it is doing relatively well in terms of physical security, where it reaches the level found in Southeast Asia, and the regulatory environment, where it performs at the level of Latin America and the Caribbean. A number of African countries achieve good scores on this indicator: for example, Senegal ranks 38th, Botswana 39th, and Rwanda 15th. At the same time, the gaps are the largest in the efficiency of import-export procedures and the availability and use of ICTs, where Africa performs significantly less well than the other regions.

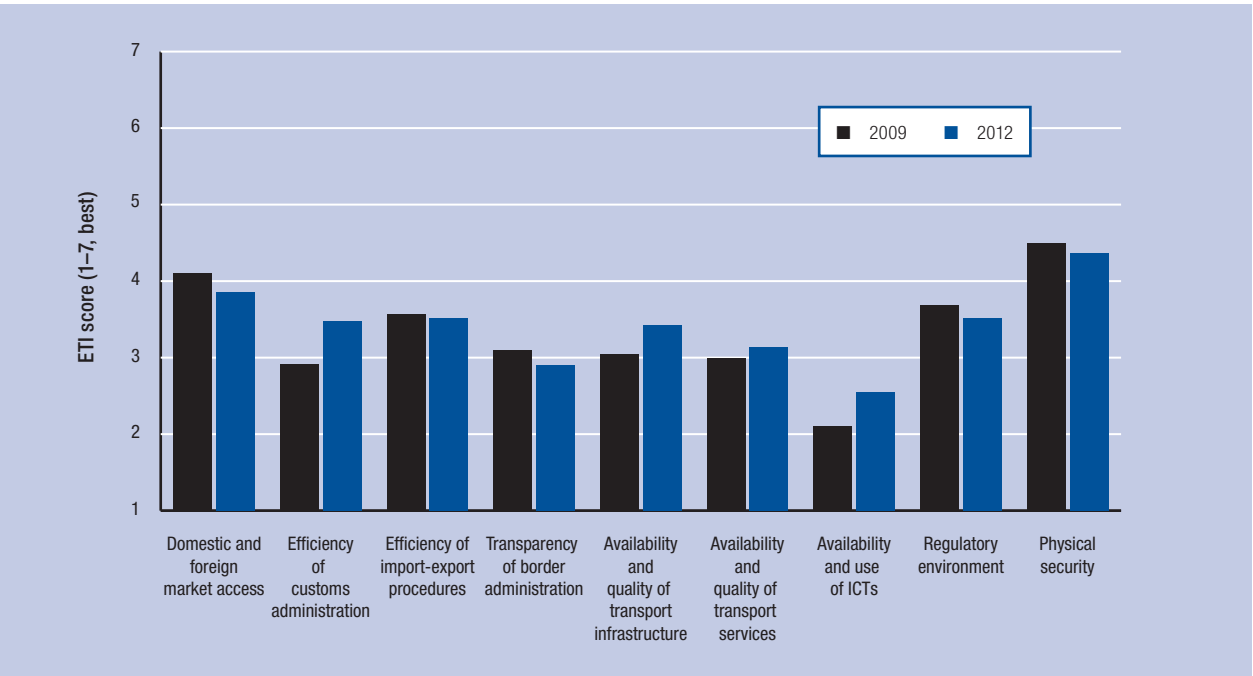
Figure 6 offers yet another view of Africa's performance in the ETI by comparing the region's

Figure 5: Africa's performance in regional comparison



Source: World Economic Forum, 2012b.
Notes: Performance on the ETI is measured by scores on a scale of 1 to 7, with 7 being best. BRIC countries are Brazil, Russian Federation, India, and China.

Figure 6: Africa's performance over time



Source: World Economic Forum, 2012b.
Note: The constant sample includes the following economies: Algeria, Benin, Burkina Faso, Burundi, Cameroon, Chad, Côte d'Ivoire, Egypt, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Tunisia, Uganda, Zambia, and Zimbabwe.

Table 1: The Enabling Trade Index 2012 rankings and 2010 comparison

	ETI 2012			ETI 2010	
Country/Economy or region	Rank/132	Score	Constant sample rank 2012	Rank*	Score
Mauritius	36	4.6	36	33	4.7
Rwanda	51	4.3	n/a	n/a	n/a
Botswana	54	4.3	53	53	4.2
South Africa	63	4.1	62	72	3.9
Morocco	64	4.1	63	75	3.9
Namibia	75	3.9	74	70	4.0
Malawi	85	3.8	83	83	3.8
Zambia	88	3.8	86	85	3.8
Egypt	90	3.8	88	76	3.9
Gambia, The	91	3.7	89	82	3.8
Senegal	92	3.7	90	90	3.7
Tanzania	94	3.7	91	97	3.6
Mozambique	97	3.7	94	93	3.7
Uganda	98	3.6	95	94	3.7
Ghana	99	3.6	96	96	3.6
Kenya	103	3.5	100	105	3.5
Ethiopia	106	3.5	103	107	3.5
Madagascar	107	3.5	104	86	3.8
Lesotho	113	3.4	110	101	3.6
Benin	115	3.4	112	106	3.5
Cameroon	118	3.3	114	115	3.3
Algeria	120	3.2	115	119	3.1
Mali	121	3.2	116	111	3.4
Burkina Faso	122	3.1	117	110	3.4
Nigeria	123	3.1	118	120	3.1
Mauritania	125	3.1	120	117	3.3
Côte d'Ivoire	126	3.0	121	123	2.9
Angola	127	3.0	n/a	n/a	n/a
Zimbabwe	129	3.0	122	122	3.0
Burundi	131	2.9	124	125	2.8
Chad	132	2.6	125	124	2.9
African average		**3.5**			
North Africa		**3.7**			
Sub-Saharan Africa		**3.5**			
Latin America and the Caribbean		**3.9**			
Southeast Asia		**4.4**			

Sources: World Economic Forum, 2010, 2012b.
Notes: Latin America and the Caribbean countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela; North African countries: Algeria, Egypt, Morocco; Southeast Asian countries: Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam; sub-Saharan African countries: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Chad, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.
* The 2010 rank is out of 125 countries. Seven new countries were added to the 2012 Index: Angola, Haiti, Iran, Lebanon, Moldova, Rwanda, and Yemen.

performance between 2009 and 2012. Here it is noteworthy that Africa's overall performance in the market access pillar has slightly deteriorated, whereas improvements have been made in the efficiency of customs administration, transport infrastructure, and ICTs, albeit the latter from a very low base. The comparison over time further reveals that, when it comes to border administration, the efficiency of customs administration has improved but progress in the efficiency of import-export procedures and transparency of border administration has stalled—despite Africa's fairly low score on these two pillars.

Analysis by subindex and pillar

Figure 7 shows the spread in performance across African countries on all nine pillars of the ETI and details the performance of comparators as well as the subregional groups of sub-Saharan Africa, North Africa, and landlocked countries from the region.

Box 2: Customs reform through increased visibility: Individual performance contracts in Cameroon

Outdated and bureaucratic border clearance processes imposed by customs and other agencies are increasingly seen as posing greater barriers to trade than tariffs do. Cumbersome systems and procedures and poor infrastructure both increase transaction costs and lengthen delays for the clearance of imports, exports, and transit goods, with negative impacts on competitiveness. This is especially true in poor countries, and in Africa the difficulties are particularly severe, with excessive physical inspections being a major source of delays. Countries confront a deep dilemma between facilitating trade and securing control, particularly because their need for customs revenue is still significant.

This scenario has been changing recently, with many African governments adopting major reforms in their border management systems. Among these efforts, the case of Cameroon Customs is one of the most interesting: the agency has undertaken a challenging strategy that relies on technology and improvements in visibility, ensuring a double continuity through visualized performance measurement and human resource management based on the measured performance.

Cameroon's customs administration has suffered from corruption and struggled to identify options for improving governance. A customs reform program was introduced that sought to reduce corruption while simultaneously raising revenue collection and facilitating trade. The reform included the installation of ASYCUDA++ (an automated customs clearance system) that would enable the administration not only to track the processing of each consignment, but also to measure performance against a number of criteria relevant to the reform.

With the support of the Trade Facilitation Facility,[1] these efforts have continued with the introduction in 2009 of individual performance contracts, making Cameroon the first country in the world to adopt such an approach. These performance contracts use objective and quantifiable performance data from the automated computer system. The objectives of customs administration (facilitation and enforcement) are complemented by specific objectives that aim at abolishing bad practices. With this mechanism, individual customs officers as well as their managers have become aware of their performance data vis-à-vis those of other colleagues, and they receive rewards or sanctions as a result of their performance.

The activity has far achieved several significant outcomes since the start of its implementation:

- Processing time for customs declaration at Douala Port I by customs officers dropped from about 11 hours in 2010 to 2 hours in the third trimester of 2011.
- Customs revenues increased by 22 percent from the first trimester of 2010 to the first trimester of 2011, while growth of activity during the same period was 17 percent.
- An increase in the average revenues per customs declaration was recorded: revenues increased by more than 6.9 billion CFA francs (about US$17.25 million) in 2011, all other things being equal.
- Possibly suspicious practices have been drastically reduced: notably, reroutings (manually changing the control channel from the one selected by the automated system to the other—for example, document verification to physical inspection) fell from 5 percent of the total number of declarations in 2009 to 1.6 percent in 2010 (in Douala Port I).

The activity catalyzes the following positive initiatives:

- The concept of performance-linked treatment is being applied to declarants/economic operators. Performance-contracted importers enjoy a trade facilitation environment: for example, a shorter port dwell time that is 4 days shorter than the average 19 days.
- Performance contracts have had a major impact on importers and are creating the start of a virtuous circle between customs brokers and importers. For successful importers (those who reached the agreed performance targets), performance contracts have been the starting point of revising internal procedures for the clearing processes.
- The culture of collecting and monitoring performance indicators is increasingly accepted. Institutional performance data are becoming publicly available. Stakeholder dialogues are being based on objective data, and the progress and achievements of efforts become publically accountable.
- Several countries, such as Benin and Togo, are following Cameroon's successful approach to customs reform.

Source: Contributed by the World Bank, International Trade Department.

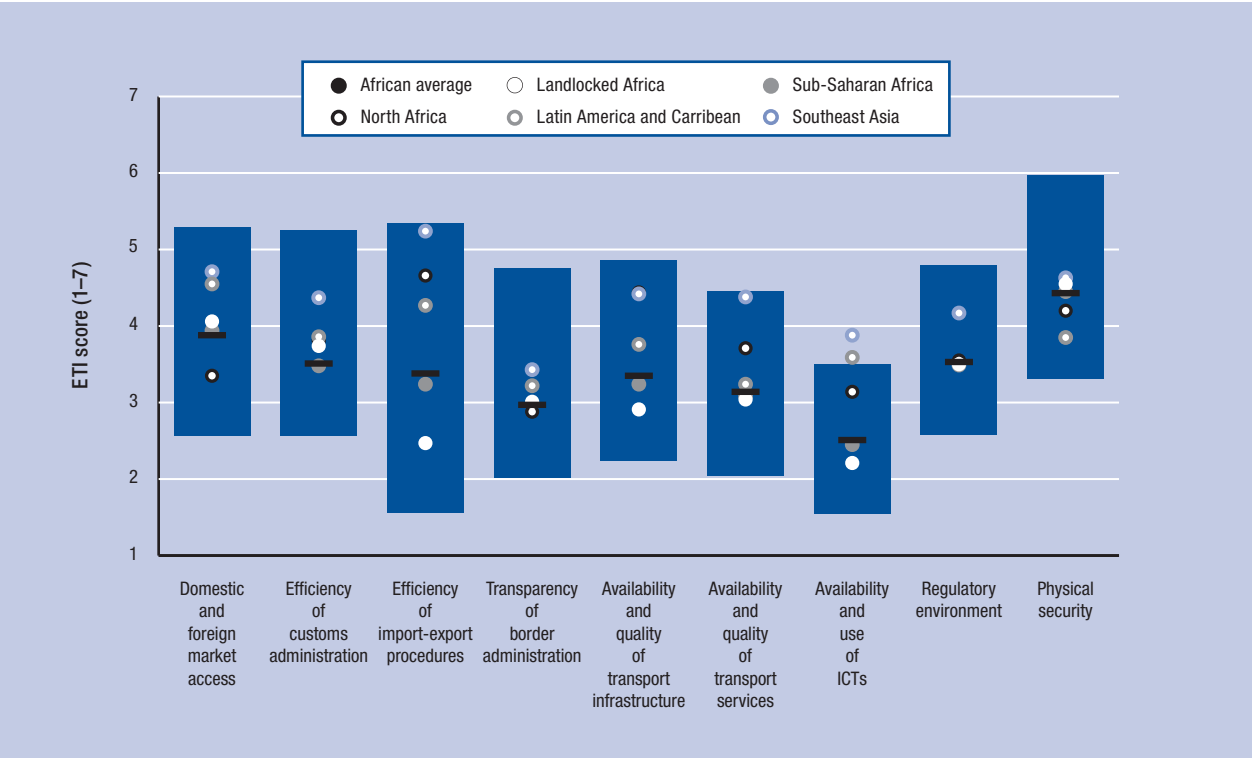
Note

1 The Trade Facilitation Facility (TFF) is a rapid-response trust fund with the objective of helping developing countries reduce trade costs and enhance their ability to move goods and services across borders rapidly, cheaply, and predictably. It is designed to finance activities that will make immediate, direct, and effective improvements in trade facilitation systems by modernizing infrastructure, institutions, and policies and improving regulations. The TFF finances activities at country, regional, and global levels including projects and project-preparation activities, advisory work, and technical assistance.

In terms of market access, which captures both access to domestic markets and access to foreign markets for the country's exporters, the region is characterized by a relatively large spread in performance. Although some African countries perform better than comparators in Southeast Asia and Latin America and the Caribbean, in the majority of African countries, access to markets is relatively constrained. For North African markets, this constraint to access is more severe, while landlocked African countries enjoy levels of market access similar to those of Africa and sub-Saharan Africa overall and perform far better than North Africa.

Interestingly, significant differences can be observed across African countries in this respect. A number of

Figure 7: Enabling Trade Index score dispersion among African economies



Source: World Economic Forum, 2012b.

Notes: The sample includes the following economies: landlocked Africa: Botswana, Burkina Faso, Burundi, Chad, Ethiopia, Lesotho, Malawi, Mali, Rwanda, Uganda, Zambia, and Zimbabwe; Latin America and the Caribbean: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela; North Africa: Algeria, Egypt, Morocco; Southeast Asia: Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam; sub-Saharan Africa: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Chad, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe. The blue bars reflect the dispersion in performance across African economies in the nine dimensions analyzed in the Enabling Trade Index, the end points presenting the highest and the lowest score in the sample, respectively.

countries have liberalized their domestic markets and have fairly free access to key developed-country markets as a result of trade preference schemes such as those under the African Growth and Opportunity Act put in place by the United States or Economic Partnership Agreements with the European Union. The foreign market access component of the Index takes into account the trade preferences countries enjoy abroad by capturing the margin of preference to which countries are entitled. Because of the preferential schemes in place, two African countries—Malawi and Mauritius—enjoy the highest margin of preference in target markets within the entire ETI sample.

In the case of North Africa, the results show that the region's trade performance is negatively affected by limited domestic and foreign market access. Further reduction of domestic tariffs and tariffs in key export markets would enable trade in the region. This may be a reflection of the still fairly high tariffs in the region, the low number of regional trading agreements into which countries have entered, and the fact that the region does not benefit from as many trade preferences as sub-Saharan Africa.

Border administration takes into account the efficiency of customs and the transparency and efficiency of the entire clearance process. The results show that, in a number of African countries, customs are more efficient than they are in Southeast Asia or in Latin America and the Caribbean (see Appendix B). However, on average, there is some room for improvement in Africa. The benefits of customs reform are considerable: in addition to speeding up the clearance process at the border, more efficient customs contribute to a better collection of tariff and tax revenues, more formal cross-border trading activity, and lower levels of corruption. Important efforts have been undertaken in recent years toward reforming customs administrations in African countries (see Box 2 for customs reform efforts in Cameroon).

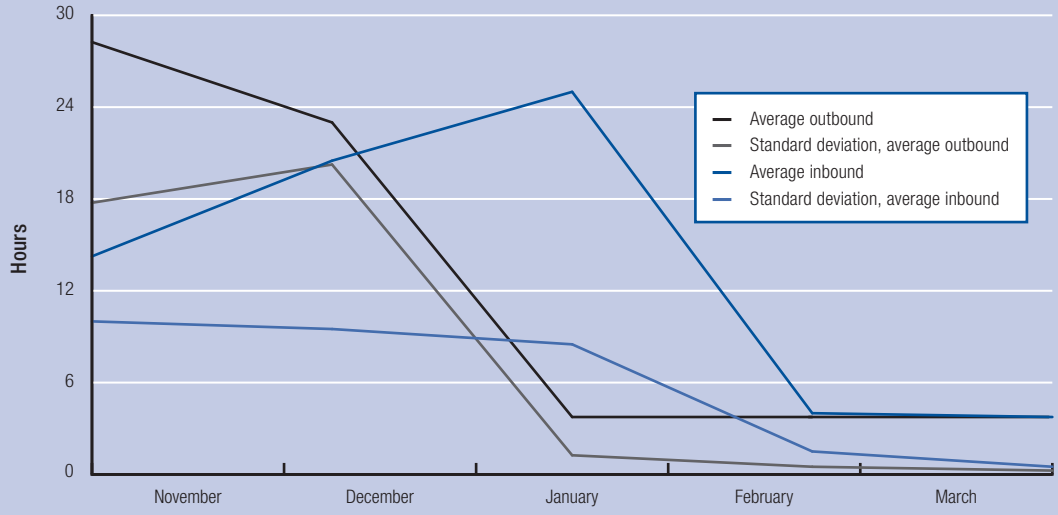
In most countries, however, customs performs only one part of the border clearance process, and other agencies are tasked with the import or export procedure components. These agencies include entities that enforce sanitary and phytosanitary standards as well as technical requirements and entities that grant import licenses. It is therefore crucial for reforms in this field to take a holistic view and consider the import and export procedures as a whole, ensuring that the linkages between the different agencies involved in the import-export process present a minimum of friction and delays. In many cases, information technology (IT)-based systems have proven successful in facilitating procedures across different agencies. For example, the Automated System for Customs Data (ASYCUDA) was implemented

Box 3: Overcoming landlockedness: Faster border management through customs data sharing across countries

Delays at border crossings across sub-Saharan Africa have long been identified as one of the largest non-tariff barriers to trade. Some contributing factors include inefficient paperwork and processes, lack of advance notification of goods, poor and fraudulent declarations, lack of cross-border information exchange between customs, and out-of-date or nonexistent transit and trade statistics. One solution to this problem lies in developing a platform for efficient customs and transit data exchange, management, and reporting and, even more importantly, ensuring that the information exchanged is actually used to improve daily operations. For example, in addition to improving connectivity through infrastructure, documents, and procedures, countries in East Africa have also recently electronically interconnected their customs systems to facilitate trade.

Traders typically lose a great deal of time because agencies in each country re-enter trade-related information in their computer systems for customs and other border-control purposes. Re-entering data also makes the process vulnerable to the risk of input errors and fraud; border management measures to combat this risk can further delay the clearance process. Starting from a document that has already been verified by one customs authority ensures data integrity and, more importantly, traceability of the declarations across borders, which is critical for reconciliation and risk management. Uganda and Kenya have been at the forefront of an initiative to share data between their customs administrations. In 2009, the two countries worked with USAID in developing a system to interconnect their customs systems. The interconnecting system, known as the Revenue Authorities Digital Data Exchange (RADDEx), transmits customs transit declaration data in near-real time from a point of initial lodging (seaport, border post, etc.) through all relevant transit points to final destination. RADDEx was first installed at the Malaba border post between the two countries, and enabled the sharing of data between the border-crossing point and the main transit port of Mombasa in Kenya. The border management requirements of the two countries already had in common several data elements. For example, for Uganda transit declarations in Kenya 38 data elements were already captured in Kenya with the declarant adding or modifying only three elements (including declarant's name) in Uganda. RADDex has led to significant time reductions in preparation and processing the declarations by:

Figure A: Change in border-crossing time at Malaba, November 2011–March 2012



(Cont'd)

in 42 African countries, including Botswana, Ethiopia, Ghana, and Rwanda.[21]

Despite rising awareness of this issue and progress achieved on the customs administration front, many African countries still lag behind international standards in terms of the efficiency, cost, and timeliness of the overall clearance process, mainly because the process is still burdened with red tape and insufficient communication between the agencies. Within the African continent, the efficiency of import-export procedures is the area where we see the largest differences across countries and across the three subregional country groupings we present in this *Report.* While Mauritius, the best-performing country in Africa on this pillar, performs better than Southeast Asia on average and comes in at

Box 3: Overcoming landlockedness: Faster border management through customs data sharing across countries *(cont'd)*

- avoiding duplicate data entry by declarants at different border posts,
- enabling pre-arrival declaration and data processing,
- sending advance notice for document preparation, and
- facilitating the verification.

However, for maximum benefit, the system has been complemented by and been part of other reforms that include improved risk management and better coordination between agencies when required, vetting clearing agents, streamlining traffic flow, and imposing strict parking rules for truck drivers to decongest the customs control zone. The system for managing the physical movement of traffic through the border post is called the Customs Reconciliation System (CURES). It was developed in-house by the Uganda Revenue Authority to capture information on the physical movement of trucks and containers. Using the CURES system, the authorities are able to keep track of trucks and cargo entering and leaving the control zone.

The Malaba border is one of the busiest in sub-Sahara Africa, with a daily average of 650 heavy commercial trucks crossing from Kenya to Uganda. The border post was congested and border management agencies were operating near capacity. The reforms adopted at the end of 2011 promoted a change in the behavior and operational arrangements of the logistics service providers that could be made possible only through IT developments. Together, the reforms at the border post between Kenya and Uganda have resulted in some of the shortest border crossing times in sub-Saharan Africa (Figure A). The figure shows the dramatic fall in border dwell times when the cocktail of measures took effect in late 2011 into early 2012. Average border dwell times per truck fell from over 12 hours to about 3 hours.

IT can certainly help to improve transit for landlocked countries, but it is by no means a panacea. Several complementary measures are also needed, and IT is often the last to be put into place so as not to substitute for real reforms. Done properly, reforms and judicious automation can significantly reduce the resources required for infrastructure improvements.

Source: Contributed by the World Bank, International Trade Department.

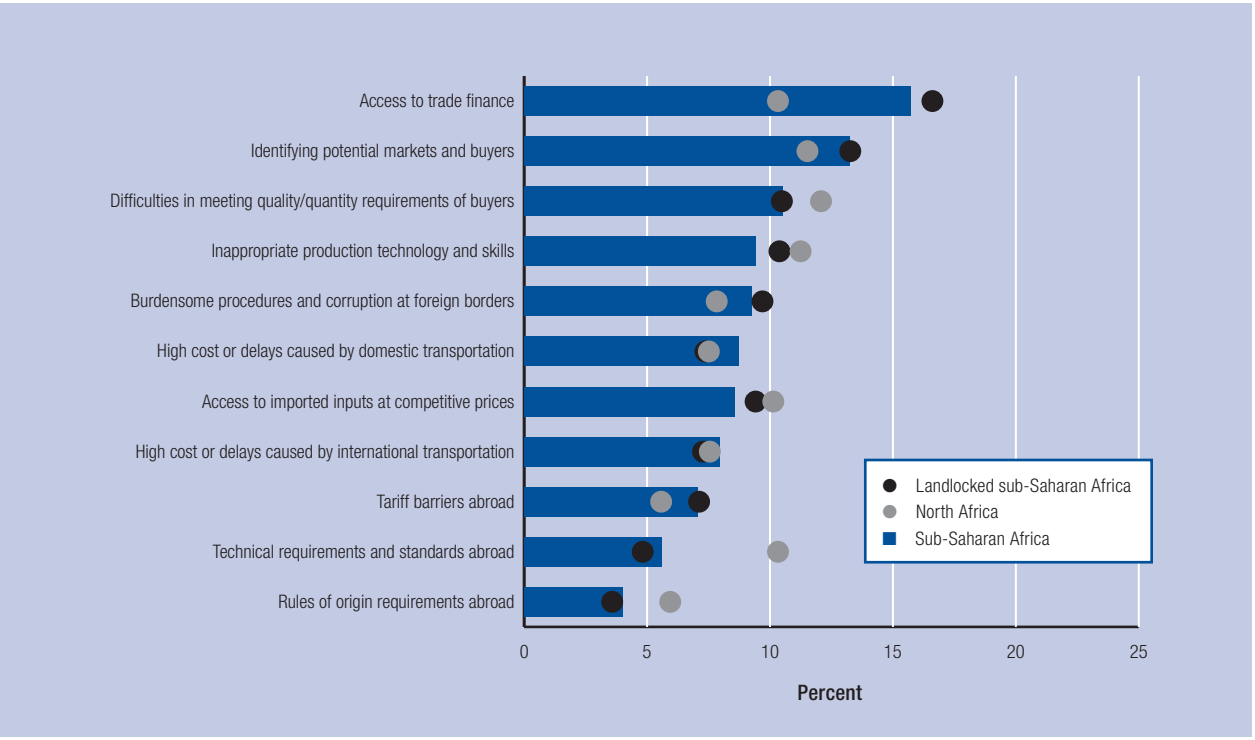
a solid 29th out of 132 countries (see Appendix B), Chad represents the weakest performer in the entire sample.

Landlocked African countries do not have in place the necessary attributes to facilitate the administrative processes related to importing and exporting goods. According to 2012 World Bank data,[22] it costs almost US$5,000 to import a container to Rwanda, and it takes 29 days and 8 documents. Interestingly, countries that have the least efficient border administration on the continent are the landlocked countries, which face many disadvantages because of their geographical situation. Many efforts have been made to establish access to port infrastructure in neighboring countries through corridors, infrastructure projects, and international agreements. However, our data show that, on average, the inefficient import-export procedures in these countries constitute a much more important trade barrier than limited access to ports. Indeed, on a scale of 1 to 7, these landlocked countries achieve a score of 2.47 for efficiency of border administration, while access to a port receives a significantly higher value of 3.59. Although the ETI is not a tool designed to identify the binding constraints to a country's trade performance, it provides an indication of the order of magnitude and importance of the different problems. The results of the ETI support the finding that improving the efficiency of border agencies and their collaboration may provide higher payoffs than improving access to international maritime networks for landlocked countries in Africa. Both areas present serious obstacles, however, and overcoming them has great potential for significantly bettering the situation (see Box 3).[23]

In terms of transparency at the border, the results are fairly even across the subregions, although significant differences exist across countries, with Mauritius occupying a good 46th position and Chad ranking a low 131st. Corruption at the border favors illegal or illicit trade and is a key impediment to participation in global trade, as it contributes to making border clearance time unpredictable and may represent a prohibitive trade barrier for businesses that are committed not to pay bribes. Corruption at the border is a trade barrier that is particularly damaging to the domestic economy because it often reflects illegal or illicit trade activities and because the benefits accrue to a small group of well-connected public officials who abuse their power for private gain. The goals of African countries in terms of trade development cannot be achieved without major efforts to tackle corruption at domestic borders.

Transport and ICT infrastructure is another key element that contributes to the cost of trading in Africa. Relevant elements include not only the availability and quality of transport infrastructure (see Chapter 2.2), but also whether logistics and transportation services are available. This availability is increasingly becoming a key factor for exporters, as it determines a significant share of the trade cost. For landlocked countries, access to ports in neighboring countries is also crucial. The ETI results show that landlocked countries do lag behind the African average as well as the sub-Saharan African

Figure 8: The most problematic factors for exporting in Africa



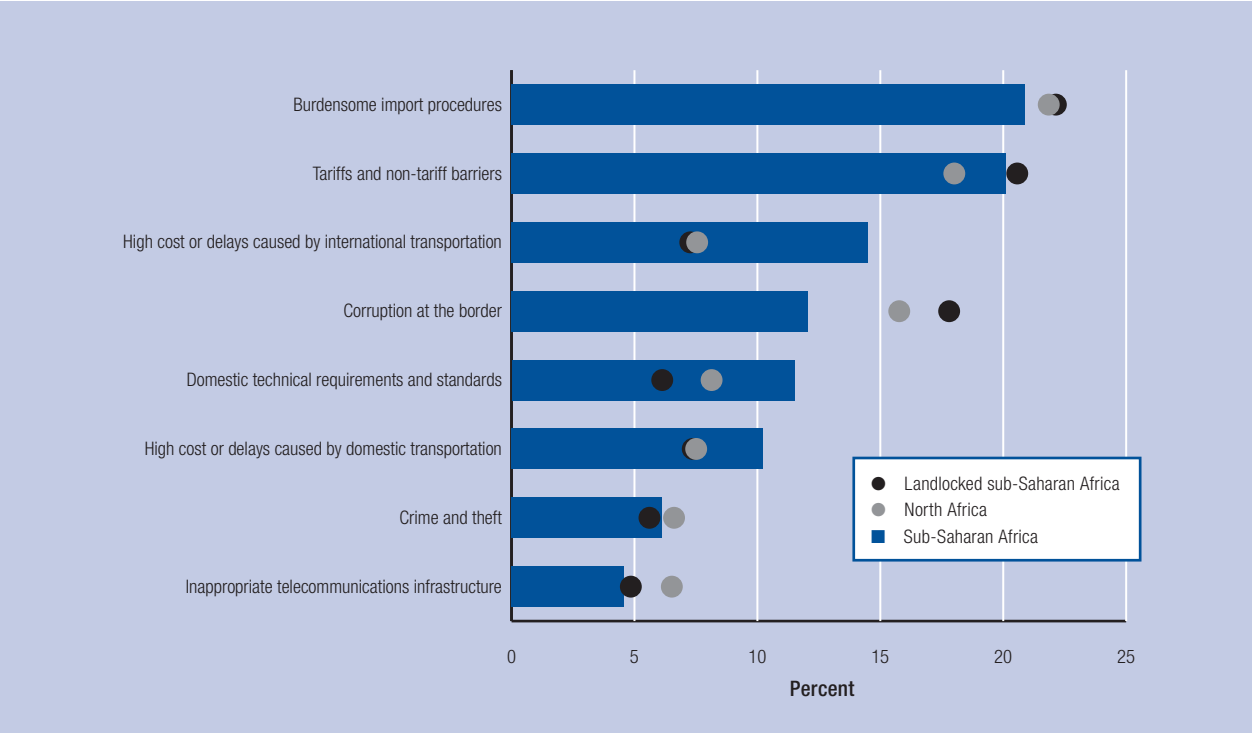
Source: World Economic Forum, Executive Opinion Survey 2012; authors' calculations.
Notes: From a list of ten factors, respondents were asked to select the five most problematic for exporting in their country and rank them between 1 (most problematic) and 5. The bars in the figure show the responses weighted according to their rankings. The most problematic factors sample includes all African countries that were covered in the Executive Opinion Survey 2012. The sample includes the following groups of economies: landlocked: Botswana, Burkina Faso, Burundi, Chad, Ethiopia, Lesotho, Malawi, Mali, Swaziland, Uganda, Zambia, and Zimbabwe; North Africa: Algeria, Egypt, Libya, and Morocco; sub-Saharan Africa: Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Côte d'Ivoire, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

average in terms of availability and quality of transport infrastructure. On the other hand, transport infrastructure appears to be well developed across North Africa, which has reached levels that are on a par with those found in Southeast Asia. The three North African economies tend to perform better in terms of availability of transport infrastructure (with a score of 5.1 out of 7), while the quality of infrastructure is still insufficient (a score of 3.8). Although Morocco and Egypt are well connected to global maritime routes (16th and 17th, respectively, on the transshipment connectivity index), port quality in Algeria is poor, ranked 113th.

Although North African economies perform well on the infrastructure component of the ETI, the assessment of logistics services does not keep up with these good results. Most African countries show room for improvement in the various indicators of logistics quality, such as logistics competence and how easy and affordable it is to arrange international shipments. Maritime services are widely available in countries of the subregion, as shown in the good results achieved on the Liner Shipping Connectivity Index in Algeria (33rd), Morocco (18th), and Egypt (19th). Improving the logistics services in sub-Saharan Africa, including in the landlocked countries, would further reduce the cost of trade from and to this region. The World Bank estimates that reform leading to a more competitive transport sector could halve the cost of moving staples in West Africa over 10 years.[24] Although the best performer from the region, South Africa, reaches the level found in Southeast Asia and ranks 26th, logistics services are underdeveloped in the vast majority of sub-Saharan countries.

The rising importance of global value chains has raised the importance of ICT connectivity for goods trade because producing parts of a good requires more exchange on product specification, production-related data, delivery times, and, in some cases, also training. Furthermore, ICTs have become key for business-to-business and business-to-consumer customer relations as well as for identifying buyers, which remains the second most important barrier to exporting, according to data on the most problematic factors for trade obtained from the World Economic Forum's Executive Opinion Survey (the Survey) (analyzed in detail in the next section). None of the countries from the region reaches the level of ICT connectivity found in Southeast Asia or Latin America. The best-performing African country, Mauritius, ranks a low 79th. Although North Africa is relatively well connected in international comparison, trade in landlocked countries on the continent—and in sub-Saharan Africa as a whole—would benefit from better connectivity. This could be achieved through improvements to mobile and broadband penetration and a greater use of the Internet and other ICTs by business and government. The use of ICTs is important for the degree to which administrative processes related to importing and exporting can be IT

Figure 9: The most problematic factors for importing in Africa



Source: World Economic Forum, Executive Opinion Survey 2012; authors' calculations.
Notes: From a list of eight factors, respondents were asked to select the five most problematic for importing in their country and rank them between 1 (most problematic) and 5. The bars in the figure show the responses weighted according to their rankings. The most problematic factors sample includes all African countries that were covered in the Executive Opinion Survey 2012. The sample includes the following groups of economies: landlocked: Botswana, Burkina Faso, Burundi, Chad, Ethiopia, Lesotho, Malawi, Mali, Swaziland, Uganda, Zambia, and Zimbabwe; North Africa: Algeria, Egypt, Libya, and Morocco; sub-Saharan Africa: Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Côte d'Ivoire, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

based, which in turn is key to making them more efficient and more transparent. More importantly, ICTs could contribute to overcoming the particular challenges related to being landlocked by developing the export of business or tourism services, for example.

The overall business environment is the 4th subindex of the ETI. It consists of the regulatory environment for trade-related activities, which includes factors such as general governance indicators, openness to investment, ease of hiring foreign labor, and the availability of trade finance. A number of African countries have made great strides in improving their regulatory environment. For example, Botswana, Rwanda, and Mauritius—despite many differences in their regulatory environments—have all made significant improvements in this respect and come in within the top 40 on this pillar. Their governments are considered by the business community to be more efficient than those of other countries in the region, and their relevant rules and regulations are supportive of foreign investment. At the same time, a number of African countries still suffer from very poor institutions that affect their trade performance. Chad (126th), Angola (129th), and Burundi (130th) are the weakest performers in the region on this pillar. Key issues across the continent include the insufficient definition and protection of property rights for physical and intellectual property, widespread corruption, and undue influence. At the same time, countries' regulations are fairly open to welcoming foreign labor and investment.

Last but not least, the fairly high levels of physical security are an advantage for the African continent, in particular when compared with Latin American countries, which perform significantly less well on this dimension. The best-performing country, Rwanda, occupies an excellent 15th position and is followed by Senegal at 38th and Botswana at 39th. Not surprisingly, very low levels of security are found in some countries, such as Nigeria (119th), Kenya (120th), and Burundi (124th).

THE MOST PROBLEMATIC FACTORS FOR TRADE IN AFRICA

The World Economic Forum's Survey asks top executives to rate the main bottlenecks for exporting and importing in their countries. Respondents were asked to choose and rank in order of importance from a list of factors (ten factors for exports and eight for imports) those five that they believe have the highest impact on the ease of exporting and importing in the country in which they operate. For exports we included a wide range of factors that may inhibit export development, such as supply-side constraints, technical requirements, rules of origin, and administrative procedures. The import factors mirror the structure of the ETI to the extent possible, providing an indication of the importance of

the pillars of the ETI for the trading environment of these countries.

These two questions concerning exports and imports identify the most important bottlenecks to trade and supply-chain connectivity across the economies covered in the Survey. In addition, the results can provide insight about the most important bottlenecks to trade globally and inform multilateral trade negotiations about priority areas for liberalization. Figures 8 and 9 show that the most important impediments to trade are largely the same across the three African subregions. Overall, insufficient access to trade finance is the most important bottleneck to increased exports (although the importance of this factor is less pronounced for North Africa than for the rest of the continent), followed by the difficulty in identifying potential markets and buyers. The limitations in access to trade finance are probably linked to the underdeveloped financial markets in most of the countries, as discussed in Chapter 1.1.[25] Other factors—such as difficulties in meeting quality and quantity requirements of buyers and inappropriate production technology and skills—are cited by at least 10 percent of respondents among more than one subregion.

The data thus corroborate findings from the ETI analysis above: burdensome border procedures and corruption, for example, are considered a more important barrier than tariff barriers or NTMs in the narrow sense (compliance with technical and quality standards certificates, etc.). Furthermore, the data confirm the need for more regional integration: high costs or delays caused by poor domestic transportation are considered a higher burden than those incurred by international transportation. This may point to bottlenecks at border crossings to neighboring countries, for example, or inappropriately connected infrastructure. The most problematic factors for exporting yield a slightly different priority in North Africa: similar to sub-Saharan Africa, identifying potential markets and buyers is listed as the second most important impediment. However, difficulties in meeting quality/quantity requirements of buyers, inappropriate production technology and skills, and foreign technical requirements play a more prominent role for North African countries, whereas access to trade finance is considered less problematic.

On the import side, Figure 9 confirms the results from the ETI analysis: from the perception of business leaders, burdensome import procedures emerge as the most important impediment to trade across the continent, nearly on a par with tariffs and non-tariff barriers in the narrow sense. The cost of international transportation is the third most important factor, followed by corruption at the border. However, the figure also reveals that border corruption is much more pronounced in landlocked Africa and North Africa than in sub-Saharan Africa. Crime and theft and poor telecommunications play a much smaller role throughout the continent. This result underlines not only the importance of trade facilitation at multilateral and bilateral levels, but also the potential of countries for facilitating trade through practical measures within their government's purview.

CONCLUSIONS

This chapter has analyzed how African countries perform in terms of enabling trade by using the World Economic Forum's Enabling Trade Index. The 31 countries covered in the 2012 edition of *The Global Enabling Trade Report* were included in the analysis, which covered the four main categories of the Index: market access, border administration, infrastructure, and business environment. The analysis differentiated among three categories of countries within the continent: North Africa, sub-Saharan Africa, and a subgroup of landlocked countries.

The results show that, although a number of African countries have facilitated market access domestically and for their exporters abroad and have achieved high levels of physical security, they lag behind across a number of areas assessed by the Index. There is room for improvement in terms of the efficiency of import and export procedures, the transparency of border administration, and the use of ICTs. Furthermore, logistics services and insufficient infrastructure add to the cost of trading and act as a barrier to higher levels of regional integration.

By improving their performance across the dimensions of the ETI, African countries could better prepare their economies to benefit from international trade. For landlocked countries, the two challenges that need to be tackled are streamlining border administration to reduce the cost of procedures and delays during clearance and improving the coordination of the clearance process. Equally important is the promotion of access and use of ICTs, which is poor not only in landlocked countries but also across all of sub-Saharan Africa. As pointed out in other chapters of this *Report,* countries in the region could benefit from increased infrastructure investment in the area of ICTs.

In the case of North Africa, transparency of border administration appears to be the most important factor limiting trade in goods in the three North African countries assessed—Algeria, Egypt, and Morocco. These countries could also benefit from more open access to domestic and foreign markets.

These improvements are necessary for countries to more fully participate in global value chains, which account for a significant and rising share of trade flows, and to advance toward a higher degree of regional integration. More trade integration within the region would also contribute to higher food security across the continent. This chapter provides information on one specific set of measures that could enable African countries to further benefit from trade. It is intended to be a motivator for change and a foundation for dialogue, by providing a yardstick of the extent to which countries

have in place the factors that facilitate the free flow of goods and by identifying areas where improvements are most needed.

NOTES

1 IMF 2012a.

2 Authors' calculations, based on World Trade Organization time-series data.

3 The definition of minerals follows the sector classification developed by the International Trade Centre in their Trade Performance Index. In addition to crude oil and gas, this category also contains all metal ores and other minerals as well as petroleum products, liquefied gas, coal, and precious stones. The data used cover the years 2006 through 2010 or the most recent year available. Further information on these data can be found at http://www.intracen.org/menus/countries.htm.

4 One-fifth of total government revenues stem from natural resource extraction in Equatorial Guinea, the Republic of Congo, Angola, Nigeria, Chad, Gabon, Botswana, Cameroon, the Democratic Republic of Congo, and Guinea (IMF 2012b).

5 These data are from UNCTAD Stats, Intra-trade of regional and trade groups by product, annual, 1995–2011, available at http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=24397.

6 World Bank 2012b.

7 World Bank 2012a.

8 World Bank 2008.

9 One of the reasons that the barriers remain in place may be that the complementarity of production structures in many neighboring African countries probably makes it more difficult from a political economy standpoint to pursue regional free trade.

10 Authors' calculations, based on World Bank *Doing Business 2013* data.

11 See Ben Barka 2012, which also contains more examples and a more thorough discussion of the importance of administrative barriers for regional trade in Africa.

12 Bromley et al. 2011.

13 World Bank 2012b.

14 We have focused on the flow of trade in goods in the Index for expository purposes, although we recognize that enabling in services is also important. By circumscribing the issue clearly, the Index provides a useful vehicle for analyzing policy on a clearly defined part of the issue. Trade in goods accounts for upwards of 80 percent of all trade, and is therefore highly relevant.

15 See Browne et al. 2012.

16 The score of each subindex is derived as an unweighted average of the pillars that constitute it.

17 The choice of an unweighted average results from the recognition that no current research can provide guidance on the importance of the different factors. At the country level, the most problematic factors for importing shown in Figure 9 provide some indication of the importance of the different factors because they mirror the categories of the ETI to the extent possible.

18 Tests were carried out using regression analysis in a gravity model of trade. See World Economic Forum 2009.

19 Both South Africa and Morocco have benefitted from the removal and revision of the data on non-tariff measures, respectively.

20 A more detailed analysis of country performances can be found in World Economic Forum 2012b.

21 See www.asycuda.org for implementation status of ASYCUDA in African countries.

22 World Bank 2011.

23 Although the ETI elements provide an indication of the potential challenges to be addressed, it has to be noted that these elements are highly interrelated. For example, delays in port clearance may result from issues related to administrative procedures that are captured under border administration.

24 Bromley et al. 2011.

25 Access to trade finance and access to finance overall are most likely strongly correlated for two reasons. First, the availability of trade finance depends on the development of the financial system. Second, respondents are likely to judge the overall availability of finance for their needs and may not clearly distinguish between the different instruments.

REFERENCES

Ben Barka, H. 2012. *Border Posts, Checkpoints, and Intra-African Trade: Challenges and Solutions.* African Development Bank, January. Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/INTRA%20AFRICAN%20TRADE_INTRA%20AFRICAN%20TRADE.pdf.

Bromley, D. W., A. Cook, S. Singh, and N. Van Dusen. 2011. "Regional Agricultural Transport and Trade Policy Study." *USAID West Africa Trade Hub Technical Report* No. 42, March. Available at http://www.watradehub.com/resources/resourcefiles/jun11/regional-agricultural-trade-policy-and-transport-study.

Browne, C., T. Geiger, and T. Gutknecht. 2012. "The Executive Opinion Survey: The Voice of the Business Community." In *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum. 69–78.

Fitzmaurice, M. and O. Hartmann. 2013. "Border Crossing Monitoring along the Northern Corridor." *Sub-Saharan Africa Transport Policy Program, Working Paper* No. 96. Washington, DC: World Bank. Available at http://www4.worldbank.org/afr/ssatp/Resources/SSATPWP96-border-crossing.pdf.

IMF (International Monetary Fund). 2012a. *World Economic Outlook* database, October. Available at http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx.

———. 2012b. *Sub-Saharan Africa: Sustaining Growth amid Global Uncertainty,* April. *Regional Economic Outlook.* Available at http://www.imf.org/external/pubs/ft/reo/2012/afr/eng/sreo0412.pdf.

ITC (International Trade Centre). Trade Performance Index, April 2012. Available at http://www.intracen. org/menus/countries.htm.

UNCTAD. ASYCUDA (AUtomated SYstem for CUstoms Data). Available at http://www.asycuda.org/.

World Bank. 2008. *Regional Trade in Food Staples: Prospects for Stimulating Agricultural Growth and Moderating Short-Term Food Security Crises in Eastern and Southern Africa.* Report No. 46929-AFR. Washington, DC: World Bank. Available at https://openknowledge.worldbank.org/handle/10986/7829.

———. 2011. *Doing Business 2012: Doing Business in a More Transparent World.* Washington, DC: World Bank. Available at http://www.doingbusiness.org/reports/global-reports/doing-business-2012.

———. 2012a. *Africa Can Help Feed Africa: Removing Barriers to Regional Trade in Food Staples.* Washington, DC: World Bank. Available at http://siteresources.worldbank.org/INTAFRICA/Resources/Africa-Can-Feed-Africa-Report.pdf.

———. 2012b. *De-Fragmenting Africa: Deepening Regional Integration in Goods and Services.* Washington, DC: World Bank. Available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/03/000333038_20120503000714/Rendered/PDF/684900ESW0Whit00Box367921B00PUBLIC0.pdf.

World Economic Forum. 2009. *The Global Enabling Trade Report 2009.* Geneva: World Economic Forum.

———. 2010. *The Global Enabling Trade Report 2010.* Geneva: World Economic Forum.

———. 2012a. *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum.

———. 2012b. *The Global Enabling Trade Report 2012: Reducing Supply Chain Barriers.* Geneva: World Economic Forum.

Appendix A: Composition of the Enabling Trade Index 2012

This appendix provides details about the construction of the Enabling Trade Index (ETI).

The ETI is composed of four subindexes: the market access subindex; the border administration subindex; the transport and communications infrastructure subindex; and the business environment subindex. These subindexes are, in turn, composed of the nine pillars of the ETI: domestic and foreign market access, efficiency of customs administration, efficiency of import-export procedures, transparency of border administration, availability and quality of transport infrastructure, availability and quality of transport services, availability and use of ICTs, regulatory environment, and physical security. These pillars are calculated on the basis of both hard data and survey data.

The survey data are mainly derived from the responses to the World Economic Forum's Executive Opinion Survey and range from 1 to 7. In addition, survey data from the World Bank's Logistics Performance Index (LPI) have also been included. The hard data were collected from various recognized sources, such as the World Bank, the World Trade Organization (WTO), the International Trade Centre (ITC), and the United Nations Conference on Trade and Development (UNCTAD). The data are described in detail in Appendix C. All of the data used in the calculation of the ETI can be found in the data tables on the website of *The Global Enabling Trade Report 2012* (www.weforum.org/getr).

The hard data indicators used in the ETI, as well as the results from the LPI survey, are normalized to a 1-to-7 scale in order to align them with the Executive Opinion Survey results.[1] Each of the pillars has been calculated as an unweighted average of the individual component variables. The subindexes are then compounded as unweighted averages of the included pillars.

In the case of the domestic and foreign market access pillar, the score in the domestic market subpillar accounts for two-thirds and the score in foreign market access accounts for one-third of the overall pillar. In the case of the availability and quality of transport infrastructure pillar, which is itself composed of two subpillars (availability of transport infrastructure and quality of transport infrastructure), the overall pillar is the unweighted average of the two subpillars. The overall ETI is then calculated as the unweighted average of the four subindexes.

The variables and the composition of pillars are described below. If a variable is one of hard data, this is indicated in parentheses after the description.

SUBINDEX A: MARKET ACCESS

Pillar 1: Domestic and foreign market access

A. Domestic market access
- 1.01 Tariff rate (hard data)
- 1.02 Non-tariff measures (hard data)[2]
- 1.03 Complexity of tariffs (hard data)[3]
  - Tariff dispersion (hard data)
  - Tariff peaks (hard data)
  - Specific tariffs (hard data)
  - Distinct tariffs (hard data)
- 1.04 Share of duty-free imports (hard data)

B. Foreign market access
- 1.05 Tariffs faced (hard data)
- 1.06 Margin of preference in destination markets (hard data)

SUBINDEX B: BORDER ADMINISTRATION

Pillar 2: Efficiency of customs administration
- 2.01 Burden of customs procedures
- 2.02 Customs services index (hard data)

Pillar 3: Efficiency of import-export procedures
- 3.01 Efficiency of the clearance process[4]
- 3.02 Time to import (hard data)
- 3.03 Documents to import (hard data)
- 3.04 Cost to import (hard data)
- 3.05 Time to export (hard data)
- 3.06 Documents to export (hard data)
- 3.07 Cost to export (hard data)

Pillar 4: Transparency of border administration
- 4.01 Irregular payments in exports and imports
- 4.02 Corruption Perceptions Index (hard data)

SUBINDEX C: TRANSPORT AND COMMUNICATIONS INFRASTRUCTURE

Pillar 5: Availability and quality of transport infrastructure

A. Availability of transport infrastructure
- 5.01 Airport density (hard data)
- 5.02 Transshipment connectivity index (hard data)
- 5.03 Paved roads (hard data)

B. Quality of transport infrastructure
- 5.04 Quality of air transport infrastructure
- 5.05 Quality of railroad infrastructure
- 5.06 Quality of roads
- 5.07 Quality of port infrastructure

Pillar 6: Availability and quality of transport services

- 6.01 Liner Shipping Connectivity Index (hard data)
- 6.02 Ease and affordability of shipment[4]
- 6.03 Logistics competence[4]
- 6.04 Tracking and tracing ability[4]
- 6.05 Timeliness of shipments in reaching destination[4]
- 6.06 Postal services efficiency
- 6.07 GATS commitments in the transport sector (hard data)

Pillar 7: Availability and use of ICTs

- 7.01 Extent of business Internet use
- 7.02 Mobile telephone subscriptions (hard data)
- 7.03 Broadband Internet subscribers (hard data)
- 7.04 Government Online Service Index (hard data)
- 7.05 Internet users (hard data)

SUBINDEX D: BUSINESS ENVIRONMENT

Pillar 8: Regulatory environment

- 8.01 Property rights[5]
- 8.02 Ethics and corruption[5]
- 8.03 Undue influence[5]
- 8.04 Government efficiency[5]
- 8.05 Domestic competition[5]
- 8.06 Efficiency of the financial market[5]
- 8.07 Openness to foreign participation[6]
  - Ease of hiring foreign labor
  - Prevalence of foreign ownership
  - Business impact of rules on FDI
  - Openness to multilateral trade rules (hard data)
- 8.08 Availability of trade finance

Pillar 9: Physical security

- 9.01 Reliability of police services
- 9.02 Business costs of crime and violence
- 9.03 Business costs of terrorism

NOTES

1 The standard formula for converting each hard data variable to the 1-to-7 scale is

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

The sample minimum and sample maximum are the lowest and highest scores of the overall sample, respectively. For those hard data variables for which a higher value indicates a worse outcome (e.g., tariff barriers, road congestion), we rely on a normalization formula that, in addition to converting the series to a 1-to-7 scale, reverses it, so that 1 and 7 still correspond to the worst and best possible outcomes, respectively:

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

In some instances, adjustments were made to account for extreme outliers in the data.

2 This indicator is not included in the pillar calculation.

3 Complexity of tariffs is the average of the other four variables.

4 The LPI data are derived from the World Bank's Logistics Performance Index Survey, which is based on a 1-to-5 scale. LPI data were normalized to a 1-to-7 scale using the above formula in order to align it with the Executive Opinion Survey results.

5 These variables are composite indicators comprising multiple variables used in the World Economic Forum's Global Competitiveness Index. For details, see *The Global Competitiveness Report 2010–2011*.

6 Openness to foreign participation is the average of the other four variables.

Appendix B:
The Enabling Trade Index 2012: Africa and comparator economies, by pillar

			PILLARS									
	OVERALL INDEX		Domestic market access, 1–7 (best)		Foreign market access, 1–7 (best)		2nd pillar: Efficiency of customs administration, 1–7 (best)		3rd pillar: Efficiency of import-export procedures, 1–7 (best)		4th pillar: Transparency of border administration, 1–7 (best)	
Country/Region	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
NORTH AFRICA												
Morocco	64	4.08	120	3.44	31	3.80	39	4.64	41	5.09	65	3.39
Egypt	90	3.78	123	3.34	34	3.75	80	3.85	55	4.88	94	2.83
Algeria	120	3.22	117	3.55	123	1.90	116	2.92	93	4.00	120	2.41
North African average		**3.69**		**3.45**		**3.15**		**3.81**		**4.66**		**2.88**
SUB-SAHARAN AFRICA												
Mauritius	36	4.62	6	5.95	24	4.02	55	4.41	29	5.35	46	4.04
Rwanda	51	4.35	20	5.37	35	3.69	22	5.26	115	2.79	37	4.66
Botswana	54	4.31	19	5.41	85	2.36	34	4.74	112	3.01	35	4.75
South Africa	63	4.10	49	4.83	90	2.18	33	4.92	100	3.69	47	3.97
Namibia	75	3.92	45	4.87	59	2.96	106	3.12	103	3.49	50	3.84
Malawi	85	3.79	78	4.79	1	5.42	83	3.79	120	2.45	83	3.00
Zambia	88	3.78	33	5.11	29	3.81	63	4.24	122	2.38	85	2.98
Gambia, The	91	3.74	127	3.10	62	2.92	79	3.86	67	4.69	62	3.51
Senegal	92	3.72	111	3.63	60	2.95	88	3.70	61	4.79	74	3.10
Tanzania	94	3.69	85	4.65	12	4.64	119	2.85	78	4.40	96	2.80
Mozambique	97	3.65	79	4.77	15	4.34	87	3.71	98	3.82	81	3.03
Uganda	98	3.64	47	4.85	6	4.88	51	4.44	116	2.75	112	2.54
Ghana	99	3.59	104	4.01	80	2.50	108	3.06	75	4.44	71	3.13
Kenya	103	3.52	41	4.99	42	3.49	129	2.59	110	3.27	121	2.41
Ethiopia	106	3.49	122	3.40	18	4.08	60	4.30	119	2.63	90	2.92
Madagascar	107	3.48	87	4.58	7	4.81	130	2.57	77	4.40	110	2.56
Lesotho	113	3.41	91	4.51	27	3.93	123	2.81	108	3.31	86	2.98
Benin	115	3.39	118	3.55	84	2.39	113	2.96	94	3.99	103	2.65
Cameroon	118	3.28	116	3.56	57	3.02	92	3.50	111	3.04	109	2.56
Mali	121	3.18	105	3.97	83	2.44	117	2.90	113	2.93	119	2.43
Burkina Faso	122	3.15	107	3.94	74	2.67	102	3.29	126	1.96	98	2.78
Nigeria	123	3.13	108	3.82	127	1.55	115	2.93	106	3.41	116	2.48
Mauritania	125	3.06	115	3.58	63	2.92	127	2.78	104	3.42	118	2.43
Côte d'Ivoire	126	3.02	113	3.59	120	2.03	109	3.05	117	2.74	124	2.39
Angola	127	3.01	109	3.72	52	3.21	128	2.69	124	2.21	122	2.40
Zimbabwe	129	2.96	132	2.18	48	3.37	98	3.44	129	1.82	91	2.91
Burundi	131	2.95	36	5.06	49	3.35	125	2.79	125	2.01	128	2.21
Chad	132	2.63	124	3.28	79	2.56	120	2.84	132	1.56	131	2.01
Sub-Saharan African average		**3.52**		**4.25**		**3.30**		**3.48**		**3.24**		**2.98**
BRICs												
China	56	4.22	97	4.26	92	2.13	45	4.50	37	5.17	59	3.59
Brazil	84	3.79	101	4.05	68	2.82	99	3.41	101	3.69	57	3.69
India	100	3.55	130	2.77	88	2.27	70	4.10	79	4.38	84	2.99
Russian Federation	112	3.41	125	3.19	82	2.45	89	3.66	114	2.90	113	2.53
BRICs average		**3.74**		**3.57**		**2.42**		**3.92**		**4.04**		**3.20**
Latin America and the Caribbean average		**3.88**		**4.99**		**3.66**		**3.86**		**4.27**		**3.22**
Southeast Asian average		**4.42**		**4.84**		**4.44**		**4.37**		**5.24**		**3.43**

Source: World Economic Forum, 2012b.

	PILLARS									
	5th pillar: Availability and quality of transport infrastructure, 1–7 (best)		6th pillar: Availability and quality of transport services, 1–7 (best)		7th pillar: Availability and use of ICTs, 1–7 (best)		8th pillar: Regulatory environment, 1–7 (best)		9th pillar: Physical security, 1–7 (best)	
Country/Region	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
NORTH AFRICA										
Morocco	52	4.59	49	3.93	84	3.38	48	3.99	66	4.87
Egypt	55	4.48	51	3.91	81	3.43	58	3.78	104	3.88
Algeria	65	4.24	96	3.27	105	2.63	123	2.88	106	3.86
North African average		**4.44**		**3.71**		**3.14**		**3.55**		**4.20**
SUB-SAHARAN AFRICA										
Mauritius	40	4.86	89	3.36	79	3.49	37	4.36	56	5.02
Rwanda	124	2.95	78	3.48	111	2.46	24	4.79	15	5.97
Botswana	69	4.16	45	4.04	90	3.13	33	4.43	39	5.35
South Africa	63	4.32	26	4.45	85	3.34	36	4.36	100	4.08
Namibia	46	4.71	113	2.96	104	2.64	43	4.17	63	4.91
Malawi	107	3.26	88	3.36	130	1.93	68	3.68	71	4.79
Zambia	101	3.36	115	2.92	113	2.44	57	3.81	67	4.86
Gambia, The	78	3.85	117	2.90	100	2.81	39	4.29	50	5.17
Senegal	104	3.34	87	3.38	98	2.91	94	3.47	38	5.37
Tanzania	110	3.18	105	3.07	114	2.35	87	3.53	93	4.22
Mozambique	99	3.38	126	2.64	118	2.29	107	3.30	101	4.07
Uganda	128	2.63	95	3.30	115	2.35	73	3.62	108	3.81
Ghana	100	3.37	111	2.98	102	2.66	61	3.73	65	4.88
Kenya	87	3.71	109	3.00	95	3.00	75	3.61	120	3.57
Ethiopia	121	2.99	93	3.33	128	2.10	90	3.50	61	4.97
Madagascar	105	3.29	114	2.95	126	2.14	121	3.01	116	3.62
Lesotho	125	2.74	123	2.74	119	2.25	111	3.19	92	4.23
Benin	115	3.08	63	3.75	109	2.47	88	3.51	76	4.70
Cameroon	122	2.97	121	2.83	117	2.34	103	3.33	79	4.63
Mali	123	2.96	120	2.84	121	2.24	106	3.30	89	4.35
Burkina Faso	131	2.24	119	2.89	127	2.11	108	3.30	77	4.68
Nigeria	114	3.08	97	3.27	106	2.62	91	3.49	119	3.57
Mauritania	120	3.04	125	2.71	122	2.19	122	2.91	110	3.79
Côte d'Ivoire	113	3.11	100	3.19	107	2.53	120	3.01	113	3.68
Angola	129	2.50	127	2.52	120	2.25	129	2.60	78	4.66
Zimbabwe	116	3.07	108	3.02	123	2.16	119	3.03	83	4.59
Burundi	132	2.24	132	2.05	131	1.74	130	2.58	124	3.31
Chad	130	2.31	130	2.47	132	1.55	126	2.72	112	3.75
Sub-Saharan African average		**3.24**		**3.08**		**2.45**		**3.52**		**4.45**
BRICs										
China	53	4.49	21	4.73	72	3.60	38	4.31	62	4.95
Brazil	109	3.19	48	3.98	53	4.23	70	3.66	81	4.62
India	76	3.96	59	3.82	97	2.97	50	3.95	87	4.45
Russian Federation	56	4.46	72	3.57	42	4.64	117	3.07	107	3.84
BRICs average		**4.03**		**4.02**		**3.86**		**3.74**		**4.47**
Latin America and the Caribbean average		**3.76**		**3.24**		**3.59**		**3.49**		**3.85**
Southeast Asian average		**4.42**		**4.38**		**3.88**		**4.17**		**4.63**

Appendix C: Technical notes and sources for the Enabling Trade Index 2012

This appendix provides detailed information, including computation methods and sources, on all the indicators that enter the Enabling Trade Index (ETI). For each indicator, the title appears on the first line, preceded by its number to allow for quick reference. The numbering matches the one used in Appendix A.

Below is a description of the indicator or, in the case of the Executive Opinion Survey data, the full question and associated responses.

Pillar 1: Domestic and foreign market access

1.01 Tariff rate

Trade-weighted average tariff rate | 2011, 2010 or most recent year available

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 (2010 data). An *applied tariff* is a customs duty that is levied on imports of merchandise goods.

Source: International Trade Centre

1.02 Non-tariff measures (included yet not part of the index)

Index of non-tariff measures (NTMs) | 2011 or most recent year available

This index is constructed as the average of two NTM-related variables. NTMs may take the form of quotas, charges, discriminatory labeling, or health standards and other restrictive conditions. The variables included are the percentage of trade affected by NTMs and the average number of notifications for products affected by NTMs, for products with imports larger than 0. A *notification* is a transparency obligation requiring member governments to report trade measures to the relevant World Trade Organization (WTO) body if the measures might have an effect on other members. NTMs that apply to all products are excluded from the calculations because they do not represent discrimination on particular goods. Also, politically motivated NTMs, such as embargos, have been excluded.

Source: Authors' calculations based on International Trade Centre data

1.03 Complexity of tariffs

Index of the complexity of tariffs | 2011 or most recent year available

This variable is calculated as the average of the following indicators: tariff dispersion (1.03a), tariff peaks (1.03b), specific tariffs (1.03c), and number of distinct tariffs (1.03d). See below for the description of the single underlying indicators.

1.03a Tariff dispersion

Standard deviation of tariff rates | 2011 or most recent year available

This indicator reflects differences in tariffs across product categories in a country's tariff structure. The variance is calculated across all the tariffs on imported merchandise goods, at the 6-digit level of the Harmonized Schedule.

Source: International Trade Centre

1.03b Tariff peaks

Share of tariff lines with domestic peaks (percentage) | 2011 or most recent year available

This indicator is the ratio of the number of tariff lines exceeding three times the average domestic tariff (across all products) to the most favored nation (MFN) tariff schedule. The tariff schedule is equal to the total number of tariff lines for each country. These tariffs are revised on a yearly basis.

Source: International Trade Centre

1.03c Specific tariffs

Share of tariff lines with specific tariffs (percentage] | 2011 or most recent year available

This indicator is the ratio of the number of Harmonized System (HS) tariff lines with at least one specific tariff to the total number of HS tariff lines. A *specific tariff* is a tariff rate charged on a fixed amount per quantity (as opposed to ad valorem taxes, which are based on the assessed value of the property).

Source: International Trade Centre

1.03d Number of distinct tariffs

Number of distinct tariffs for all sectors | 2011 or most recent year available

This indicator reflects the number of distinct tariff rates applied by a country on its imports across all sectors.

Source: International Trade Centre

1.04 Share of duty-free imports

Duty-free imports as a share of total imports | 2011, 2010 or most recent year available

Share of trade, excluding petroleum, that is imported free of tariff duties, taking into account most-favored nation tariffs and preferential agreements. Tariff data are from 2011 or most recent year available and imports data are from 2010.

Source: International Trade Centre

1.05 Tariffs faced

Trade-weighted average tariff faced in destination markets | 2011, 2010 or most recent year available

This indicator is calculated as the average of the applied tariff rates, including preferential rates that the rest of the world applies to each country.

Source: International Trade Centre

1.06 Margin of preference in destination markets

Index of margin of preference in destination markets | 2010

This indicator measures the percentage by which particular imports from one country are subject to lower tariffs than the most-favored nation (MFN) rate. It is calculated as the average of two components: (1) the trade-weighted average difference between the MFN tariff and the most advantageous preferential duty (advantage score), and (2) the trade-weighted average of the ratios of the advantageous score to the tariff level. This allows the indicator to capture both the absolute and the relative margin of preference.

Source: International Trade Centre

Pillar 2: Efficiency of customs administration

2.01 Burden of customs procedures

How would you rate the level of efficiency of customs procedures (related to the entry and exit of merchandise) in your country? [1 = extremely inefficient; 7 = extremely efficient] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

2.02 Customs services index

Extent of services provided by customs authorities and related agencies | 2009 or most recent year

This variable is based on 15 Global Express Association customs barriers survey questions capturing different aspects of the services offered by customs and related agencies. The services included are the following: clearance of shipments via electronic data interchange; separation of physical release of goods from the fiscal control; full-time (24 hours/7 days a week) automated processing; customs working hours adapted to commercial needs; fee for services in normal service hours; inspection and release of goods arriving by air by the operator's facility; automated risk assessment as primary basis for physical examination of shipments; multiple inspections (inspections by agencies other than customs), and the promptness of those inspections; exemptions from full customs formalities for shipments of minimal value; exemptions from a duties and taxes for shipments of minimal value; clearance of shipments by a third party; appeal of customs decisions to a higher level or an independent tribunal; and use of reference prices or arbitrary uplifts to invoice values. The maximum score an economy can obtain is 12.

Source: Global Express Association

Pillar 3: Efficiency of import-export procedures

3.01 Efficiency of the clearance process

Efficiency of the clearance process by customs and border control agencies [1 = very low; 5 = very high] | 2012

This variable assesses the effectiveness and efficiency of the clearance process by customs and other border control agencies in the eight major trading partners of each country. Respondents to the Logistics Performance Index (LPI) survey were asked to evaluate the effectiveness and efficiency of clearance in the country in which they work, based on their experience in international logistics, on a 1-to-5 scale compared with generally accepted industry standards or practices.

Source: The World Bank, *Logistics Performance Index 2012*

3.02 Time to import

Number of days necessary to comply with all procedures required to import goods | 2011

The time calculation for a procedure starts from the moment it is initiated and runs until it is completed. If a procedure can be accelerated for an additional cost, the fastest legal procedure is chosen. It is assumed that neither the exporter nor the importer wastes time and that each commits to completing each remaining procedure without delay. Procedures that can be completed in parallel are measured as simultaneous. The waiting time between procedures—for example, during unloading of the cargo—is included in the measure.

Source: The World Bank, *Doing Business 2012*

3.03 Documents to import

Number of all documents required to import goods | 2011

This variable takes into account all documents required to import the goods that are recorded. It is assumed that the contract has already been agreed upon and signed by both parties. Documents include bank documents, customs declaration and clearance documents, port filing documents, import licenses, and other official documents exchanged between the concerned parties. Documents filed simultaneously are considered different documents but with the same time frame for completion.

Source: The World Bank, *Doing Business 2012*

3.04 Cost to import

Cost (US$ per container) associated with all the procedures required to import goods | 2011

This variable measures the fees levied on a 20-foot container in US dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents, administrative fees for customs clearance and technical control, terminal handling charges, and inland transport. The cost measure does not include tariffs or trade taxes. Only official costs are recorded.

Source: The World Bank, *Doing Business 2012*

3.05 Time to export

Number of days necessary to comply with all procedures required to export goods | 2011

The time calculation for a procedure starts from the moment it is initiated and runs until it is completed. If a procedure can be accelerated for an additional cost, the fastest legal procedure is chosen. It is assumed that neither the exporter nor the importer wastes time and that each commits to completing each remaining procedure without delay. Procedures that can be completed in parallel are measured as simultaneous. The waiting time between procedures—for example, during unloading of the cargo—is included in the measure.

Source: The World Bank, *Doing Business 2012*

3.06 Documents to export

Number of documents required to export goods | 2011

This variable takes into account all documents required to export the goods are recorded. It is assumed that the contract has already been agreed upon and signed by both parties. Documents include bank documents, customs declaration and clearance documents, port filing documents, import licenses, and other official documents exchanged between the concerned parties. Documents filed simultaneously are considered different documents but with the same time frame for completion.

Source: The World Bank, *Doing Business 2012*

3.07 Cost to export

Cost (US$ per container) associated with all the procedures required to export goods | 2011

This variable measures the fees levied on a 20-foot container in US dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents, administrative fees for customs clearance and technical control, terminal handling charges, and inland transport. The cost measure does not include tariffs or trade taxes. Only official costs are recorded.

Source: The World Bank, *Doing Business 2012*

Pillar 4: Transparency of border administration

4.01 Irregular payments in exports and imports

In your country, how common is it for firms to make undocumented extra payments or bribes connected with imports and exports? [1 = common; 7 = never occurs] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

4.02 Corruption Perceptions Index

Index of the perceived level of public-sector corruption [0 = very high; 10 = very low] | 2011 (Note that the information used is based on survey data gathered between December 2009 and September 2011)

The Corruption Perceptions Index score relates to perceptions of the degree of public-sector corruption as seen by business people and country analysts and ranges between 0 (high) and 10 (low).

Source: Transparency International

Pillar 5: Availability and quality of transport infrastructure

5.01 Airport density

Number of airports per million population | 2010

Number of airports with at least one scheduled flight in 2010 per million population

Source: International Air Transport Association, SRS Analyser

5.02 Transshipment connectivity index

Type of transshipment connections available to shippers from each country/economy on bilateral routes [0 = low connectivity; 100 = high connectivity] | 2011

This index aims at reflecting the geographical aspects of the liner service supply. In the absence of direct liner shipping between two countries, the cargo will have to be transshipped in a port of a third or even fourth country in order to reach the destination country. The index score is the weighted sum of the four connection types: the number of first-order connections (connection without transshipment) multiplied by 1, the number of second-order connection (connection with one transshipment) multiplied by 0.5, the number of third-order connections (connections with two transshipments) multiplied by 0.33, and the number of fourth-order connections (connection with three transshipments) multiplied by 0.25. Where the weights represent the efficacy of the connections, Landlocked countries are excluded from the index calculation.

Source: United Nations Conference and Trade and Development

5.03 Paved roads

Paved roads as a percentage of total roads | 2008 or most recent year available

Paved roads are those surfaced with crushed stone (macadam) and hydrocarbon binder or bituminized agents, with concrete, or with cobblestones. This indicator shows paved roads as a percentage of all the country/economy's roads, measured in length.

Source: The World Bank, *World Development Indicators Online* (retrieved on December 23, 2011); national sources

5.04 Quality of air transport infrastructure

How would you assess passenger air transport infrastructure in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

5.05 Quality of railroad infrastructure

How would you assess the railroad system in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

5.06 Quality of roads

How would you assess roads in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

5.07 Quality of port infrastructure

How would you assess port facilities in your country? [1 = extremely underdeveloped; 7 = well-developed and efficient by international standards]. For landlocked countries, this measures the ease of access to port facilities and inland waterways | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

Pillar 6: Availability and quality of transport services

6.01 Liner Shipping Connectivity Index

Quantity of services provided by liner companies (maximum value in 2004 = 100) | 2011 or most recent

This indicator captures how well countries are connected to global shipping networks. It is based on five components of the maritime transport sector: number of ships, their container-carrying capacity, maximum vessel size, number of services, and number of companies that deploy container ships in a country's ports. For each component, a country's value is divided by the maximum value of each component in 2004, the five components are averaged for each country, and the average is divided by the maximum average for 2004 and multiplied by 100. The index generates a value of 100 for the country, with the highest average index achieved in 2004.

Source: United Nations Conference and Trade and Development

6.02 Ease and affordability of shipment

Ease of arranging competitively priced international shipments [1 = very low; 5 = very high] | 2012

This variable assesses the ease and affordability associated with arranging international shipments. Respondents to the Logistics Performance Index (LPI) survey were asked to evaluate the ease and affordability associated with arranging international shipments to or from eight countries (major trading partners) with which they conduct business. Performance was evaluated using a 5-point scale (1 for the lowest score, 5 for the highest), based on their experience in international logistics and in accordance with generally accepted industry standards or practices.

Source: The World Bank, *Logistics Performance Index 2012*

6.03 Logistics competence

Competence and quality of logistics services (e.g., transport operators, customs brokers) [1 = very low; 5 = very high] | 2012

This variable evaluates the competence of the local logistics industry. Respondents to the Logistics Performance Index (LPI) survey were asked to evaluate the competence of the local logistics industry in the eight countries (major trading partners) with which they conduct business. Performance was evaluated using a 5-point scale (1 for the lowest score, 5 for the highest), based on their experience in international logistics and in accordance with generally accepted industry standards or practices.

Source: The World Bank, *Logistics Performance Index 2012*

6.04 Tracking and tracing ability

Ability to track and trace consignments [1 = very low; 5 = very high] | 2012

This variable assesses the ability to track and trace international shipments (consignments). Respondents to the Logistics Performance Index (LPI) survey were asked to evaluate the ability to track and trace international shipments (consignments) when shipping to or from eight countries (major trading partners) with which they conduct business. Performance was evaluated using a 5-point scale (1 for the lowest score, 5 for the highest), based on their experience in international logistics and in accordance with generally accepted industry standards or practices.

Source: The World Bank, *Logistics Performance Index 2012*

6.05 Timeliness of shipments in reaching destination

Frequency of shipments reaching the consignee within the scheduled delivery [1 = very low; 5 = very high] | 2012

This variable assesses how often shipments reach the consignee within the scheduled delivery time. Respondents to the Logistics Performance Index (LPI) survey were asked to evaluate the timeliness of shipments in reaching destination when arranging shipments to eight countries (major trading partners) with which they conduct business. Performance was evaluated using a 5-point scale (1 for the lowest score, 5 for the highest), based on their experience in international logistics and in accordance with generally accepted industry standards or practices.

Source: The World Bank, *Logistics Performance Index 2012*

6.06 Postal service efficiency

To what extent do you trust your country's postal system to have a friend mail a small package worth US$100 to you? [1 = do not trust at all; 7 = trust completely] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

6.07 GATS commitments in the transport sector

Index of commitments in the transport sector under the General Agreement on Trade in Services (GATS) | 2010 or most recent year available

This indicator measures the extent of commitments for trade-related services in the transportation sector under the General Agreement on Trade in Services (GATS). It covers the following sectors: air transport services, maritime transport services (only for non-landlocked countries), rail transport services, road transport services, and services auxiliary to all modes of transport. Passenger transport has been excluded across all sectors. Only subsectors where commitments to opening up completely have been taken into account, and the results have been weighted by 2010 global trade data.

Source: International Trade Centre and authors' calculations

Pillar 7: Availability and use of ICTs

7.01 Extent of business Internet use

To what extent do companies within your country use the Internet in their business activities (e.g., buying and selling goods, interacting with customers and suppliers)? [1 = not at all; 7 = extensively] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

7.02 Mobile telephone subscriptions

Mobile telephone subscriptions per 100 population | 2010 or most recent year available

According to the World Bank, mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service using cellular technology, which provides access to switched telephone technology. Postpaid and prepaid subscriptions are included. This can also include analogue and digital cellular systems but should not include non-cellular systems. Subscribers to fixed wireless, public mobile data services, or radio paging services are not included.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators Database 2011* (December 2011 edition)

7.03 Broadband Internet subscribers

Total broadband Internet subscribers per 100 population | 2010 or most recent year available

The International Telecommunication Union considers broadband to be any dedicated connection to the Internet of 256 kilobits per second or faster, in both directions. *Broadband subscribers* refers to the sum of DSL, cable modem, and other broadband (for example, fiber optic, fixed wireless, apartment LANs, satellite connections) subscribers.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators Database 2011* (December 2011 edition)

7.04 Government Online Service Index

The Government Online Service Index assesses the quality of government's delivery of online services [0 = low; 1 = high] | 2012

This index captures a government's performance in delivering online services to the citizens. There are four stages of service delivery (Emerging, Enhanced, Transactional, and Connected). Online services are assigned to each stage according to their degree of sophistication, from the more basic to the more sophisticated. In each country, the performance of the government in each of the four stages is measured as the number of services provided as a percentage of the maximum services in the corresponding stage. Examples of services include online presence, deployment of multimedia content, governments' solicitation of citizen input, widespread data sharing, and use of social networking. For more details about the methodology employed and the assumptions made to compute this indicator, please consult the UN's Global E-Government Survey 2012's dedicated page at http://www2.unpan.org/egovkb/global_reports/12report.htm

Source: United Nations, *UN E-Government Survey 2012: E-Government for the People*

7.05 Internet users

Percentage of individuals using the Internet | 2010

Internet users are people with access to the worldwide network.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators Database 2011* (December 2011 edition)

Pillar 8: Regulatory environment

8.01 Property rights

Composite indicator capturing the degree of protection of property rights and intellectual property from the Global Competitiveness Index 2011–2012

This indicator is the average of two variables: *Property rights:* How would you rate the protection of property rights, including financial assets, in your country? (1 = very weak, 7 = very strong) and *Intellectual property protection:* How would you rate intellectual property protection, including anti-counterfeiting measures, in your country? (1 = very weak, 7 = very strong).This composite variable corresponds to composite indicator 1.A.1 from the Global Competitiveness Index 2011–2012.

Source: World Economic Forum, *The Global Competitiveness Report 2011–2012*

8.02 Ethics and corruption

Composite indicator assessing the level of ethical standards and corruption from the Global Competitiveness Index 2011–2012.

This indicator is the average of two variables: *Diversion of public funds:* In your country, how common is diversion of public funds to companies, individuals, or groups due to corruption? (1 = very common; 7 = never occurs) and *Public trust of politicians:* How would you rate the level of public trust in the ethical standards of politicians in your country? (1 = very low; 7 = very high). This composite variable corresponds to composite indicator 1.A.2 from the Global Competitiveness Index 2011–2012.

Source: World Economic Forum, *The Global Competitiveness Report 2011–2012*

8.03 Undue influence

Composite indicator capturing the degree of undue influence in the judicial system and among government officials from the Global Competitiveness Index 2011–2012.

This indicator is the average of two variables: *Judicial independence:* To what extent is the judiciary in your country independent from influences of members of government, citizens or firms? (1 = heavily influenced; 7 = entirely independent) and *Favoritism in decisions of government officials:* To what extent do government officials in your country show favoritism to well-connected firms and individuals when deciding upon policies and contracts? (1 = always show favoritism; 7 = never show favoritism). This composite variable corresponds to composite indicator 1.A.3 from the Global Competitiveness Index 2011–2012.

Source: World Economic Forum, *The Global Competitiveness Report 2011–2012*

8.04 Government efficiency

Composite indicator capturing the efficiency of the government from the Global Competitiveness Index 2011–2012.

This indicator is the average of five variables: *Wastefulness of government spending:* How would you rate the composition of public spending in your country? (1 = extremely wasteful; 7 = highly efficient in providing necessary goods and services); *Burden of government regulation:* How burdensome is it for businesses in your country to comply with governmental administrative requirements (e.g., permits, regulations, reporting)? (1 = extremely burdensome; 7 = not burdensome at all); *Efficiency of legal framework in setting disputes:* How efficient is the legal framework in your country for private businesses to settle disputes? (1 = extremely inefficient; 7 = highly efficient); *Efficiency of legal framework in challenging regulations:* How efficient is the legal framework in your country for private businesses to challenge the legality of government actions and/or regulations? (1 = extremely inefficient; 7 = highly efficient); and *Transparency of government policymaking:* How easy is it for businesses in your country to obtain information about changes in government policies and regulations affecting your industry? (1 = impossible; 7 = extremely easy). This composite variable corresponds to composite indicator 1.A.4 from the Global Competitiveness Index 2011–2012.

Source: World Economic Forum, *The Global Competitiveness Report 2011–2012*

8.05 Domestic competition

Composite indicator measuring the intensity of domestic competition and the quality of related policies from the Global Competitiveness Index 2011–2012.

This indicator is the average of eight variables: *Intensity of local competition:* How would you assess the intensity of competition in the local markets in your country? (1 = limited in most industries; 7 = intense in most industries); *Extent of market dominance:* How would you characterize corporate activity in your country? (1 = dominated by a few business groups; 7 = spread among many firms); *Effectiveness of anti-monopoly policy:* To what extent does anti-monopoly policy promote competition in your country? (1 = does not promote competition; 7 = effectively promotes competition); *Extent and effect of taxation:* What impact does the level of taxes in your country have on incentives to work or invest? (1 = significantly limits incentives to work or invest; 7 = has no impact on incentives to work or invest); *Total tax rate,* defined as a combination of profit tax (% of profits), labor tax and contribution (% of profits), and other taxes (% of profits); *Number of procedures to start a business; Time required to start a business,* defined as number of days required to start a business; and *Agricultural policy costs:* How would you assess the agricultural policy in your country? (1 = it is excessively burdensome for the economy; 7 = it balances the interests of taxpayers, consumers, and producers). This composite variable corresponds to indicator 6.A.1 from the Global Competitiveness Index 2011–2012.

Source: World Economic Forum, *The Global Competitiveness Report 2011–2012*

8.06 Efficiency of the financial market

Composite indicator measuring the efficiency of the domestic financial sector from the Global Competitiveness Index 2011–2012

This indicator is the average of five variables: *Financial market sophistication:* How would you assess the level of sophistication of financial markets in your country? (1 = poor by international standards; 7 = excellent by international standards); *Financing through local equity market:* How easy is it to raise money by issuing shares on the stock market in your country? (1 = very difficult; 7 = very easy); *Ease of access to loans:* How easy is it to obtain a bank loan in your country with only a good business plan and no collateral? (1 = very difficult; 7 = very easy); *Venture capital availability:* In your country, how easy is it for entrepreneurs with innovative but risky projects to find venture capital? (1 = very difficult; 7 = very easy); and *Strength of investor protection* index on a scale of 0–10 (best), defined as 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). This composite variable corresponds to indicator 8.A from the Global Competitiveness Index 2011–2012.

Source: World Economic Forum, *The Global Competitiveness Report 2011–2012*

8.07 Openness to foreign participation

This variable is calculated as the average of four variables: Ease of hiring foreign labor, Prevalence of foreign ownership, Business impact of rules on FDI and Openness to multilateral trade rules.

8.07a Ease of hiring foreign labor

To what extent does labor regulation in your country limit the ability to hire foreign labor? [1 = very much limits hiring foreign labor; 7 = does not limit hiring foreign labor at all] | 2011, 2012.

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

8.07b Prevalence of foreign ownership

How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

8.07c Business impact of rules on FDI

To what extent do rules governing foreign direct investment (FDI) encourage or discourage it? [1 = strongly discourage FDI; 7 = strongly encourage FDI] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

8.07d Openness to multilateral trade rules

Openness to multilateral trade rules index [0 = lowest; 100 = highest] | 2011

This index evaluates the overall participation of countries in multilateral trade rules or instruments (MTRs). These rules are all internationally elaborated legal standards currently regulating trade in specific areas. MTRs are primarily comprised of conventions and treaties that countries ratify or accede to, and international model laws that are incorporated into national law. The index is based on ITC's Trade Treaties map–LegaCarta system, which analyzes the position of each country (in terms of accession/nonaccession and incorporation/nonincorporation) regarding some 280 MTRs as well as 450 protocols or amendments overseen by 28 different international organizations. For the purposes of this index, 40 core MTRs were selected, and each was rated with a score depending on its importance and relevance to trade. The 40 core instruments belong to seven categories (contracts, customs, dispute resolution, governance, intellectual property, investment, and air transport). Each category is given an equal weight in the calculation of the index. Selection of the core instruments is based on their importance and relevance to trade and their universality. The importance and relevance to trade of an instrument is determined by taking into account several criteria including: the impact of its provisions on international trade (reduction of transactional costs, trade facilitation, harmonization, transparency, predictability, creation of a business-friendly business climate, support of private-sector activities, and encouragement of foreign direct investment), the opinion of international legal experts, and the views of the international bodies administering these instruments. *Universality* means that the selected MTRs can potentially be applied by all countries, notwithstanding their geographical position or economic level. For example, maritime transport conventions, however important, were not taken into account because of their weak relevance for landlocked countries; treaties dealing with securities and insider trading were not included because they do not represent a priority in countries that have not developed sophisticated financial markets. Accession to the World Trade Organization (WTO) Agreements is not taken into account in this index because WTO accession does not depend exclusively on the will of a non-member state to join the WTO.

Source: International Trade Centre, based on data from the Trade Treaties map–LegaCarta database

8.08 Availability of trade finance

In your country, how easy is it to obtain trade finance at affordable cost (trade credit insurance and trade credit such as letters of credit, bank acceptances, advanced payments, open account arrangements) [1 = common; 7 = never occurs] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

Pillar 9: Physical security

9.01 Reliability of police services

To what extent can police services be relied upon to enforce law and order in your country? [1 = cannot be relied upon at all; 7 = can always be relied upon] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

9.02 Business costs of crime and violence

Does the incidence of crime and violence impose costs on businesses in your country? [1 = significant costs; 7 = no costs] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

9.03 Business costs of terrorism

Does the threat of terrorism impose costs on businesses in your country? [1 = significant costs; 7 = no costs] | 2010, 2011

Source: World Economic Forum, Executive Opinion Survey 2010, 2011

CHAPTER 2.2

Developing Africa's Infrastructure for Enhanced Competitiveness

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As seen in the previous chapters of this *Report,* Africa suffers from a pronounced infrastructure deficit. Compared with countries in other regions, African countries have a low stock of infrastructure, particularly in energy and transportation, and the potential for information and communication technologies (ICTs) has not been fully harnessed. Coupled with burdensome trade regulations (as noted in Chapter 2.1), these deficiencies have constrained gains in domestic productivity and present a critical bottleneck to more regional integration.

Against this backdrop, this chapter examines the link between infrastructure development and competitiveness in Africa in greater detail. This connection is analyzed while remembering that competitiveness is determined by a number of interrelated factors, policies, and institutional capabilities, as well as the initial conditions as discussed in Chapter 1.1. This chapter focuses on energy, transportation, and ICTs. It examines the state of infrastructure in these sectors and the challenges to infrastructure development in Africa, including its regulatory environment. It also analyzes the impact of infrastructure development on Africa's competitiveness and provides the way forward. The chapter draws on 16 country studies undertaken by the African Development Bank (AfDB), the results of which inform the analysis, conclusions, and recommendations presented here.

Inadequate infrastructure has raised the transaction costs of business in most African economies. Today African countries exhibit the lowest levels of productivity of all low-income countries and are among the least competitive economies in the world (see Chapter 1.1). Inadequate infrastructure has been estimated to shave off at least 2 percent of Africa's annual growth.[1] With adequate infrastructure, African firms could achieve productivity gains of up to 40 percent.[2]

Infrastructure that is sufficient and works properly is crucial for Africa's economic integration. African economies can begin the process of deep integration if their infrastructure networks are designed in such a way as to link production centers and distribution hubs across the continent, as the networks of developed economies do. Such infrastructure will enable Africa to compete effectively, tap into regional markets, and

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This chapter focuses on three sectors—energy, transportation (including roads, railways, air transport, and ports), and ICTs—and is based on 16 infrastructure country studies undertaken by the African Development Bank (AfDB): Algeria, Egypt, and Morocco (North Africa); Cameroon and Chad (Central Africa); Burkina Faso, Ghana, Nigeria, and Senegal (West Africa); Ethiopia, Kenya, Tanzania, and Uganda (East Africa); and Mozambique, South Africa, and Zambia (Southern Africa). The individual country studies were prepared by the following AfDB staff: Gilbert Galibaka, Thierry Kangoye, Succès Assyongar Masra, Ralf Kruger, Audrey Verdier-Chouchane, Jennifer Mbabazi Moyo, Daniel Isooba, Jacqueline Odula, Peter Ondiege, Emílio A. F. Dava; and the following consultants: Ishmael Abeyie, John Luiz, and Thierry Urbain Yogo. The authors also gratefully acknowledge the very useful comments provided by Steve Kayizzi-Mugerwa, Director, AfDB Development Research Department; Issa Faye, Manager, AfDB Research Division; Emelly Mutambatsere and Anthony Simpasa, AfDB Development Research Department; and the above-mentioned individual country study authors.

benefit from globalization through investment and trade. To achieve this calls for the construction of an efficient and secure national and cross-border physical infrastructure as well as a coherent system of regulation for business transactions.[3]

Infrastructure is also critical for the promotion of inclusive and sustainable growth. Rural infrastructure—notably feeder roads and transmission lines that connect rural communities to national grids—enable individuals, households, communities, and small businesses to embark on income-generating activities thanks to improved access to electricity and links to markets. The use of renewable energy or environment-friendly sources of energy—including solar, wind, geothermal, and hydropower, with all of which Africa is well endowed—would contribute to making growth sustainable.

A considerable investment in infrastructure that uses innovative sources of funding is needed to address Africa's low level of competitiveness (see Chapter 1.1). Indeed, the Programme for Infrastructure Development in Africa (PIDA) estimates that Africa will need to invest up to US$93 billion annually until 2020 for both capital investment and maintenance.[4] Given the substantial amounts involved, governments will need to be innovative in the search for sustainable approaches to infrastructure development as well as financing. The private sector will need to play an increasingly important role. Governments will do well to create conditions where private-sector engagement is encouraged, probably through public-private partnerships (PPPs). Efficiency gains from performance improvements in infrastructure provision are themselves a significant source of finance,[5] and the development of infrastructure bonds as a financing vehicle will need to be encouraged.

Adequate maintenance plans are prerequisites for sustainable infrastructure. Maintenance is not only corrective but also preventative because it inspects assets and reduces the risk of failure. Costs associated with statutory maintenance can be substantial—even considerably larger than the value of the asset—yet providing for these maintenance costs is crucial. Without adequate maintenance, infrastructure deteriorates quickly and is unsustainable.

Indeed, the longer-term performance of the ICT sector should be reviewed in light of the adequacy of maintenance plans. Thus far, ICT sector performance has been good, albeit from a low base. It is noteworthy, however, that although ICT infrastructure is relatively new, it could rapidly become obsolete and downgraded if maintenance plans are not in place and implemented. It is therefore critically important to make adequate provisions to ensure maintenance is undertaken in a timely manner, thereby making gains from ICTs sustainable.

The rest of this chapter will elaborate on issues of African infrastructure and competitiveness, focusing on the energy, transportation, and ICT sectors. The next section considers the impact of infrastructure on country competitiveness; the following section focuses on the state of Africa's infrastructure and the challenges this presents, and on its regulatory environment in these three sectors. The final section provides the conclusion and way forward.

THE IMPACT OF INFRASTRUCTURE DEVELOPMENT ON AFRICA'S COMPETITIVENESS

Well-developed energy, transportation, and communication infrastructure networks are a prerequisite for linking less-developed communities to markets in a sustainable way. Effective modes of transport—including quality roads, railroads, air transport, and ports—enable entrepreneurs to get their goods and services to markets in a secure and timely manner, facilitate the movement of workers to the workplace, and encourage foreign direct investment. Economies also depend on electricity supplies that are free from interruptions and shortages so that businesses and factories can work unimpeded. In addition, a solid and extensive telecommunication network allows for a rapid and free flow of information, which increases overall economic efficiency by ensuring that businesses can communicate and make timely decisions, taking into account all available relevant information.

Infrastructure, competitiveness, and the cost of doing business

Empirical research has shown that there is a positive relationship between infrastructure investment and economic growth. Several researchers demonstrate the beneficial impact of infrastructure investments on growth in African economies; this occurs because solid infrastructure accelerates annual growth convergence rates by as much as 13 percent and also increases per capita annual growth by almost 1 percent.[6] In fact, some of this work argues that the strongest impact comes from telecommunications, followed by roads and electricity. For example, it has been estimated that investing an additional 1 percent of gross domestic product (GDP) in transportation and communications on a sustained basis increases the GDP per capita growth rate by 0.6 percent.[7]

Productivity growth—and thus increasing competitiveness—is higher in countries with an adequate supply of infrastructure services.[8] Infrastructure therefore plays a critical role in enhancing a country's competitiveness and in easing the cost of doing business,[9] as discussed in Chapter 1.1. The flipside of this relationship is that, in countries with inadequate infrastructure, firms are burdened with high costs as they try to provide infrastructure themselves, suffer potentially huge inefficiencies, or are simply unable to conduct activities for which infrastructure services are a prerequisite. The beneficial effects of infrastructure on competitiveness are captured in Box 1.

Box 1: Infrastructure development indicators and competitiveness, selected countries (2012–13)

Infrastructure, through improved connectivity, changes the incentive structure and impacts market prices, thereby improving consumer welfare and reducing the cost of doing business. It is well documented in the literature that infrastructure development reduces the asymmetry of information and agricultural market efficiencies in Africa. Improved access to price information through better transport or ICT networks reduces marketing costs, improves farm-gate prices and lessens their volatility, and enhances productive efficiency.[1]

This box illustrates the reciprocal relationship that competitiveness in countries has with infrastructure. Overall infrastructure scores were obtained by averaging the scores of the two subpillars of the infrastructure pillar of the Global Competitivenes Index (GCI): Transport infrastructure (encompassing the quality of overall infrastructure, the quality of roads, the quality of railroad infrastructure, the quality of port infrastructure, the quality of air transport infrastructure and the available airline seat kilometers) and Electricity and telephony infrastructure (encompassing the quality of electricity supply, mobile telephone subscriptions and fixed telephone lines). The scores range from 1 to 7, with 7 being the best outcome.

As shown in Figures A1 and A2, weak general

Figure A1: Cost to export

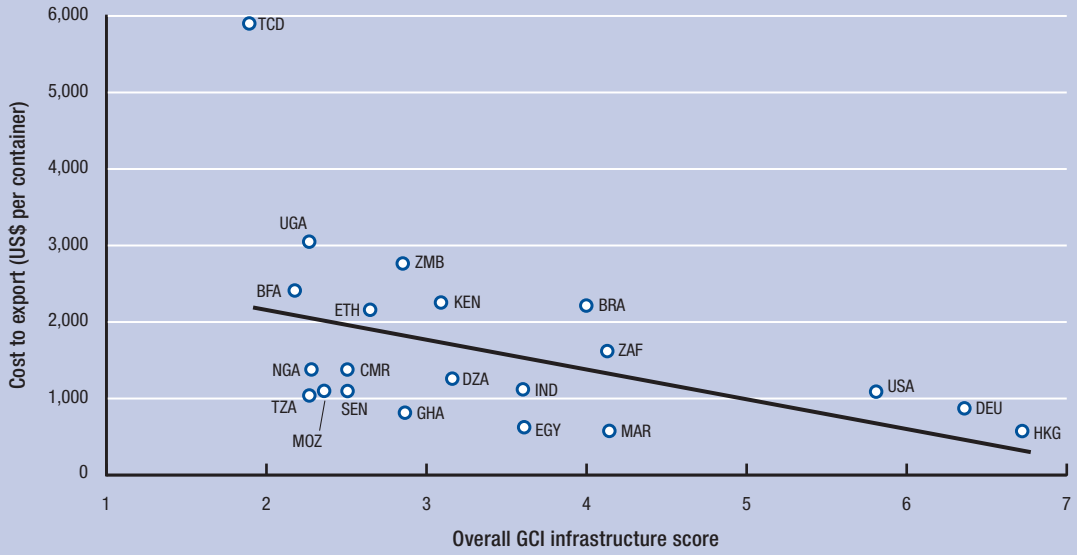
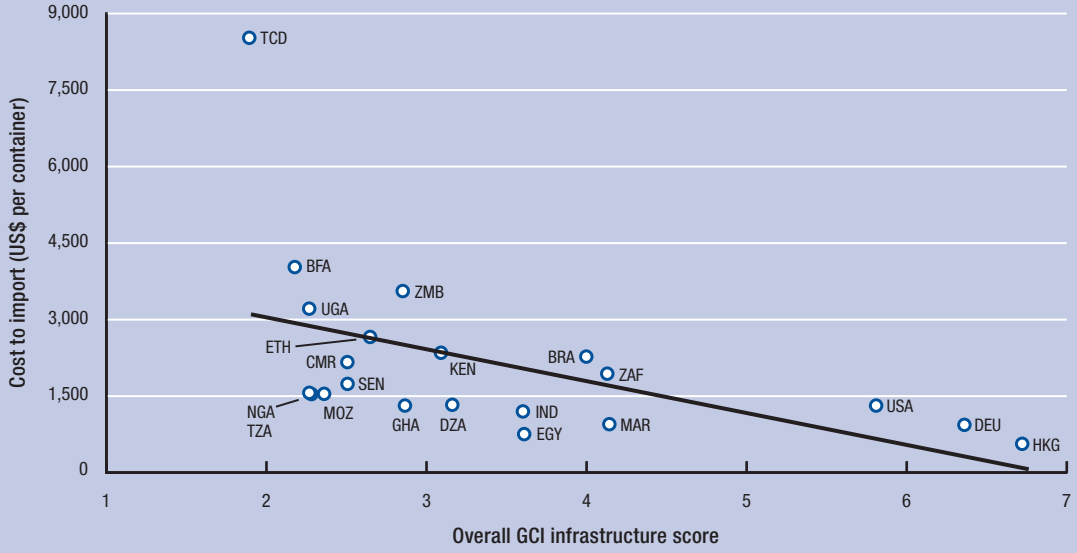


Figure A2: Cost to import



Sources: World Economic Forum, 2012; World Bank *Doing Business Database* 2012/13.

Notes: GCI = Global Competitiveness Index. Country labels are as follows: DZA (Algeria), BRA (Brazil), BFA (Burkina Faso), CMR (Cameroon), TCD (Chad), EGY (Egypt), ETH (Ethiopia), DEU (Germany), GHA (Ghana), HKG (Honk Kong SAR), IND (India), KEN (Kenya), MAR (Morocco), MOZ (Mozambique), NGA (Nigeria), SEN (Senegal), ZAF (South Africa), Tanzania (TZA), Uganda (UGA), USA (United States), and ZMB (Zambia).

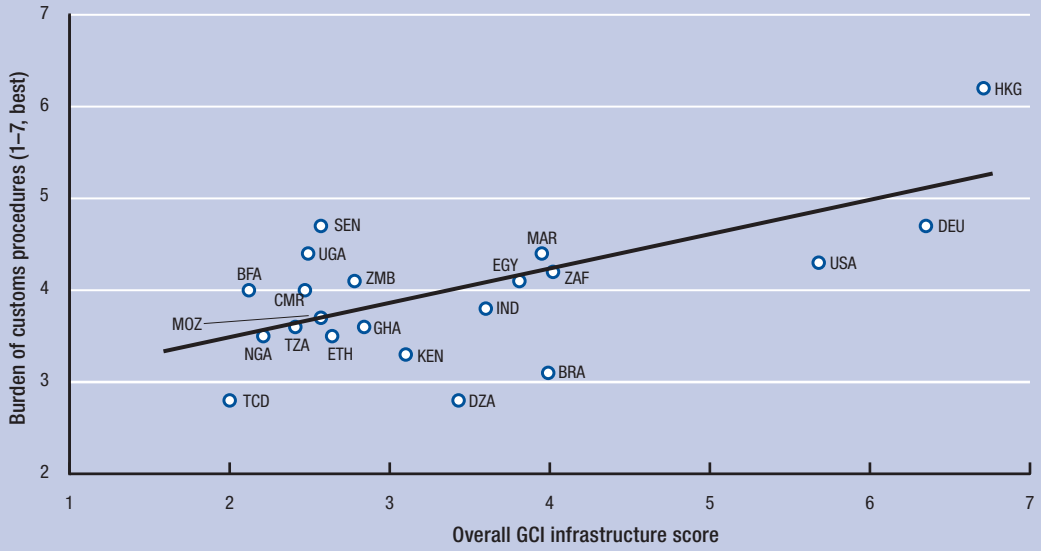
(Cont'd)

Box 1: Infrastructure development indicators and competitiveness, selected countries (2012–13) *(cont'd)*

infrastructure impedes trade because it results in increased costs.

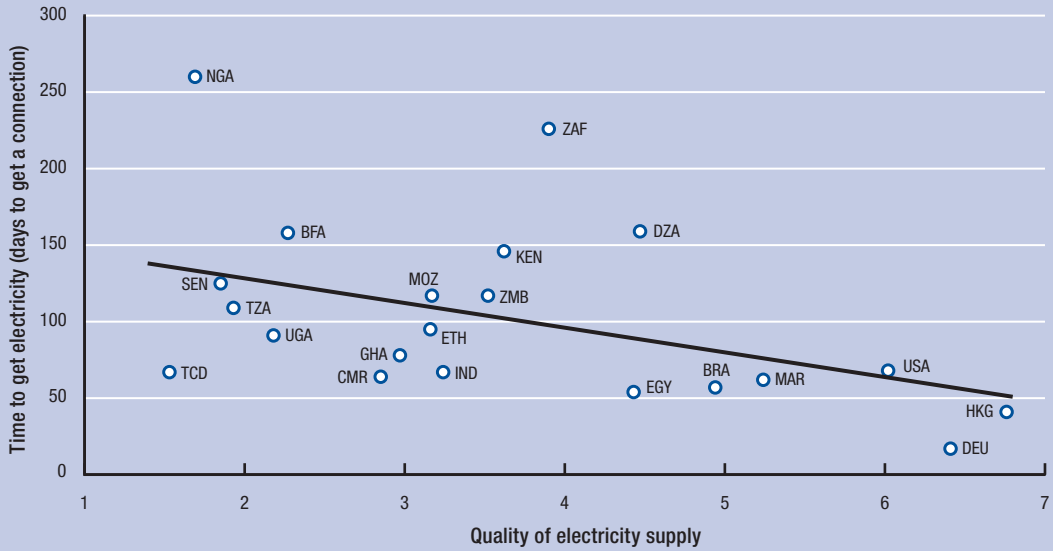
Countries with better infrastructure tend to have more efficient customs procedures (Figure B1). Access to energy is substantially improved in countries with a higher quality of electricity supply (Figure B2).

Figure B1: Impact of customs procedures



Sources: World Economic Forum, Executive Opinion Survey 2010–2011 weighted average; World Bank data, available at http://data.worldbank.org/indicator/IC.ELC.TIME.
Notes: The *burden of customs procedures* measures business executives' perceptions of their country's efficiency of customs procedures, and is computed using answers to the following question: "How would you rate the level of efficiency of customs procedures (related to the entry and exit of merchandise) in your country? [1 = extremely inefficient; 7 = extremely efficient]."
GCI = Global Competitiveness Index. For country labels, see the notes to Figures A1 and A2.

Figure B2: Impact of access to electricity



Sources: World Economic Forum, Executive Opinion Survey 2011–2012 weighted average; World Bank data, available at http://data.worldbank.org/indicator/IC.ELC.TIME.
Notes: *Quality of electricity supply* measures business executives' perceptions of their country's efficiency of electricity supply in answer to the Executive Opinion Survey question "How would you assess the quality of the electricity supply in your country (lack of interruptions and lack of voltage fluctuations)? [1 = insufficient and suffers frequent interruptions; 7 = sufficient and reliable]."
GCI = Global Competitiveness Index. For country labels, see the notes to Figures A1 and A2.

(Cont'd)

Box 1: Infrastructure development indicators and competitiveness, selected countries (2012–13) *(cont'd)*

The availability of the latest technologies has a positive impact on both the use of mobile cellular phones and on Internet use in developing countries (Figures C1 and C2).

Figure C1: Impact of the latest technology: Access to mobile phones

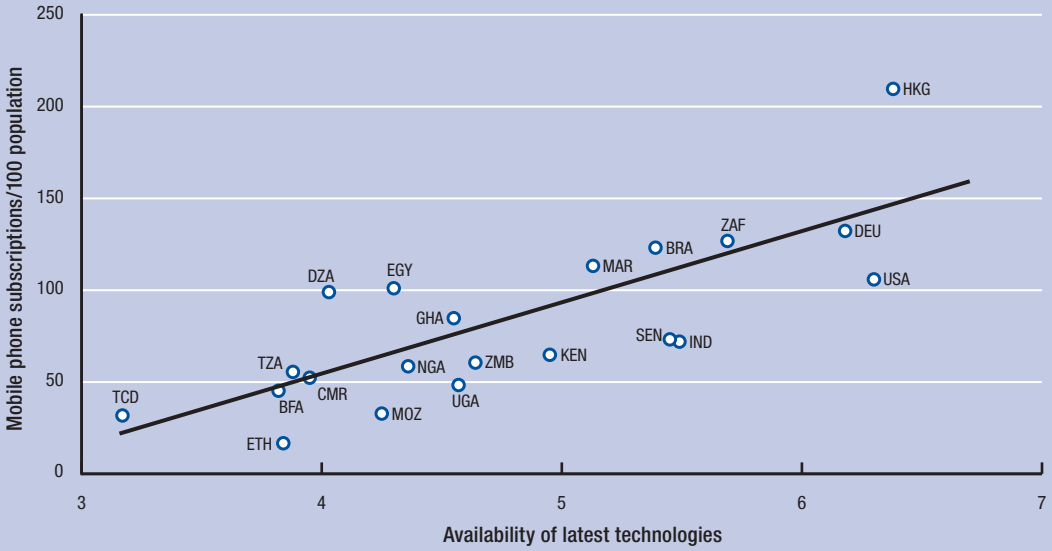
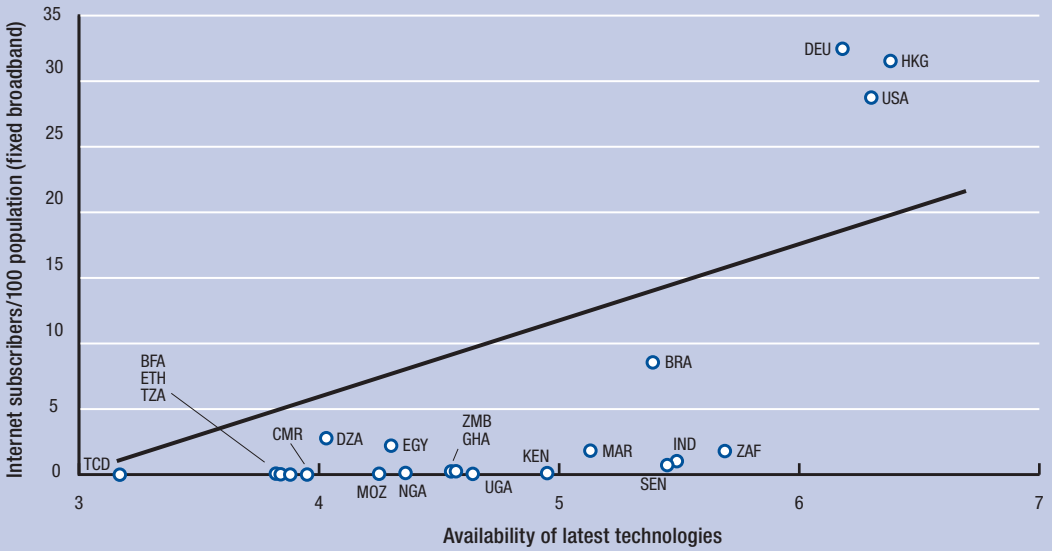


Figure C2: Impact of the latest technology: Access to the Internet



Sources: World Economic Forum's Executive Opinion Survey 2011–2012 weighted average; ITU 2012.
Notes: *Availability of latest technology* is assessed through a score (positively ranged) that is computed from answers to the Executive Opinion Survey question "To what extent are the latest technologies available in your country? [1 = not available; 7 = widely available]."
GCI = Global Competitiveness Index. For country labels, see the notes to Figures A1 and A2.

Sources: Adapted from the World Economic Forum data platform (http://www.weforum.org) and World Development Indicators online statistics (http://databank.worldbank.org).

Note

1 Aker, 2008; Aker and Mbiti, 2010; Muto and Yamano, 2009.

Box 2: Planned infrastructure projects and expenditures in selected African countries

- *Kenya:* Under Vision 2030 priorities, infrastructure sector financial requirements are estimated to rise from 398.2 billion Kenya shillings (KES) in 2012/13 to KES 486 billion in 2014/15. The government has prioritized the development of high-quality energy and ICT infrastructure, and established the National Construction Authority in 2012 to enhance the efficiency and effectiveness of government service delivery.

  Projects include the construction of over 600 kilometers of roads, the expansion of two international airports, the development and expansion of Mombasa Port, the construction of the new Lamu Port, and new railway lines. Energy projects emphasize renewable energy to increase generation capacity and access to energy. The ICT projects will include the development of Konza Techno City, which is expected to contribute 2.8 percent of GDP through ICT projects. They also include the creation of 30 ICT centers, called *digital village projects* or *PASHA centers.*

- *South Africa:* Infrastructure plans are estimated at 3.2 trillion South African rand (R), of which about a quarter are being financed and implemented; the remaining three-quarters are under assessment. Sixty percent of funding for infrastructure is allocated to electricity projects, and the cost of providing energy and transportation for these planned electricity projects is 18 percent of the development costs.

- *Tanzania:* The 2012/13 budget for infrastructure includes (1) 498.9 billion Tanzania shillings (T Sh) for electricity; (2) T Sh 1,382.9 billion for transportation, and (3) T Sh 4 billion for ICTs. Moreover, the government will implement the construction of a gas pipeline from Mtwara to Dar es Salaam with a Chinese loan of US$1,225.3 million.

- *Zambia:* The 2013 Zambian budget prioritizes roads, rail, and power generation. The government is making efforts to enhance domestic resource mobilization and create the fiscal space needed to support investment in infrastructure and human capital development, and to improve public service delivery. Domestic revenue is expected to increase from 19.0 percent of GDP in 2012 to 20.1 percent by 2015. Zambia has also issued a US$750 million Eurobond to raise development finance at one of the lowest prices for a debut issue in sub-Saharan Africa. The funds will be used for energy infrastructure (US$255 million, or 34.0 percent) and road and rail transport infrastructure (US$430 million, or 57.3 percent).

Source: AfDB, forthcoming.

The energy sector

Infrastructure constraints, particularly in transport and energy, are a significant productivity handicap that undermines competitiveness. In East African countries, such as Kenya, infrastructure shortcomings—mainly in energy and transport—are estimated to account for about 30 percent of the productivity handicap faced by Kenyan firms,[10] which are burdened with high costs as they attempt to provide the missing infrastructure or have to forego the activities that require infrastructure. In Central African countries, such as Cameroon, infrastructure constraints account for about 42 percent of the productivity gap faced by firms.[11]

The transportation sector

Reliable transport infrastructure, in all of its four subsectors—roads, railways, air transport, and ports—is an essential component of all countries' competitiveness. It is particularly crucial for landlocked countries, for which it is a prerequisite to opening up production zones. Reliable transport must be in place for companies to import and export goods, to fill orders, and to obtain supplies. For example, 78 percent of Burkina Faso's trade is carried by four main roads and rail corridors linking the country to the gateway ports in Benin, Côte d'Ivoire, Ghana, and Togo.[12] Eighty percent of the economic activity in Senegal is concentrated in Dakar.[13] And in South and East Africa, port congestion and shipment delays undermine the ability to acquire imported production inputs, with resulting production losses and higher production costs.[14]

Improvements in infrastructure therefore have the potential to open up production zones and facilitate product delivery while reducing their costs. The lack of a good road network linking the Casamance region to the other economic zones is hampering the region's enormous agricultural and horticultural production potential. Accordingly, Senegal has embarked on an ambitious program of infrastructure development to foster competitiveness. The program includes the current flagship road infrastructure project, which involves the construction of a 32-kilometer toll highway that will link Dakar to Diamnadio in the western part of the country. This road is part of the Dakar–Njaména–Djibouti corridor, and will serve the Blaise Diagne International Airport, currently under construction.

The list that follows looks at each of the subsectors of transportation in more detail:

- *Roads:* Infrastructure, particularly roads, facilitates the entry of new firms into the formal sector. Recent research shows a positive correlation between better road infrastructure and the number and size of startups.[15] Firm-level evidence suggests that more companies offering the same product in one location leads to lower prices and higher productivity. Good roads increase both the number of new firms entering a given location and the geographic size of the relevant market.[16] An assessment of the impact of the new rural road from Daleti to Oda Bildingulu in Ethiopia showed how incentives for farmers changed and resulted in a sixfold increase in the production of sesame over

the 2003/04 to 2007/08 period.[17]

- *Rail transport:* Inefficiencies and an inadequate railroad network contribute to high costs of doing business in the continent. This area is being addressed by several African countries. For instance, Zambia's focus is to improve the operational efficiency of the Zambia Railways and the TAZARA Railway (which connects Dar es Salaam in Tanzania with Kapiri Mposhi in Zambia), and promote new railway developments using the PPP framework. The government also intends to extend the Zambia Railways network to the Botswana Railways network via the planned Kazungula Bridge, which will facilitate the flow of goods and labor. In South Africa, problems with rail transport have resulted in an overuse of road transport. As a result, the World Bank's *Doing Business Database* indicates a drop in the country's overall ranking from 35 to 39 between 2008 and 2013.[18]
- *Air transport:* The importance of air transport, particularly for landlocked countries, cannot be overemphasized. It is imperative that countries enhance this sector's development to improve connectivity and safety and to reduce costs in order to promote intra-African and global trade. Air transport has to be enhanced not only by the amount and quality of physical infrastructure but also, even more importantly, by the way it is operated with regard to air-traffic control and ground-air communications, which are inadequate in much of the region and need to be boosted.[19]
- *Ports:* Enhancing port infrastructure substantially reduces the cost of production for enterprises. Accordingly, in West Africa, for instance, as a result of the recent Dakar Port Container Development Project, Senegal has been able to expand its exposure to international markets. Indeed, recent statistics indicate that the volume of the port traffic has increased by 13.37 percent over the period 2007–11. The average waiting time for ships is estimated to have dropped from 15 hours to 2 hours, and for trucks from several hours to less than 30 minutes, significantly reducing the cost of production for enterprises.[20] The port enhancement project will increase berth capacity by 50 percent and vessel productivity from 20 moves per hour to 61 moves per hour. Moreover, the port will operate the terminal continuously, on a 24-hour-a-day basis. Costs have also been reduced by improving "soft" port infrastructures because the country has implemented an electronic customs clearance system and liberalized the container shipping market.[21]

The ICT sector

Development of an adequate-quality ICT infrastructure network will enhance productivity, reduce communication costs, and promote financial inclusion and regional integration. To this end, AfDB-supported projects such as the Eastern Africa Submarine System (EASSy) cable project (a submarine system of fiber-optic cables connecting Africa to the rest of the world) and the Central African Backbone Program (a system of fiber-optic cables linking African countries to each other) are meant to enhance quality and reduce communication prices in mobile backhaul and mobile telephony. Such projects facilitate regional integration and improve outreach to peri-urban and rural areas. An assessment of the impact of EASSy, for example, suggests a reduction of wholesale bandwidth prices by at least 60 percent in Tanzania and up to 90 percent in Kenya; an increase of 150 percent to 200 percent in international bandwidth utilization within less than six months of submarine cable availability in these countries, including penetration in rural and un-served areas; and high mobile phone penetration rates, which have also improved access to banking services for the unbanked, as evidenced by the deployment of the mobile payment system M-PESA in Kenya (see Box 7). The projects may also contribute to the use of ICT applications such as e-government, e-education, and e-health.

Improving infrastructure development and competeveness: Evidence from selected African countries

To address the infrastructure gap, governments—in collaboration with the private sector and development partners—have put in place policy reforms, programs, projects, and the necessary financial resources to improve on the quantity and quality of infrastructure (see Box 2). This section highlights a few ongoing and planned infrastructure projects and committed resources in selected African countries. It is expected that the combination of these efforts will contribute to improving countries' productivity and hence their competitiveness in the coming years.

Regional infrastructure development: Lessons learned

In the transportation sector, the AfDB emphasizes the expansion of regional corridors, trunk and rural roads, railways, and urban programs that support or open up economic hubs. In the energy sector, the AfDB focuses on energy efficiency, clean and renewable energy, and the support of regional power pools. In the ICT sector, priority is given to broadband and backbone infrastructure that connect countries to one another and to the rest of the world (see Appendix A for some of the projects in which the AfDB is involved). The AfDB also finances infrastructure development geared toward promoting competitiveness in African countries through regional integration. The lessons learned from the

Box 3: Regional integration as a catalyst to Africa's economic transformation and competitiveness

Regional integration is essential to achieving structural transformation in African economies, which can boost both productivity per worker and living standards. The regional integration agenda incorporates a range of objectives, which include improving African producers' access to regional markets and integrating them into more productive regional value chains; integrating financial markets to enable capital to flow more readily among national economies; and ensuring the free movement of goods, services, labor, and capital. All these objectives require investments at a number of levels.

The African Development Bank (AfDB)'s Regional Integration Strategy (RIS) for 2009–2012 focuses on regional infrastructure, trade, and regional public goods. Lessons learned in implementing the AfDB's regional program include:

- *Regional projects are complex but transformational.* For example, the Ethiopia–Kenya Power Interconnector and the Zambia–Tanzania–Kenya Power Interconnector will link the Southern Africa Power Pool and the Eastern Africa Power Pool, resulting in a large regional market for electricity.
- *Political buy-in is critical.* An example of problems exacerbated by a lack of political buy-in is seen in the protracted negotiations around the Trans-Gambia Bridge—the bridge linking Gambia and Senegal—with the latter complaining about delays on the Gambian side in finalizing the negotiations.
- *A holistic and inclusive approach is necessary.* Political, economic, and social considerations must all be considered in project design. One example where this approach has been successful is the Kazungula Bridge, a multinational project linking Botswana and Zambia over the Zambezi River.
- *Capacity and skills are critical.* At the government and regional economic community levels, staff who have the necessary skills to negotiate and deliver projects are essential. Examples of projects that have had access to the necessary capacity and skills include the Tripartite Capacity Building Program, as well as financial and monetary integration programs in the member countries of the Common Market for Eastern and Southern Africa and the Economic Community of Central African States.
- *Hard and soft infrastructure must be blended.* For example, cross-border road projects must be supported by trade facilitation measures such as the One Stop Border Post and customs modernization, among other measures.
- *The private sector can deliver.* It is important to get the private sector involved in regional integration programs. The private sector has played an essential role in the Rift Valley Railways project that connects Kenya and Uganda, for example, as well as in the EASSy cable project that connects Africa to the rest of the world.

Source: AfDB: NEPAD, Regional Integration and Trade Department, Regional Integration Strategy (RIS) for 2009–2012.

implementation of these regional integration projects are highlighted in Box 3.

The importance of collaboration

In May 2012, in line with ongoing efforts to enhance infrastructure development, Africa's development partners—including the AfDB and the World Economic Forum—formed a Business Working Group (BWG) that draws on partners from multilateral and regional development banks. The aim is to accelerate Africa's infrastructure delivery through private-sector involvement with an emphasis on regional integration projects (see Box 4). This approach was endorsed by the African Union in January 2013.[22] The 20th Ordinary Session of the Assembly of the African Union restated the need for active collaboration among the African Union Commission, the New Partnership for Africa's Development (NEPAD) Planning and Coordinating Agency (NPCA), and the AfDB, in conjunction with the World Economic Forum, in revamping the NEPAD Infrastructure Project Preparation Facility through domestic funding and concerted efforts to increase private-sector involvement in infrastructure development. The implementation of BWG projects will bring in much-needed private-sector infrastructure development finance as well as contribute to improving the productivity and competitiveness of African economies.

AFRICA'S INFRASTRUCTURE AND REGULATORY ENVIRONMENT: CURRENT STATE AND CHALLENGES

Africa has a considerable infrastructure deficit: it lags behind other developing regions, particularly in the area of energy and transportation but also in ICTs. According to the World Bank Enterprises Survey, 26.9 percent of sub-Saharan enterprises identified transportation and 49.2 percent identified electricity as major constraints for their business in 2009.[23] In fact, only 30 percent of the population is estimated to have access to electricity in Africa, compared with 70 percent to 90 percent in other developing regions. Furthermore, road access in Africa is limited to about 34 percent of the population, compared with 50 percent in other parts of the developing world. Although considerable progress has been made in ICTs, as evidenced by the tremendous increase in mobile telephone connections over the last 10 years, Africa started from a low base and its Internet penetration rate is only about 6 percent, compared with an average of 40 percent elsewhere in the developing world.[24] Moreover, as shown in Chapter 1.1, results from the World Economic Forum's Executive Opinion Survey for 2012–2013 point to substantial gaps that remain in technological readiness (pillar 9).[25]

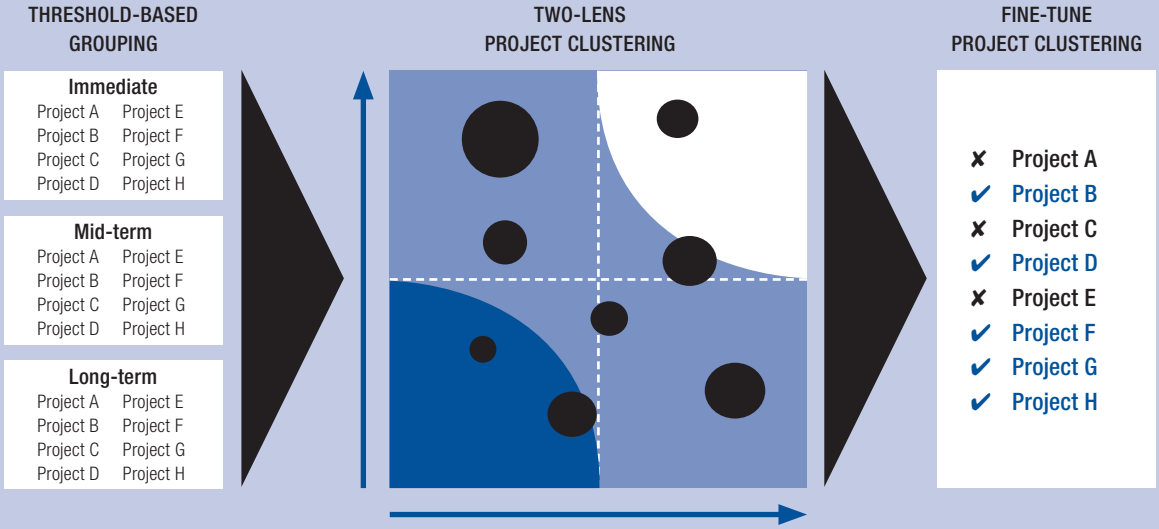
Nonetheless, the state of infrastructure development varies between and within regions and countries.

Box 4: AfDB–World Economic Forum partnership: The African Strategic Infrastructure Initiative as a platform for private-sector involvement

The Business Working Group (BWG)—a multi-stakeholder group currently composed of 35 companies and organizations—was conceived in 2012 as a way of getting international and African business leaders involved in accelerating the delivery of Africa's infrastructure by "accelerating the implementation of the PIDA (Program for Infrastructure Development in Africa) 'Priority Action Plan' programs and projects." PIDA—which was developed by the African Union Commission (AUC) in partnership with the United Nations Economic Commission for Africa (UNECA), the African Development Bank (AfDB), and the NEPAD Planning and Coordinating Agency (NPCA)—provides a strategic long-term framework to enable African stakeholders to build the infrastructure necessary to boost trade, spark growth, and create jobs. The private-sector role in Africa's infrastructure is critical. This partnership was endorsed by African heads of state, who recognize that effective public-private partnerships (PPPs) in the delivery of Africa's infrastructure are part of the key to unlocking Africa's huge economic and development potential.

In this context, the BWG has defined a methodology for identifying programs that could be accelerated based on criteria that the private sector considers to comprise minimum requirements for them to become involved in Africa's infrastructure projects, including PIDA. These BWG criteria focus on the project's attractiveness and bankability, its technical feasibility, and its potential economic impact from the private-sector perspective (see Figure A). In particular,

Figure A: BWG methodology for identifying infrastructure programs to be accelerated



Three key thresholds applied:
- Data quality/availability
- Program environment
- Program complexity

Projects grouped as:
- Potential immediate private-sector acceleration
- Potential mid-term private-sector acceleration
- Long-term project acceleration

Project realization readiness/capacity:
- Project readiness
- Regional/country readiness & capacity

Project value/impact:
- Direct project value
- Impact & secondary value creation

Consider projects well-positioned in matrices

Further assess public and BWG support

Aim for diverse pilots: Sector, region, etc.

Next step: Identify 1–2 pilots in project round tables

Source: World Economic Forum, in collaboration with The Boston Consulting Group, 2013, forthcoming.

the criteria stress the need for quantitative financial return metrics, a good legal and regulatory framework, sufficient funding for project preparation, the establishment of a project-implementing authority, and demonstrated positive economic impacts as well as strong stakeholder consultation and involvement and political will, particularly for cross-border projects.

Within PIDA, the Priority Action Plan (PAP) focuses on short-term programs expected to be initiated by 2020. PAP presents 51 immediately actionable programs across the four sectors of energy, transport, water access and food security, and ICTs, all promoting regional integration. Through this methodology, the private sector has identified an initial list of 10 priority projects from PAP for possible acceleration.

As a next step, the public-sector support and private-sector interest for each program will be confirmed at several regional roundtables to be held during 2013 and at the World Economic Forum on Africa in May 2013 in Cape Town, which will include a major pillar on Boosting Strategic Infrastructure.

The BWG also enables the public sector to benefit from objective, transparent, and informed input from the private sector on the key issues impacting on Africa's infrastructure delivery. If properly addressed through results-driven dialogue, this could create immense opportunities for private-sector participation in driving infrastructure in Africa.

Source: AfDB: NEPAD, Regional Integration and Trade Department, 2012, World Economic Forum: African Strategic Infrastructure initiative, 2013, forthcoming.

Box 5: Infrastructure in selected African countries, 2000–10

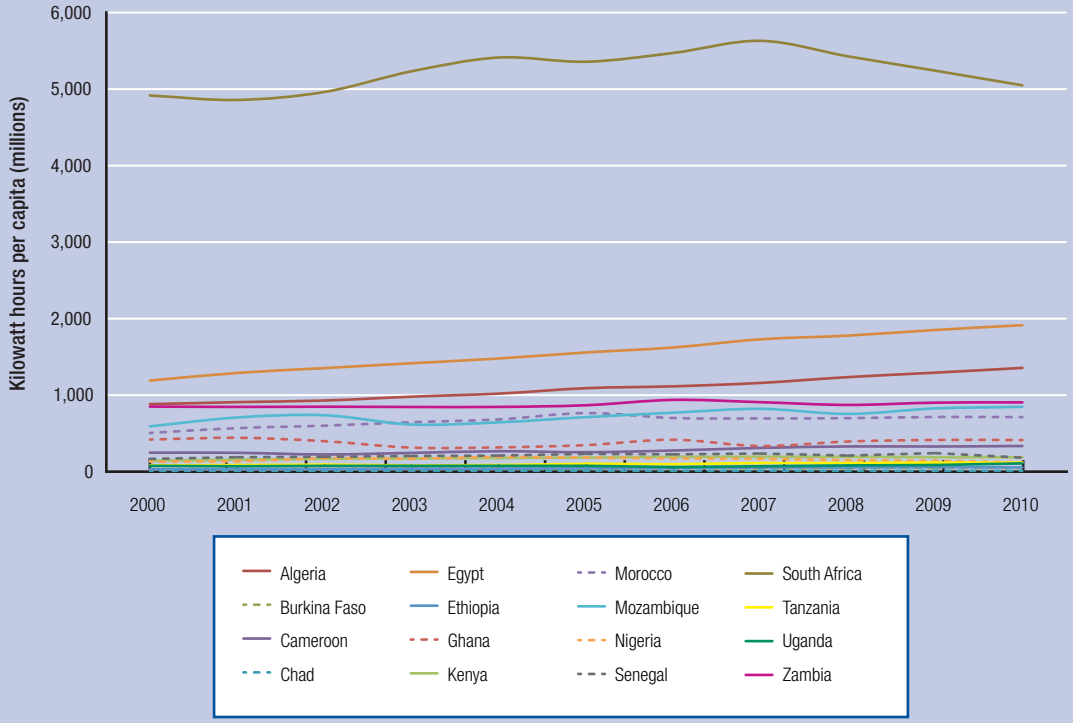
Considering the infrastructure development by region, as the figures in this box show, North African countries have, on average, better infrastructure than sub-Saharan African economies, with the exception of South Africa.[1] This can be seen with regard to electricity generation and telephone subscribers and also, to a large extent, paved roads. These figures also illustrate the varied level of infrastructure development across and within the regions. In fact, within sub-Saharan Africa, West Africa appears to have the strongest infrastructure, while Central Africa appears to have the weakest. Within West Africa, however, the infrastructure development of countries such as Burkina Faso still trails that of others. Even within countries, infrastructure development is highly uneven, with the urban areas benefitting considerably more than the rural areas.

African countries generally exhibit unimpressive progress in electricity generation, with South Africa outperforming the rest and Central African countries lagging even further behind (Figure A).

However, telephone subscriptions in North Africa in the last decade have seen phenomenal growth, and West African countries are performing better than other sub-Saharan African countries in that area (Figure B).

Relatively stagnating performances have been typical in road infrastructure improvement in most sub-Saharan African countries, which are clearly outperformed by North African countries (Figure C).

Figure A: Net electricity generation



Source: AfDB Statistics Department.

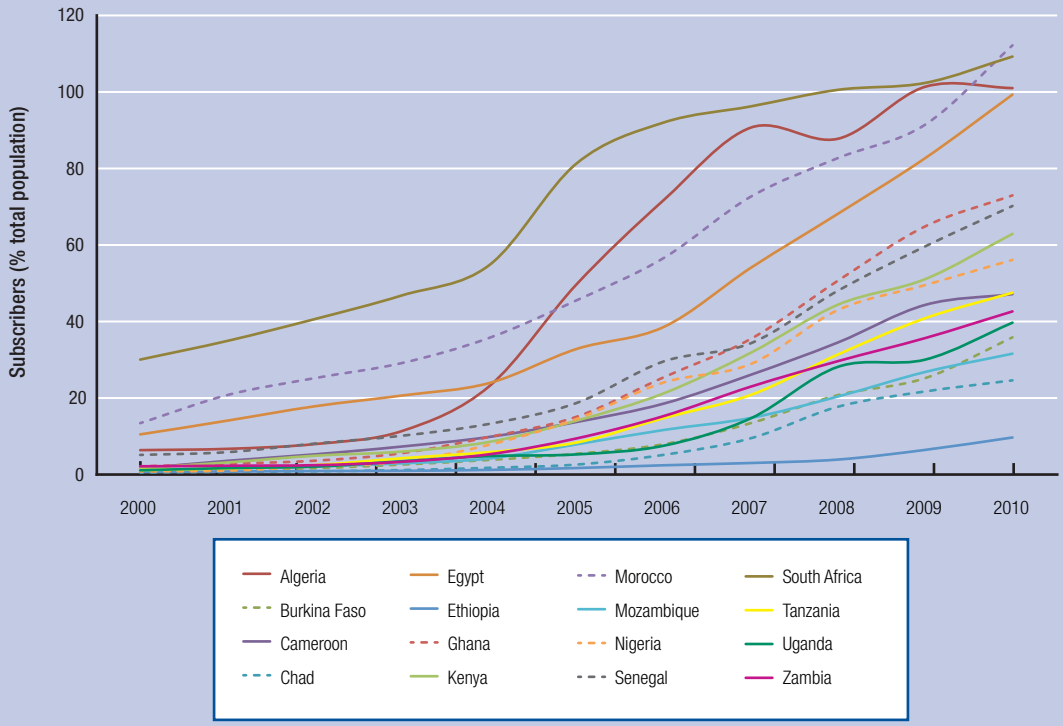
(Cont'd)

Chapter 1.1 shows that all African countries improved their Global Competitiveness Index scores at varying rates from 2006 to 2012. However, Box 5 indicates that the picture varies according to indicators and countries. In general, progress has been very slow or even negative regarding electricity generation and roads paved, while improvement in telephone subscriptions has been fast and impressive during the last decade.

Landlocked countries in Africa face particular challenges arising from the lack of multimodal infrastructure. The continent's 15 landlocked countries are constrained in getting their goods to markets and in importing goods because of the lack of multimodal infrastructure that can accommodate their particular requirements. The role of a network of infrastructure linking producers to markets through a connected platform including feeder roads, national roads, airports, and ports in connecting markets, particularly in landlocked countries, cannot be overemphasized.

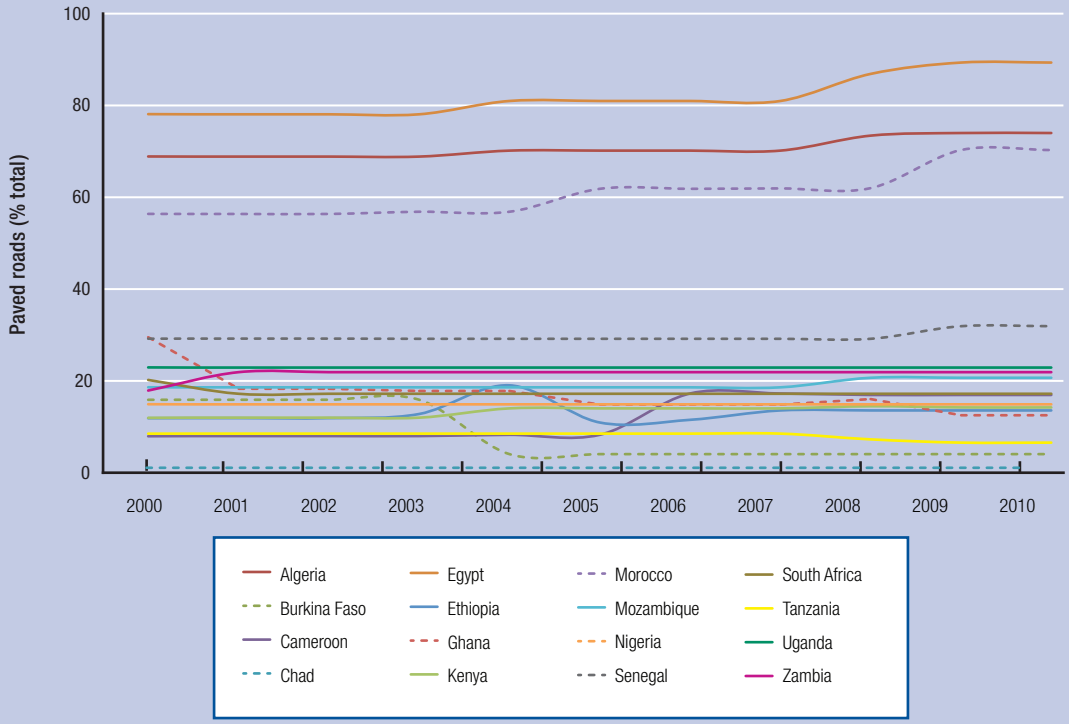
Box 5: Infrastructure in selected African countries, 2000–10 *(cont'd)*

Figure B: Mobile and fixed line telephone subscribers



Source: AfDB Statistics Department.

Figure C: Paved roads



Source: AfDB Statistics Department.

Note

1 South Africa performs better than North Africa, notably in terms of electricity generation per capita and telephone subscribers in percentage of the population (see Figures A and B).

Energy

Africa faces a huge energy deficit: the 48 countries of sub-Saharan Africa, with a combined population of 800 million, are estimated to generate roughly the same power output as Spain, a country of 45 million.[26] This energy deficit is the result of the region's limited generation capacity—the result, in turn, of a lack of long-term financing to cater for the sector's needs. The lack of large-scale investment is a consequence of the limited participation of private players and the difficulties in mobilizing long-term financing from African financial systems to fund big-ticket items such as infrastructure.

Furthermore, electrification is weak and largely uneven, and tariffs make it unaffordable for the poor. The household electrification rate is 42.7 percent, on average, for Africa, and 28.3 percent for low-income African countries. North African countries, with electrification rates of 94 percent in 2009, fare better than sub-Saharan African economies, with rates of 32 percent.[27] Within sub-Saharan Africa, the rate often falls to just 10 percent, on average, in rural areas. For example, in Ethiopia, electricity access is very good in urban areas (86 percent) but very limited in rural ones (2 percent). In Zambia, access to electricity is only 20 percent—less than half the African average, with much of that power going to the mining sector, crowding out domestic consumption. In Chad, access is less than 3 percent, with the capital city of Ndjamena accounting for 80 percent of the total electricity consumption in the entire country. In Kenya, 31 percent of households have access to electricity in the best-served province, five times more than the least-connected province at 6 percent. Although Africa's power tariffs vary widely, they are all largely unaffordable for the poor, thus limiting access or connectivity for the poor in both urban and rural areas.

System losses compound the energy deficit in Africa. On average, electric power transmission and distribution losses in Africa were estimated at 12 percent of output in 2010, equivalent to the average losses in other low-income developing countries.[28] This estimate largely masks differences across Africa. This problem seems especially pronounced in Central Africa, particularly the Democratic Republic of Congo, where the losses were estimated at 83 percent in 2010. In Southern Africa, the losses were lower but still high, at 56 percent in Botswana and 25 percent in Namibia. In East, West, and North Africa, system losses have in general declined, although they remained high at the end of 2011: 26 percent in Uganda, 24 percent in Ghana, 21 percent in Tanzania, 20 percent in Algeria (2010), and 18 percent in Senegal.

Energy sector infrastructure

In addition, aging infrastructure and rising demand have led to intermittent blackouts across all regions of Africa, undermining competitiveness. The blackouts largely started in the 1990s in East and West Africa, in 2007 in South Africa, and later (2010) in North Africa, notably in Egypt. Although these blackouts are declining, they continue to cause considerable production disruptions and losses that damage competitiveness in both low- and middle-income African economies.

Consequently, there is a critical need for innovative investments in the energy sector, including investment from domestically mobilized resources. However, the attractiveness of this investment is undermined by non–cost reflective tariffs as well as subsidies that distort relative prices and profitability. Energy facilities across Africa are in urgent need of new and innovative sources of investment, particularly for generation, transmission lines, and distribution. This much-needed investment is held back because across Africa—especially sub-Saharan Africa—even though tariffs are very high, they do not reflect actual cost because they account for only about 50 percent of the historical production costs (about 44 percent in Zambia, Niger, and Nigeria and 52 percent in Tanzania).[29] In addition, in North African countries, such as Egypt, indirect subsidies from the government also undermine investment in energy. In Mozambique, the single-buyer model (a government monopoly) currently in place utilizes unattractive fixed electricity tariffs that have been unchanged since 1997, discouraging investment in the sector.

Even beyond the much-needed physical investment, there is an urgent need to invest in the diversification of the energy mix so as to make the infrastructure sustainable. In East and Southern Africa, overreliance on hydropower energy makes the economies vulnerable to hydrological conditions. The major drought in the mid-2000s caused substantial economic losses—as high as 4 percent of GDP in Tanzania—and increased the demand for expensive emergency diesel power generation. In Northern and Western African countries, the energy mix depends largely on gas and oil reserves (thermal energy), which is more reliable than hydropower but more costly. Box 6 presents a snapshot of the AfDB's green energy initiatives.

At the regional level, urgent attention should be given to the development of regional energy infrastructure to achieve economies of scale. In the power sector, only Southern Africa has made the transition to a competitive regional power market. Only a few major investments have been made in regional energy infrastructure on the continent; these include the Ethiopia–Djibouti and Ethiopia–Kenya connections, as well as the 300 kilovolt (kV) Nigeria–Benin coastal transmission backbone. Other planned regional initiatives include the North–South power transmission corridor of 8,000 kilometers covering 11 countries from Egypt to South Africa, and the North Africa transmission line that will run from Morocco to Egypt. The NELSAP project, funded by the AfDB together with other donors, is another major regional initiative that interconnects the electric grids of the Nile Equatorial Lakes countries

of Burundi, Kenya, the Democratic Republic of Congo, Rwanda, and Uganda. Indeed, developing additional cross-border power pools will help countries achieve economies of scale and provide significant savings. For example, plans to extend the Inga hydropower site could lead to a large expansion in low-cost hydropower for the Democratic Republic of Congo, resulting in energy available for export to countries such as Zambia. Adopting a regional approach could save Zambia US$160 million annually. Tanzania also has the potential to play a significant role in regional power trade within the framework of both the East African Power Pool and the Southern Africa Power Pool.[30]

Energy sector regulatory challenges

At the national level, legislation is generally adequate to regulate the industry in countries that have electricity regulators, but its enforcement should be strengthened and the roles of energy administrators clarified. This will serve to support the principles of regulatory independence. For example, Kapika and Ebehard state that, in Zambia, although the Energy Regulation Board determines all retail electricity tariffs and has the authority to carry out general administrative functions, the principles of regulatory independence for the regulator are undermined by its lack of final authority in decision making.[31] In several other countries, such as Senegal, the duplication of efforts with several agencies and institutions involved in the administration of energy issues should be addressed. The administration should be streamlined and the involvement of different stakeholders clarified.

Moreover, the mandate for planning has to be clarified within the sector, particularly in hybrid power markets, to coordinate the planning and procurement functions. Kapika and Ebehard argue that planning is crucial for ensuring orderly market entry and the adequacy and reliability of power supplies.[32] In hybrid power markets such as Zambia's, where there is a dominant, vertically integrated state-owned utility and also private companies that operate on the margins of the sector, the planning issue can easily become hazy. Those responsible for planning should work closely with those responsible for procurement processes, so that the planning of new capacity is coordinated with the initiation of new bids.

In addition, the renewable energy potential has not been fully harnessed in Africa because of high installation costs as well as gaps in renewable energy policies, strategies, and regulatory mechanisms. Indeed, renewable energy represents an interesting alternative that could potentially help reduce the cost of access to energy for enterprises, though the installation and operating costs of some renewable energy–based power plants are still high because the related technologies are not fully mastered in most of the countries. Not only have these technical considerations been impeding the development of the sector, but renewable energy policies, strategies, and regulatory gaps also hamper investments. Although increasing investments is key for closing the energy infrastructure gap, very few countries in Africa have managed to implement appropriate public policies and regulatory mechanisms that provide investors with predictable tariffs, secured off-take agreements, access to national grids, and business-easing measures. In some countries, such as Burkina Faso, the regulatory framework for renewable energy resources is simply nonexistent, keeping potential investors' risk perception of the sector relatively high.

At the regional level, it is imperative that planning for regional infrastructure projects be coupled with the requisite regional legal and regulatory framework. For example, in the power sector, regional power pools need to harmonize with national power regulations and

Box 6: Green energy and the AfDB's initiatives

Africa's huge gaps in conventional energy infrastructure make it well placed to pursue low-carbon solutions. Africa has more than half of the world's renewable energy potential: its wind, geothermal, and hydropower potential has barely been tapped. For example, the Grand Inga Dam in the Democratic Republic of Congo has the potential to produce 100,000 megawatts (MW) of electricity, but currently yields a mere 650 MW to 750 MW. The potential to generate 7,000 MW of geothermal electric power exists in the Great Rift Valley in Eastern Africa. However, to date, only 130 MW has been exploited in Kenya and less than 8 MW in Ethiopia because of high upfront engineering costs and lack of local expertise. Regarding solar energy, many countries have favorable daily radiation levels. Some encouraging initiatives to extend access to lower-income households and public institutions are under way in several countries, including Morocco, Tunisia, Mauritius, Seychelles, and South Africa. For wind energy, countries with good potential include Cape Verde, Eritrea, Kenya, Madagascar, Mauritania, Morocco, South Africa, and Tunisia. In fact, the Cabeolica wind farm in Cape Verde, a project that received debt financing from the African Development Bank (AfDB), won the African renewable energy project of the year award in 2011.

The AfDB has recognized the green energy potential on the continent and has taken the lead with US$57 million in establishing a fund, with some other contributors, for renewable energy projects across the continent. Accordingly, it has developed energy policy with two priority areas: ensuring access to modern energy and fostering clean energy investments. Going forward, its pipeline embraces several green energy projects, including support to a 2,000 MW solar-thermal power project to export energy from Tunisia to Europe; the Turkana Wind Project (which has received US$870 million from the joint fund) in Kenya; and, in partnership with other donors, the Menengai Geothermal Plant, also in Kenya, to provide clean energy to 500,000 households.

Sources: AfDB: NEPAD Regional Integration and Trade Department, Regional Integration Strategy (RIS) for 2009–2012; http://en.wikipedia.org/wiki/Renewable_energy_in_Africa.

Figure 1: Africa's main road corridors

Source: ICA, 2009.

develop dispute resolution mechanisms, which to date has been slow.

Transportation

The ensuing discussion of the transportation sector considers the state of the infrastructure and the challenges confronting the road, rail, air, and port subsectors, as well as the regulatory framework of the entire transportation sector.

Africa's prolonged underinvestment in transportation has resulted in a dilapidated transport infrastructure. Indeed, compared with other developing countries—excluding the provision for maintenance—African countries invested 15 percent to 25 percent of GDP in transport infrastructure over the period 2005–12, on average, while India and China invested about 32 percent and 42 percent of GDP, respectively, in the same period.[33] This underinvestment has resulted in a decrepit infrastructure and considerably higher transport costs (by as much as 100 percent) in Africa than experienced by other low-income developing countries. This poses a fundamental constraint to Africa's global competitiveness and economic growth.

Road infrastructure

Although roads are the predominant mode of transport for freight and passengers in Africa, major deficits exist in road infrastructure throughout the continent. A significant percentage of Africa's road network is unpaved (52.8 percent in 2011), isolating people from basic education, health services, transport corridors, trade hubs, and economic opportunities. In Tanzania, more than 92 percent of the road network is unpaved and is therefore unusable during the rainy season. In South Africa, about 80 percent of the road network is unpaved and about 78 percent of the national road network is older than the 20 years for which it was originally designed.[34]

Moreover, access to the road network is uneven, with rural areas largely underserved. This unequal access makes the flow of goods and services to and from rural areas difficult and expensive. The urban-rural disparity in the road network is a concern across all regions of Africa. In Ethiopia, only 10.5 percent of the rural population lives within two kilometers of an all-weather road. In Zambia, Tanzania, and Burkina Faso, the comparable figures are 17 percent, 24 percent, and

Figure 2: Railways in Africa

Source: AfDB, 2010.

less than 25 percent, respectively, which are still very low.

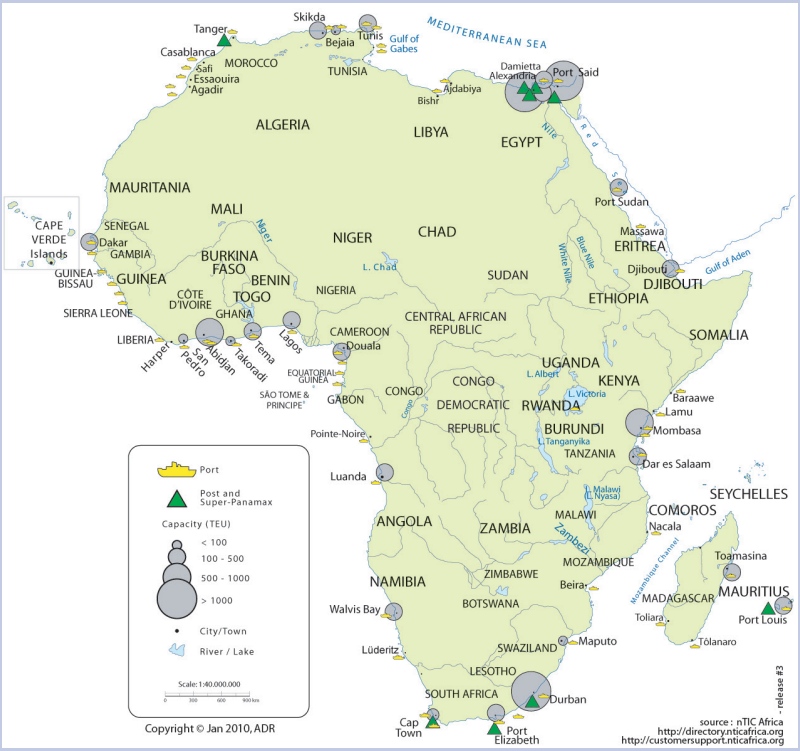
Poor road maintenance is prevalent across Africa. Recognizing that there are several sources of road funding, including loans and tolling, several African countries now have road funds supported by fuel levies; others have autonomous road agencies that contract out to specialist maintenance agencies. However, more needs to be done. Fuel levies are often too low and road funds and agencies do not meet international best-design criteria. For example, fuel levies vary considerably across countries, ranging from US$0.16 to US$0.30 per liter, with the latter considered the minimum for adequate road maintenance. Unofficial fees or bribes and delays contribute to low collection rates. In addition, toll roads operate in only a negligible portion of the region's classified road network, and almost all of them are in South Africa.[35]

Further complicating the issue, roads do not last for their planned construction life span because the overloading of vehicles causes the roads to age prematurely, resulting in high maintenance costs. The road network in several African countries continues to suffer from very high overloading rates (e.g., in Uganda, overloading rates are close to 55 percent) as determined at some major static weigh-station locations, pointing to the need for more weigh stations to be constructed. A harmonized regional axle load control act—such as the East Africa Axle Load Control Act, which will soon be adopted—is also needed.

A high incidence of road fatalities, a consequence of the continent's poor infrastructure, is prevalent in Africa, resulting in sizeable losses to the economy. The World Bank estimates that road crashes cost approximately 1 percent to 3 percent of a country's annual GDP (US$100 billion every year in developing countries).[36] For example, Uganda has one of the worst road safety records in sub-Saharan Africa, with an average rate of 45 fatalities per 10,000 vehicles. The country is estimated to lose about 2.7 percent of its GDP through losses of life and property. This is equivalent to the proportion of GDP spent on the road sector.

The underdevelopment of the road network has also resulted in severe traffic congestion in several African capitals, causing direct loss of time and productivity. Urban traffic congestion is common across the main

Figure 3: Ports in Africa



Source: AfDB, 2010.

cities of Africa. Indeed, traffic congestion is estimated to cause direct loss of time and productivity at an annual cost of roughly 4 percent of GDP (US$8 billion) in Cairo, US$19 billion in Lagos, US$0.89 billion in Dar es Salaam, and US$0.57 billion in Nairobi.[37] Poor air quality and road accidents may actually double the direct cost of congestion.

The large number of landlocked countries in Africa (15) and those with a vast hinterland, such as the Botswana, the Democratic Republic of Congo, and Sudan, underlines the importance of the cross-border corridors. These transport corridors link markets—particularly important for landlocked countries—and enhance intra-African trade. The map in Figure 1 shows Africa's main corridors. The Trans-Africa Highway (Cairo–Dakar) is the most ambitious road network on the continent: it comprises nine interlinked highways with a total length of 56,683 kilometers.[38] Other planned or ongoing regional projects include the Abidjan–Ouagadougou–Bamako Transport corridor, connecting Côte d'Ivoire, Burkina Faso, and Mali. However, the effectiveness of the cross-border links is undermined by border inefficiencies, which are discussed in Chapter 2.1.

Road regulatory challenges

At the national level, several legal and legislative issues regarding roads need to be addressed. Legislation relating to axle overload is needed to tackle overloading on roads as well the related costing/funding for road maintenance. In addition, in some countries (such as Uganda), although a PPP policy is in place, the relevant law has not yet been enacted. With the exception of a few countries (including Senegal and South Africa), toll roads are not yet completed. Going forward, however, several countries (including Uganda) are planning expressways, so it is imperative that, in addition to a tolling policy, a tolling law be enacted.

Rail infrastructure

Outdated infrastructure and limited maintenance have undermined the effectiveness of railways across Africa. The result has been a significant reduction in useable track. North Africa, particularly Egypt, boasts the oldest railway network in Africa, but it has had only a few upgrades since its inception. In West Africa, as evidenced by Senegal, the rail network has deteriorated substantially in recent years because of

Table 1: Air travel cost per passenger, selected cities

Origin	Destination	Distance (km)	Average cost (US$)	Average cost per 1,000 km (US$)
Johannesburg	Accra	4,670	1,000	214.13
Nairobi	Lagos	3,811	800	209.92
Accra	London	5,116	1,000	195.47
Dubai	Singapore	5,841	500	85.60
London	Moscow	2,498	400	160.13
Dubai	London	5,475	800	146.12

Sources: Travel websites Opodo.com, tripadvisor.com, and expedia.com, and authors' calculations.

administrative difficulties, locomotive breakdown, and lack of investment and maintenance. In Southern Africa, the Chinese-built Tanzania–Zambia railway has suffered from underinvestment for the past 30 years. Overall, the amount of useable track has declined across Africa between 2005 and 2011, dropping from 58,000 to 50,000 kilometers, underscoring the pressing need for rehabilitation and maintenance in the sector (Figure 2).[39]

Differences in rail gauges (which specify the spacing between the tracks in a railway) undermine the regional integration of rail networks. When rail improvements are undertaken, the need for a uniform rail gauge among countries cannot be overemphasized. This complication highlights the need for a regional approach; addressing it effectively will enable trains to cross boundaries. Indeed, the variation in the rail gauges is currently a serious constraint for rail network development, especially between East and Southern Africa.

Rail regulatory challenges

At the regional level, several legal and legislative issues regarding the harmonization of rail gauges in railroads across countries need to be addressed. Customs regulatory framework for the cross-border movement of goods and services will also need to be put in place to facilitate railroad transportation across Africa.

Air transport infrastructure

Air transport in Africa, while crucial, is expensive by international standards. By providing a quick link to export markets, air transport enables the trade of time-sensitive, perishable exports such as cut flowers, vegetables, fruits, meat, and fish, which are becoming increasingly important foreign-exchange earners for African countries. The International Airline Transport Association (IATA) reports that traveling by air is more costly in Africa than anywhere else. This is mainly because of lower passenger traffic, limited liberalization of air space, high passenger and airport taxes, safety issues, and limited infrastructure (airports, runways, and safety systems). Africa still records the lowest safety standards in air transport of any region in the world. Table 1 illustrates the high cost of travel in Africa.

African airlines have also lagged behind in terms of technological upgrades, notably surveillance equipment and fleet modernization. Although Africa boasts some strong airlines—including Royal Air Maroc, South African Airways, Kenya Airways, Egypt Air, and Ethiopian Airlines—the lack of modern air traffic surveillance technology poses critical challenges for the industry in several countries. For example, in Ethiopia, extra distance and time separation between aircraft are necessary to compensate for the lack of civilian radar. In terms of fleet modernization, Africa's demand for new airplanes represents only 3 percent of the world demand and is concentrated in three or four companies.[40]

Progress in several countries is hampered by poor basic airport infrastructure and inadequate air connections. Although the continent boasts some world-class airports—such as the Johannesburg International Airport—in general, basic airport infrastructure is lacking in most airports across Africa. For example, because of poor airport infrastructure in Tanzania, safe, reliable, and comfortable air transport services are assured only during the dry season. In addition, there are insufficient air connections within Africa. Indeed, Eastern Africa and Southern African subregions are more connected than the West African subregion.[41] The three major hubs in sub-Saharan Africa are Addis Ababa, Johannesburg, and Nairobi. Most international carriers fly from Southern Africa and Eastern Africa, which have more-established national and regional carriers than other regions.

Air transport regulatory challenges

Regulatory challenges in the air sector relate mainly to the liberalization of air space. Despite some countries having liberalized their airspace after the Yamoussoukro Declaration of 1988, several countries in Africa—such as Angola and the Democratic Republic of Congo—have not. This limits competition from foreign-owned airlines, resulting in higher prices for international air travel of both passengers and freight.

Port infrastructure

Many African ports have serious capacity problems that are accentuated by an ineffective inland transport system. Figure 3 is a map showing Africa's major ports, which include Abidjan (Côte d'Ivoire), Dar es Salaam (Tanzania), Durban (South Africa), Mombasa (Kenya), Port Said (Egypt), and Tangier (Morocco). In North Africa, ports are more developed and have adequate container-handling equipment and faster turnaround times than

ports in sub-Saharan Africa. In East Africa, Dar es Salaam and Mombasa have reached their container-storage limits. New capacity needs to be introduced, not only in the ports themselves but also in downstream linkages, to ensure that cargo can be efficiently moved onto road and rail infrastructure.[42] Similar constraints are evident in other regions of Africa, such as the ports of Lagos (Nigeria) and Tema (Ghana).

Inefficiencies at African ports lead to slow processing times and result in higher charges than those of comparators. Tariffs in South African ports tend toward the high end of the global spectrum, yet performance is well below international benchmarks. In East Africa, there are also significant cost differences within the region. For example, Mombasa charges considerably more than Dar es Salaam in East Africa, primarily because Mombasa's volume of trade is considerably higher.

In the port subsector, although private-sector involvement has provided some additional financing, it has not achieved the same gains in Africa as it has elsewhere and volumes fall substantially short of requirements. However, the private sector has contributed significantly to improving operational performance, leading to the recovery of funds lost through inefficiency in a variety of areas.[43] Nonetheless, the gains have been undermined by the limited clarity of the public sector's objectives; the lack of close coordination among the different institutions involved (port institutions, customs, transport ministries, and labor unions); and the absence of other efficiency-enhancing factors, such as pro-competitive policies and arrangements in the sector.[44]

Port regulatory challenges

In the port subsector, ensuring regulatory independence will be crucial to maximize gains from previous reforms. Evidence suggests that reform packages that include regulatory reform and independence of the regulator from government interference will allow other ongoing policy reforms a greater chance of success.[45]

ICTs

The ensuing section considers developments in the ICT sector, notably in mobile telephony, Internet, and undersea and terrestrial cables. It begins with a discussion of the state and challenges of infrastructure in the ICT sector and then proceeds with a discussion of the regulatory framework.

ICT infrastructure

Africa has made progress in ICTs, particularly with regard to laying out the infrastructure using undersea cables and mobile technologies. Indeed, in 2011, 19 undersea cables connected Africa to the rest of the world—up from only 3 in 2005.[46] As a consequence, cumulative capacity increased from 2,900 gigabytes to 102 terabytes over the period. Africa is leapfrogging fixed-line networks and moving directly to mobile technologies. The mobile telephony subsector has been the most vibrant of all, with the share of population receiving mobile signals increasing by a factor of 10 in five years.[47] Some African countries, such as Ghana and Nigeria, have gone further and are expanding into satellite communication technology. Investment in ICTs, unlike investment in the transport subsector, is largely private-sector driven. However, major differences in the levels of financing available exist between coastal and landlocked countries.[48]

Nonetheless, access to the Internet is still low throughout the continent, and it is expensive and skewed in favor of urban areas. The penetration rate is much higher in North Africa (where 27 percent of the population have Internet access, on average) than in Southern Africa (13 percent), East Africa (12 percent), West Africa (9.5 percent), and Central Africa (4.5 percent).[49] The situation in Central Africa is illustrated by Chad, where 80 percent of Internet users complain about the slow connection speeds and the very high cost of bandwidth, which ranges between US$1,600 and US$2,000 per month—astronomically higher than in Kenya, where it is US$100–US$150, and Burkina Faso, where it is about US$600. Across Africa, unequal access is particularly prevalent in rural areas, indicating the need for continuing public investment to create incentives to extend services to these areas.

One of the most outstanding innovations in the use of ICTs in Africa has been the mobile money sector. This has seen phenomenal growth in East Africa, primarily in Kenya. Box 7 presents the case of the successful M-PESA mobile-payments system in Kenya.

ICT regulatory challenges

Although the ICT subsector has been the most vibrant of the infrastructure subsectors, progress in some countries has been limited by government monopoly, which has resulted in excess costs and undermined the access to and quality of ICT services. Consequently, the price of broadband and international calls is excessive, and the absence of competition has a negative impact on both revenue and productivity of public and private firms, thus undermining investment. This is evident across all regions of Africa, including Ethiopia and South Africa.

The central challenge for those countries that have not liberalized their ICT sectors is to introduce competition through a modernized institutional and regulatory framework. These markets—such as Ethiopia—could potentially benefit from licensing additional mobile operators, which would accelerate the expansion of the global system for mobile communications (GSM) coverage to improve access. While Zambia's GSM coverage is comparatively low by regional standards, simulations indicate that more than 95 percent of Zambia's population could be reached by a GSM signal if measures were taken to dismantle behavior that is counter to competition. In addition, establishing a coherent policy framework that

is not weakened by policy reversals is crucial. Such a framework does not always exist. For example, in Zambia, progress in the ICT sector was undermined by the privatization and subsequent renationalization of the telecommunication and Internet provider Zamtel.

For the countries that have liberalized, there is an urgent need to improve private participation in the information technology backbone infrastructure. In several countries, including Uganda, because of its public nature, the backbone project is undertaken by the government. Nonetheless, the introduction of more competition on the backbone side, as advocated for in Zambia, will go a long way toward reducing prices and broadening access.

Reforms to address fragmentation and overlap of regulatory authorities and mandates are necessary to tackle current market challenges arising from the convergence of ICT technologies. Rapid technological advances in the sector, along with their convergence, underline the need to create and operate in an open, dynamic, and responsive legal and regulatory framework that supports the development of ICTs. The situation is exemplified in Uganda, where there is considerable overlap between the National Information Technology Authority Uganda—which plays a dual role as an operator of the backbone infrastructure and the regulator in charge of government information infrastructure (including e-government and the government's master plan)—and the Uganda Communications Commission, which regulates telecommunications, broadcasting, and postal services. Clearly, there is a strong case for regulatory convergence that would result in one regulator for the ICT sector that deals with the issuance of licenses as well as planning and managing ICT developments. A periodic review of the operations, provisions, and directives making up the legal and regulatory system is key for ICT sector reforms, including convergence in the industry.

While mobile money has seen phenomenal growth, the requisite regulatory guidelines and oversight have not kept in step. As mentioned in Box 7, in several regions of Africa, particularly in East Africa, mobile money has become increasingly important: annual transactions are estimated to be worth over US$8 billion in Kenya; monthly transactions were estimated at over US$200 million in Uganda in 2012. However, regulatory guidelines and clarity are needed to guide the mobile money industry. For example, establishing whether mobile money is considered to be an information technology service or a financial service will determine the requisite regulatory infrastructure.

Box 7: The success of Safaricom's M-PESA

The mobile money sector in Kenya consists of M-PESA, Airtel Money, Essar yuCash, and Orange Money. M-PESA, a mobile payments system operated by Safaricom, was launched in March 2007. It was the first mobile money system to appear in Kenya and is now the most developed and successful mobile money payment system in the world. M-PESA allows people to transfer funds on a person-to-person basis, pay bills, purchase goods, and buy airtime. In addition, people can use M-PESA to remit funds from the United Kingdom to Kenya. Safaricom also launched M-KESHO in March 2010, which allows for the movement of funds to and from an interest-bearing account with Equity Bank.

M-PESA had 15.2 million subscribers out of the more than 19 million mobile money subscribers in the country as of the end of October 2012, up from a mere 19,071 subscribers in 2007. M-PESA uses over 45,540 M-PESA agents across the country. The remaining three mobile money service providers have 9,000 agents, of whom 6,000 work for Airtel. Of the total estimated mobile transfers of US$10 billion in 2012, most (90 percent) are undertaken by Safaricom operating on the M-PESA money platform. It has four bank partners for deposits: Commercial Bank of Africa, Standard Chartered Kenya, CFC Stanbic, and Equity Bank Kenya.

Source: Ncube and Ondiege, 2012.

CONCLUSION AND THE WAY FORWARD

This chapter has demonstrated that, although Africa has made some improvements in increasing its infrastructure stock in recent years, it remains underdeveloped relative to other emerging regions. Improved infrastructure will increase Africa's competitiveness and productivity, lower the cost of doing business, and facilitate trade and foreign direct investment as well as deepen economic and social integration and create employment opportunities. We must address Africa's infrastructure gap to further boost economic growth and foster integration, not only across the region, but also with the rest of the world. However, Africa needs colossal financial investments and support to close the region's infrastructure gap and set itself on a par with the rest of the developing world.

African countries must therefore undertake infrastructure sector reforms and innovation to generate more resources for the sector, because traditional sources of finance will not be enough. A regional approach to infrastructure development is key, and interconnecting infrastructure across country boundaries is the best way to promote trade and regional integration, and thus connect markets in Africa. Possible reforms and innovative solutions are outlined below:

- *Energy sector:* Given its high unexploited potential in terms of wind, solar, and hydropower, Africa could easily satisfy its energy needs at no cost to the environment. Promoting green energy could leverage more funds from development partners and private players than investment in non-green energy. Furthermore, given the prevalence of non–cost reflective tariffs that undermine investments

in several African countries, governments should commit to having cost-recovery tariffs that will, in turn, spur much-needed investment. A regional approach should be pursued, with urgent attention given to the development of regional energy infrastructure.

- *Transportation sector—Roads:* Feeder roads are of great importance for poverty reduction, especially in rural areas. Together with the development of corridors, rural roads provide economic opportunities and access to markets. Accordingly, emphasis should be given to developing rural roads so as to enhance access, and also upgrading urban roads, with a focus on those with cross-border connections. Making provisions for adequate maintenance (both corrective and preventative) for roads is vital, as this ensures sustainability. In addition, it will be essential to address the overloading of vehicles by means that include harmonized legislation in the form of regional axle load control acts. Furthermore, to stem the incidence of road fatalities that result in sizeable losses to the economy, road safety programs need to be enhanced and adequately funded.
- *Transportation sector—Railroads:* Outdated infrastructure and limited maintenance programs have resulted in a significant reduction in useable track and undermine the effectiveness of railways across Africa. Addressing these needs will both require further investments in the sector and ease pressure on African roads. A regional approach should be taken, with an emphasis on establishing uniform rail gauges to enable trains to cross country boundaries.
- *Transportation sector—Air transport:* The importance of air transport, particularly for landlocked countries, cannot be overemphasized. It is imperative that countries enhance this sector's development to improve connectivity and safety and to reduce costs in order to promote intra-African and global trade.
- *Transportation sector—Ports:* Countries should put in place measures to address the serious port capacity problems that, coupled with an ineffective inland transport system, abound in Africa. They also need to deal with inefficiencies that slow processing times and result in higher charges than those of comparators. This calls for encouraging private involvement, which can also provide much-needed additional financing.
- *ICT sector:* Although the ICT sector has made impressive gains, such as the now well-known M-PESA mobile money payment system in Kenya, overall, the potential of ICTs— for example, to support e-government—has not been fully exploited. The need for more investment in backbone (fiber optic) to improve connectivity across countries is urgent. Countries also need to put in place carefully planned maintenance measures to address the anticipated obsoleteness of ICT infrastructure and technology, because this is a fast-growing and evolving industry.

The importance of infrastructure development to enhance the continent's productivity is discussed further in Chapter 2.3. That chapter focuses on infrastructure investment policy reform processes in the context of developing growth pole projects that would enhance Africa's competitiveness.

NOTES

1 Calderón 2008.

2 AfDB et al. 2010.

3 Blank and Lee 2009.

4 Mayaki 2012.

5 Foster and Briceño-Garmendia 2010.

6 See Estache and Goicoechea 2005; Boopen 2006; Calderón 2008; Estache and Woodon 2011; Briceño-Garmendia and Domínguez-Torres 2011.

7 Easterly and Rebelo 1993.

8 Calderón and Servén 2004.

9 Estache and Goicoechea 2005; Calderón 2008.

10 Escribano et al. 2009.

11 Dominguez-Torres and Foster 2011.

12 World Bank 2009.

13 APIX 2011.

14 USITC 2009.

15 Shiferaw et al. 2012.

16 Siba et al. 2012.

17 ERA 2011.

18 World Bank's *Doing Business Database.*

19 AfDB 2011.

20 AfDB 2010.

21 AfDB 2010.

22 The 20th Ordinary Session of the Assembly of the African Union (Heads of State and Government), which met in Addis Ababa on January 27–28, 2013, in their Decision on the Report of the Heads of State and Government Orientation Committee (HSGOC) on the NEPAD —Doc. Assembly/AU/4(XX)—and recalling their earlier approval of PIDA, re-stated the need for active collaboration among the Commission, the NEPAD Planning and Coordinating Agency, and the AfDB in revamping the NEPAD Infrastructure Project Preparation Fund through domestic funding by Member States and concerted efforts to increase private-sector involvement in infrastructure development in conjunction with the World Economic Forum.

23 See the Enterprise Surveys of the World Bank, available at http://www.enterprisesurveys.org.

24 SOFRECO-led Consortium 2011.

25 See World Economic Forum 2012.

26 AfDB 2012.

27 AfDB 2012.

28 See the World DataBank, available at http://databank.worldbank.org/.

29 See the African Development Bank Group's AICD Database for the power sector, available at http://www.infrastructureafrica.org/sectors/power.

30 Shkaratan 2012.

31 Kapika and Ebehard 2013b, pp. 92–93.

32 Kapika and Ebehard 2013b, p. 101.

33 UNCTAD 2011.

34 DBSA 2012.

35 AfDB 2010.

36 See http://www.worldbank.org/transport/roads/safety.htm.

37 Estimates were produced by Hammer 2012; Dina 2012; see also Kanyabwoya 2010 and IMB 2012, respectively.

38 AfDB 2010.

39 AfDB 2012.

40 See Boeing's *Current Market Outlook* 2012–2031.

41 AfDB 2011.

42 An example is the One Stop Border at Chirundu—funded by the Japan International Cooperation Agency, the Department for International Development, and World Bank—which is between Zimbabwe and Zambia.

43 World Bank 2009.

44 AfDB 2010.

45 AfDB 2010.

46 AfDB 2012.

47 Foster and Briceño-Garmedia 2010.

48 AfDB 2012.

49 Authors' calculations, based on the Miniwatts Marketing Group's Internet Worlds Stats database, available at http://www.internetworldstats.com/stats1.htm#africa.

REFERENCES

AfDB (African Development Bank). 2010. *African Development Report 2010: Ports, Logistics and Trade in Africa.* New York: Oxford University Press.

——. 2011. Africa Infrastructure Country Diagnostic 2011. *Africa's Infrastructure: A Time for Transformation.* Tunis: AfDB.

——. 2012. *Development Effectiveness Review 2012: Promoting Regional Integration.* Tunis, Tunisia: AfDB.

——. Forthcoming. Infrastructure Country Reports (16 countries, 2013). Tunis, Tunisia: AfDB.

AfDB (African Development Bank), African Union Commission, and NEPAD. 2010. *Programme for Infrastructure Development in Africa: Interconnecting, Integrating and Transforming a Continent.* Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/PIDA%20note%20English%20for%20web%200208.pdf.

Aker, J. C. 2008 "Does Digital Divide or Provide? The Impact of Mobile Phones on Grain Markets in Niger." *BREAD Working Paper* No.177.

Aker J. C. and I. M. Mbiti. 2010. "Mobile Phones and Economic Development in Africa." Center for Global Development, *Working Paper* 211. Available at http://www.cgdev.org/publication/mobile-phones-and-economic-development-africa-working-paper-211.

APIX. 2011. "Invest in Senegal." Available at http://www.investinsenegal.com/apix_anglais.html.

Blank, S. and E. Lee. 2009. "Transportation Infrastructure and Competitiveness." Report prepared for the Woodrow Wilson Center Mexico Institute and El Colegio de la Frontera Norte research project, "The U.S.-Mexico Border: A Discussion on Sub-National Policy Options." Available at http://stage-wilson.p2technology.com/sites/default/files/BLANK%20LEE%20INFRASTRUCTURE.pdf.

Boeing. *Current Market Outlook* 2012–2031. Available at http://www.boeing.com/boeing/commercial/cmo/. Accessed April 5, 2013.

Boopen, S. 2006. "Transport Infrastructure and Economic Growth: Evidence from Africa Using Dynamic Panel Estimates." *The Empirical Economics Letters* 5 (1): 37–52.

Briceño-Garmendia, C. and C. Domínguez-Torres. 2011 "Burkina Faso's Infrastructure: A Continental Perspective." *Policy Research Working Paper* No. 5818. Washington, DC: World Bank.

Calderón, C. 2008. "Infrastructure and Growth in Africa." Africa Infrastructure Country Diagnostic (AICD) Working Paper No. 3. *Africa's Infrastructure: A Time for Transformation.* World Bank: Washington DC. Available at http://www.infrastructureafrica.org/system/files/library/2009/10/WP03_Infra_growth.pdf.

Calderón, C. and L. Servén. 2004. "The Effects of Infrastructure Development on Growth and Income Distribution." *Policy Research Working Paper* No. 3400. Washington, DC: World Bank.

DBSA (Development Bank of Southern Africa). 2012. *The State of South Africa's Economic Infrastructure: Opportunities and Challenges.* Midrand: DBSA.

Dina, S. 2012. "Cairo's Chronic Traffic Jams: The Price of Bad Public Planning." *Ahramonline,* October 24. Available at http://english.ahram.org.eg/News/56444.aspx.

Dominguez-Torres, C. and V. Foster. 2011. "Cameroon's Infrastructure: A Continental Perspective." Africa Infrastructure Country Diagnostic (AICD) Country Report. *Africa's Infrastructure: A Time for Transformation.* Washington, DC: World Bank. Available at http://www.ppiaf.org/sites/ppiaf.org/files/publication/AICD-Cameroon-Country-Report.pdf.

Easterly, W. and S. Rebelo. 1993. "Fiscal Policy and Economic Growth: An Empirical Investigation." *Journal of Monetary Economics* 32 (3): 417–58.

ERA (Electricity Regulatory Authority, Uganda). 2011. Regulatory Framework for Rural Electricity in Uganda. Presentation. Available at http://r4d.dfid.gov.uk/pdf/outputs/energy/r8148-ugandareg.pdf.

Escribano, A., A. Fosfuri, and J. A. Tribó. 2009. "Managing External Knowledge Flows: The Moderating Role of Absorptive Capacity." *Research Policy* 38 (1): 96–105.

Estache, A. and A. Goicoechea. 2005. "How Widespread Were Private Investment and Regulatory Reform in Infrastructure Utilities during the 1990s?" *Policy Research Working Paper* No. 3595. Washington, DC: World Bank.

Estache, A. and Q. Wodon. 2011. *Infrastructure and the Poor in Sub-Saharan Africa,* draft manuscript. European Center for Advanced Research in Economics and Statistics (ECARES) at Université Libre de Bruxelles (ULB), Brussels.

Foster, V. and Briceño-Garmendia. 2010. *Africa's Infrastructure: A Time for Transformation.* Washington, DC: World Bank and Agence Française de Développement.

Foster, V. and C. Dominguez. 2011. "Zambia's Infrastructure: A Continental Perspective." *World Bank Policy Research Working Paper* No. 5599, the World Bank Africa Region. Available at http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-5599.

Foster, V. and E. Morella. 2010. "Ethiopia's Infrastructure: A Continental Perspective." *Africa Infrastructure Country Diagnostic: Country Report.* The World Bank: Washington, D.C. Available at http://www.infrastructureafrica.org/system/files/library/2009/11/CR%20Ethiopia.pdf.

Hammer, J. 2012. "How a 40-mile Trip to Lagos Took 12 Hours." *The Atlantic* July-August. Available at http://www.theatlantic.com/magazine/archive/2012/07/worlds-worst-traffic-jam/309006/.

ICA (Infrastructure Consortium for Africa). 2009. *Africa's Maps.* Available at http://www.icafrica.org/fileadmin/documents/ICA_meeting/2009_meetings/2009%20Africa's%20Maps%20by%20ICA_09.03.09.pdf.

IMB (International Maritime Bureau). 2012. "International Maritime Piracy." Available at http://travel.state.gov/travel/cis_pa_tw/piracy/piracy_4420.html

ITU (International Telecommunication Union). *World Telecommunication/ICT indicators 2012,* June 2012 edition. Geneva: ITU.

Kanyabwoya, D. 2010. "Stimulating the Economy: Govt to Unveil Sh24 Trillion Infrastructure Project." The Citizen, *All Africa,* April 7. Available at http://allafrica.com/stories/201004080541.html.

Kapika, J. and A. Ebehard. 2013a. *Power-Sector Reform and Regulation in Africa.* Pretoria: HSRC Press.

Kapika, J. and A. Ebehard. 2013b. "Zambia: Looking East for Additional Generation Capacity." In *Power-Sector Reform and Regulation in Africa.* Pretoria: HSRC Press. Chapter 4.

Ncube, M. and P. Ondiege. 2012. "SILICON KENYA: Harnessing ICT Innovations for Economic Development." Draft. December.

Mayaki, I. A. 2012. "Bolstering Regional Infrastructure in Africa through the Implementation of PIDA." Presentation to the United Nations, New York, October 15.Available at http://www.nepad.org/system/files/2012-10%20CEO%20Presentation%20New%20York%20UN.pdf.

Miniwatts Marketing Group. *Internet Worlds Stats* database. Available at http://www.internetworldstats.com/stats1.htm#africa.

Muto, M. and T. Yamano. 2009. "The Impact of Mobile Phone Coverage Expansion on Market Participation: Panel Data Evidence from Uganda." *World Development* 37 (12): 1887–96.

NPC (National Planning Commission, South Africa). 2012. *National Development Plan 2030.* The Presidency, Pretoria. Available at http://www.info.gov.za/vukuzenzele/2011/number41/priorities_11dec_vision.htm.

Shiferaw, A., M. Söderbom, E. Siba, and G. Alemu. 2012. "Road Networks and Enterprise Performance in Ethiopia: Evidence from the Road Sector Development Program." *Working Paper* 12/0696. London: International Growth Centre.

Shkaratan, M. 2012. "Tanzania Infrastructure: A Continental Perspective." *Policy Research Working Paper* No. 5962. Washington, DC: World Bank.

Siba, E., M. Söderbom, A. Bigsten, and M. Gebreeyesus. 2012. "Enterprise Agglomeration, Output Prices, and Physical Productivity: Firm-Level Evidence from Ethiopia." *UNU –WIDER Research Paper* WP2012/85. Helsinki: World Institute for Development Economics Research.

SOFRECO-led Consortium. 2011. *PIDA: Interconnecting, Integrating, and Transforming a Continent: The Regional Infrastructure Africa Needs to Integrate and Grow through 2040.* Study on Programme for Infrastructure Development in Africa (PIDA), Phase III: PIDA Study Synthesis. NEPAD, African Union, and AfDB. Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/PIDA%20Study%20Synthesis.pdf .

UNCTAD (United Nations Conference on Trade and Development). 2011. *Economic Development in Africa Report: Fostering Industrial Development in Africa in the New Global Environment.* New York and Geneva: United Nations.

USITC (United States International Trade Commission). 2009. *Recent Trends in U.S. Services Trade: 2009 Annual Report.* Washington, DC: USITC. Available at http://www.usitc.gov/publications/332/pub4084.pdf.

World Bank. 2009. Africa Infrastructure Country Diagnostic 2009. *Africa's Infrastructure: A Time for Transformation.* Washington DC: World Bank.

———. *Doing Business Database* 2012/13. Available at http://www.doingbusiness.org/data.

———. *Enterprise Surveys* database. Available at http://www.enterprisesurveys.org.

World Economic Forum. 2012. *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum.

World Economic Forum, in collaboration with The Boston Consulting Group. 2013, forthcoming. African Strategic Infrastructure Initiative. "Boosting Strategic Infrastructure- From Global Frameworks to Regional Infrastructure Development in Africa."

Appendix A: AfDB infrastructure development projects, selected countries, 2012–14

The African Development Bank (AfDB) has been involved in projects to develop infrastructure on the continent for several years. It focuses on projects in areas of need but where there is an enabling environment. Some of the main infrastructure development projects currently being implemented are listed below.

ENERGY

The Menengai Geothermal Development Project (Kenya): This project is a Scaling-Up Renewable Energy Program (SREP) under the Climate Investment Funds for which AfDB Group is an implementing agency. The project will set the stage for investments that will help meet Kenya's rapidly increasing demand for power and transform the country into a competitive clean energy economy; it will also help diversify the country's sources of power supply by developing its substantial geothermal potential. The Menengai field alone has a potential of up to 1,600 megawatts (MW). The AfDB group support will help develop the steam field for a generation capacity of up to 400 MW in a first phase, representing a 20 percent increase in Kenya's installed capacity.

The project will result in substantial increase in the provision of reliable, clean, and affordable energy equivalent to the current consumption needs of 500,000 Kenyan households (of which 70,000 will be in rural areas) and 300,000 small businesses, with some 1,000 gigawatt hours (GWh) available for other businesses and industries. The project will also help reduce emissions by some 2 million tons of carbon dioxide per annum.

Senegal Coal Power Plant Project: The project will generate 925 GWh of electricity, which represents 40 percent of 2008 national consumption; reduce annual power shortages from the 176 days reported in 2008 to 40 days by 2014; improve national electrification coverage (with a target of increasing from 46 percent in 2008 to 66 percent in 2015); and contribute to meeting the projected 7.8 percent annual growth in energy demand.

TRANSPORTATION: ROADS

The Mombasa–Nairobi–Addis Ababa Road Corridor Project, Phase III (Kenya and Ethiopia): The objective of the multinational project is to enhance trade, strengthen regional integration, and contribute to poverty reduction in both countries. This third phase covers the Turbi–Moyale section, which is part of the Trans-Africa Highway network. It involves the construction of 320 kilometers of the road corridor, including the 122-kilometer Turbi–Moyale road section in Kenya and the 198-kilometer Hawassa–Ageremariam road section in Ethiopia. The project includes transport and trade facilitation consultancy services to harmonize cross-border procedures. It will contribute a minimum increase of 25 percent in intra-COMESA (Common Market for Eastern and Southern Africa) and increase trade between Kenya and Ethiopia by at least 200 percent by 2017; it will also increase household incomes by an average of at least 10 percent by 2020.

Nacala transport corridor (Mozambique, Malawi, and Zambia): The project will upgrade a major regional corridor and convey significant benefits, including reduced user costs, increased access to social services, and responses to projected traffic increases. It will increase the capacity to handle cargo at Nacala port from 0.9 million tons in 2009 to 1.6 million tons in 2015, and reduce transport and transit costs by 25 percent in 2015.

TRANSPORTATION: RAILROADS

The Tangiers Marrakech Railroad project (Morocco): The project has the potential of connecting the country to its North African neighbors. When completed in 2016, it is expected to significantly boost rail travel, with an improvement in rail traffic fluidity and increased frequency of shuttle, mainline, and freight trains; increase population mobility in the project area; and create direct and indirect jobs during project implementation and operational phases.

TRANSPORTATION: AIR

Blaise Diagne International Airport project (Senegal): This airport will have an annual capacity of 3 million passengers, 80,000 flights, and 53,000 tons of cargo freight (a 3 percent capacity increase). Subsequent expansions will increase capacity to 10 million passengers annually and eliminate over-capacity operation at existing airports. It will be served by the new toll highway (Dakar–Diamnadio), which will facilitate air cargo transportation in reduced time, contributing to the reduction of production costs and the improvement of business productivity.

ICTS

Other 3 billion Networks (O3b) multinational project: The O3b project will have a constellation of eight medium-orbit satellites in nine countries. The project will deliver affordable, high-bandwidth, high-quality Internet and cellular access to inland markets in developing countries and island economies. O3b is dedicating one-third of its capacity to Africa's needs. It will reach "white spaces" (unused channels of the wireless spectrum) and fragile states with high-quality ICT infrastructure; it will connect 18 million households (in nine Africa countries) to cellular backhaul, 1.6 million broadband users to global backbone, and 4,000 firms to corporate voice/data networks. The total cost savings over the equivalent capacity from high-orbit satellites is estimated at US$1.3 billion net present value.

The project will promote private-sector development with growth in revenues of the nine African off-takers (those who buy Internet services from the O3b investors) and Internet and telecommunication operators, projected at US$490 million net present value. It will promote regional integration by expanding broadband Internet and cellular access across several Africa countries: Cameroon, the Democratic Republic of Congo, Ghana, Kenya, Malawi, Nigeria, Sierra Leone, and Zambia.

Source: AfDB: various infrastructure project reports.

CHAPTER 2.3

Growth Poles: Raising Competitiveness and Deepening Regional Integration

JOHN SPEAKMAN
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Although some of Africa's improved economic performance in the past decade has already been driven by improvements in infrastructure, critical investment and policy coordination challenges remain. As the previous chapters have highlighted, the balance for growth and competitiveness is likely to come from structural changes such as (1) reducing costs for building infrastructure; (2) locking in investors from both public and private sectors as risk sharers; and (3) incentivizing the participation, particularly of the local private sector, in these projects.[1] Furthermore, Africa's competitive industries—such as agriculture, mining, and tourism—carry vast potential, and they require sustained support if they are to deliver on the promise of comprehensive competitiveness and economic diversification.

Despite the efforts of regional organizations to overcome barriers to trade in products and services, competitiveness continues to be constrained by infrastructure deficits, red tape and slow decision making, difficulty in securing and accessing serviced industrial land, and information failures that prevent the private sector from coordinating investment activity. Growth poles, typically multi-year, public-private investments, are emerging as a key instrument to overcome barriers to investment and to support the agglomeration of economic activity.

Growth poles are simultaneous, coordinated investments in many sectors to support self-sustaining industrialization in a country. They bear resemblance to, but are not the same as, *special economic zones* (SEZs), which are spatially delimited areas within an economy. Examples include *export processing zones, economic processing zones, free zones,* and *foreign trade zones.*[2] SEZs, as supply-side competitiveness measures, are aimed at overcoming barriers that hinder investment in the wider economy, including restrictive policies, poor governance, inadequate infrastructure, and problematic access to land. Growth poles, on the other hand, usually combine public and private investments and are specifically built around an already-existing resource at a specific location in an economy.

Central to the growth pole is a group of dynamic industries connected around a particular resource. These industries are, by virtue of their dimension or negotiation strength, anticipated to have the capacity to innovate and adapt to market conditions. The growth of dynamic industries is anticipated to generate further investment, employment, and distribution of factor payments, including profits that may be reinvested. The growth of dominant industries, in turn, generates external effects that stimulate the growth of other industries due to inter-industry linkages.

The contribution of Julien Szabla to the preparation of materials for this chapter is gratefully acknowledged.

This chapter will draw from the World Bank's quite significant experience in supporting the development of growth poles in Africa in recent decades. Good-practice lessons also emerge from Asia, where, for example, the growth poles in Malaysia and Indonesia benefited from investments made through ASEAN regional integration policies.[3] This chapter explains the idea behind growth poles in more detail and outlines how they interact with infrastructure investments, trade, and regional integration. It also discusses particular examples of growth poles in Africa and the benefits, challenges, and potential pitfalls of making growth pole investments. The chapter then outlines the key policy challenges involved with growth poles and, finally, addresses growth pole financing.

As the first part of the chapter explains, the underlying assumption about the benefits of growth poles is that they increase market size so that it becomes profitable for firms to invest. Private-sector investments, in turn, lead to more jobs, higher wages, and economies of scale. Growth pole projects also often attract foreign direct investment (FDI), are built across borders, and have spillover effects beyond national economies. Thus they can also be a boon to regional integration.

A number of challenges characterize growth pole projects. To set a framework for policymakers to plot the course for growth poles to enhance competitiveness, the chapter next discusses three key policy challenges:

- *Growth pole coordination* challenges concern the setting up and sustaining of both the spatial and the political economy linkages that are required to make these poles happen. Tradeoffs and the strategic vision are both required in multi-stakeholder investments and projects such as infrastructure ones, and both need be focused on ensuring that participation is balanced and sustained throughout the process.
- *Accountability questions* concern the push and pull of rewards embedded in the contracts stakeholders make to design and deliver growth pole projects. The key accountability challenges regarding growth poles in Africa today concern the returns of these investments to landlocked countries and coastal countries, as well as to rural and urban populations. Accountability questions also concern the socioeconomic sustainability that growth pole investments can promote across the investment area and industries.
- *Risk management and risk sharing* concern the endeavors that are put in place to make risks and rewards commensurate with each other to drive good performance as the growth pole is built, managed, and maintained.[4]

Finally, the chapter discusses the specific type of investment arrangements that can significantly improve benefits to be realized from growth poles. Experience in growth pole engagements shows that both public and private participation is required to realize results. For example, public-private partnerships (PPPs) for constructing and maintaining infrastructure will broaden the possibilities for private-sector job creation around growth pole projects. Although there is no fixed list of best-practice policies to realize private-sector development objectives from growth poles, and specific related reforms will vary by sector, growth poles show why effective investment and particularly policy-process coordination will make infrastructure projects more productive.

GROWTH POLES FOR SHARING PROSPERITY IN AFRICA'S MARKETS

The growth pole approach to economic development looks at how infrastructure that will be developed for an existing private investment in mining, agriculture, and so on can be used to encourage spillovers into other sectors. This could manifest itself through a development corridor or a special economic zone, or even an agglomeration economy in a booming city. A growth pole will have an existing resource that serves as an inherent revenue producer.

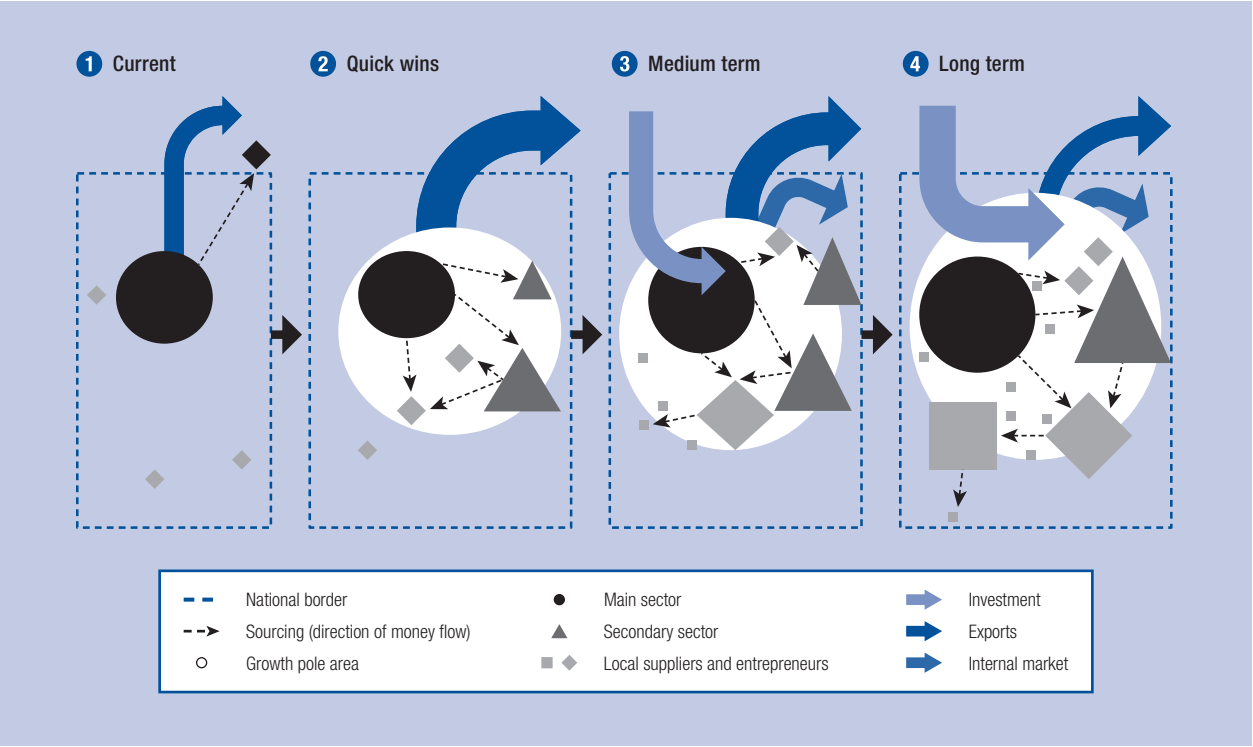
What are growth poles?

Growth poles, as noted earlier, are comprised of multiple simultaneous investments coordinated throughout many sectors with the purpose of supporting self-sustaining industrialization in a country. Growth pole projects are not oriented around addressing identified market failures, but around capitalizing on and augmenting opportunities that already exist in an economy, as Figure 1, illustrating the dynamics of building growth poles, suggests.

Figure 1 shows how growth poles enhance already-existing opportunities and can multiply them over time, delivering both quick wins and generating medium- and long-term investments. Indeed, the underlying assumption about the benefits of growth poles is that they increase market size so that it becomes profitable for firms to invest, with the resulting higher wages and economies of scale. If an investment in a project induces investment in the following stages of production, it is called *forward linkage* and has outcomes such as diversification in value chains. A *backward linkage* is a creation of investment in the stages of production leading up to the final product, such as investment into logistics or the storing of goods. Investment should be pushed into a project that maintains the highest number of total linkage investments.

Furthermore, growth poles, as economic initiatives, are spatially targeted investment instruments and sets of policy for accelerating economic growth in developing countries. As a concept, growth poles are based on Perroux's assumption that, for an economy to attain higher income levels, that economy should first develop within itself one or several regional centers for economic strength.[5] Growth poles, as a spatial planning tool, draw

Figure 1: Characteristics of growth pole projects: Quick wins and medium-term investment for long-term development



Source: Authors.
Note: Levels of investment are nonexistent for current, low for quick wins, medium for medium term, and significant for long term.

on the following concepts: (1) economies of scale, (2) the nurturing of backward and forward economic supply linkages and also fiscal and final demand linkages, and (3) economies of agglomeration, which are associated with spatial clusters and the geographic concentration of economic activities.

Figure 2 illustrates how to identify potential growth poles and shows the specificity of this investment and project development process.

As the steps needed to identify growth poles illustrate, the growth pole model of economic development is distinct from the development corridor of SEZ investments. Growth poles, considered as investments, often consist of infrastructure projects, with associated investments and capacity-building efforts directed at the private sector. Indeed, although development corridors and SEZs can be component parts of growth poles, growth pole projects are built on the assumption that there is a need for simultaneous, coordinated investments in many sectors to get self-sustaining industrialization. As such, growth poles are broader than SEZs or development corridors.[6]

Central to the growth pole is a group of dynamic industries that are connected around a particular resource. These constellated industries are—by virtue of their dimension or negotiation strength—expected to have the capacity to innovate and adapt to market conditions. The growth of these dynamic industries is expected to generate further investment, employment, and distribution of factor payments, including profits that may be reinvested. The growth of dominant industries generates external effects that stimulate the growth of other industries because of inter-industry linkages.

As developing countries advance from largely agriculture-based economies, the assumption is that it is most likely that investments into industry will create the most linkages. It follows that the focus in growth pole projects is on externalities and doing many things at the same time to achieve critical mass. Most growth pole projects that are focused on infrastructure, regulation, capacity-building, and finance for early investors are a mix of policies and investments, but the investment and policy mix varies depending on perceived constraints to private investment and growth (see Box 1 for an example).

Because of the "big push"–style simultaneous commitment of multiple investments for growth poles, the process of identifying key constraints, their relationships, and the underlying political economy of these constraints is critical for achieving outcomes. Growth poles typically bring about large changes in particular locations—they distinctly do not effect marginal changes. This fact has attracted quite an amount of academic critique of the growth pole and SEZ types of intervention as concepts for economic development (see Box 2).

Indeed, as other surrounding competitiveness challenges are addressed, the typical outcomes of growth pole and SEZ types of spatial investments can include increased output and/or exports; measurable

Figure 2: Growth pole development process elements

productivity gains in the enclave from combined components; and, possibly, spillovers to the rest of the economy. These must be considered in the context of the overall location-based development impact of embarking on such projects. Therefore, an emphasis on employment generation emerging out of growth pole projects is a significant focus.

Regional integration and the need for the creation of growth pole linkages

Growth poles emerge as a policy response to the need to create better spatial and political economy linkages in the new African regional markets. As this *Report* has discussed, the challenges to commerce and trade in these new markets no longer arise predominantly from high tariffs, but rather from barriers behind the borders (see Chapter 2.1). Indeed, to trade beyond their countries' borders, African exporters will benefit not only from additional hard infrastructure and technical assistance from their governments and other actors, but also from equally ambitious policy reforms to support the agglomerations of competitive industries and to facilitate trade.

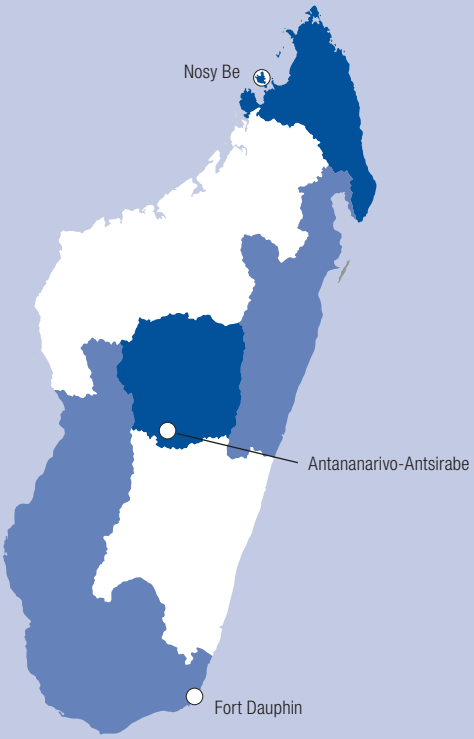
Successful reforms will result from the efforts of both the public and private sectors, and will take into account spatial constraints a country faces, targeting landlocked countries in Africa with specific insights.

Box 1: What is a growth pole? The case of Madagascar

The Madagascar Integrated Growth Poles Project aimed at stimulating the growth of three geographical regions of Madagascar centered around the growth poles of Nosy Be, Fort Dauphin, and Antananarivo-Antsirabe (Figure A). The objective of the poles was to address key constraints to investment, including infrastructure, business environment, institutional capacity, skills and access to finance. The poles are multi-sector projects with particular focus on tourism-led growth in Nosy Be, mining- and tourism-led growth in Fort Dauphin, and export-led growth in Antananarivo-Antsirabe.

In **Nosy Be,** the pole focuses on building support infrastructure (rehabilitating roads and improving water supply); strengthening municipal capacity for administration, fiscal management, and service delivery; and supporting business environment reforms. The project supports a new hotel training school in partnership with other donors and the private sector, and the establishment of a marine reserve to protect rare ecological resources vital to the sustainability of the tourism industry.

Figure A: Madagascar's growth pole sites



In **Fort Dauphin,** the pole is jointly invested in by the government and the mining company Rio Tinto to ensure that large mining investments benefit the local population. They co-financed the construction of a new public multiuser port managed by a private consortium and in operation since 2009. Investments were also made in road construction to support tourism and to facilitate market access for local production.

In addition, the project is supporting innovative public-private partnerships (PPPs) with Rio Tinto in power generation and transmission—with a guarantee from the Multilateral Investment Guarantee Agency—and in improving access to water supply. A partnership with the United Nations Development Programme, Rio Tinto, and other private firms has led to the establishment of a vocational training center to bridge local skills gaps. The emphasis on ensuring that mining projects have a positive impact on local populations and on the economy more broadly serves as an example of what can be done for other mining investments.

In **Antananarivo-Antsirabe,** PPPs have been established in skills development for the garments, tourism, and information technology industries. For example, the growth pole includes a private university and firms in the garments industry, which have collaborated to offer the first textile engineering diploma program in Madagascar.

The growth poles in Madagascar are showing positive results, and the main objectives of these investments have not been revised. Until the onset of the political crisis of 2009, the poles were on track to achieve their development objectives and results in terms of private investments and job creation. Private investment increased from US$84 million in 2005 to US$1,045 million in 2007. In 2006–08, some 5,000 new businesses were registered in the three poles. During the same period, an estimated 10,000 formal jobs were created in the three poles, and the number of new hotel rooms in Fort Dauphin and Nosy Be increased by 40 percent and 27 percent, respectively. Regional development plans were adopted and most of the main infrastructure works were completed, leading to major improvements in local infrastructure. Since 2009, Fort Dauphin and Nosy Be continue to show progress, and by 2013, have added over 13,000 formal jobs.

The overall business environment in Madagascar has been improved: it is now easier to register a business, trade, pay taxes, and obtain a license. In Fort Dauphin, it now takes four days to register a new business; before the project was initiated, this took two months. The Economic Development Board of Madagascar regional offices in Nosy Be and Fort Dauphin can now register individually owned enterprises, which has significantly reduced the cost and time required for small business startups. By 2013, following results assessments on the poles, the Antananarivo-Antsirabe pole was deemed less successful and discontinued.

Overall, indicators from the poles suggest promising private-sector response to the investments made in infrastructure, the improvement in the business environment, and job creation.

Source: The World Bank's Integrated Growth Poles Project, available at http://www.worldbank.org/projects/P083351/integrated-growth-poles?lang=en.

Box 2: Debating the spatial approach to economic development

Although there is a long, challenged history around the world in using instruments such as SEZs to promote investment in remote regions, the evidence suggests they can be highly effective when targeting regions that already have natural or economic geography advantages.[1] And although SEZs are unlikely to trigger agglomeration in lagging regions with low population densities, in places such as China, where SEZs targeted coastal trade gateways, they have proven to be powerful catalysts for growth. Thus, while the World Bank's *World Development Report 2009* suggested SEZs be approached cautiously, it supported the use of such hard and soft infrastructure to reinforce existing geographical advantages.[2]

Concerns have also been raised that zones, by and large, have failed to extend benefits outside their enclaves or to contribute to the upgrading of skills and the production base.[3] First, however, it is important to separate political support from political objectives in zone projects. Although strong commitment from the government is needed, projects must be designed carefully on the basis of clear strategic plans. The zones must be commercially viable, and the case for their construction must be based on sustainable sources of competitiveness, not solely on fiscal incentives. Second, despite the concept of zones as enclaves, in practice, their success is almost fully entwined with the competitiveness of the national economy and the national investment environment.

Source: Farole, 2011.

Notes

1 World Bank 2008.
2 World Bank 2008.
3 See Kaplinsky 1993.

Indeed, success cases—such as that of Mali's innovation in the mango production value chain (see Box 3)—show how a country can gain from intra-African trade and innovate in infrastructure and private-sector development policy to realize areas of comparative advantage and diversify its economy.

In addition to national measures, policies promoted and adopted by African regional organizations can also provide an enabling environment for the expansion of markets for African goods. Regional integration is a powerful tool that governments can use to spur growth and competitiveness through additional trade facilitation measures, such as the harmonization of safety and quality standards for products and the mutual recognition of educational degrees. The development of cross-border financial services is also important, especially for small- and medium-sized enterprises and traders, which often work in the informal sector and have limited access to credit, banking, and other financial services. Cross-border financial services might encourage trade expansion for producers and traders not already well connected to cross-border trading networks.

To fully realize benefits from efforts at regional integration, a number of spatial and political economy linkages need to be established, and need to operate well, to deliver competitiveness and sustainable growth in Africa. This *Report* has discussed the prospects of specific sectors of infrastructure, including energy and the ICT sectors, of doing so. The attempt to create regional and national spatial linkages by building infrastructure needs to be mindful of the unequal distribution of resources between the coastal and landlocked countries of the continent, and to consider the challenge of spurring equitable growth in both rural and urban areas. One recent example of such efforts is the Lamu Port–South Sudan–Ethiopia Transport (LAPSSET) economic and transport corridor, planned to connect the east and west coasts of Africa and to establish reliable access to the sea for northern and eastern parts of Kenya, South Sudan, and Ethiopia (see Box 4).

GROWTH POLE POLICY CHALLENGES

A number of lessons can be distilled from the growth poles that have been planned and built in Africa over the past decade. To start with, growth pole projects have revealed three kinds of challenges: coordination, accountability, and risk management and sharing issues.

Coordination

Infrastructure and competitiveness projects such as growth poles bring about a number of coordination challenges. First, not unlike other infrastructure and private-sector development initiatives, growth pole coordination challenges concern the setting up and sustaining of both the spatial and the political economy linkages that are required to make the poles happen. More specifically, policy coordination challenges include the question of strategy: how do growth poles get chosen, and how do specific transactions get chosen? Responding to these challenges requires both institutional (horizontal) coordination and effective (vertical) coordination of implementation arrangements.

Horizontal coordination of growth pole projects entails streamlining institutional arrangements to coordinate competitiveness diagnostics and planning, as well as investment issues, both between central and local government and between the public and private sectors. It is often the case that a council or a team in a ministry could play an important strategic role in horizontal coordination and strategic sequencing and timing of efforts, including the monitoring and evaluation of activities. These projects usually also benefit from an administrative unit dedicated to growth poles in government.

Vertical coordination requires that special attention be paid to the implementation arrangements. A common challenge is that, even when the right policies and regulations are in place, they may not be consistently implemented across individual cases (this situation is captured by the term *policy implementation uncertainty*).

Box 3. Mali's mangos: Linking farmers to markets through innovations in the value chain

Mali, a landlocked country of West Africa, has experienced a spectacular growth in its exports of fresh mangoes, which increased sixfold in volume between 1993 and 2008. As one of the poorest countries in the world, and with over 80 percent of the workforce engaged in agriculture, Mali had to overcome a number of very serious challenges to achieve such a result. Over a decade, Mali has been able to build on its comparative advantage and secure access to the fast-growing fresh fruit market in the European Union, generating increasing revenues for its producers and exporters.

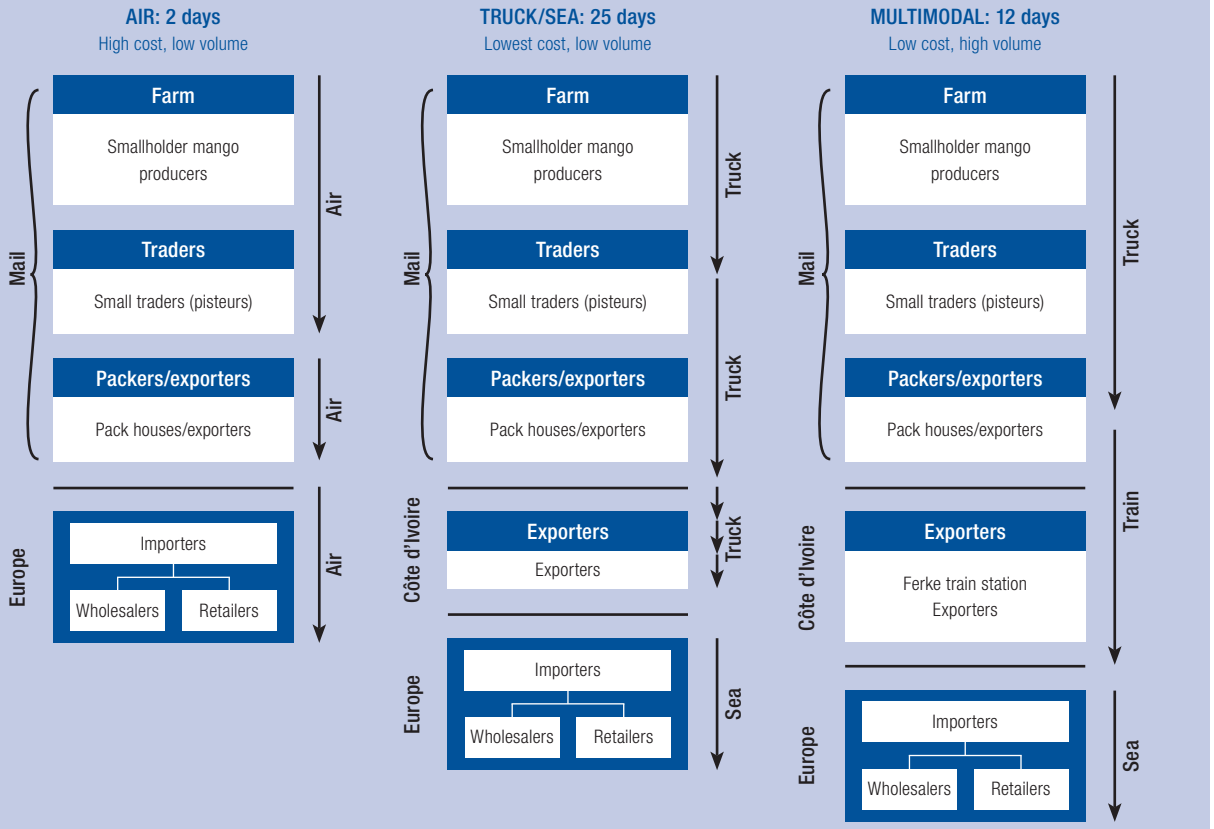
The key innovation that allowed Mali to overcome obstacles arising from its situation as a landlocked country and to secure access to this market was the testing and implementation—through a partnership with private operators—of a multimodal transportation system for the export of fresh produce that would provide an alternative to air freight. Thanks to an intervention, the feasibility and profitability of using refrigerated containers all the way to the destination market in Europe, using a combination of road, rail, and sea freight rather than shipping by air, was demonstrated (Figure A). This innovation basically opened the way to accessing the large and growing market of sea-freighted export of perishables. This new multimodal approach to transport is also good from an environmental point of view because it drastically reduces the carbon footprint of this trade.

Moreover, agriculture is a major pillar of Mali's economy. It accounts for 45 percent of the country's GDP and employs 80 percent of its workforce. Industry represents 17 percent of the country's GDP, with food processing, construction, and phosphate and gold mining as the principal industrial activities. Mali's main exports, since the 1970s, have been gold, cotton, and livestock. However, as a landlocked country, Mali was—and still is—highly dependent on the transport infrastructure and other logistical arrangements of its neighbors for market access and trade.

The mango fruit was traditionally collected and sold mainly for the domestic market. During the 1970s, Mali was the first country in West Africa to focus on opportunities to export fresh mangoes. However, these exports were exclusively via air freight, reaching a volume of between 1,000 and 1,500 tons per year and targeting the niche market of the expensive retail shops selling tropical fruits in France. In the early 1990s, the government of Mali recognized the need to design policies to diversify exports and foreign exchange earnings, which had been heavily concentrated for years on only three export products: gold, cotton, and livestock.

The lack of direct access to a port meant that Mali had to rely on its neighbors' surface infrastructure as well as its own. Until the 1990s, the only rail line with international linkages was run inefficiently, leading to uncompetitive prices and chronically severe delays: the development

Figure A: Transport modes for fresh mangoes from Mali to Europe



Source: Adapted from Sangho et al., 2010.

(Cont'd)

Box 3. Mali's mangos: Linking farmers to markets through innovations in the value chain *(cont'd)*

of an alternative supply chain was of critical importance. However, such development faced three crucial challenges: infrastructure, management, and finance. The paucity of market information for growers and exporters was exacerbated by poor harvesting practices and post-harvest handling techniques, little or no investment at production level, and an extremely challenged domestic finance market.

Mali's mango export value chain improvement (resulting in the transport innovation) was achieved through a combination of innovation, in-time deployment of the right financing mechanisms, private-sector leadership, and high-quality technical and economic work in areas such as market research, value chain cost analysis, benchmarking, and assessment of constraints. Even if, as in the case of the mango sector of Mali, the private sector is weak in the beginning, it is necessary to start working with existing private operators and eventually bring in new ones, such as the company from Côte d'Ivoire that ran the pilot export test for the mangos. There was also a unique public-private partnership sharing of risks for all partners involved.

Source: Sangho et al., 2010.

In order to avoid the costs that delays or unpredictable policy environment can cause to growth pole projects, policymakers will do well to pay attention to the formulation of results-based monitoring and evaluation frameworks for growth poles.[7]

Accountability

Accountability questions concern the push and pull of rewards embedded in the contracts that stakeholders make to design and deliver the infrastructure of growth poles. Indeed, the political economy of a growth pole project is complex because, if the projects are successful, they will induce large local (or regional) changes, and local effects may vary among different sites.

Growth pole projects, and other infrastructure investments, can be at once national and regional, public and private. They are by definition large and risky, and entail a large number of players. In this context, the *accountability* of the set of institutional tools that reward organizations that consistently perform well for their stakeholders and penalize those that do not is significant. Infrastructure projects often not only connect rural regions with urban ones, but regional infrastructure projects also often connect more naturally advantaged countries (e.g., those with a coastline and ports) with less-advantaged countries (landlocked ones). How then, for example, are spillover benefits to local farmers in rural-urban road projects balanced with benefits accrued from a road built to retailers in the city?

In the case of a road connecting rural and urban areas, land will become much more valuable, which will attract outside investors and job seekers. For this reason, an entire ecosystem of checks and balances is needed, including competition commissions, infrastructure sector regulators, and concession regulators. Furthermore, when infrastructure is developed to facilitate trade and productive sectors, accountabilities to the key stakeholders are also produced. Communities that are affected want to participate in the economic benefits that flow from the project. The local private sector wants to participate in the relevant markets created by the trade of the underlying resource. When intra-regional corridors are developed, fair sharing of benefits is needed.

Accountability issues then also pertain to possibilities for the local private sector entailed in a situation where large, private-sector anchor investors internalize the coordination costs of rebuilding value chains that include smaller industry players. The development of export horticulture production in Northern Senegal provides a good example of competitiveness enhancement through trade and standardization that have also raised the incomes of the rural poor.[8]

Risk management and risk sharing

The challenge of risk management and risk sharing concerns attempts to make risks and rewards commensurate with each other to drive the needed private-sector participation. These risks include contingent risks—(the risk to income when the income is largely dependent on others), political predictability risks (the risk that contracts will not be violated), and the whole raft of technical and market risks that exist in any PPP.

Of particular importance in Africa is how PPPs can help in managing life cycle risks. Often governments do not account for life cycle costs, including regular maintenance and replacement of assets. These costs can be higher than the initial capital costs of the investments. PPPs are designed to provide services to the users over a longer-term period than the traditional procurement methods presented by a construction contract. Consequently, it becomes critical to plan and allocate resources appropriately to ensure inclusive and shared growth over 20–30 years.

Indeed, the question of *financing* growth poles needs special attention in Africa, as access to finance is a particular challenge on the continent. This area is discussed in detail in the next section of this chapter.

FINANCING GROWTH POLES

Growth pole projects are usually large-scale investments that require considerable upfront expenditure. As such, growth poles present a vast financing challenge.

Box 4: The Lamu Port–South Sudan–Ethiopia Transport (LAPSSET) Corridor Project

The aim of the LAPSSET corridor is to facilitate trade, regional economic integration, and interconnectivity among a number of African countries by easing movement from Ethiopia, South Sudan, Rwanda, and the Democratic Republic of the Congo up to Douala in Cameroon (Figure A). Foreseen combined investments from the governments of Kenya, South Sudan, and Ethiopia, along with private investment, are intended to allow the construction of a port, a railway line, an oil refinery, an oil pipeline, airports, a highway, and resort cities. In addition to benefits for the economy in particular locations, the LAPSSET project is expected to spur economic growth in participating countries by increasing annual growth rate from around 6 percent to around 10 percent and to fuel sustained competitiveness by creating tens of thousands of jobs over an investment period of up to 40 years.

The LAPSSET project is indicative of ways regional integration can fuel economic growth. The project design required to meet the competitiveness challenge for African countries specifically boils down to focusing infrastructure investments spatially on comparative advantages, together with appropriate governance. For projects such as LAPSSET, such a required combined strategy is often described as the development of growth poles.

Source: Government of Kenya, 2011.

Figure A: The Lamu Port–South Sudan–Ethiopia Transport (LAPSSET) corridor

Source: Government of Kenya, 2011.

Moreover, ensuring the availability of private financing for the longer term, which is needed to match the life of the assets at a reasonable cost, is a formidable task in today's market conditions. Most investors and lenders are receding from new and untested investments because they are too risky to ensure a reasonable return on their investment. In the case of many growth pole–related investments, the composite projects may not be individually creditworthy and may need additional enhancements, such as government guarantees, extra reserves, and liquidity support, especially during construction. This is why high-quality PPPs play an integral role in growth pole projects.

Growth pole finance differs somewhat from finance models specific to infrastructure and to SEZs. The latter, as indicated at the outset, have commonly been supply-side competitiveness measures. Their finance models have largely been public. See Table 1, which describes revenues for building these zones.

Infrastructure finance includes both public and PPP models. Public finance models can include accruing user fees, property value capture (such as the acquisition and later sale or lease of excess land), tax incremental financing, and so on. Still, growth poles, like infrastructure projects, increasingly see PPPs as their key financing model.

Table 1: Funding SEZs: Revenue streams in typical SEZ arrangements

Revenue stream	Description	Typical recipient in SEZ regimes
Customs revenue	Revenues received from charging duties on imports/ exports	National government; note in the case of existing regional agreements (such as the East African Community) there may already be a revenue sharing model
Corporate tax	Taxes of firm profits	National and sometimes state/provincial governments (often waived or reduced as fiscal incentive)
Municipal taxes	Taxes charged on profits, assets, and so on from local governments	Local government (often waived or reduced as fiscal incentive and to simplify tax administration for investors)
VAT/sales taxes	Taxes on production and sales	National government and sometimes state/provincial government (often zero-rated or reduced as fiscal incentive)
Personal income taxes	Taxes on incomes of individuals living in the zone	National government
Service fees	Fees for provision of licenses for operating or carrying out specific activities	SEZ developers; SEZ Authority; individual government agencies
Land/facilities sales and lease	Leases for land plots or rents for prebuilt facilities in the zone	SEZ developers

Source: Dobronogov and Farole, 2012.

A number of questions need to be answered during the course of planning any PPP project. In infrastructure projects, for example, the specific challenge concerns whether development for the infrastructure to be built should be bid out competitively or should be sole sourced. What measures should be taken for proactive investment generation? Can regional deals for infrastructure investments and development be made, and are local investment banks involved? How can funding be scaled up to engage a more diverse group of actors? To what extent can the regulatory capacity of infrastructure investments be harmonized regionally, to attract and sustain investment and political will? World Bank–supported PPPs, especially on the west coast of Africa, have had success in balancing the coordination of public-private participation and risk sharing in the projects (see Box 5). An example of such a successful PPP from the telecommunication sector accounts for approximately 90 percent of the value of PPPs set up in sub-Saharan Africa.[9]

In PPPs such as those on the west coast of Africa, public investment through the PPP mechanism undoubtedly helped to unlock the projects that were held in fragile states or those that were too large or risky to have the private sector involved on its own. To ensure private-sector involvement, governments created enabling legal and regulatory frameworks and built pro-competition policies. Overall, to ensure the success of the PPPs, deeper reforms are needed to eradicate monopolies, and regulations have to be adjusted to meet rapid technological changes.

Growth pole PPPs

The risk profile of growth poles will be different from that of other types of PPP projects. Indeed, certain areas would be better suited for public funding and some would be better suited for private development. Therefore, the final set of challenges and opportunities to be discussed in this chapter pertains to risk management and risk sharing around growth pole and infrastructure projects.

Risk management concerns the question of how growth pole projects can be made commercially viable. *Risk sharing* questions concern how infrastructure projects and their construction and maintenance risks can be distributed and leveraged for shared gain.

Risk management and risk sharing are ongoing and continuous parts of growth pole investments. Once the main economic drivers of growth poles are identified—whether these are agglomerations of economic activity, such as cities, or the discovery of a new natural resource, for example—the types of risks involved must be identified. The types of risks that usually need managing in growth pole projects have to do with *payment and demand risks, market risks,* and *construction risks.* The recent guarantee and credit support in Nigeria for the gas sector provides a good example of innovative solutions to these problems (Box 6).

Risk-sharing and risk management challenges of growth poles

Whether the economic driver of a growth pole is a natural resource or a particularly buoyant agglomeration of industrial activity, this economic driver could translate, first and foremost, into a commercial risk to be managed. Such a commercial risk will include both the *payment* and the *demand risks* involved in setting up the project. Such risks determine a project's ability to produce enough cash to be able to cover the project's daily expenses (incurred in providing the services), pay back its debt, and achieve a reasonable profit. The

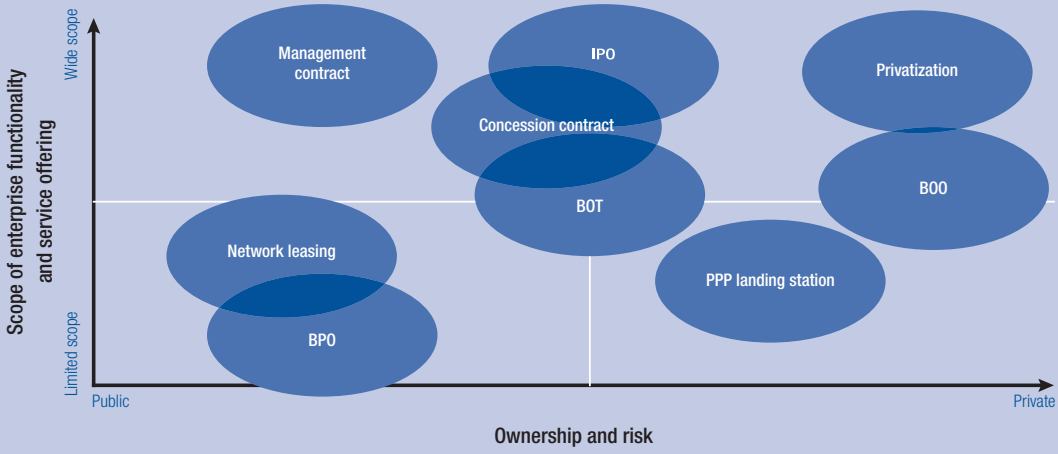
Box 5: Success in PPP coordination

Since 2007, the World Bank has provided technical assistance and financial support to more than 30 developing countries to connect them to international networks through optic fiber. Many of these projects were public-private partnerships (PPPs) on the west coast of Africa that linked national networks to Europe through submarine cables. The PPP structure has been tailored to each project's level of public ownership, risk, and scope of service offered, ranging from business processing outsourcing to privatization (Figure A).

Each recent submarine cable project supported by the World Bank has resulted in a unique model according to the level of involvement of private partners and the objectives of policy makers (Table A).

The models for PPP developed in the telecommunication sector provide important lessons for emerging services sectors such as infrastructure and construction in Africa.

Figure A: Matrix of selected PPP approaches and models



Source: Gallegos, 2012.
Note: BOO = build-own-operate; BOT = build-operate-transfer; BPO = business processing outsourcing; IPO = initial public offering; PPP = public-private partnership.

(Cont'd on next page)

investments in the growth pole, for example, might be technically and economically sound, but not necessarily financially viable. Additionally, managing *construction risk* is particularly important because the risk precludes many sources of patient long-term capital, such as pension funds and sovereign wealth funds, from investing in PPPs.

Another set of risk management questions concerns cost recovery from the growth poles. If the investment generates revenues, are these enough to cover the costs? If the revenues are not sufficient, is there potential for increasing these revenues, or can the public entity involved complement the revenues generated directly by either driving down the capital costs or providing supplementary revenues during implementation? This is a big decision for the governments involved because it becomes an affordability issue both for the users and for the public budget. How much of the costs would (or should) the government pass on to the users?

Finally, governments often do not pay enough attention to the overall costing and the cost-benefit analysis of the whole project cycle at the outset. This is an important point because life cycle costs, including regular maintenance and replacements of the assets, are at stake. These life cycle costs can be higher than the initial capital costs of the investments.

One way to address overall costing issues is to set up high-quality PPPs that are designed to provide services to the users over a longer-term period rather than using the traditional procurement method of a construction contract. Therefore, planning and allocating resources appropriately is vital to ensure that access is inclusive and that growth is shared over 20–30 years.

To achieve shared growth, risk-sharing instruments must be thought through. Cost recovery concerns how well the public partner is able estimate its investment costs and price them into a periodic payment plan, either via users or another source. In this process, risk will be shared. On the other hand, the private sector would not enter into a transaction unless there is a certainty for cost recovery during the operation period.

In the current markets, the potentially shared risk concerning cost recovery is translated into *construction risk,* which would mean cost overruns and time delays

Box 5: Success in PPP coordination *(cont'd)*

Table A: Recent World Bank–supported PPPs, approaches, and models

Model	Description	Examples
Cooperative	All sector operators (MNOs, ISPs) unite to form a private company (special-purpose vehicle) for the purpose of building, owning, and operating the national backbone as a wholesale operator. The government contributes a subsidy with no related ownership to ensure national coverage, including rural access points, open access, nondiscrimination, and low-cost pricing.	Burundi national backbone project, 2007
Equity	The equity model is similar to the cooperative model except that the government obtains equity and shareholding ownership rights in exchange for its contribution. Generally, government divestiture mechanisms are built in.	The Gambia, Guinea, Liberia, São Tomé and Príncipe, Sierra Leone
Concession	This is a traditional build-operate-transfer approach, whereby the government issues a public tender to select a private-sector operator to build and operate the national backbone or specific national and cross-border links. The agreement is in the form of a long-term concession (15–25 years) that requires the transfer of the networks back to the government at the end of the concession.	Republic of Congo, in process
Bulk capacity purchase	The government, acting as an "anchor client," issues a public tender for the long-term (10–15 years) supply of bulk capacity (+ 1 gigabit) bandwidth. This model stimulates investment by the private sector through the aggregation of demand. In this case, the partnership is governed by a PPP agreement or supplier contract that establishes the rights and obligation of each party.	Rwanda, 2011; Malawi, in process
Management contract	This is a standard management contract agreement whereby the government issues a public tender to select a private operator to build, operate, and commercialize the national backbone (or specific national or cross-border links) for a fee during a short-term period (3–5 years). Core assets remain the property of the government.	Gabon, in process*

Source: World Bank, ICT Unit analysis.
Notes: ISP = Internet service provider; MNO = mobile network operator.
* The initial PPP structure allows for conversion to an equity approach at a later stage.

Source: Gallegos, 2012.

in the construction aspects of a project. The longer the construction period, the longer it takes the project to begin operation and therefore the longer it takes to begin generating revenues. Traditionally, this risk was covered by monoliners,[10] but after their demise in the aftermath of the 2008 financial markets problems, very few financiers are able to accept this risk. The other big risk comes from the government itself as a co-financier of the project. In the case where the government is providing financing either with a capital grant toward investment costs or an availability payment during the operational phase, the availability of public budget funds over the life of the concession remains risky. This risk, in turn, is one of the reasons why there are such vast benefits to be gained from policymakers addressing the above-outlined coordination, accountability, and risk challenges associated with growth poles.

CONCLUSIONS

The present time is fortuitous for Africa. The continent is enjoying solid growth, and much international attention is focused on Africa as an investment destination, with a specific emphasis on the continent's infrastructure. Unfortunately, this growth is uneven and highly reliant on natural resources, with a number of resource-rich countries enjoying very strong growth—in some cases over 10 percent—and other countries not doing very well. These competitiveness figures bring to the fore the important question of how, while enjoying a high rate of growth, African countries can make the types of investments and policies that can put their economies on sustainable growth paths and create jobs for the long term.

This chapter has argued that, for Africa to maintain and accelerate its growth performance, it needs to find ways to develop its areas of key comparative advantages in its competitive industries (for example, agriculture, mining, and tourism). This means improving productivity and connections to and among markets and reaping the benefits of recent trends toward regional integration. The key ingredients to this success are governance and infrastructure, and the deployment of a combined

Box 6: The Nigeria electricity and gas improvement project

Poor infrastructure in the energy sector has been a key constraint to economic growth in Nigeria. Shortfalls in the availability of energy have meant that around 60 million people continue to live in the dark, and average annual per capita energy consumption is among the lowest in the world. Poor access to energy has forced companies to invest in self-generation, diverting substantial resources away from other, more productive uses.

Furthermore, power generation has been constrained by inadequate gas supplies to power plants. So far, low gas prices have inhibited domestic and international oil companies from investing in gas-gathering and gas-processing equipment to supply the domestic market.

To address this problem, Nigeria has announced a phased price increase to domestic gas suppliers. At the same time, it has introduced a domestic supply obligation and bilateral contracting between gas suppliers and consumers. These steps are expected to bring commercial discipline to the gas sector. Additionally, through extensive multi-stakeholder consultations and communication activities, the Nigerian government established the Nigeria Electricity and Gas Improvement Project, with World Bank guarantee assistance, to mobilize gas supplies for power generation. The Power Holding Company of Nigeria's gas supply payment obligations to international and domestic oil companies (Shell, Chevron, Exxon-Mobil, Total, Addax, Agip, and Pan-Ocean) will help mobilize gas supplies for power generation and, moreover, will support the private sector–led development of the gas sector.

These risk-sharing actions are expected to boost domestic gas supply for power generation, thus helping to create an enabling environment for private investment in the energy, gas, and industrial sectors. Moreover, this innovative risk-sharing credit aims to strengthen the value chain for power generation by eliminating the bottlenecks in the supply chain for power generation—previously a fundamental constraint to economic growth in the country.

Source: World Bank, 2009.

strategy of spatial and economic development called growth poles.

Because huge infrastructure needs remain and because capacity in both financial and implementation terms is limited, the question of how to use these scarce resources best is a crucial one. The development of a more sustainable policy process around infrastructure investments will enable African countries to enhance the competitiveness of their private sectors. This chapter has highlighted this message in the context of growth pole projects on the continent, focusing on paths forward regarding coordination, accountability, and risk challenges.

Because infrastructure provides the basic services in a country, it both offers great opportunities for business, employment, and the general competitiveness of an economy, and also presents intensely political challenges. Decision makers will want to ask themselves a selection of important questions when seeking to resolve the economically and technically complex challenges of infrastructure and growth pole investments. Among these questions are those regarding coordination: how can infrastructure services best be provided competitively? And what instruments—financial, regulatory, and participatory—can governments deploy to involve the private sector and the broader society most effectively and efficiently in the construction and maintenance of this backbone of growth? Accountability issues must simultaneously be addressed from this angle. An ecosystem of checks and balances—including competition commissions, infrastructure sector regulators, and concession regulators—is required to deliver on accountabilities to the key stakeholders. As growth poles in Madagascar and elsewhere have shown, supporting the growth of competitive industries and jobs to make most of the infrastructure built requires both a large and a long-term investment for a government.

Governments must continuously probe best-practice financial and regulatory mechanisms to attract private financing and servicing for growth pole projects that will advance a country's export industries to Africa's regional and global markets. Taking a strategic approach to handling the coordination, accountability, and risk challenges involved in growth poles presents a promising way forward.

NOTES

1 World Bank 2009.

2 *SEZ*s are usually designed as supply-side competitiveness measures, and are meant to establish an agglomeration of firms through the provision of superior infrastructure and operating conditions. Another often-used concept is *development corridors.* These are usually feeder infrastructures, achieving outcomes by deepening project linkages and by encouraging densification.

3 For comparable experiences and successes in Asia, see World Bank 2005.

4 World Bank 2005.

5 Perroux 1955.

6 *SEZ*s can be high-tech parks, science parks, industrial zones, and export processing zones. Morocco's SEZ has been an African success case—see http://specialeconomiczone.org/category/africa-sez/morocco/.

7 Hallward-Driemeier et al. 2010.

8 See the World Bank's Senegal Sustainable and Inclusive Agribusiness Project, available at http://www.worldbank.org/projects/P124018/senegal-agribusiness-development-project?lang=en.

9 See the World Bank's *Private Participation in Infrastructure Database,* available at http://ppi.worldbank.org/.

10 A *monoliner* is an insurance company that provides guarantees to issuers, often in the form of credit wraps, that enhance the credit of the issuer.

REFERENCES

AfDB (African Development Bank) and African Development Fund. 2011. ''Regional Integration Strategy Paper for West Africa: 2011–2015." Available at http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/RISP%20for%20West%20Africa%20-%20REV%202.pdf.

Calderón, C. 2009. "Infrastructure and Growth in Africa." *Policy Research Working Paper* No. 4914, Africa Infrastructure Country Diagnostic. Washington, DC: World Bank. Available at http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-4914.

Dinh, H. T., V. Palmade, V. Chandra, and F. Cossar. 2012. *Light Manufacturing in Africa : Targeted Policies to Enhance Private Investment and Create Jobs.* Open Knowledge Repository. Washington, DC: World Bank. Available at https://openknowledge.worldbank.org/handle/10986/2245?show=full.

Dobronogov, A. and T. Farole. 2012. "An Economic Integration Zone for the East African Community: Exploiting Regional Potential and Addressing Commitment Challenges." *Policy Research Working Paper* No. 5967. Washington DC: World Bank.

Eberhard, A., V. Foster, C. Briceño-Garmendia, F. Ouedraogo, D. Camos, and M. Shkaratan. 2008. "Underpowered: The State of the Power Sector in Sub-Saharan Africa." Background Paper 6, Africa Infrastructure Sector Diagnostic. Washington, DC: World Bank.

Farole, T. 2011. *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experience.* Open Knowledge Repository. Washington DC: World Bank. Available at https://openknowledge.worldbank.org/handle/10986/2268.

Foster, V. and C. Briceño-Garmendia, editors. 2010. "Africa's Infrastructure: A Time for Transformation." A co-publication of the Agence Française de Développement and the World Bank, part of the Africa Infrastructure Sector Diagnostic. Washington, DC: World Bank. Available at http://siteresources.worldbank.org/INTAFRICA/Resources/aicd_overview_english_no-embargo.pdf.

Gallegos, D. 2012. ''Partnerships for Broadband: Innovative Public Private Partnerships Will Support the Expansion of Broadband Networks.' *ICT Policy Notes,* Note 2, June. Washington, DC: World Bank. Available at http://siteresources.worldbank.org/INFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/1221297_Broadband_PolicyNote_LowRes.pdf.

Government of Kenya. 2011. Second Transport and Economic Corridor: Lamu–Southern Sudan–Ethiopia Transport (LAPSSET) Corridor. Available at http://www.icafrica.org/fileadmin/documents/ICA_sponsored_events/IGAD_HoA_Conf_2012/Lapsset_IGAD_%20March2012.pdf.

Hallward-Driemeier, M., G. Khun-Jush, and L. Pritchett. 2010. "Deals versus Rules: Policy Implementation Uncertainty and Why Firms Hate It." *NBER Working Paper* No. 16001. Cambridge, MA: National Bureau of Economic Research. Available at http://www.nber.org/papers/w16001.

Kaplinsky, R. 1993. "Export Processing Zones in the Dominican Republic: Transforming Manufactures into Commodities." *World Development* 21 (11): 1851–65.

Maertens, M., L. Colen, and J. F. M. Swinnen. 2008. ''Globalization and Poverty in Senegal: A Worst Case Scenario?'' Katholieke Universiteit Leuven, *LICOS Discussion Paper* No. 217/2008. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1361534.

OECD (Organisation for Economic Co-operation and Development). 2012. *Mapping Support for Africa's Infrastructure Investment.* Report in the Aid for Investment in Africa's Infrastructure Project. Available at http://www.oecd.org/daf/inv/investment-policy/MappingReportWeb.pdf.

Perroux, F. "A Note on the Notion of Growth Pole." *Applied Economy* 1.2 (1955): 307–20.

Rippel, B. 2011. ''Why Trade Facilitation is Important for Africa." *Africa Trade Policy Notes,* Note 17. November. Washington, DC: World Bank.

Sangho, Y., P. Labaste, and C. Ravry. 2010. ''Growing Mali's Mango Exports: Linking Farmers to Markets through Innovations in the Value Chain." Washington, DC: World Bank. Available at http://siteresources.worldbank.org/AFRICAEXT/Resources/258643-1271798012256/Mali_Mangoes_Success.pdf.

von Uexkull, E. 2012. ''Regional Trade and Employment in ECOWAS." *Employment Working Paper* No. 114. Geneva: International Labour Organization.

World Bank. 2005. *Connecting East Asia: A New Framework for Infrastructure.* Manila and Washington, DC: Asian Development Bank, World Bank, and Japan Bank for International Cooperation. Available at http://siteresources.worldbank.org/INTEASTASIAPACIFIC/Resources/Connecting-East-Asia.pdf.

——. 2008. *World Development Report 2009: Reshaping Economic Geography.* Washington, DC: World Bank.

——. 2009. ''Boosting Power in Nigeria.'' Washington, DC: World Bank. Available at http://siteresources.worldbank.org/INTGUARANTEES/Resources/BoostingPowerinNigeria.pdf.

——. 2010. ''Prospects for Growth Poles in Mozambique.'' Washington, DC: World Bank. Available at http://www.iese.ac.mz/lib/publication/outras/cd_ppi/pastas/governacao/geral/legislativo_documentos_oficiais/FINALMozambique.pdf.

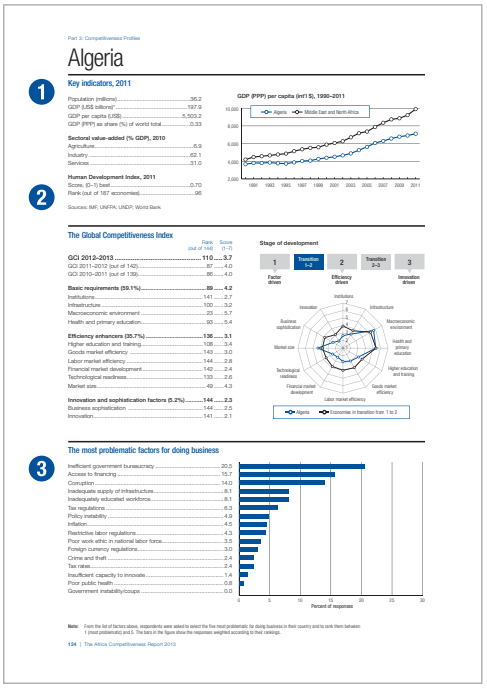
——. No date. *Private Participation in Infrastructure Database.* Available at http://ppi.worldbank.org/.

Part 3

Competitiveness Profiles

How to Read the Competitiveness Profiles

The Competitiveness Profiles section of *The Africa Competitiveness Report 2013* presents a two-page profile of the performance in the Global Competitiveness Index (GCI) discussed in Chapter 1.1 of each of the 38 African economies covered in *The Global Competitiveness Report 2012–2013.*



PAGE 1

1 Key indicators

The first section presents a selection of key indicators for the economy under review:

- Population figures are from the *World Population Prospects: The 2010 Revision,* (CD-ROM edition) published by the United Nations' Department of Economic and Social Affairs, Population Division.
- Gross domestic product (GDP) data come from the October 2012 edition of the International Monetary Fund (IMF)'s *World Economic Outlook (WEO) Database*. Reported GDP and GDP per capita are valued at current prices.
- The sectoral value-added (% of GDP) data are from the World Bank's *World Development Indicators Online Database* (retrieved on November 20, 2012).
- The Human Development Index (HDI) ranking is computed by the United Nations Development Programme (UNDP), available from the *Human Development Indices: Statistical Update 2011.*
- The graph on the upper right-hand side displays the evolution of GDP per capita at purchasing power parity (PPP) from 1990 through 2011 (or the period for which data are available) for the economy under review (blue line). The black line plots the GDP-weighted average of GDP per capita of the group of economies to which the economy under review belongs. We draw on the IMF country classification, which divides the world into six regions: *Central and Eastern Europe; Commonwealth of Independent States (CIS),* which includes Georgia and Mongolia although they are not members; *Developing Asia; the Middle East and North Africa; sub-Saharan Africa;* and *Latin America and the Caribbean.* The last group comprises *advanced economies*. GDP figures come from the WEO database. For more information regarding the classification and the data, see www.imf.org/weo.

2 The Global Competitiveness Index

This section of the profile details the economy's performance on the various components of the GCI. The first column shows the country's rank among the 144 economies covered by the GCI, while the second column presents the score. The percentage contribution to the overall GCI score of each subindex is reported next to the subindex name. These weights vary depending on the country's stage of development. For more information on the methodology of the GCI, refer to Chapter 1.1. On the right-hand side, a spider chart shows the country's performance on the 12 pillars of the GCI (blue line) measured against the average scores across all the economies in the GCI sample at the same stage of development (black line).

❸ The most problematic factors for doing business

The bar chart at the bottom of the page summarizes those factors seen by business executives as the most problematic for doing business in their economy. The information is drawn from the 2012 edition of 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. For Rwanda, we use data from the 2011 edition of the Survey, so for that country the list comprises only 15 factors—one less than in the 2012 edition.[1]

PAGE 2

❹ The Global Competitiveness Index in detail

This page details the country's performance on each of the indicators entering the composition of the Global Competitiveness Index 2012–2013 (GCI). Indicators are organized by pillar. For indicators entering at the GCI in two different pillars, only the first instance is shown on this page.

- **INDICATOR, UNITS:** This column contains the title of each indicator and, where relevant, the units in which it is measured—for example, "days" or "% GDP." Indicators that are not derived from the Survey are identified by an asterisk (*). Indicators derived from the Survey are always expressed as scores on a 1–7 scale, with 7 being the most desirable outcome.
- **VALUE:** This column reports the country's score on each of the variables that compose the GCI.
- **RANK/144:** This column reports the country's position among the 144 economies covered by the GCI 2012–2013.

The following sections provide additional information and definitions on each of these indicators.


Part 2: Competitiveness Profiles

Algeria

❹ The Global Competitiveness Index in detail

INDICATOR	VALUE	RANK/144
1st pillar: Institutions		
1.01 Property rights	2.5	140
1.02 Intellectual property protection	1.8	142
1.03 Diversion of public funds	2.2	131
1.04 Public trust in politicians	1.8	129
1.05 Irregular payments and bribes	2.6	135
1.06 Judicial independence	2.5	123
1.07 Favoritism in decisions of government officials	2.2	134
1.08 Wastefulness of government spending	2.4	116
1.09 Burden of government regulation	2.3	140
1.10 Efficiency of legal framework in settling disputes	2.6	132
1.11 Efficiency of legal framework in challenging regs	2.5	137
1.12 Transparency of government policymaking	2.6	144
1.13 Gov't services for improved business performance	2.8	124
1.14 Business costs of terrorism	3.5	140
1.15 Business costs of crime and violence	3.6	119
1.16 Organized crime	3.3	137
1.17 Reliability of police services	3.0	121
1.18 Ethical behavior of firms	2.6	143
1.19 Strength of auditing and reporting standards	2.9	143
1.20 Efficacy of corporate boards	3.1	143
1.21 Protection of minority shareholders' interests	3.1	136
1.22 Strength of investor protection, 0–10 (best)*	5.3	65
2nd pillar: Infrastructure		
2.01 Quality of overall infrastructure	3.5	102
2.02 Quality of roads	3.4	88
2.03 Quality of railroad infrastructure	2.0	90
2.04 Quality of port infrastructure	2.7	101
2.05 Quality of air transport infrastructure	3.3	125
2.06 Available airline seat kms/week, millions*	146.0	72
2.07 Quality of electricity supply	4.5	80
2.08 Mobile telephone subscriptions/100 pop.*	99.0	87
2.09 Fixed telephone lines/100 pop.*	8.5	96
3rd pillar: Macroeconomic environment		
3.01 Government budget balance, % GDP*	-3.6	82
3.02 Gross national savings, % GDP*	50.1	6
3.03 Inflation, annual % change*	4.5	68
3.04 General government debt, % GDP*	9.9	11
3.05 Country credit rating, 0–100 (best)*	53.7	59
4th pillar: Health and primary education		
4.01 Business impact of malaria	5.5	91
4.02 Malaria cases/100,000 pop.*	0.0	72
4.03 Business impact of tuberculosis	5.2	80
4.04 Tuberculosis cases/100,000 pop.*	90.0	88
4.05 Business impact of HIV/AIDS	5.3	69
4.06 HIV prevalence, % adult pop.*	0.1	12
4.07 Infant mortality, deaths/1,000 live births*	30.5	102
4.08 Life expectancy, years*	72.9	83
4.09 Quality of primary education	2.4	129
4.10 Primary education enrollment, net %*	95.6	46
5th pillar: Higher education and training		
5.01 Secondary education enrollment, gross %*	94.9	52
5.02 Tertiary education enrollment, gross %*	30.8	74
5.03 Quality of the educational system	2.5	131
5.04 Quality of math and science education	2.7	129
5.05 Quality of management schools	3.0	131
5.06 Internet access in schools	2.4	132
5.07 Availability of research and training services	2.9	138
5.08 Extent of staff training	2.6	142
6th pillar: Goods market efficiency		
6.01 Intensity of local competition	3.1	144
6.02 Extent of market dominance	2.8	137
6.03 Effectiveness of anti-monopoly policy	2.9	140
6.04 Extent and effect of taxation	3.2	101
6.05 Total tax rate, % profits*	72.0	135
6.06 No. procedures to start a business*	14	134
6.07 No. days to start a business*	25	92
6.08 Agricultural policy costs	3.2	124
6.09 Prevalence of trade barriers	3.0	141
6.10 Trade tariffs, % duty*	14.0	132
6.11 Prevalence of foreign ownership	3.3	136
6.12 Business impact of rules on FDI	3.2	138
6.13 Burden of customs procedures	2.5	141
6.14 Imports as a percentage of GDP*	32.4	111
6.15 Degree of customer orientation	3.0	144
6.16 Buyer sophistication	2.4	131
7th pillar: Labor market efficiency		
7.01 Cooperation in labor-employer relations	2.9	143
7.02 Flexibility of wage determination	4.0	125
7.03 Hiring and firing practices	3.3	112
7.04 Redundancy costs, weeks of salary*	17	81
7.05 Pay and productivity	2.4	144
7.06 Reliance on professional management	2.3	144
7.07 Brain drain	1.5	144
7.08 Women in labor force, ratio to men*	0.21	144
8th pillar: Financial market development		
8.01 Availability of financial services	2.6	143
8.02 Affordability of financial services	2.0	144
8.03 Financing through local equity market	2.2	131
8.04 Ease of access to loans	2.0	139
8.05 Venture capital availability	1.8	138
8.06 Soundness of banks	2.9	143
8.07 Regulation of securities exchanges	2.3	140
8.08 Legal rights index, 0–10 (best)*	3	118
9th pillar: Technological readiness		
9.01 Availability of latest technologies	3.4	142
9.02 Firm-level technology absorption	3.2	144
9.03 FDI and technology transfer	3.4	140
9.04 Individuals using Internet, %*	14.0	110
9.05 Broadband Internet subscriptions/100 pop.*	2.8	87
9.06 Int'l Internet bandwidth, kb/s per user*	6.9	89
9.07 Mobile broadband subscriptions/100 pop.*	0.0	128
10th pillar: Market size		
10.01 Domestic market size index, 1–7 (best)*	4.2	47
10.02 Foreign market size index, 1–7 (best)*	4.9	49
11th pillar: Business sophistication		
11.01 Local supplier quantity	4.0	124
11.02 Local supplier quality	3.4	137
11.03 State of cluster development	2.4	139
11.04 Nature of competitive advantage	2.0	144
11.05 Value chain breadth	2.2	143
11.06 Control of international distribution	2.5	144
11.07 Production process sophistication	2.3	141
11.08 Extent of marketing	2.3	143
11.09 Willingness to delegate authority	1.9	144
12th pillar: Innovation		
12.01 Capacity for innovation	1.9	143
12.02 Quality of scientific research institutions	2.1	141
12.03 Company spending on R&D	1.8	143
12.04 University-industry collaboration in R&D	1.9	144
12.05 Gov't procurement of advanced tech products	2.2	142
12.06 Availability of scientists and engineers	4.0	72
12.07 PCT patents, applications/million pop.*	0.2	91

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

The Africa Competitiveness Report 2013 | 125

TECHNICAL NOTES AND SOURCES FOR THE GLOBAL COMPETITIVENESS INDEX

This section provides detailed definitions and sources for all the indicators that enter the Global Competitiveness Index 2012–2013 (GCI); the next section provides details for the indicators of the sustainability-adjusted GCI (the SCI). For further information, see *The Global Competitiveness Report 2012–2013.*

Two types of data are used in the GCI: Executive Opinion Survey data and data from sources other than the World Economic Forum (national authorities, international agencies, and private sources). The latter were updated at the time *The Global Competitiveness Report 2012–2013* was prepared.

For each indicator, the title appears on the first line, preceded by its number to allow for quick reference. The numbering refers to the data tables section in *The Global Competitiveness Report 2012–2013.* Underneath is a description of the indicator or, in the case of the Executive Opinion Survey data, the full question and the associated response. The data used represent the best available estimates at the time *The Global Competitiveness Report 2012–2013* was prepared. It is possible that some data will have been updated or revised after publication.

1 For more information regarding the Executive Opinion Survey, see World Economic Forum, *The Global Competitiveness Report 2012–2013.* Geneva: World Economic Forum.

1st Pillar: Institutions

1.01 Property rights

How would you rate the protection of property rights, including financial assets, in your country? [1 = very weak; 7 = very strong] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.02 Intellectual property protection

How would you rate intellectual property protection, including anti-counterfeiting measures, in your country? [1 = very weak; 7 = very strong] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.03 Diversion of public funds

In your country, how common is diversion of public funds to companies, individuals, or groups due to corruption? [1 = very common; 7 = never occurs] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.04 Public trust in politicians

How would you rate the level of public trust in the ethical standards of politicians in your country? [1 = very low; 7 = very high] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

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). | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.06 Judicial independence

To what extent is the judiciary in your country independent from influences of members of government, citizens, or firms? [1 = heavily influenced; 7 = entirely independent] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.07 Favoritism in decisions of government officials

To what extent do government officials in your country show favoritism to well-connected firms and individuals when deciding upon policies and contracts? [1 = always show favoritism; 7 = never show favoritism] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.08 Wastefulness of government spending

How would you rate the composition of public spending in your country? [1 = extremely wasteful; 7 = highly efficient in providing necessary goods and services] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.09 Burden of government regulation

How burdensome is it for businesses in your country to comply with governmental administrative requirements (e.g., permits, regulations, reporting)? [1 = extremely burdensome; 7 = not burdensome at all] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.10 Efficiency of legal framework in settling disputes

How efficient is the legal framework in your country for private businesses in settling disputes? [1 = extremely inefficient; 7 = highly efficient] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.11 Efficiency of legal framework in challenging regulations

How efficient is the legal framework in your country for private businesses in challenging the legality of government actions and/or regulations? [1 = extremely inefficient; 7 = highly efficient] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.12 Transparency of government policymaking

How easy is it for businesses in your country to obtain information about changes in government policies and regulations affecting their activities? [1 = impossible; 7 = extremely easy] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.13 Government provision of services for improved business performance

To what extent does the government in your country continuously improve its provision of services to help businesses in your country boost their economic performance? [1 = not at all; 7 = extensively] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.14 Business costs of terrorism

To what extent does the threat of terrorism impose costs on businesses in your country? [1 = to a great extent; 7 = not at all] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.15 Business costs of crime and violence

To what extent does the incidence of crime and violence impose costs on businesses in your country? [1 = to a great extent; 7 = not at all] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.16 Organized crime

To what extent does organized crime (mafia-oriented racketeering, extortion) impose costs on businesses in your country? [1 = to a great extent; 7 = not at all] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.17 Reliability of police services

To what extent can police services be relied upon to enforce law and order in your country? [1 = cannot be relied upon at all; 7 = can be completely relied upon] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.18 Ethical behavior of firms

How would you compare the corporate ethics (ethical behavior in interactions with public officials, politicians, and other enterprises) of firms in your country with those of other countries in the world? [1 = among the worst in the world; 7 = among the best in the world] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.19 Strength of auditing and reporting standards

In your country, how would you assess financial auditing and reporting standards regarding company financial performance? [1 = extremely weak; 7 = extremely strong] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.20 Efficacy of corporate boards

How would you characterize corporate governance by investors and boards of directors in your country? [1 = management has little accountability to investors and boards; 7 = investors and boards exert strong supervision of management decisions] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.21 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] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

1.22 Strength of investor protection

Strength of Investor Protection Index on a 0–10 (best) scale | 2011

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 2012: Doing Business in a More Transparent World*

2nd Pillar: Infrastructure

2.01 Quality of overall infrastructure

How would you assess general infrastructure (e.g., transport, telephony, and energy) in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

2.02 Quality of roads

How would you assess the roads in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

2.03 Quality of railroad infrastructure

How would you assess the railroad system in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

Note: *N/Appl.* is used for economies where the railroad network totals less than 50 km.

2.04 Quality of port infrastructure

How would you assess the port facilities in your country? [1 = extremely underdeveloped; 7 = well developed and efficient by international standards] For landlocked countries, the question is as follows: How accessible are port facilities? [1 = extremely inaccessible; 7 = extremely accessible] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

2.05 Quality of air transport infrastructure

How would you assess passenger air transport infrastructure in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

2.06 Available airline seat kilometers

Scheduled available airline seat kilometers per week originating in country (in millions) | Jan2012-Jul2012

This variable measures the total passenger-carrying capacity of all scheduled flights, including domestic flights, originating in a country. It is computed by taking the number of seats available on each flight multiplied by the flight distance in kilometers, summing the result across all scheduled flights in a week during January (winter schedule) and July (summer schedule) 2012, and taking the average capacity of the two weeks.

Source: International Air Transport Association, SRS Analyser

2.07 Quality of electricity supply

How would you assess the quality of the electricity supply in your country (lack of interruptions and lack of voltage fluctuations)? [1 = insufficient and suffers frequent interruptions; 7 = sufficient and reliable] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

2.08 Mobile telephone subscriptions

Number of mobile telephone subscriptions per 100 population | 2011

A *mobile telephone subscription* refers to a subscription to a public mobile telephone service that provides access to the public switched telephone network (PSTN) using cellular technology, including the number of pre-paid SIM cards active during the past three months. This includes both analog and digital cellular systems (IMT-2000, Third Generation, 3G) and 4G subscriptions, but excludes mobile broadband subscriptions via data cards or USB modems. Subscriptions to public mobile data services, private trunked mobile radio, telepoint or radio paging, and telemetry services are also excluded. It includes all mobile cellular subscriptions that offer voice communications.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators Database 2012* (June 2012 edition)

2.09 Fixed telephone lines

Number of active fixed telephone lines per 100 population | 2011

A *fixed telephone line* is an active line connecting the subscriber's terminal equipment to the public switched telephone network (PSTN) and that has a dedicated port in the telephone exchange equipment. Active lines are those that have registered an activity in the past three months.

Source: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators Database 2012* (June 2012 edition)

3rd Pillar: Macroeconomic environment

3.01 Government budget balance

General government budget balance as a percentage of GDP | 2011

Net lending (+)/ borrowing (–) 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.

Sources: International Monetary Fund, *World Economic Outlook Database* (April 2012 edition) and *Public Information Notices* (various issues); national sources

3.02 Gross national savings

Gross national savings as a percentage of GDP | 2011

Aggregate national savings is defined as public- and private-sector savings as a percentage of nominal GDP. National savings equals gross domestic investment plus the current-account balance.

Sources: International Monetary Fund, *World Economic Outlook Database* (April 2012 edition) and *Public Information Notices* (various issues); national sources

3.03 Inflation

Annual percent change in consumer price index (year average) | 2011

Annual percent change in year average consumer price index.

Sources: International Monetary Fund, *World Economic Outlook Database* (April 2012 edition); national sources

Note: For inflation rates between 0.5 and 2.9 percent, a country received the highest possible score of 7. Outside this range, scores decrease linearly as they move away from these values.

3.04 Government debt

Gross general government debt as a percentage of GDP | 2011

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 2001* system are debt, except for equity and investment fund shares and financial derivatives and employee stock options.

Sources: International Monetary Fund, *World Economic Outlook Database* (April 2012 edition) and *Public Information Notices* (various issues); national sources

3.05 Country credit rating

Expert assessment of the probability of sovereign debt default on a 0–100 (lowest probability) scale | March 2012

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. For more information, visit http://www.institutionalinvestor.com/Research/3633/Global-Rankings.html.

Source: Institutional Investor

4th Pillar: Health and primary education

4.01 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] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012
Note: This indicator does not apply to economies where malaria is not endemic (n/appl.).

4.02 Malaria incidence

Number of malaria cases per 100,000 population | 2009

Data are estimates and are provided only for economies in which malaria is considered to be endemic. In the corresponding data table, "NE" denotes an economy where malaria is not endemic.

Source: Cibulskis, R.E., M. Aregawi, R. Williams, M. Otten, and C. Dye. 2011. "Worldwide Incidence of Malaria in 2009: Estimates, Time Trends, and a Critique of Methods." *PLoS Med* 8 (12): e1001142. doi: 10.1271/journal/pmed.1001142.

4.03 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] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

4.04 Tuberculosis incidence

Number of tuberculosis cases per 100,000 population | 2010

Incidence of tuberculosis is the estimated number of new pulmonary, smear positive, and extra-pulmonary tuberculosis cases.

Sources: The World Bank, *World Development Indicators & Global Development Finance* Catalog (April 2012 edition); national sources

4.05 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] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

4.06 HIV prevalence

HIV prevalence as a percentage of adults aged 15–49 years | 2009

HIV prevalence refers to the number of infections at a particular point in time, no matter when infection occurred.

Sources: The World Bank, *World Development Indicators & Global Development Finance* Catalog (April 2012 edition); UNAIDS, *Global Report on the Global AIDS Epidemic* (2008 edition); national sources

4.07 Infant mortality

Infant (children aged 0–12 months) mortality per 1,000 live births | 2010

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 & Global Development Finance* Catalog (April 2012 edition); national sources

4.08 Life expectancy

Life expectancy at birth (years) | 2010

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 & Global Development Finance* Catalog (April 2012 edition); national sources

4.09 Quality of primary education

How would you assess the quality of primary schools in your country? [1 = poor; 7 = excellent – among the best in the world] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

4.10 Primary education enrollment rate

Net primary education enrollment rate | 2010

The reported value corresponds to the ratio of children of official school age (as defined by the national education system) who are enrolled in school to the population of the corresponding official school age. 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 (accessed May 10, 2012); The World Bank, *EdStats Database* (accessed June 27, 2012); Organisation for Economic Co-operation and Development (OECD), *Education at a Glance 2011*; national sources

5th Pillar: Higher education and training

5.01 Secondary education enrollment rate

Gross secondary education enrollment rate | 2010

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 (accessed May 10, 2012); UNICEF ChildInfo.org Country Profiles; The World Bank, *EdStats Database* (accessed June 25, 2012); national sources

5.02 Tertiary education enrollment rate

Gross tertiary education enrollment rate | 2010

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 (accessed May 10, 2012); national sources

5.03 Quality of the educational system

How well does the educational system in your country meet the needs of a competitive economy? [1 = not well at all; 7 = very well] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

5.04 Quality of math and science education

How would you assess the quality of math and science education in your country's schools? [1 = poor; 7 = excellent – among the best in the world] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

5.05 Quality of management schools

How would you assess the quality of management or business schools in your country? [1 = poor; 7 = excellent – among the best in the world] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

5.06 Internet access in schools

How would you rate the level of access to the Internet in schools in your country? [1 = very limited; 7 = extensive] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

5.07 Local availability of specialized research and training services

In your country, to what extent are high-quality, specialized training services available? [1 = not available; 7 = widely available] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

5.08 Extent of staff training

To what extent do companies in your country invest in training and employee development? [1 = hardly at all; 7 = to a great extent] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6th Pillar: Goods market efficiency

6.01 Intensity of local competition

How would you assess the intensity of competition in the local markets in your country? [1 = limited in most industries; 7 = intense in most industries] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.02 Extent of market dominance

How would you characterize corporate activity in your country? [1 = dominated by a few business groups; 7 = spread among many firms] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.03 Effectiveness of anti-monopoly policy

To what extent does anti-monopoly policy promote competition in your country? [1 = does not promote competition; 7 = effectively promotes competition] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.04 Extent and effect of taxation

What impact does the level of taxes in your country have on incentives to work or invest? [1 = significantly limits incentives to work or invest; 7 = has no impact on incentives to work or invest] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

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) | 2011

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, please visit http://www.doingbusiness.org/methodologysurveys/.

Source: World Bank/International Finance Corporation, *Doing Business 2012: Doing Business in a More Transparent World*

6.06 Number of procedures required to start a business

Number of procedures required to start a business | 2011

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 2012: Doing Business in a More Transparent World*

6.07 Time required to start a business

Number of days required to start a business | 2011

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 2012: Doing Business in a More Transparent World*

6.08 Agricultural policy costs

How would you assess the agricultural policy in your country? [1 = excessively burdensome for the economy; 7 = balances the interests of taxpayers, consumers, and producers] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.09 Prevalence of trade barriers

In your country, to what extent do tariff and non-tariff barriers limit the ability of imported goods to compete in the domestic market? [1 = strongly limit; 7 = do not limit] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.10 Trade tariffs

Trade-weighted average tariff rate | 2011

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 (2010 data). An *applied tariff* is a customs duty that is levied on imports of merchandise goods.

Source: International Trade Centre

6.11 Prevalence of foreign ownership

How prevalent is foreign ownership of companies in your country? [1 = very rare; 7 = highly prevalent] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.12 Business impact of rules on FDI

To what extent do rules governing foreign direct investment (FDI) encourage or discourage it? [1 = strongly discourage FDI; 7 = strongly encourage FDI] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.13 Burden of customs procedures

How would you rate the level of efficiency of customs procedures (related to the entry and exit of merchandise) in your country? [1 = extremely inefficient; 7 = extremely efficient] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.14 Imports as a percentage of GDP

Imports of goods and services as a percentage of gross domestic product | 2011

Total imports is the sum of total imports of merchandise and commercial services.

Sources: World Trade Organization, Statistical Database: Time Series on merchandise and commercial services (accessed June 4, 2012); International Monetary Fund, *World Economic Outlook Database* (April 2012 edition); national sources

6.15 Degree of customer orientation

How do companies in your country treat customers? [1 = generally treat their customers badly; 7 = are highly responsive to customers and customer retention] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

6.16 Buyer sophistication

In your country, how do buyers make purchasing decisions? [1 = based solely on the lowest price; 7 = based on a sophisticated analysis of performance attributes] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

7th Pillar: Labor market efficiency

7.01 Cooperation in labor-employer relations

How would you characterize labor-employer relations in your country? [1 = generally confrontational; 7 = generally cooperative] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

7.02 Flexibility of wage determination

How are wages generally set in your country? [1 = by a centralized bargaining process; 7 = up to each individual company] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

7.03 Hiring and firing practices

How would you characterize the hiring and firing of workers in your country? [1 = impeded by regulations; 7 = flexibly determined by employers] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

7.04 Redundancy costs

Redundancy costs in weeks of salary | 2011

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 2012: Doing Business in a More Transparent World*; authors' calculations

7.05 Pay and productivity

To what extent is pay in your country related to productivity? [1 = not related to worker productivity; 7 = strongly related to worker productivity] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

7.06 Reliance on professional management

In your country, who holds senior management positions? [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

7.07 Brain drain

Does your country retain and attract talented people? [1 = no, the best and brightest normally leave to pursue opportunities in other countries; 7 = yes, there are many opportunities for talented people within the country] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

7.08 Female participation in labor force

Ratio of women to men in the labor force | 2010

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 Labor Markets Net* (accessed June 5, 2012); national sources

8th Pillar: Financial market development

8.01 Availability of financial services

Does the financial sector in your country provide a wide variety of financial products and services to businesses? [1 = not at all; 7 = provides a wide variety] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

8.02 Affordability of financial services

To what extent does competition among providers of financial services in your country ensure the provision of financial services at affordable prices? [1 = not at all; 7 = extremely well] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

8.03 Financing through local equity market

How easy is it to raise money by issuing shares on the stock market in your country? [1 = very difficult; 7 = very easy] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

8.04 Ease of access to loans

How easy is it to obtain a bank loan in your country with only a good business plan and no collateral? [1 = very difficult; 7 = very easy] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

8.05 Venture capital availability

In your country, how easy is it for entrepreneurs with innovative but risky projects to find venture capital? [1 = very difficult; 7 = very easy] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

8.06 Soundness of banks

How would you assess the soundness of banks in your country? [1 = insolvent and may require a government bailout; 7 = generally healthy with sound balance sheets] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

8.07 Regulation of securities exchanges

How would you assess the regulation and supervision of securities exchanges in your country? [1 = ineffective; 7 = effective] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

8.08 Legal rights index

Degree of legal protection of borrowers and lenders' rights on a 0–10 (best) scale | 2011

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 2012: Doing Business in a More Transparent World*

9th Pillar: Technological readiness

9.01 Availability of latest technologies

To what extent are the latest technologies available in your country? [1 = not available; 7 = widely available] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

9.02 Firm-level technology absorption

To what extent do businesses in your country absorb new technology? [1 = not at all; 7 = aggressively absorb] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

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 = FDI is a key source of new technology] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

9.04 Internet users

Percentage of individuals using the Internet | 2011

Internet users refers to people using the Internet from any device (including mobile phones) in the last 12 months. Data are based on surveys generally carried out by national statistical offices or estimated based on the number of Internet subscriptions.

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators 2012* (June 2012 edition)

9.05 Fixed broadband Internet subscriptions

Fixed broadband Internet subscriptions per 100 population | 2011

This refers to total fixed (wired) broadband Internet subscriptions (that is, subscriptions to high-speed access to the public Internet—a TCP/IP connection—at downstream speeds equal to or greater than 256 kb/s).

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators 2012* (June 2012 edition)

9.06 Internet bandwidth

International Internet bandwidth (kb/s) per Internet user | 2011

International Internet bandwidth is the sum of capacity of all Internet exchanges offering international bandwidth measured in kilobits per second (kb/s).

Source: International Telecommunication Union, *World Telecommunication/ICT Indicators 2012* (June 2012 edition)

9.07 Mobile broadband subscriptions

Mobile broadband subscriptions per 100 population | 2011

Mobile broadband subscriptions refers to active SIM cards or, on CDMA networks, connections accessing the Internet at consistent broadband speeds of over 512 kb/s, including cellular technologies such as HSPA, EV-DO, and above. This includes connections being used in any type of device able to access mobile broadband networks, including smartphones, USB modems, mobile hotspots, and other mobile-broadband connected devices.

Sources: International Telecommunication Union, *ITU World Telecommunication/ICT Indicators Database 2012* (June 2012 edition); Informa Telecoms & Media; national sources

10th Pillar: 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 | 2011

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: Authors' calculations. For more details, refer to Appendix A in 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 | 2011

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: Authors' calculations. For more details refer to Appendix A in Chapter 1.1 of this *Report*.

10.03 GDP (PPP)

Gross domestic product valued at purchasing power parity in billions of international dollars | 2011

Sources: International Monetary Fund, *World Economic Outlook Database* (April 2012 edition); national sources

10.04 Exports as a percentage of GDP

Exports of goods and services as a percentage of gross domestic product | 2011 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 4, 2012); International Monetary Fund, *World Economic Outlook Database* (April 2012 edition); national sources

11th Pillar: Business sophistication

11.01 Local supplier quantity

How numerous are local suppliers in your country? [1 = largely nonexistent; 7 = very numerous] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.02 Local supplier quality

How would you assess the quality of local suppliers in your country? [1 = very poor; 7 = very good] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.03 State of cluster development

In your country's economy, how prevalent are well-developed and deep clusters? [1 = nonexistent; 7 = widespread in many fields] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.04 Nature of competitive advantage

What is the nature of competitive advantage of your country's companies in international markets based upon? [1 = low-cost or natural resources; 7 = unique products and processes] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.05 Value chain breadth

In your country, do exporting companies have a narrow or broad 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 (i.e., do not only produce but also perform product design, marketing sales, logistics, and after-sales services)] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.06 Control of international distribution

To what extent are international distribution and marketing from your country owned and controlled by domestic companies? [1 = not at all, they take place through foreign companies; 7 = extensively, they are primarily owned and controlled by domestic companies] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.07 Production process sophistication

In your country, how sophisticated are production processes? [1 = not at all – labor-intensive methods or previous generations of process technology prevail; 7 = highly – the world's best and most efficient process technology prevails] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.08 Extent of marketing

In your country, to what extent do companies use sophisticated marketing tools and techniques? [1 = very little; 7 = extensively] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

11.09 Willingness to delegate authority

In your country, how do you assess the willingness to delegate authority to subordinates? [1 = low – top management controls all important decisions; 7 = high – authority is mostly delegated to business unit heads and other lower-level managers] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

12th Pillar: Innovation

12.01 Capacity for innovation

In your country, how do companies obtain technology? [1 = exclusively from licensing or imitating foreign companies; 7 = by conducting formal research and pioneering their own new products and processes] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

12.02 Quality of scientific research institutions

How would you assess the quality of scientific research institutions in your country? [1 = very poor; 7 = the best in their field internationally] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

12.03 Company spending on R&D

To what extent do companies in your country spend on R&D? [1 = do not spend on R&D; 7 = spend heavily on R&D] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

12.04 University-industry collaboration in R&D

To what extent do business and universities collaborate on research and development (R&D) in your country? [1 = do not collaborate at all; 7 = collaborate extensively] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

12.05 Government procurement of advanced technology products

Do government procurement decisions foster technological innovation in your country? [1 = no, not at all; 7 = yes, extremely effectively] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

12.06 Availability of scientists and engineers

To what extent are scientists and engineers available in your country? [1 = not at all; 7 = widely available] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

12.07 PCT patent applications

Number of applications filed under the Patent Cooperation Treaty (PCT) per million population | 2008-2009

This 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 2008 and 2009 is divided by population figures for 2009.

Sources: Organisation for Economic Co-operation and Development (OECD), *Patent Database*, June 2012; United Nations, Department of Economic and Social Affairs, Population Division, 2011; *World Population Prospects: The 2010 Revision,* CD-ROM Edition; authors' calculations

TECHNICAL NOTES AND SOURCES FOR THE SUSTAINABILITY-ADJUSTED GCI

The data used in Chapter 1.1 of this *Report* represent the best available estimates from various national authorities, international agencies, and private sources at the time the *Report* was prepared. It is possible that some data will have been revised or updated by the sources after publication. Throughout the *Report*, "n/a" denotes that the value is not available or that the available data are unreasonably outdated or do not come from a reliable source. For each indicator, the title appears on the first line, preceded by its number to allow for quick reference. The numbering is the same as the numbering used in Appendix B of Chapter 1.1. 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.

S01 Income Gini index

Measure of income inequality [0 = perfect equality; 100 = perfect inequality] | 2010 or most recent year available

This indicator measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while a value of 100 implies perfect inequality.

Sources: The World Bank, *World Development Indicators Online* (retrieved June 1, 2012); CIA World Factbook (retrieved June 6, 2012); national sources

S02 Youth unemployment

Youth unemployment measured as the ratio of total unemployed youth to total labor force aged 15–24 | 2010 or most recent year available

Youth unemployment refers to the share of the labor force ages 15–24 without work but available for and seeking employment.

Source: International Labour Organization, *Key Indicators of the Labour Markets Net* (retrieved June 5, 2012)

S03.01 Access to sanitation

Percent of total population with access to improved sanitation facilities | 2010 or most recent year available

Percent of the population with at least adequate access to excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained.

Source: World Health Organization, *World Health Statistics 2012* online database (retrieved June 5, 2012)

S03.02 Access to improved drinking water

Percent of total population with access to improved drinking water | 2010 or most recent year available

Percent of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, or rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. *Reasonable access* is defined as the availability of at least 20 liters per person per day from a source within 1 kilometer of the dwelling.

Source: World Health Organization, *World Health Statistics 2012* online database (retrieved June 5, 2012)

S03.03 Accessibility of healthcare services

How accessible is healthcare in your country? [1 = limited—only the privileged have access; 7 = universal—all citizens have access to healthcare] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

S04 Social safety net protection

In your country, does a formal social safety net provide protection from economic insecurity due to job loss or disability? [1 = not at all; 7 = fully] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

S05 Extent of informal economy

How much economic activity in your country would you estimate to be undeclared or unregistered? [1 = most economic activity is undeclared or unregistered; 7 = most economic activity is declared or registered] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

S06 Social mobility

To what extent do individuals in your country have the opportunity to improve their economic situation through their personal efforts regardless of the socioeconomic status of their parents? [1 = little opportunity exists to improve one's economic situation; 7 = significant opportunity exists to improve one's economic situation] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

S07 Vulnerable employment

Proportion of own-account and contributing family workers in total employment | 2010 or most recent year available

Vulnerable employment refers to the proportion of unpaid contributing family workers and own-account workers in total employment. *Own-account workers* are those workers who, working on their own account or with one or more partners, hold the type of job defined as a self-employed job and have not engaged on a continuous basis any employees to work for them during the reference period. A *contributing family worker* is a person who holds a job in a market-oriented establishment operated by a related person living in the same household and who cannot be regarded as a partner because the degree of his or her commitment to the operation of the establishment, in terms of the working time or other factors to be determined by national circumstances, is not at a level comparable with that of the head of the establishment.

Source: The World Bank, *World Development Indicators Online* (retrieved June 1, 2012)

S08.01 Stringency of environmental regulation

How would you assess the stringency of your country's environmental regulations? [1 = very lax; 7 = among the world's most stringent] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

S08.02 Enforcement of environmental regulation

How would you assess the enforcement of environmental regulations in your country? [1 = very lax; 7 = among the world's most rigorous] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

S09 Terrestrial biome protection

Degree to which a country achieves the target of protecting 17 percent of each terrestrial biome within its borders | 2010 or most recent year available

This indicator is calculated by Columbia University's Center for International Earth Science Information Network (CIESIN) by overlaying the protected area mask on terrestrial biome data developed by the World Wildlife Fund (WWF)'s Terrestrial Eco-regions of the World for each country. Scores are capped at 17 percent per biome such that higher levels of protection of some biomes cannot be used to offset lower levels of protection of other biomes, hence the maximum level of protection a country can achieve is 17 percent. CIESIN uses time series of the World Database on Protected Areas (WDPA) developed by the United Nations Environment Programme (UNEP) World Conservation Monitoring Centre (WCMC) in 2011, which provides a spatial time series of protected area coverage from 1990 to 2010. The WCMC considers all nationally designated protected areas whose location and extent is known. Boundaries were defined by polygons where available; where they were not available, protected-area centroids were buffered to create a circle in accordance with the protected area size. The WCMC removed all overlaps between different protected areas by dissolving the boundaries to create a protected areas mask.

Source: Yale University and Columbia University, Environmental Performance Index (EPI) 2012 edition, based on WWF World Wildlife Fund USA and UNEP WCMC data.

S10 No. of ratified international environmental treaties

Total number of ratified environmental treaties | 2010

This indicator provides the total number of environmental treaties ratified by a country. It measures the total number of international treaties from a set of 25 for which a state is a participant. A state becomes a "participant" by Ratification, Formal confirmation, Accession, Acceptance, Definitive signature, Approval, Simplified procedure, Consent to be bound, Succession, and Provisional application (which are here grouped under the term *ratification,* for reasons of convenience). The treaties included are: the International Convention for the Regulation of Whaling, 1948 Washington; the International Convention for the Prevention of Pollution of the Sea by Oil, 1954 London, as amended in 1962 and 1969; the Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971 Ramsar; the Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972 Paris; the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 London, Mexico City, Moscow, Washington; the Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973 Washington; the International Convention for the Prevention of Pollution from Ships (MARPOL) as modified by the Protocol of 1978, 1978 London; the Convention on the Conservation of Migratory Species of Wild Animals, 1979 Bonn; the United Nations Convention on the Law of the Sea, 1982 Montego Bay; the Convention on the Protection of the Ozone Layer, 1985 Vienna; the Protocol on Substances that Deplete the Ozone Layer, 1987 Montreal; the Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989 Basel; the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 London; the United Nations Framework Convention on Climate Change, 1992 New York; the Convention on Biological Diversity, 1992 Rio de Janeiro; the International Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly Africa, 1994 Paris; the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, 1994 New York; the Agreement relating to the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 1995 New York; the Kyoto Protocol to the United Nations Framework Convention on the Climate Change, Kyoto 1997; the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998 Rotterdam; the Cartagena Protocol of Biosafety to the Convention on Biological Diversity, 2000 Montreal; the Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances, 2000 London; the Stockholm Convention on Persistent Organic Pollutants, 2001 Stockholm; the International Treaty on Plant Genetic Resources for Food and Agriculture, 2001 Rome; and the International Tropical Timber Agreement 206, 1994 Geneva.

Source: The International Union for Conservation of Nature (IUCN) Environmental Law Centre *ELIS Treaty Database*

S11 Agricultural water intensity

Agricultural water withdrawal as a percent of total renewable water resources | 2006 or most recent year available

Agricultural water withdrawal as a percent of total renewable water resources is calculated as: 100 × agricultural water withdrawal/total renewable water resources. In turn, total renewable water resources = surface renewable water + renewable groundwater – overlap between surface and groundwater. Where available, this indicator includes water resources coming from desalination used for agriculture (as in Kuwait, Saudi Arabia, the United Arab Emirates, Qatar, Bahrain, and Spain).

Source: FAO AQUASTAT database, available at http://www.fao.org/nr/water/aquastat/main/index.stm (retrieved May 31, 2012)

S12 CO_2 intensity

CO_2 intensity (kilograms of CO_2 per kilogram of oil equivalent energy use) | 2008

Carbon dioxide (CO_2) emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring. *Energy use* refers to use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport. A logarithm transformation is applied to the ratio of these statistics in order to spread the data distribution.

Source: The World Bank, *World Development Indicators Online* (retrieved June 1, 2012)

S13 Fish stocks overexploited

Fraction of country's exclusive economic zone with overexploited and collapsed stocks | 2006

The Sea Around Us (SAU) project's Stock Status Plots (SSPs) are created in four steps (Kleisner and Pauly, 2011). The first step is to define a stock. SAU defines a stock to be a taxon (either at the species, genus, or family level of taxonomic assignment) that occurs in the catch records for at least 5 consecutive years, over a minimum of 10 years, and which has a total catch in an area of at least 1,000 tonnes over the time span. In the second step, SAU assesses the status of the stock for every year relative to the peak catch. SAU defines five states of stock status for a catch time series. This definition is assigned to every taxon meeting the definition of a stock for a particular spatial area considered (e.g., exclusive economic zones, or EEZs). Stock status states are: (1) Developing—before the year of peak catch and less than 50 percent of the peak catch; (2) Exploited—before or after the year of peak catch and more than 50 percent of the peak catch; (3) Overexploited—after the year of peak catch and less than 50 percent but more than 10 percent of the peak catch; (4) Collapsed—after the year of peak catch and less than 10 percent of the peak catch; (5) Rebuilding—occurs after the year of peak catch and after the stock has collapsed, when catch has recovered to between 10 and 50 percent of the peak. In the third step, SAU graphs the number of stocks by status by tallying the number of stocks in a particular state in a given year and presenting these as percentages. In the fourth step, the cumulative catch of stock by status in a given year is summed over all stocks and presented as a percentage in the catch by stock status graph. The combination of these two figures represents the complete Stock Status Plot. The numbers for this indicator are taken from the overexploited and collapsed numbers of stocks over total numbers of stocks per EEZ. A logarithm transformation is applied to these statistics in order to spread the data distribution.

Source: Yale University and Columbia University, Environmental Performance Index (EPI) 2012 edition based on Sea Around Us data

S14.01 Forest cover change

Percent change in forest area over the period 1990–10 | 2010

This measure represents the percent change in forest area, applying a 10 percent crown cover as the definition of forested areas, between time periods. We used total forest extent rather than the extent of primary forest only. The change measure is calculated from forest area data in 1995, 2000, 2005, and 2010. The data are reported by national governments, and therefore methods and data sources may vary from country to country. Positive values indicate afforestation or reforestation, and negative values represent deforestation.

Source: Yale University and Columbia University, Environmental Performance Index (EPI) 2012 edition based on Sea Around Us data

S14.02 Forest loss

Forest cover lost over the period 2000–10 based on satellite data | 2010

This indicator represents the loss of forest area owing to deforestation from either human or natural causes, such as forest fires. The University of Maryland researchers used Moderate Resolution Imaging Spectroradiometer (MODIS) 500-meter resolution satellite data to identify areas of forest disturbance, then used Landsat data to quantify the area of forest loss. This indicator uses a baseline forest cover layer (forest cover fraction with a 30 percent forest cover threshold) to measure the area under forest cover in the year 2000. It then combines forest loss estimates from Landsat for the periods 2000–05 and 2005–10 to arrive at a total forest cover change amount for the decade. This total is then divided by the forest area estimate for 2000 to come up with a percent change in forest cover over the decade. Further details on the methods used are found in Hansen, M., S. V. Stehman, and P. V. Potapov. 2010. "Quantification of Global Gross Forest Cover Loss." *Proceedings of the National Academies of Science,* available at www.pnas.org/cgi/doi/10.1073/pnas.0912668107. A logarithm transformation is applied to these statistics in order to spread the data distribution.

Source: Yale University and Columbia University, Environmental Performance Index (EPI) 2012 edition, based on University of Maryland data

S15 Particulate matter (2.5) concentration

Population-weighted exposure to $PM_{2.5}$ in micrograms per cubic meter, based on satellite data | 2009

This indicator was developed by the Battelle Memorial Institute in collaboration with Columbia University's Center for International Earth Science Information Network (CIESIN) and funding from the NASA Applied Sciences Program. Using relationships between the Moderate Resolution Imaging Spectroradiometer (MODIS) Aerosol Optical Depth (AOD) and surface $PM_{2.5}$ concentrations that were modeled by van Donkelaar et al. (2010), annual average MODIS AOD retrievals were used to estimate surface $PM_{2.5}$ concentrations from 2001 to 2010. These were averaged into three-year moving averages from 2002 to 2009 to generate global grids of $PM_{2.5}$ concentrations. The grids were resampled to match CIESIN's Global Rural-Urban Mapping Project (GRUMP) 1 kilometer population grid. The population-weighted average of the $PM_{2.5}$ values was used to calculate the country's annual average exposure to $PM_{2.5}$ in micrograms per cubic meter. A logarithm transformation is applied to these statistics in order to spread the data distribution.

Source: Yale University and Columbia University, Environmental Performance Index (EPI) 2012 edition based on NASA MODIS and MISR data (van Donkelaar et al. [2010]), Battelle, and CIESIN

S16 Quality of the natural environment

How would you assess the quality of the natural environment in your country? [1 = extremely poor; 7 = among the world's most pristine] | 2011–12 weighted average

Source: World Economic Forum, Executive Opinion Survey 2011, 2012

List of Countries

Algeria

Key indicators, 2011

Population (millions)	36.2
GDP (US$ billions)*	197.9
GDP per capita (US$)	5,503.2
GDP (PPP) as share (%) of world total	0.33

Sectoral value-added (% GDP), 2010

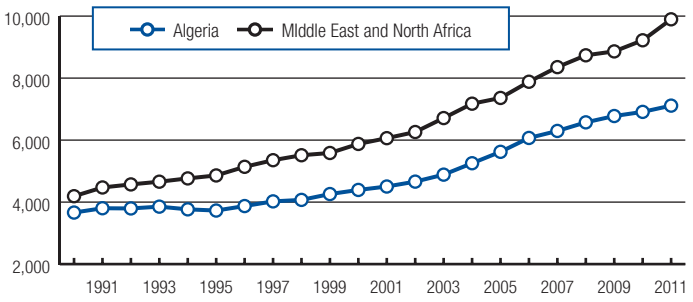
Agriculture	6.9
Industry	62.1
Services	31.0

Human Development Index, 2011

Score, (0–1) best	0.70
Rank (out of 187 economies)	96

Sources: IMF; UNFPA; UNDP; World Bank

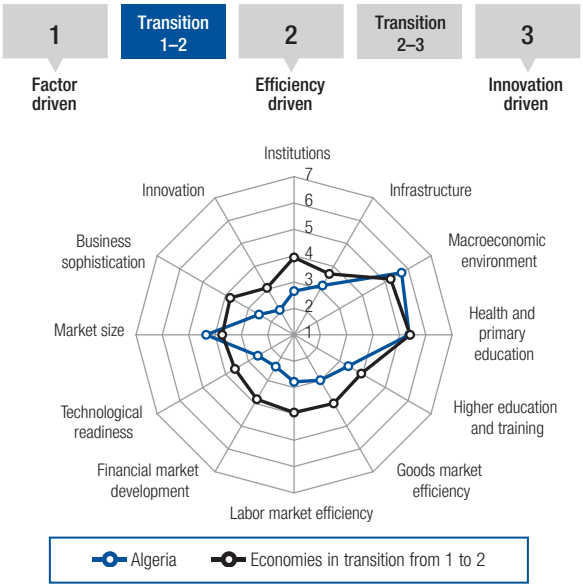
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

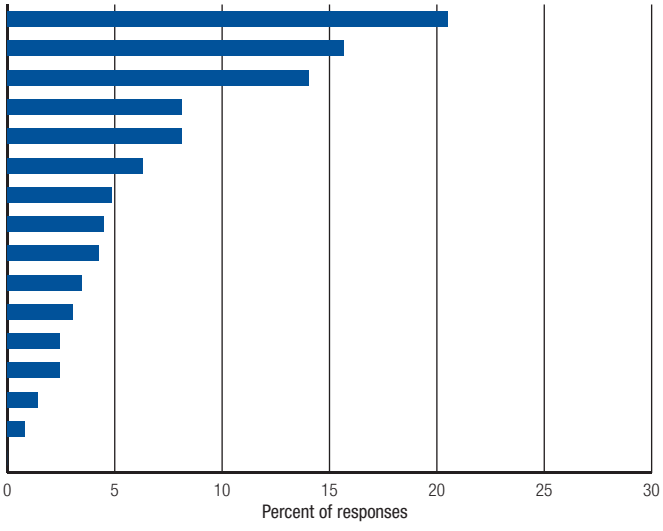
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**110**	**3.7**
GCI 2011–2012 (out of 142)	87	4.0
GCI 2010–2011 (out of 139)	86	4.0
Basic requirements (59.1%)	**89**	**4.2**
Institutions	141	2.7
Infrastructure	100	3.2
Macroeconomic environment	23	5.7
Health and primary education	93	5.4
Efficiency enhancers (35.7%)	**136**	**3.1**
Higher education and training	108	3.4
Goods market efficiency	143	3.0
Labor market efficiency	144	2.8
Financial market development	142	2.4
Technological readiness	133	2.6
Market size	49	4.3
Innovation and sophistication factors (5.2%)	**144**	**2.3**
Business sophistication	144	2.5
Innovation	141	2.1

Stage of development



The most problematic factors for doing business

Inefficient government bureaucracy	20.5
Access to financing	15.7
Corruption	14.0
Inadequate supply of infrastructure	8.1
Inadequately educated workforce	8.1
Tax regulations	6.3
Policy instability	4.9
Inflation	4.5
Restrictive labor regulations	4.3
Poor work ethic in national labor force	3.5
Foreign currency regulations	3.0
Crime and theft	2.4
Tax rates	2.4
Insufficient capacity to innovate	1.4
Poor public health	0.8
Government instability/coups	0.0



Note: 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 figure show the responses weighted according to their rankings.

Algeria

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	2.5	140
1.02	Intellectual property protection	1.8	142
1.03	Diversion of public funds	2.2	131
1.04	Public trust in politicians	1.8	129
1.05	Irregular payments and bribes	2.6	135
1.06	Judicial independence	2.5	123
1.07	Favoritism in decisions of government officials	2.2	134
1.08	Wastefulness of government spending	2.4	116
1.09	Burden of government regulation	2.3	140
1.10	Efficiency of legal framework in settling disputes	2.6	132
1.11	Efficiency of legal framework in challenging regs.	2.5	137
1.12	Transparency of government policymaking	2.6	144
1.13	Gov't services for improved business performance	2.8	124
1.14	Business costs of terrorism	3.5	140
1.15	Business costs of crime and violence	3.6	119
1.16	Organized crime	3.3	137
1.17	Reliability of police services	3.0	121
1.18	Ethical behavior of firms	2.6	143
1.19	Strength of auditing and reporting standards	2.8	143
1.20	Efficacy of corporate boards	3.1	143
1.21	Protection of minority shareholders' interests	3.1	136
1.22	Strength of investor protection, 0–10 (best)*	5.3	65
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.5	102
2.02	Quality of roads	3.4	88
2.03	Quality of railroad infrastructure	2.0	90
2.04	Quality of port infrastructure	2.7	131
2.05	Quality of air transport infrastructure	3.3	125
2.06	Available airline seat kms/week, millions*	146.0	72
2.07	Quality of electricity supply	4.5	80
2.08	Mobile telephone subscriptions/100 pop.*	99.0	87
2.09	Fixed telephone lines/100 pop.*	8.5	98
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-3.6	82
3.02	Gross national savings, % GDP*	50.1	6
3.03	Inflation, annual % change*	4.5	68
3.04	General government debt, % GDP*	9.9	11
3.05	Country credit rating, 0–100 (best)*	53.7	59
	4th pillar: Health and primary education		
4.01	Business impact of malaria	5.5	91
4.02	Malaria cases/100,000 pop.*	0.0	72
4.03	Business impact of tuberculosis	5.2	80
4.04	Tuberculosis cases/100,000 pop.*	90.0	88
4.05	Business impact of HIV/AIDS	5.3	69
4.06	HIV prevalence, % adult pop.*	0.1	12
4.07	Infant mortality, deaths/1,000 live births*	30.5	102
4.08	Life expectancy, years*	72.9	83
4.09	Quality of primary education	2.4	129
4.10	Primary education enrollment, net %*	95.6	49
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	94.9	52
5.02	Tertiary education enrollment, gross %*	30.8	74
5.03	Quality of the educational system	2.5	131
5.04	Quality of math and science education	2.7	129
5.05	Quality of management schools	3.0	131
5.06	Internet access in schools	2.4	132
5.07	Availability of research and training services	2.8	138
5.08	Extent of staff training	2.6	142

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.1	144
6.02	Extent of market dominance	2.8	137
6.03	Effectiveness of anti-monopoly policy	2.9	140
6.04	Extent and effect of taxation	3.2	101
6.05	Total tax rate, % profits*	72.0	135
6.06	No. procedures to start a business*	14	134
6.07	No. days to start a business*	25	92
6.08	Agricultural policy costs	3.2	124
6.09	Prevalence of trade barriers	3.0	141
6.10	Trade tariffs, % duty*	14.0	132
6.11	Prevalence of foreign ownership	3.3	136
6.12	Business impact of rules on FDI	3.2	138
6.13	Burden of customs procedures	2.5	141
6.14	Imports as a percentage of GDP*	32.4	111
6.15	Degree of customer orientation	3.0	144
6.16	Buyer sophistication	2.4	131
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	2.9	143
7.02	Flexibility of wage determination	4.0	125
7.03	Hiring and firing practices	3.3	112
7.04	Redundancy costs, weeks of salary*	17	81
7.05	Pay and productivity	2.4	144
7.06	Reliance on professional management	2.3	144
7.07	Brain drain	1.5	144
7.08	Women in labor force, ratio to men*	0.21	144
	8th pillar: Financial market development		
8.01	Availability of financial services	2.6	143
8.02	Affordability of financial services	2.0	144
8.03	Financing through local equity market	2.2	131
8.04	Ease of access to loans	2.0	128
8.05	Venture capital availability	1.8	138
8.06	Soundness of banks	2.9	143
8.07	Regulation of securities exchanges	2.3	140
8.08	Legal rights index, 0–10 (best)*	3	118
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.4	142
9.02	Firm-level technology absorption	3.2	144
9.03	FDI and technology transfer	3.4	140
9.04	Individuals using Internet, %*	14.0	110
9.05	Broadband Internet subscriptions/100 pop.*	2.8	87
9.06	Int'l Internet bandwidth, kb/s per user*	8.9	89
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	4.2	47
10.02	Foreign market size index, 1–7 (best)*	4.9	49
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.0	124
11.02	Local supplier quality	3.4	137
11.03	State of cluster development	2.4	139
11.04	Nature of competitive advantage	2.0	144
11.05	Value chain breadth	2.2	143
11.06	Control of international distribution	2.5	144
11.07	Production process sophistication	2.3	141
11.08	Extent of marketing	2.3	143
11.09	Willingness to delegate authority	1.9	144
	12th pillar: Innovation		
12.01	Capacity for innovation	1.9	143
12.02	Quality of scientific research institutions	2.1	141
12.03	Company spending on R&D	1.8	143
12.04	University-industry collaboration in R&D	1.9	144
12.05	Gov't procurement of advanced tech products	2.2	142
12.06	Availability of scientists and engineers	4.0	72
12.07	PCT patents, applications/million pop.*	0.2	91

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Benin

Key indicators, 2011

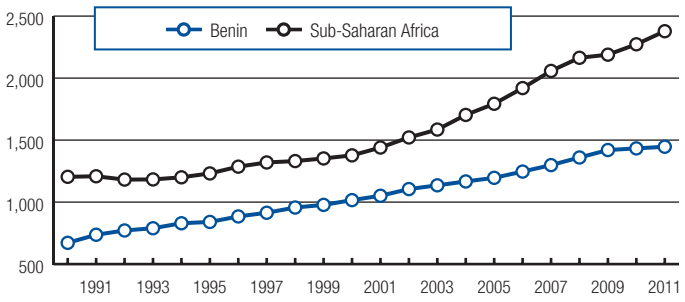
Population (millions) 9.1
GDP (US$ billions)* 7.3
GDP per capita (US$) 802.2
GDP (PPP) as share (%) of world total 0.02

Sectoral value-added (% GDP), 2005
Agriculture 32.2
Industry 13.4
Services 54.4

Human Development Index, 2011
Score, (0–1) best 0.43
Rank (out of 187 economies) 167

Sources: IMF; UNFPA; UNDP; World Bank

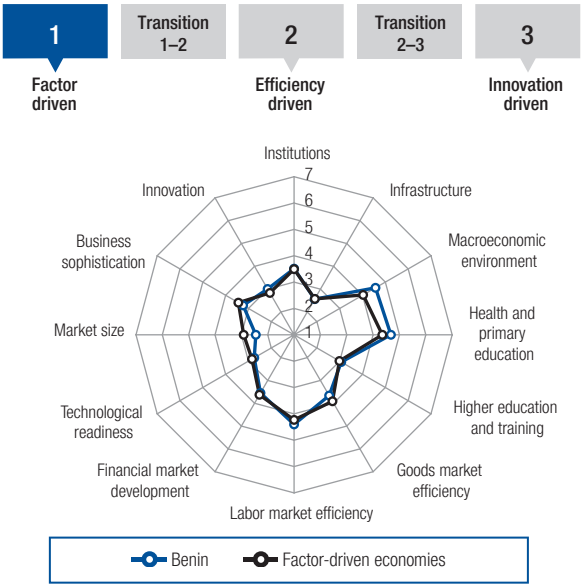
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

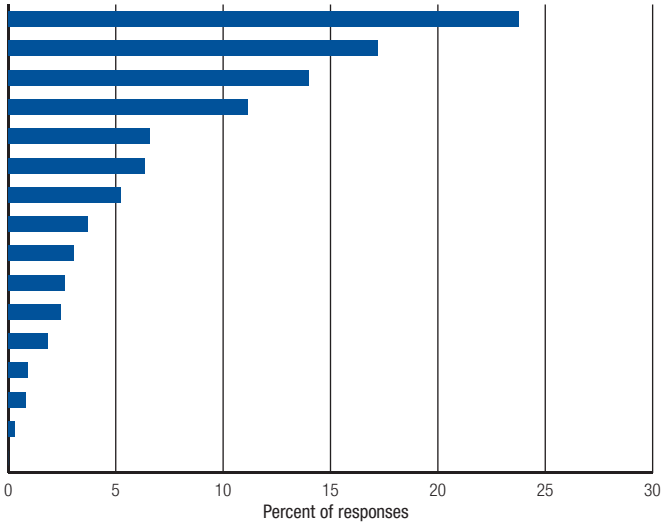
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**119**	**3.6**
GCI 2011–2012 (out of 142)	104	3.8
GCI 2010–2011 (out of 139)	103	3.7
Basic requirements (60.0%)	**113**	**3.8**
Institutions	99	3.5
Infrastructure	122	2.6
Macroeconomic environment	76	4.6
Health and primary education	111	4.7
Efficiency enhancers (35.0%)	**125**	**3.3**
Higher education and training	120	3.1
Goods market efficiency	132	3.7
Labor market efficiency	67	4.4
Financial market development	112	3.6
Technological readiness	124	2.7
Market size	122	2.5
Innovation and sophistication factors (5.0%)	**111**	**3.1**
Business sophistication	125	3.2
Innovation	84	3.0

Stage of development



The most problematic factors for doing business

Corruption 23.8
Access to financing 17.2
Tax rates 14.0
Inadequate supply of infrastructure 11.1
Tax regulations 6.6
Inefficient government bureaucracy 6.4
Inflation 5.2
Inadequately educated workforce 3.7
Poor work ethic in national labor force 3.0
Policy instability 2.7
Insufficient capacity to innovate 2.4
Foreign currency regulations 1.8
Crime and theft 0.9
Restrictive labor regulations 0.8
Government instability/coups 0.3
Poor public health 0.0



Note: 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 figure show the responses weighted according to their rankings.

Benin

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.9	90
1.02	Intellectual property protection	3.2	91
1.03	Diversion of public funds	2.6	112
1.04	Public trust in politicians	2.3	98
1.05	Irregular payments and bribes	2.5	136
1.06	Judicial independence	2.9	101
1.07	Favoritism in decisions of government officials	3.1	65
1.08	Wastefulness of government spending	3.7	40
1.09	Burden of government regulation	3.0	106
1.10	Efficiency of legal framework in settling disputes	3.3	91
1.11	Efficiency of legal framework in challenging regs.	3.7	66
1.12	Transparency of government policymaking	3.8	108
1.13	Gov't services for improved business performance	3.9	52
1.14	Business costs of terrorism	5.1	101
1.15	Business costs of crime and violence	4.5	89
1.16	Organized crime	4.6	103
1.17	Reliability of police services	4.4	61
1.18	Ethical behavior of firms	3.6	97
1.19	Strength of auditing and reporting standards	3.3	137
1.20	Efficacy of corporate boards	4.6	60
1.21	Protection of minority shareholders' interests	3.8	100
1.22	Strength of investor protection, 0–10 (best)*	3.3	125
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.2	121
2.02	Quality of roads	3.1	104
2.03	Quality of railroad infrastructure	1.6	107
2.04	Quality of port infrastructure	3.7	95
2.05	Quality of air transport infrastructure	3.4	123
2.06	Available airline seat kms/week, millions*	20.9	120
2.07	Quality of electricity supply	2.5	122
2.08	Mobile telephone subscriptions/100 pop.*	85.3	102
2.09	Fixed telephone lines/100 pop.*	1.7	121
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.4	43
3.02	Gross national savings, % GDP*	9.8	126
3.03	Inflation, annual % change*	2.7	1
3.04	General government debt, % GDP*	31.3	45
3.05	Country credit rating, 0–100 (best)*	24.2	118
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.8	123
4.02	Malaria cases/100,000 pop.*	27,461.1	131
4.03	Business impact of tuberculosis	4.3	115
4.04	Tuberculosis cases/100,000 pop.*	94.0	90
4.05	Business impact of HIV/AIDS	4.2	118
4.06	HIV prevalence, % adult pop.*	1.2	110
4.07	Infant mortality, deaths/1,000 live births*	73.2	132
4.08	Life expectancy, years*	55.6	125
4.09	Quality of primary education	3.4	90
4.10	Primary education enrollment, net %*	93.8	66
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	37.1	127
5.02	Tertiary education enrollment, gross %*	10.6	108
5.03	Quality of the educational system	3.6	71
5.04	Quality of math and science education	4.3	51
5.05	Quality of management schools	4.4	53
5.06	Internet access in schools	2.5	127
5.07	Availability of research and training services	4.1	76
5.08	Extent of staff training	3.1	133

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.5	93
6.02	Extent of market dominance	3.8	66
6.03	Effectiveness of anti-monopoly policy	3.8	92
6.04	Extent and effect of taxation	2.8	124
6.05	Total tax rate, % profits*	66.0	129
6.06	No. procedures to start a business*	6	47
6.07	No. days to start a business*	29	99
6.08	Agricultural policy costs	3.0	137
6.09	Prevalence of trade barriers	3.3	138
6.10	Trade tariffs, % duty*	11.4	116
6.11	Prevalence of foreign ownership	3.5	128
6.12	Business impact of rules on FDI	3.6	125
6.13	Burden of customs procedures	3.1	128
6.14	Imports as a percentage of GDP*	41.4	81
6.15	Degree of customer orientation	4.5	89
6.16	Buyer sophistication	2.4	130
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.9	106
7.02	Flexibility of wage determination	5.5	24
7.03	Hiring and firing practices	4.0	64
7.04	Redundancy costs, weeks of salary*	12	49
7.05	Pay and productivity	3.1	125
7.06	Reliance on professional management	3.5	127
7.07	Brain drain	3.4	73
7.08	Women in labor force, ratio to men*	0.87	39
	8th pillar: Financial market development		
8.01	Availability of financial services	3.5	128
8.02	Affordability of financial services	3.3	124
8.03	Financing through local equity market	3.0	102
8.04	Ease of access to loans	2.3	113
8.05	Venture capital availability	2.2	102
8.06	Soundness of banks	4.9	81
8.07	Regulation of securities exchanges	3.1	125
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.2	113
9.02	Firm-level technology absorption	4.2	114
9.03	FDI and technology transfer	3.8	125
9.04	Individuals using Internet, %*	3.5	131
9.05	Broadband Internet subscriptions/100 pop.*	0.0	129
9.06	Int'l Internet bandwidth, kb/s per user*	3.4	116
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.3	123
10.02	Foreign market size index, 1–7 (best)*	2.8	124
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.7	139
11.02	Local supplier quality	3.7	126
11.03	State of cluster development	2.6	136
11.04	Nature of competitive advantage	3.1	102
11.05	Value chain breadth	3.2	100
11.06	Control of international distribution	3.3	129
11.07	Production process sophistication	3.5	81
11.08	Extent of marketing	3.0	125
11.09	Willingness to delegate authority	3.0	124
	12th pillar: Innovation		
12.01	Capacity for innovation	2.5	121
12.02	Quality of scientific research institutions	3.2	101
12.03	Company spending on R&D	3.0	77
12.04	University-industry collaboration in R&D	3.0	114
12.05	Gov't procurement of advanced tech products	3.7	62
12.06	Availability of scientists and engineers	4.5	39
12.07	PCT patents, applications/million pop.*	0.0	111

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Botswana

Key indicators, 2011

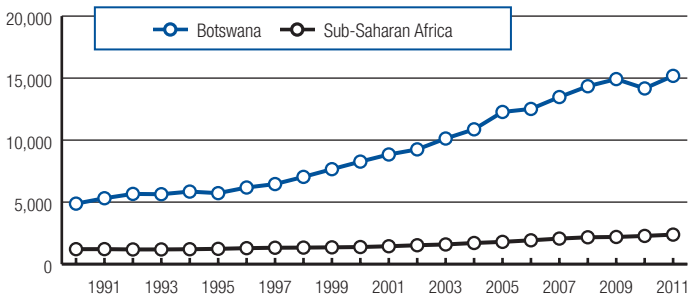
Population (millions) 2.0
GDP (US$ billions)* 17.7
GDP per capita (US$) 9,537.4
GDP (PPP) as share (%) of world total 0.04

Sectoral value-added (% GDP), 2011
Agriculture 2.5
Industry 46.8
Services 50.8

Human Development Index, 2011
Score, (0–1) best 0.63
Rank (out of 187 economies) 118

Sources: IMF; UNFPA; UNDP; World Bank

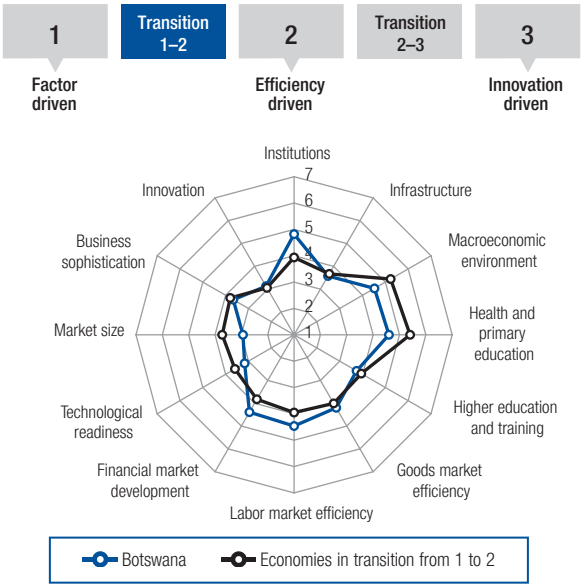
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

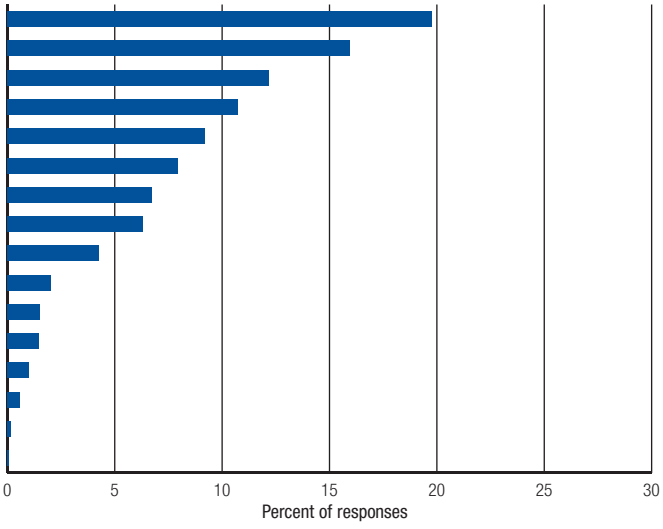
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**79**	**4.1**
GCI 2011–2012 (out of 142)	80	4.0
GCI 2010–2011 (out of 139)	76	4.1
Basic requirements (48.5%)	**78**	**4.4**
Institutions	33	4.8
Infrastructure	87	3.6
Macroeconomic environment	81	4.5
Health and primary education	114	4.6
Efficiency enhancers (43.6%)	**89**	**3.8**
Higher education and training	95	3.7
Goods market efficiency	78	4.2
Labor market efficiency	60	4.5
Financial market development	53	4.4
Technological readiness	106	3.2
Market size	97	2.9
Innovation and sophistication factors (7.9%)	**82**	**3.4**
Business sophistication	95	3.7
Innovation	73	3.1

Stage of development



The most problematic factors for doing business

Poor work ethic in national labor force 19.8
Access to financing 15.9
Inadequately educated workforce 12.2
Inefficient government bureaucracy 10.7
Restrictive labor regulations 9.2
Inadequate supply of infrastructure 7.9
Insufficient capacity to innovate 6.7
Corruption 6.3
Inflation 4.3
Crime and theft 2.0
Tax rates 1.5
Policy instability 1.4
Tax regulations 1.0
Foreign currency regulations 0.6
Government instability/coups 0.2
Poor public health 0.1



Note: 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 figure show the responses weighted according to their rankings.

Botswana

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.9	46
1.02	Intellectual property protection	4.1	45
1.03	Diversion of public funds	4.7	31
1.04	Public trust in politicians	4.3	22
1.05	Irregular payments and bribes	5.0	36
1.06	Judicial independence	5.5	22
1.07	Favoritism in decisions of government officials	4.1	29
1.08	Wastefulness of government spending	4.4	21
1.09	Burden of government regulation	3.8	43
1.10	Efficiency of legal framework in settling disputes	5.0	16
1.11	Efficiency of legal framework in challenging regs.	4.9	15
1.12	Transparency of government policymaking	4.7	43
1.13	Gov't services for improved business performance	4.0	50
1.14	Business costs of terrorism	6.5	7
1.15	Business costs of crime and violence	5.1	59
1.16	Organized crime	6.3	20
1.17	Reliability of police services	5.0	43
1.18	Ethical behavior of firms	4.8	37
1.19	Strength of auditing and reporting standards	4.9	50
1.20	Efficacy of corporate boards	4.8	42
1.21	Protection of minority shareholders' interests	4.5	44
1.22	Strength of investor protection, 0–10 (best)*	6.0	39
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.4	64
2.02	Quality of roads	4.4	55
2.03	Quality of railroad infrastructure	3.1	55
2.04	Quality of port infrastructure	3.7	97
2.05	Quality of air transport infrastructure	4.1	96
2.06	Available airline seat kms/week, millions*	5.6	141
2.07	Quality of electricity supply	3.6	104
2.08	Mobile telephone subscriptions/100 pop.*	142.8	19
2.09	Fixed telephone lines/100 pop.*	7.4	101
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-4.2	95
3.02	Gross national savings, % GDP*	14.7	100
3.03	Inflation, annual % change*	8.5	113
3.04	General government debt, % GDP*	17.3	21
3.05	Country credit rating, 0–100 (best)*	60.0	49
	4th pillar: Health and primary education		
4.01	Business impact of malaria	5.1	104
4.02	Malaria cases/100,000 pop.*	232.9	102
4.03	Business impact of tuberculosis	3.7	130
4.04	Tuberculosis cases/100,000 pop.*	503.0	136
4.05	Business impact of HIV/AIDS	3.0	136
4.06	HIV prevalence, % adult pop.*	24.8	143
4.07	Infant mortality, deaths/1,000 live births*	36.1	104
4.08	Life expectancy, years*	53.1	132
4.09	Quality of primary education	4.2	56
4.10	Primary education enrollment, net %*	89.7	96
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	81.7	88
5.02	Tertiary education enrollment, gross %*	7.4	119
5.03	Quality of the educational system	4.0	55
5.04	Quality of math and science education	4.1	66
5.05	Quality of management schools	3.9	92
5.06	Internet access in schools	3.5	96
5.07	Availability of research and training services	3.7	95
5.08	Extent of staff training	3.9	68

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.8	74
6.02	Extent of market dominance	3.7	70
6.03	Effectiveness of anti-monopoly policy	4.0	72
6.04	Extent and effect of taxation	4.7	13
6.05	Total tax rate, % profits*	19.4	13
6.06	No. procedures to start a business*	10	110
6.07	No. days to start a business*	61	131
6.08	Agricultural policy costs	4.6	20
6.09	Prevalence of trade barriers	4.6	42
6.10	Trade tariffs, % duty*	6.7	81
6.11	Prevalence of foreign ownership	5.3	35
6.12	Business impact of rules on FDI	4.8	49
6.13	Burden of customs procedures	4.4	54
6.14	Imports as a percentage of GDP*	43.9	74
6.15	Degree of customer orientation	4.2	105
6.16	Buyer sophistication	2.8	119
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.9	113
7.02	Flexibility of wage determination	4.8	94
7.03	Hiring and firing practices	3.1	123
7.04	Redundancy costs, weeks of salary*	22	99
7.05	Pay and productivity	3.9	68
7.06	Reliance on professional management	5.2	30
7.07	Brain drain	3.8	44
7.08	Women in labor force, ratio to men*	0.90	27
	8th pillar: Financial market development		
8.01	Availability of financial services	4.6	72
8.02	Affordability of financial services	4.1	75
8.03	Financing through local equity market	3.9	49
8.04	Ease of access to loans	3.4	35
8.05	Venture capital availability	2.9	47
8.06	Soundness of banks	5.5	50
8.07	Regulation of securities exchanges	4.3	56
8.08	Legal rights index, 0–10 (best)*	7	43
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.6	93
9.02	Firm-level technology absorption	4.4	98
9.03	FDI and technology transfer	4.1	102
9.04	Individuals using Internet, %*	7.0	124
9.05	Broadband Internet subscriptions/100 pop.*	0.8	105
9.06	Int'l Internet bandwidth, kb/s per user*	8.4	91
9.07	Mobile broadband subscriptions/100 pop.*	1.5	106
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.8	95
10.02	Foreign market size index, 1–7 (best)*	3.5	104
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.0	122
11.02	Local supplier quality	3.9	114
11.03	State of cluster development	3.6	74
11.04	Nature of competitive advantage	3.4	73
11.05	Value chain breadth	3.2	104
11.06	Control of international distribution	3.7	104
11.07	Production process sophistication	3.2	106
11.08	Extent of marketing	3.3	118
11.09	Willingness to delegate authority	4.0	46
	12th pillar: Innovation		
12.01	Capacity for innovation	2.8	96
12.02	Quality of scientific research institutions	3.6	73
12.03	Company spending on R&D	3.2	62
12.04	University-industry collaboration in R&D	3.7	63
12.05	Gov't procurement of advanced tech products	3.6	65
12.06	Availability of scientists and engineers	3.5	112
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Burkina Faso

Key indicators, 2011

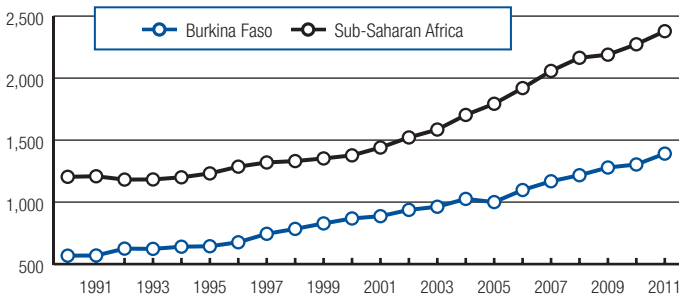
Population (millions) 17.0
GDP (US$ billions)* 10.2
GDP per capita (US$) 601.0
GDP (PPP) as share (%) of world total 0.03

Sectoral value-added (% GDP), 2006
Agriculture 33.3
Industry 22.4
Services 44.4

Human Development Index, 2011
Score, (0–1) best 0.33
Rank (out of 187 economies) 181

Sources: IMF; UNFPA; UNDP; World Bank

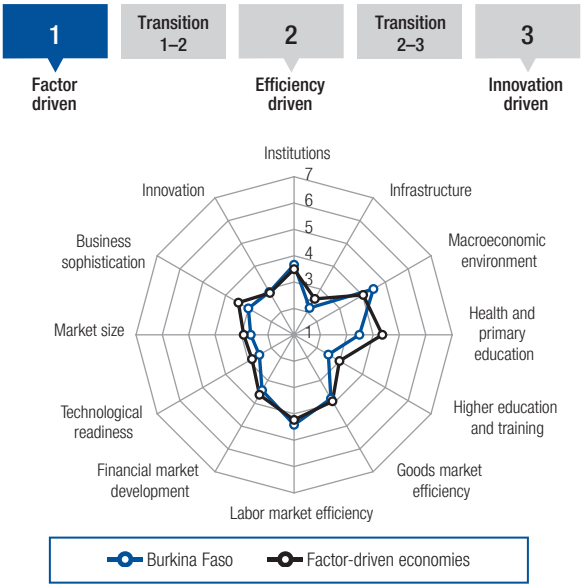
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

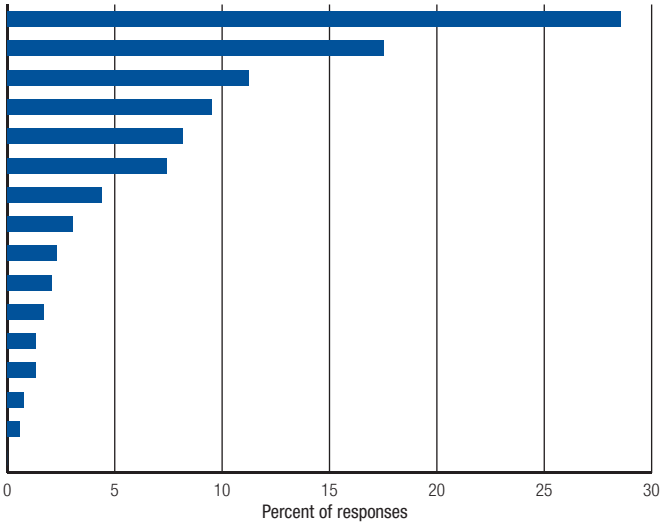
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**133**	**3.3**
GCI 2011–2012 (out of 142)	136	3.3
GCI 2010–2011 (out of 139)	134	3.2
Basic requirements (60.0%)	**133**	**3.4**
Institutions	83	3.7
Infrastructure	136	2.2
Macroeconomic environment	85	4.5
Health and primary education	139	3.5
Efficiency enhancers (35.0%)	**129**	**3.2**
Higher education and training	137	2.5
Goods market efficiency	118	3.8
Labor market efficiency	64	4.4
Financial market development	117	3.4
Technological readiness	137	2.5
Market size	114	2.6
Innovation and sophistication factors (5.0%)	**126**	**2.9**
Business sophistication	140	3.0
Innovation	107	2.9

Stage of development



The most problematic factors for doing business

Access to financing 28.6
Corruption 17.5
Tax rates 11.2
Inadequate supply of infrastructure 9.5
Tax regulations 8.2
Inefficient government bureaucracy 7.4
Inadequately educated workforce 4.4
Insufficient capacity to innovate 3.0
Poor work ethic in national labor force 2.3
Restrictive labor regulations 2.1
Inflation 1.7
Crime and theft 1.3
Policy instability 1.3
Poor public health 0.8
Government instability/coups 0.6
Foreign currency regulations 0.0



Note: 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 figure show the responses weighted according to their rankings.

Burkina Faso

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.3	66
1.02	Intellectual property protection	3.6	71
1.03	Diversion of public funds	2.5	118
1.04	Public trust in politicians	2.2	103
1.05	Irregular payments and bribes	3.2	112
1.06	Judicial independence	2.5	126
1.07	Favoritism in decisions of government officials	2.8	90
1.08	Wastefulness of government spending	2.9	92
1.09	Burden of government regulation	3.7	49
1.10	Efficiency of legal framework in settling disputes	3.6	78
1.11	Efficiency of legal framework in challenging regs.	3.5	81
1.12	Transparency of government policymaking	4.4	60
1.13	Gov't services for improved business performance	3.8	64
1.14	Business costs of terrorism	5.4	85
1.15	Business costs of crime and violence	4.3	96
1.16	Organized crime	5.2	73
1.17	Reliability of police services	3.8	95
1.18	Ethical behavior of firms	4.1	54
1.19	Strength of auditing and reporting standards	4.0	109
1.20	Efficacy of corporate boards	4.8	47
1.21	Protection of minority shareholders' interests	3.9	95
1.22	Strength of investor protection, 0–10 (best)*	3.7	120
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	2.7	136
2.02	Quality of roads	2.6	125
2.03	Quality of railroad infrastructure	2.0	92
2.04	Quality of port infrastructure	3.6	103
2.05	Quality of air transport infrastructure	3.3	127
2.06	Available airline seat kms/week, millions*	14.0	127
2.07	Quality of electricity supply	2.3	125
2.08	Mobile telephone subscriptions/100 pop.*	45.3	133
2.09	Fixed telephone lines/100 pop.*	0.8	129
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-2.5	60
3.02	Gross national savings, % GDP*	11.2	120
3.03	Inflation, annual % change*	2.8	1
3.04	General government debt, % GDP*	29.4	42
3.05	Country credit rating, 0–100 (best)*	22.2	122
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.2	131
4.02	Malaria cases/100,000 pop.*	31,822.2	138
4.03	Business impact of tuberculosis	4.5	107
4.04	Tuberculosis cases/100,000 pop.*	55.0	74
4.05	Business impact of HIV/AIDS	4.5	109
4.06	HIV prevalence, % adult pop.*	1.2	110
4.07	Infant mortality, deaths/1,000 live births*	92.6	141
4.08	Life expectancy, years*	54.9	127
4.09	Quality of primary education	3.1	110
4.10	Primary education enrollment, net %*	63.2	136
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	22.6	143
5.02	Tertiary education enrollment, gross %*	3.9	131
5.03	Quality of the educational system	2.8	124
5.04	Quality of math and science education	3.8	80
5.05	Quality of management schools	3.7	105
5.06	Internet access in schools	1.7	141
5.07	Availability of research and training services	3.7	93
5.08	Extent of staff training	2.9	137

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.3	105
6.02	Extent of market dominance	3.2	111
6.03	Effectiveness of anti-monopoly policy	4.1	65
6.04	Extent and effect of taxation	3.3	91
6.05	Total tax rate, % profits*	43.6	87
6.06	No. procedures to start a business*	3	8
6.07	No. days to start a business*	13	59
6.08	Agricultural policy costs	3.6	96
6.09	Prevalence of trade barriers	4.1	90
6.10	Trade tariffs, % duty*	11.4	118
6.11	Prevalence of foreign ownership	4.1	105
6.12	Business impact of rules on FDI	4.8	48
6.13	Burden of customs procedures	3.8	83
6.14	Imports as a percentage of GDP*	30.1	120
6.15	Degree of customer orientation	4.0	115
6.16	Buyer sophistication	1.9	143
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.1	95
7.02	Flexibility of wage determination	5.4	33
7.03	Hiring and firing practices	4.5	32
7.04	Redundancy costs, weeks of salary*	10	43
7.05	Pay and productivity	3.0	127
7.06	Reliance on professional management	3.5	125
7.07	Brain drain	2.8	114
7.08	Women in labor force, ratio to men*	0.88	36
	8th pillar: Financial market development		
8.01	Availability of financial services	3.5	127
8.02	Affordability of financial services	3.2	133
8.03	Financing through local equity market	3.3	79
8.04	Ease of access to loans	1.7	140
8.05	Venture capital availability	1.8	136
8.06	Soundness of banks	4.6	102
8.07	Regulation of securities exchanges	3.3	117
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.6	138
9.02	Firm-level technology absorption	4.1	118
9.03	FDI and technology transfer	4.0	110
9.04	Individuals using Internet, %*	3.0	134
9.05	Broadband Internet subscriptions/100 pop.*	0.1	121
9.06	Int'l Internet bandwidth, kb/s per user*	2.2	124
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.6	105
10.02	Foreign market size index, 1–7 (best)*	2.8	126
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.4	95
11.02	Local supplier quality	4.0	105
11.03	State of cluster development	2.5	137
11.04	Nature of competitive advantage	2.8	116
11.05	Value chain breadth	2.4	140
11.06	Control of international distribution	3.1	135
11.07	Production process sophistication	2.4	139
11.08	Extent of marketing	2.9	127
11.09	Willingness to delegate authority	2.3	143
	12th pillar: Innovation		
12.01	Capacity for innovation	2.3	135
12.02	Quality of scientific research institutions	3.7	59
12.03	Company spending on R&D	2.7	109
12.04	University-industry collaboration in R&D	3.2	104
12.05	Gov't procurement of advanced tech products	3.4	88
12.06	Availability of scientists and engineers	3.5	107
12.07	PCT patents, applications/million pop.*	0.0	110

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Burundi

Key indicators, 2011

Population (millions)	8.6
GDP (US$ billions)*	2.4
GDP per capita (US$)	274.9
GDP (PPP) as share (%) of world total	0.01

Sectoral value-added (% GDP), 2011

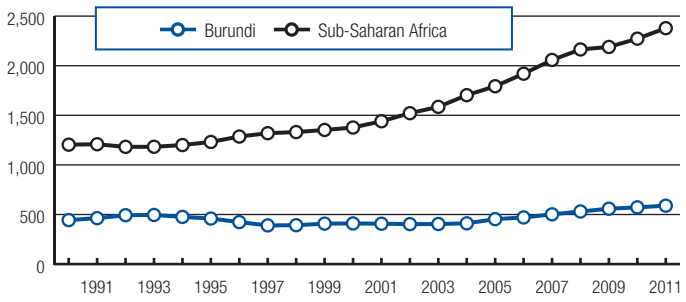
Agriculture	35.2
Industry	18.6
Services	46.3

Human Development Index, 2011

Score, (0–1) best	0.32
Rank (out of 187 economies)	185

Sources: IMF; UNFPA; UNDP; World Bank

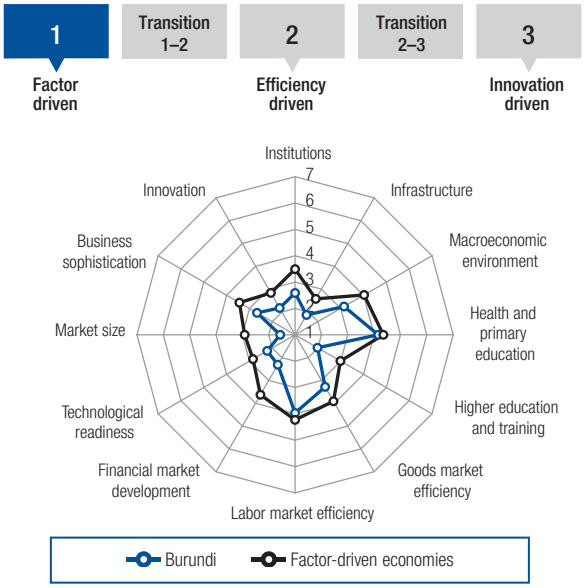
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

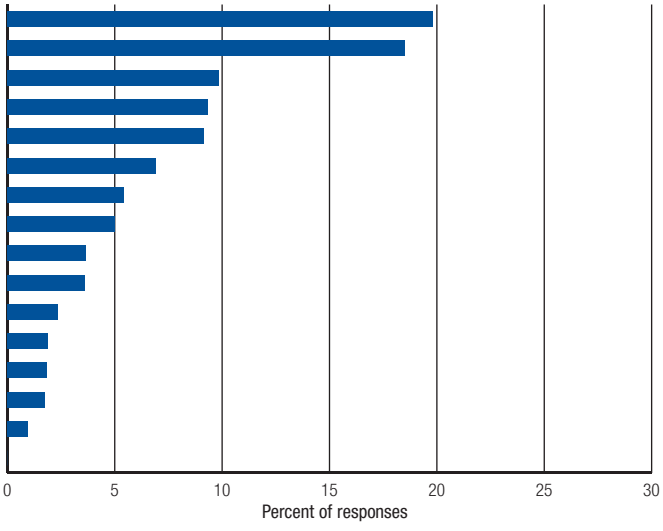
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**144**	**2.8**
GCI 2011–2012 (out of 142)	140	2.9
GCI 2010–2011 (out of 139)	137	3.0
Basic requirements (60.0%)	**142**	**2.9**
Institutions	142	2.6
Infrastructure	141	1.9
Macroeconomic environment	137	3.1
Health and primary education	127	4.2
Efficiency enhancers (35.0%)	**144**	**2.6**
Higher education and training	143	2.0
Goods market efficiency	139	3.3
Labor market efficiency	112	4.0
Financial market development	144	2.3
Technological readiness	144	2.2
Market size	140	1.6
Innovation and sophistication factors (5.0%)	**142**	**2.4**
Business sophistication	143	2.7
Innovation	140	2.2

Stage of development



The most problematic factors for doing business

Access to financing	19.8
Corruption	18.5
Policy instability	9.8
Tax rates	9.3
Inflation	9.2
Inefficient government bureaucracy	6.9
Inadequate supply of infrastructure	5.4
Tax regulations	5.0
Inadequately educated workforce	3.7
Foreign currency regulations	3.6
Insufficient capacity to innovate	2.3
Crime and theft	1.9
Restrictive labor regulations	1.8
Poor work ethic in national labor force	1.8
Government instability/coups	1.0
Poor public health	0.0



Note: 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 figure show the responses weighted according to their rankings.

Burundi

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	2.4	141
1.02	Intellectual property protection	1.9	141
1.03	Diversion of public funds	1.8	141
1.04	Public trust in politicians	1.7	134
1.05	Irregular payments and bribes	2.3	140
1.06	Judicial independence	1.7	143
1.07	Favoritism in decisions of government officials	2.4	126
1.08	Wastefulness of government spending	2.0	141
1.09	Burden of government regulation	2.8	121
1.10	Efficiency of legal framework in settling disputes	2.6	134
1.11	Efficiency of legal framework in challenging regs.	2.4	141
1.12	Transparency of government policymaking	3.3	134
1.13	Gov't services for improved business performance	2.1	136
1.14	Business costs of terrorism	4.0	134
1.15	Business costs of crime and violence	3.6	116
1.16	Organized crime	3.9	125
1.17	Reliability of police services	2.0	144
1.18	Ethical behavior of firms	2.6	144
1.19	Strength of auditing and reporting standards	2.6	144
1.20	Efficacy of corporate boards	3.9	126
1.21	Protection of minority shareholders' interests	3.1	134
1.22	Strength of investor protection, 0–10 (best)*	6.0	39
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	2.3	142
2.02	Quality of roads	2.7	121
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	2.6	136
2.05	Quality of air transport infrastructure	2.8	139
2.06	Available airline seat kms/week, millions*	2.3	142
2.07	Quality of electricity supply	1.9	133
2.08	Mobile telephone subscriptions/100 pop.*	14.5	144
2.09	Fixed telephone lines/100 pop.*	0.4	136
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-4.0	87
3.02	Gross national savings, % GDP*	7.7	134
3.03	Inflation, annual % change*	14.9	135
3.04	General government debt, % GDP*	35.3	58
3.05	Country credit rating, 0–100 (best)*	12.6	139
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.7	138
4.02	Malaria cases/100,000 pop.*	8,931.5	122
4.03	Business impact of tuberculosis	3.0	142
4.04	Tuberculosis cases/100,000 pop.*	129.0	100
4.05	Business impact of HIV/AIDS	2.7	141
4.06	HIV prevalence, % adult pop.*	3.3	127
4.07	Infant mortality, deaths/1,000 live births*	87.8	138
4.08	Life expectancy, years*	49.9	137
4.09	Quality of primary education	2.0	142
4.10	Primary education enrollment, net %*	89.7	95
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	24.8	140
5.02	Tertiary education enrollment, gross %*	3.2	134
5.03	Quality of the educational system	2.0	143
5.04	Quality of math and science education	3.2	112
5.05	Quality of management schools	2.8	136
5.06	Internet access in schools	1.5	143
5.07	Availability of research and training services	2.2	144
5.08	Extent of staff training	2.4	143

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.5	140
6.02	Extent of market dominance	3.3	105
6.03	Effectiveness of anti-monopoly policy	2.9	137
6.04	Extent and effect of taxation	2.2	143
6.05	Total tax rate, % profits*	46.2	100
6.06	No. procedures to start a business*	9	97
6.07	No. days to start a business*	14	66
6.08	Agricultural policy costs	3.3	117
6.09	Prevalence of trade barriers	3.3	137
6.10	Trade tariffs, % duty*	8.9	99
6.11	Prevalence of foreign ownership	2.8	141
6.12	Business impact of rules on FDI	3.3	133
6.13	Burden of customs procedures	2.6	140
6.14	Imports as a percentage of GDP*	32.8	109
6.15	Degree of customer orientation	3.6	137
6.16	Buyer sophistication	1.8	144
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.5	131
7.02	Flexibility of wage determination	5.7	16
7.03	Hiring and firing practices	3.7	87
7.04	Redundancy costs, weeks of salary*	16	75
7.05	Pay and productivity	2.5	141
7.06	Reliance on professional management	2.5	141
7.07	Brain drain	1.7	142
7.08	Women in labor force, ratio to men*	1.03	3
	8th pillar: Financial market development		
8.01	Availability of financial services	2.5	144
8.02	Affordability of financial services	2.5	142
8.03	Financing through local equity market	1.8	141
8.04	Ease of access to loans	1.5	144
8.05	Venture capital availability	1.6	143
8.06	Soundness of banks	3.2	140
8.07	Regulation of securities exchanges	2.0	142
8.08	Legal rights index, 0–10 (best)*	3	118
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.2	144
9.02	Firm-level technology absorption	3.5	143
9.03	FDI and technology transfer	3.5	137
9.04	Individuals using Internet, %*	1.1	141
9.05	Broadband Internet subscriptions/100 pop.*	0.0	140
9.06	Int'l Internet bandwidth, kb/s per user*	0.7	134
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.7	138
10.02	Foreign market size index, 1–7 (best)*	1.2	143
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.5	140
11.02	Local supplier quality	3.0	142
11.03	State of cluster development	2.4	141
11.04	Nature of competitive advantage	2.8	119
11.05	Value chain breadth	2.9	124
11.06	Control of international distribution	3.0	139
11.07	Production process sophistication	2.2	143
11.08	Extent of marketing	2.0	144
11.09	Willingness to delegate authority	2.4	142
	12th pillar: Innovation		
12.01	Capacity for innovation	1.8	144
12.02	Quality of scientific research institutions	2.3	135
12.03	Company spending on R&D	2.2	135
12.04	University-industry collaboration in R&D	2.2	139
12.05	Gov't procurement of advanced tech products	2.4	139
12.06	Availability of scientists and engineers	3.6	102
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Cameroon

Key indicators, 2011

Population (millions)	20.1
GDP (US$ billions)*	25.6
GDP per capita (US$)	1,225.2
GDP (PPP) as share (%) of world total	0.06

Sectoral value-added (% GDP), 2007

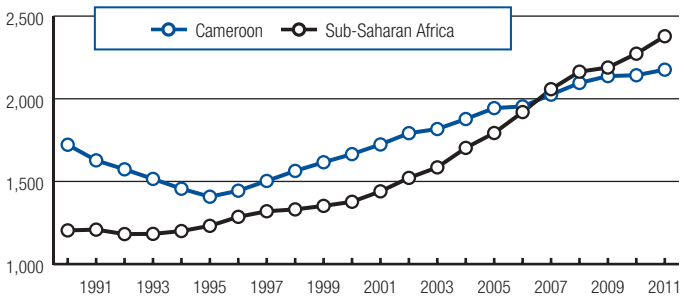
Agriculture	19.5
Industry	30.6
Services	49.9

Human Development Index, 2011

Score, (0–1) best	0.48
Rank (out of 187 economies)	150

Sources: IMF; UNFPA; UNDP; World Bank

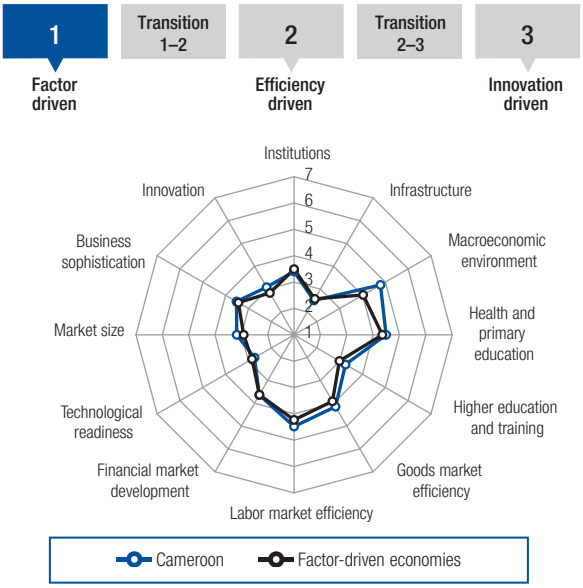
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

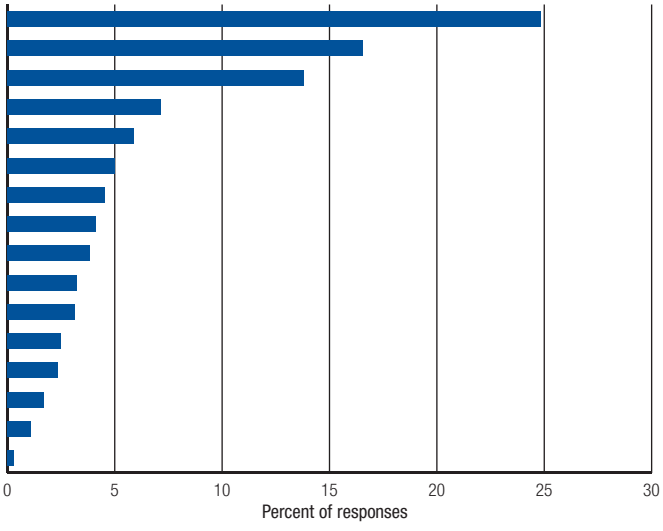
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**112**	**3.7**
GCI 2011–2012 (out of 142)	116	3.6
GCI 2010–2011 (out of 139)	111	3.6
Basic requirements (60.0%)	**115**	**3.8**
Institutions	107	3.4
Infrastructure	125	2.5
Macroeconomic environment	59	4.8
Health and primary education	118	4.5
Efficiency enhancers (35.0%)	**111**	**3.6**
Higher education and training	115	3.3
Goods market efficiency	89	4.1
Labor market efficiency	58	4.5
Financial market development	105	3.6
Technological readiness	126	2.7
Market size	87	3.2
Innovation and sophistication factors (5.0%)	**95**	**3.3**
Business sophistication	104	3.5
Innovation	79	3.1

Stage of development



The most problematic factors for doing business

Corruption	22.8
Access to financing	19.3
Inadequate supply of infrastructure	16.2
Inefficient government bureaucracy	11.2
Tax rates	9.7
Tax regulations	7.0
Poor work ethic in national labor force	3.2
Foreign currency regulations	2.0
Inflation	2.0
Inadequately educated workforce	1.9
Crime and theft	1.8
Restrictive labor regulations	1.4
Insufficient capacity to innovate	1.2
Policy instability	0.2
Poor public health	0.1
Government instability/coups	0.0



Note: 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 figure show the responses weighted according to their rankings.

Cameroon

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.8	97
1.02	Intellectual property protection	3.1	100
1.03	Diversion of public funds	2.2	133
1.04	Public trust in politicians	2.1	111
1.05	Irregular payments and bribes	2.9	128
1.06	Judicial independence	2.5	127
1.07	Favoritism in decisions of government officials	2.6	108
1.08	Wastefulness of government spending	2.6	108
1.09	Burden of government regulation	3.4	73
1.10	Efficiency of legal framework in settling disputes	3.4	88
1.11	Efficiency of legal framework in challenging regs.	3.3	91
1.12	Transparency of government policymaking	4.2	73
1.13	Gov't services for improved business performance	4.0	49
1.14	Business costs of terrorism	5.2	95
1.15	Business costs of crime and violence	4.3	101
1.16	Organized crime	4.7	96
1.17	Reliability of police services	3.9	88
1.18	Ethical behavior of firms	3.4	113
1.19	Strength of auditing and reporting standards	3.7	124
1.20	Efficacy of corporate boards	4.7	58
1.21	Protection of minority shareholders' interests	4.1	76
1.22	Strength of investor protection, 0–10 (best)*	4.3	101
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.2	122
2.02	Quality of roads	2.9	112
2.03	Quality of railroad infrastructure	2.5	75
2.04	Quality of port infrastructure	3.7	99
2.05	Quality of air transport infrastructure	3.7	109
2.06	Available airline seat kms/week, millions*	45.2	99
2.07	Quality of electricity supply	2.8	120
2.08	Mobile telephone subscriptions/100 pop.*	52.4	128
2.09	Fixed telephone lines/100 pop.*	3.3	112
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.9	51
3.02	Gross national savings, % GDP*	14.8	99
3.03	Inflation, annual % change*	2.9	26
3.04	General government debt, % GDP*	12.9	16
3.05	Country credit rating, 0–100 (best)*	24.6	114
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.4	127
4.02	Malaria cases/100,000 pop.*	26,842.0	130
4.03	Business impact of tuberculosis	4.6	105
4.04	Tuberculosis cases/100,000 pop.*	177.0	110
4.05	Business impact of HIV/AIDS	4.3	115
4.06	HIV prevalence, % adult pop.*	5.3	132
4.07	Infant mortality, deaths/1,000 live births*	84.4	136
4.08	Life expectancy, years*	51.1	135
4.09	Quality of primary education	3.8	68
4.10	Primary education enrollment, net %*	92.4	80
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	42.2	122
5.02	Tertiary education enrollment, gross %*	11.5	107
5.03	Quality of the educational system	3.7	66
5.04	Quality of math and science education	3.9	75
5.05	Quality of management schools	4.5	46
5.06	Internet access in schools	2.4	130
5.07	Availability of research and training services	4.1	70
5.08	Extent of staff training	3.8	83

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.4	97
6.02	Extent of market dominance	4.1	43
6.03	Effectiveness of anti-monopoly policy	4.6	33
6.04	Extent and effect of taxation	3.3	93
6.05	Total tax rate, % profits*	49.1	108
6.06	No. procedures to start a business*	5	29
6.07	No. days to start a business*	15	71
6.08	Agricultural policy costs	4.2	46
6.09	Prevalence of trade barriers	4.5	54
6.10	Trade tariffs, % duty*	13.3	130
6.11	Prevalence of foreign ownership	5.4	29
6.12	Business impact of rules on FDI	4.8	53
6.13	Burden of customs procedures	4.2	63
6.14	Imports as a percentage of GDP*	30.5	117
6.15	Degree of customer orientation	4.1	111
6.16	Buyer sophistication	3.1	99
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.1	94
7.02	Flexibility of wage determination	4.8	88
7.03	Hiring and firing practices	4.9	18
7.04	Redundancy costs, weeks of salary*	14	65
7.05	Pay and productivity	3.6	95
7.06	Reliance on professional management	4.3	64
7.07	Brain drain	3.2	92
7.08	Women in labor force, ratio to men*	0.85	53
	8th pillar: Financial market development		
8.01	Availability of financial services	3.9	99
8.02	Affordability of financial services	3.6	107
8.03	Financing through local equity market	3.2	81
8.04	Ease of access to loans	2.4	97
8.05	Venture capital availability	2.2	108
8.06	Soundness of banks	4.6	94
8.07	Regulation of securities exchanges	3.4	115
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.0	123
9.02	Firm-level technology absorption	4.2	113
9.03	FDI and technology transfer	4.7	73
9.04	Individuals using Internet, %*	5.0	126
9.05	Broadband Internet subscriptions/100 pop.*	0.0	139
9.06	Int'l Internet bandwidth, kb/s per user*	0.3	140
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	3.1	85
10.02	Foreign market size index, 1–7 (best)*	3.5	101
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.2	115
11.02	Local supplier quality	4.1	97
11.03	State of cluster development	3.2	102
11.04	Nature of competitive advantage	2.7	126
11.05	Value chain breadth	3.4	81
11.06	Control of international distribution	3.3	131
11.07	Production process sophistication	3.4	95
11.08	Extent of marketing	3.6	103
11.09	Willingness to delegate authority	3.5	90
	12th pillar: Innovation		
12.01	Capacity for innovation	2.7	110
12.02	Quality of scientific research institutions	3.4	91
12.03	Company spending on R&D	3.0	78
12.04	University-industry collaboration in R&D	3.2	98
12.05	Gov't procurement of advanced tech products	3.9	43
12.06	Availability of scientists and engineers	4.4	49
12.07	PCT patents, applications/million pop.*	0.2	86

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Cape Verde

Key indicators, 2011

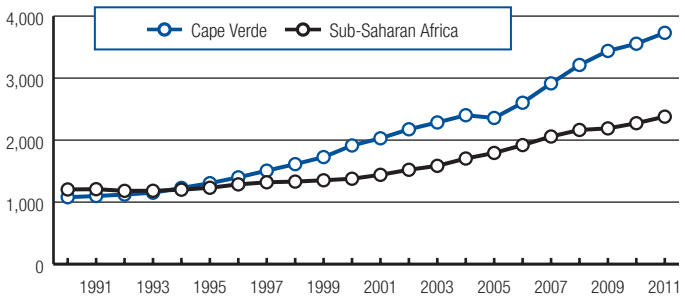
Population (millions) 0.5
GDP (US$ billions)* 1.9
GDP per capita (US$) 3,660.9
GDP (PPP) as share (%) of world total 0.00

Sectoral value-added (% GDP), 2011
Agriculture 10.4
Industry 17.8
Services 71.8

Human Development Index, 2011
Score, (0–1) best 0.57
Rank (out of 187 economies) 133

Sources: IMF; UNFPA; UNDP; World Bank

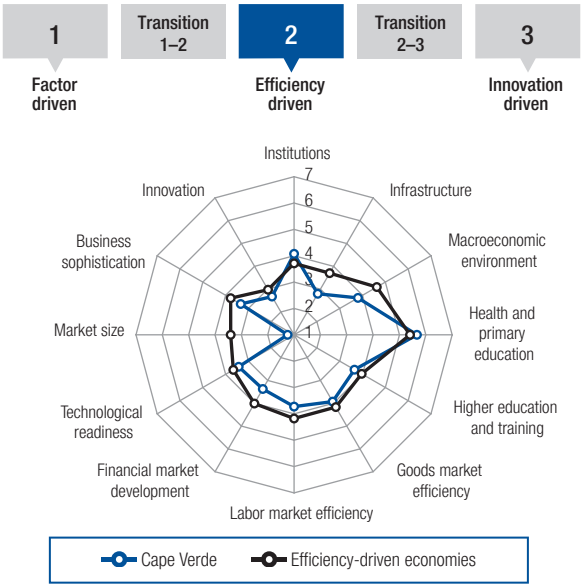
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

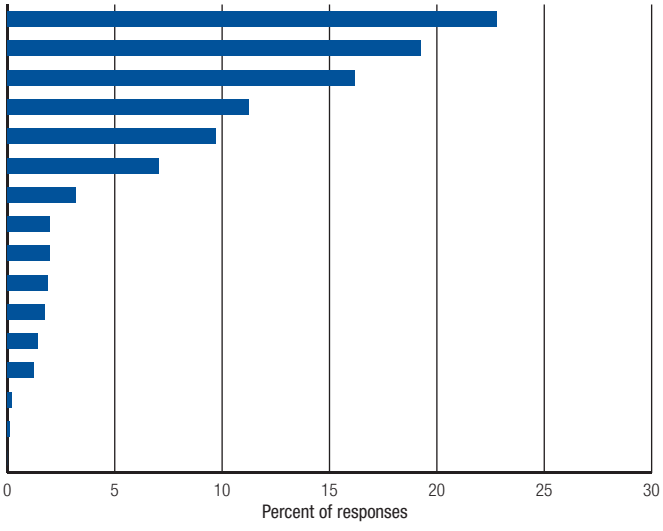
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**122**	**3.5**
GCI 2011–2012 (out of 142)	119	3.6
GCI 2010–2011 (out of 139)	117	3.5
Basic requirements (40.0%)	**100**	**4.1**
Institutions	57	4.1
Infrastructure	114	2.8
Macroeconomic environment	121	3.8
Health and primary education	71	5.7
Efficiency enhancers (50.0%)	**128**	**3.2**
Higher education and training	99	3.6
Goods market efficiency	105	3.9
Labor market efficiency	126	3.7
Financial market development	121	3.4
Technological readiness	90	3.4
Market size	143	1.2
Innovation and sophistication factors (10.0%)	**119**	**3.0**
Business sophistication	118	3.3
Innovation	120	2.7

Stage of development



The most problematic factors for doing business

Access to financing 23.0
Inefficient government bureaucracy 13.4
Tax rates 11.6
Inadequate supply of infrastructure 8.7
Inadequately educated workforce 7.4
Restrictive labor regulations 7.2
Tax regulations 6.2
Poor work ethic in national labor force 4.5
Crime and theft 4.2
Insufficient capacity to innovate 3.1
Corruption 3.0
Inflation 2.7
Policy instability 2.5
Poor public health 1.2
Foreign currency regulations 1.0
Government instability/coups 0.2



Note: 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 figure show the responses weighted according to their rankings.

Cape Verde

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.0	86
1.02	Intellectual property protection	2.9	113
1.03	Diversion of public funds	4.4	40
1.04	Public trust in politicians	4.0	28
1.05	Irregular payments and bribes	4.9	38
1.06	Judicial independence	4.2	51
1.07	Favoritism in decisions of government officials	3.5	49
1.08	Wastefulness of government spending	3.5	54
1.09	Burden of government regulation	3.8	38
1.10	Efficiency of legal framework in settling disputes	3.7	70
1.11	Efficiency of legal framework in challenging regs.	3.7	64
1.12	Transparency of government policymaking	4.4	58
1.13	Gov't services for improved business performance	3.9	53
1.14	Business costs of terrorism	5.5	80
1.15	Business costs of crime and violence	4.0	106
1.16	Organized crime	4.5	104
1.17	Reliability of police services	4.5	58
1.18	Ethical behavior of firms	4.4	46
1.19	Strength of auditing and reporting standards	4.0	112
1.20	Efficacy of corporate boards	4.0	117
1.21	Protection of minority shareholders' interests	3.9	92
1.22	Strength of investor protection, 0–10 (best)*	4.0	110
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.7	94
2.02	Quality of roads	4.1	65
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	3.9	85
2.05	Quality of air transport infrastructure	4.3	81
2.06	Available airline seat kms/week, millions*	36.2	103
2.07	Quality of electricity supply	1.8	135
2.08	Mobile telephone subscriptions/100 pop.*	79.2	109
2.09	Fixed telephone lines/100 pop.*	14.9	84
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-8.9	138
3.02	Gross national savings, % GDP*	24.1	51
3.03	Inflation, annual % change*	4.5	66
3.04	General government debt, % GDP*	77.6	123
3.05	Country credit rating, 0–100 (best)*	31.5	102
	4th pillar: Health and primary education		
4.01	Business impact of malaria	5.2	97
4.02	Malaria cases/100,000 pop.*	68.8	96
4.03	Business impact of tuberculosis	5.0	88
4.04	Tuberculosis cases/100,000 pop.*	147.0	106
4.05	Business impact of HIV/AIDS	5.0	88
4.06	HIV prevalence, % adult pop.*	0.8	98
4.07	Infant mortality, deaths/1,000 live births*	29.2	99
4.08	Life expectancy, years*	73.8	65
4.09	Quality of primary education	3.9	65
4.10	Primary education enrollment, net %*	93.2	74
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	87.5	76
5.02	Tertiary education enrollment, gross %*	17.8	96
5.03	Quality of the educational system	3.8	64
5.04	Quality of math and science education	3.4	108
5.05	Quality of management schools	3.5	114
5.06	Internet access in schools	3.6	90
5.07	Availability of research and training services	3.3	120
5.08	Extent of staff training	3.2	120

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.0	122
6.02	Extent of market dominance	3.7	75
6.03	Effectiveness of anti-monopoly policy	3.6	101
6.04	Extent and effect of taxation	3.3	85
6.05	Total tax rate, % profits*	37.8	69
6.06	No. procedures to start a business*	8	87
6.07	No. days to start a business*	11	52
6.08	Agricultural policy costs	4.1	51
6.09	Prevalence of trade barriers	3.7	121
6.10	Trade tariffs, % duty*	11.1	114
6.11	Prevalence of foreign ownership	4.6	79
6.12	Business impact of rules on FDI	4.5	83
6.13	Burden of customs procedures	3.4	116
6.14	Imports as a percentage of GDP*	64.8	39
6.15	Degree of customer orientation	3.6	138
6.16	Buyer sophistication	2.9	113
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.9	110
7.02	Flexibility of wage determination	5.3	46
7.03	Hiring and firing practices	3.6	99
7.04	Redundancy costs, weeks of salary*	30	124
7.05	Pay and productivity	3.0	131
7.06	Reliance on professional management	3.7	109
7.07	Brain drain	3.2	93
7.08	Women in labor force, ratio to men*	0.64	108
	8th pillar: Financial market development		
8.01	Availability of financial services	3.7	116
8.02	Affordability of financial services	3.8	93
8.03	Financing through local equity market	3.2	83
8.04	Ease of access to loans	2.2	116
8.05	Venture capital availability	2.3	99
8.06	Soundness of banks	5.1	72
8.07	Regulation of securities exchanges	3.8	95
8.08	Legal rights index, 0–10 (best)*	2	135
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	5.0	68
9.02	Firm-level technology absorption	4.7	76
9.03	FDI and technology transfer	4.7	70
9.04	Individuals using Internet, %*	32.0	83
9.05	Broadband Internet subscriptions/100 pop.*	4.3	78
9.06	Int'l Internet bandwidth, kb/s per user*	5.8	102
9.07	Mobile broadband subscriptions/100 pop.*	3.0	95
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.1	143
10.02	Foreign market size index, 1–7 (best)*	1.8	140
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.9	131
11.02	Local supplier quality	3.7	128
11.03	State of cluster development	3.0	118
11.04	Nature of competitive advantage	3.7	53
11.05	Value chain breadth	2.8	128
11.06	Control of international distribution	3.3	132
11.07	Production process sophistication	3.1	110
11.08	Extent of marketing	3.3	120
11.09	Willingness to delegate authority	3.2	107
	12th pillar: Innovation		
12.01	Capacity for innovation	2.3	137
12.02	Quality of scientific research institutions	2.8	119
12.03	Company spending on R&D	2.3	133
12.04	University-industry collaboration in R&D	3.1	109
12.05	Gov't procurement of advanced tech products	3.9	42
12.06	Availability of scientists and engineers	3.3	127
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Chad

Key indicators, 2011

Population (millions)	11.6
GDP (US$ billions)*	9.3
GDP per capita (US$)	891.9
GDP (PPP) as share (%) of world total	0.03

Sectoral value-added (% GDP), 2008

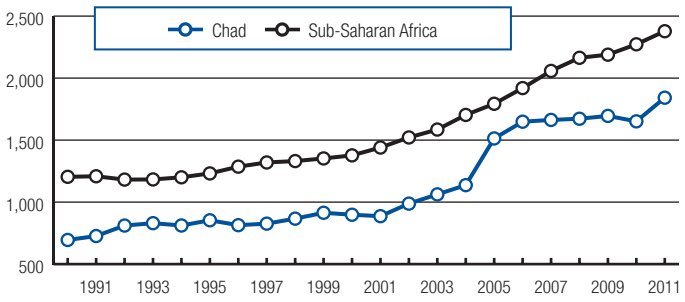
Agriculture	13.6
Industry	48.8
Services	37.5

Human Development Index, 2011

Score, (0–1) best	0.33
Rank (out of 187 economies)	183

Sources: IMF; UNFPA; UNDP; World Bank

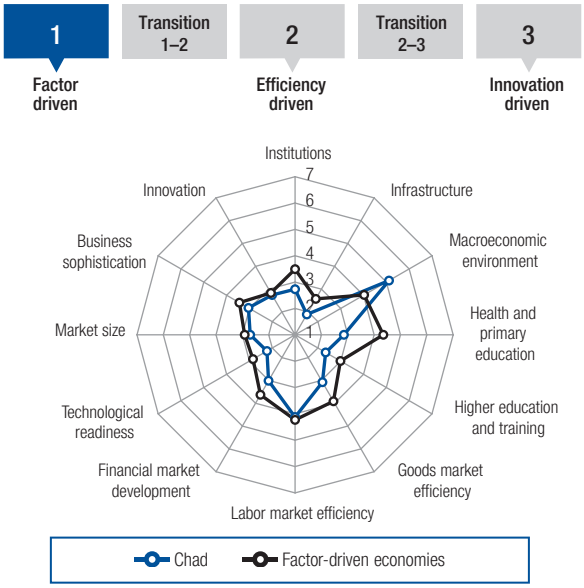
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

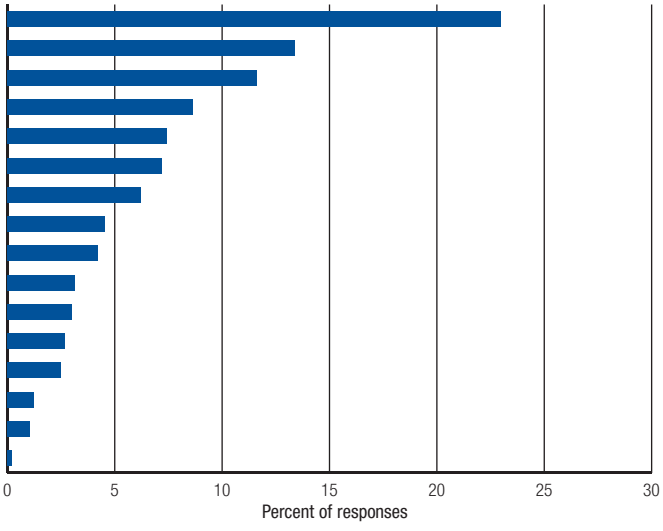
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**139**	**3.1**
GCI 2011–2012 (out of 142)	142	2.9
GCI 2010–2011 (out of 139)	139	2.7
Basic requirements (60.0%)	**139**	**3.1**
Institutions	140	2.7
Infrastructure	140	1.9
Macroeconomic environment	45	5.1
Health and primary education	144	2.9
Efficiency enhancers (35.0%)	**141**	**2.9**
Higher education and training	140	2.3
Goods market efficiency	141	3.1
Labor market efficiency	95	4.1
Financial market development	137	3.0
Technological readiness	143	2.2
Market size	112	2.7
Innovation and sophistication factors (5.0%)	**129**	**2.9**
Business sophistication	138	3.0
Innovation	113	2.7

Stage of development



The most problematic factors for doing business

Access to financing	24.3
Corruption	17.2
Tax rates	8.8
Inadequate supply of infrastructure	8.3
Inadequately educated workforce	6.3
Policy instability	5.8
Crime and theft	5.6
Inefficient government bureaucracy	5.0
Tax regulations	4.9
Insufficient capacity to innovate	2.7
Government instability/coups	2.5
Poor work ethic in national labor force	2.3
Restrictive labor regulations	2.0
Inflation	1.9
Poor public health	1.4
Foreign currency regulations	1.1



Note: 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 figure show the responses weighted according to their rankings.

Chad

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	2.6	139
1.02	Intellectual property protection	2.1	138
1.03	Diversion of public funds	2.2	134
1.04	Public trust in politicians	2.2	108
1.05	Irregular payments and bribes	2.3	141
1.06	Judicial independence	2.2	136
1.07	Favoritism in decisions of government officials	2.4	124
1.08	Wastefulness of government spending	2.1	134
1.09	Burden of government regulation	3.1	95
1.10	Efficiency of legal framework in settling disputes	2.7	131
1.11	Efficiency of legal framework in challenging regs.	2.8	121
1.12	Transparency of government policymaking	3.1	138
1.13	Gov't services for improved business performance	2.9	119
1.14	Business costs of terrorism	4.4	125
1.15	Business costs of crime and violence	3.6	117
1.16	Organized crime	3.5	134
1.17	Reliability of police services	2.4	139
1.18	Ethical behavior of firms	2.8	140
1.19	Strength of auditing and reporting standards	3.3	135
1.20	Efficacy of corporate boards	3.3	142
1.21	Protection of minority shareholders' interests	2.9	142
1.22	Strength of investor protection, 0–10 (best)*	3.3	125
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	2.8	134
2.02	Quality of roads	3.1	103
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	2.8	130
2.05	Quality of air transport infrastructure	2.9	136
2.06	Available airline seat kms/week, millions*	9.1	135
2.07	Quality of electricity supply	1.5	140
2.08	Mobile telephone subscriptions/100 pop.*	31.8	141
2.09	Fixed telephone lines/100 pop.*	0.3	140
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	3.2	15
3.02	Gross national savings, % GDP*	18.8	76
3.03	Inflation, annual % change*	1.9	1
3.04	General government debt, % GDP*	32.2	47
3.05	Country credit rating, 0–100 (best)*	15.7	138
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.4	141
4.02	Malaria cases/100,000 pop.*	37,881.4	142
4.03	Business impact of tuberculosis	3.0	141
4.04	Tuberculosis cases/100,000 pop.*	276.0	127
4.05	Business impact of HIV/AIDS	2.9	138
4.06	HIV prevalence, % adult pop.*	3.4	128
4.07	Infant mortality, deaths/1,000 live births*	98.9	142
4.08	Life expectancy, years*	49.2	140
4.09	Quality of primary education	2.4	128
4.10	Primary education enrollment, net %*	62.3	138
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	24.6	141
5.02	Tertiary education enrollment, gross %*	2.2	136
5.03	Quality of the educational system	3.0	113
5.04	Quality of math and science education	3.2	111
5.05	Quality of management schools	3.2	128
5.06	Internet access in schools	1.5	144
5.07	Availability of research and training services	3.3	117
5.08	Extent of staff training	2.9	139

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.3	142
6.02	Extent of market dominance	2.9	134
6.03	Effectiveness of anti-monopoly policy	3.1	135
6.04	Extent and effect of taxation	2.6	132
6.05	Total tax rate, % profits*	65.4	127
6.06	No. procedures to start a business*	11	119
6.07	No. days to start a business*	66	132
6.08	Agricultural policy costs	3.7	89
6.09	Prevalence of trade barriers	3.4	135
6.10	Trade tariffs, % duty*	13.6	131
6.11	Prevalence of foreign ownership	3.4	131
6.12	Business impact of rules on FDI	3.5	129
6.13	Burden of customs procedures	2.8	139
6.14	Imports as a percentage of GDP*	54.2	54
6.15	Degree of customer orientation	3.1	143
6.16	Buyer sophistication	2.2	137
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.4	132
7.02	Flexibility of wage determination	5.4	38
7.03	Hiring and firing practices	4.7	23
7.04	Redundancy costs, weeks of salary*	13	55
7.05	Pay and productivity	3.0	130
7.06	Reliance on professional management	2.4	143
7.07	Brain drain	2.8	112
7.08	Women in labor force, ratio to men*	0.81	66
	8th pillar: Financial market development		
8.01	Availability of financial services	2.9	139
8.02	Affordability of financial services	2.7	141
8.03	Financing through local equity market	2.5	120
8.04	Ease of access to loans	2.2	120
8.05	Venture capital availability	2.0	124
8.06	Soundness of banks	3.8	134
8.07	Regulation of securities exchanges	2.4	138
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.3	143
9.02	Firm-level technology absorption	3.7	137
9.03	FDI and technology transfer	3.3	141
9.04	Individuals using Internet, %*	1.9	138
9.05	Broadband Internet subscriptions/100 pop.*	0.0	142
9.06	Int'l Internet bandwidth, kb/s per user*	0.2	141
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.5	112
10.02	Foreign market size index, 1–7 (best)*	3.3	110
	11th pillar: Business sophistication		
11.01	Local supplier quantity	5.1	34
11.02	Local supplier quality	3.6	134
11.03	State of cluster development	2.9	124
11.04	Nature of competitive advantage	2.7	123
11.05	Value chain breadth	2.9	118
11.06	Control of international distribution	2.9	142
11.07	Production process sophistication	2.6	132
11.08	Extent of marketing	2.6	136
11.09	Willingness to delegate authority	2.5	140
	12th pillar: Innovation		
12.01	Capacity for innovation	2.7	105
12.02	Quality of scientific research institutions	2.7	120
12.03	Company spending on R&D	3.3	53
12.04	University-industry collaboration in R&D	3.0	119
12.05	Gov't procurement of advanced tech products	3.1	112
12.06	Availability of scientists and engineers	3.7	92
12.07	PCT patents, applications/million pop.*	0.0	104

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Côte d'Ivoire

Key indicators, 2011

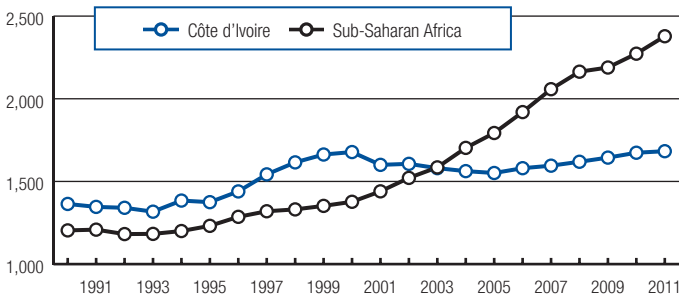
Population (millions) 20.2
GDP (US$ billions)* 24.1
GDP per capita (US$) 1,062.1
GDP (PPP) as share (%) of world total 0.05

Sectoral value-added (% GDP), 2011
Agriculture 24.3
Industry 30.3
Services 45.4

Human Development Index, 2011
Score, (0–1) best 0.40
Rank (out of 187 economies) 170

Sources: IMF; UNFPA; UNDP; World Bank

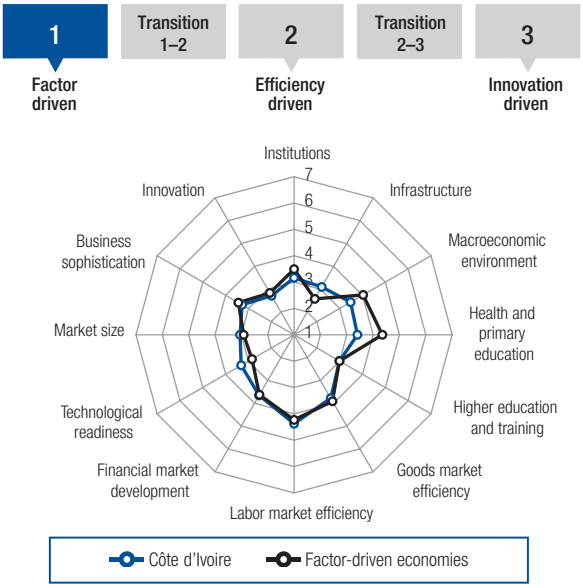
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

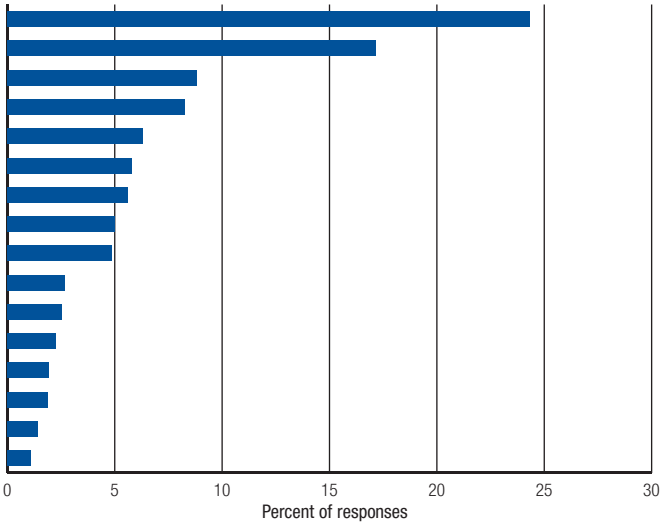
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**131**	**3.4**
GCI 2011–2012 (out of 142)	129	3.4
GCI 2010–2011 (out of 139)	129	3.3
Basic requirements (60.0%)	**137**	**3.3**
Institutions	129	3.2
Infrastructure	102	3.1
Macroeconomic environment	130	3.5
Health and primary education	140	3.4
Efficiency enhancers (35.0%)	**115**	**3.5**
Higher education and training	123	3.0
Goods market efficiency	122	3.8
Labor market efficiency	71	4.4
Financial market development	103	3.7
Technological readiness	99	3.3
Market size	94	3.1
Innovation and sophistication factors (5.0%)	**121**	**3.0**
Business sophistication	123	3.3
Innovation	115	2.7

Stage of development



The most problematic factors for doing business

Access to financing 24.8
Corruption 16.5
Government instability/coups 13.8
Tax rates 7.1
Policy instability 5.9
Inadequate supply of infrastructure 5.0
Tax regulations 4.6
Inefficient government bureaucracy 4.1
Crime and theft 3.8
Inadequately educated workforce 3.2
Poor work ethic in national labor force 3.2
Insufficient capacity to innovate 2.5
Inflation 2.4
Restrictive labor regulations 1.7
Foreign currency regulations 1.1
Poor public health 0.3



Note: 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 figure show the responses weighted according to their rankings.

Côte d'Ivoire

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.2	126
1.02	Intellectual property protection	2.6	122
1.03	Diversion of public funds	2.4	125
1.04	Public trust in politicians	2.2	105
1.05	Irregular payments and bribes	3.2	113
1.06	Judicial independence	2.1	137
1.07	Favoritism in decisions of government officials	2.8	95
1.08	Wastefulness of government spending	2.9	97
1.09	Burden of government regulation	3.5	55
1.10	Efficiency of legal framework in settling disputes	2.9	119
1.11	Efficiency of legal framework in challenging regs.	2.8	120
1.12	Transparency of government policymaking	3.8	106
1.13	Gov't services for improved business performance	4.1	43
1.14	Business costs of terrorism	5.2	97
1.15	Business costs of crime and violence	2.8	137
1.16	Organized crime	3.5	132
1.17	Reliability of police services	2.8	135
1.18	Ethical behavior of firms	3.5	105
1.19	Strength of auditing and reporting standards	3.5	133
1.20	Efficacy of corporate boards	5.0	31
1.21	Protection of minority shareholders' interests	3.8	98
1.22	Strength of investor protection, 0–10 (best)*	3.3	125
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.6	99
2.02	Quality of roads	3.0	107
2.03	Quality of railroad infrastructure	2.1	87
2.04	Quality of port infrastructure	4.6	53
2.05	Quality of air transport infrastructure	4.3	83
2.06	Available airline seat kms/week, millions*	33.4	106
2.07	Quality of electricity supply	3.8	96
2.08	Mobile telephone subscriptions/100 pop.*	86.4	101
2.09	Fixed telephone lines/100 pop.*	1.3	124
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-5.7	118
3.02	Gross national savings, % GDP*	14.9	98
3.03	Inflation, annual % change*	4.9	73
3.04	General government debt, % GDP*	90.5	131
3.05	Country credit rating, 0–100 (best)*	18.2	132
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.6	126
4.02	Malaria cases/100,000 pop.*	38,557.2	143
4.03	Business impact of tuberculosis	4.4	113
4.04	Tuberculosis cases/100,000 pop.*	139.0	104
4.05	Business impact of HIV/AIDS	4.3	117
4.06	HIV prevalence, % adult pop.*	3.4	128
4.07	Infant mortality, deaths/1,000 live births*	85.9	137
4.08	Life expectancy, years*	54.7	128
4.09	Quality of primary education	3.3	93
4.10	Primary education enrollment, net %*	61.5	139
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	27.1	138
5.02	Tertiary education enrollment, gross %*	8.9	116
5.03	Quality of the educational system	3.3	95
5.04	Quality of math and science education	4.0	73
5.05	Quality of management schools	4.1	83
5.06	Internet access in schools	1.8	138
5.07	Availability of research and training services	4.1	71
5.08	Extent of staff training	4.2	44

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.7	78
6.02	Extent of market dominance	3.1	128
6.03	Effectiveness of anti-monopoly policy	3.7	93
6.04	Extent and effect of taxation	3.4	81
6.05	Total tax rate, % profits*	44.3	94
6.06	No. procedures to start a business*	10	110
6.07	No. days to start a business*	32	105
6.08	Agricultural policy costs	3.8	81
6.09	Prevalence of trade barriers	3.5	131
6.10	Trade tariffs, % duty*	11.4	120
6.11	Prevalence of foreign ownership	5.5	22
6.12	Business impact of rules on FDI	4.8	58
6.13	Burden of customs procedures	3.9	76
6.14	Imports as a percentage of GDP*	43.7	75
6.15	Degree of customer orientation	4.3	100
6.16	Buyer sophistication	2.1	141
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.8	32
7.02	Flexibility of wage determination	5.3	51
7.03	Hiring and firing practices	4.6	28
7.04	Redundancy costs, weeks of salary*	13	58
7.05	Pay and productivity	3.4	108
7.06	Reliance on professional management	4.1	80
7.07	Brain drain	3.4	79
7.08	Women in labor force, ratio to men*	0.64	107
	8th pillar: Financial market development		
8.01	Availability of financial services	3.4	130
8.02	Affordability of financial services	3.2	132
8.03	Financing through local equity market	3.9	47
8.04	Ease of access to loans	1.9	132
8.05	Venture capital availability	1.7	140
8.06	Soundness of banks	4.9	82
8.07	Regulation of securities exchanges	3.9	85
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.8	77
9.02	Firm-level technology absorption	4.8	66
9.03	FDI and technology transfer	4.7	64
9.04	Individuals using Internet, %*	2.2	136
9.05	Broadband Internet subscriptions/100 pop.*	0.1	122
9.06	Int'l Internet bandwidth, kb/s per user*	18.0	64
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.8	94
10.02	Foreign market size index, 1–7 (best)*	3.8	89
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.7	69
11.02	Local supplier quality	4.2	93
11.03	State of cluster development	2.8	131
11.04	Nature of competitive advantage	2.4	143
11.05	Value chain breadth	2.9	121
11.06	Control of international distribution	3.0	137
11.07	Production process sophistication	2.6	130
11.08	Extent of marketing	3.5	111
11.09	Willingness to delegate authority	2.9	130
	12th pillar: Innovation		
12.01	Capacity for innovation	2.2	139
12.02	Quality of scientific research institutions	2.9	113
12.03	Company spending on R&D	2.6	120
12.04	University-industry collaboration in R&D	2.4	136
12.05	Gov't procurement of advanced tech products	3.4	86
12.06	Availability of scientists and engineers	4.6	33
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Egypt

Key indicators, 2011

Population (millions)	83.1
GDP (US$ billions)*	235.7
GDP per capita (US$)	2,931.8
GDP (PPP) as share (%) of world total	0.66

Sectoral value-added (% GDP), 2011

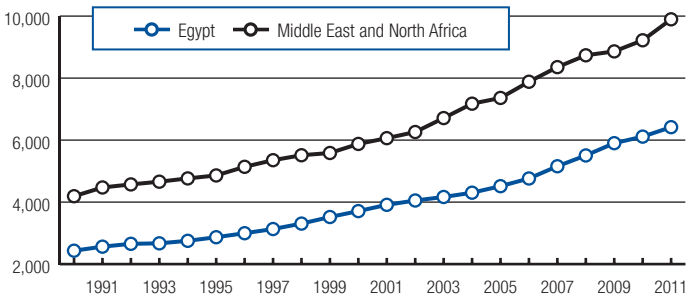
Agriculture	13.9
Industry	36.7
Services	49.3

Human Development Index, 2011

Score, (0–1) best	0.64
Rank (out of 187 economies)	113

Sources: IMF; UNFPA; UNDP; World Bank

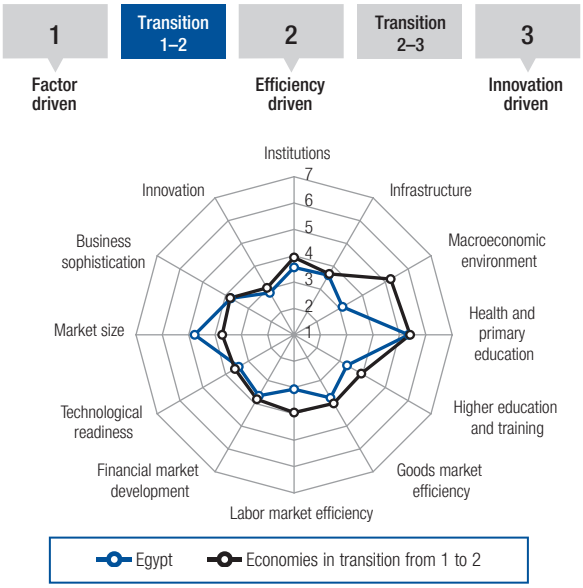
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

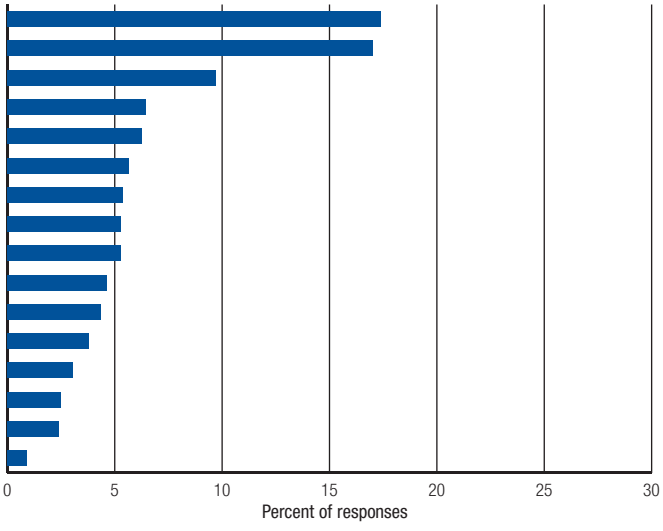
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**107**	**3.7**
GCI 2011–2012 (out of 142)	94	3.9
GCI 2010–2011 (out of 139)	81	4.0
Basic requirements (40.6%)	**110**	**3.9**
Institutions	96	3.6
Infrastructure	83	3.6
Macroeconomic environment	138	3.1
Health and primary education	94	5.3
Efficiency enhancers (49.6%)	**101**	**3.7**
Higher education and training	109	3.3
Goods market efficiency	125	3.8
Labor market efficiency	142	3.1
Financial market development	102	3.7
Technological readiness	91	3.4
Market size	29	4.8
Innovation and sophistication factors (9.9%)	**96**	**3.3**
Business sophistication	83	3.8
Innovation	109	2.8

Stage of development



The most problematic factors for doing business

Government instability/coups	17.4
Policy instability	17.0
Crime and theft	9.7
Restrictive labor regulations	6.5
Corruption	6.3
Access to financing	5.6
Tax regulations	5.4
Inadequately educated workforce	5.3
Inefficient government bureaucracy	5.3
Tax rates	4.6
Poor work ethic in national labor force	4.3
Foreign currency regulations	3.8
Inflation	3.0
Inadequate supply of infrastructure	2.5
Insufficient capacity to innovate	2.4
Poor public health	0.9



Note: 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 figure show the responses weighted according to their rankings.

Egypt

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.0	85
1.02	Intellectual property protection	3.3	83
1.03	Diversion of public funds	2.6	113
1.04	Public trust in politicians	2.8	69
1.05	Irregular payments and bribes	3.4	100
1.06	Judicial independence	4.1	53
1.07	Favoritism in decisions of government officials	3.0	74
1.08	Wastefulness of government spending	2.5	113
1.09	Burden of government regulation	2.9	113
1.10	Efficiency of legal framework in settling disputes	3.4	86
1.11	Efficiency of legal framework in challenging regs.	3.2	100
1.12	Transparency of government policymaking	3.8	113
1.13	Gov't services for improved business performance	3.5	80
1.14	Business costs of terrorism	3.1	142
1.15	Business costs of crime and violence	3.0	133
1.16	Organized crime	5.0	82
1.17	Reliability of police services	3.5	106
1.18	Ethical behavior of firms	3.8	73
1.19	Strength of auditing and reporting standards	4.1	104
1.20	Efficacy of corporate boards	3.8	136
1.21	Protection of minority shareholders' interests	4.1	75
1.22	Strength of investor protection, 0–10 (best)*	5.3	65
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.8	88
2.02	Quality of roads	2.9	109
2.03	Quality of railroad infrastructure	3.1	52
2.04	Quality of port infrastructure	4.0	79
2.05	Quality of air transport infrastructure	5.0	54
2.06	Available airline seat kms/week, millions*	668.1	34
2.07	Quality of electricity supply	4.4	82
2.08	Mobile telephone subscriptions/100 pop.*	101.1	84
2.09	Fixed telephone lines/100 pop.*	10.6	90
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-9.9	142
3.02	Gross national savings, % GDP*	15.1	96
3.03	Inflation, annual % change*	11.1	128
3.04	General government debt, % GDP*	76.4	122
3.05	Country credit rating, 0–100 (best)*	39.7	80
	4th pillar: Health and primary education		
4.01	Business impact of malaria	n/appl.	1
4.02	Malaria cases/100,000 pop.*	0.0	1
4.03	Business impact of tuberculosis	4.8	96
4.04	Tuberculosis cases/100,000 pop.*	18.0	40
4.05	Business impact of HIV/AIDS	5.1	86
4.06	HIV prevalence, % adult pop.*	0.1	12
4.07	Infant mortality, deaths/1,000 live births*	18.6	81
4.08	Life expectancy, years*	73.0	81
4.09	Quality of primary education	2.1	137
4.10	Primary education enrollment, net %*	94.4	59
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	72.5	101
5.02	Tertiary education enrollment, gross %*	32.4	73
5.03	Quality of the educational system	2.3	139
5.04	Quality of math and science education	2.3	139
5.05	Quality of management schools	2.8	137
5.06	Internet access in schools	3.0	116
5.07	Availability of research and training services	3.7	99
5.08	Extent of staff training	3.1	129

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.0	121
6.02	Extent of market dominance	3.2	118
6.03	Effectiveness of anti-monopoly policy	3.2	133
6.04	Extent and effect of taxation	3.3	87
6.05	Total tax rate, % profits*	43.6	87
6.06	No. procedures to start a business*	6	47
6.07	No. days to start a business*	7	25
6.08	Agricultural policy costs	3.2	126
6.09	Prevalence of trade barriers	3.7	124
6.10	Trade tariffs, % duty*	15.2	133
6.11	Prevalence of foreign ownership	4.0	112
6.12	Business impact of rules on FDI	4.0	110
6.13	Burden of customs procedures	3.7	90
6.14	Imports as a percentage of GDP*	30.5	116
6.15	Degree of customer orientation	4.5	86
6.16	Buyer sophistication	2.5	126
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.6	128
7.02	Flexibility of wage determination	5.2	55
7.03	Hiring and firing practices	3.3	116
7.04	Redundancy costs, weeks of salary*	37	132
7.05	Pay and productivity	3.4	112
7.06	Reliance on professional management	3.3	134
7.07	Brain drain	2.2	132
7.08	Women in labor force, ratio to men*	0.32	139
	8th pillar: Financial market development		
8.01	Availability of financial services	4.2	88
8.02	Affordability of financial services	4.1	71
8.03	Financing through local equity market	4.2	37
8.04	Ease of access to loans	2.6	84
8.05	Venture capital availability	3.0	40
8.06	Soundness of banks	4.3	123
8.07	Regulation of securities exchanges	4.1	69
8.08	Legal rights index, 0–10 (best)*	3	118
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.2	115
9.02	Firm-level technology absorption	4.6	86
9.03	FDI and technology transfer	4.6	75
9.04	Individuals using Internet, %*	35.6	78
9.05	Broadband Internet subscriptions/100 pop.*	2.2	90
9.06	Int'l Internet bandwidth, kb/s per user*	6.8	97
9.07	Mobile broadband subscriptions/100 pop.*	21.0	46
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	4.7	25
10.02	Foreign market size index, 1–7 (best)*	4.9	47
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.6	80
11.02	Local supplier quality	3.8	118
11.03	State of cluster development	3.7	70
11.04	Nature of competitive advantage	3.4	76
11.05	Value chain breadth	3.6	72
11.06	Control of international distribution	4.0	72
11.07	Production process sophistication	3.4	86
11.08	Extent of marketing	3.7	100
11.09	Willingness to delegate authority	4.0	45
	12th pillar: Innovation		
12.01	Capacity for innovation	3.0	80
12.02	Quality of scientific research institutions	2.9	114
12.03	Company spending on R&D	2.6	116
12.04	University-industry collaboration in R&D	2.7	128
12.05	Gov't procurement of advanced tech products	3.3	95
12.06	Availability of scientists and engineers	4.2	61
12.07	PCT patents, applications/million pop.*	0.6	73

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Ethiopia

Key indicators, 2011

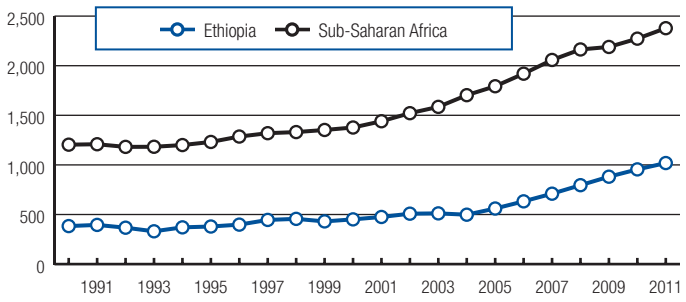
Population (millions) 85.1
GDP (US$ billions)* 31.7
GDP per capita (US$) 365.2
GDP (PPP) as share (%) of world total 0.12

Sectoral value-added (% GDP), 2011
Agriculture 41.9
Industry 12.6
Services 45.5

Human Development Index, 2011
Score, (0–1) best 0.36
Rank (out of 187 economies) 174

Sources: IMF; UNFPA; UNDP; World Bank

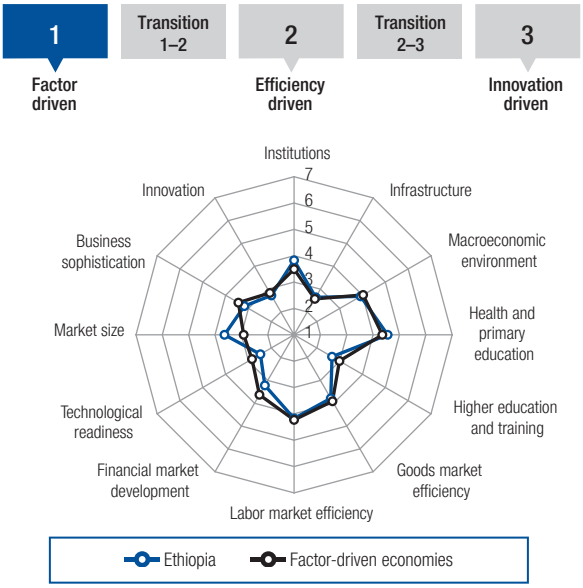
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

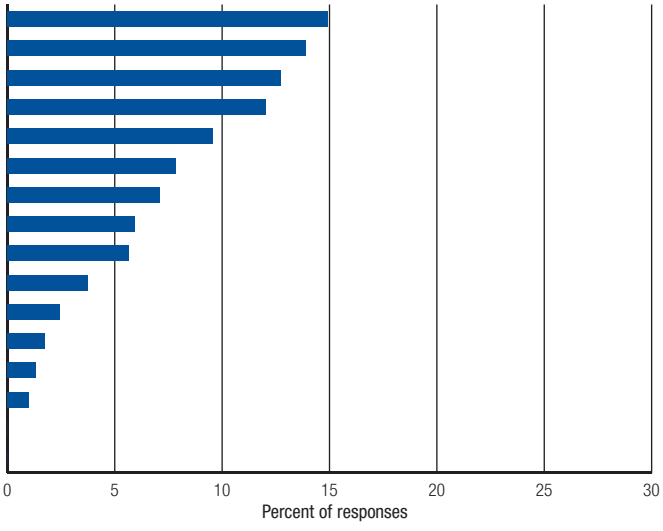
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**121**	**3.6**
GCI 2011–2012 (out of 142)	106	3.8
GCI 2010–2011 (out of 139)	119	3.5
Basic requirements (60.0%)	**118**	**3.7**
Institutions	74	3.8
Infrastructure	119	2.6
Macroeconomic environment	114	3.9
Health and primary education	116	4.6
Efficiency enhancers (35.0%)	**123**	**3.3**
Higher education and training	134	2.7
Goods market efficiency	120	3.8
Labor market efficiency	87	4.2
Financial market development	129	3.2
Technological readiness	140	2.5
Market size	66	3.6
Innovation and sophistication factors (5.0%)	**125**	**3.0**
Business sophistication	129	3.2
Innovation	114	2.7

Stage of development



The most problematic factors for doing business

Access to financing 14.9
Corruption 13.9
Inefficient government bureaucracy 12.8
Inflation 12.0
Policy instability 9.6
Tax regulations 7.8
Inadequate supply of infrastructure 7.1
Inadequately educated workforce 5.9
Foreign currency regulations 5.7
Tax rates 3.8
Poor work ethic in national labor force 2.5
Restrictive labor regulations 1.7
Insufficient capacity to innovate 1.3
Poor public health 1.0
Crime and theft 0.0
Government instability/coups 0.0



Note: 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 figure show the responses weighted according to their rankings.

Ethiopia

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.1	79
1.02	Intellectual property protection	3.7	65
1.03	Diversion of public funds	3.4	62
1.04	Public trust in politicians	3.2	48
1.05	Irregular payments and bribes	3.3	105
1.06	Judicial independence	2.8	109
1.07	Favoritism in decisions of government officials	3.0	71
1.08	Wastefulness of government spending	3.9	29
1.09	Burden of government regulation	3.4	63
1.10	Efficiency of legal framework in settling disputes	3.8	62
1.11	Efficiency of legal framework in challenging regs.	3.5	75
1.12	Transparency of government policymaking	3.5	129
1.13	Gov't services for improved business performance	4.0	48
1.14	Business costs of terrorism	5.6	64
1.15	Business costs of crime and violence	5.8	22
1.16	Organized crime	6.2	24
1.17	Reliability of police services	4.0	82
1.18	Ethical behavior of firms	3.5	103
1.19	Strength of auditing and reporting standards	4.0	106
1.20	Efficacy of corporate boards	4.2	104
1.21	Protection of minority shareholders' interests	4.1	74
1.22	Strength of investor protection, 0–10 (best)*	4.3	101
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.6	100
2.02	Quality of roads	4.1	64
2.03	Quality of railroad infrastructure	1.4	112
2.04	Quality of port infrastructure	3.5	110
2.05	Quality of air transport infrastructure	5.1	50
2.06	Available airline seat kms/week, millions*	223.8	60
2.07	Quality of electricity supply	3.2	112
2.08	Mobile telephone subscriptions/100 pop.*	16.7	143
2.09	Fixed telephone lines/100 pop.*	1.0	128
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.6	47
3.02	Gross national savings, % GDP*	25.6	41
3.03	Inflation, annual % change*	18.1	139
3.04	General government debt, % GDP*	37.3	63
3.05	Country credit rating, 0–100 (best)*	17.6	135
	4th pillar: Health and primary education		
4.01	Business impact of malaria	4.2	116
4.02	Malaria cases/100,000 pop.*	2,995.5	115
4.03	Business impact of tuberculosis	3.7	129
4.04	Tuberculosis cases/100,000 pop.*	261.0	123
4.05	Business impact of HIV/AIDS	3.7	126
4.06	HIV prevalence, % adult pop.*	2.1	124
4.07	Infant mortality, deaths/1,000 live births*	67.8	128
4.08	Life expectancy, years*	58.7	119
4.09	Quality of primary education	3.2	105
4.10	Primary education enrollment, net %*	81.3	122
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	35.7	129
5.02	Tertiary education enrollment, gross %*	5.5	124
5.03	Quality of the educational system	3.4	85
5.04	Quality of math and science education	3.4	105
5.05	Quality of management schools	3.6	108
5.06	Internet access in schools	2.8	119
5.07	Availability of research and training services	2.9	133
5.08	Extent of staff training	3.1	130

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.6	139
6.02	Extent of market dominance	2.8	135
6.03	Effectiveness of anti-monopoly policy	3.2	129
6.04	Extent and effect of taxation	3.5	69
6.05	Total tax rate, % profits*	31.1	37
6.06	No. procedures to start a business*	5	29
6.07	No. days to start a business*	9	43
6.08	Agricultural policy costs	4.0	59
6.09	Prevalence of trade barriers	2.9	143
6.10	Trade tariffs, % duty*	12.8	128
6.11	Prevalence of foreign ownership	3.3	135
6.12	Business impact of rules on FDI	3.9	114
6.13	Burden of customs procedures	3.2	125
6.14	Imports as a percentage of GDP*	37.5	91
6.15	Degree of customer orientation	3.9	119
6.16	Buyer sophistication	2.8	117
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.0	100
7.02	Flexibility of wage determination	4.8	93
7.03	Hiring and firing practices	3.8	81
7.04	Redundancy costs, weeks of salary*	21	91
7.05	Pay and productivity	3.6	93
7.06	Reliance on professional management	3.5	117
7.07	Brain drain	2.7	118
7.08	Women in labor force, ratio to men*	0.89	32
	8th pillar: Financial market development		
8.01	Availability of financial services	3.0	137
8.02	Affordability of financial services	3.2	130
8.03	Financing through local equity market	3.2	85
8.04	Ease of access to loans	1.9	133
8.05	Venture capital availability	2.1	118
8.06	Soundness of banks	4.6	105
8.07	Regulation of securities exchanges	3.4	113
8.08	Legal rights index, 0–10 (best)*	4	99
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.8	132
9.02	Firm-level technology absorption	3.7	139
9.03	FDI and technology transfer	3.7	128
9.04	Individuals using Internet, %*	1.1	142
9.05	Broadband Internet subscriptions/100 pop.*	0.0	131
9.06	Int'l Internet bandwidth, kb/s per user*	6.5	98
9.07	Mobile broadband subscriptions/100 pop.*	0.3	120
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	3.6	63
10.02	Foreign market size index, 1–7 (best)*	3.6	92
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.0	126
11.02	Local supplier quality	3.5	136
11.03	State of cluster development	3.2	105
11.04	Nature of competitive advantage	2.5	137
11.05	Value chain breadth	3.0	115
11.06	Control of international distribution	4.1	61
11.07	Production process sophistication	2.4	137
11.08	Extent of marketing	2.7	133
11.09	Willingness to delegate authority	3.1	119
	12th pillar: Innovation		
12.01	Capacity for innovation	2.3	133
12.02	Quality of scientific research institutions	3.2	99
12.03	Company spending on R&D	2.1	139
12.04	University-industry collaboration in R&D	3.2	101
12.05	Gov't procurement of advanced tech products	3.7	59
12.06	Availability of scientists and engineers	3.1	132
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Gabon

Key indicators, 2011

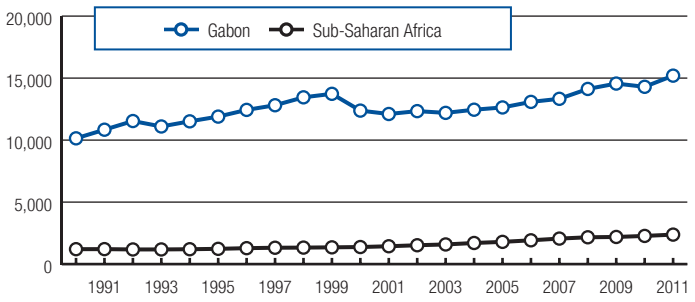
Population (millions) 1.5
GDP (US$ billions)* 16.0
GDP per capita (US$) 10,518.3
GDP (PPP) as share (%) of world total 0.03

Sectoral value-added (% GDP), 2011
Agriculture 3.7
Industry 60.6
Services 35.6

Human Development Index, 2011
Score, (0–1) best 0.67
Rank (out of 187 economies) 106

Sources: IMF; UNFPA; UNDP; World Bank

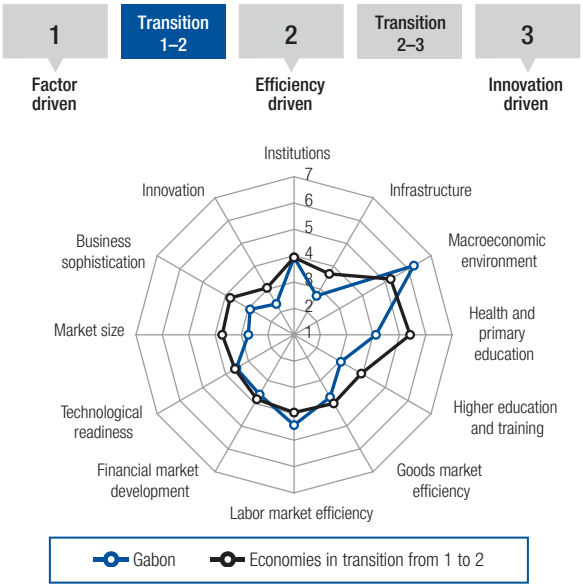
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

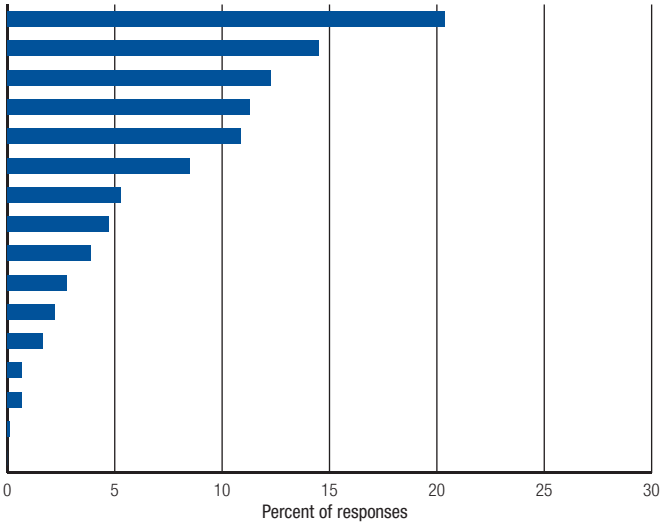
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**99**	**3.8**
GCI 2011–2012 (out of 142)	n/a	n/a
GCI 2010–2011 (out of 139)	n/a	n/a
Basic requirements (50.5%)	**86**	**4.3**
Institutions	67	3.9
Infrastructure	117	2.7
Macroeconomic environment	9	6.2
Health and primary education	128	4.1
Efficiency enhancers (42.1%)	**116**	**3.5**
Higher education and training	122	3.1
Goods market efficiency	126	3.7
Labor market efficiency	63	4.4
Financial market development	106	3.6
Technological readiness	86	3.5
Market size	110	2.7
Innovation and sophistication factors (7.4%)	**139**	**2.6**
Business sophistication	141	2.9
Innovation	136	2.4

Stage of development



The most problematic factors for doing business

Inadequate supply of infrastructure	20.4
Inadequately educated workforce	14.5
Access to financing	12.3
Inefficient government bureaucracy	11.3
Restrictive labor regulations	10.9
Corruption	8.5
Tax rates	5.3
Poor work ethic in national labor force	4.7
Tax regulations	3.9
Inflation	2.8
Insufficient capacity to innovate	2.2
Foreign currency regulations	1.7
Crime and theft	0.7
Poor public health	0.7
Policy instability	0.1
Government instability/coups	0.0



Note: 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 figure show the responses weighted according to their rankings.

Gabon

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.9	44
1.02	Intellectual property protection	3.1	99
1.03	Diversion of public funds	2.7	102
1.04	Public trust in politicians	3.1	55
1.05	Irregular payments and bribes	3.8	77
1.06	Judicial independence	2.6	117
1.07	Favoritism in decisions of government officials	3.0	69
1.08	Wastefulness of government spending	3.3	64
1.09	Burden of government regulation	4.2	19
1.10	Efficiency of legal framework in settling disputes	3.8	60
1.11	Efficiency of legal framework in challenging regs.	4.0	50
1.12	Transparency of government policymaking	4.7	39
1.13	Gov't services for improved business performance	3.2	98
1.14	Business costs of terrorism	5.9	49
1.15	Business costs of crime and violence	5.3	48
1.16	Organized crime	6.0	31
1.17	Reliability of police services	3.7	99
1.18	Ethical behavior of firms	4.3	49
1.19	Strength of auditing and reporting standards	4.4	85
1.20	Efficacy of corporate boards	4.8	44
1.21	Protection of minority shareholders' interests	3.6	113
1.22	Strength of investor protection, 0–10 (best)*	3.3	125
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.3	114
2.02	Quality of roads	2.3	138
2.03	Quality of railroad infrastructure	2.6	67
2.04	Quality of port infrastructure	2.6	138
2.05	Quality of air transport infrastructure	3.7	108
2.06	Available airline seat kms/week, millions*	22.5	117
2.07	Quality of electricity supply	2.5	123
2.08	Mobile telephone subscriptions/100 pop.*	117.3	48
2.09	Fixed telephone lines/100 pop.*	2.0	120
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	2.1	18
3.02	Gross national savings, % GDP*	40.5	12
3.03	Inflation, annual % change*	1.3	1
3.04	General government debt, % GDP*	20.5	25
3.05	Country credit rating, 0–100 (best)*	37.8	83
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.1	132
4.02	Malaria cases/100,000 pop.*	19,021.1	126
4.03	Business impact of tuberculosis	3.8	127
4.04	Tuberculosis cases/100,000 pop.*	553.0	138
4.05	Business impact of HIV/AIDS	3.7	127
4.06	HIV prevalence, % adult pop.*	5.2	131
4.07	Infant mortality, deaths/1,000 live births*	54.4	117
4.08	Life expectancy, years*	62.3	114
4.09	Quality of primary education	2.6	124
4.10	Primary education enrollment, net %*	80.0	124
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	53.1	115
5.02	Tertiary education enrollment, gross %*	n/a	n/a
5.03	Quality of the educational system	2.7	127
5.04	Quality of math and science education	2.8	123
5.05	Quality of management schools	3.1	130
5.06	Internet access in schools	1.7	142
5.07	Availability of research and training services	2.6	139
5.08	Extent of staff training	3.7	93

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.8	132
6.02	Extent of market dominance	2.8	136
6.03	Effectiveness of anti-monopoly policy	3.2	128
6.04	Extent and effect of taxation	3.6	63
6.05	Total tax rate, % profits*	43.5	86
6.06	No. procedures to start a business*	9	97
6.07	No. days to start a business*	58	129
6.08	Agricultural policy costs	4.0	61
6.09	Prevalence of trade barriers	3.3	139
6.10	Trade tariffs, % duty*	0.1	4
6.11	Prevalence of foreign ownership	5.3	39
6.12	Business impact of rules on FDI	4.9	43
6.13	Burden of customs procedures	3.6	99
6.14	Imports as a percentage of GDP*	34.3	102
6.15	Degree of customer orientation	4.2	106
6.16	Buyer sophistication	2.7	120
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	82
7.02	Flexibility of wage determination	4.7	99
7.03	Hiring and firing practices	3.2	119
7.04	Redundancy costs, weeks of salary*	15	68
7.05	Pay and productivity	4.0	63
7.06	Reliance on professional management	4.5	51
7.07	Brain drain	3.5	65
7.08	Women in labor force, ratio to men*	0.86	45
	8th pillar: Financial market development		
8.01	Availability of financial services	3.6	124
8.02	Affordability of financial services	3.4	121
8.03	Financing through local equity market	3.1	89
8.04	Ease of access to loans	2.6	87
8.05	Venture capital availability	2.3	100
8.06	Soundness of banks	5.0	79
8.07	Regulation of securities exchanges	3.1	127
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.1	121
9.02	Firm-level technology absorption	4.4	97
9.03	FDI and technology transfer	4.5	84
9.04	Individuals using Internet, %*	8.0	123
9.05	Broadband Internet subscriptions/100 pop.*	0.3	112
9.06	Int'l Internet bandwidth, kb/s per user*	46.2	34
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.5	116
10.02	Foreign market size index, 1–7 (best)*	3.6	95
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.2	144
11.02	Local supplier quality	3.8	124
11.03	State of cluster development	3.1	108
11.04	Nature of competitive advantage	2.5	136
11.05	Value chain breadth	2.3	142
11.06	Control of international distribution	2.8	143
11.07	Production process sophistication	2.5	136
11.08	Extent of marketing	2.5	137
11.09	Willingness to delegate authority	2.9	134
	12th pillar: Innovation		
12.01	Capacity for innovation	2.0	141
12.02	Quality of scientific research institutions	2.7	123
12.03	Company spending on R&D	2.2	136
12.04	University-industry collaboration in R&D	2.2	140
12.05	Gov't procurement of advanced tech products	3.0	117
12.06	Availability of scientists and engineers	3.1	133
12.07	PCT patents, applications/million pop.*	0.2	93

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Gambia, The

Key indicators, 2011

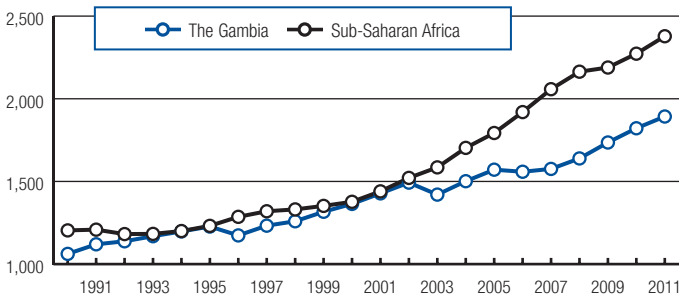
Population (millions) 1.8
GDP (US$ billions)* 1.0
GDP per capita (US$) 543.0
GDP (PPP) as share (%) of world total 0.00

Sectoral value-added (% GDP), 2011
Agriculture 29.9
Industry 12.0
Services 58.1

Human Development Index, 2011
Score, (0–1) best 0.42
Rank (out of 187 economies) 168

Sources: IMF; UNFPA; UNDP; World Bank

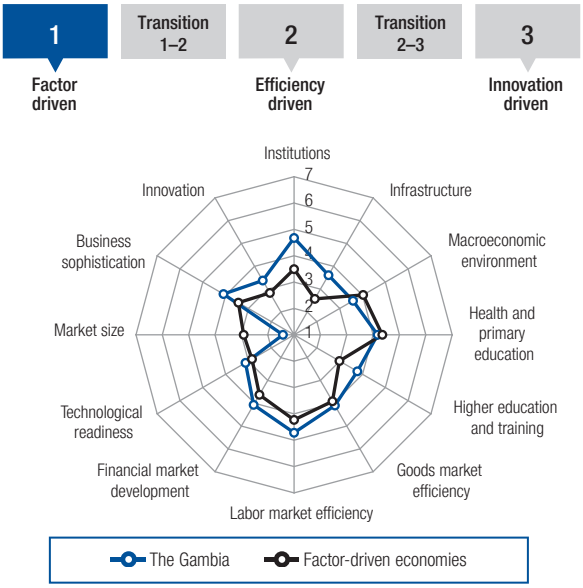
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

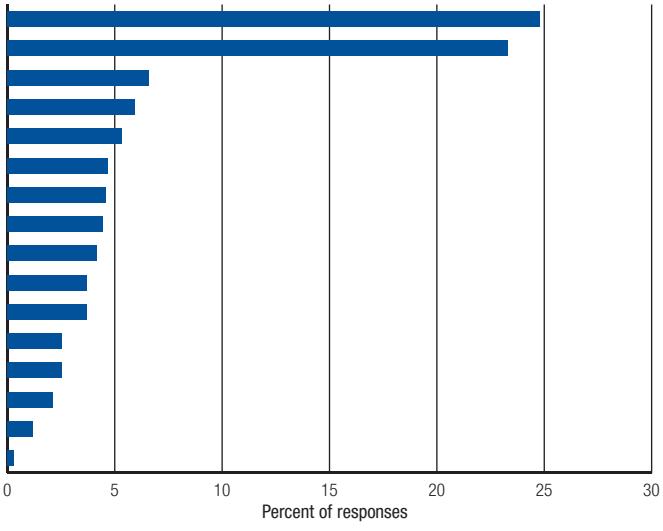
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**98**	**3.8**
GCI 2011–2012 (out of 142)	99	3.8
GCI 2010–2011 (out of 139)	90	3.9
Basic requirements (60.0%)	**103**	**4.0**
Institutions	35	4.7
Infrastructure	82	3.6
Macroeconomic environment	129	3.6
Health and primary education	126	4.2
Efficiency enhancers (35.0%)	**114**	**3.5**
Higher education and training	94	3.8
Goods market efficiency	94	4.1
Labor market efficiency	31	4.7
Financial market development	69	4.1
Technological readiness	109	3.1
Market size	141	1.4
Innovation and sophistication factors (5.0%)	**54**	**3.7**
Business sophistication	59	4.1
Innovation	52	3.4

Stage of development



The most problematic factors for doing business

Tax rates 24.8
Access to financing 23.3
Tax regulations 6.6
Foreign currency regulations 6.0
Inadequate supply of infrastructure 5.3
Policy instability 4.7
Inadequately educated workforce 4.6
Inflation 4.5
Corruption 4.1
Insufficient capacity to innovate 3.7
Poor work ethic in national labor force 3.7
Inefficient government bureaucracy 2.6
Restrictive labor regulations 2.6
Crime and theft 2.1
Poor public health 1.2
Government instability/coups 0.3



Note: 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 figure show the responses weighted according to their rankings.

Gambia, The

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.9	45
1.02	Intellectual property protection	4.7	36
1.03	Diversion of public funds	4.5	35
1.04	Public trust in politicians	4.4	18
1.05	Irregular payments and bribes	4.4	51
1.06	Judicial independence	4.3	49
1.07	Favoritism in decisions of government officials	4.3	17
1.08	Wastefulness of government spending	4.7	12
1.09	Burden of government regulation	4.4	12
1.10	Efficiency of legal framework in settling disputes	4.9	21
1.11	Efficiency of legal framework in challenging regs.	4.5	26
1.12	Transparency of government policymaking	4.7	44
1.13	Gov't services for improved business performance	4.8	9
1.14	Business costs of terrorism	5.6	65
1.15	Business costs of crime and violence	5.3	45
1.16	Organized crime	5.8	41
1.17	Reliability of police services	4.9	44
1.18	Ethical behavior of firms	4.7	38
1.19	Strength of auditing and reporting standards	4.9	52
1.20	Efficacy of corporate boards	5.1	25
1.21	Protection of minority shareholders' interests	4.8	35
1.22	Strength of investor protection, 0–10 (best)*	2.7	138
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.5	63
2.02	Quality of roads	4.5	51
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	4.8	47
2.05	Quality of air transport infrastructure	4.9	62
2.06	Available airline seat kms/week, millions*	12.6	130
2.07	Quality of electricity supply	4.1	89
2.08	Mobile telephone subscriptions/100 pop.*	89.0	97
2.09	Fixed telephone lines/100 pop.*	2.8	116
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-4.4	103
3.02	Gross national savings, % GDP*	3.6	137
3.03	Inflation, annual % change*	4.8	71
3.04	General government debt, % GDP*	68.8	113
3.05	Country credit rating, 0–100 (best)*	21.1	124
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.4	130
4.02	Malaria cases/100,000 pop.*	28,226.0	134
4.03	Business impact of tuberculosis	4.5	106
4.04	Tuberculosis cases/100,000 pop.*	273.0	125
4.05	Business impact of HIV/AIDS	4.8	96
4.06	HIV prevalence, % adult pop.*	2.0	123
4.07	Infant mortality, deaths/1,000 live births*	56.9	121
4.08	Life expectancy, years*	58.2	121
4.09	Quality of primary education	4.6	32
4.10	Primary education enrollment, net %*	65.5	135
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	54.1	114
5.02	Tertiary education enrollment, gross %*	4.1	129
5.03	Quality of the educational system	4.6	29
5.04	Quality of math and science education	4.0	74
5.05	Quality of management schools	4.9	31
5.06	Internet access in schools	4.0	77
5.07	Availability of research and training services	4.4	52
5.08	Extent of staff training	4.7	22

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.7	82
6.02	Extent of market dominance	4.3	37
6.03	Effectiveness of anti-monopoly policy	4.3	50
6.04	Extent and effect of taxation	3.5	67
6.05	Total tax rate, % profits*	283.5	141
6.06	No. procedures to start a business*	8	87
6.07	No. days to start a business*	27	96
6.08	Agricultural policy costs	4.8	10
6.09	Prevalence of trade barriers	4.6	44
6.10	Trade tariffs, % duty*	17.9	137
6.11	Prevalence of foreign ownership	5.3	38
6.12	Business impact of rules on FDI	5.2	28
6.13	Burden of customs procedures	4.9	25
6.14	Imports as a percentage of GDP*	36.8	95
6.15	Degree of customer orientation	5.1	32
6.16	Buyer sophistication	3.2	89
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	5.1	24
7.02	Flexibility of wage determination	5.2	57
7.03	Hiring and firing practices	4.4	40
7.04	Redundancy costs, weeks of salary*	26	111
7.05	Pay and productivity	4.3	36
7.06	Reliance on professional management	4.9	37
7.07	Brain drain	4.3	33
7.08	Women in labor force, ratio to men*	0.88	35
	8th pillar: Financial market development		
8.01	Availability of financial services	4.6	69
8.02	Affordability of financial services	4.6	38
8.03	Financing through local equity market	3.5	66
8.04	Ease of access to loans	2.7	73
8.05	Venture capital availability	2.6	66
8.06	Soundness of banks	5.4	60
8.07	Regulation of securities exchanges	4.2	63
8.08	Legal rights index, 0–10 (best)*	5	89
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.9	71
9.02	Firm-level technology absorption	4.8	68
9.03	FDI and technology transfer	4.6	76
9.04	Individuals using Internet, %*	10.9	117
9.05	Broadband Internet subscriptions/100 pop.*	0.0	134
9.06	Int'l Internet bandwidth, kb/s per user*	1.7	128
9.07	Mobile broadband subscriptions/100 pop.*	0.5	116
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.4	141
10.02	Foreign market size index, 1–7 (best)*	1.5	142
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.8	66
11.02	Local supplier quality	4.9	47
11.03	State of cluster development	3.9	59
11.04	Nature of competitive advantage	3.7	54
11.05	Value chain breadth	3.6	71
11.06	Control of international distribution	4.1	64
11.07	Production process sophistication	3.5	77
11.08	Extent of marketing	3.8	88
11.09	Willingness to delegate authority	4.3	35
	12th pillar: Innovation		
12.01	Capacity for innovation	3.3	52
12.02	Quality of scientific research institutions	3.7	61
12.03	Company spending on R&D	3.3	54
12.04	University-industry collaboration in R&D	3.8	58
12.05	Gov't procurement of advanced tech products	4.5	13
12.06	Availability of scientists and engineers	3.4	115
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Ghana

Key indicators, 2011

Population (millions)	25.1
GDP (US$ billions)*	38.4
GDP per capita (US$)	1,579.7
GDP (PPP) as share (%) of world total	0.10

Sectoral value-added (% GDP), 2011

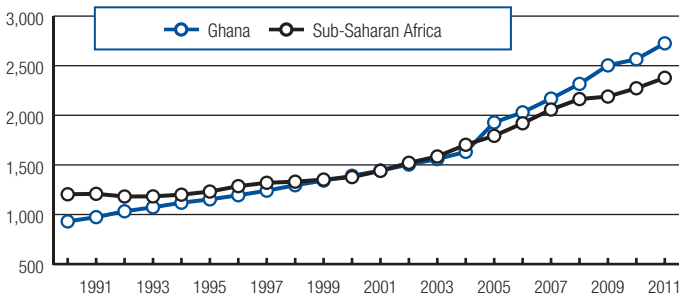
Agriculture	27.3
Industry	25.3
Services	47.4

Human Development Index, 2011

Score, (0–1) best	0.54
Rank (out of 187 economies)	135

Sources: IMF; UNFPA; UNDP; World Bank

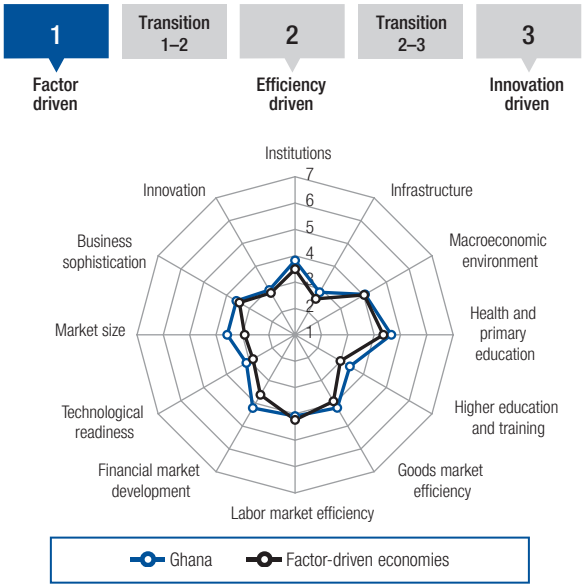
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

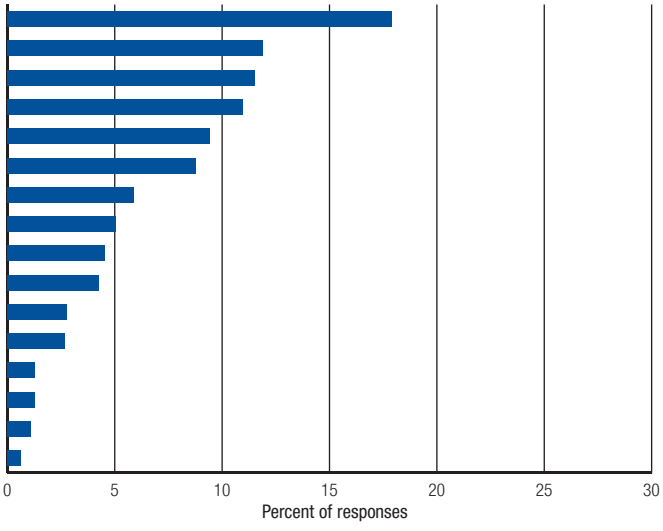
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**103**	**3.8**
GCI 2011–2012 (out of 142)	114	3.6
GCI 2010–2011 (out of 139)	114	3.6
Basic requirements (60.0%)	**112**	**3.9**
Institutions	75	3.8
Infrastructure	110	2.9
Macroeconomic environment	108	4.1
Health and primary education	112	4.7
Efficiency enhancers (35.0%)	**95**	**3.8**
Higher education and training	107	3.4
Goods market efficiency	76	4.2
Labor market efficiency	97	4.1
Financial market development	59	4.2
Technological readiness	108	3.1
Market size	70	3.6
Innovation and sophistication factors (5.0%)	**102**	**3.3**
Business sophistication	101	3.6
Innovation	95	3.0

Stage of development



The most problematic factors for doing business

Access to financing	17.9
Corruption	11.9
Tax rates	11.5
Poor work ethic in national labor force	11.0
Inadequate supply of infrastructure	9.4
Inflation	8.8
Policy instability	5.9
Inefficient government bureaucracy	5.1
Tax regulations	4.5
Foreign currency regulations	4.2
Inadequately educated workforce	2.8
Crime and theft	2.7
Insufficient capacity to innovate	1.3
Restrictive labor regulations	1.3
Government instability/coups	1.1
Poor public health	0.6



Note: 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 figure show the responses weighted according to their rankings.

Ghana

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.9	91
1.02	Intellectual property protection	3.1	93
1.03	Diversion of public funds	3.2	70
1.04	Public trust in politicians	2.6	76
1.05	Irregular payments and bribes	3.1	115
1.06	Judicial independence	4.1	58
1.07	Favoritism in decisions of government officials	3.0	78
1.08	Wastefulness of government spending	3.3	69
1.09	Burden of government regulation	3.4	66
1.10	Efficiency of legal framework in settling disputes	4.0	50
1.11	Efficiency of legal framework in challenging regs.	3.5	78
1.12	Transparency of government policymaking	4.0	90
1.13	Gov't services for improved business performance	3.6	77
1.14	Business costs of terrorism	5.2	94
1.15	Business costs of crime and violence	4.4	94
1.16	Organized crime	5.1	78
1.17	Reliability of police services	4.6	55
1.18	Ethical behavior of firms	3.8	75
1.19	Strength of auditing and reporting standards	4.4	79
1.20	Efficacy of corporate boards	4.4	77
1.21	Protection of minority shareholders' interests	4.4	51
1.22	Strength of investor protection, 0–10 (best)*	6.0	39
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.9	86
2.02	Quality of roads	3.5	85
2.03	Quality of railroad infrastructure	1.7	104
2.04	Quality of port infrastructure	4.0	76
2.05	Quality of air transport infrastructure	4.1	97
2.06	Available airline seat kms/week, millions*	98.6	77
2.07	Quality of electricity supply	3.0	116
2.08	Mobile telephone subscriptions/100 pop.*	84.8	103
2.09	Fixed telephone lines/100 pop.*	1.1	125
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-4.3	98
3.02	Gross national savings, % GDP*	16.2	92
3.03	Inflation, annual % change*	8.7	118
3.04	General government debt, % GDP*	43.4	81
3.05	Country credit rating, 0–100 (best)*	37.2	85
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.9	133
4.02	Malaria cases/100,000 pop.*	26,354.5	129
4.03	Business impact of tuberculosis	4.1	122
4.04	Tuberculosis cases/100,000 pop.*	86.0	87
4.05	Business impact of HIV/AIDS	4.0	120
4.06	HIV prevalence, % adult pop.*	1.8	121
4.07	Infant mortality, deaths/1,000 live births*	50.0	114
4.08	Life expectancy, years*	63.8	112
4.09	Quality of primary education	3.6	73
4.10	Primary education enrollment, net %*	84.0	118
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	58.1	110
5.02	Tertiary education enrollment, gross %*	12.1	103
5.03	Quality of the educational system	3.8	62
5.04	Quality of math and science education	3.6	93
5.05	Quality of management schools	4.3	65
5.06	Internet access in schools	3.2	109
5.07	Availability of research and training services	3.7	96
5.08	Extent of staff training	3.7	96

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	5.0	53
6.02	Extent of market dominance	3.7	77
6.03	Effectiveness of anti-monopoly policy	4.0	73
6.04	Extent and effect of taxation	3.6	61
6.05	Total tax rate, % profits*	33.6	49
6.06	No. procedures to start a business*	7	74
6.07	No. days to start a business*	12	53
6.08	Agricultural policy costs	4.2	49
6.09	Prevalence of trade barriers	4.2	83
6.10	Trade tariffs, % duty*	10.6	108
6.11	Prevalence of foreign ownership	5.2	42
6.12	Business impact of rules on FDI	4.6	74
6.13	Burden of customs procedures	3.4	115
6.14	Imports as a percentage of GDP*	48.0	64
6.15	Degree of customer orientation	4.3	101
6.16	Buyer sophistication	2.9	112
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	76
7.02	Flexibility of wage determination	4.6	105
7.03	Hiring and firing practices	4.5	30
7.04	Redundancy costs, weeks of salary*	50	135
7.05	Pay and productivity	3.6	97
7.06	Reliance on professional management	4.5	50
7.07	Brain drain	3.6	53
7.08	Women in labor force, ratio to men*	0.95	10
	8th pillar: Financial market development		
8.01	Availability of financial services	4.3	85
8.02	Affordability of financial services	4.0	81
8.03	Financing through local equity market	4.0	41
8.04	Ease of access to loans	2.0	125
8.05	Venture capital availability	2.1	116
8.06	Soundness of banks	5.0	76
8.07	Regulation of securities exchanges	4.5	47
8.08	Legal rights index, 0–10 (best)*	8	24
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.7	86
9.02	Firm-level technology absorption	4.2	115
9.03	FDI and technology transfer	4.5	82
9.04	Individuals using Internet, %*	14.1	109
9.05	Broadband Internet subscriptions/100 pop.*	0.3	115
9.06	Int'l Internet bandwidth, kb/s per user*	0.2	142
9.07	Mobile broadband subscriptions/100 pop.*	23.0	42
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	3.4	70
10.02	Foreign market size index, 1–7 (best)*	4.1	73
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.5	85
11.02	Local supplier quality	4.0	103
11.03	State of cluster development	3.1	111
11.04	Nature of competitive advantage	3.2	87
11.05	Value chain breadth	3.3	96
11.06	Control of international distribution	3.6	109
11.07	Production process sophistication	3.2	107
11.08	Extent of marketing	3.4	112
11.09	Willingness to delegate authority	3.3	99
	12th pillar: Innovation		
12.01	Capacity for innovation	3.0	81
12.02	Quality of scientific research institutions	3.5	79
12.03	Company spending on R&D	2.8	98
12.04	University-industry collaboration in R&D	3.2	107
12.05	Gov't procurement of advanced tech products	3.4	87
12.06	Availability of scientists and engineers	3.8	87
12.07	PCT patents, applications/million pop.*	0.0	109

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Guinea

Key indicators, 2011

Population (millions)	10.3
GDP (US$ billions)*	5.2
GDP per capita (US$)	488.2
GDP (PPP) as share (%) of world total	0.02

Sectoral value-added (% GDP), 2010

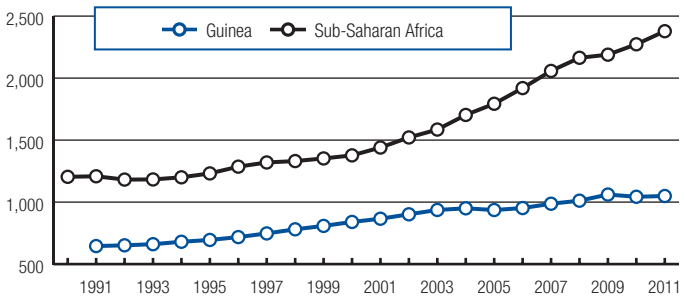
Agriculture	13.0
Industry	47.2
Services	39.4

Human Development Index, 2011

Score, (0–1) best	0.34
Rank (out of 187 economies)	178

Sources: IMF; UNFPA; UNDP; World Bank

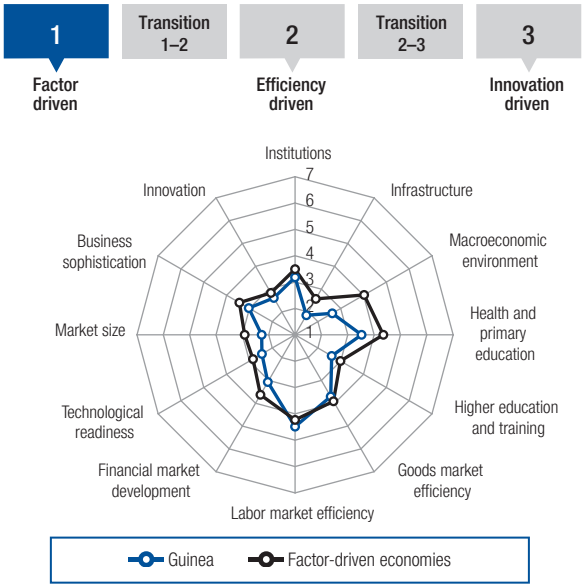
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

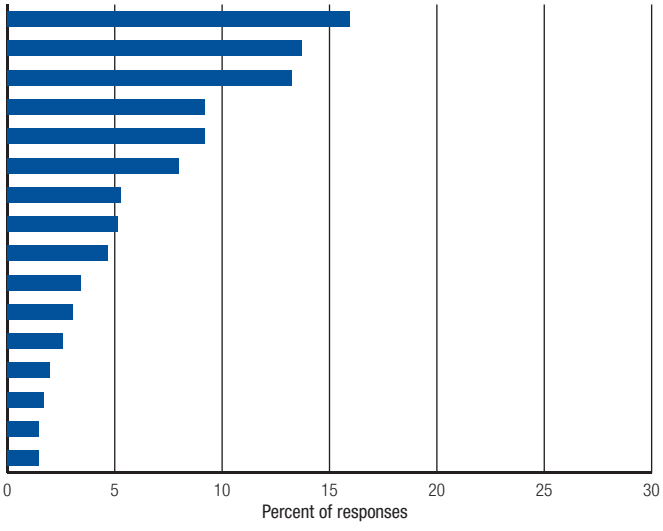
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**141**	**2.9**
GCI 2011–2012 (out of 142)	n/a	n/a
GCI 2010–2011 (out of 139)	n/a	n/a
Basic requirements (60.0%)	**143**	**2.8**
Institutions	128	3.2
Infrastructure	142	1.9
Macroeconomic environment	142	2.6
Health and primary education	138	3.5
Efficiency enhancers (35.0%)	**134**	**3.1**
Higher education and training	136	2.6
Goods market efficiency	127	3.7
Labor market efficiency	56	4.5
Financial market development	135	3.1
Technological readiness	142	2.5
Market size	129	2.3
Innovation and sophistication factors (5.0%)	**132**	**2.8**
Business sophistication	139	3.0
Innovation	125	2.6

Stage of development



The most problematic factors for doing business

Access to financing	15.9
Inadequate supply of infrastructure	13.7
Corruption	13.2
Foreign currency regulations	9.2
Inflation	9.2
Inadequately educated workforce	8.0
Policy instability	5.3
Inefficient government bureaucracy	5.1
Poor work ethic in national labor force	4.7
Crime and theft	3.4
Restrictive labor regulations	3.1
Government instability/coups	2.6
Tax rates	2.0
Tax regulations	1.7
Insufficient capacity to innovate	1.5
Poor public health	1.5



Note: 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 figure show the responses weighted according to their rankings.

Guinea

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.2	127
1.02	Intellectual property protection	2.2	137
1.03	Diversion of public funds	2.8	94
1.04	Public trust in politicians	2.6	78
1.05	Irregular payments and bribes	2.3	142
1.06	Judicial independence	2.6	119
1.07	Favoritism in decisions of government officials	3.3	57
1.08	Wastefulness of government spending	3.7	41
1.09	Burden of government regulation	4.0	30
1.10	Efficiency of legal framework in settling disputes	2.7	128
1.11	Efficiency of legal framework in challenging regs.	2.8	122
1.12	Transparency of government policymaking	3.6	126
1.13	Gov't services for improved business performance	3.4	90
1.14	Business costs of terrorism	5.0	108
1.15	Business costs of crime and violence	3.1	130
1.16	Organized crime	4.1	119
1.17	Reliability of police services	3.0	120
1.18	Ethical behavior of firms	3.3	120
1.19	Strength of auditing and reporting standards	2.9	142
1.20	Efficacy of corporate boards	4.3	88
1.21	Protection of minority shareholders' interests	4.0	80
1.22	Strength of investor protection, 0–10 (best)*	2.7	138
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	2.1	143
2.02	Quality of roads	2.0	140
2.03	Quality of railroad infrastructure	1.6	108
2.04	Quality of port infrastructure	3.5	107
2.05	Quality of air transport infrastructure	3.6	110
2.06	Available airline seat kms/week, millions*	9.5	134
2.07	Quality of electricity supply	1.5	141
2.08	Mobile telephone subscriptions/100 pop.*	44.0	134
2.09	Fixed telephone lines/100 pop.*	0.2	143
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-2.9	71
3.02	Gross national savings, % GDP*	8.6	128
3.03	Inflation, annual % change*	21.5	143
3.04	General government debt, % GDP*	72.2	119
3.05	Country credit rating, 0–100 (best)*	11.8	141
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.8	135
4.02	Malaria cases/100,000 pop.*	39,709.6	144
4.03	Business impact of tuberculosis	3.4	135
4.04	Tuberculosis cases/100,000 pop.*	334.0	131
4.05	Business impact of HIV/AIDS	3.3	129
4.06	HIV prevalence, % adult pop.*	1.3	114
4.07	Infant mortality, deaths/1,000 live births*	81.2	135
4.08	Life expectancy, years*	53.6	129
4.09	Quality of primary education	2.5	125
4.10	Primary education enrollment, net %*	77.0	128
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	38.1	124
5.02	Tertiary education enrollment, gross %*	9.5	114
5.03	Quality of the educational system	2.7	128
5.04	Quality of math and science education	3.4	106
5.05	Quality of management schools	2.7	139
5.06	Internet access in schools	1.7	139
5.07	Availability of research and training services	3.1	127
5.08	Extent of staff training	3.3	114

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.1	116
6.02	Extent of market dominance	3.7	72
6.03	Effectiveness of anti-monopoly policy	3.5	109
6.04	Extent and effect of taxation	4.1	27
6.05	Total tax rate, % profits*	54.3	118
6.06	No. procedures to start a business*	12	121
6.07	No. days to start a business*	40	120
6.08	Agricultural policy costs	3.9	71
6.09	Prevalence of trade barriers	3.6	126
6.10	Trade tariffs, % duty*	0.1	3
6.11	Prevalence of foreign ownership	4.1	109
6.12	Business impact of rules on FDI	3.7	122
6.13	Burden of customs procedures	3.3	119
6.14	Imports as a percentage of GDP*	36.2	96
6.15	Degree of customer orientation	4.5	84
6.16	Buyer sophistication	2.1	140
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	74
7.02	Flexibility of wage determination	5.3	52
7.03	Hiring and firing practices	4.6	27
7.04	Redundancy costs, weeks of salary*	8	22
7.05	Pay and productivity	3.0	129
7.06	Reliance on professional management	3.0	139
7.07	Brain drain	3.0	101
7.08	Women in labor force, ratio to men*	0.84	60
	8th pillar: Financial market development		
8.01	Availability of financial services	3.3	133
8.02	Affordability of financial services	3.2	129
8.03	Financing through local equity market	2.2	132
8.04	Ease of access to loans	2.0	124
8.05	Venture capital availability	1.6	142
8.06	Soundness of banks	4.0	127
8.07	Regulation of securities exchanges	2.4	137
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.6	135
9.02	Firm-level technology absorption	3.8	135
9.03	FDI and technology transfer	3.9	114
9.04	Individuals using Internet, %*	1.3	140
9.05	Broadband Internet subscriptions/100 pop.*	0.0	138
9.06	Int'l Internet bandwidth, kb/s per user*	1.7	127
9.07	Mobile broadband subscriptions/100 pop.*	0.0	128
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.1	126
10.02	Foreign market size index, 1–7 (best)*	2.8	125
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.8	134
11.02	Local supplier quality	4.0	109
11.03	State of cluster development	3.1	106
11.04	Nature of competitive advantage	2.6	129
11.05	Value chain breadth	2.5	139
11.06	Control of international distribution	2.9	141
11.07	Production process sophistication	2.8	123
11.08	Extent of marketing	2.6	135
11.09	Willingness to delegate authority	2.9	132
	12th pillar: Innovation		
12.01	Capacity for innovation	2.4	127
12.02	Quality of scientific research institutions	2.5	130
12.03	Company spending on R&D	2.7	105
12.04	University-industry collaboration in R&D	2.4	135
12.05	Gov't procurement of advanced tech products	3.5	77
12.06	Availability of scientists and engineers	4.0	74
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Kenya

Key indicators, 2011

Population (millions)	41.8
GDP (US$ billions)*	34.1
GDP per capita (US$)	832.5
GDP (PPP) as share (%) of world total	0.09

Sectoral value-added (% GDP), 2011

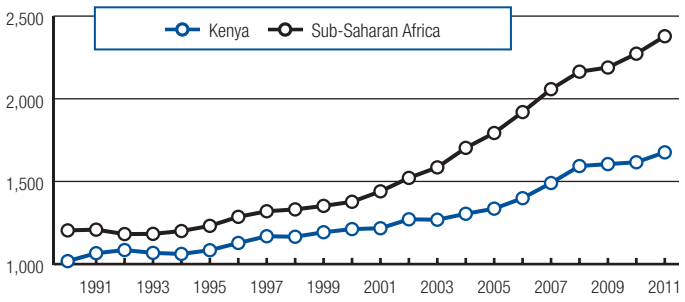
Agriculture	23.1
Industry	19.2
Services	57.7

Human Development Index, 2011

Score, (0–1) best	0.51
Rank (out of 187 economies)	143

Sources: IMF; UNFPA; UNDP; World Bank

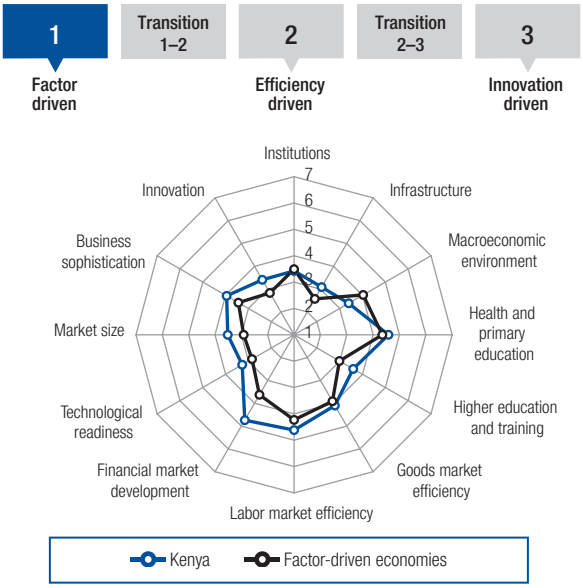
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

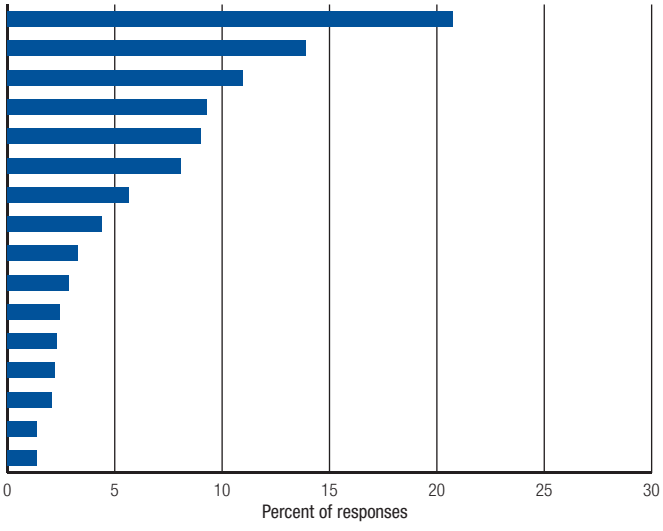
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**106**	**3.7**
GCI 2011–2012 (out of 142)	102	3.8
GCI 2010–2011 (out of 139)	106	3.6
Basic requirements (60.0%)	**123**	**3.6**
Institutions	106	3.4
Infrastructure	103	3.1
Macroeconomic environment	133	3.4
Health and primary education	115	4.6
Efficiency enhancers (35.0%)	**76**	**4.0**
Higher education and training	100	3.6
Goods market efficiency	93	4.1
Labor market efficiency	39	4.6
Financial market development	24	4.7
Technological readiness	101	3.3
Market size	75	3.5
Innovation and sophistication factors (5.0%)	**56**	**3.7**
Business sophistication	67	4.0
Innovation	50	3.4

Stage of development



The most problematic factors for doing business

Corruption	20.8
Inflation	13.9
Tax rates	11.0
Crime and theft	9.3
Access to financing	9.0
Inadequate supply of infrastructure	8.1
Inefficient government bureaucracy	5.6
Policy instability	4.4
Poor work ethic in national labor force	3.3
Foreign currency regulations	2.9
Inadequately educated workforce	2.4
Tax regulations	2.3
Insufficient capacity to innovate	2.2
Government instability/coups	2.1
Poor public health	1.4
Restrictive labor regulations	1.4



Note: 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 figure show the responses weighted according to their rankings.

Kenya

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.6	110
1.02	Intellectual property protection	3.1	96
1.03	Diversion of public funds	2.8	93
1.04	Public trust in politicians	2.4	92
1.05	Irregular payments and bribes	3.0	125
1.06	Judicial independence	3.4	85
1.07	Favoritism in decisions of government officials	2.5	120
1.08	Wastefulness of government spending	3.1	81
1.09	Burden of government regulation	3.4	74
1.10	Efficiency of legal framework in settling disputes	3.7	72
1.11	Efficiency of legal framework in challenging regs.	3.6	69
1.12	Transparency of government policymaking	3.8	105
1.13	Gov't services for improved business performance	3.8	61
1.14	Business costs of terrorism	3.8	137
1.15	Business costs of crime and violence	3.5	120
1.16	Organized crime	4.2	115
1.17	Reliability of police services	3.4	113
1.18	Ethical behavior of firms	3.6	102
1.19	Strength of auditing and reporting standards	4.4	81
1.20	Efficacy of corporate boards	4.4	79
1.21	Protection of minority shareholders' interests	3.9	87
1.22	Strength of investor protection, 0–10 (best)*	5.0	80
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.0	80
2.02	Quality of roads	3.9	72
2.03	Quality of railroad infrastructure	2.5	72
2.04	Quality of port infrastructure	3.8	91
2.05	Quality of air transport infrastructure	4.8	65
2.06	Available airline seat kms/week, millions*	283.2	55
2.07	Quality of electricity supply	3.6	102
2.08	Mobile telephone subscriptions/100 pop.*	64.8	120
2.09	Fixed telephone lines/100 pop.*	0.7	130
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-4.1	93
3.02	Gross national savings, % GDP*	11.3	119
3.03	Inflation, annual % change*	14.0	133
3.04	General government debt, % GDP*	48.9	95
3.05	Country credit rating, 0–100 (best)*	29.1	106
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.4	128
4.02	Malaria cases/100,000 pop.*	5,852.6	121
4.03	Business impact of tuberculosis	3.7	128
4.04	Tuberculosis cases/100,000 pop.*	298.0	130
4.05	Business impact of HIV/AIDS	3.3	130
4.06	HIV prevalence, % adult pop.*	6.3	134
4.07	Infant mortality, deaths/1,000 live births*	55.1	118
4.08	Life expectancy, years*	56.5	123
4.09	Quality of primary education	3.6	78
4.10	Primary education enrollment, net %*	82.8	120
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	60.2	108
5.02	Tertiary education enrollment, gross %*	4.0	130
5.03	Quality of the educational system	4.3	37
5.04	Quality of math and science education	3.9	76
5.05	Quality of management schools	4.3	56
5.06	Internet access in schools	3.8	85
5.07	Availability of research and training services	4.3	64
5.08	Extent of staff training	3.9	70

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.9	63
6.02	Extent of market dominance	3.8	62
6.03	Effectiveness of anti-monopoly policy	4.3	47
6.04	Extent and effect of taxation	3.3	90
6.05	Total tax rate, % profits*	49.6	111
6.06	No. procedures to start a business*	11	119
6.07	No. days to start a business*	33	108
6.08	Agricultural policy costs	4.0	62
6.09	Prevalence of trade barriers	3.9	105
6.10	Trade tariffs, % duty*	9.0	100
6.11	Prevalence of foreign ownership	4.4	93
6.12	Business impact of rules on FDI	4.4	90
6.13	Burden of customs procedures	3.4	109
6.14	Imports as a percentage of GDP*	43.3	76
6.15	Degree of customer orientation	4.6	63
6.16	Buyer sophistication	3.3	86
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	77
7.02	Flexibility of wage determination	5.0	75
7.03	Hiring and firing practices	5.0	11
7.04	Redundancy costs, weeks of salary*	16	73
7.05	Pay and productivity	4.0	59
7.06	Reliance on professional management	4.3	63
7.07	Brain drain	3.4	67
7.08	Women in labor force, ratio to men*	0.86	47
	8th pillar: Financial market development		
8.01	Availability of financial services	4.7	63
8.02	Affordability of financial services	4.4	54
8.03	Financing through local equity market	4.4	26
8.04	Ease of access to loans	3.6	25
8.05	Venture capital availability	3.2	32
8.06	Soundness of banks	5.0	77
8.07	Regulation of securities exchanges	4.2	65
8.08	Legal rights index, 0–10 (best)*	10	1
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.9	74
9.02	Firm-level technology absorption	4.9	58
9.03	FDI and technology transfer	4.8	53
9.04	Individuals using Internet, %*	28.0	92
9.05	Broadband Internet subscriptions/100 pop.*	0.1	120
9.06	Int'l Internet bandwidth, kb/s per user*	4.5	110
9.07	Mobile broadband subscriptions/100 pop.*	0.3	119
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	3.4	69
10.02	Foreign market size index, 1–7 (best)*	3.8	87
	11th pillar: Business sophistication		
11.01	Local supplier quantity	5.0	39
11.02	Local supplier quality	4.5	64
11.03	State of cluster development	3.8	65
11.04	Nature of competitive advantage	3.5	66
11.05	Value chain breadth	3.8	53
11.06	Control of international distribution	3.8	94
11.07	Production process sophistication	3.6	68
11.08	Extent of marketing	3.8	86
11.09	Willingness to delegate authority	3.6	86
	12th pillar: Innovation		
12.01	Capacity for innovation	3.5	46
12.02	Quality of scientific research institutions	4.0	50
12.03	Company spending on R&D	3.7	31
12.04	University-industry collaboration in R&D	4.2	41
12.05	Gov't procurement of advanced tech products	3.5	76
12.06	Availability of scientists and engineers	4.1	66
12.07	PCT patents, applications/million pop.*	0.1	95

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Lesotho

Key indicators, 2011

Population (millions)	2.2
GDP (US$ billions)*	2.5
GDP per capita (US$)	1,282.6
GDP (PPP) as share (%) of world total	0.01

Sectoral value-added (% GDP), 2011

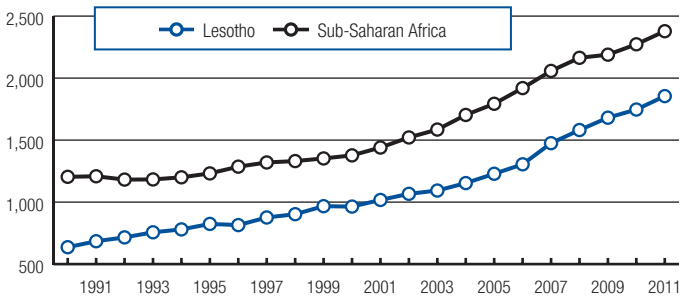
Agriculture	7.8
Industry	33.7
Services	58.5

Human Development Index, 2011

Score, (0–1) best	0.45
Rank (out of 187 economies)	160

Sources: IMF; UNFPA; UNDP; World Bank

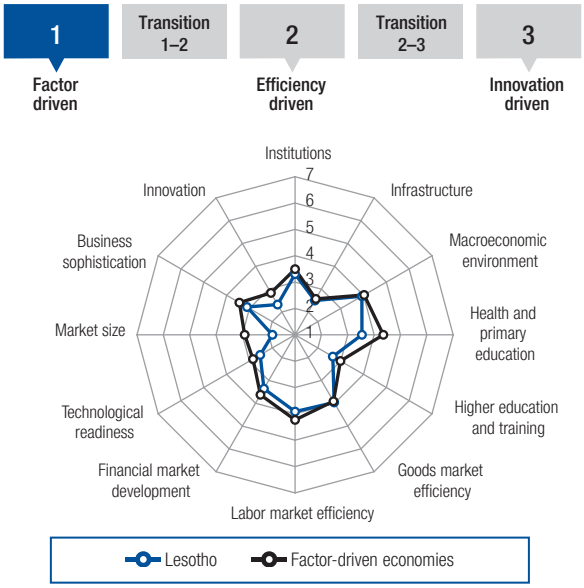
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

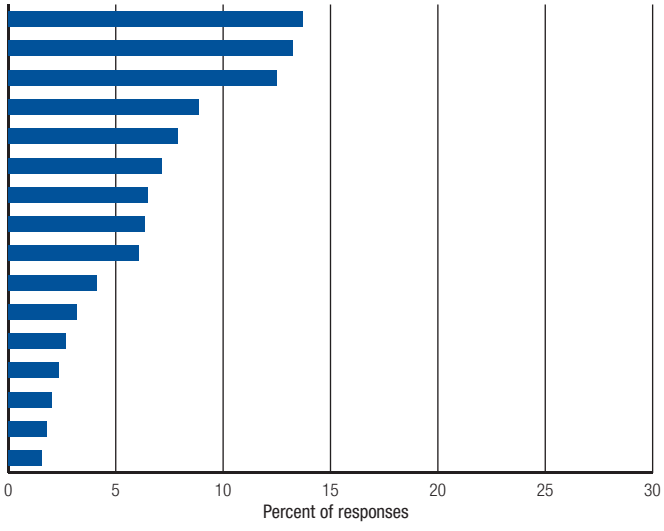
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**137**	**3.2**
GCI 2011–2012 (out of 142)	135	3.3
GCI 2010–2011 (out of 139)	128	3.4
Basic requirements (60.0%)	**136**	**3.3**
Institutions	121	3.3
Infrastructure	126	2.5
Macroeconomic environment	113	3.9
Health and primary education	136	3.5
Efficiency enhancers (35.0%)	**137**	**3.0**
Higher education and training	135	2.7
Goods market efficiency	102	4.0
Labor market efficiency	116	3.9
Financial market development	122	3.4
Technological readiness	136	2.5
Market size	136	1.9
Innovation and sophistication factors (5.0%)	**137**	**2.7**
Business sophistication	135	3.1
Innovation	138	2.3

Stage of development



The most problematic factors for doing business

Access to financing	13.7
Corruption	13.2
Crime and theft	12.5
Tax rates	8.9
Inefficient government bureaucracy	7.9
Inadequate supply of infrastructure	7.1
Inadequately educated workforce	6.5
Poor work ethic in national labor force	6.3
Inflation	6.1
Restrictive labor regulations	4.1
Insufficient capacity to innovate	3.2
Policy instability	2.7
Tax regulations	2.4
Foreign currency regulations	2.0
Poor public health	1.8
Government instability/coups	1.5



Note: 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 figure show the responses weighted according to their rankings.

Lesotho

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.3	125
1.02	Intellectual property protection	3.0	104
1.03	Diversion of public funds	3.0	83
1.04	Public trust in politicians	2.4	94
1.05	Irregular payments and bribes	3.5	95
1.06	Judicial independence	3.0	100
1.07	Favoritism in decisions of government officials	2.5	118
1.08	Wastefulness of government spending	2.9	98
1.09	Burden of government regulation	3.0	100
1.10	Efficiency of legal framework in settling disputes	3.3	99
1.11	Efficiency of legal framework in challenging regs.	3.0	111
1.12	Transparency of government policymaking	3.3	135
1.13	Gov't services for improved business performance	3.0	111
1.14	Business costs of terrorism	5.6	67
1.15	Business costs of crime and violence	3.8	114
1.16	Organized crime	4.9	89
1.17	Reliability of police services	3.5	109
1.18	Ethical behavior of firms	3.1	133
1.19	Strength of auditing and reporting standards	3.8	121
1.20	Efficacy of corporate boards	4.2	106
1.21	Protection of minority shareholders' interests	3.5	121
1.22	Strength of investor protection, 0–10 (best)*	3.7	120
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.4	104
2.02	Quality of roads	2.9	111
2.03	Quality of railroad infrastructure	1.6	110
2.04	Quality of port infrastructure	3.4	114
2.05	Quality of air transport infrastructure	2.5	142
2.06	Available airline seat kms/week, millions*	0.2	144
2.07	Quality of electricity supply	3.7	101
2.08	Mobile telephone subscriptions/100 pop.*	47.9	131
2.09	Fixed telephone lines/100 pop.*	1.6	122
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-10.5	144
3.02	Gross national savings, % GDP*	20.3	72
3.03	Inflation, annual % change*	5.6	84
3.04	General government debt, % GDP*	39.6	71
3.05	Country credit rating, 0–100 (best)*	33.2	97
	4th pillar: Health and primary education		
4.01	Business impact of malaria	n/appl.	1
4.02	Malaria cases/100,000 pop.*	(NE)	1
4.03	Business impact of tuberculosis	3.0	140
4.04	Tuberculosis cases/100,000 pop.*	633.0	140
4.05	Business impact of HIV/AIDS	2.8	140
4.06	HIV prevalence, % adult pop.*	23.6	142
4.07	Infant mortality, deaths/1,000 live births*	64.6	127
4.08	Life expectancy, years*	47.4	144
4.09	Quality of primary education	3.1	107
4.10	Primary education enrollment, net %*	73.4	133
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	46.4	117
5.02	Tertiary education enrollment, gross %*	3.5	133
5.03	Quality of the educational system	3.2	102
5.04	Quality of math and science education	3.0	119
5.05	Quality of management schools	2.8	134
5.06	Internet access in schools	2.4	129
5.07	Availability of research and training services	2.8	135
5.08	Extent of staff training	3.3	117

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.1	118
6.02	Extent of market dominance	3.1	123
6.03	Effectiveness of anti-monopoly policy	3.3	125
6.04	Extent and effect of taxation	3.3	89
6.05	Total tax rate, % profits*	16.0	10
6.06	No. procedures to start a business*	7	74
6.07	No. days to start a business*	40	120
6.08	Agricultural policy costs	2.9	138
6.09	Prevalence of trade barriers	3.6	129
6.10	Trade tariffs, % duty*	6.7	80
6.11	Prevalence of foreign ownership	4.9	59
6.12	Business impact of rules on FDI	4.4	93
6.13	Burden of customs procedures	3.4	110
6.14	Imports as a percentage of GDP*	124.7	3
6.15	Degree of customer orientation	3.8	130
6.16	Buyer sophistication	3.0	110
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.8	121
7.02	Flexibility of wage determination	4.4	112
7.03	Hiring and firing practices	3.6	96
7.04	Redundancy costs, weeks of salary*	15	70
7.05	Pay and productivity	2.8	137
7.06	Reliance on professional management	3.9	96
7.07	Brain drain	2.1	134
7.08	Women in labor force, ratio to men*	0.81	69
	8th pillar: Financial market development		
8.01	Availability of financial services	3.4	131
8.02	Affordability of financial services	3.1	134
8.03	Financing through local equity market	2.1	135
8.04	Ease of access to loans	2.3	108
8.05	Venture capital availability	1.9	131
8.06	Soundness of banks	4.9	88
8.07	Regulation of securities exchanges	3.0	129
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.9	126
9.02	Firm-level technology absorption	4.0	127
9.03	FDI and technology transfer	3.6	133
9.04	Individuals using Internet, %*	4.2	130
9.05	Broadband Internet subscriptions/100 pop.*	0.0	135
9.06	Int'l Internet bandwidth, kb/s per user*	2.4	120
9.07	Mobile broadband subscriptions/100 pop.*	1.7	103
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.7	136
10.02	Foreign market size index, 1–7 (best)*	2.3	137
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.4	141
11.02	Local supplier quality	3.4	140
11.03	State of cluster development	3.0	120
11.04	Nature of competitive advantage	3.2	93
11.05	Value chain breadth	2.8	126
11.06	Control of international distribution	3.0	140
11.07	Production process sophistication	2.8	124
11.08	Extent of marketing	2.8	131
11.09	Willingness to delegate authority	3.3	98
	12th pillar: Innovation		
12.01	Capacity for innovation	2.5	119
12.02	Quality of scientific research institutions	2.2	138
12.03	Company spending on R&D	2.5	126
12.04	University-industry collaboration in R&D	2.5	132
12.05	Gov't procurement of advanced tech products	2.6	133
12.06	Availability of scientists and engineers	2.6	142
12.07	PCT patents, applications/million pop.*	0.2	87

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Liberia

Key indicators, 2011

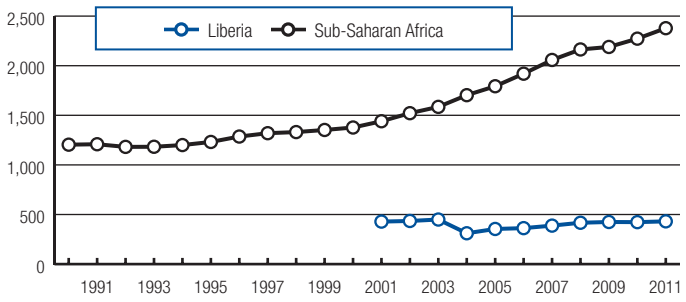
Population (millions) 4.1
GDP (US$ billions)* 1.5
GDP per capita (US$) 398.7
GDP (PPP) as share (%) of world total 0.00

Sectoral value-added (% GDP), 0
Agriculture ..... n/a
Industry ..... n/a
Services ..... n/a

Human Development Index, 2011
Score, (0–1) best 0.33
Rank (out of 187 economies) 182

Sources: IMF; UNFPA; UNDP; World Bank

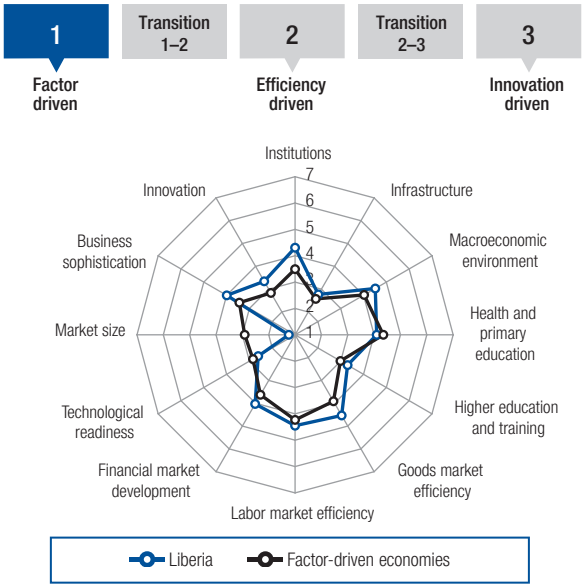
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

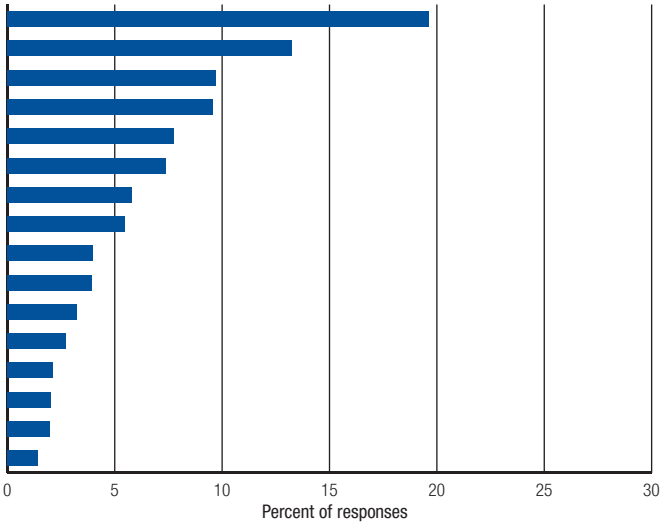
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**111**	**3.7**
GCI 2011–2012 (out of 142)	n/a	n/a
GCI 2010–2011 (out of 139)	n/a	n/a
Basic requirements (60.0%)	**109**	**3.9**
Institutions	45	4.3
Infrastructure	115	2.8
Macroeconomic environment	82	4.5
Health and primary education	130	4.1
Efficiency enhancers (35.0%)	**121**	**3.4**
Higher education and training	114	3.3
Goods market efficiency	40	4.5
Labor market efficiency	61	4.4
Financial market development	74	4.0
Technological readiness	132	2.6
Market size	144	1.2
Innovation and sophistication factors (5.0%)	**59**	**3.7**
Business sophistication	62	4.0
Innovation	54	3.3

Stage of development



The most problematic factors for doing business

Access to financing 19.6
Inadequately educated workforce 13.3
Inadequate supply of infrastructure 9.7
Corruption 9.6
Poor public health 7.8
Poor work ethic in national labor force 7.4
Tax rates 5.8
Crime and theft 5.5
Insufficient capacity to innovate 4.0
Inflation 3.9
Inefficient government bureaucracy 3.2
Policy instability 2.7
Foreign currency regulations 2.1
Government instability/coups 2.0
Restrictive labor regulations 2.0
Tax regulations 1.4



Note: 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 figure show the responses weighted according to their rankings.

Liberia

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.4	62
1.02	Intellectual property protection	4.6	37
1.03	Diversion of public funds	4.4	38
1.04	Public trust in politicians	4.1	25
1.05	Irregular payments and bribes	4.0	66
1.06	Judicial independence	4.2	52
1.07	Favoritism in decisions of government officials	4.0	30
1.08	Wastefulness of government spending	4.3	22
1.09	Burden of government regulation	4.3	15
1.10	Efficiency of legal framework in settling disputes	4.2	42
1.11	Efficiency of legal framework in challenging regs.	4.2	38
1.12	Transparency of government policymaking	4.5	50
1.13	Gov't services for improved business performance	3.8	59
1.14	Business costs of terrorism	5.3	89
1.15	Business costs of crime and violence	4.5	92
1.16	Organized crime	4.9	91
1.17	Reliability of police services	4.0	79
1.18	Ethical behavior of firms	4.4	44
1.19	Strength of auditing and reporting standards	4.4	78
1.20	Efficacy of corporate boards	4.4	74
1.21	Protection of minority shareholders' interests	4.3	64
1.22	Strength of investor protection, 0–10 (best)*	3.7	120
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.2	75
2.02	Quality of roads	3.8	76
2.03	Quality of railroad infrastructure	2.9	59
2.04	Quality of port infrastructure	4.1	72
2.05	Quality of air transport infrastructure	4.0	98
2.06	Available airline seat kms/week, millions*	5.8	139
2.07	Quality of electricity supply	3.0	114
2.08	Mobile telephone subscriptions/100 pop.*	49.2	129
2.09	Fixed telephone lines/100 pop.*	0.1	144
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-3.4	76
3.02	Gross national savings, % GDP*	n/a	n/a
3.03	Inflation, annual % change*	8.5	114
3.04	General government debt, % GDP*	13.9	18
3.05	Country credit rating, 0–100 (best)*	16.3	137
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.9	122
4.02	Malaria cases/100,000 pop.*	29,414.2	136
4.03	Business impact of tuberculosis	4.4	110
4.04	Tuberculosis cases/100,000 pop.*	293.0	129
4.05	Business impact of HIV/AIDS	5.2	75
4.06	HIV prevalence, % adult pop.*	1.5	117
4.07	Infant mortality, deaths/1,000 live births*	73.6	133
4.08	Life expectancy, years*	56.1	124
4.09	Quality of primary education	3.6	75
4.10	Primary education enrollment, net %*	75.2	130
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	34.8	130
5.02	Tertiary education enrollment, gross %*	19.1	91
5.03	Quality of the educational system	4.0	56
5.04	Quality of math and science education	3.7	87
5.05	Quality of management schools	4.2	69
5.06	Internet access in schools	3.2	108
5.07	Availability of research and training services	4.0	79
5.08	Extent of staff training	4.0	64

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.6	87
6.02	Extent of market dominance	4.2	40
6.03	Effectiveness of anti-monopoly policy	4.1	67
6.04	Extent and effect of taxation	4.0	33
6.05	Total tax rate, % profits*	43.7	90
6.06	No. procedures to start a business*	4	20
6.07	No. days to start a business*	6	16
6.08	Agricultural policy costs	4.1	50
6.09	Prevalence of trade barriers	4.6	49
6.10	Trade tariffs, % duty*	n/a	n/a
6.11	Prevalence of foreign ownership	4.4	87
6.12	Business impact of rules on FDI	4.1	106
6.13	Burden of customs procedures	4.5	43
6.14	Imports as a percentage of GDP*	95.4	11
6.15	Degree of customer orientation	4.5	75
6.16	Buyer sophistication	3.9	38
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	85
7.02	Flexibility of wage determination	4.7	100
7.03	Hiring and firing practices	4.0	66
7.04	Redundancy costs, weeks of salary*	26	110
7.05	Pay and productivity	4.2	48
7.06	Reliance on professional management	4.3	65
7.07	Brain drain	3.8	49
7.08	Women in labor force, ratio to men*	0.92	23
	8th pillar: Financial market development		
8.01	Availability of financial services	4.0	96
8.02	Affordability of financial services	3.9	86
8.03	Financing through local equity market	3.0	98
8.04	Ease of access to loans	3.5	31
8.05	Venture capital availability	3.4	25
8.06	Soundness of banks	5.2	70
8.07	Regulation of securities exchanges	3.1	126
8.08	Legal rights index, 0–10 (best)*	7	43
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.0	124
9.02	Firm-level technology absorption	4.5	89
9.03	FDI and technology transfer	3.8	124
9.04	Individuals using Internet, %*	3.0	134
9.05	Broadband Internet subscriptions/100 pop.*	0.0	141
9.06	Int'l Internet bandwidth, kb/s per user*	0.6	136
9.07	Mobile broadband subscriptions/100 pop.*	0.2	123
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.1	142
10.02	Foreign market size index, 1–7 (best)*	1.6	141
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.2	108
11.02	Local supplier quality	4.4	74
11.03	State of cluster development	4.0	49
11.04	Nature of competitive advantage	3.9	40
11.05	Value chain breadth	3.8	59
11.06	Control of international distribution	4.0	70
11.07	Production process sophistication	3.8	59
11.08	Extent of marketing	3.7	97
11.09	Willingness to delegate authority	3.9	52
	12th pillar: Innovation		
12.01	Capacity for innovation	3.6	36
12.02	Quality of scientific research institutions	3.5	80
12.03	Company spending on R&D	3.5	40
12.04	University-industry collaboration in R&D	3.5	74
12.05	Gov't procurement of advanced tech products	4.1	27
12.06	Availability of scientists and engineers	3.6	97
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Libya

Key indicators, 2011

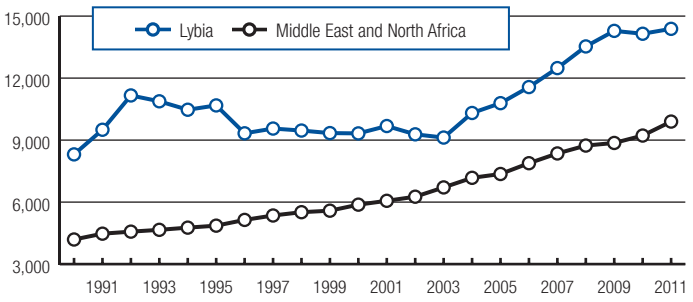
Population (millions) 6.5
GDP (US$ billions)* 35.7
GDP per capita (US$) 5,510.0
GDP (PPP) as share (%) of world total 0.05

Sectoral value-added (% GDP), 2008
Agriculture 1.9
Industry 78.2
Services 19.9

Human Development Index, 2011
Score, (0–1) best 0.76
Rank (out of 187 economies) 64

Sources: IMF; UNFPA; UNDP; World Bank

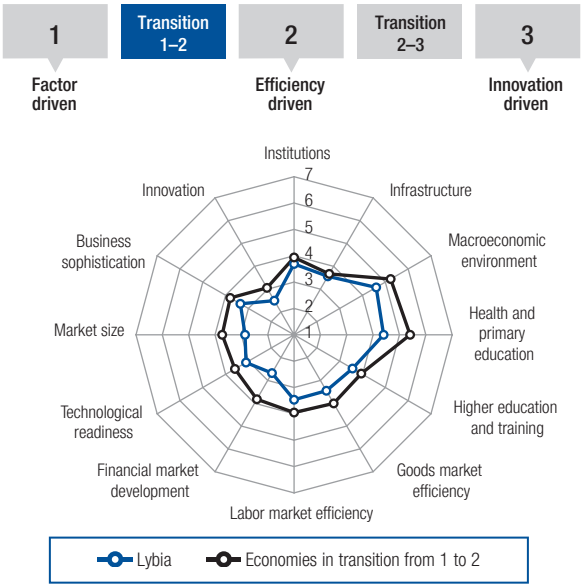
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

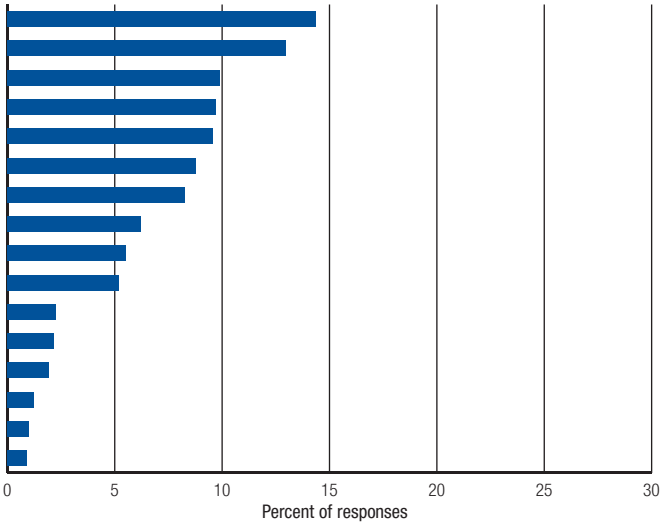
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**113**	**3.7**
GCI 2011–2012 (out of 142)	n/a	n/a
GCI 2010–2011 (out of 139)	100	3.7
Basic requirements (57.9%)	**102**	**4.1**
Institutions	81	3.7
Infrastructure	88	3.6
Macroeconomic environment	73	4.6
Health and primary education	121	4.4
Efficiency enhancers (36.6%)	**131**	**3.2**
Higher education and training	103	3.6
Goods market efficiency	137	3.5
Labor market efficiency	137	3.5
Financial market development	140	2.7
Technological readiness	110	3.1
Market size	102	2.9
Innovation and sophistication factors (5.5%)	**127**	**2.9**
Business sophistication	116	3.4
Innovation	129	2.5

Stage of development



The most problematic factors for doing business

Inefficient government bureaucracy	14.4
Corruption	13.0
Access to financing	9.9
Inadequately educated workforce	9.7
Inadequate supply of infrastructure	9.6
Policy instability	8.8
Government instability/coups	8.3
Restrictive labor regulations	6.2
Foreign currency regulations	5.5
Poor work ethic in national labor force	5.2
Tax regulations	2.2
Tax rates	2.1
Insufficient capacity to innovate	1.9
Poor public health	1.2
Crime and theft	1.0
Inflation	0.9



Note: 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 figure show the responses weighted according to their rankings.

Libya

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.7	101
1.02	Intellectual property protection	2.9	111
1.03	Diversion of public funds	2.9	90
1.04	Public trust in politicians	3.5	39
1.05	Irregular payments and bribes	3.8	75
1.06	Judicial independence	3.4	84
1.07	Favoritism in decisions of government officials	3.4	50
1.08	Wastefulness of government spending	3.2	72
1.09	Burden of government regulation	3.4	61
1.10	Efficiency of legal framework in settling disputes	3.2	103
1.11	Efficiency of legal framework in challenging regs.	3.3	88
1.12	Transparency of government policymaking	4.0	92
1.13	Gov't services for improved business performance	3.0	116
1.14	Business costs of terrorism	5.4	86
1.15	Business costs of crime and violence	5.6	31
1.16	Organized crime	6.0	34
1.17	Reliability of police services	3.3	114
1.18	Ethical behavior of firms	3.7	85
1.19	Strength of auditing and reporting standards	3.3	136
1.20	Efficacy of corporate boards	3.7	140
1.21	Protection of minority shareholders' interests	3.1	139
1.22	Strength of investor protection, 0–10 (best)*	n/a	n/a
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	2.9	128
2.02	Quality of roads	3.1	102
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	3.5	112
2.05	Quality of air transport infrastructure	3.3	129
2.06	Available airline seat kms/week, millions*	44.8	101
2.07	Quality of electricity supply	4.3	85
2.08	Mobile telephone subscriptions/100 pop.*	155.7	10
2.09	Fixed telephone lines/100 pop.*	15.6	79
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	6.2	11
3.02	Gross national savings, % GDP*	18.1	82
3.03	Inflation, annual % change*	14.1	134
3.04	General government debt, % GDP*	0.0	1
3.05	Country credit rating, 0–100 (best)*	31.6	101
	4th pillar: Health and primary education		
4.01	Business impact of malaria	n/appl.	1
4.02	Malaria cases/100,000 pop.*	(NE)	1
4.03	Business impact of tuberculosis	4.9	89
4.04	Tuberculosis cases/100,000 pop.*	40.0	64
4.05	Business impact of HIV/AIDS	5.2	72
4.06	HIV prevalence, % adult pop.*	<0.2	50
4.07	Infant mortality, deaths/1,000 live births*	13.4	63
4.08	Life expectancy, years*	74.8	53
4.09	Quality of primary education	2.2	134
4.10	Primary education enrollment, net %*	n/a	n/a
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	110.3	11
5.02	Tertiary education enrollment, gross %*	54.4	46
5.03	Quality of the educational system	2.0	142
5.04	Quality of math and science education	2.4	135
5.05	Quality of management schools	2.3	144
5.06	Internet access in schools	2.2	134
5.07	Availability of research and training services	2.4	143
5.08	Extent of staff training	2.9	140

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.1	115
6.02	Extent of market dominance	3.2	119
6.03	Effectiveness of anti-monopoly policy	3.4	117
6.04	Extent and effect of taxation	3.8	47
6.05	Total tax rate, % profits*	n/a	n/a
6.06	No. procedures to start a business*	n/a	n/a
6.07	No. days to start a business*	n/a	n/a
6.08	Agricultural policy costs	3.1	127
6.09	Prevalence of trade barriers	3.8	116
6.10	Trade tariffs, % duty*	n/a	n/a
6.11	Prevalence of foreign ownership	2.8	142
6.12	Business impact of rules on FDI	3.8	119
6.13	Burden of customs procedures	3.3	118
6.14	Imports as a percentage of GDP*	19.6	139
6.15	Degree of customer orientation	3.8	123
6.16	Buyer sophistication	3.0	105
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.1	97
7.02	Flexibility of wage determination	4.4	113
7.03	Hiring and firing practices	4.0	67
7.04	Redundancy costs, weeks of salary*	n/a	n/a
7.05	Pay and productivity	3.3	118
7.06	Reliance on professional management	3.5	123
7.07	Brain drain	2.4	125
7.08	Women in labor force, ratio to men*	0.40	132
	8th pillar: Financial market development		
8.01	Availability of financial services	2.8	140
8.02	Affordability of financial services	2.5	143
8.03	Financing through local equity market	2.1	133
8.04	Ease of access to loans	2.4	101
8.05	Venture capital availability	2.3	93
8.06	Soundness of banks	3.4	139
8.07	Regulation of securities exchanges	2.4	136
8.08	Legal rights index, 0–10 (best)*	n/a	n/a
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.9	125
9.02	Firm-level technology absorption	4.3	108
9.03	FDI and technology transfer	3.6	136
9.04	Individuals using Internet, %*	17.0	103
9.05	Broadband Internet subscriptions/100 pop.*	1.1	100
9.06	Int'l Internet bandwidth, kb/s per user*	11.0	82
9.07	Mobile broadband subscriptions/100 pop.*	1.6	104
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.5	111
10.02	Foreign market size index, 1–7 (best)*	4.0	79
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.8	63
11.02	Local supplier quality	3.6	130
11.03	State of cluster development	2.8	132
11.04	Nature of competitive advantage	2.6	132
11.05	Value chain breadth	2.6	136
11.06	Control of international distribution	3.9	84
11.07	Production process sophistication	3.1	116
11.08	Extent of marketing	3.0	124
11.09	Willingness to delegate authority	3.7	74
	12th pillar: Innovation		
12.01	Capacity for innovation	2.5	123
12.02	Quality of scientific research institutions	2.7	122
12.03	Company spending on R&D	2.2	138
12.04	University-industry collaboration in R&D	2.5	133
12.05	Gov't procurement of advanced tech products	3.0	118
12.06	Availability of scientists and engineers	3.4	118
12.07	PCT patents, applications/million pop.*	0.5	75

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Madagascar

Key indicators, 2011

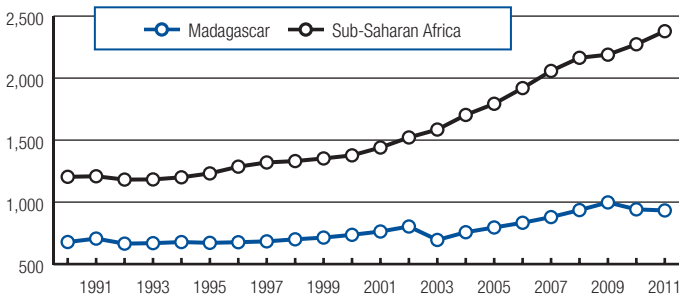
Population (millions) 21.4
GDP (US$ billions)* 9.9
GDP per capita (US$) 453.1
GDP (PPP) as share (%) of world total 0.03

Sectoral value-added (% GDP), 2009
Agriculture 29.1
Industry 16.0
Services 54.9

Human Development Index, 2011
Score, (0–1) best 0.48
Rank (out of 187 economies) 151

Sources: IMF; UNFPA; UNDP; World Bank

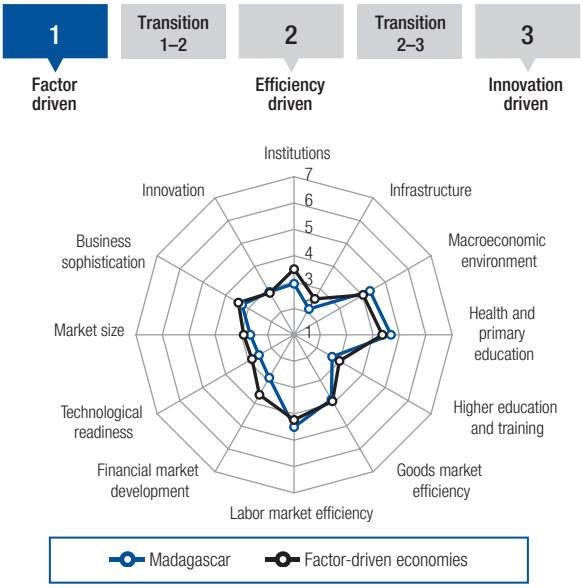
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

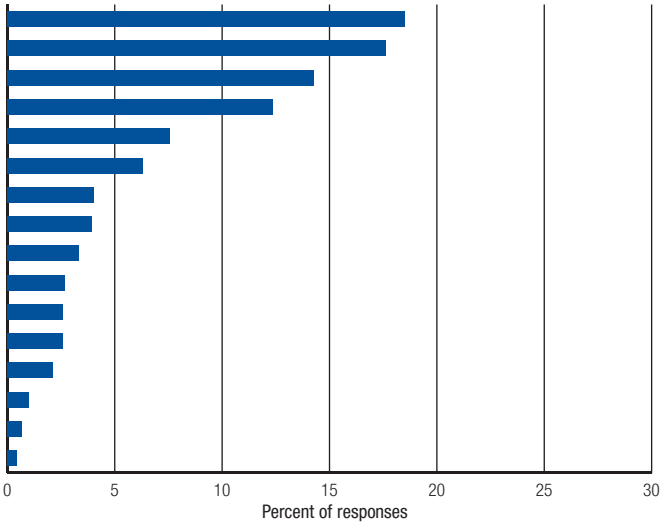
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**130**	**3.4**
GCI 2011–2012 (out of 142)	130	3.4
GCI 2010–2011 (out of 139)	124	3.5
Basic requirements (60.0%)	**129**	**3.5**
Institutions	136	2.9
Infrastructure	137	2.1
Macroeconomic environment	95	4.3
Health and primary education	110	4.7
Efficiency enhancers (35.0%)	**132**	**3.2**
Higher education and training	133	2.7
Goods market efficiency	115	3.8
Labor market efficiency	54	4.5
Financial market development	138	2.9
Technological readiness	135	2.5
Market size	113	2.7
Innovation and sophistication factors (5.0%)	**115**	**3.1**
Business sophistication	122	3.3
Innovation	106	2.9

Stage of development



The most problematic factors for doing business

Policy instability 18.5
Government instability/coups 17.6
Access to financing 14.3
Corruption 12.4
Crime and theft 7.6
Inadequate supply of infrastructure 6.3
Inflation 4.0
Tax regulations 3.9
Inefficient government bureaucracy 3.3
Insufficient capacity to innovate 2.7
Inadequately educated workforce 2.6
Poor work ethic in national labor force 2.6
Tax rates 2.1
Restrictive labor regulations 1.0
Foreign currency regulations 0.7
Poor public health 0.5



Note: 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 figure show the responses weighted according to their rankings.

Madagascar

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	2.6	138
1.02	Intellectual property protection	2.4	135
1.03	Diversion of public funds	2.5	124
1.04	Public trust in politicians	1.8	132
1.05	Irregular payments and bribes	2.9	130
1.06	Judicial independence	2.2	135
1.07	Favoritism in decisions of government officials	2.9	85
1.08	Wastefulness of government spending	2.2	131
1.09	Burden of government regulation	2.9	117
1.10	Efficiency of legal framework in settling disputes	2.7	125
1.11	Efficiency of legal framework in challenging regs.	2.8	123
1.12	Transparency of government policymaking	3.0	141
1.13	Gov't services for improved business performance	3.0	114
1.14	Business costs of terrorism	5.1	104
1.15	Business costs of crime and violence	3.3	129
1.16	Organized crime	4.0	123
1.17	Reliability of police services	2.3	140
1.18	Ethical behavior of firms	3.1	135
1.19	Strength of auditing and reporting standards	3.3	134
1.20	Efficacy of corporate boards	4.4	85
1.21	Protection of minority shareholders' interests	3.1	135
1.22	Strength of investor protection, 0–10 (best)*	5.7	52
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.0	125
2.02	Quality of roads	2.5	130
2.03	Quality of railroad infrastructure	1.9	98
2.04	Quality of port infrastructure	3.2	123
2.05	Quality of air transport infrastructure	3.6	114
2.06	Available airline seat kms/week, millions*	50.1	95
2.07	Quality of electricity supply	2.2	127
2.08	Mobile telephone subscriptions/100 pop.*	38.3	138
2.09	Fixed telephone lines/100 pop.*	0.6	132
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.6	46
3.02	Gross national savings, % GDP*	17.9	83
3.03	Inflation, annual % change*	10.6	125
3.04	General government debt, % GDP*	5.7	5
3.05	Country credit rating, 0–100 (best)*	18.1	133
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.6	125
4.02	Malaria cases/100,000 pop.*	3,999.8	119
4.03	Business impact of tuberculosis	4.6	103
4.04	Tuberculosis cases/100,000 pop.*	266.0	124
4.05	Business impact of HIV/AIDS	5.1	82
4.06	HIV prevalence, % adult pop.*	0.2	54
4.07	Infant mortality, deaths/1,000 live births*	43.1	111
4.08	Life expectancy, years*	66.5	107
4.09	Quality of primary education	2.8	121
4.10	Primary education enrollment, net %*	79.2	126
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	31.1	133
5.02	Tertiary education enrollment, gross %*	3.7	132
5.03	Quality of the educational system	3.0	117
5.04	Quality of math and science education	3.8	82
5.05	Quality of management schools	3.9	90
5.06	Internet access in schools	2.2	133
5.07	Availability of research and training services	3.2	123
5.08	Extent of staff training	3.4	113

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.4	100
6.02	Extent of market dominance	3.3	103
6.03	Effectiveness of anti-monopoly policy	3.3	127
6.04	Extent and effect of taxation	3.3	95
6.05	Total tax rate, % profits*	36.6	65
6.06	No. procedures to start a business*	3	8
6.07	No. days to start a business*	8	34
6.08	Agricultural policy costs	3.2	125
6.09	Prevalence of trade barriers	3.5	133
6.10	Trade tariffs, % duty*	7.9	91
6.11	Prevalence of foreign ownership	4.0	114
6.12	Business impact of rules on FDI	3.8	121
6.13	Burden of customs procedures	3.3	123
6.14	Imports as a percentage of GDP*	39.6	89
6.15	Degree of customer orientation	4.4	93
6.16	Buyer sophistication	2.1	139
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	83
7.02	Flexibility of wage determination	4.9	81
7.03	Hiring and firing practices	4.3	45
7.04	Redundancy costs, weeks of salary*	12	52
7.05	Pay and productivity	3.8	82
7.06	Reliance on professional management	3.7	108
7.07	Brain drain	2.7	116
7.08	Women in labor force, ratio to men*	0.95	8
	8th pillar: Financial market development		
8.01	Availability of financial services	3.4	132
8.02	Affordability of financial services	3.2	131
8.03	Financing through local equity market	2.1	136
8.04	Ease of access to loans	2.6	83
8.05	Venture capital availability	2.5	71
8.06	Soundness of banks	4.4	111
8.07	Regulation of securities exchanges	2.4	139
8.08	Legal rights index, 0–10 (best)*	2	135
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.9	128
9.02	Firm-level technology absorption	3.8	132
9.03	FDI and technology transfer	3.8	121
9.04	Individuals using Internet, %*	1.9	138
9.05	Broadband Internet subscriptions/100 pop.*	0.0	132
9.06	Int'l Internet bandwidth, kb/s per user*	5.7	103
9.07	Mobile broadband subscriptions/100 pop.*	0.1	125
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.6	107
10.02	Foreign market size index, 1–7 (best)*	3.0	119
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.5	86
11.02	Local supplier quality	3.8	121
11.03	State of cluster development	2.8	130
11.04	Nature of competitive advantage	3.1	99
11.05	Value chain breadth	3.0	112
11.06	Control of international distribution	3.1	134
11.07	Production process sophistication	2.7	125
11.08	Extent of marketing	3.0	123
11.09	Willingness to delegate authority	3.2	114
	12th pillar: Innovation		
12.01	Capacity for innovation	2.8	97
12.02	Quality of scientific research institutions	3.0	109
12.03	Company spending on R&D	2.9	93
12.04	University-industry collaboration in R&D	3.2	103
12.05	Gov't procurement of advanced tech products	3.1	111
12.06	Availability of scientists and engineers	4.4	47
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Malawi

Key indicators, 2011

Population (millions)	15.4
GDP (US$ billions)*	5.6
GDP per capita (US$)	346.8
GDP (PPP) as share (%) of world total	0.02

Sectoral value-added (% GDP), 2009

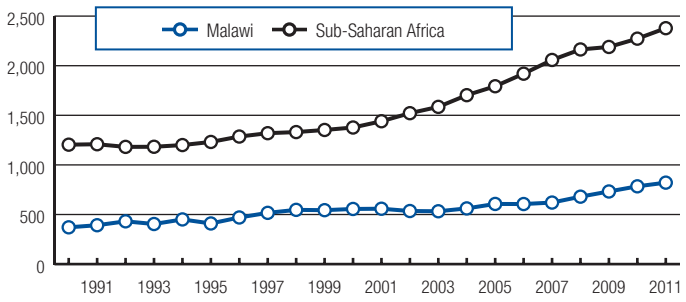
Agriculture	30.5
Industry	16.1
Services	53.4

Human Development Index, 2011

Score, (0–1) best	0.40
Rank (out of 187 economies)	171

Sources: IMF; UNFPA; UNDP; World Bank

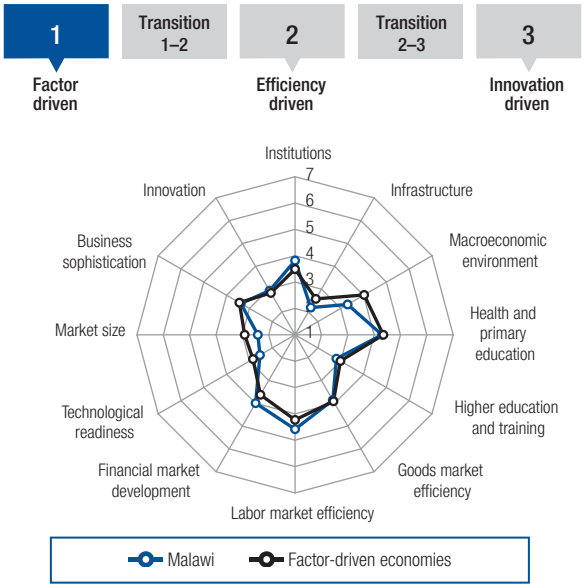
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

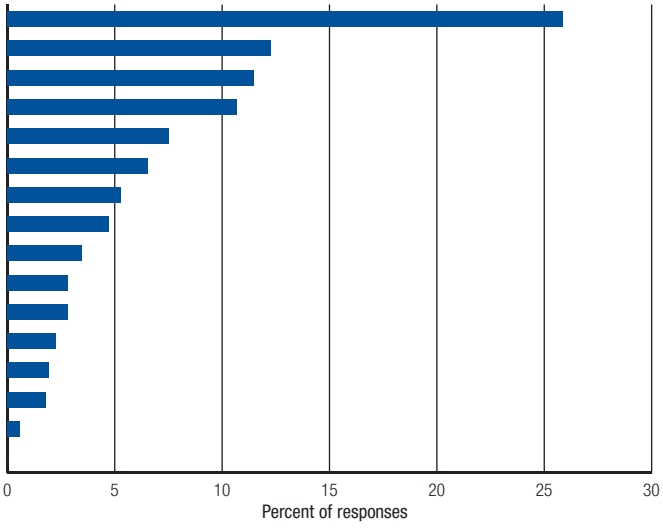
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**129**	**3.4**
GCI 2011–2012 (out of 142)	117	3.6
GCI 2010–2011 (out of 139)	125	3.4
Basic requirements (60.0%)	**135**	**3.4**
Institutions	76	3.8
Infrastructure	135	2.2
Macroeconomic environment	136	3.3
Health and primary education	124	4.3
Efficiency enhancers (35.0%)	**120**	**3.4**
Higher education and training	129	2.8
Goods market efficiency	112	3.9
Labor market efficiency	43	4.6
Financial market development	75	4.0
Technological readiness	134	2.5
Market size	123	2.4
Innovation and sophistication factors (5.0%)	**109**	**3.2**
Business sophistication	115	3.4
Innovation	99	2.9

Stage of development



The most problematic factors for doing business

Foreign currency regulations	25.9
Access to financing	12.3
Inadequate supply of infrastructure	11.5
Tax rates	10.7
Policy instability	7.5
Corruption	6.5
Tax regulations	5.3
Inefficient government bureaucracy	4.7
Inadequately educated workforce	3.5
Inflation	2.8
Poor work ethic in national labor force	2.8
Insufficient capacity to innovate	2.2
Crime and theft	1.9
Restrictive labor regulations	1.8
Poor public health	0.6
Government instability/coups	0.0



Note: 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 figure show the responses weighted according to their rankings.

Malawi

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.9	88
1.02	Intellectual property protection	3.6	72
1.03	Diversion of public funds	3.1	73
1.04	Public trust in politicians	2.7	73
1.05	Irregular payments and bribes	3.4	97
1.06	Judicial independence	4.1	54
1.07	Favoritism in decisions of government officials	2.7	101
1.08	Wastefulness of government spending	2.9	94
1.09	Burden of government regulation	3.3	79
1.10	Efficiency of legal framework in settling disputes	4.0	52
1.11	Efficiency of legal framework in challenging regs.	3.9	51
1.12	Transparency of government policymaking	3.9	103
1.13	Gov't services for improved business performance	3.1	103
1.14	Business costs of terrorism	5.6	61
1.15	Business costs of crime and violence	4.3	99
1.16	Organized crime	5.4	61
1.17	Reliability of police services	3.8	91
1.18	Ethical behavior of firms	3.8	77
1.19	Strength of auditing and reporting standards	4.8	56
1.20	Efficacy of corporate boards	4.5	73
1.21	Protection of minority shareholders' interests	4.4	55
1.22	Strength of investor protection, 0–10 (best)*	5.3	65
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.2	116
2.02	Quality of roads	3.4	89
2.03	Quality of railroad infrastructure	2.2	84
2.04	Quality of port infrastructure	3.7	94
2.05	Quality of air transport infrastructure	3.1	133
2.06	Available airline seat kms/week, millions*	5.8	140
2.07	Quality of electricity supply	2.2	128
2.08	Mobile telephone subscriptions/100 pop.*	25.1	142
2.09	Fixed telephone lines/100 pop.*	1.1	126
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-7.9	133
3.02	Gross national savings, % GDP*	11.6	118
3.03	Inflation, annual % change*	7.6	103
3.04	General government debt, % GDP*	42.5	78
3.05	Country credit rating, 0–100 (best)*	19.9	128
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.5	139
4.02	Malaria cases/100,000 pop.*	31,168.8	137
4.03	Business impact of tuberculosis	3.4	134
4.04	Tuberculosis cases/100,000 pop.*	219.0	118
4.05	Business impact of HIV/AIDS	2.6	143
4.06	HIV prevalence, % adult pop.*	11.0	136
4.07	Infant mortality, deaths/1,000 live births*	58.1	123
4.08	Life expectancy, years*	53.5	131
4.09	Quality of primary education	3.0	112
4.10	Primary education enrollment, net %*	96.9	42
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	32.1	132
5.02	Tertiary education enrollment, gross %*	0.7	140
5.03	Quality of the educational system	3.8	65
5.04	Quality of math and science education	3.6	96
5.05	Quality of management schools	3.7	100
5.06	Internet access in schools	2.6	124
5.07	Availability of research and training services	3.5	108
5.08	Extent of staff training	3.7	94

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.9	126
6.02	Extent of market dominance	3.2	116
6.03	Effectiveness of anti-monopoly policy	3.9	77
6.04	Extent and effect of taxation	2.9	120
6.05	Total tax rate, % profits*	28.2	30
6.06	No. procedures to start a business*	10	110
6.07	No. days to start a business*	39	117
6.08	Agricultural policy costs	3.5	109
6.09	Prevalence of trade barriers	4.1	87
6.10	Trade tariffs, % duty*	10.2	105
6.11	Prevalence of foreign ownership	4.6	72
6.12	Business impact of rules on FDI	4.1	107
6.13	Burden of customs procedures	3.3	121
6.14	Imports as a percentage of GDP*	41.9	80
6.15	Degree of customer orientation	4.5	80
6.16	Buyer sophistication	2.7	122
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.1	91
7.02	Flexibility of wage determination	5.4	32
7.03	Hiring and firing practices	4.1	58
7.04	Redundancy costs, weeks of salary*	17	78
7.05	Pay and productivity	3.6	91
7.06	Reliance on professional management	4.2	68
7.07	Brain drain	3.3	86
7.08	Women in labor force, ratio to men*	1.06	1
	8th pillar: Financial market development		
8.01	Availability of financial services	3.8	104
8.02	Affordability of financial services	3.9	89
8.03	Financing through local equity market	3.9	48
8.04	Ease of access to loans	2.3	112
8.05	Venture capital availability	2.0	125
8.06	Soundness of banks	5.4	56
8.07	Regulation of securities exchanges	3.8	93
8.08	Legal rights index, 0–10 (best)*	7	43
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.1	120
9.02	Firm-level technology absorption	3.8	134
9.03	FDI and technology transfer	3.9	115
9.04	Individuals using Internet, %*	3.3	132
9.05	Broadband Internet subscriptions/100 pop.*	0.1	125
9.06	Int'l Internet bandwidth, kb/s per user*	1.4	130
9.07	Mobile broadband subscriptions/100 pop.*	3.1	94
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.3	125
10.02	Foreign market size index, 1–7 (best)*	2.7	131
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.3	105
11.02	Local supplier quality	4.0	106
11.03	State of cluster development	3.3	97
11.04	Nature of competitive advantage	2.7	121
11.05	Value chain breadth	2.7	132
11.06	Control of international distribution	3.9	89
11.07	Production process sophistication	2.6	131
11.08	Extent of marketing	2.9	128
11.09	Willingness to delegate authority	3.6	84
	12th pillar: Innovation		
12.01	Capacity for innovation	2.8	100
12.02	Quality of scientific research institutions	3.4	89
12.03	Company spending on R&D	2.6	117
12.04	University-industry collaboration in R&D	3.5	75
12.05	Gov't procurement of advanced tech products	3.3	91
12.06	Availability of scientists and engineers	3.6	100
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Mali

Key indicators, 2011

Population (millions)	15.9
GDP (US$ billions)*	10.6
GDP per capita (US$)	669.1
GDP (PPP) as share (%) of world total	0.02

Sectoral value-added (% GDP), 2006

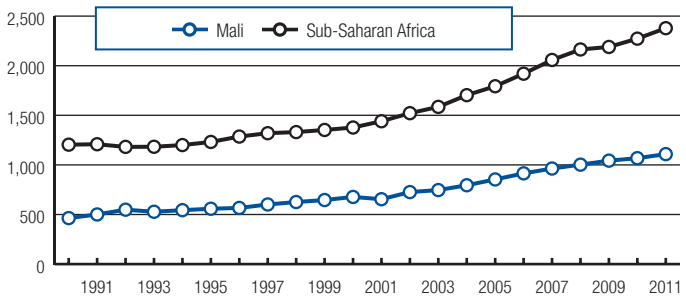
Agriculture	36.5
Industry	24.0
Services	39.1

Human Development Index, 2011

Score, (0–1) best	0.36
Rank (out of 187 economies)	175

Sources: IMF; UNFPA; UNDP; World Bank

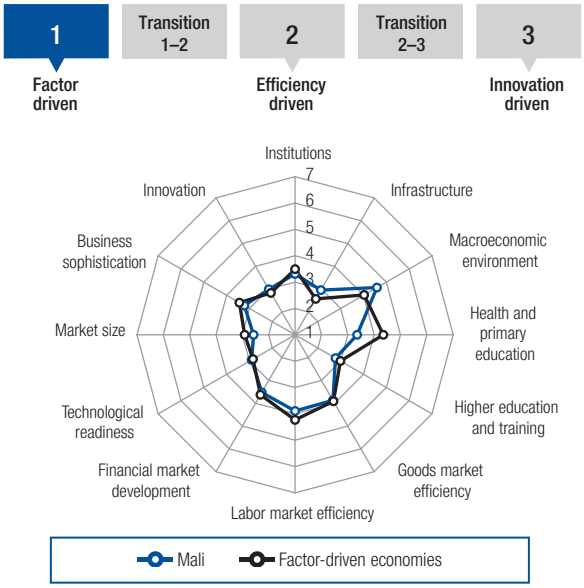
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

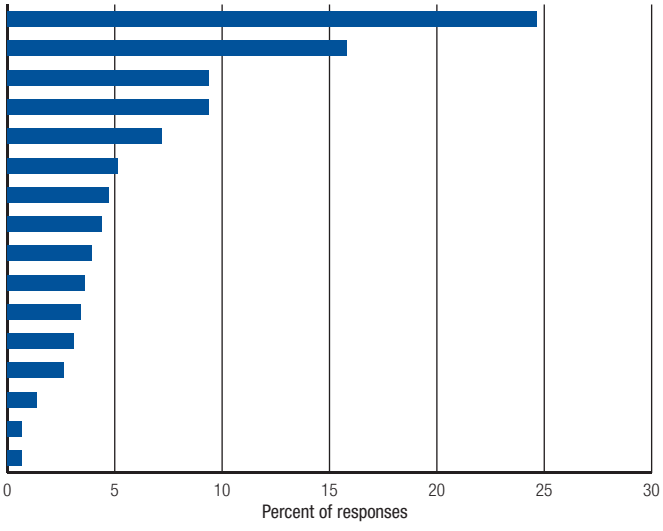
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**128**	**3.4**
GCI 2011–2012 (out of 142)	128	3.4
GCI 2010–2011 (out of 139)	132	3.3
Basic requirements (60.0%)	**125**	**3.6**
Institutions	120	3.3
Infrastructure	107	3.0
Macroeconomic environment	74	4.6
Health and primary education	141	3.4
Efficiency enhancers (35.0%)	**127**	**3.3**
Higher education and training	130	2.8
Goods market efficiency	111	3.9
Labor market efficiency	118	3.9
Financial market development	113	3.5
Technological readiness	119	2.9
Market size	118	2.6
Innovation and sophistication factors (5.0%)	**114**	**3.1**
Business sophistication	126	3.2
Innovation	88	3.0

Stage of development



The most problematic factors for doing business

Access to financing	24.6
Corruption	15.8
Inadequate supply of infrastructure	9.4
Inefficient government bureaucracy	9.4
Inadequately educated workforce	7.2
Tax rates	5.1
Tax regulations	4.7
Poor work ethic in national labor force	4.4
Policy instability	3.9
Government instability/coups	3.6
Restrictive labor regulations	3.4
Foreign currency regulations	3.1
Crime and theft	2.6
Insufficient capacity to innovate	1.4
Inflation	0.7
Poor public health	0.7



Note: 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 figure show the responses weighted according to their rankings.

Mali

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.6	108
1.02	Intellectual property protection	2.9	109
1.03	Diversion of public funds	2.5	116
1.04	Public trust in politicians	2.6	82
1.05	Irregular payments and bribes	2.4	139
1.06	Judicial independence	2.8	111
1.07	Favoritism in decisions of government officials	2.8	93
1.08	Wastefulness of government spending	3.2	74
1.09	Burden of government regulation	3.5	56
1.10	Efficiency of legal framework in settling disputes	3.5	85
1.11	Efficiency of legal framework in challenging regs.	3.5	82
1.12	Transparency of government policymaking	3.7	117
1.13	Gov't services for improved business performance	3.8	65
1.14	Business costs of terrorism	4.0	132
1.15	Business costs of crime and violence	4.2	103
1.16	Organized crime	4.4	109
1.17	Reliability of police services	3.6	103
1.18	Ethical behavior of firms	3.5	110
1.19	Strength of auditing and reporting standards	3.2	139
1.20	Efficacy of corporate boards	3.8	135
1.21	Protection of minority shareholders' interests	3.8	101
1.22	Strength of investor protection, 0–10 (best)*	3.7	120
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.8	89
2.02	Quality of roads	3.6	82
2.03	Quality of railroad infrastructure	2.7	61
2.04	Quality of port infrastructure	4.1	74
2.05	Quality of air transport infrastructure	4.2	92
2.06	Available airline seat kms/week, millions*	23.6	115
2.07	Quality of electricity supply	3.5	109
2.08	Mobile telephone subscriptions/100 pop.*	68.3	119
2.09	Fixed telephone lines/100 pop.*	0.7	131
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.3	42
3.02	Gross national savings, % GDP*	10.2	125
3.03	Inflation, annual % change*	3.1	27
3.04	General government debt, % GDP*	30.6	43
3.05	Country credit rating, 0–100 (best)*	23.7	119
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.1	143
4.02	Malaria cases/100,000 pop.*	18,093.2	125
4.03	Business impact of tuberculosis	4.4	111
4.04	Tuberculosis cases/100,000 pop.*	68.0	79
4.05	Business impact of HIV/AIDS	4.0	121
4.06	HIV prevalence, % adult pop.*	1.0	105
4.07	Infant mortality, deaths/1,000 live births*	99.2	143
4.08	Life expectancy, years*	51.0	136
4.09	Quality of primary education	2.5	127
4.10	Primary education enrollment, net %*	62.9	137
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	39.4	123
5.02	Tertiary education enrollment, gross %*	6.1	121
5.03	Quality of the educational system	2.9	118
5.04	Quality of math and science education	2.8	121
5.05	Quality of management schools	3.3	122
5.06	Internet access in schools	3.3	106
5.07	Availability of research and training services	3.6	101
5.08	Extent of staff training	3.1	131

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.2	110
6.02	Extent of market dominance	3.7	68
6.03	Effectiveness of anti-monopoly policy	3.9	76
6.04	Extent and effect of taxation	3.1	106
6.05	Total tax rate, % profits*	51.8	113
6.06	No. procedures to start a business*	4	20
6.07	No. days to start a business*	8	34
6.08	Agricultural policy costs	3.9	64
6.09	Prevalence of trade barriers	3.8	117
6.10	Trade tariffs, % duty*	11.4	117
6.11	Prevalence of foreign ownership	4.0	115
6.12	Business impact of rules on FDI	4.2	103
6.13	Burden of customs procedures	4.1	70
6.14	Imports as a percentage of GDP*	39.6	88
6.15	Degree of customer orientation	4.1	113
6.16	Buyer sophistication	2.3	136
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	78
7.02	Flexibility of wage determination	4.6	104
7.03	Hiring and firing practices	3.9	77
7.04	Redundancy costs, weeks of salary*	14	62
7.05	Pay and productivity	3.3	115
7.06	Reliance on professional management	3.3	136
7.07	Brain drain	3.0	102
7.08	Women in labor force, ratio to men*	0.53	124
	8th pillar: Financial market development		
8.01	Availability of financial services	3.8	112
8.02	Affordability of financial services	3.8	94
8.03	Financing through local equity market	3.1	93
8.04	Ease of access to loans	2.4	99
8.05	Venture capital availability	2.3	92
8.06	Soundness of banks	4.4	112
8.07	Regulation of securities exchanges	2.9	131
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.5	99
9.02	Firm-level technology absorption	4.5	87
9.03	FDI and technology transfer	4.3	93
9.04	Individuals using Internet, %*	2.0	137
9.05	Broadband Internet subscriptions/100 pop.*	0.0	136
9.06	Int'l Internet bandwidth, kb/s per user*	4.9	106
9.07	Mobile broadband subscriptions/100 pop.*	0.4	118
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.5	117
10.02	Foreign market size index, 1–7 (best)*	2.9	120
	11th pillar: Business sophistication		
11.01	Local supplier quantity	5.0	45
11.02	Local supplier quality	3.9	110
11.03	State of cluster development	3.1	113
11.04	Nature of competitive advantage	2.8	117
11.05	Value chain breadth	2.9	123
11.06	Control of international distribution	3.3	128
11.07	Production process sophistication	2.7	129
11.08	Extent of marketing	2.5	138
11.09	Willingness to delegate authority	2.8	137
	12th pillar: Innovation		
12.01	Capacity for innovation	2.7	111
12.02	Quality of scientific research institutions	3.6	66
12.03	Company spending on R&D	2.8	101
12.04	University-industry collaboration in R&D	3.1	111
12.05	Gov't procurement of advanced tech products	3.7	54
12.06	Availability of scientists and engineers	4.1	65
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Mauritania

Key indicators, 2011

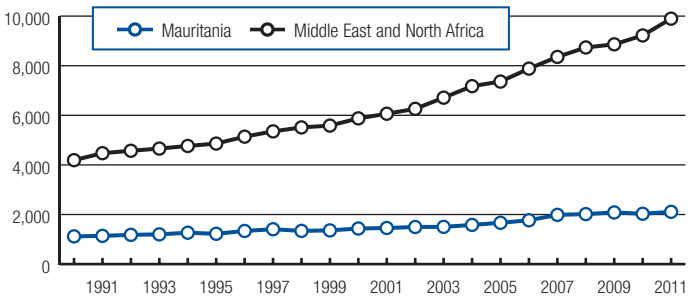
Population (millions) 3.5
GDP (US$ billions)* 4.2
GDP per capita (US$) 1,184.9
GDP (PPP) as share (%) of world total 0.01

Sectoral value-added (% GDP), 2011
Agriculture 16.3
Industry 46.2
Services 37.5

Human Development Index, 2011
Score, (0–1) best 0.45
Rank (out of 187 economies) 159

Sources: IMF; UNFPA; UNDP; World Bank

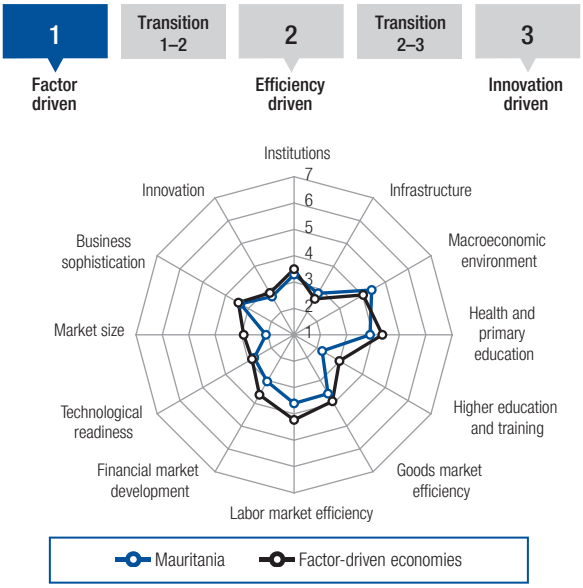
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

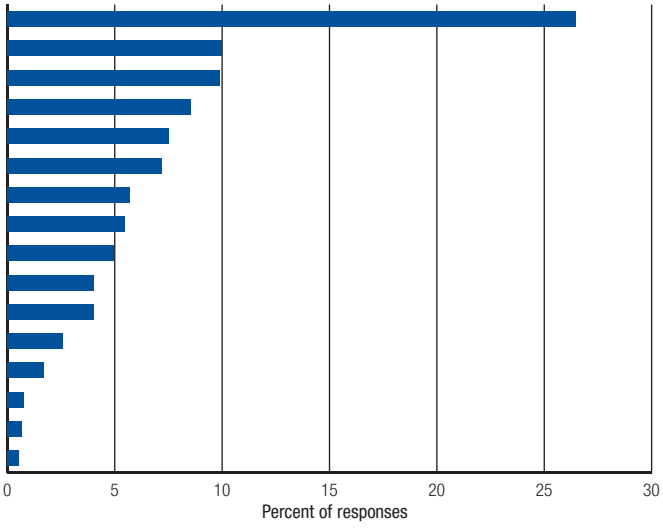
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**134**	**3.3**
GCI 2011–2012 (out of 142)	137	3.2
GCI 2010–2011 (out of 139)	135	3.1
Basic requirements (60.0%)	**124**	**3.6**
Institutions	122	3.3
Infrastructure	113	2.8
Macroeconomic environment	89	4.4
Health and primary education	133	3.9
Efficiency enhancers (35.0%)	**142**	**2.9**
Higher education and training	142	2.2
Goods market efficiency	135	3.6
Labor market efficiency	131	3.6
Financial market development	136	3.0
Technological readiness	123	2.7
Market size	131	2.1
Innovation and sophistication factors (5.0%)	**118**	**3.0**
Business sophistication	117	3.4
Innovation	121	2.7

Stage of development



The most problematic factors for doing business

Access to financing	26.5
Corruption	10.0
Inadequately educated workforce	9.9
Policy instability	8.5
Government instability/coups	7.5
Inadequate supply of infrastructure	7.2
Inefficient government bureaucracy	5.7
Restrictive labor regulations	5.5
Foreign currency regulations	5.0
Inflation	4.0
Poor work ethic in national labor force	4.0
Tax rates	2.6
Tax regulations	1.7
Insufficient capacity to innovate	0.8
Crime and theft	0.7
Poor public health	0.5



Note: 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 figure show the responses weighted according to their rankings.

Mauritania

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.4	117
1.02	Intellectual property protection	2.9	107
1.03	Diversion of public funds	2.6	111
1.04	Public trust in politicians	2.5	87
1.05	Irregular payments and bribes	3.0	122
1.06	Judicial independence	2.8	108
1.07	Favoritism in decisions of government officials	2.1	140
1.08	Wastefulness of government spending	2.4	117
1.09	Burden of government regulation	4.1	24
1.10	Efficiency of legal framework in settling disputes	3.3	92
1.11	Efficiency of legal framework in challenging regs.	3.6	72
1.12	Transparency of government policymaking	3.5	131
1.13	Gov't services for improved business performance	3.4	84
1.14	Business costs of terrorism	4.5	122
1.15	Business costs of crime and violence	5.3	50
1.16	Organized crime	5.7	53
1.17	Reliability of police services	2.9	130
1.18	Ethical behavior of firms	3.1	128
1.19	Strength of auditing and reporting standards	3.2	138
1.20	Efficacy of corporate boards	3.9	128
1.21	Protection of minority shareholders' interests	3.6	118
1.22	Strength of investor protection, 0–10 (best)*	3.7	120
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	2.8	133
2.02	Quality of roads	2.7	119
2.03	Quality of railroad infrastructure	2.0	91
2.04	Quality of port infrastructure	3.7	98
2.05	Quality of air transport infrastructure	2.8	138
2.06	Available airline seat kms/week, millions*	9.8	133
2.07	Quality of electricity supply	3.7	99
2.08	Mobile telephone subscriptions/100 pop.*	92.7	93
2.09	Fixed telephone lines/100 pop.*	2.0	119
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.5	44
3.02	Gross national savings, % GDP*	26.7	37
3.03	Inflation, annual % change*	5.7	86
3.04	General government debt, % GDP*	92.4	132
3.05	Country credit rating, 0–100 (best)*	20.1	125
	4th pillar: Health and primary education		
4.01	Business impact of malaria	4.4	111
4.02	Malaria cases/100,000 pop.*	15,494.9	124
4.03	Business impact of tuberculosis	4.7	101
4.04	Tuberculosis cases/100,000 pop.*	337.0	132
4.05	Business impact of HIV/AIDS	4.7	97
4.06	HIV prevalence, % adult pop.*	0.7	95
4.07	Infant mortality, deaths/1,000 live births*	75.3	134
4.08	Life expectancy, years*	58.2	120
4.09	Quality of primary education	2.0	141
4.10	Primary education enrollment, net %*	74.0	132
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	24.4	142
5.02	Tertiary education enrollment, gross %*	4.4	127
5.03	Quality of the educational system	2.3	138
5.04	Quality of math and science education	2.7	126
5.05	Quality of management schools	2.7	138
5.06	Internet access in schools	2.1	135
5.07	Availability of research and training services	3.3	122
5.08	Extent of staff training	2.7	141

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.9	125
6.02	Extent of market dominance	3.1	122
6.03	Effectiveness of anti-monopoly policy	3.5	107
6.04	Extent and effect of taxation	3.7	50
6.05	Total tax rate, % profits*	68.3	132
6.06	No. procedures to start a business*	9	97
6.07	No. days to start a business*	19	80
6.08	Agricultural policy costs	3.4	112
6.09	Prevalence of trade barriers	4.6	43
6.10	Trade tariffs, % duty*	11.5	121
6.11	Prevalence of foreign ownership	3.3	134
6.12	Business impact of rules on FDI	4.0	112
6.13	Burden of customs procedures	4.0	75
6.14	Imports as a percentage of GDP*	69.0	33
6.15	Degree of customer orientation	3.7	133
6.16	Buyer sophistication	2.3	135
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.3	138
7.02	Flexibility of wage determination	5.2	60
7.03	Hiring and firing practices	4.6	29
7.04	Redundancy costs, weeks of salary*	10	43
7.05	Pay and productivity	2.5	142
7.06	Reliance on professional management	2.7	140
7.07	Brain drain	2.5	119
7.08	Women in labor force, ratio to men*	0.36	134
	8th pillar: Financial market development		
8.01	Availability of financial services	3.6	125
8.02	Affordability of financial services	3.5	114
8.03	Financing through local equity market	2.7	111
8.04	Ease of access to loans	1.9	130
8.05	Venture capital availability	2.1	119
8.06	Soundness of banks	4.4	118
8.07	Regulation of securities exchanges	2.8	133
8.08	Legal rights index, 0–10 (best)*	3	118
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.2	116
9.02	Firm-level technology absorption	4.3	107
9.03	FDI and technology transfer	3.5	138
9.04	Individuals using Internet, %*	4.5	128
9.05	Broadband Internet subscriptions/100 pop.*	0.2	117
9.06	Int'l Internet bandwidth, kb/s per user*	3.9	114
9.07	Mobile broadband subscriptions/100 pop.*	0.5	115
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.8	133
10.02	Foreign market size index, 1–7 (best)*	2.9	121
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.9	52
11.02	Local supplier quality	3.6	133
11.03	State of cluster development	3.4	89
11.04	Nature of competitive advantage	3.3	85
11.05	Value chain breadth	3.2	101
11.06	Control of international distribution	4.1	57
11.07	Production process sophistication	2.7	126
11.08	Extent of marketing	2.4	141
11.09	Willingness to delegate authority	2.9	136
	12th pillar: Innovation		
12.01	Capacity for innovation	2.7	108
12.02	Quality of scientific research institutions	2.7	121
12.03	Company spending on R&D	2.6	114
12.04	University-industry collaboration in R&D	2.6	129
12.05	Gov't procurement of advanced tech products	3.4	82
12.06	Availability of scientists and engineers	3.5	114
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Mauritius

Key indicators, 2011

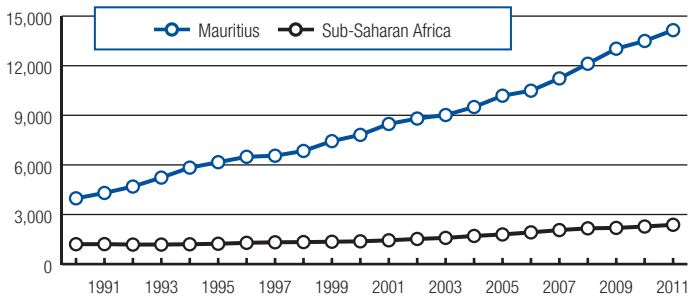
Population (millions) 1.3
GDP (US$ billions)* 11.3
GDP per capita (US$) 8,741.5
GDP (PPP) as share (%) of world total 0.02

Sectoral value-added (% GDP), 2011
Agriculture 3.5
Industry 26.6
Services 69.9

Human Development Index, 2011
Score, (0–1) best 0.73
Rank (out of 187 economies) 77

Sources: IMF; UNFPA; UNDP; World Bank

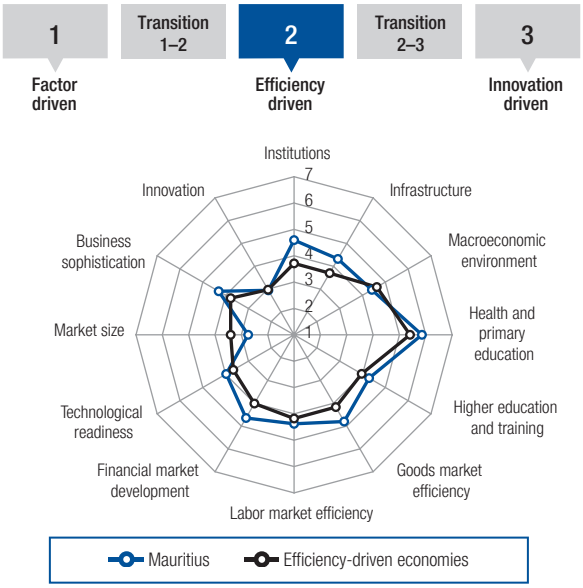
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

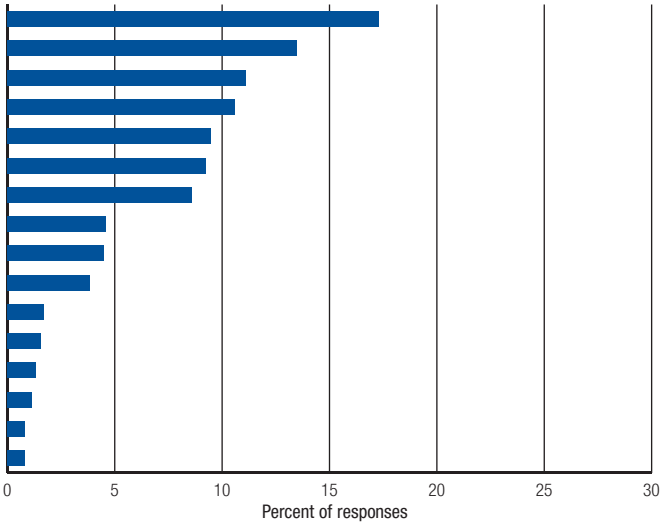
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**54**	**4.4**
GCI 2011–2012 (out of 142)	54	4.3
GCI 2010–2011 (out of 139)	55	4.3
Basic requirements (40.0%)	**52**	**4.8**
Institutions	39	4.6
Infrastructure	54	4.3
Macroeconomic environment	87	4.4
Health and primary education	54	5.9
Efficiency enhancers (50.0%)	**62**	**4.1**
Higher education and training	65	4.3
Goods market efficiency	27	4.8
Labor market efficiency	70	4.4
Financial market development	35	4.6
Technological readiness	63	4.0
Market size	109	2.7
Innovation and sophistication factors (10.0%)	**63**	**3.6**
Business sophistication	41	4.3
Innovation	98	2.9

Stage of development



The most problematic factors for doing business

Inefficient government bureaucracy 17.3
Access to financing 13.5
Inadequate supply of infrastructure 11.1
Inadequately educated workforce 10.6
Insufficient capacity to innovate 9.5
Corruption 9.2
Poor work ethic in national labor force 8.6
Restrictive labor regulations 4.6
Inflation 4.5
Policy instability 3.8
Crime and theft 1.7
Foreign currency regulations 1.6
Tax rates 1.3
Poor public health 1.1
Government instability/coups 0.8
Tax regulations 0.8



Note: 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 figure show the responses weighted according to their rankings.

Mauritius

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	5.2	36
1.02	Intellectual property protection	3.8	54
1.03	Diversion of public funds	3.8	48
1.04	Public trust in politicians	3.1	58
1.05	Irregular payments and bribes	4.7	44
1.06	Judicial independence	5.1	34
1.07	Favoritism in decisions of government officials	3.2	60
1.08	Wastefulness of government spending	3.7	38
1.09	Burden of government regulation	3.7	50
1.10	Efficiency of legal framework in settling disputes	4.7	26
1.11	Efficiency of legal framework in challenging regs.	4.5	30
1.12	Transparency of government policymaking	4.7	42
1.13	Gov't services for improved business performance	4.2	35
1.14	Business costs of terrorism	6.2	35
1.15	Business costs of crime and violence	5.1	60
1.16	Organized crime	6.3	17
1.17	Reliability of police services	4.5	57
1.18	Ethical behavior of firms	4.4	43
1.19	Strength of auditing and reporting standards	5.6	22
1.20	Efficacy of corporate boards	4.9	32
1.21	Protection of minority shareholders' interests	5.2	19
1.22	Strength of investor protection, 0–10 (best)*	7.7	13
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.7	53
2.02	Quality of roads	4.3	58
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	4.8	48
2.05	Quality of air transport infrastructure	5.2	49
2.06	Available airline seat kms/week, millions*	175.6	68
2.07	Quality of electricity supply	5.0	66
2.08	Mobile telephone subscriptions/100 pop.*	99.0	86
2.09	Fixed telephone lines/100 pop.*	28.7	43
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-3.4	75
3.02	Gross national savings, % GDP*	14.4	103
3.03	Inflation, annual % change*	6.5	95
3.04	General government debt, % GDP*	50.6	97
3.05	Country credit rating, 0–100 (best)*	53.5	61
	4th pillar: Health and primary education		
4.01	Business impact of malaria	n/appl.	1
4.02	Malaria cases/100,000 pop.*	(NE)	1
4.03	Business impact of tuberculosis	5.7	53
4.04	Tuberculosis cases/100,000 pop.*	22.0	50
4.05	Business impact of HIV/AIDS	5.1	85
4.06	HIV prevalence, % adult pop.*	1.0	105
4.07	Infant mortality, deaths/1,000 live births*	13.0	62
4.08	Life expectancy, years*	73.0	82
4.09	Quality of primary education	4.2	53
4.10	Primary education enrollment, net %*	93.4	72
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	89.4	67
5.02	Tertiary education enrollment, gross %*	24.9	82
5.03	Quality of the educational system	4.1	46
5.04	Quality of math and science education	4.3	49
5.05	Quality of management schools	4.1	76
5.06	Internet access in schools	4.1	72
5.07	Availability of research and training services	4.2	67
5.08	Extent of staff training	4.3	37

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	5.2	42
6.02	Extent of market dominance	3.5	86
6.03	Effectiveness of anti-monopoly policy	4.5	40
6.04	Extent and effect of taxation	5.1	9
6.05	Total tax rate, % profits*	25.0	21
6.06	No. procedures to start a business*	5	29
6.07	No. days to start a business*	6	16
6.08	Agricultural policy costs	4.5	23
6.09	Prevalence of trade barriers	4.9	27
6.10	Trade tariffs, % duty*	1.1	34
6.11	Prevalence of foreign ownership	4.6	81
6.12	Business impact of rules on FDI	5.5	9
6.13	Burden of customs procedures	4.6	40
6.14	Imports as a percentage of GDP*	67.9	35
6.15	Degree of customer orientation	5.0	41
6.16	Buyer sophistication	3.7	49
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.6	44
7.02	Flexibility of wage determination	4.4	108
7.03	Hiring and firing practices	3.9	78
7.04	Redundancy costs, weeks of salary*	11	45
7.05	Pay and productivity	3.9	71
7.06	Reliance on professional management	4.4	54
7.07	Brain drain	3.4	66
7.08	Women in labor force, ratio to men*	0.60	116
	8th pillar: Financial market development		
8.01	Availability of financial services	5.0	47
8.02	Affordability of financial services	4.6	41
8.03	Financing through local equity market	4.0	43
8.04	Ease of access to loans	3.4	37
8.05	Venture capital availability	2.8	56
8.06	Soundness of banks	6.2	15
8.07	Regulation of securities exchanges	5.3	22
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	5.3	48
9.02	Firm-level technology absorption	4.9	55
9.03	FDI and technology transfer	4.9	48
9.04	Individuals using Internet, %*	35.0	81
9.05	Broadband Internet subscriptions/100 pop.*	8.9	60
9.06	Int'l Internet bandwidth, kb/s per user*	12.7	74
9.07	Mobile broadband subscriptions/100 pop.*	12.4	63
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.5	110
10.02	Foreign market size index, 1–7 (best)*	3.5	103
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.9	53
11.02	Local supplier quality	4.7	55
11.03	State of cluster development	3.9	56
11.04	Nature of competitive advantage	4.0	38
11.05	Value chain breadth	4.4	28
11.06	Control of international distribution	4.6	23
11.07	Production process sophistication	4.1	47
11.08	Extent of marketing	4.2	62
11.09	Willingness to delegate authority	3.8	56
	12th pillar: Innovation		
12.01	Capacity for innovation	2.7	112
12.02	Quality of scientific research institutions	3.4	83
12.03	Company spending on R&D	2.8	96
12.04	University-industry collaboration in R&D	3.3	91
12.05	Gov't procurement of advanced tech products	3.5	74
12.06	Availability of scientists and engineers	3.4	116
12.07	PCT patents, applications/million pop.*	0.3	85

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Morocco

Key indicators, 2011

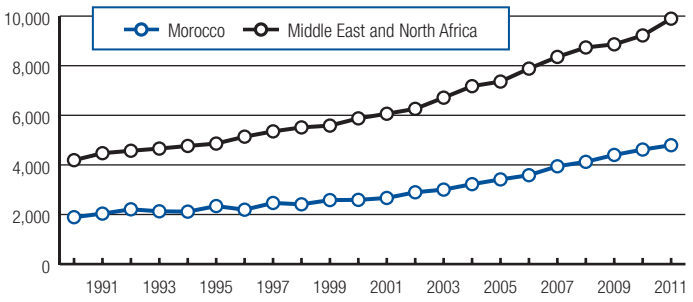
Population (millions) 32.5
GDP (US$ billions)* 99.3
GDP per capita (US$) 3,084.4
GDP (PPP) as share (%) of world total 0.21

Sectoral value-added (% GDP), 2011
Agriculture 15.1
Industry 29.9
Services 55.1

Human Development Index, 2011
Score, (0–1) best 0.58
Rank (out of 187 economies) 130

Sources: IMF; UNFPA; UNDP; World Bank

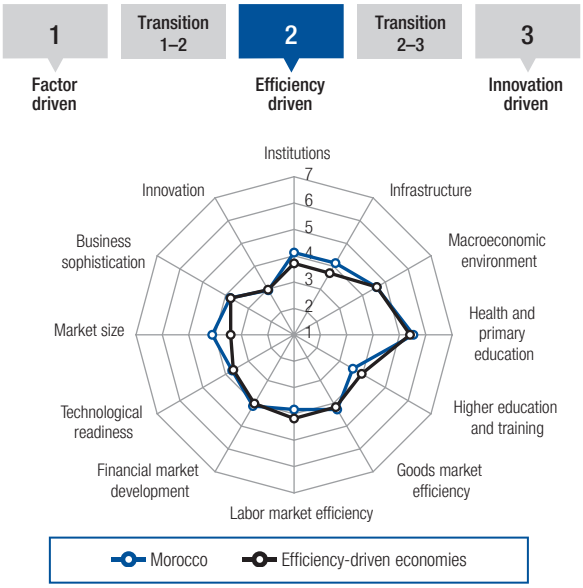
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

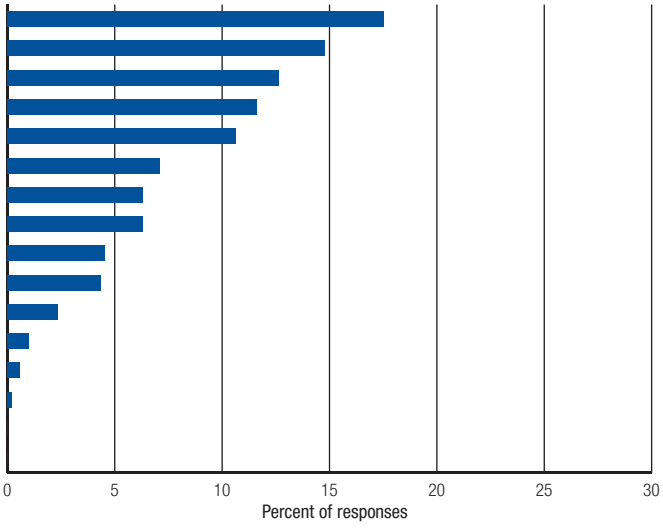
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**70**	**4.1**
GCI 2011–2012 (out of 142)	73	4.2
GCI 2010–2011 (out of 139)	75	4.1
Basic requirements (40.0%)	**68**	**4.6**
Institutions	54	4.1
Infrastructure	61	4.1
Macroeconomic environment	70	4.6
Health and primary education	81	5.5
Efficiency enhancers (50.0%)	**79**	**3.9**
Higher education and training	101	3.6
Goods market efficiency	69	4.3
Labor market efficiency	122	3.8
Financial market development	63	4.1
Technological readiness	75	3.7
Market size	57	4.1
Innovation and sophistication factors (10.0%)	**84**	**3.4**
Business sophistication	81	3.8
Innovation	97	3.0

Stage of development



The most problematic factors for doing business

Inefficient government bureaucracy 17.6
Access to financing 14.8
Corruption 12.6
Inadequately educated workforce 11.6
Foreign currency regulations 10.7
Poor work ethic in national labor force 7.1
Insufficient capacity to innovate 6.3
Restrictive labor regulations 6.3
Tax rates 4.5
Inadequate supply of infrastructure 4.3
Tax regulations 2.4
Crime and theft 1.0
Poor public health 0.6
Policy instability 0.2
Government instability/coups 0.0
Inflation 0.0



Note: 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 figure show the responses weighted according to their rankings.

Morocco

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.6	53
1.02	Intellectual property protection	3.4	82
1.03	Diversion of public funds	3.7	52
1.04	Public trust in politicians	3.2	52
1.05	Irregular payments and bribes	4.2	60
1.06	Judicial independence	3.5	81
1.07	Favoritism in decisions of government officials	3.6	42
1.08	Wastefulness of government spending	3.4	60
1.09	Burden of government regulation	3.4	64
1.10	Efficiency of legal framework in settling disputes	4.0	54
1.11	Efficiency of legal framework in challenging regs.	3.8	60
1.12	Transparency of government policymaking	4.4	53
1.13	Gov't services for improved business performance	4.0	47
1.14	Business costs of terrorism	5.6	72
1.15	Business costs of crime and violence	5.1	57
1.16	Organized crime	5.8	42
1.17	Reliability of police services	4.3	64
1.18	Ethical behavior of firms	4.0	67
1.19	Strength of auditing and reporting standards	4.3	89
1.20	Efficacy of corporate boards	4.8	45
1.21	Protection of minority shareholders' interests	4.5	47
1.22	Strength of investor protection, 0–10 (best)*	5.0	80
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.8	52
2.02	Quality of roads	4.0	70
2.03	Quality of railroad infrastructure	3.9	36
2.04	Quality of port infrastructure	4.8	49
2.05	Quality of air transport infrastructure	5.1	52
2.06	Available airline seat kms/week, millions*	402.1	46
2.07	Quality of electricity supply	5.2	56
2.08	Mobile telephone subscriptions/100 pop.*	113.3	56
2.09	Fixed telephone lines/100 pop.*	11.0	88
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-6.9	131
3.02	Gross national savings, % GDP*	27.2	33
3.03	Inflation, annual % change*	0.9	1
3.04	General government debt, % GDP*	54.4	102
3.05	Country credit rating, 0–100 (best)*	52.5	64
	4th pillar: Health and primary education		
4.01	Business impact of malaria	n/appl.	1
4.02	Malaria cases/100,000 pop.*	(NE)	1
4.03	Business impact of tuberculosis	5.3	77
4.04	Tuberculosis cases/100,000 pop.*	91.0	89
4.05	Business impact of HIV/AIDS	5.1	81
4.06	HIV prevalence, % adult pop.*	0.1	12
4.07	Infant mortality, deaths/1,000 live births*	30.4	101
4.08	Life expectancy, years*	71.9	89
4.09	Quality of primary education	3.1	108
4.10	Primary education enrollment, net %*	95.7	48
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	56.1	113
5.02	Tertiary education enrollment, gross %*	13.2	102
5.03	Quality of the educational system	3.1	105
5.04	Quality of math and science education	4.3	53
5.05	Quality of management schools	4.5	47
5.06	Internet access in schools	3.5	95
5.07	Availability of research and training services	4.3	58
5.08	Extent of staff training	3.9	75

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	5.0	57
6.02	Extent of market dominance	3.9	58
6.03	Effectiveness of anti-monopoly policy	4.2	56
6.04	Extent and effect of taxation	3.6	62
6.05	Total tax rate, % profits*	49.6	111
6.06	No. procedures to start a business*	6	47
6.07	No. days to start a business*	12	53
6.08	Agricultural policy costs	3.8	80
6.09	Prevalence of trade barriers	4.5	57
6.10	Trade tariffs, % duty*	16.5	136
6.11	Prevalence of foreign ownership	5.1	49
6.12	Business impact of rules on FDI	5.1	33
6.13	Burden of customs procedures	4.5	42
6.14	Imports as a percentage of GDP*	50.8	61
6.15	Degree of customer orientation	4.6	65
6.16	Buyer sophistication	3.3	77
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.8	120
7.02	Flexibility of wage determination	5.1	64
7.03	Hiring and firing practices	3.9	74
7.04	Redundancy costs, weeks of salary*	21	92
7.05	Pay and productivity	4.2	50
7.06	Reliance on professional management	3.8	98
7.07	Brain drain	3.6	55
7.08	Women in labor force, ratio to men*	0.34	137
	8th pillar: Financial market development		
8.01	Availability of financial services	4.7	59
8.02	Affordability of financial services	4.4	55
8.03	Financing through local equity market	4.3	31
8.04	Ease of access to loans	3.0	59
8.05	Venture capital availability	3.0	38
8.06	Soundness of banks	5.5	53
8.07	Regulation of securities exchanges	4.8	37
8.08	Legal rights index, 0–10 (best)*	3	118
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	5.3	53
9.02	Firm-level technology absorption	4.7	75
9.03	FDI and technology transfer	4.9	46
9.04	Individuals using Internet, %*	51.0	54
9.05	Broadband Internet subscriptions/100 pop.*	1.8	93
9.06	Int'l Internet bandwidth, kb/s per user*	7.6	93
9.07	Mobile broadband subscriptions/100 pop.*	8.0	74
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	4.0	54
10.02	Foreign market size index, 1–7 (best)*	4.5	61
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.8	65
11.02	Local supplier quality	4.4	76
11.03	State of cluster development	4.0	51
11.04	Nature of competitive advantage	3.4	77
11.05	Value chain breadth	3.6	70
11.06	Control of international distribution	3.6	111
11.07	Production process sophistication	3.3	97
11.08	Extent of marketing	3.8	82
11.09	Willingness to delegate authority	3.3	101
	12th pillar: Innovation		
12.01	Capacity for innovation	2.6	115
12.02	Quality of scientific research institutions	3.2	104
12.03	Company spending on R&D	2.6	119
12.04	University-industry collaboration in R&D	3.0	116
12.05	Gov't procurement of advanced tech products	3.6	72
12.06	Availability of scientists and engineers	4.5	38
12.07	PCT patents, applications/million pop.*	0.7	71

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Mozambique

Key indicators, 2011

Population (millions)	24.0
GDP (US$ billions)*	12.6
GDP per capita (US$)	571.0
GDP (PPP) as share (%) of world total	0.03

Sectoral value-added (% GDP), 2011

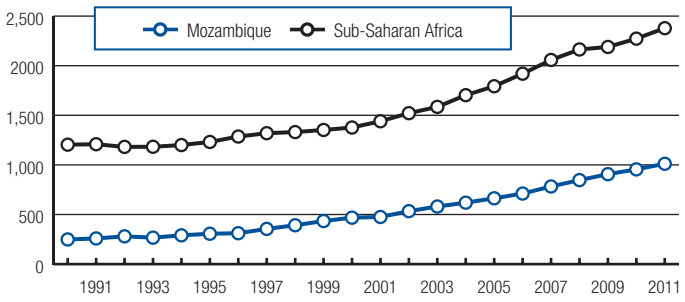
Agriculture	32.0
Industry	24.2
Services	43.8

Human Development Index, 2011

Score, (0–1) best	0.32
Rank (out of 187 economies)	184

Sources: IMF; UNFPA; UNDP; World Bank

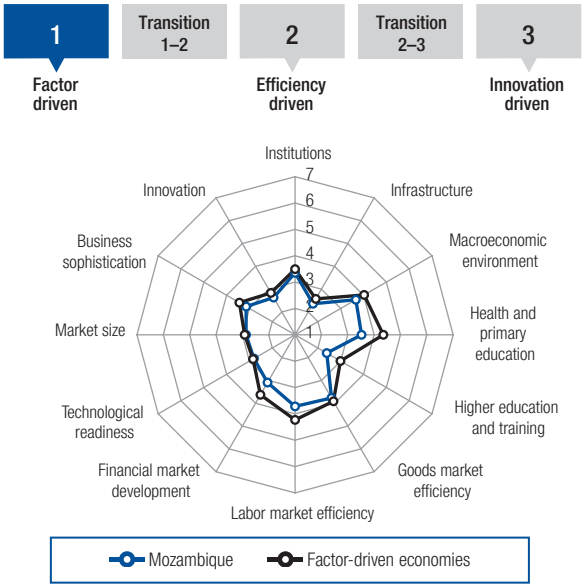
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

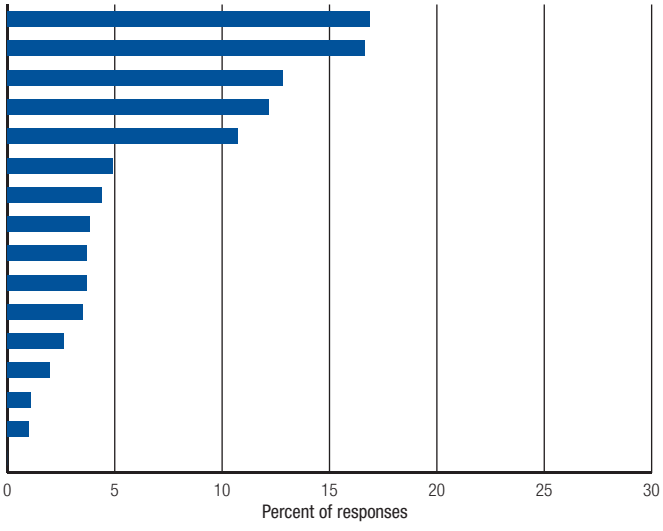
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**138**	**3.2**
GCI 2011–2012 (out of 142)	133	3.3
GCI 2010–2011 (out of 139)	131	3.3
Basic requirements (60.0%)	**138**	**3.2**
Institutions	112	3.4
Infrastructure	129	2.4
Macroeconomic environment	125	3.7
Health and primary education	137	3.5
Efficiency enhancers (35.0%)	**133**	**3.1**
Higher education and training	138	2.4
Goods market efficiency	124	3.8
Labor market efficiency	128	3.7
Financial market development	134	3.1
Technological readiness	121	2.8
Market size	101	2.9
Innovation and sophistication factors (5.0%)	**130**	**2.9**
Business sophistication	131	3.1
Innovation	122	2.6

Stage of development



The most problematic factors for doing business

Access to financing	16.9
Corruption	16.6
Inadequate supply of infrastructure	12.8
Inefficient government bureaucracy	12.2
Inadequately educated workforce	10.7
Poor work ethic in national labor force	4.9
Tax rates	4.4
Tax regulations	3.8
Crime and theft	3.7
Inflation	3.7
Foreign currency regulations	3.5
Insufficient capacity to innovate	2.6
Restrictive labor regulations	2.0
Poor public health	1.1
Policy instability	1.0
Government instability/coups	0.0



Note: 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 figure show the responses weighted according to their rankings.

Mozambique

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.5	112
1.02	Intellectual property protection	2.6	128
1.03	Diversion of public funds	2.3	128
1.04	Public trust in politicians	2.4	89
1.05	Irregular payments and bribes	3.6	88
1.06	Judicial independence	2.4	130
1.07	Favoritism in decisions of government officials	2.9	83
1.08	Wastefulness of government spending	2.8	102
1.09	Burden of government regulation	3.4	70
1.10	Efficiency of legal framework in settling disputes	3.3	93
1.11	Efficiency of legal framework in challenging regs.	3.0	109
1.12	Transparency of government policymaking	4.3	70
1.13	Gov't services for improved business performance	3.7	67
1.14	Business costs of terrorism	4.9	111
1.15	Business costs of crime and violence	4.2	104
1.16	Organized crime	4.1	117
1.17	Reliability of police services	3.4	112
1.18	Ethical behavior of firms	3.2	122
1.19	Strength of auditing and reporting standards	3.9	116
1.20	Efficacy of corporate boards	3.9	123
1.21	Protection of minority shareholders' interests	3.8	102
1.22	Strength of investor protection, 0–10 (best)*	6.0	39
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.0	126
2.02	Quality of roads	2.4	135
2.03	Quality of railroad infrastructure	2.0	89
2.04	Quality of port infrastructure	3.4	116
2.05	Quality of air transport infrastructure	3.9	103
2.06	Available airline seat kms/week, millions*	31.0	107
2.07	Quality of electricity supply	3.2	111
2.08	Mobile telephone subscriptions/100 pop.*	32.8	140
2.09	Fixed telephone lines/100 pop.*	0.4	137
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-4.9	108
3.02	Gross national savings, % GDP*	11.2	121
3.03	Inflation, annual % change*	10.4	124
3.04	General government debt, % GDP*	33.2	51
3.05	Country credit rating, 0–100 (best)*	27.9	110
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.9	134
4.02	Malaria cases/100,000 pop.*	32,977.9	140
4.03	Business impact of tuberculosis	3.2	138
4.04	Tuberculosis cases/100,000 pop.*	544.0	137
4.05	Business impact of HIV/AIDS	2.9	137
4.06	HIV prevalence, % adult pop.*	11.5	137
4.07	Infant mortality, deaths/1,000 live births*	92.2	140
4.08	Life expectancy, years*	49.7	139
4.09	Quality of primary education	2.3	133
4.10	Primary education enrollment, net %*	89.6	98
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	26.4	139
5.02	Tertiary education enrollment, gross %*	1.5	139
5.03	Quality of the educational system	2.9	119
5.04	Quality of math and science education	2.6	131
5.05	Quality of management schools	2.9	133
5.06	Internet access in schools	2.7	121
5.07	Availability of research and training services	3.1	128
5.08	Extent of staff training	3.2	119

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.8	133
6.02	Extent of market dominance	2.9	133
6.03	Effectiveness of anti-monopoly policy	3.1	134
6.04	Extent and effect of taxation	3.5	65
6.05	Total tax rate, % profits*	34.3	52
6.06	No. procedures to start a business*	9	97
6.07	No. days to start a business*	13	59
6.08	Agricultural policy costs	3.0	135
6.09	Prevalence of trade barriers	3.7	118
6.10	Trade tariffs, % duty*	7.5	89
6.11	Prevalence of foreign ownership	5.0	55
6.12	Business impact of rules on FDI	4.6	73
6.13	Burden of customs procedures	3.5	101
6.14	Imports as a percentage of GDP*	59.1	43
6.15	Degree of customer orientation	3.8	127
6.16	Buyer sophistication	2.7	121
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.6	126
7.02	Flexibility of wage determination	3.9	127
7.03	Hiring and firing practices	3.5	102
7.04	Redundancy costs, weeks of salary*	41	133
7.05	Pay and productivity	2.9	135
7.06	Reliance on professional management	3.4	132
7.07	Brain drain	3.4	76
7.08	Women in labor force, ratio to men*	1.05	2
	8th pillar: Financial market development		
8.01	Availability of financial services	3.8	114
8.02	Affordability of financial services	3.3	126
8.03	Financing through local equity market	2.6	119
8.04	Ease of access to loans	1.9	131
8.05	Venture capital availability	1.9	128
8.06	Soundness of banks	5.0	78
8.07	Regulation of securities exchanges	3.2	122
8.08	Legal rights index, 0–10 (best)*	2	135
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.3	111
9.02	Firm-level technology absorption	4.3	110
9.03	FDI and technology transfer	5.0	41
9.04	Individuals using Internet, %*	4.3	129
9.05	Broadband Internet subscriptions/100 pop.*	0.1	124
9.06	Int'l Internet bandwidth, kb/s per user*	1.2	131
9.07	Mobile broadband subscriptions/100 pop.*	1.0	111
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.7	100
10.02	Foreign market size index, 1–7 (best)*	3.4	107
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.8	133
11.02	Local supplier quality	3.4	139
11.03	State of cluster development	3.3	96
11.04	Nature of competitive advantage	2.7	122
11.05	Value chain breadth	2.6	135
11.06	Control of international distribution	3.4	125
11.07	Production process sophistication	2.7	127
11.08	Extent of marketing	3.3	115
11.09	Willingness to delegate authority	2.9	135
	12th pillar: Innovation		
12.01	Capacity for innovation	2.3	132
12.02	Quality of scientific research institutions	2.9	112
12.03	Company spending on R&D	2.5	128
12.04	University-industry collaboration in R&D	3.5	78
12.05	Gov't procurement of advanced tech products	3.4	84
12.06	Availability of scientists and engineers	2.8	137
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Namibia

Key indicators, 2011

Population (millions)	2.3
GDP (US$ billions)*	12.5
GDP per capita (US$)	5,862.0
GDP (PPP) as share (%) of world total	0.02

Sectoral value-added (% GDP), 2011

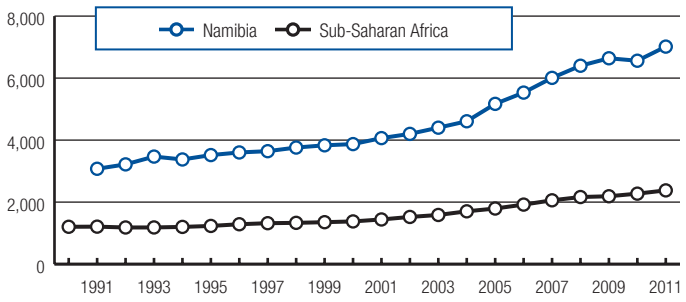
Agriculture	7.3
Industry	19.6
Services	73.1

Human Development Index, 2011

Score, (0–1) best	0.63
Rank (out of 187 economies)	120

Sources: IMF; UNFPA; UNDP; World Bank

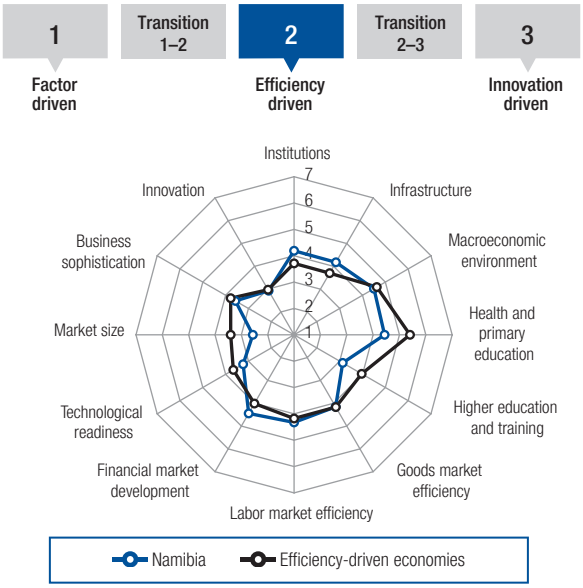
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

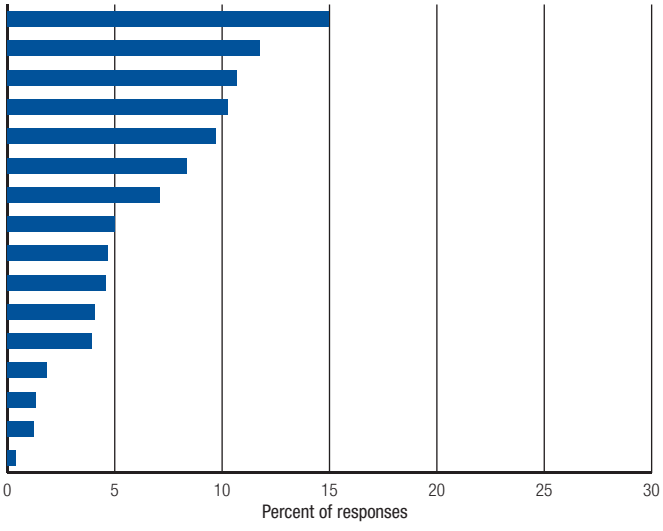
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**92**	**3.9**
GCI 2011–2012 (out of 142)	83	4.0
GCI 2010–2011 (out of 139)	74	4.1
Basic requirements (40.0%)	**82**	**4.3**
Institutions	52	4.2
Infrastructure	59	4.2
Macroeconomic environment	84	4.5
Health and primary education	120	4.4
Efficiency enhancers (50.0%)	**105**	**3.6**
Higher education and training	119	3.1
Goods market efficiency	87	4.2
Labor market efficiency	74	4.3
Financial market development	47	4.4
Technological readiness	104	3.2
Market size	120	2.6
Innovation and sophistication factors (10.0%)	**103**	**3.3**
Business sophistication	102	3.6
Innovation	101	2.9

Stage of development



The most problematic factors for doing business

Inadequately educated workforce	15.0
Access to financing	11.8
Corruption	10.7
Restrictive labor regulations	10.3
Inefficient government bureaucracy	9.7
Poor work ethic in national labor force	8.4
Crime and theft	7.1
Tax rates	5.0
Inadequate supply of infrastructure	4.7
Inflation	4.6
Insufficient capacity to innovate	4.1
Tax regulations	3.9
Poor public health	1.8
Foreign currency regulations	1.3
Policy instability	1.3
Government instability/coups	0.4



Note: 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 figure show the responses weighted according to their rankings.

Namibia

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	5.1	40
1.02	Intellectual property protection	4.3	43
1.03	Diversion of public funds	3.1	71
1.04	Public trust in politicians	3.3	46
1.05	Irregular payments and bribes	4.2	61
1.06	Judicial independence	4.6	44
1.07	Favoritism in decisions of government officials	2.8	88
1.08	Wastefulness of government spending	3.4	55
1.09	Burden of government regulation	3.4	68
1.10	Efficiency of legal framework in settling disputes	4.4	38
1.11	Efficiency of legal framework in challenging regs.	4.1	42
1.12	Transparency of government policymaking	4.1	85
1.13	Gov't services for improved business performance	3.4	88
1.14	Business costs of terrorism	6.2	34
1.15	Business costs of crime and violence	3.8	113
1.16	Organized crime	5.3	70
1.17	Reliability of police services	4.2	73
1.18	Ethical behavior of firms	4.0	59
1.19	Strength of auditing and reporting standards	5.3	31
1.20	Efficacy of corporate boards	4.4	81
1.21	Protection of minority shareholders' interests	4.7	40
1.22	Strength of investor protection, 0–10 (best)*	5.3	65
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	5.1	40
2.02	Quality of roads	5.1	35
2.03	Quality of railroad infrastructure	3.7	39
2.04	Quality of port infrastructure	5.4	27
2.05	Quality of air transport infrastructure	4.9	59
2.06	Available airline seat kms/week, millions*	34.5	105
2.07	Quality of electricity supply	5.4	52
2.08	Mobile telephone subscriptions/100 pop.*	105.0	75
2.09	Fixed telephone lines/100 pop.*	6.0	105
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-7.9	134
3.02	Gross national savings, % GDP*	26.0	40
3.03	Inflation, annual % change*	5.8	88
3.04	General government debt, % GDP*	21.9	29
3.05	Country credit rating, 0–100 (best)*	51.0	68
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.8	124
4.02	Malaria cases/100,000 pop.*	3,764.2	117
4.03	Business impact of tuberculosis	3.1	139
4.04	Tuberculosis cases/100,000 pop.*	603.0	139
4.05	Business impact of HIV/AIDS	2.6	142
4.06	HIV prevalence, % adult pop.*	13.1	138
4.07	Infant mortality, deaths/1,000 live births*	29.3	100
4.08	Life expectancy, years*	62.1	115
4.09	Quality of primary education	2.8	120
4.10	Primary education enrollment, net %*	85.4	113
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	64.0	106
5.02	Tertiary education enrollment, gross %*	9.0	115
5.03	Quality of the educational system	2.7	126
5.04	Quality of math and science education	2.7	127
5.05	Quality of management schools	3.1	129
5.06	Internet access in schools	3.1	110
5.07	Availability of research and training services	3.0	131
5.08	Extent of staff training	4.1	55

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.5	91
6.02	Extent of market dominance	3.5	85
6.03	Effectiveness of anti-monopoly policy	4.1	63
6.04	Extent and effect of taxation	3.7	51
6.05	Total tax rate, % profits*	9.8	3
6.06	No. procedures to start a business*	10	110
6.07	No. days to start a business*	66	132
6.08	Agricultural policy costs	4.3	37
6.09	Prevalence of trade barriers	4.2	77
6.10	Trade tariffs, % duty*	6.7	82
6.11	Prevalence of foreign ownership	5.1	50
6.12	Business impact of rules on FDI	4.5	84
6.13	Burden of customs procedures	3.8	82
6.14	Imports as a percentage of GDP*	56.4	47
6.15	Degree of customer orientation	3.7	131
6.16	Buyer sophistication	3.5	65
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.8	116
7.02	Flexibility of wage determination	4.6	101
7.03	Hiring and firing practices	3.0	130
7.04	Redundancy costs, weeks of salary*	10	35
7.05	Pay and productivity	3.5	107
7.06	Reliance on professional management	4.2	76
7.07	Brain drain	3.3	80
7.08	Women in labor force, ratio to men*	0.84	56
	8th pillar: Financial market development		
8.01	Availability of financial services	4.9	55
8.02	Affordability of financial services	4.0	82
8.03	Financing through local equity market	3.4	72
8.04	Ease of access to loans	2.9	64
8.05	Venture capital availability	2.4	82
8.06	Soundness of banks	5.9	29
8.07	Regulation of securities exchanges	4.5	51
8.08	Legal rights index, 0–10 (best)*	8	24
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	5.2	61
9.02	Firm-level technology absorption	4.8	65
9.03	FDI and technology transfer	4.4	86
9.04	Individuals using Internet, %*	12.0	113
9.05	Broadband Internet subscriptions/100 pop.*	0.8	104
9.06	Int'l Internet bandwidth, kb/s per user*	2.3	121
9.07	Mobile broadband subscriptions/100 pop.*	3.6	90
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.3	121
10.02	Foreign market size index, 1–7 (best)*	3.2	111
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.8	132
11.02	Local supplier quality	4.2	89
11.03	State of cluster development	3.4	88
11.04	Nature of competitive advantage	3.2	94
11.05	Value chain breadth	2.9	122
11.06	Control of international distribution	3.6	110
11.07	Production process sophistication	3.3	98
11.08	Extent of marketing	3.7	94
11.09	Willingness to delegate authority	3.7	72
	12th pillar: Innovation		
12.01	Capacity for innovation	2.9	90
12.02	Quality of scientific research institutions	3.4	92
12.03	Company spending on R&D	2.9	86
12.04	University-industry collaboration in R&D	3.5	73
12.05	Gov't procurement of advanced tech products	3.3	90
12.06	Availability of scientists and engineers	2.8	138
12.07	PCT patents, applications/million pop.*	0.3	84

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Nigeria

Key indicators, 2011

Population (millions)	163.1
GDP (US$ billions)*	244.1
GDP per capita (US$)	1,522.1
GDP (PPP) as share (%) of world total	0.52

Sectoral value-added (% GDP), 2007

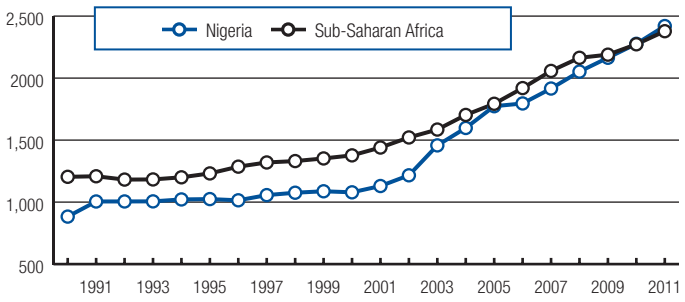
Agriculture	32.7
Industry	40.7
Services	26.6

Human Development Index, 2011

Score, (0–1) best	0.46
Rank (out of 187 economies)	156

Sources: IMF; UNFPA; UNDP; World Bank

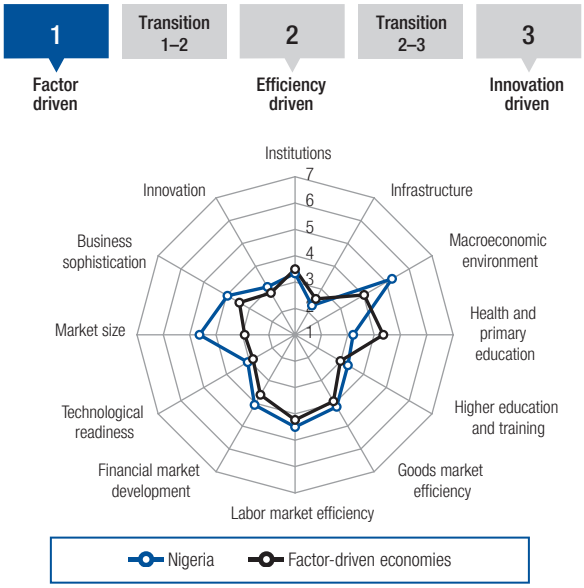
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

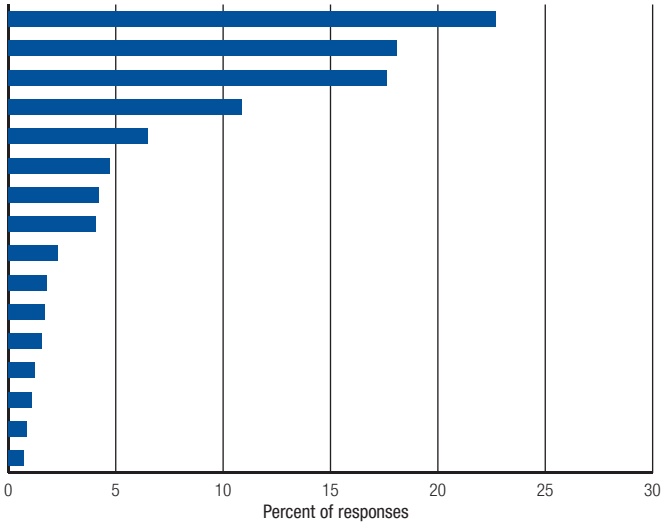
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**115**	**3.7**
GCI 2011–2012 (out of 142)	127	3.4
GCI 2010–2011 (out of 139)	127	3.4
Basic requirements (60.0%)	**130**	**3.5**
Institutions	117	3.3
Infrastructure	130	2.3
Macroeconomic environment	39	5.2
Health and primary education	142	3.2
Efficiency enhancers (35.0%)	**78**	**4.0**
Higher education and training	113	3.3
Goods market efficiency	88	4.2
Labor market efficiency	55	4.5
Financial market development	68	4.1
Technological readiness	112	3.1
Market size	33	4.6
Innovation and sophistication factors (5.0%)	**73**	**3.5**
Business sophistication	66	4.0
Innovation	78	3.1

Stage of development



The most problematic factors for doing business

Access to financing	22.7
Corruption	18.1
Inadequate supply of infrastructure	17.6
Policy instability	10.9
Crime and theft	6.5
Government instability/coups	4.7
Inefficient government bureaucracy	4.2
Inflation	4.1
Tax regulations	2.3
Foreign currency regulations	1.8
Poor work ethic in national labor force	1.7
Inadequately educated workforce	1.6
Poor public health	1.2
Tax rates	1.1
Insufficient capacity to innovate	0.9
Restrictive labor regulations	0.7



Note: 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 figure show the responses weighted according to their rankings.

Nigeria

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.4	119
1.02	Intellectual property protection	2.9	110
1.03	Diversion of public funds	2.2	135
1.04	Public trust in politicians	2.2	102
1.05	Irregular payments and bribes	2.9	127
1.06	Judicial independence	3.7	73
1.07	Favoritism in decisions of government officials	2.5	122
1.08	Wastefulness of government spending	2.6	111
1.09	Burden of government regulation	3.9	36
1.10	Efficiency of legal framework in settling disputes	4.1	48
1.11	Efficiency of legal framework in challenging regs.	3.7	65
1.12	Transparency of government policymaking	4.4	63
1.13	Gov't services for improved business performance	3.2	96
1.14	Business costs of terrorism	3.7	139
1.15	Business costs of crime and violence	3.3	128
1.16	Organized crime	3.5	133
1.17	Reliability of police services	3.2	115
1.18	Ethical behavior of firms	3.5	106
1.19	Strength of auditing and reporting standards	3.9	113
1.20	Efficacy of corporate boards	4.3	89
1.21	Protection of minority shareholders' interests	3.9	91
1.22	Strength of investor protection, 0–10 (best)*	5.7	52
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.2	117
2.02	Quality of roads	2.8	114
2.03	Quality of railroad infrastructure	1.9	95
2.04	Quality of port infrastructure	3.6	106
2.05	Quality of air transport infrastructure	4.0	100
2.06	Available airline seat kms/week, millions*	308.3	51
2.07	Quality of electricity supply	1.7	138
2.08	Mobile telephone subscriptions/100 pop.*	58.6	124
2.09	Fixed telephone lines/100 pop.*	0.4	135
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	1.1	23
3.02	Gross national savings, % GDP*	28.4	30
3.03	Inflation, annual % change*	10.8	127
3.04	General government debt, % GDP*	17.9	23
3.05	Country credit rating, 0–100 (best)*	35.8	90
	4th pillar: Health and primary education		
4.01	Business impact of malaria	3.4	129
4.02	Malaria cases/100,000 pop.*	36,059.5	141
4.03	Business impact of tuberculosis	4.3	118
4.04	Tuberculosis cases/100,000 pop.*	133.0	101
4.05	Business impact of HIV/AIDS	4.3	114
4.06	HIV prevalence, % adult pop.*	3.6	130
4.07	Infant mortality, deaths/1,000 live births*	88.4	139
4.08	Life expectancy, years*	51.4	134
4.09	Quality of primary education	3.2	102
4.10	Primary education enrollment, net %*	57.6	140
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	44.0	120
5.02	Tertiary education enrollment, gross %*	10.3	111
5.03	Quality of the educational system	3.5	83
5.04	Quality of math and science education	3.6	92
5.05	Quality of management schools	3.9	86
5.06	Internet access in schools	3.5	99
5.07	Availability of research and training services	4.2	68
5.08	Extent of staff training	4.1	57

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.5	92
6.02	Extent of market dominance	4.2	41
6.03	Effectiveness of anti-monopoly policy	4.4	45
6.04	Extent and effect of taxation	4.3	22
6.05	Total tax rate, % profits*	32.7	46
6.06	No. procedures to start a business*	8	87
6.07	No. days to start a business*	34	109
6.08	Agricultural policy costs	3.4	114
6.09	Prevalence of trade barriers	3.9	108
6.10	Trade tariffs, % duty*	11.3	115
6.11	Prevalence of foreign ownership	4.7	67
6.12	Business impact of rules on FDI	4.4	86
6.13	Burden of customs procedures	3.6	94
6.14	Imports as a percentage of GDP*	32.7	110
6.15	Degree of customer orientation	4.5	88
6.16	Buyer sophistication	3.2	90
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.9	115
7.02	Flexibility of wage determination	5.0	74
7.03	Hiring and firing practices	4.9	17
7.04	Redundancy costs, weeks of salary*	16	76
7.05	Pay and productivity	3.6	100
7.06	Reliance on professional management	4.4	58
7.07	Brain drain	3.8	48
7.08	Women in labor force, ratio to men*	0.76	80
	8th pillar: Financial market development		
8.01	Availability of financial services	3.8	106
8.02	Affordability of financial services	4.1	68
8.03	Financing through local equity market	3.8	51
8.04	Ease of access to loans	2.1	121
8.05	Venture capital availability	2.5	72
8.06	Soundness of banks	3.9	129
8.07	Regulation of securities exchanges	4.3	59
8.08	Legal rights index, 0–10 (best)*	9	11
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.7	85
9.02	Firm-level technology absorption	4.7	72
9.03	FDI and technology transfer	4.3	90
9.04	Individuals using Internet, %*	28.4	91
9.05	Broadband Internet subscriptions/100 pop.*	0.1	119
9.06	Int'l Internet bandwidth, kb/s per user*	0.4	139
9.07	Mobile broadband subscriptions/100 pop.*	2.8	97
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	4.4	32
10.02	Foreign market size index, 1–7 (best)*	5.2	35
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.6	84
11.02	Local supplier quality	4.3	80
11.03	State of cluster development	4.0	52
11.04	Nature of competitive advantage	3.6	60
11.05	Value chain breadth	3.9	47
11.06	Control of international distribution	3.9	82
11.07	Production process sophistication	3.6	75
11.08	Extent of marketing	3.7	95
11.09	Willingness to delegate authority	3.9	51
	12th pillar: Innovation		
12.01	Capacity for innovation	3.2	63
12.02	Quality of scientific research institutions	3.2	97
12.03	Company spending on R&D	3.1	68
12.04	University-industry collaboration in R&D	3.5	72
12.05	Gov't procurement of advanced tech products	3.6	64
12.06	Availability of scientists and engineers	4.1	68
12.07	PCT patents, applications/million pop.*	0.0	116

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Rwanda

Key indicators, 2011

Population (millions)	11.0
GDP (US$ billions)*	6.3
GDP per capita (US$)	620.3
GDP (PPP) as share (%) of world total	0.02

Sectoral value-added (% GDP), 2010

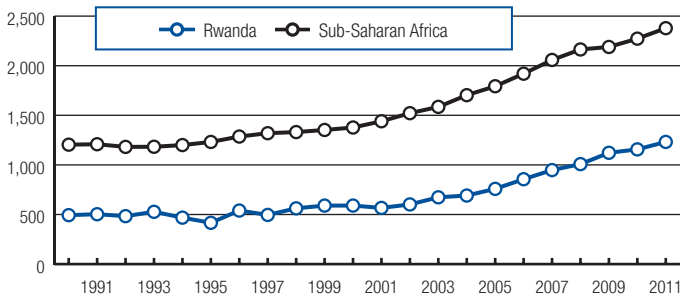
Agriculture	32.2
Industry	15.0
Services	52.8

Human Development Index, 2011

Score, (0–1) best	0.43
Rank (out of 187 economies)	166

Sources: IMF; UNFPA; UNDP; World Bank

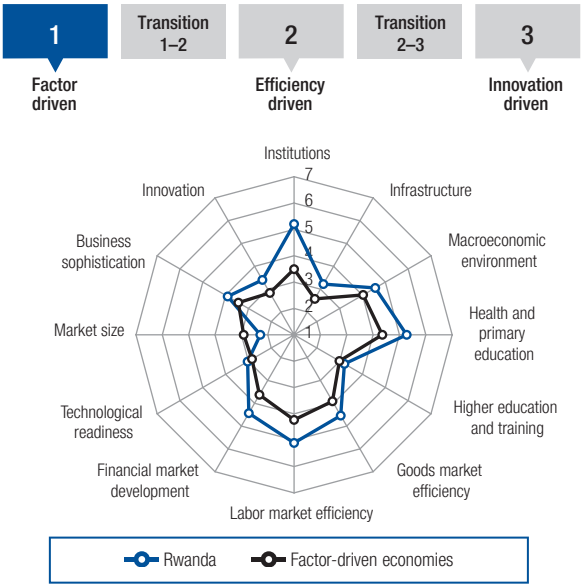
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

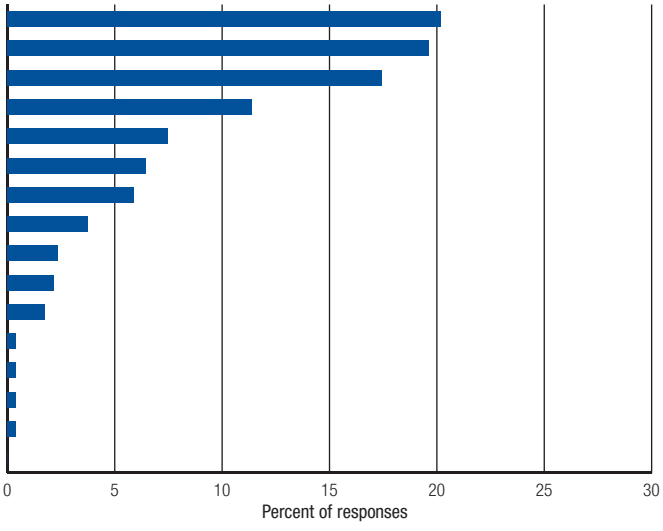
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**63**	**4.2**
GCI 2011–2012 (out of 142)	70	4.2
GCI 2010–2011 (out of 139)	80	4.0
Basic requirements (60.0%)	**70**	**4.6**
Institutions	20	5.2
Infrastructure	96	3.2
Macroeconomic environment	78	4.6
Health and primary education	100	5.3
Efficiency enhancers (35.0%)	**94**	**3.8**
Higher education and training	117	3.2
Goods market efficiency	39	4.5
Labor market efficiency	11	5.1
Financial market development	49	4.4
Technological readiness	113	3.0
Market size	128	2.3
Innovation and sophistication factors (5.0%)	**60**	**3.7**
Business sophistication	70	3.9
Innovation	51	3.4

Stage of development



The most problematic factors for doing business

Access to financing	20.2
Inadequately educated workforce	19.6
Tax rates	17.5
Inadequate supply of infrastructure	11.4
Tax regulations	7.5
Poor work ethic in national labor force	6.5
Inflation	5.9
Foreign currency regulations	3.7
Restrictive labor regulations	2.4
Policy instability	2.2
Inefficient government bureaucracy	1.8
Corruption	0.4
Crime and theft	0.4
Government instability/coups	0.4
Poor public health	0.4



Note: 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 figure show the responses weighted according to their rankings.

Rwanda

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	5.2	34
1.02	Intellectual property protection	4.8	32
1.03	Diversion of public funds	4.5	37
1.04	Public trust in politicians	5.6	6
1.05	Irregular payments and bribes	5.8	21
1.06	Judicial independence	5.3	25
1.07	Favoritism in decisions of government officials	5.1	5
1.08	Wastefulness of government spending	5.5	4
1.09	Burden of government regulation	5.3	2
1.10	Efficiency of legal framework in settling disputes	5.1	15
1.11	Efficiency of legal framework in challenging regs.	4.8	17
1.12	Transparency of government policymaking	5.5	7
1.13	Gov't services for improved business performance	n/a	n/a
1.14	Business costs of terrorism	5.6	66
1.15	Business costs of crime and violence	5.6	30
1.16	Organized crime	5.8	40
1.17	Reliability of police services	5.9	19
1.18	Ethical behavior of firms	5.0	28
1.19	Strength of auditing and reporting standards	4.6	69
1.20	Efficacy of corporate boards	4.8	46
1.21	Protection of minority shareholders' interests	4.8	30
1.22	Strength of investor protection, 0–10 (best)*	6.3	29
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.9	48
2.02	Quality of roads	5.0	40
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	3.5	109
2.05	Quality of air transport infrastructure	4.3	84
2.06	Available airline seat kms/week, millions*	13.2	128
2.07	Quality of electricity supply	4.2	87
2.08	Mobile telephone subscriptions/100 pop.*	40.6	137
2.09	Fixed telephone lines/100 pop.*	0.4	138
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-1.9	50
3.02	Gross national savings, % GDP*	14.9	97
3.03	Inflation, annual % change*	5.7	85
3.04	General government debt, % GDP*	23.4	32
3.05	Country credit rating, 0–100 (best)*	23.4	120
	4th pillar: Health and primary education		
4.01	Business impact of malaria	4.2	115
4.02	Malaria cases/100,000 pop.*	5,408.5	120
4.03	Business impact of tuberculosis	4.4	114
4.04	Tuberculosis cases/100,000 pop.*	106.0	93
4.05	Business impact of HIV/AIDS	4.0	122
4.06	HIV prevalence, % adult pop.*	2.9	125
4.07	Infant mortality, deaths/1,000 live births*	59.1	124
4.08	Life expectancy, years*	55.1	126
4.09	Quality of primary education	3.9	64
4.10	Primary education enrollment, net %*	98.7	18
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	35.8	128
5.02	Tertiary education enrollment, gross %*	5.5	123
5.03	Quality of the educational system	4.1	50
5.04	Quality of math and science education	4.1	62
5.05	Quality of management schools	4.2	73
5.06	Internet access in schools	4.3	66
5.07	Availability of research and training services	3.5	110
5.08	Extent of staff training	3.9	69

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.4	98
6.02	Extent of market dominance	3.8	63
6.03	Effectiveness of anti-monopoly policy	4.4	44
6.04	Extent and effect of taxation	4.4	20
6.05	Total tax rate, % profits*	31.3	39
6.06	No. procedures to start a business*	2	3
6.07	No. days to start a business*	3	4
6.08	Agricultural policy costs	5.5	2
6.09	Prevalence of trade barriers	4.5	60
6.10	Trade tariffs, % duty*	8.8	98
6.11	Prevalence of foreign ownership	4.6	77
6.12	Business impact of rules on FDI	5.3	18
6.13	Burden of customs procedures	5.6	6
6.14	Imports as a percentage of GDP*	33.6	103
6.15	Degree of customer orientation	4.5	85
6.16	Buyer sophistication	3.0	101
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.7	40
7.02	Flexibility of wage determination	5.2	58
7.03	Hiring and firing practices	4.1	59
7.04	Redundancy costs, weeks of salary*	13	54
7.05	Pay and productivity	4.2	47
7.06	Reliance on professional management	4.7	42
7.07	Brain drain	4.8	19
7.08	Women in labor force, ratio to men*	1.02	4
	8th pillar: Financial market development		
8.01	Availability of financial services	4.9	51
8.02	Affordability of financial services	4.0	76
8.03	Financing through local equity market	3.7	56
8.04	Ease of access to loans	3.4	32
8.05	Venture capital availability	3.4	27
8.06	Soundness of banks	4.9	84
8.07	Regulation of securities exchanges	4.2	61
8.08	Legal rights index, 0–10 (best)*	8	24
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.7	87
9.02	Firm-level technology absorption	4.6	84
9.03	FDI and technology transfer	4.8	55
9.04	Individuals using Internet, %*	7.0	124
9.05	Broadband Internet subscriptions/100 pop.*	0.0	130
9.06	Int'l Internet bandwidth, kb/s per user*	4.4	111
9.07	Mobile broadband subscriptions/100 pop.*	6.4	77
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.3	124
10.02	Foreign market size index, 1–7 (best)*	2.1	138
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.2	119
11.02	Local supplier quality	4.2	88
11.03	State of cluster development	3.7	69
11.04	Nature of competitive advantage	3.8	45
11.05	Value chain breadth	3.4	85
11.06	Control of international distribution	3.7	102
11.07	Production process sophistication	3.6	70
11.08	Extent of marketing	3.9	76
11.09	Willingness to delegate authority	4.2	37
	12th pillar: Innovation		
12.01	Capacity for innovation	3.3	55
12.02	Quality of scientific research institutions	3.6	69
12.03	Company spending on R&D	3.1	70
12.04	University-industry collaboration in R&D	3.8	52
12.05	Gov't procurement of advanced tech products	4.5	10
12.06	Availability of scientists and engineers	3.8	85
12.07	PCT patents, applications/million pop.*	0.0	119

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Senegal

Key indicators, 2011

Population (millions)	12.8
GDP (US$ billions)*	14.5
GDP per capita (US$)	1,132.7
GDP (PPP) as share (%) of world total	0.03

Sectoral value-added (% GDP), 2011

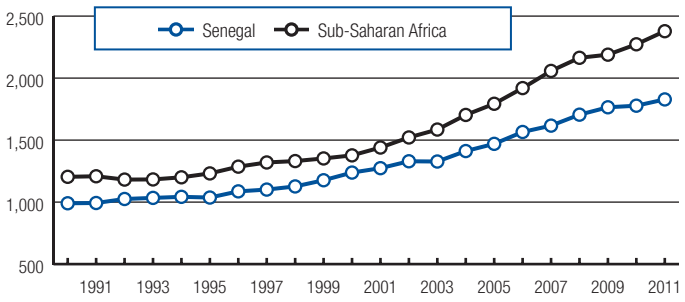
Agriculture	17.8
Industry	23.7
Services	58.4

Human Development Index, 2011

Score, (0–1) best	0.46
Rank (out of 187 economies)	155

Sources: IMF; UNFPA; UNDP; World Bank

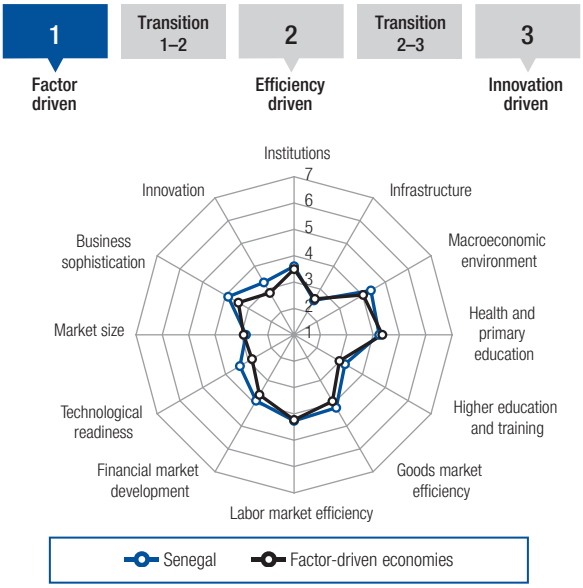
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

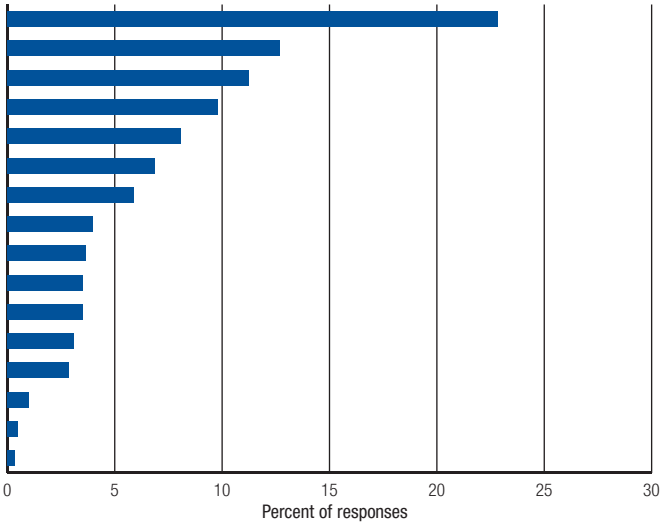
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**117**	**3.7**
GCI 2011–2012 (out of 142)	111	3.7
GCI 2010–2011 (out of 139)	104	3.7
Basic requirements (60.0%)	**120**	**3.7**
Institutions	90	3.6
Infrastructure	124	2.5
Macroeconomic environment	92	4.4
Health and primary education	125	4.2
Efficiency enhancers (35.0%)	**106**	**3.6**
Higher education and training	116	3.2
Goods market efficiency	77	4.2
Labor market efficiency	80	4.3
Financial market development	84	3.9
Technological readiness	95	3.4
Market size	105	2.8
Innovation and sophistication factors (5.0%)	**65**	**3.6**
Business sophistication	72	3.9
Innovation	62	3.3

Stage of development



The most problematic factors for doing business

Access to financing	22.9
Tax rates	12.7
Tax regulations	11.2
Corruption	9.8
Insufficient capacity to innovate	8.1
Restrictive labor regulations	6.8
Inadequate supply of infrastructure	5.9
Poor work ethic in national labor force	4.0
Inflation	3.7
Foreign currency regulations	3.5
Inefficient government bureaucracy	3.5
Policy instability	3.1
Inadequately educated workforce	2.9
Poor public health	1.0
Crime and theft	0.5
Government instability/coups	0.4



Note: 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 figure show the responses weighted according to their rankings.

Senegal

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.1	78
1.02	Intellectual property protection	3.1	95
1.03	Diversion of public funds	2.5	122
1.04	Public trust in politicians	2.0	123
1.05	Irregular payments and bribes	3.5	94
1.06	Judicial independence	2.6	118
1.07	Favoritism in decisions of government officials	2.7	98
1.08	Wastefulness of government spending	2.5	115
1.09	Burden of government regulation	3.1	91
1.10	Efficiency of legal framework in settling disputes	3.7	71
1.11	Efficiency of legal framework in challenging regs.	3.4	84
1.12	Transparency of government policymaking	4.1	84
1.13	Gov't services for improved business performance	3.4	86
1.14	Business costs of terrorism	5.4	83
1.15	Business costs of crime and violence	5.4	40
1.16	Organized crime	5.3	66
1.17	Reliability of police services	4.4	62
1.18	Ethical behavior of firms	3.7	86
1.19	Strength of auditing and reporting standards	4.4	80
1.20	Efficacy of corporate boards	4.7	49
1.21	Protection of minority shareholders' interests	4.2	69
1.22	Strength of investor protection, 0–10 (best)*	3.0	130
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.4	109
2.02	Quality of roads	3.2	97
2.03	Quality of railroad infrastructure	1.7	105
2.04	Quality of port infrastructure	4.5	58
2.05	Quality of air transport infrastructure	4.4	77
2.06	Available airline seat kms/week, millions*	86.9	80
2.07	Quality of electricity supply	1.8	134
2.08	Mobile telephone subscriptions/100 pop.*	73.3	113
2.09	Fixed telephone lines/100 pop.*	2.7	117
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-6.1	122
3.02	Gross national savings, % GDP*	20.9	69
3.03	Inflation, annual % change*	3.4	40
3.04	General government debt, % GDP*	40.6	73
3.05	Country credit rating, 0–100 (best)*	35.2	92
	4th pillar: Health and primary education		
4.01	Business impact of malaria	4.1	120
4.02	Malaria cases/100,000 pop.*	29,332.2	135
4.03	Business impact of tuberculosis	4.5	108
4.04	Tuberculosis cases/100,000 pop.*	288.0	128
4.05	Business impact of HIV/AIDS	4.8	95
4.06	HIV prevalence, % adult pop.*	0.9	102
4.07	Infant mortality, deaths/1,000 live births*	49.8	113
4.08	Life expectancy, years*	59.0	118
4.09	Quality of primary education	3.3	96
4.10	Primary education enrollment, net %*	75.5	129
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	37.4	126
5.02	Tertiary education enrollment, gross %*	7.9	117
5.03	Quality of the educational system	3.6	73
5.04	Quality of math and science education	3.8	79
5.05	Quality of management schools	4.7	41
5.06	Internet access in schools	3.8	84
5.07	Availability of research and training services	4.7	38
5.08	Extent of staff training	3.0	135

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	5.1	52
6.02	Extent of market dominance	3.7	67
6.03	Effectiveness of anti-monopoly policy	4.2	59
6.04	Extent and effect of taxation	2.8	129
6.05	Total tax rate, % profits*	46.0	99
6.06	No. procedures to start a business*	3	8
6.07	No. days to start a business*	5	10
6.08	Agricultural policy costs	3.8	83
6.09	Prevalence of trade barriers	3.8	112
6.10	Trade tariffs, % duty*	11.4	119
6.11	Prevalence of foreign ownership	5.2	41
6.12	Business impact of rules on FDI	4.6	68
6.13	Burden of customs procedures	4.8	34
6.14	Imports as a percentage of GDP*	45.5	71
6.15	Degree of customer orientation	4.8	51
6.16	Buyer sophistication	2.5	128
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.3	71
7.02	Flexibility of wage determination	4.6	103
7.03	Hiring and firing practices	3.9	76
7.04	Redundancy costs, weeks of salary*	14	63
7.05	Pay and productivity	3.7	85
7.06	Reliance on professional management	3.9	95
7.07	Brain drain	3.4	74
7.08	Women in labor force, ratio to men*	0.75	86
	8th pillar: Financial market development		
8.01	Availability of financial services	4.3	83
8.02	Affordability of financial services	3.9	84
8.03	Financing through local equity market	3.0	101
8.04	Ease of access to loans	2.2	117
8.05	Venture capital availability	2.1	114
8.06	Soundness of banks	5.4	59
8.07	Regulation of securities exchanges	4.0	77
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	5.3	49
9.02	Firm-level technology absorption	5.5	36
9.03	FDI and technology transfer	4.7	63
9.04	Individuals using Internet, %*	17.5	102
9.05	Broadband Internet subscriptions/100 pop.*	0.7	106
9.06	Int'l Internet bandwidth, kb/s per user*	2.9	118
9.07	Mobile broadband subscriptions/100 pop.*	1.5	107
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.7	99
10.02	Foreign market size index, 1–7 (best)*	3.1	117
	11th pillar: Business sophistication		
11.01	Local supplier quantity	5.2	27
11.02	Local supplier quality	4.9	42
11.03	State of cluster development	3.4	90
11.04	Nature of competitive advantage	3.1	98
11.05	Value chain breadth	4.1	39
11.06	Control of international distribution	3.8	95
11.07	Production process sophistication	3.4	91
11.08	Extent of marketing	4.1	69
11.09	Willingness to delegate authority	3.1	122
	12th pillar: Innovation		
12.01	Capacity for innovation	3.2	69
12.02	Quality of scientific research institutions	3.9	55
12.03	Company spending on R&D	3.3	49
12.04	University-industry collaboration in R&D	3.4	86
12.05	Gov't procurement of advanced tech products	3.8	51
12.06	Availability of scientists and engineers	4.6	35
12.07	PCT patents, applications/million pop.*	0.0	108

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Seychelles

Key indicators, 2011

Population (millions)	0.1
GDP (US$ billions)*	1.0
GDP per capita (US$)	11,204.1
GDP (PPP) as share (%) of world total	0.00

Sectoral value-added (% GDP), 2009

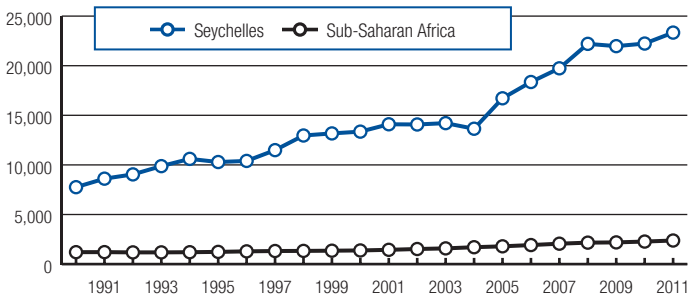
Agriculture	1.8
Industry	17.9
Services	80.3

Human Development Index, 2011

Score, (0–1) best	0.77
Rank (out of 187 economies)	52

Sources: IMF; UNFPA; UNDP; World Bank

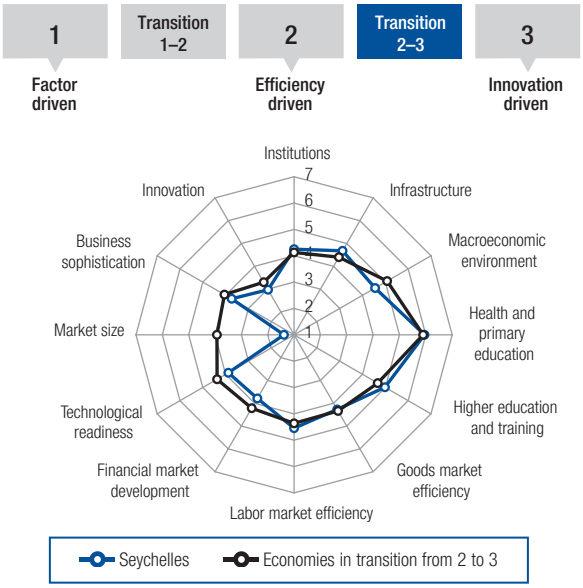
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

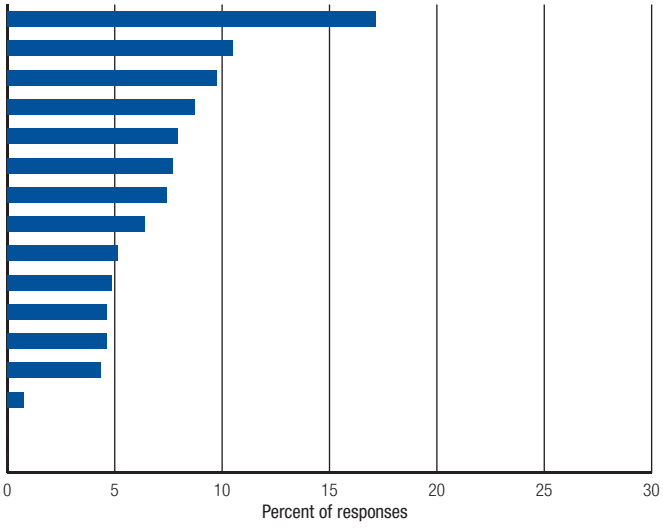
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**76**	**4.1**
GCI 2011–2012 (out of 142)	n/a	n/a
GCI 2010–2011 (out of 139)	n/a	n/a
Basic requirements (34.6%)	**46**	**4.9**
Institutions	47	4.2
Infrastructure	42	4.7
Macroeconomic environment	79	4.6
Health and primary education	47	5.9
Efficiency enhancers (50.0%)	**91**	**3.8**
Higher education and training	31	5.0
Goods market efficiency	70	4.3
Labor market efficiency	48	4.5
Financial market development	94	3.8
Technological readiness	66	3.9
Market size	142	1.4
Innovation and sophistication factors (15.4%)	**87**	**3.4**
Business sophistication	87	3.7
Innovation	93	3.0

Stage of development



The most problematic factors for doing business

Access to financing	17.2
Poor work ethic in national labor force	10.5
Inadequate supply of infrastructure	9.7
Tax rates	8.7
Inefficient government bureaucracy	7.9
Restrictive labor regulations	7.7
Inadequately educated workforce	7.4
Inflation	6.4
Crime and theft	5.1
Insufficient capacity to innovate	4.9
Corruption	4.6
Tax regulations	4.6
Policy instability	4.4
Foreign currency regulations	0.8
Government instability/coups	0.0
Poor public health	0.0



Note: 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 figure show the responses weighted according to their rankings.

Seychelles

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.7	50
1.02	Intellectual property protection	3.9	52
1.03	Diversion of public funds	3.9	46
1.04	Public trust in politicians	3.6	38
1.05	Irregular payments and bribes	4.3	57
1.06	Judicial independence	4.0	62
1.07	Favoritism in decisions of government officials	3.5	47
1.08	Wastefulness of government spending	4.0	25
1.09	Burden of government regulation	4.2	18
1.10	Efficiency of legal framework in settling disputes	4.0	55
1.11	Efficiency of legal framework in challenging regs.	4.2	35
1.12	Transparency of government policymaking	4.8	37
1.13	Gov't services for improved business performance	4.4	24
1.14	Business costs of terrorism	4.9	112
1.15	Business costs of crime and violence	4.2	102
1.16	Organized crime	5.8	45
1.17	Reliability of police services	3.7	97
1.18	Ethical behavior of firms	4.2	51
1.19	Strength of auditing and reporting standards	4.7	59
1.20	Efficacy of corporate boards	4.5	70
1.21	Protection of minority shareholders' interests	4.5	45
1.22	Strength of investor protection, 0–10 (best)*	5.7	52
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.7	54
2.02	Quality of roads	4.3	60
2.03	Quality of railroad infrastructure	n/appl.	n/a
2.04	Quality of port infrastructure	5.0	43
2.05	Quality of air transport infrastructure	5.0	55
2.06	Available airline seat kms/week, millions*	23.6	116
2.07	Quality of electricity supply	5.3	55
2.08	Mobile telephone subscriptions/100 pop.*	145.7	17
2.09	Fixed telephone lines/100 pop.*	32.1	37
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	2.6	16
3.02	Gross national savings, % GDP*	13.8	105
3.03	Inflation, annual % change*	2.6	1
3.04	General government debt, % GDP*	83.0	128
3.05	Country credit rating, 0–100 (best)*	19.5	131
	4th pillar: Health and primary education		
4.01	Business impact of malaria	n/appl.	1
4.02	Malaria cases/100,000 pop.*	(NE)	1
4.03	Business impact of tuberculosis	4.3	117
4.04	Tuberculosis cases/100,000 pop.*	31.0	58
4.05	Business impact of HIV/AIDS	3.6	128
4.06	HIV prevalence, % adult pop.*	3.0	126
4.07	Infant mortality, deaths/1,000 live births*	11.7	60
4.08	Life expectancy, years*	73.0	80
4.09	Quality of primary education	4.5	40
4.10	Primary education enrollment, net %*	95.1	52
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	119.2	5
5.02	Tertiary education enrollment, gross %*	n/a	n/a
5.03	Quality of the educational system	4.1	48
5.04	Quality of math and science education	4.0	72
5.05	Quality of management schools	4.0	84
5.06	Internet access in schools	4.6	52
5.07	Availability of research and training services	3.5	111
5.08	Extent of staff training	4.0	62

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.5	90
6.02	Extent of market dominance	3.5	87
6.03	Effectiveness of anti-monopoly policy	3.9	81
6.04	Extent and effect of taxation	3.4	82
6.05	Total tax rate, % profits*	32.2	44
6.06	No. procedures to start a business*	10	110
6.07	No. days to start a business*	39	117
6.08	Agricultural policy costs	3.9	63
6.09	Prevalence of trade barriers	4.5	59
6.10	Trade tariffs, % duty*	0.2	5
6.11	Prevalence of foreign ownership	5.0	57
6.12	Business impact of rules on FDI	4.9	47
6.13	Burden of customs procedures	4.4	50
6.14	Imports as a percentage of GDP*	112.5	5
6.15	Degree of customer orientation	4.2	109
6.16	Buyer sophistication	3.2	91
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.8	36
7.02	Flexibility of wage determination	5.1	67
7.03	Hiring and firing practices	3.8	82
7.04	Redundancy costs, weeks of salary*	13	61
7.05	Pay and productivity	3.8	76
7.06	Reliance on professional management	4.1	78
7.07	Brain drain	3.3	85
7.08	Women in labor force, ratio to men*	0.86	43
	8th pillar: Financial market development		
8.01	Availability of financial services	4.3	86
8.02	Affordability of financial services	4.0	83
8.03	Financing through local equity market	2.7	116
8.04	Ease of access to loans	3.4	36
8.05	Venture capital availability	2.4	81
8.06	Soundness of banks	5.2	69
8.07	Regulation of securities exchanges	4.1	67
8.08	Legal rights index, 0–10 (best)*	4	99
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	5.0	67
9.02	Firm-level technology absorption	5.1	51
9.03	FDI and technology transfer	4.3	92
9.04	Individuals using Internet, %*	43.2	65
9.05	Broadband Internet subscriptions/100 pop.*	8.9	59
9.06	Int'l Internet bandwidth, kb/s per user*	5.9	101
9.07	Mobile broadband subscriptions/100 pop.*	4.7	81
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.0	144
10.02	Foreign market size index, 1–7 (best)*	2.5	134
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.2	118
11.02	Local supplier quality	3.8	120
11.03	State of cluster development	3.5	81
11.04	Nature of competitive advantage	4.5	27
11.05	Value chain breadth	3.3	98
11.06	Control of international distribution	3.6	107
11.07	Production process sophistication	3.2	101
11.08	Extent of marketing	3.5	106
11.09	Willingness to delegate authority	3.7	71
	12th pillar: Innovation		
12.01	Capacity for innovation	3.0	84
12.02	Quality of scientific research institutions	3.3	95
12.03	Company spending on R&D	2.7	108
12.04	University-industry collaboration in R&D	3.0	121
12.05	Gov't procurement of advanced tech products	3.9	38
12.06	Availability of scientists and engineers	3.2	129
12.07	PCT patents, applications/million pop.*	5.8	41

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Sierra Leone

Key indicators, 2011

Population (millions)	6.0
GDP (US$ billions)*	2.9
GDP per capita (US$)	485.8
GDP (PPP) as share (%) of world total	0.01

Sectoral value-added (% GDP), 2011

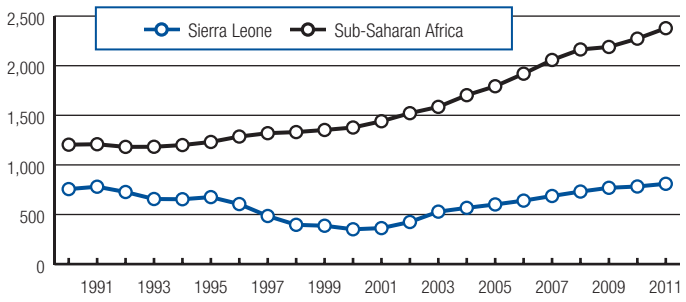
Agriculture	44.4
Industry	18.2
Services	37.4

Human Development Index, 2011

Score, (0–1) best	0.34
Rank (out of 187 economies)	180

Sources: IMF; UNFPA; UNDP; World Bank

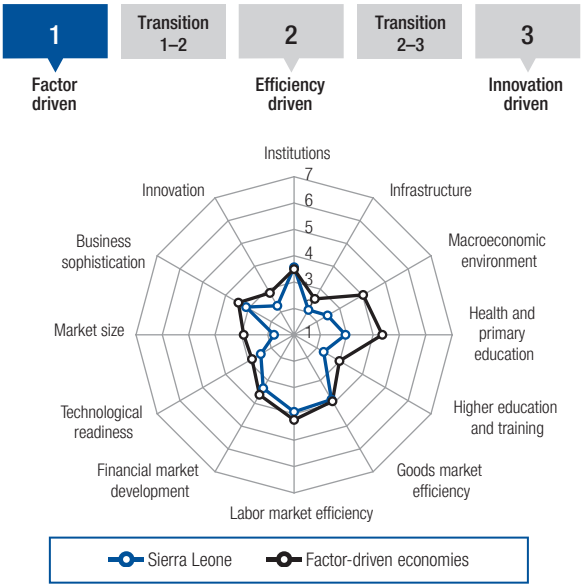
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

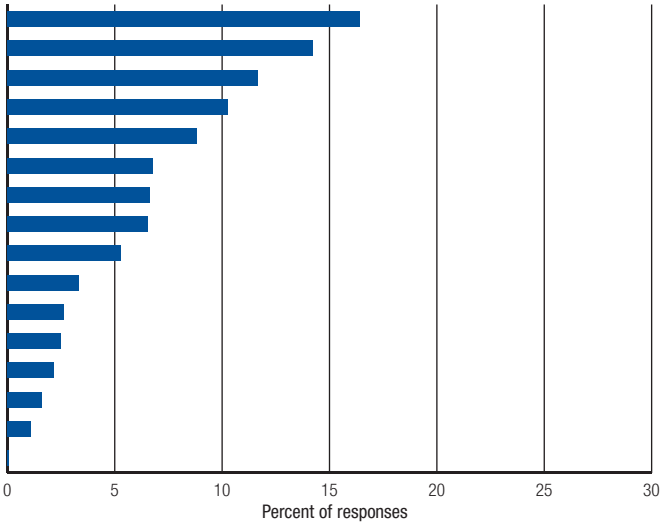
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**143**	**2.8**
GCI 2011–2012 (out of 142)	n/a	n/a
GCI 2010–2011 (out of 139)	n/a	n/a
Basic requirements (60.0%)	**144**	**2.8**
Institutions	95	3.6
Infrastructure	138	2.1
Macroeconomic environment	143	2.5
Health and primary education	143	3.0
Efficiency enhancers (35.0%)	**140**	**2.9**
Higher education and training	141	2.3
Goods market efficiency	116	3.8
Labor market efficiency	114	3.9
Financial market development	125	3.3
Technological readiness	141	2.5
Market size	138	1.8
Innovation and sophistication factors (5.0%)	**138**	**2.7**
Business sophistication	136	3.1
Innovation	139	2.3

Stage of development



The most problematic factors for doing business

Access to financing	16.4
Inadequate supply of infrastructure	14.2
Corruption	11.7
Inadequately educated workforce	10.3
Inflation	8.8
Inefficient government bureaucracy	6.8
Poor work ethic in national labor force	6.6
Tax rates	6.5
Foreign currency regulations	5.3
Crime and theft	3.3
Tax regulations	2.6
Insufficient capacity to innovate	2.5
Poor public health	2.2
Restrictive labor regulations	1.6
Policy instability	1.1
Government instability/coups	0.1



Note: 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 figure show the responses weighted according to their rankings.

Sierra Leone

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.6	111
1.02	Intellectual property protection	3.1	102
1.03	Diversion of public funds	2.8	96
1.04	Public trust in politicians	2.6	74
1.05	Irregular payments and bribes	3.1	117
1.06	Judicial independence	2.8	107
1.07	Favoritism in decisions of government officials	2.8	94
1.08	Wastefulness of government spending	3.3	65
1.09	Burden of government regulation	3.9	35
1.10	Efficiency of legal framework in settling disputes	3.8	64
1.11	Efficiency of legal framework in challenging regs.	3.0	110
1.12	Transparency of government policymaking	3.8	114
1.13	Gov't services for improved business performance	3.3	92
1.14	Business costs of terrorism	6.0	44
1.15	Business costs of crime and violence	4.6	83
1.16	Organized crime	5.1	79
1.17	Reliability of police services	3.6	104
1.18	Ethical behavior of firms	3.6	92
1.19	Strength of auditing and reporting standards	3.7	126
1.20	Efficacy of corporate boards	4.0	112
1.21	Protection of minority shareholders' interests	3.6	112
1.22	Strength of investor protection, 0–10 (best)*	6.3	29
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	2.9	127
2.02	Quality of roads	2.8	116
2.03	Quality of railroad infrastructure	1.3	114
2.04	Quality of port infrastructure	3.3	118
2.05	Quality of air transport infrastructure	2.7	140
2.06	Available airline seat kms/week, millions*	6.7	137
2.07	Quality of electricity supply	2.6	121
2.08	Mobile telephone subscriptions/100 pop.*	35.6	139
2.09	Fixed telephone lines/100 pop.*	0.2	142
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-5.7	120
3.02	Gross national savings, % GDP*	0.7	139
3.03	Inflation, annual % change*	18.5	140
3.04	General government debt, % GDP*	60.0	106
3.05	Country credit rating, 0–100 (best)*	16.6	136
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.0	144
4.02	Malaria cases/100,000 pop.*	32,096.4	139
4.03	Business impact of tuberculosis	4.1	124
4.04	Tuberculosis cases/100,000 pop.*	682.0	142
4.05	Business impact of HIV/AIDS	4.3	116
4.06	HIV prevalence, % adult pop.*	1.6	119
4.07	Infant mortality, deaths/1,000 live births*	113.7	144
4.08	Life expectancy, years*	47.4	143
4.09	Quality of primary education	2.9	116
4.10	Primary education enrollment, net %*	n/a	n/a
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	27.6	136
5.02	Tertiary education enrollment, gross %*	2.1	138
5.03	Quality of the educational system	2.8	125
5.04	Quality of math and science education	2.5	134
5.05	Quality of management schools	3.2	126
5.06	Internet access in schools	1.9	136
5.07	Availability of research and training services	2.8	134
5.08	Extent of staff training	3.1	125

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	3.7	136
6.02	Extent of market dominance	3.0	131
6.03	Effectiveness of anti-monopoly policy	3.5	104
6.04	Extent and effect of taxation	3.8	48
6.05	Total tax rate, % profits*	32.1	43
6.06	No. procedures to start a business*	6	47
6.07	No. days to start a business*	12	53
6.08	Agricultural policy costs	4.0	57
6.09	Prevalence of trade barriers	4.3	70
6.10	Trade tariffs, % duty*	n/a	n/a
6.11	Prevalence of foreign ownership	5.0	52
6.12	Business impact of rules on FDI	4.5	80
6.13	Burden of customs procedures	3.0	133
6.14	Imports as a percentage of GDP*	47.4	65
6.15	Degree of customer orientation	3.9	121
6.16	Buyer sophistication	2.3	134
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.4	59
7.02	Flexibility of wage determination	4.8	89
7.03	Hiring and firing practices	4.7	25
7.04	Redundancy costs, weeks of salary*	43	134
7.05	Pay and productivity	3.3	121
7.06	Reliance on professional management	4.1	83
7.07	Brain drain	2.3	130
7.08	Women in labor force, ratio to men*	0.97	6
	8th pillar: Financial market development		
8.01	Availability of financial services	3.3	134
8.02	Affordability of financial services	3.1	135
8.03	Financing through local equity market	2.1	137
8.04	Ease of access to loans	2.0	129
8.05	Venture capital availability	1.6	141
8.06	Soundness of banks	4.6	101
8.07	Regulation of securities exchanges	3.0	128
8.08	Legal rights index, 0–10 (best)*	7	43
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.5	140
9.02	Firm-level technology absorption	3.9	131
9.03	FDI and technology transfer	4.3	89
9.04	Individuals using Internet, %*	0.3	144
9.05	Broadband Internet subscriptions/100 pop.*	0.0	143
9.06	Int'l Internet bandwidth, kb/s per user*	0.1	144
9.07	Mobile broadband subscriptions/100 pop.*	0.3	122
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.7	139
10.02	Foreign market size index, 1–7 (best)*	2.1	139
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.2	107
11.02	Local supplier quality	3.8	116
11.03	State of cluster development	3.0	117
11.04	Nature of competitive advantage	3.0	105
11.05	Value chain breadth	2.5	138
11.06	Control of international distribution	3.0	136
11.07	Production process sophistication	2.3	140
11.08	Extent of marketing	2.5	139
11.09	Willingness to delegate authority	3.1	121
	12th pillar: Innovation		
12.01	Capacity for innovation	2.3	136
12.02	Quality of scientific research institutions	2.1	139
12.03	Company spending on R&D	1.9	142
12.04	University-industry collaboration in R&D	2.3	137
12.05	Gov't procurement of advanced tech products	3.2	103
12.06	Availability of scientists and engineers	2.6	141
12.07	PCT patents, applications/million pop.*	0.0	105

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

South Africa

Key indicators, 2011

Population (millions)	50.8
GDP (US$ billions)*	408.7
GDP per capita (US$)	8,078.5
GDP (PPP) as share (%) of world total	0.70

Sectoral value-added (% GDP), 2011

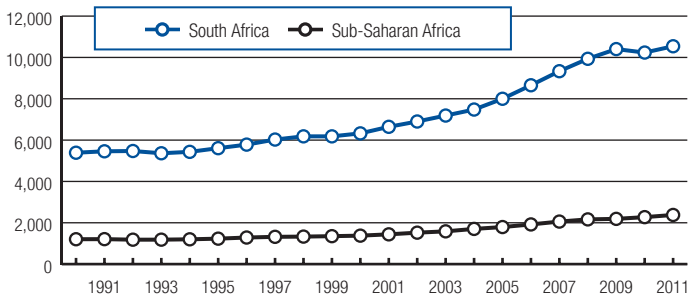
Agriculture	2.4
Industry	30.6
Services	67.0

Human Development Index, 2011

Score, (0–1) best	0.62
Rank (out of 187 economies)	123

Sources: IMF; UNFPA; UNDP; World Bank

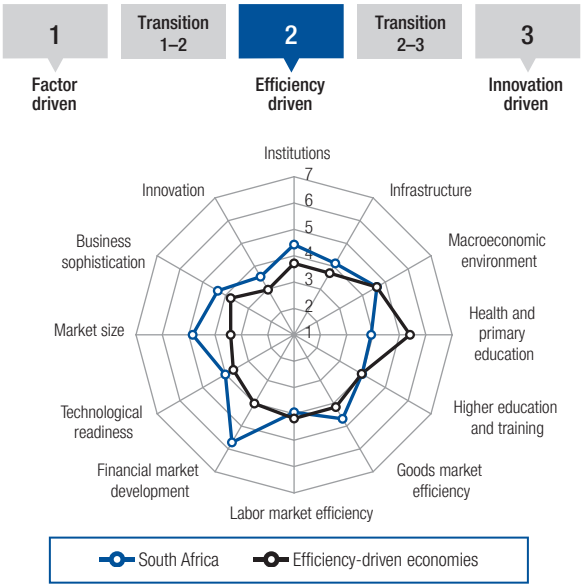
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

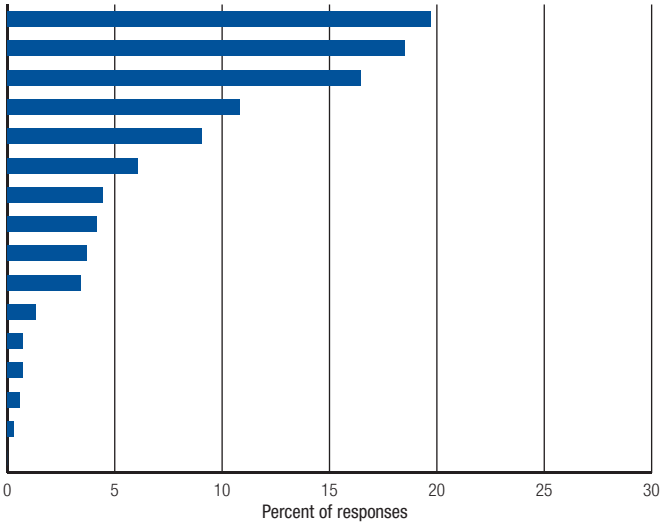
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**52**	**4.4**
GCI 2011–2012 (out of 142)	50	4.3
GCI 2010–2011 (out of 139)	54	4.3
Basic requirements (40.0%)	**84**	**4.3**
Institutions	43	4.4
Infrastructure	63	4.1
Macroeconomic environment	69	4.6
Health and primary education	132	3.9
Efficiency enhancers (50.0%)	**37**	**4.5**
Higher education and training	84	4.0
Goods market efficiency	32	4.7
Labor market efficiency	113	3.9
Financial market development	3	5.7
Technological readiness	62	4.0
Market size	25	4.8
Innovation and sophistication factors (10.0%)	**42**	**3.9**
Business sophistication	38	4.3
Innovation	42	3.5

Stage of development



The most problematic factors for doing business

Inadequately educated workforce	19.7
Restrictive labor regulations	18.5
Inefficient government bureaucracy	16.4
Inadequate supply of infrastructure	10.8
Corruption	9.0
Policy instability	6.1
Access to financing	4.4
Crime and theft	4.1
Poor work ethic in national labor force	3.7
Insufficient capacity to innovate	3.4
Foreign currency regulations	1.3
Tax rates	0.7
Tax regulations	0.7
Inflation	0.6
Poor public health	0.3
Government instability/coups	0.0



Note: 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 figure show the responses weighted according to their rankings.

South Africa

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	5.4	26
1.02	Intellectual property protection	5.3	20
1.03	Diversion of public funds	3.0	84
1.04	Public trust in politicians	2.4	88
1.05	Irregular payments and bribes	4.6	47
1.06	Judicial independence	5.3	27
1.07	Favoritism in decisions of government officials	2.6	110
1.08	Wastefulness of government spending	3.4	62
1.09	Burden of government regulation	2.7	123
1.10	Efficiency of legal framework in settling disputes	5.0	17
1.11	Efficiency of legal framework in challenging regs.	4.8	16
1.12	Transparency of government policymaking	4.8	35
1.13	Gov't services for improved business performance	3.1	106
1.14	Business costs of terrorism	6.2	29
1.15	Business costs of crime and violence	2.9	134
1.16	Organized crime	4.3	111
1.17	Reliability of police services	3.8	90
1.18	Ethical behavior of firms	4.3	48
1.19	Strength of auditing and reporting standards	6.6	1
1.20	Efficacy of corporate boards	5.8	1
1.21	Protection of minority shareholders' interests	6.0	2
1.22	Strength of investor protection, 0–10 (best)*	8.0	10
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.5	58
2.02	Quality of roads	4.9	42
2.03	Quality of railroad infrastructure	3.4	46
2.04	Quality of port infrastructure	4.7	52
2.05	Quality of air transport infrastructure	6.1	15
2.06	Available airline seat kms/week, millions*	1,146.3	24
2.07	Quality of electricity supply	3.9	94
2.08	Mobile telephone subscriptions/100 pop.*	126.8	35
2.09	Fixed telephone lines/100 pop.*	8.2	99
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-4.6	105
3.02	Gross national savings, % GDP*	16.5	87
3.03	Inflation, annual % change*	5.0	76
3.04	General government debt, % GDP*	38.8	68
3.05	Country credit rating, 0–100 (best)*	61.4	48
	4th pillar: Health and primary education		
4.01	Business impact of malaria	5.1	100
4.02	Malaria cases/100,000 pop.*	31.8	89
4.03	Business impact of tuberculosis	3.5	132
4.04	Tuberculosis cases/100,000 pop.*	981.0	143
4.05	Business impact of HIV/AIDS	3.0	135
4.06	HIV prevalence, % adult pop.*	17.8	141
4.07	Infant mortality, deaths/1,000 live births*	40.7	107
4.08	Life expectancy, years*	52.1	133
4.09	Quality of primary education	2.3	132
4.10	Primary education enrollment, net %*	85.1	115
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	93.8	53
5.02	Tertiary education enrollment, gross %*	15.4	101
5.03	Quality of the educational system	2.2	140
5.04	Quality of math and science education	2.0	143
5.05	Quality of management schools	5.3	15
5.06	Internet access in schools	3.1	111
5.07	Availability of research and training services	4.4	51
5.08	Extent of staff training	4.6	26

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	5.1	51
6.02	Extent of market dominance	4.2	39
6.03	Effectiveness of anti-monopoly policy	5.3	6
6.04	Extent and effect of taxation	4.0	31
6.05	Total tax rate, % profits*	33.1	48
6.06	No. procedures to start a business*	5	29
6.07	No. days to start a business*	19	80
6.08	Agricultural policy costs	4.2	47
6.09	Prevalence of trade barriers	4.7	39
6.10	Trade tariffs, % duty*	6.5	79
6.11	Prevalence of foreign ownership	5.3	31
6.12	Business impact of rules on FDI	4.7	61
6.13	Burden of customs procedures	4.3	56
6.14	Imports as a percentage of GDP*	34.8	99
6.15	Degree of customer orientation	4.7	61
6.16	Buyer sophistication	4.1	32
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	2.9	144
7.02	Flexibility of wage determination	2.8	140
7.03	Hiring and firing practices	2.2	143
7.04	Redundancy costs, weeks of salary*	9	33
7.05	Pay and productivity	2.9	134
7.06	Reliance on professional management	5.6	13
7.07	Brain drain	3.8	47
7.08	Women in labor force, ratio to men*	0.75	85
	8th pillar: Financial market development		
8.01	Availability of financial services	6.4	2
8.02	Affordability of financial services	5.2	22
8.03	Financing through local equity market	5.4	3
8.04	Ease of access to loans	3.5	30
8.05	Venture capital availability	3.1	37
8.06	Soundness of banks	6.7	2
8.07	Regulation of securities exchanges	6.5	1
8.08	Legal rights index, 0–10 (best)*	10	1
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	5.7	39
9.02	Firm-level technology absorption	5.4	38
9.03	FDI and technology transfer	5.0	38
9.04	Individuals using Internet, %*	21.0	95
9.05	Broadband Internet subscriptions/100 pop.*	1.8	95
9.06	Int'l Internet bandwidth, kb/s per user*	18.9	63
9.07	Mobile broadband subscriptions/100 pop.*	19.8	49
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	4.8	24
10.02	Foreign market size index, 1–7 (best)*	5.1	39
	11th pillar: Business sophistication		
11.01	Local supplier quantity	5.0	43
11.02	Local supplier quality	5.1	34
11.03	State of cluster development	4.0	47
11.04	Nature of competitive advantage	3.0	107
11.05	Value chain breadth	3.2	106
11.06	Control of international distribution	4.5	26
11.07	Production process sophistication	4.2	43
11.08	Extent of marketing	5.1	29
11.09	Willingness to delegate authority	4.3	33
	12th pillar: Innovation		
12.01	Capacity for innovation	3.5	41
12.02	Quality of scientific research institutions	4.6	34
12.03	Company spending on R&D	3.5	39
12.04	University-industry collaboration in R&D	4.5	30
12.05	Gov't procurement of advanced tech products	3.1	105
12.06	Availability of scientists and engineers	3.4	122
12.07	PCT patents, applications/million pop.*	6.8	37

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Swaziland

Key indicators, 2011

Population (millions)	1.2
GDP (US$ billions)*	4.0
GDP per capita (US$)	3,383.5
GDP (PPP) as share (%) of world total	0.01

Sectoral value-added (% GDP), 2011

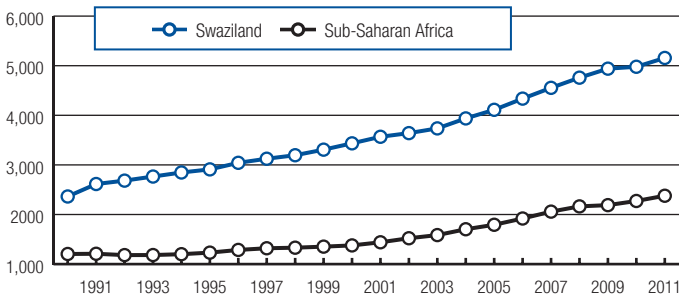
Agriculture	7.9
Industry	45.8
Services	46.3

Human Development Index, 2011

Score, (0–1) best	0.52
Rank (out of 187 economies)	140

Sources: IMF; UNFPA; UNDP; World Bank

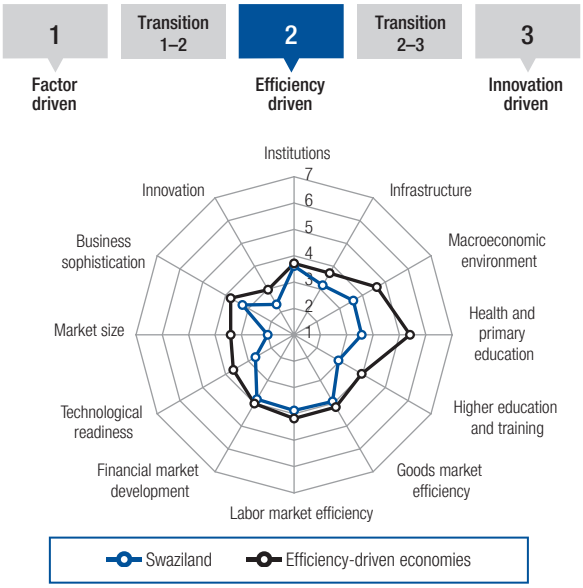
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

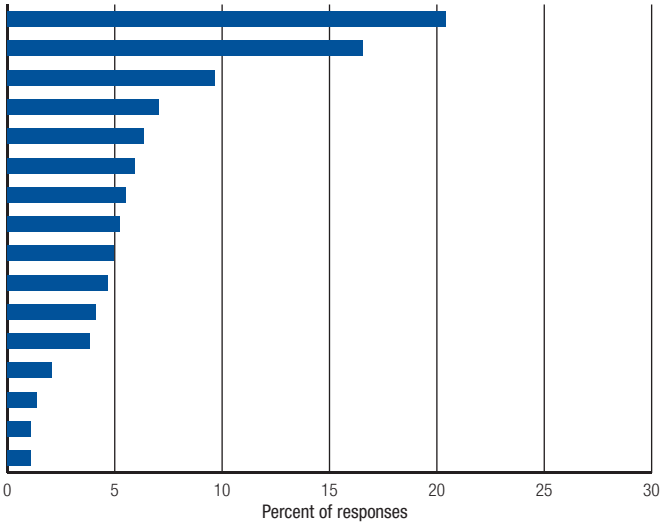
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**135**	**3.3**
GCI 2011–2012 (out of 142)	134	3.3
GCI 2010–2011 (out of 139)	126	3.4
Basic requirements (40.0%)	**131**	**3.5**
Institutions	88	3.6
Infrastructure	99	3.2
Macroeconomic environment	128	3.6
Health and primary education	135	3.6
Efficiency enhancers (50.0%)	**130**	**3.2**
Higher education and training	125	2.9
Goods market efficiency	107	3.9
Labor market efficiency	119	3.9
Financial market development	89	3.8
Technological readiness	128	2.7
Market size	133	2.0
Innovation and sophistication factors (10.0%)	**134**	**2.8**
Business sophistication	124	3.3
Innovation	137	2.3

Stage of development



The most problematic factors for doing business

Inefficient government bureaucracy	20.4
Corruption	16.6
Access to financing	9.7
Insufficient capacity to innovate	7.0
Inadequate supply of infrastructure	6.3
Tax rates	5.9
Restrictive labor regulations	5.5
Government instability/coups	5.2
Policy instability	5.0
Tax regulations	4.7
Inflation	4.1
Poor work ethic in national labor force	3.9
Inadequately educated workforce	2.1
Poor public health	1.4
Crime and theft	1.1
Foreign currency regulations	1.1



Note: 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 figure show the responses weighted according to their rankings.

Swaziland

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.0	83
1.02	Intellectual property protection	3.6	69
1.03	Diversion of public funds	2.6	114
1.04	Public trust in politicians	2.4	93
1.05	Irregular payments and bribes	3.7	83
1.06	Judicial independence	3.3	90
1.07	Favoritism in decisions of government officials	2.6	111
1.08	Wastefulness of government spending	2.2	129
1.09	Burden of government regulation	3.0	99
1.10	Efficiency of legal framework in settling disputes	3.5	81
1.11	Efficiency of legal framework in challenging regs.	3.0	108
1.12	Transparency of government policymaking	3.5	132
1.13	Gov't services for improved business performance	2.9	121
1.14	Business costs of terrorism	5.5	79
1.15	Business costs of crime and violence	4.3	100
1.16	Organized crime	5.1	77
1.17	Reliability of police services	4.2	75
1.18	Ethical behavior of firms	3.6	99
1.19	Strength of auditing and reporting standards	5.1	40
1.20	Efficacy of corporate boards	4.4	87
1.21	Protection of minority shareholders' interests	4.2	67
1.22	Strength of investor protection, 0–10 (best)*	4.3	101
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	4.2	73
2.02	Quality of roads	4.6	47
2.03	Quality of railroad infrastructure	3.2	48
2.04	Quality of port infrastructure	4.2	68
2.05	Quality of air transport infrastructure	3.5	116
2.06	Available airline seat kms/week, millions*	0.3	143
2.07	Quality of electricity supply	3.9	92
2.08	Mobile telephone subscriptions/100 pop.*	63.7	121
2.09	Fixed telephone lines/100 pop.*	4.4	109
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-6.8	129
3.02	Gross national savings, % GDP*	-1.5	141
3.03	Inflation, annual % change*	6.1	91
3.04	General government debt, % GDP*	17.5	22
3.05	Country credit rating, 0–100 (best)*	21.4	123
	4th pillar: Health and primary education		
4.01	Business impact of malaria	4.1	117
4.02	Malaria cases/100,000 pop.*	88.8	98
4.03	Business impact of tuberculosis	2.3	144
4.04	Tuberculosis cases/100,000 pop.*	1,287.0	144
4.05	Business impact of HIV/AIDS	2.1	144
4.06	HIV prevalence, % adult pop.*	25.9	144
4.07	Infant mortality, deaths/1,000 live births*	55.1	118
4.08	Life expectancy, years*	48.3	142
4.09	Quality of primary education	3.3	99
4.10	Primary education enrollment, net %*	85.5	111
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	58.1	111
5.02	Tertiary education enrollment, gross %*	4.4	126
5.03	Quality of the educational system	3.1	110
5.04	Quality of math and science education	3.2	110
5.05	Quality of management schools	2.8	135
5.06	Internet access in schools	2.5	126
5.07	Availability of research and training services	3.0	132
5.08	Extent of staff training	3.8	87

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.2	111
6.02	Extent of market dominance	3.2	110
6.03	Effectiveness of anti-monopoly policy	3.3	126
6.04	Extent and effect of taxation	3.2	100
6.05	Total tax rate, % profits*	36.8	66
6.06	No. procedures to start a business*	12	121
6.07	No. days to start a business*	56	127
6.08	Agricultural policy costs	3.9	70
6.09	Prevalence of trade barriers	4.0	97
6.10	Trade tariffs, % duty*	6.7	83
6.11	Prevalence of foreign ownership	5.3	36
6.12	Business impact of rules on FDI	4.3	98
6.13	Burden of customs procedures	3.0	135
6.14	Imports as a percentage of GDP*	71.7	31
6.15	Degree of customer orientation	4.4	94
6.16	Buyer sophistication	3.1	100
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.0	102
7.02	Flexibility of wage determination	4.7	96
7.03	Hiring and firing practices	3.3	117
7.04	Redundancy costs, weeks of salary*	15	67
7.05	Pay and productivity	3.3	116
7.06	Reliance on professional management	4.2	72
7.07	Brain drain	2.4	127
7.08	Women in labor force, ratio to men*	0.63	111
	8th pillar: Financial market development		
8.01	Availability of financial services	4.2	87
8.02	Affordability of financial services	3.8	91
8.03	Financing through local equity market	2.6	118
8.04	Ease of access to loans	2.4	102
8.05	Venture capital availability	2.1	120
8.06	Soundness of banks	5.6	46
8.07	Regulation of securities exchanges	3.7	102
8.08	Legal rights index, 0–10 (best)*	6	65
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	3.8	131
9.02	Firm-level technology absorption	4.0	124
9.03	FDI and technology transfer	3.9	118
9.04	Individuals using Internet, %*	18.1	99
9.05	Broadband Internet subscriptions/100 pop.*	0.2	116
9.06	Int'l Internet bandwidth, kb/s per user*	2.3	122
9.07	Mobile broadband subscriptions/100 pop.*	0.7	113
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.7	134
10.02	Foreign market size index, 1–7 (best)*	2.8	128
	11th pillar: Business sophistication		
11.01	Local supplier quantity	3.7	136
11.02	Local supplier quality	3.8	119
11.03	State of cluster development	3.2	100
11.04	Nature of competitive advantage	2.7	120
11.05	Value chain breadth	2.7	130
11.06	Control of international distribution	3.5	117
11.07	Production process sophistication	2.9	120
11.08	Extent of marketing	3.0	126
11.09	Willingness to delegate authority	3.2	115
	12th pillar: Innovation		
12.01	Capacity for innovation	2.4	130
12.02	Quality of scientific research institutions	2.3	133
12.03	Company spending on R&D	2.3	131
12.04	University-industry collaboration in R&D	2.6	130
12.05	Gov't procurement of advanced tech products	2.5	137
12.06	Availability of scientists and engineers	2.6	144
12.07	PCT patents, applications/million pop.*	0.2	90

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Tanzania

Key indicators, 2011

Population (millions)	46.4
GDP (US$ billions)*	23.9
GDP per capita (US$)	565.5
GDP (PPP) as share (%) of world total	0.09

Sectoral value-added (% GDP), 2011

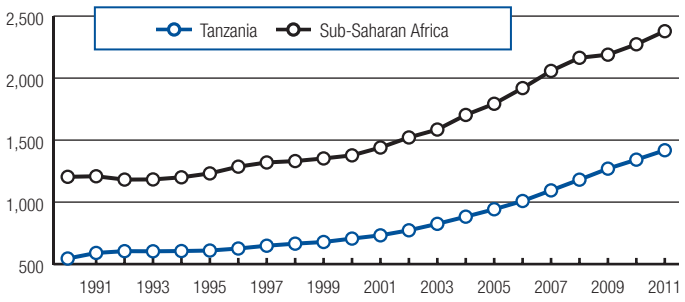
Agriculture	27.1
Industry	26.5
Services	46.4

Human Development Index, 2011

Score, (0–1) best	0.47
Rank (out of 187 economies)	152

Sources: IMF; UNFPA; UNDP; World Bank

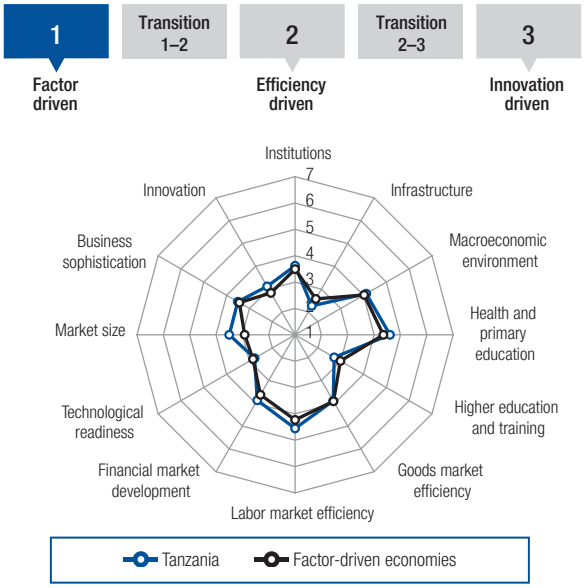
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

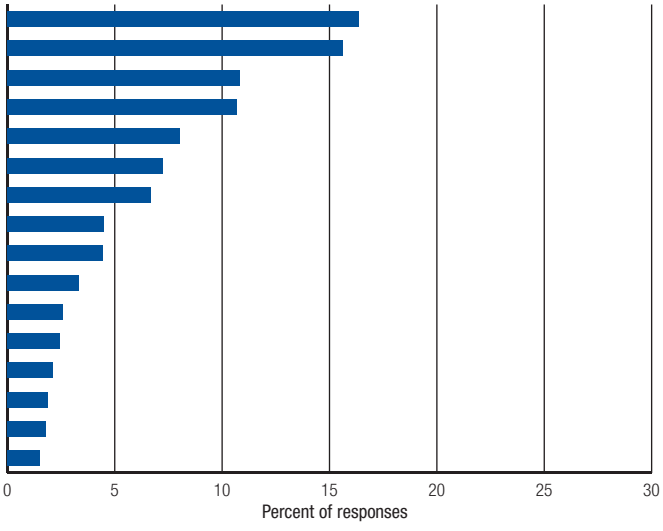
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**120**	**3.6**
GCI 2011–2012 (out of 142)	120	3.6
GCI 2010–2011 (out of 139)	113	3.6
Basic requirements (60.0%)	**122**	**3.7**
Institutions	86	3.6
Infrastructure	132	2.3
Macroeconomic environment	107	4.1
Health and primary education	113	4.6
Efficiency enhancers (35.0%)	**113**	**3.6**
Higher education and training	132	2.7
Goods market efficiency	110	3.9
Labor market efficiency	47	4.6
Financial market development	85	3.9
Technological readiness	122	2.8
Market size	77	3.5
Innovation and sophistication factors (5.0%)	**92**	**3.3**
Business sophistication	106	3.5
Innovation	75	3.1

Stage of development



The most problematic factors for doing business

Corruption	16.3
Access to financing	15.6
Inadequate supply of infrastructure	10.8
Inflation	10.7
Inefficient government bureaucracy	8.0
Tax rates	7.2
Inadequately educated workforce	6.7
Poor work ethic in national labor force	4.5
Tax regulations	4.4
Foreign currency regulations	3.3
Poor public health	2.6
Crime and theft	2.5
Restrictive labor regulations	2.1
Policy instability	1.9
Insufficient capacity to innovate	1.8
Government instability/coups	1.5



Note: 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 figure show the responses weighted according to their rankings.

Tanzania

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	3.6	106
1.02	Intellectual property protection	3.1	97
1.03	Diversion of public funds	3.0	78
1.04	Public trust in politicians	2.8	66
1.05	Irregular payments and bribes	3.1	116
1.06	Judicial independence	3.5	77
1.07	Favoritism in decisions of government officials	3.3	56
1.08	Wastefulness of government spending	3.1	82
1.09	Burden of government regulation	3.5	58
1.10	Efficiency of legal framework in settling disputes	3.7	68
1.11	Efficiency of legal framework in challenging regs.	3.6	70
1.12	Transparency of government policymaking	4.0	93
1.13	Gov't services for improved business performance	3.6	72
1.14	Business costs of terrorism	4.6	120
1.15	Business costs of crime and violence	4.5	87
1.16	Organized crime	4.8	93
1.17	Reliability of police services	3.6	102
1.18	Ethical behavior of firms	3.5	109
1.19	Strength of auditing and reporting standards	3.9	114
1.20	Efficacy of corporate boards	4.4	78
1.21	Protection of minority shareholders' interests	3.9	94
1.22	Strength of investor protection, 0–10 (best)*	5.0	80
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.1	124
2.02	Quality of roads	3.2	94
2.03	Quality of railroad infrastructure	2.3	82
2.04	Quality of port infrastructure	3.3	117
2.05	Quality of air transport infrastructure	3.5	117
2.06	Available airline seat kms/week, millions*	80.2	83
2.07	Quality of electricity supply	1.9	132
2.08	Mobile telephone subscriptions/100 pop.*	55.5	126
2.09	Fixed telephone lines/100 pop.*	0.3	139
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-6.0	121
3.02	Gross national savings, % GDP*	23.0	57
3.03	Inflation, annual % change*	7.0	100
3.04	General government debt, % GDP*	44.4	84
3.05	Country credit rating, 0–100 (best)*	30.3	104
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.5	140
4.02	Malaria cases/100,000 pop.*	26,132.8	128
4.03	Business impact of tuberculosis	3.5	133
4.04	Tuberculosis cases/100,000 pop.*	177.0	110
4.05	Business impact of HIV/AIDS	3.2	131
4.06	HIV prevalence, % adult pop.*	5.6	133
4.07	Infant mortality, deaths/1,000 live births*	60.2	125
4.08	Life expectancy, years*	57.4	122
4.09	Quality of primary education	3.0	114
4.10	Primary education enrollment, net %*	98.0	27
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	27.4	137
5.02	Tertiary education enrollment, gross %*	2.1	137
5.03	Quality of the educational system	3.5	80
5.04	Quality of math and science education	2.8	122
5.05	Quality of management schools	3.4	118
5.06	Internet access in schools	2.8	120
5.07	Availability of research and training services	3.6	103
5.08	Extent of staff training	3.8	77

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.2	109
6.02	Extent of market dominance	3.3	104
6.03	Effectiveness of anti-monopoly policy	4.1	62
6.04	Extent and effect of taxation	3.3	94
6.05	Total tax rate, % profits*	45.5	97
6.06	No. procedures to start a business*	12	121
6.07	No. days to start a business*	29	99
6.08	Agricultural policy costs	3.8	82
6.09	Prevalence of trade barriers	3.7	122
6.10	Trade tariffs, % duty*	9.6	103
6.11	Prevalence of foreign ownership	4.3	96
6.12	Business impact of rules on FDI	4.8	50
6.13	Burden of customs procedures	3.4	113
6.14	Imports as a percentage of GDP*	54.8	53
6.15	Degree of customer orientation	4.4	97
6.16	Buyer sophistication	2.8	118
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.0	101
7.02	Flexibility of wage determination	4.4	109
7.03	Hiring and firing practices	4.0	70
7.04	Redundancy costs, weeks of salary*	9	33
7.05	Pay and productivity	3.6	103
7.06	Reliance on professional management	4.1	77
7.07	Brain drain	3.1	94
7.08	Women in labor force, ratio to men*	0.99	5
	8th pillar: Financial market development		
8.01	Availability of financial services	3.9	102
8.02	Affordability of financial services	3.6	106
8.03	Financing through local equity market	3.4	74
8.04	Ease of access to loans	2.4	100
8.05	Venture capital availability	2.4	80
8.06	Soundness of banks	4.4	114
8.07	Regulation of securities exchanges	3.6	107
8.08	Legal rights index, 0–10 (best)*	8	24
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.1	122
9.02	Firm-level technology absorption	3.9	129
9.03	FDI and technology transfer	4.7	66
9.04	Individuals using Internet, %*	12.0	113
9.05	Broadband Internet subscriptions/100 pop.*	0.0	137
9.06	Int'l Internet bandwidth, kb/s per user*	0.9	133
9.07	Mobile broadband subscriptions/100 pop.*	1.2	109
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	3.4	73
10.02	Foreign market size index, 1–7 (best)*	3.9	83
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.2	114
11.02	Local supplier quality	3.7	125
11.03	State of cluster development	3.3	95
11.04	Nature of competitive advantage	3.1	103
11.05	Value chain breadth	3.4	89
11.06	Control of international distribution	3.8	92
11.07	Production process sophistication	3.0	117
11.08	Extent of marketing	3.1	122
11.09	Willingness to delegate authority	3.7	67
	12th pillar: Innovation		
12.01	Capacity for innovation	3.1	71
12.02	Quality of scientific research institutions	3.6	71
12.03	Company spending on R&D	3.3	55
12.04	University-industry collaboration in R&D	3.8	56
12.05	Gov't procurement of advanced tech products	3.5	73
12.06	Availability of scientists and engineers	3.6	105
12.07	PCT patents, applications/million pop.*	0.0	117

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Uganda

Key indicators, 2011

Population (millions)	34.6
GDP (US$ billions)*	17.4
GDP per capita (US$)	504.9
GDP (PPP) as share (%) of world total	0.06

Sectoral value-added (% GDP), 2011

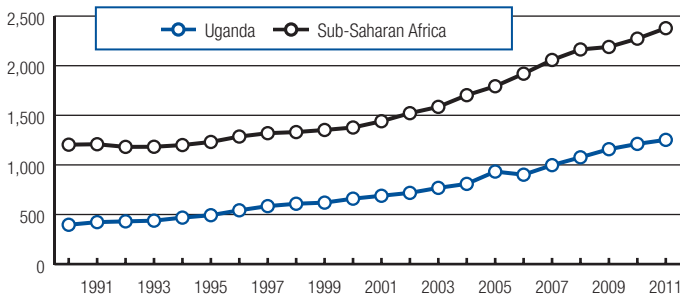
Agriculture	23.4
Industry	25.4
Services	51.1

Human Development Index, 2011

Score, (0–1) best	0.45
Rank (out of 187 economies)	161

Sources: IMF; UNFPA; UNDP; World Bank

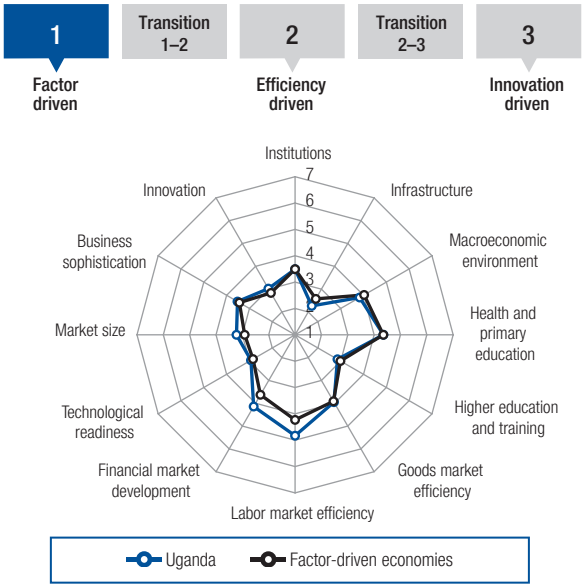
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

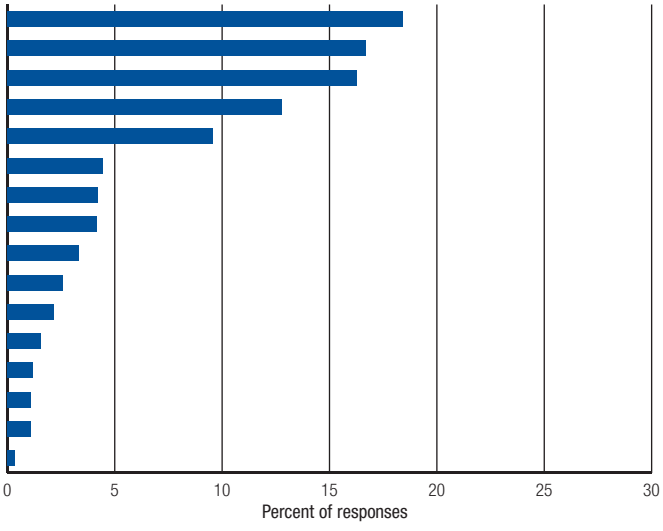
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**123**	**3.5**
GCI 2011–2012 (out of 142)	121	3.6
GCI 2010–2011 (out of 139)	118	3.5
Basic requirements (60.0%)	**132**	**3.5**
Institutions	102	3.5
Infrastructure	133	2.3
Macroeconomic environment	119	3.8
Health and primary education	123	4.4
Efficiency enhancers (35.0%)	**104**	**3.7**
Higher education and training	127	2.9
Goods market efficiency	103	4.0
Labor market efficiency	23	4.8
Financial market development	62	4.1
Technological readiness	117	2.9
Market size	85	3.2
Innovation and sophistication factors (5.0%)	**101**	**3.3**
Business sophistication	105	3.5
Innovation	82	3.0

Stage of development



The most problematic factors for doing business

Corruption	18.4
Access to financing	16.7
Inflation	16.3
Inadequate supply of infrastructure	12.8
Tax rates	9.6
Insufficient capacity to innovate	4.5
Poor work ethic in national labor force	4.2
Inefficient government bureaucracy	4.2
Inadequately educated workforce	3.3
Crime and theft	2.6
Foreign currency regulations	2.2
Policy instability	1.6
Poor public health	1.2
Government instability/coups	1.1
Tax regulations	1.1
Restrictive labor regulations	0.4



Note: 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 figure show the responses weighted according to their rankings.

Uganda

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.1	80
1.02	Intellectual property protection	3.3	84
1.03	Diversion of public funds	2.0	139
1.04	Public trust in politicians	2.5	83
1.05	Irregular payments and bribes	3.0	124
1.06	Judicial independence	3.5	80
1.07	Favoritism in decisions of government officials	2.5	113
1.08	Wastefulness of government spending	2.4	120
1.09	Burden of government regulation	3.8	40
1.10	Efficiency of legal framework in settling disputes	4.1	49
1.11	Efficiency of legal framework in challenging regs.	3.9	59
1.12	Transparency of government policymaking	4.4	59
1.13	Gov't services for improved business performance	3.8	63
1.14	Business costs of terrorism	3.7	138
1.15	Business costs of crime and violence	3.4	126
1.16	Organized crime	4.2	112
1.17	Reliability of police services	3.9	87
1.18	Ethical behavior of firms	3.6	89
1.19	Strength of auditing and reporting standards	4.1	105
1.20	Efficacy of corporate boards	4.7	48
1.21	Protection of minority shareholders' interests	3.9	97
1.22	Strength of investor protection, 0–10 (best)*	4.0	110
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.4	110
2.02	Quality of roads	2.9	110
2.03	Quality of railroad infrastructure	1.4	111
2.04	Quality of port infrastructure	3.8	90
2.05	Quality of air transport infrastructure	3.8	107
2.06	Available airline seat kms/week, millions*	43.3	102
2.07	Quality of electricity supply	2.2	129
2.08	Mobile telephone subscriptions/100 pop.*	48.4	130
2.09	Fixed telephone lines/100 pop.*	1.3	123
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-7.2	132
3.02	Gross national savings, % GDP*	13.6	108
3.03	Inflation, annual % change*	6.5	94
3.04	General government debt, % GDP*	29.2	40
3.05	Country credit rating, 0–100 (best)*	35.0	93
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.8	136
4.02	Malaria cases/100,000 pop.*	28,037.4	133
4.03	Business impact of tuberculosis	4.0	125
4.04	Tuberculosis cases/100,000 pop.*	209.0	117
4.05	Business impact of HIV/AIDS	3.1	132
4.06	HIV prevalence, % adult pop.*	6.5	135
4.07	Infant mortality, deaths/1,000 live births*	63.0	126
4.08	Life expectancy, years*	53.6	130
4.09	Quality of primary education	3.3	100
4.10	Primary education enrollment, net %*	90.9	89
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	28.1	135
5.02	Tertiary education enrollment, gross %*	4.2	128
5.03	Quality of the educational system	3.7	69
5.04	Quality of math and science education	3.4	109
5.05	Quality of management schools	3.9	89
5.06	Internet access in schools	2.9	118
5.07	Availability of research and training services	3.8	91
5.08	Extent of staff training	3.6	100

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.7	77
6.02	Extent of market dominance	3.2	115
6.03	Effectiveness of anti-monopoly policy	4.3	46
6.04	Extent and effect of taxation	3.2	102
6.05	Total tax rate, % profits*	35.7	63
6.06	No. procedures to start a business*	16	140
6.07	No. days to start a business*	34	109
6.08	Agricultural policy costs	4.0	58
6.09	Prevalence of trade barriers	4.0	93
6.10	Trade tariffs, % duty*	9.0	101
6.11	Prevalence of foreign ownership	5.3	32
6.12	Business impact of rules on FDI	5.1	31
6.13	Burden of customs procedures	4.2	64
6.14	Imports as a percentage of GDP*	45.0	72
6.15	Degree of customer orientation	4.6	73
6.16	Buyer sophistication	2.5	127
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	86
7.02	Flexibility of wage determination	6.3	1
7.03	Hiring and firing practices	5.2	7
7.04	Redundancy costs, weeks of salary*	9	25
7.05	Pay and productivity	3.4	113
7.06	Reliance on professional management	3.9	94
7.07	Brain drain	3.1	97
7.08	Women in labor force, ratio to men*	0.96	7
	8th pillar: Financial market development		
8.01	Availability of financial services	4.5	73
8.02	Affordability of financial services	4.0	80
8.03	Financing through local equity market	3.5	68
8.04	Ease of access to loans	3.0	60
8.05	Venture capital availability	2.5	74
8.06	Soundness of banks	5.2	68
8.07	Regulation of securities exchanges	4.0	72
8.08	Legal rights index, 0–10 (best)*	7	43
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.5	104
9.02	Firm-level technology absorption	4.3	103
9.03	FDI and technology transfer	4.8	60
9.04	Individuals using Internet, %*	13.0	112
9.05	Broadband Internet subscriptions/100 pop.*	0.3	114
9.06	Int'l Internet bandwidth, kb/s per user*	1.8	125
9.07	Mobile broadband subscriptions/100 pop.*	2.8	96
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	3.2	80
10.02	Foreign market size index, 1–7 (best)*	3.4	105
	11th pillar: Business sophistication		
11.01	Local supplier quantity	5.0	41
11.02	Local supplier quality	4.0	108
11.03	State of cluster development	3.1	112
11.04	Nature of competitive advantage	3.1	95
11.05	Value chain breadth	3.2	103
11.06	Control of international distribution	4.0	74
11.07	Production process sophistication	2.8	122
11.08	Extent of marketing	2.9	130
11.09	Willingness to delegate authority	3.5	92
	12th pillar: Innovation		
12.01	Capacity for innovation	2.8	102
12.02	Quality of scientific research institutions	3.4	86
12.03	Company spending on R&D	2.9	89
12.04	University-industry collaboration in R&D	3.6	68
12.05	Gov't procurement of advanced tech products	3.6	68
12.06	Availability of scientists and engineers	3.8	89
12.07	PCT patents, applications/million pop.*	0.0	118

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Zambia

Key indicators, 2011

Population (millions)	13.5
GDP (US$ billions)*	19.2
GDP per capita (US$)	1,413.8
GDP (PPP) as share (%) of world total	0.03

Sectoral value-added (% GDP), 2011

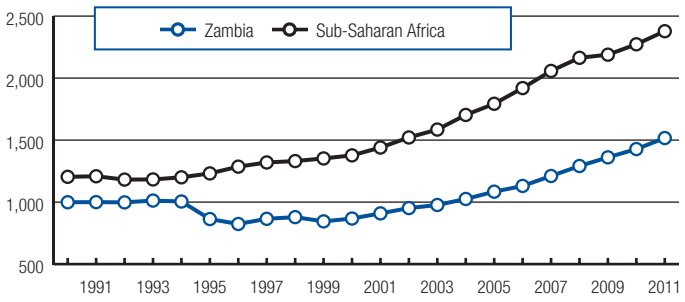
Agriculture	20.7
Industry	37.7
Services	41.5

Human Development Index, 2011

Score, (0–1) best	0.43
Rank (out of 187 economies)	164

Sources: IMF; UNFPA; UNDP; World Bank

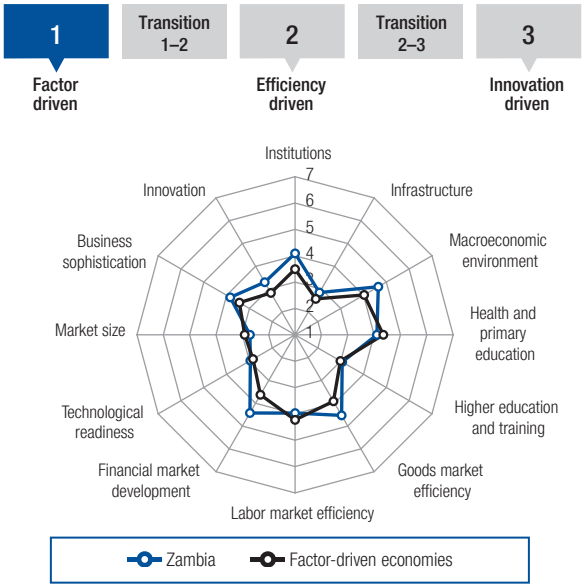
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

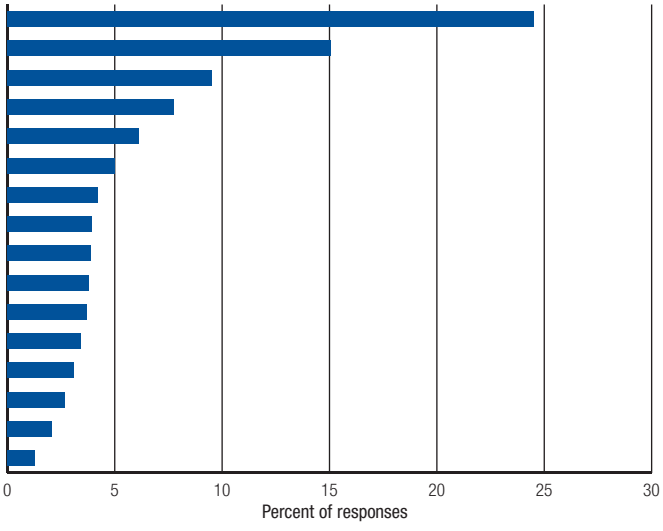
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**102**	**3.8**
GCI 2011–2012 (out of 142)	113	3.7
GCI 2010–2011 (out of 139)	115	3.5
Basic requirements (60.0%)	**108**	**3.9**
Institutions	56	4.1
Infrastructure	111	2.9
Macroeconomic environment	67	4.6
Health and primary education	129	4.1
Efficiency enhancers (35.0%)	**108**	**3.6**
Higher education and training	121	3.1
Goods market efficiency	42	4.5
Labor market efficiency	111	4.0
Financial market development	50	4.4
Technological readiness	115	3.0
Market size	111	2.7
Innovation and sophistication factors (5.0%)	**67**	**3.6**
Business sophistication	75	3.8
Innovation	61	3.3

Stage of development



The most problematic factors for doing business

Access to financing	24.5
Corruption	15.0
Tax rates	9.5
Inadequate supply of infrastructure	7.7
Poor work ethic in national labor force	6.1
Foreign currency regulations	5.0
Insufficient capacity to innovate	4.2
Policy instability	4.0
Inflation	3.9
Inadequately educated workforce	3.8
Inefficient government bureaucracy	3.7
Tax regulations	3.4
Poor public health	3.1
Restrictive labor regulations	2.7
Crime and theft	2.1
Government instability/coups	1.3



Note: 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 figure show the responses weighted according to their rankings.

Zambia

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	4.5	58
1.02	Intellectual property protection	3.8	59
1.03	Diversion of public funds	3.0	75
1.04	Public trust in politicians	3.2	51
1.05	Irregular payments and bribes	3.5	93
1.06	Judicial independence	3.5	79
1.07	Favoritism in decisions of government officials	3.0	68
1.08	Wastefulness of government spending	3.4	57
1.09	Burden of government regulation	4.2	21
1.10	Efficiency of legal framework in settling disputes	4.4	39
1.11	Efficiency of legal framework in challenging regs.	3.9	55
1.12	Transparency of government policymaking	4.6	46
1.13	Gov't services for improved business performance	4.1	41
1.14	Business costs of terrorism	6.2	28
1.15	Business costs of crime and violence	4.7	79
1.16	Organized crime	5.8	37
1.17	Reliability of police services	4.4	63
1.18	Ethical behavior of firms	4.0	63
1.19	Strength of auditing and reporting standards	4.6	67
1.20	Efficacy of corporate boards	4.7	53
1.21	Protection of minority shareholders' interests	4.5	46
1.22	Strength of investor protection, 0–10 (best)*	5.3	65
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.9	84
2.02	Quality of roads	3.2	96
2.03	Quality of railroad infrastructure	2.3	80
2.04	Quality of port infrastructure	4.1	70
2.05	Quality of air transport infrastructure	3.9	102
2.06	Available airline seat kms/week, millions*	31.0	108
2.07	Quality of electricity supply	3.5	107
2.08	Mobile telephone subscriptions/100 pop.*	60.6	123
2.09	Fixed telephone lines/100 pop.*	0.6	133
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-3.4	79
3.02	Gross national savings, % GDP*	26.2	39
3.03	Inflation, annual % change*	8.7	117
3.04	General government debt, % GDP*	26.1	36
3.05	Country credit rating, 0–100 (best)*	33.3	96
	4th pillar: Health and primary education		
4.01	Business impact of malaria	2.7	137
4.02	Malaria cases/100,000 pop.*	22,100.5	127
4.03	Business impact of tuberculosis	3.3	136
4.04	Tuberculosis cases/100,000 pop.*	462.0	134
4.05	Business impact of HIV/AIDS	2.8	139
4.06	HIV prevalence, % adult pop.*	13.5	139
4.07	Infant mortality, deaths/1,000 live births*	68.9	129
4.08	Life expectancy, years*	48.5	141
4.09	Quality of primary education	3.4	88
4.10	Primary education enrollment, net %*	91.4	87
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	30.4	134
5.02	Tertiary education enrollment, gross %*	2.4	135
5.03	Quality of the educational system	4.2	39
5.04	Quality of math and science education	3.9	77
5.05	Quality of management schools	4.1	75
5.06	Internet access in schools	3.2	107
5.07	Availability of research and training services	4.3	61
5.08	Extent of staff training	3.5	108

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	5.0	61
6.02	Extent of market dominance	4.0	50
6.03	Effectiveness of anti-monopoly policy	4.6	35
6.04	Extent and effect of taxation	3.5	64
6.05	Total tax rate, % profits*	14.5	6
6.06	No. procedures to start a business*	6	47
6.07	No. days to start a business*	18	76
6.08	Agricultural policy costs	4.4	25
6.09	Prevalence of trade barriers	4.4	67
6.10	Trade tariffs, % duty*	11.1	113
6.11	Prevalence of foreign ownership	5.5	25
6.12	Business impact of rules on FDI	5.0	37
6.13	Burden of customs procedures	4.3	62
6.14	Imports as a percentage of GDP*	42.7	79
6.15	Degree of customer orientation	4.6	71
6.16	Buyer sophistication	3.4	72
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.1	88
7.02	Flexibility of wage determination	4.9	82
7.03	Hiring and firing practices	4.5	31
7.04	Redundancy costs, weeks of salary*	51	136
7.05	Pay and productivity	3.6	99
7.06	Reliance on professional management	4.4	57
7.07	Brain drain	3.4	69
7.08	Women in labor force, ratio to men*	0.85	51
	8th pillar: Financial market development		
8.01	Availability of financial services	4.5	75
8.02	Affordability of financial services	4.1	74
8.03	Financing through local equity market	3.8	50
8.04	Ease of access to loans	2.6	80
8.05	Venture capital availability	2.5	78
8.06	Soundness of banks	5.3	64
8.07	Regulation of securities exchanges	4.3	57
8.08	Legal rights index, 0–10 (best)*	9	11
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.6	92
9.02	Firm-level technology absorption	4.5	88
9.03	FDI and technology transfer	4.7	69
9.04	Individuals using Internet, %*	11.5	116
9.05	Broadband Internet subscriptions/100 pop.*	0.1	126
9.06	Int'l Internet bandwidth, kb/s per user*	0.5	138
9.07	Mobile broadband subscriptions/100 pop.*	0.4	117
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	2.5	115
10.02	Foreign market size index, 1–7 (best)*	3.5	100
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.8	62
11.02	Local supplier quality	4.2	92
11.03	State of cluster development	4.1	42
11.04	Nature of competitive advantage	3.2	88
11.05	Value chain breadth	3.4	82
11.06	Control of international distribution	3.7	103
11.07	Production process sophistication	3.3	96
11.08	Extent of marketing	3.6	102
11.09	Willingness to delegate authority	3.9	48
	12th pillar: Innovation		
12.01	Capacity for innovation	3.1	76
12.02	Quality of scientific research institutions	3.5	81
12.03	Company spending on R&D	3.5	38
12.04	University-industry collaboration in R&D	3.8	55
12.05	Gov't procurement of advanced tech products	3.9	41
12.06	Availability of scientists and engineers	4.1	64
12.07	PCT patents, applications/million pop.*	0.0	103

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

Zimbabwe

Key indicators, 2011

Population (millions)	12.8
GDP (US$ billions)*	9.5
GDP per capita (US$)	752.1
GDP (PPP) as share (%) of world total	0.01

Sectoral value-added (% GDP), 2011

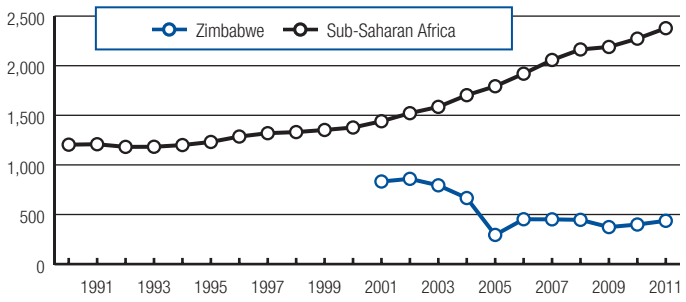
Agriculture	12.8
Industry	22.9
Services	64.3

Human Development Index, 2011

Score, (0–1) best	0.38
Rank (out of 187 economies)	173

Sources: IMF; UNFPA; UNDP; World Bank

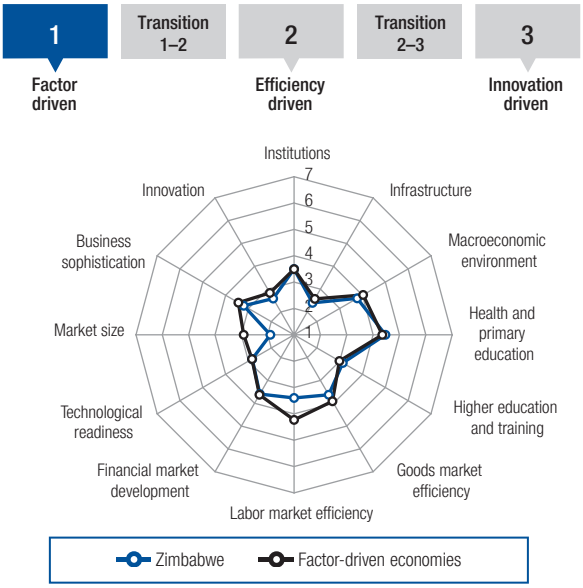
GDP (PPP) per capita (int'l $), 1990–2011



The Global Competitiveness Index

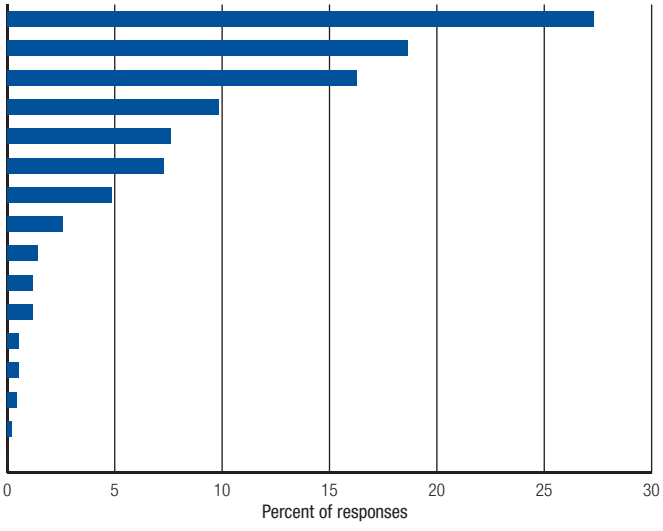
	Rank (out of 144)	Score (1–7)
GCI 2012–2013	**132**	**3.3**
GCI 2011–2012 (out of 142)	132	3.3
GCI 2010–2011 (out of 139)	136	3.0
Basic requirements (60.0%)	**127**	**3.5**
Institutions	101	3.5
Infrastructure	128	2.4
Macroeconomic environment	122	3.8
Health and primary education	119	4.5
Efficiency enhancers (35.0%)	**135**	**3.1**
Higher education and training	118	3.1
Goods market efficiency	133	3.6
Labor market efficiency	139	3.4
Financial market development	109	3.6
Technological readiness	120	2.8
Market size	135	1.9
Innovation and sophistication factors (5.0%)	**128**	**2.9**
Business sophistication	128	3.2
Innovation	127	2.6

Stage of development



The most problematic factors for doing business

Access to financing	27.3
Policy instability	18.7
Inadequate supply of infrastructure	16.3
Inefficient government bureaucracy	9.9
Corruption	7.6
Restrictive labor regulations	7.3
Government instability/coups	4.9
Tax rates	2.6
Foreign currency regulations	1.4
Insufficient capacity to innovate	1.2
Poor work ethic in national labor force	1.2
Crime and theft	0.5
Tax regulations	0.5
Poor public health	0.4
Inadequately educated workforce	0.2
Inflation	0.0



Note: 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 figure show the responses weighted according to their rankings.

Zimbabwe

The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/144
	1st pillar: Institutions		
1.01	Property rights	2.6	137
1.02	Intellectual property protection	3.1	94
1.03	Diversion of public funds	2.8	92
1.04	Public trust in politicians	1.8	130
1.05	Irregular payments and bribes	3.9	69
1.06	Judicial independence	2.7	113
1.07	Favoritism in decisions of government officials	2.5	117
1.08	Wastefulness of government spending	2.9	99
1.09	Burden of government regulation	3.0	107
1.10	Efficiency of legal framework in settling disputes	3.5	82
1.11	Efficiency of legal framework in challenging regs.	2.6	134
1.12	Transparency of government policymaking	4.3	72
1.13	Gov't services for improved business performance	2.6	131
1.14	Business costs of terrorism	6.1	38
1.15	Business costs of crime and violence	4.8	73
1.16	Organized crime	5.8	36
1.17	Reliability of police services	3.0	124
1.18	Ethical behavior of firms	3.9	72
1.19	Strength of auditing and reporting standards	5.2	35
1.20	Efficacy of corporate boards	4.8	41
1.21	Protection of minority shareholders' interests	4.6	43
1.22	Strength of investor protection, 0–10 (best)*	4.3	101
	2nd pillar: Infrastructure		
2.01	Quality of overall infrastructure	3.2	123
2.02	Quality of roads	3.2	95
2.03	Quality of railroad infrastructure	2.4	76
2.04	Quality of port infrastructure	4.4	61
2.05	Quality of air transport infrastructure	3.4	122
2.06	Available airline seat kms/week, millions*	15.4	126
2.07	Quality of electricity supply	1.7	137
2.08	Mobile telephone subscriptions/100 pop.*	72.1	115
2.09	Fixed telephone lines/100 pop.*	2.8	114
	3rd pillar: Macroeconomic environment		
3.01	Government budget balance, % GDP*	-2.1	56
3.02	Gross national savings, % GDP*	-10.0	142
3.03	Inflation, annual % change*	3.5	46
3.04	General government debt, % GDP*	70.3	115
3.05	Country credit rating, 0–100 (best)*	5.3	142
	4th pillar: Health and primary education		
4.01	Business impact of malaria	4.3	114
4.02	Malaria cases/100,000 pop.*	11,645.7	123
4.03	Business impact of tuberculosis	3.6	131
4.04	Tuberculosis cases/100,000 pop.*	633.0	140
4.05	Business impact of HIV/AIDS	3.1	133
4.06	HIV prevalence, % adult pop.*	14.3	140
4.07	Infant mortality, deaths/1,000 live births*	50.9	115
4.08	Life expectancy, years*	49.9	138
4.09	Quality of primary education	4.0	63
4.10	Primary education enrollment, net %*	90.0	93
	5th pillar: Higher education and training		
5.01	Secondary education enrollment, gross %*	38.0	125
5.02	Tertiary education enrollment, gross %*	6.2	120
5.03	Quality of the educational system	4.5	30
5.04	Quality of math and science education	4.3	50
5.05	Quality of management schools	4.1	78
5.06	Internet access in schools	2.6	123
5.07	Availability of research and training services	3.6	104
5.08	Extent of staff training	3.8	82

	INDICATOR	VALUE	RANK/144
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.4	94
6.02	Extent of market dominance	3.6	80
6.03	Effectiveness of anti-monopoly policy	3.9	79
6.04	Extent and effect of taxation	3.3	97
6.05	Total tax rate, % profits*	35.6	61
6.06	No. procedures to start a business*	9	97
6.07	No. days to start a business*	90	135
6.08	Agricultural policy costs	3.1	131
6.09	Prevalence of trade barriers	4.6	45
6.10	Trade tariffs, % duty*	20.5	138
6.11	Prevalence of foreign ownership	4.3	95
6.12	Business impact of rules on FDI	2.4	143
6.13	Burden of customs procedures	3.4	111
6.14	Imports as a percentage of GDP*	47.2	66
6.15	Degree of customer orientation	3.8	128
6.16	Buyer sophistication	3.2	93
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	3.8	122
7.02	Flexibility of wage determination	2.5	143
7.03	Hiring and firing practices	2.6	140
7.04	Redundancy costs, weeks of salary*	82	139
7.05	Pay and productivity	2.8	139
7.06	Reliance on professional management	5.3	24
7.07	Brain drain	3.0	103
7.08	Women in labor force, ratio to men*	0.93	18
	8th pillar: Financial market development		
8.01	Availability of financial services	3.7	120
8.02	Affordability of financial services	3.3	127
8.03	Financing through local equity market	3.4	69
8.04	Ease of access to loans	2.2	119
8.05	Venture capital availability	1.8	137
8.06	Soundness of banks	3.7	135
8.07	Regulation of securities exchanges	4.0	75
8.08	Legal rights index, 0–10 (best)*	7	43
	9th pillar: Technological readiness		
9.01	Availability of latest technologies	4.1	119
9.02	Firm-level technology absorption	4.4	99
9.03	FDI and technology transfer	3.5	139
9.04	Individuals using Internet, %*	15.7	105
9.05	Broadband Internet subscriptions/100 pop.*	0.3	113
9.06	Int'l Internet bandwidth, kb/s per user*	1.7	126
9.07	Mobile broadband subscriptions/100 pop.*	14.9	56
	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	1.7	137
10.02	Foreign market size index, 1–7 (best)*	2.5	135
	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.0	125
11.02	Local supplier quality	3.7	129
11.03	State of cluster development	2.8	129
11.04	Nature of competitive advantage	2.4	142
11.05	Value chain breadth	2.3	141
11.06	Control of international distribution	3.3	127
11.07	Production process sophistication	2.5	135
11.08	Extent of marketing	3.1	121
11.09	Willingness to delegate authority	3.8	66
	12th pillar: Innovation		
12.01	Capacity for innovation	2.4	129
12.02	Quality of scientific research institutions	2.9	115
12.03	Company spending on R&D	2.5	124
12.04	University-industry collaboration in R&D	3.1	112
12.05	Gov't procurement of advanced tech products	2.6	135
12.06	Availability of scientists and engineers	3.4	121
12.07	PCT patents, applications/million pop.*	0.1	98

Notes: Values are on a 1-to-7 scale unless otherwise annotated with an asterisk (*). For further details and explanation, please refer to the section "How to Read the Competitiveness Profiles" on page 109.

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WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

The publication of this year's *Africa Competitiveness Report* comes at a time of growing international attention on Africa as an investment destination and increasing talk of an African economic renaissance. This greater optimism is being spurred on by a decade of strong growth, with many countries relatively unscathed by the global economic crisis. However, growth remains unevenly spread across the region, and its relatively short time period has not yet led to a convergence in living standards with those observed in other rapidly growing developing regions. Indeed, Africa is at a crossroads, and decisions and actions today will have a strong bearing on whether it places itself on a path similar to that of other regions such as developing Asia, allowing it to transition from resource-driven to higher-value-added growth. Regional integration in this context can play a critical role going forward, offering a yet-untapped potential to get closer to this goal.

The aim of this *Report* is to provide a better understanding of the benefits of regional integration for higher-value-added growth and to discuss current constraints as well as the policy environment required to develop the necessary infrastructure for connecting Africa's markets in a sustainable way.

Much has been done in recent years to improve the business environment in Africa. Continued policy and institutional reforms are central to ensuring that African countries remain on a higher growth trajectory. This year's *Report* places a particular focus on connecting Africa's markets in a sustainable way by fostering trade facilitation, upgrading infrastructure in a way that strengthens backward and forward linkages from such projects, and piloting growth pole projects—multi-sector and multi-year investments with the aim of accelerating export industries and supporting infrastructure around particular natural resources or agglomeration economies.

This is the fourth *Report* on the region's business environment to leverage the knowledge and expertise within the African Development Bank, the World Bank, and the World Economic Forum. It presents a unified vision that maps out the policy challenges that must be met to boost Africa's competitiveness by connecting Africa's markets through increased regional integration.

Also included are detailed competitiveness profiles for 38 African countries, providing a comprehensive summary of their competitive strengths and weaknesses. *The Africa Competitiveness Report 2013* is an invaluable tool for policymakers, business strategists, and other key stakeholders, as well as essential reading for all those with an interest in the region.

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