African Center *for* Economic Transformation

2014 African Transformation Report

Growth with Depth

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The African Center for Economic Transformation is an economic policy institute supporting Africa's long-term growth through transformation. Our vision is that by 2025 all African countries will drive their own growth and transformation agendas, led by the private sector and supported by capable states with good policies and strong institutions. We work toward that vision through our analysis, advice, and advocacy. Please visit www.acetforafrica.org.

African Center for Economic Transformation

Ghana
Office Location
50 Liberation Road
Ridge Residential Area
Accra, Ghana
Phone: +233 (0)302 210 240

Mailing Address
Cantonments
PMB CT 4
Accra, Ghana

United States
1776 K Street, NW
Suite 200
Washington, DC
20006
Phone: +1 202 833 1919

For general inquiries, including press, contact info@acetforafrica.org

ISBN: 978-0-9833517-3-3

Photo credits: cover, Eric Nathan/Getty Images; pages xii–1, Gallo Images - Flamingo Photography; pages 24–25, Justin Pumfrey/Getty Images; pages 40–41, Hauke Dressler/Getty Images; pages 60–61, Max Milligan/Getty Images; pages 74–75, epicurean/Getty Images; pages 90–91, Chad Henning/Getty Images; pages 106–107, Ian Murphy/Getty Images; pages 128–129, Andrew Holt/Getty Images; pages 150–151, Grant Dixon/Getty Images; pages 166–167, Zelda Wahl/Getty Images; pages 176–177, Elk Arne Clausen/Getty Images.

Foreword

Last year the UN Secretary-General's High-Level Panel on the Post-2015 Development Agenda, which I co-chair, released its report setting a clear roadmap for eradicating extreme poverty. We recommended that the post-2015 goals be driven by five big transformative shifts. One of these shifts is a profound economic transformation to improve livelihoods by harnessing innovation, technology, and the potential of businesses. We concluded that more diversified economies, with equal opportunities for all, would drive social inclusion, especially for young people, and foster sustainable consumption and production.

Nowhere is the need for such a transformative shift greater than in Africa. Recognizing this imperative, the African heads of state and government recently endorsed the African Union's transformation vision for 2063. The key dimensions of that vision are to address the structural transformation of Africa's output and trade, strengthen Africa's infrastructure and human resources, and modernize Africa's science and technology.

I commend the African Center for Economic Transformation (ACET) for preparing this welcome report. It looks at transformation as a broad framework for growth and development and identifies best practices from Africa and beyond. It will be of great value to African policymakers as they draw up action plans to transform their economies and ensure that growth is sustained to improve the lives of an increasing number of Africans, consistent with the AU's transformation vision. And by setting a transformation agenda, it will contribute to international discussions on the strategies and priorities for achieving many of Africa's post-2015 development goals.

Five years ago, I welcomed ACET's establishment in the expectation that it would give new meaning to African ownership of Africa's destiny. With this report, ACET has earned that recognition.

Ellen Johnson Sirleaf
President
Republic of Liberia
Co-chair
UN High Level Panel on the Post-2015 Development Agenda

Preface

By 2050 Sub-Saharan Africa will have a larger and younger workforce than China or India. With the continent's abundant land and natural resources, that workforce can be a global competitive advantage and a great asset in driving economic transformation.

Such a transformation will come through diversifying African economies, boosting their competitiveness in world markets, increasing their shares of manufacturing in GDP, and using more sophisticated technology in production. Economies will then become much more prosperous, less dependent on foreign assistance, and much more resilient to shocks—mirroring the successes of Asian and Latin American countries over the past several decades.

The impressive economic growth of many African countries since the mid-1990s—as well as the progress in governance and the turnaround in investor confidence—provides a solid foundation for transforming African economies for better jobs and shared prosperity.

This first *African Transformation Report* draws on our three-year research program of country, sector, and thematic studies to offer analyses and lessons that can be tailored to each country's endowments, constraints, and opportunities. In 2010, working with local think tanks, we began to assess the transformation records, platforms, and prospects of 15 Sub-Saharan countries. Brief summaries of those studies appear in the country transformation profiles in an annex to the report. Working with African and international economists, our staff also produced cross-cutting studies of themes important to Africa's transformation. And working with African consultants, we produced studies of sectors holding promise for adding value to Africa's agricultural and manufactured products.

In 2011 we invited 30 leading thinkers on African development to come to Rockefeller's conference center in Bellagio and to provide their perspectives on the challenges of economic transformation. Attending were African ministers and business leaders, academics from prominent think tanks, senior officials from multilateral development banks, and development specialists from Asia and Latin America. The workshop drew lessons from outside Africa to help us make our approach more responsive to the needs of African policymakers. It also explored possible networks for collaboration in pursuing Africa's transformation agenda. All those taking part greatly enriched the discourse and resoundingly endorsed our work, including our plans to produce this report.

Economic transformation is now the consensus paradigm for Africa's development. The UN's High Level Panel on the global development agenda after 2015 sets out the priorities for transforming African's economies for jobs and inclusive growth. The African Union's Vision 2063 calls for integrating the continent's economies so that they partake more in the global economy and in regional opportunities. The African Development Bank's long-term strategy, *At the Center of Africa's Transformation,* has the goal of establishing Africa as the next global emerging market. And the Economic Commission for Africa's 2013 economic report*, Making the most of Africa's commodities: Industrializing for growth, jobs, and economic transformation,* details what's needed to promote competitiveness, reduce dependence on primary commodity exports, and emerge as a new global growth pole.

Our report's main premise is that African economies need more than growth—if they are to transform, they need growth with DEPTH. That is, they need to **D**iversify their production, make their **E**xports competitive, increase the **P**roductivity of farms, firms, and government offices, and upgrade the **T**echnology they use throughout the economy—all to improve **H**uman well-being.

A key feature of the report is ACET's new African Transformation Index, which assesses the performance of countries on the five depth attributes of transformation and aggregates them in an overall index. It shows policymakers, business people, the media, and the public how their economies are transforming and where they stand in relation to their peers. It can thus be a starting point for national dialogues on key areas for launching transformation drives. We plan to refine the index in coming years and to expand its coverage beyond the 21 countries assessed here.

The report recognizes that transformation doesn't happen overnight but is a long-term process. It requires constructive relationships between the state and the private sector. True, private firms will lead in producing and distributing goods and services, in upgrading technologies and production processes, and in expanding employment. But firms need a state that has strong

capabilities in setting an overall economic vision and strategy, efficiently providing supportive infrastructure and services, maintaining a regulatory environment conducive to entrepreneurial activity, and making it easier to acquire new technology and enter new economic activities and markets.

That will require committed leadership to reach a consensus on each country's long-term vision and strategy and to coordinate the activities of all actors in pursuing economic transformation. Our hope is that the analysis and recommendations in this report will support them in moving forward with their transformation plans, policies, and programs.

Producing this report was possible only through the dedicated efforts of ACET staff, led by our Chief Economist Yaw Ansu, as well as the substantive contributions by think tanks and experts in Africa and across the globe, the constructive reviews of transformation studies and draft chapters by specialists well versed in the field, and the generous support of international foundations and development organizations that believed in our resolve to help drive the discourse on Africa's economic transformation through growth with depth.

K.Y. Amoako
President
African Center for Economic Transformation

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Acknowledgments

Yaw Ansu, ACET's Chief Economist, led the team preparing this first *African Transformation Report* and comprising Francis Abebrese, Nana Amma Afari-Gyan, Kobina Aidoo, Joe Amoako-Tuffour, Mina Ballamoune, Edward Brown, Kwaku Damoah, Nicolas Chauvin Depetris, Julius Gatune, Sheila Khama, Eugenie Maiga, Abdul Mijiyawa, and Francis Mulangu.

Many leading development thinkers offered perspectives on Africa's economic transformation during the April 2011 discussions at the Rockefeller Conference Center in Bellagio, Italy: Shankar Acharya (former Chief Economic Advisor to the Government of India), Kwesi Botchwey (former Finance Minister, Ghana), Hela Cheikhrouhou (Director of Infrastructure, AfDB), Luisa Vitoria Dias Diogo (Minister of Public Service, Mozambique), Wagner Guerra (Head, Department of International Affairs, Central Bank of Brazil), Donald Kaberuka (President, AfDB), Rosalind Kainyah (Vice-President, Tullow Oil), Amara Konneh (Minister of Planning and Economic Affairs, Liberia), Wonhyuk Lim (Director of Policy Research, Korean Development Institute), Justin Yifu Lin (Chief Economist, World Bank), David Ma (former Director, Institute of Public Administration and Management, Singapore), Ali Mansoor (Financial Secretary, Government of Mauritius), Mekonnen Manyazewal (Minister of Industry, Ethiopia), Tito Mboweni (former Governor of the Reserve Bank of South Africa and Chairman of AngloGold Ashanti), Greg J.B. Mills (Director, The Brenthurst Foundation, South Africa), Celestin Monga (Senior Economic Advisor, World Bank), Akbar Noman (Columbia University and Initiative for Policy Dialogue), Steve Radelet (Chief Economist, USAID), Charles Soludo (former Governor of the Central Bank, Nigeria), Anver Versi (Editor, African Business magazine, London), Michel Wormser (Director of Strategy and Operations, Africa Region, World Bank), and Shahid Yusuf (independent consultant). The report also profited from the insights of James Mwangi and Edwin Macharia, Global Managing Partner and Partner, respectively, of Dalberg Global Development Advisors.

The report benefited from background studies by a number of external experts: David Ashton (skills development); Dalberg Global Development Advisors (agroprocessing) and Aly-Khan Jamal (formerly with Dalberg Global Development Advisors, agroprocessing); Eric Ng Ping Cheun of PluriConseil Ltd, Mauritius (textiles and garments); Iain Christie (tourism); Robert Liebenthal (tourism in Zambia); Rafael Macatangay and others of the University of Dundee's Centre for Energy, Petroleum and Mineral Law and Policy (extractives); Marysue Shore of Global Business Strategies (CEO interviews and manufacturing matrix); and Joseph Kwasi Ansu (manufacturing matrix).

Country case studies were conducted by think tanks and researchers in 15 African countries led by Haile Taye and Grace Kgakge of the Botswana Institute for Development Policy and Analysis (Botswana); Boubié Bassolet and Idrissa Ouedraogo of Université Ouaga 2 (Burkina Faso); Henri Ngoa Tabi of the Center of Research and Studies in Economics and Management and Etienne M.A. Assiga of the Office of the Prime Minister (Cameroon); Tadele Ferede of Addis Ababa University and Gebrehiwot Ageba of the Ethiopian Development Research Institute (Ethiopia); Kofi O. Nti, independent consultant (Ghana); Moses Ikiara of the Kenya Institute for Public Policy Research and Analysis (Kenya); Eric Ng Ping Cheun of PluriConseil Ltd, Mauritius (Mauritius); Eduardo Neves and Vasco C. Nhabinde of the Eduardo Mondlane University's Center for Economics and Management Studies (Mozambique); Osita Ogbu of African Development Solutions (and former Economic Advisor to the President and Minister of Planning, Nigeria) and John Adeoti of the University of Nigeria, Nsukka (Nigeria); Dickson Malunda and Serge Musana of the Institute of Policy Analysis and Research (Rwanda); El Hadji A. Camara of the Consortium pour la Recherche Economique et Sociale (Senegal); Haroon Bhorat and Morne Oosthuizen of the University of Cape Town's Development Policy Research Unit (South Africa); H. Bohela Lunogelo and Monica Hangi of the Economic and Social Research Foundation (Tanzania); Lawrence Bategeka of the Economic Policy Research Centre (Uganda); and Caesar C. Cheelo and Lilian Muchimba of the Zambia Institute for Policy Analysis and Research (Zambia).

Report chapters benefited from reviews by Akbar Noman (Columbia University); Shanta Devarajan, Peter Materu, and Jee-Peng Tan (World Bank); Birger J. Fredriksen, Sarwar Lateef, Evelyn Herfkens, Costas Micholopoulos, and Peter Miovic (independent consultants); Alan Gelb (Center for Global Development); John Page (The Brookings Institution); and Marysue Shore (Global Business Strategies).

Background studies, country case studies, and the African Transformation Index benefited from reviews by Melvin Ayogu (University of Cape Town, The Brookings

Institution, and the Mapungubwe Institute for Strategic Reflection, South Africa), Kwame Baah-Dwomoh (independent consultant), Ishac Diwan (World Bank and Harvard University), Alan Gelb (Center for Global Development), Mwangi wa Githinji (University of Massachusetts), Kwabena Gyimah-Brempong (University of South Florida), Robert Liebenthal (independent consultant, Zambia), Célestin Monga (World Bank), Akbar Noman (Columbia University), Chukwuma Obidegwu (independent consultant), Lindsay Whitfield (Roskilde University, Denmark) Yaw Nyarko (New York University), Lemma Senbet (University of Maryland, College Park, and the African Economic Research Consortium), Dharshan Wignarajah and Alex Beyers (independent consultants). They also benefited from a discussion at the Africa Task Force Meeting at the Fifth Tokyo International Conference on African Development, chaired by Professor Joseph Stiglitz and hosted by the Japan International Cooperation Agency Research Institute and the Initiative for Policy Dialogue of Columbia University.

Bruce Ross-Larson of Communications Development Incorporated in Washington, DC, edited the report, with Joe Caponio, Jack Harlow, and Christopher Trott; Elaine Wilson laid out the report, Diane Broadley designed the template, and Gerry Quinn designed the figures.

OVERVIEW

Transforming African economies through growth with depth

Since the mid-1990s many Sub-Saharan countries have seen solid economic growth buoyed by reforms in macroeconomic management, improvements in the business environment, and high commodity prices. Rising incomes are supporting the emergence of an African middle class, and young Africans are now much more likely to return home to pursue a career after an education abroad.

The premise of this first *African Transformation Report* is that the recent economic growth, while welcome, will not by itself sustain development on the continent. To ensure that growth is sustainable and continues to improve the lives of the many, countries now need to vigorously promote economic transformation. Growth so far has come from macroeconomic reforms, better business environments, and higher commodity prices. But economic transformation requires much more. Countries have to diversify their production and exports. They have to become more competitive on international markets. They have to increase the productivity of all resource inputs, especially labor. And they have to upgrade technologies they use in production. Only by doing so can they ensure that growth improves human well-being by providing more productive jobs and higher incomes and thus has everyone share in the new prosperity. So, what African countries need is more **D**iversification, more **E**xport competitiveness, more **P**roductivity increases, more **T**echnological upgrading, and more improvements in **H**uman well-being. In short, they need growth with depth.

The state, private firms, workers, the media, and civil society all have mutually reinforcing roles in promoting economic transformation. Private firms—foreign and local, formal and informal—lead in producing and distributing goods and services, in upgrading technologies and production processes, and in expanding the opportunities for productive employment. But they can be helped by a state that has strong capabilities in setting an overall economic vision and strategy, efficiently providing supportive infrastructure and services, maintaining a regulatory environment conducive to entrepreneurial activity, and facilitating the acquisition of new technologies and the capabilities to produce new goods and services and to access new foreign markets.

Similarly, the state can gain much from having firms and entrepreneurs weigh in on setting a national economic vision and strategy—and on designing policies, investments, and incentives to support that strategy.

And strong third-party mechanisms of accountability can draw in parliaments, independent media, academics, think tanks, and other parts of civil society to ensure that close collaboration between officials and firms does indeed support economic transformation.

An essential part of economic transformation is acquiring the capability to produce a widening array of goods and services and then choosing which ones to specialize in based on international relative prices

Economic transformation is now the agenda

The UN High Level Panel on the development agenda after 2015 identifies four priorities to transform economies for jobs and inclusive growth.[1] First is creating opportunities for productive jobs and secure livelihoods that make growth inclusive and reduce poverty and inequality. Second is raising productivity to accelerate and sustain growth everywhere by intensifying agriculture, developing industry, and expanding services—in whatever mix matches a country's endowment. Third is setting an environment for business to flourish and connect through value chains to major markets at home and abroad. And fourth is supporting new ways of producing and consuming that sustain the environment.

The African Union's 2063 Agenda calls for the region's economies to integrate and to join the global economy.[2] This will require developing human capital through education and training, especially in science, technology, and innovation. It will also require accelerating infrastructure development to link African economies and people by meeting the targets set for energy, transport, and information and communication technologies. And it will require fostering meaningful partnerships with the private sector.

The UN Economic Commission for Africa's *2013 Economic Report on Africa* calls for making the most of the continent's commodities by industrializing for jobs, growth, and economic transformation.[3] It notes that major firms are outsourcing tasks beyond their core competencies and thus shifting the structure of global value chains. That could change the relationships between the exploitation of oil, gas, and minerals and the location of industries that process them.

Those are just a few of the organizations propounding structural shifts from agriculture and mining to manufacturing and to services that are at the heart of economic transformation. But as this first *African Transformation Report* argues, there is more to transforming economies than shifting their structures.

Growth with depth to transform African economies

Many African economies are growing faster than they have in 40 years. Six of the world's 10 fastest growing countries in the 2000s were in Sub-Saharan Africa: Angola at 11.1% a year, Nigeria 8.9%, Ethiopia 8.4%, Chad 7.9%, Mozambique 7.9%, and Rwanda 7.6%.[4] And several others were above or near the 7% growth needed to double their economies in 10 years.

Behind the growth are the implementation of better economic policies, the end of the decades-long debt crisis, high commodity prices and rising discovery and exports of oil, gas, and minerals, and the beneficial impacts of new information and communication technologies. But the structure of most Sub-Saharan economies has not changed much over the past 40 years. Production and exports are still based on a narrow range of commodities; the share of manufacturing in production and exports remains relatively low, as do the levels of technology and productivity across economies. On global markets African countries generally find it a challenge to compete, except in primary agricultural commodities and extractives. And the levels of vulnerable and informal employment are high—around 80% in many countries—which translate to high poverty levels—with around 50% of the population living on less than $1.25 a day. Pursuing economic transformation, or the growth with DEPTH agenda, is therefore imperative for African countries.

To make the case for transformation as growth with depth, we compare Africa's performance with that of eight earlier transformers: Brazil, Chile, Indonesia, Malaysia, Singapore, South Korea, Thailand, and Vietnam. Forty years ago their economies had features that today characterize many African countries—widespread poverty, low productivity, low technology, and limited exports. But they ignited and sustained long periods of high GDP and export growth, economic diversification, technology upgrading, and productivity increases and greatly improved the lives of their people. Today several of them are upper middle- or even high-income countries (figure 1).

Diversified production

An essential part of economic transformation is acquiring the capability to produce a widening array of goods and services and then choosing which ones to specialize in based on international relative prices. This has been the experience of today's developed countries: increasing the diversity of production before specializing to better take advantage of market opportunities. Today, Sub-Saharan countries are confined to a narrow range of commodity production and exports not because they choose to specialize, but because they lack the technical and other capabilities to expand into other higher technology products and services. The region's average

share of manufacturing value added in GDP, an indicator of diversity in production, was less than 10% in 2010, much the same as in the 1970s. In contrast, the share is nearly 25% in the earlier transformers.

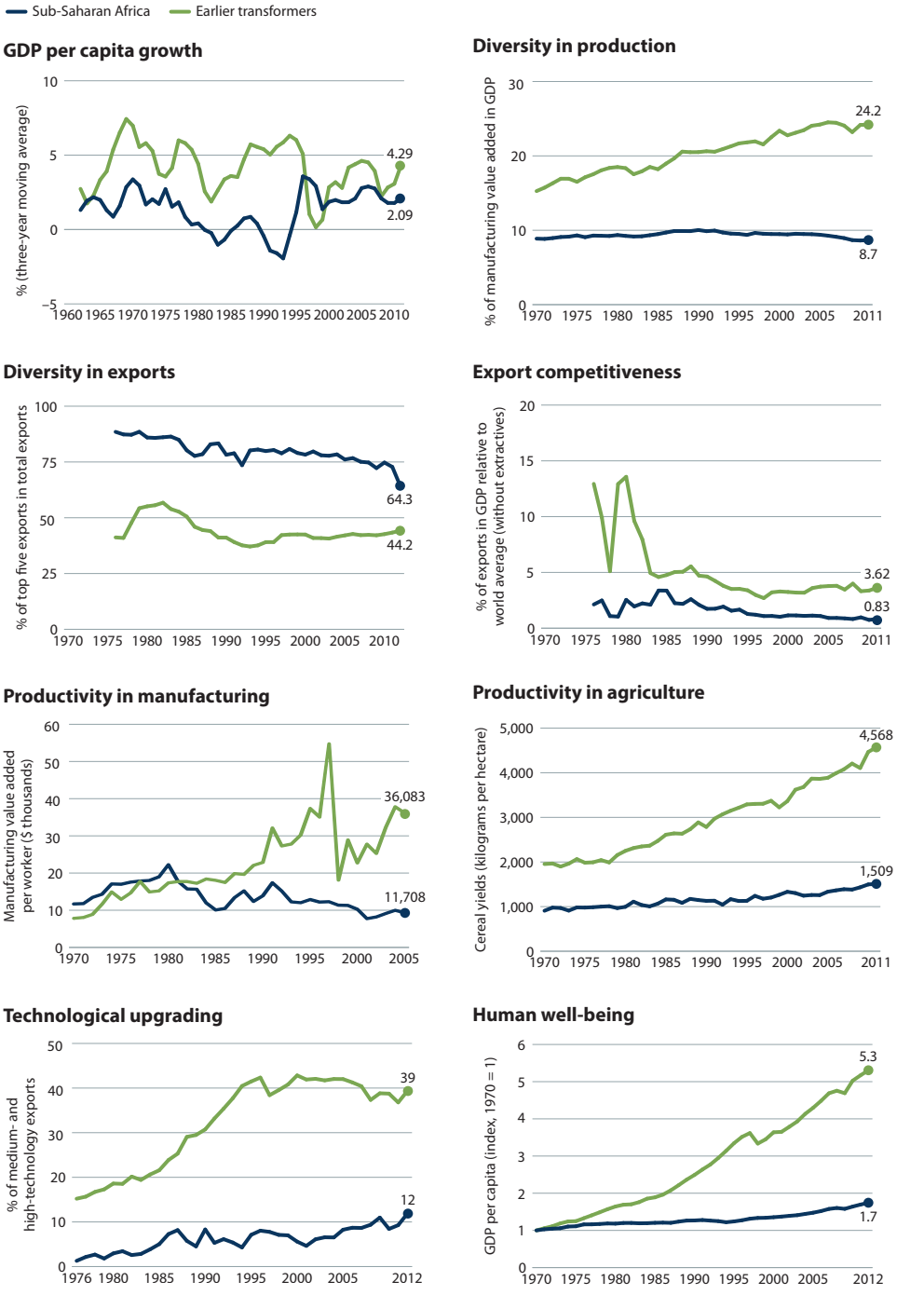
Export competitiveness

Exporting provides the opportunity to expand production, boost employment, reduce unit costs, and increase incomes. It also enables a country to better exploit its comparative advantage to generate higher incomes, which help pay for the investments in skills, capital, and technology needed to upgrade a country's comparative advantage over time. And knowledge and exposure to competition gained from exporting help in diversifying to new economic activities and raising productivity. Export competitiveness can be measured by a country's global export share divided by its global GDP share. If this share is high, the country exports a higher share of its GDP than the world average. For both exports and GDP we exclude extractives, since rising extractive production and exports in Africa normally does not indicate progress on economic transformation. Trends in this measure of export competitiveness show a large gap between the African countries and the earlier transformers. The share of nonextractive exports in nonextractive GDP rose between 1980 and 1985. It has since been on a downward trend, revealing that the region's recent GDP growth has not been matched by corresponding growth in exports outside extractives. Exports of Sub-Saharan countries center on a few commodities—with the top five accounting for about 64% of exports, compared with about 44% for the earlier transformers.

Productivity gains on farms and in manufacturing

Around 60–70% of the population in Africa lives in rural areas, mostly dependent on agriculture. So increasing agricultural productivity would be a powerful way to raise incomes. Indeed, in most industrialization experiences, the rise in agricultural productivity

Figure 1 Growth with DEPTH for transformation



Note: The eight earlier transformers used as benchmarks for Sub-Saharan Africa's future transformation efforts are Brazil, Chile, Indonesia, Malaysia, Singapore, South Korea, Thailand, and Vietnam.

Source: ACET calculations based on data from various international organizations.

A transforming economy would have an increasing share of the labor force in formal employment as the shares of modern agriculture, manufacturing, and high-value services in GDP expand and as entrants to the labor force become more educated

allowed agriculture to release labor to industry, produce more food to moderate any hikes in urban industrial wages, supply raw materials for processing in industries, increase exports to pay for transformation inputs, and enhance the domestic market for industrial products. With cereal yields now running at about 1,500 kilograms per hectare, or a third of the yields of the comparators, raising agriculture's productivity has to be a key part of the economic transformation agenda. In addition, to industrialize successfully, productivity in manufacturing in Africa has to rise; manufacturing value added per worker is around $11,700 (in 2005 US$), or roughly a third of the $36,000 for the comparators.

Technological upgrading throughout the economy

Productivity gains can come from more efficient use of existing resources and technology to produce the same goods and services, but rising productivity can be sustained only through new and improved technologies and increasing ability to master more sophisticated economic activities. Furthermore, as technology rises in manufacturing, a transforming economy can produce goods that command higher prices on the international markets. In both production and exports, the shares of medium- and high-technology manufactures in Sub-Saharan Africa are generally low—at around 12%, less than a third of the 39% for the comparators.

Human well-being

Improving human well-being involves many factors, including incomes, employment, poverty, inequality, health, and education, as well as peace, justice, security, and the environment. The two most directly related to economic transformation are GDP per capita and employment. If GDP per capita is rising, and remunerative employment opportunities are expanding, economic transformation will result in shared prosperity, and income inequality will be reduced or at least controlled. GDP per capita in Sub-Saharan Africa has not yet doubled its level in 1970, but for the comparators it has more than quintupled—a performance that African countries should now aspire to.

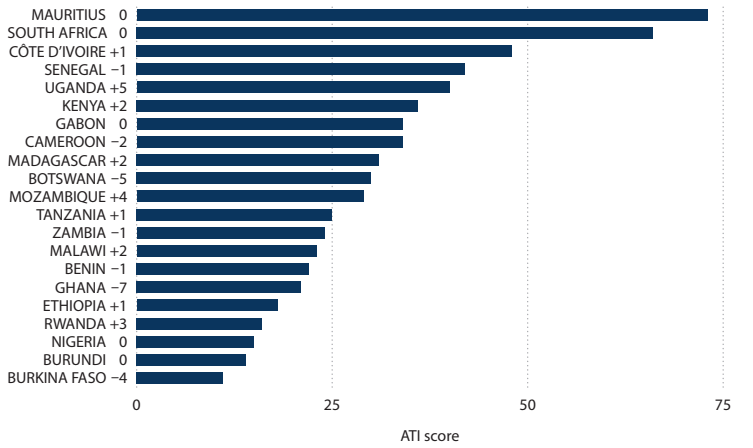
A transforming economy would have an increasing share of the labor force in formal employment as the shares of modern agriculture, manufacturing, and high-value services in GDP expand and as entrants to the labor force become more educated. The share of formal employment in the labor force is therefore a good indicator for tracking the human impact of economic transformation (in addition to GDP per capita). For much of Sub-Saharan Africa, the data are sparse, but the share of formal employment in the labor force is seldom above 25%. Contrast that with more than 50% for the comparators.

Tracking economic transformation—the African Transformation Index

To track how countries are transforming through growth with depth, this report introduces the African Transformation Index (ATI). The ATI is a composite of the five elements of DEPTH—Diversification, Export competitiveness, Productivity, Technology upgrading, and Human economic well-being (chapter 1). Here, we show country rankings on the ATI and on the five components for two three-year periods centered on 2000 and 2010 (averages of 1999–2001 and of 2009–11). We take averages because given the volatility of the commodity-dependent economies of Africa, the values of the relevant variables for any particular year could give misleading results. We show results for the 21 Sub-Saharan countries that have the required data. Note that the results reflect economic outcomes rather than policy inputs and institutional environments (see chapter 1 and annex 1 on the ATI's outcome-based approach).

Putting together all of the elements of DEPTH, the ATI shows Mauritius,

Figure 2 How countries rank on transformation



Note: The 2010 score is the average for 2009–11. The numbers after each country name show the change in rank between 2000 and 2010.

Source: ACET research. See annex 1 for the construction of the African Transformation Index.

South Africa, Côte d'Ivoire, Senegal, Uganda, Kenya, and Gabon as the top seven countries on economic transformation in 2010 (figure 2). The middle seven are Cameroon, Madagascar, Botswana, Mozambique, Tanzania, Zambia, and Malawi. The least transformed are Benin, Ghana, Ethiopia, Rwanda, Nigeria, Burundi, and Burkina Faso.

The main surprises are Botswana, Ghana, and Nigeria. Botswana had a stellar record on GDP growth over 1970–2010, raising its per capita GDP to the second highest in Sub-Saharan Africa (after Gabon). But its economy is based primarily on the production and exports of raw diamonds—extractives—which we do not include in the measures of diversification and export competitiveness. The country has made efforts in recent years to diversify away from raw diamonds by moving into cutting and polishing, but the results have yet to register in the data. Meanwhile, the economy remains very weak in some of the key indicators of transformation. For example, the share of manufacturing in GDP is around 4% (11% in Burkina Faso, at the bottom of the transformation rankings), and cereal yields are about 375 kilograms per hectare (900 kilograms per hectare in Burkina Faso).[5] Ghana's poor showing in 2010 results mainly from a steady decline in manufacturing production, export diversification, and export competitiveness over the decade. It also relies considerably on unprocessed mineral exports (gold and bauxite). Nigeria's poor showing also reflects its extreme dependence on producing and exporting oil.

Uganda, Mozambique, and Rwanda made the most progress on transformation, each improving its rank by three places or more. Kenya, Madagascar, Malawi, Côte d'Ivoire, Tanzania, and Ethiopia improved their rankings by one or two places. The worst deteriorations were in Ghana and Botswana. Ghana fell seven places, and Botswana five places, between 2000 and 2010. Burkina Faso, Cameroon, Senegal, and Zambia also dropped in rankings. (The special feature at the end of chapter 1 shows rankings on the individual DEPTH subindexes.)

Propelling economic transformation in Africa

Again, growth with depth is needed to propel and sustain Africa's economic transformation. It can diversify and technologically upgrade the economy. It can also expand formal jobs and self-employment and connect with the vast informal economy to reach small firms and boost their productivity and incomes so that a growing share of the population can share in the continent's prosperity. And it can link African producers to global value chains and greatly broaden their markets.

But growth with depth is not mechanical. To pursue it, countries have to develop and implement strategies appropriate to their circumstances. In doing this they can learn from the other countries that have already transformed. Although there is no formula for economic transformation, there is some agreement on policies and institutions that have been important in driving the transformation of successful countries. Beyond peace and security, these include:

- Increasing state capacity for macroeconomic management, public expenditure management, and guiding economic transformation.
- Creating a business-friendly environment that also fosters effective state-business consultation and collaboration on economic transformation.
- Developing people's skills for a modern economy.
- Boosting domestic private savings and investments.
- Attracting private foreign investment.
- Building and maintaining physical infrastructure.
- Promoting exports.
- Facilitating technology acquisition and diffusion.
- Fostering smooth labor-management relations.
- Identifying and supporting particular sectors, products, and economic activities in each country's potential comparative advantage.

Growth with depth is not mechanical. To pursue it, countries have to develop and implement strategies appropriate to their circumstances

The exact combination and sequencing for the 10 drivers may differ from country to country, and even in the same country it may change over time. But awareness of how successful countries have used the drivers to help them transform can help African countries as they develop their own strategies. This inaugural *African Transformation Report* examines the policy options for several of the drivers. Others will be explored in detail in future reports. In addition to the 10 drivers here, each within the exclusive control of national policymakers and citizens, progress on regional economic integration will in several tangible ways also provide a tremendous boost to the economic transformation efforts of Sub-Saharan countries.

The state and the private sector—partners in transformation

Pursuing economic transformation well requires the state to be effective in providing an environment that is conducive to businesses in general, as well as in collaborating with the private sector and facilitating its upgrading of technologies and capability to competitively produce promising new goods and services, and to enter new export markets. Though the list of the roles is long, capacity limitations require African countries to

focus on the ones essential for transformation.

Managing the economy to enable businesses to flourish

Central to a country's economic transformation is learning about and introducing new technologies, processes, products, and services—and breaking into foreign markets

Economic transformation can take place only in an environment of prudent macroeconomic policies, which is also conducive to economic activities and entrepreneurship, particularly by private business. This requires policy action on many fronts:

- *Macroeconomic and exchange rate management*. Fiscal and monetary policies should be pursued in ways that ensure that their impacts on inflation, wages, interest rates, and exchange rates are positive for promoting rapid growth in GDP, jobs, and exports. This requires constant monitoring of policy impacts and a willingness to make timely policy corrections where necessary.

- *Planning and managing public spending*. The state has to balance its spending on short-run consumption and long-run investment, with expenditures in line with the overall transformation program. It has to appraise and select public projects professionally—and carry them out efficiently to ensure value for money, with timely monitoring and reporting.

- *Making public procurement deliver value for money by reducing corruption*. The gap between available resources and those needed for transformation in Africa is huge. African countries therefore cannot afford to waste their public resources through corrupt and inefficient procurement processes that enrich a few politicians and officials and retard progress on transformation that would benefit all. The state thus has to put in place transparent and efficient procurement systems. Indeed, if governments spent as much time cleaning up procurement and executing projects efficiently as they did chasing finance from donors and other external sources, the impacts could be transformative.

- *Administering ports and customs and controlling corruption*. Moving goods in and out of a country in a timely and efficient manner is critical to transformation in a globalized world, particularly for smaller countries that need external trade, as in Africa. The state therefore has to increase the efficiency of airports, seaports, and border crossings. And simplifying customs procedures can speed clearing times, essential for participation in global value chains, and control corruption.

- *Streamlining regulation*. To encourage entrepreneurship and innovation, the state should regulate only what it should and can regulate. That can save money for both the firms and the government: the only losers will be corrupt officials.

- *Beefing up statistics*. The state has to produce timely and high-quality social and economic statistics to enable it to formulate better plans, monitor implementation, and change course where necessary. Such statistics also help the private sector in planning and deciding investments—and the citizenry in holding governments to account.

Guiding transformation by setting a national vision and strategy

In addition to the tasks above related to good economic management, policymakers can take more proactive steps to spark transformation. Central to a country's economic transformation is learning about and introducing new technologies, processes, products, and services—and breaking into foreign markets. Domestic firms in African countries (as in all late-developing countries throughout history) face difficult challenges in doing this. A favorable business environment can help but is seldom sufficient. History shows that, among successful transformers, the state has helped business meet its many challenges. But it also shows that state involvement in the economy can block private initiative, introduce inefficiencies, and retard economic progress. Economic transformation thus requires getting the balance right between the state and private enterprise and having effective mechanisms for the two to collaborate and support each other.

Although countries differ, Sub-Saharan Africa generally is well endowed with cheap labor and abundant natural resources. And its relative advantage in these areas is likely to increase over time. So it would make sense for Sub-Saharan countries to build their transformation strategies around leveraging their relative advantages in labor and natural resources. They should seek over time to move to higher value products by upgrading skills, learning about and introducing new technologies, processes, products, and services—and breaking into new foreign markets. They should also aim at making the transformation process in the modern sectors more labor intensive to expand the opportunities for productive employment.

The spark that ignites economic transformation is likely to come from the formal or modern sectors. But the informal or traditional sectors should not be forgotten. Conscious efforts should be made to promote links between them and the modern sectors spearheading the economic transformation. These would include assisting small enterprises and those in the informal sector to upgrade their

capability to become competitive suppliers to the expanding modern sector firms—and implementing programs that encourage modern firms to source inputs from them. A similar approach would encourage a new class of commercial farmers and agroprocessors to source inputs from traditional smallholder farmers as through outgrower schemes.

The foregoing considerations should all inform the formulation of a clear national vision and strategy. The state guides the formulation of the vision and strategy or plan but consults closely with private firms, which in the end will be the main implementers. This requires a state that has the drive and capacity to play the traditional state roles in economic management and to collaborate with business in pursuing specific transformation initiatives.

A national vision and strategy can inspire citizens and mobilize their support for sacrifices in the early stages of economic transformation. The strategy can also clarify the interrelationships among government branches and between relevant government and private activities—thus improving information, understanding, and coordination among key actors in the economy. And the targets in the strategy can make it possible for citizens and businesses to hold government accountable for results.

Sub-Saharan countries have in recent years begun to take the lead in producing medium- and long-term plans more focused on the growth and transformation of their economies. In Ethiopia, Ghana, and Rwanda the new plans result from the country taking more ownership of the poverty reduction strategy process. In Kenya and Nigeria they emerge from a separate process. Too often, however, the expenditures in annual budgets bear little relation to the priorities in the medium- or long-term plans—and even less when separate government ministries or agencies carry out the two functions.

Coordinating plan implementation

One of the biggest challenges that many Sub-Saharan countries face in promoting economic transformation is coordination within government to produce and implement plans that are both coherent and realistic. Many plans are produced by planning agencies using experts from outside government, with little input and commitment of senior staff from other government ministries and agencies. A planning ministry, if separate from the finance ministry, seldom has much influence in ensuring that expenditures in the plan are actually reflected in the budget, making planning a paper exercise. Having planning and finance under one ministry could solve this, but it could also create the problem that the short-term exigencies of finance swamp the long-term studies and reflection needed for planning.

In addition, many government initiatives to support economic transformation will necessarily have to involve several government ministries and agencies. This requires effective coordination within government. Only an office whose authority is accepted by ministers and staff in other ministries and agencies can ensure this takes place. In some cases that would be a minister of planning, finance, or trade and industry whom colleagues see as senior to them. In others it would be an office directly under the president, vice president, or prime minister. Seen as having a higher rank, the office can convene various arms of government, assign tasks, monitor implementation, and discharge rewards and sanctions as occasions warrant. The office also needs top-class professional staff to earn and maintain the respect of other units in the government. Early archetypes would be South Korea's Economic Planning Board, Taiwan's (China) Council for Economic Planning and Development, and Singapore's Economic Development Board, initially under the Ministry of Finance and later the Ministry of Trade and Industry. Later ones include Malaysia's Economic Planning Unit, in the prime minister's office, the National Economic and Social Development Board of Thailand, under the office of the prime minister, and India's Planning Commission, chaired by the prime minister and run by a vice chair with a cabinet rank.

Building centers of excellence

The functions critical to the state's support to economic transformation have to be performed well, so the institutions in charge of these functions and the people that work in them have to be first class. The institutions include the central bank, the ministry of finance, the national planning agency (where different from the ministry of finance), the ministry of trade and industry, the ministry of land and agriculture, the ministry of education and skills development, the national statistical service, the investment and export promotion agencies, the national development bank, the export finance facility (if different from the national development bank), the administration of customs, and the management of seaports and international airports.

For a leader serious about promoting economic transformation, the appointments to head the core functions should be based on competence and the ability to deliver results; they should not be used for patronage or to repay political debts. The same applies to the directors and deputy directors in these ministries and agencies. Sounds obvious, but look at the lineups in some African countries.

A national vision and strategy can clarify the interrelationships among government branches and between relevant government and private activities—thus improving information, understanding, and coordination among key actors in the economy

Reformed core ministries and agencies could serve as centers of excellence and beacons for others to emulate in the public service

Many African countries now have a talent pool—in government, in business, in think tanks, and in the diaspora—that leaders could tap if they really want to pursue transformation. The senior staff should be empowered and supported to run these core ministries and agencies. Such implementation bodies as customs, ports management, and the investment and export promotion agencies could be made into semi-autonomous statutory bodies with terms and conditions of service that are different from those in the civil service, set to attract the best. Appointments should be based on contracts, and continued employment should be based on performance, as specified in the contracts, not on changes in governments or on the whims of political leaders.

It will take time to change the culture in the whole public service and to find the resources to provide adequate remuneration. However, the reformed core ministries and agencies could serve as centers of excellence and beacons for others to emulate in the public service. And if these centers help promote faster economic growth and transformation, resources would be generated to pay for reform in the rest of the public service.

Fostering state-business collaboration

While the state would contribute to economic transformation, it is entrepreneurial firms, both large and small, that will spearhead the creation of employment and the production and distribution of goods and services that drive economic transformation. That is why government should create mechanisms that bring it into regular contact with business to seek its inputs. Organized labor is another key part of the collaboration, particularly in democracies where it can exercise the right to strike. Also in democracies, popular support for the economic transformation vision is necessary to gain acceptance for the difficult reforms that may be required.

State-business engagements should pursue three objectives: first, get business inputs on medium- and long-term national plans; second, seek feedback from business on how government policies and programs affect them; and third, design and monitor specific transformation initiatives.

Several Sub-Saharan countries have made some progress on the first objective, spurred partly by the poverty reduction strategy process, but business participation could be deepened beyond consultation. A good example in this direction was the process used by Kenya to prepare its Vision 2030 Plan. The National Economic and Social Council that spearheaded its preparation comprised business people and public officials.

On the second objective, several Sub-Saharan countries have public-private forums that meet periodically (say, once or twice a year) to discuss issues affecting the private sector. A good beginning, but these large meetings are too infrequent, and they tend to be long on ceremony and short on fact-based discussions of issues. And in some countries, various business associations submit presentations to the government during budget preparation time, advancing their particular interests. These exchanges between the government and business are welcome, but they could be improved.

The discussions should be substantive reviews of the impacts of government policies and actions on the general environment for business operations and how it could be improved—not focus on special favors for particular business subgroups. The meetings should be chaired by the head of government or the central coordinating agency. A secretariat should prepare analyses and reports to be discussed at the meeting and follow up on decisions taken and monitor their implementation by the relevant agencies.

Kenya's National Economic and Social Council, with meetings chaired by the president or prime minister, operates in ways that move in this direction. Mauritius has a well developed consultation mechanism between the government and business through the Joint Economic Council, an umbrella business organization.

The third objective—deliberating on selected transformation initiatives, the instruments to promote them, and the monitoring and compliance mechanisms—is not well developed. This stems in part from the low capacity and organizational weakness in government to translate general objectives in economic plans to specific initiatives to discuss with business. In addition, some governments, despite the rhetoric, still have not embraced business as a very important partner with knowledge and expertise that the state can and must tap.

How to ensure that strong collaboration among the government, business, and organized labor does not degenerate into "cronyism" among politicians, senior bureaucrats, big business people, and labor bosses? Academics and staff from independent economic think tanks should be members of the deliberative bodies. And the decisions by these bodies should be made available, together with their rationale, to the public (through the secretariat's website and the media).

The incentive packages to promote the initiatives and the associated eligibility and performance criteria should also be published. And beneficiaries and performance should

be made public periodically. In countries with strong and independent parliaments, the legislature can insist on the information being made available—and use it for accountability. Civil groups, including the media, could also demand the information and use it for accountability. And foreign donors supporting economic transformation could support competent civil groups and think tanks to enhance their ability to ensure transparency and accountability.

Embarking on governance reforms

None of the foregoing will happen without solid progress on governance reforms—indeed, several countries are only beginning to embark on reforms.

True, there have been great strides in democratic transitions, the media are doing more as watchdogs exposing corruption and checking abuses of power, and civil society groups are promoting transparency and accountability. But political and economic governance will determine how well countries meet their transformation challenges and realize their full potential in moving forward. They will have to consolidate their recent progress in governance. And they will have to seal the cracks in their young democratic systems, dealing with entrenched corruption, costly electoral processes, and weak accountability mechanisms. Especially daunting will be formulating and implementing a long-term transformation vision and strategy across electoral cycles in polarized multiparty democracies.

Promoting exports

Exports provide the foreign exchange to import the machinery and technology necessary for technological upgrading. Over time, higher earnings from exports make it easier to finance investments to change a country's underlying factor endowments (such as skills and technological capacity) and thereby its comparative advantage. Exposed to competition on international markets, exporters have to increase their efficiency in production and marketing, in the process showing other domestic producers what's possible. Exporting also exposes domestic entrepreneurs to global tastes, standards, technologies, and best practices—providing opportunities for learning about new products, services, processes, and technologies that they could introduce at home.

The pathways to export expansion are determined by the relative comparative advantages and disadvantages of countries (box 1). Broadly speaking, Africa's relative advantages are abundant low-wage labor and abundant land and natural resources. By mid-century almost a fifth of the global population of working age will be in Africa. Half the world's acreage of cultivable land not yet cultivated is in Africa. And Africa's known reserves of oil, gas, and minerals, with further exploration over the next decades, are set to grow dramatically. Sub-Saharan countries are, however, at a relative disadvantage in capital (including physical infrastructure), technology, and skills. So it makes sense for them to leverage their current comparative advantage while upgrading their capabilities in the disadvantaged areas.

To leverage their abundant labor resources into a competitive advantage in labor-intensive manufacturing exports, Sub-Saharan countries need to address their relative cost disadvantages, particularly with China and other Asian countries. Staying competitive in the export of labor-intensive manufactures based on a low-wage advantage will, however, become more difficult. Re-shoring and near-shoring, multinational companies from developed countries are relocating manufacturing back to, or near, their home bases. And such technological developments as three-dimensional printing and three-dimensional packaging of integrated circuits are likely to reduce the demand for low-skilled assembly workers. African countries will therefore need to consciously develop other sources of international competitive advantage, particularly skills, even as they ride their current low-wage advantage unto the initial steps of the manufactured exports ladder.

The prospects of Sub-Saharan countries are rather bright for manufacturing exports based on processing agricultural and extractive resources (oil, gas, and minerals), which they have in relative abundance

The prospects of Sub-Saharan countries are rather bright for manufacturing exports based on processing agricultural and extractive resources (oil, gas, and minerals), which they have in relative abundance. Many development successes have begun by working and transforming local natural resources. But processing tends to be intensive in capital and skills, so it would demand more of the factors Sub-Saharan countries lack, and less of the untrained labor they have in abundance. These constraints can be overcome through skill development and with deliberate programs to develop capabilities in more labor-intensive industries upstream and downstream. In agricultural processing, developing links to smallholders and improving their productivity and access to markets will also reduce rural poverty, as with oil palm in Malaysia.

Some Sub-Saharan countries also have good export prospects in services, particularly tourism based on the attractions of their varied cultures, wildlife, landscapes, and sunny beaches. Also promising are teleservices, such as business process outsourcing based on fairly low wages and medium skills—for the U.K and U.S. markets for Anglophone Africa and the French market for Francophone Africa. Again,

Box 1 Four pathways to transformation

Chapters 5–8 elaborate on four pathways to transforming African economies: labor-intensive manufacturing; agroprocessing; oil, gas, and minerals; and tourism.

Labor-intensive manufacturing—still the first rung?

Sub-Saharan countries can leverage their abundant labor and low wages to enter the competitive production and export of manufactured goods. Garment manufacturing has been one of the first rungs that countries climb on their way up the manufacturing ladder. It is labor intensive. The capital requirements are generally modest. The technology and skills requirements are fairly simple. And there is also local demand for the products.

Most global exports of garments are now controlled by global value chains. At the head of the chains are the buyers—large retailers, marketers, and branded manufacturers. Mostly in Europe and the United States, they focus on design and marketing. Retailers and marketers such as Wal-Mart, the Gap, and Liz Claiborne contract out their designs and requirements to suppliers in low-wage countries, mostly in Asia. Some of these suppliers (such as those in Hong Kong SAR [China]) have factories in several low-wage countries and coordinate the sourcing of inputs, the production of the garments, and the exports to buyers. Others (such as Li & Fung Ltd.) no longer produce, focusing instead on sourcing from and coordinating a wide network of factories owned by others. Under this triangle manufacturing the retailers and marketers at the top of the garment global value chains have no direct relationship with producers. These buyers now look for full-package suppliers who can deliver orders based on their designs or specifications. Brand manufacturers (such as Levi Strauss) still have direct relationships with factories in low-wage countries, either through factories they own or through production-sharing arrangements with factories owned by others.

Most Sub-Saharan garment manufacturers cannot now provide the full-package services that retailers at the top of the garment global value chains look for. Capabilities in most African countries are generally in the cut, make, and trim stage—and in niche African designs. So entering the garment global value chains for large-scale exports would have to be through production sharing with a brand manufacturer or through working with a larger supplier in triangle manufacturing.

In addition to garments, component assembly was one of the main ways for poor countries to leverage their low-wage labor to industrialize in the second half of the twentieth century. Korea, Hong Kong SAR (China), Singapore, and Taiwan (China), then Malaysia, and now China have been able to ride on the assembly of simpler consumer electronics (radios, televisions, cellphones, computers, computer peripherals) and home appliances (fans, refrigerators, air conditioners, microwave ovens) to enter the first rungs of the global manufacturing ladder.

Attracting foreign direct investment (FDI) for component assembly in Africa, particularly home appliances, will be abetted by large and buoyant markets, supported by the growing middle class, and perhaps more important by integrating the national markets. Only Nigeria and South Africa have a large enough domestic market to attract a market-seeking FDI (as many heavy home appliance manufacturers tend to be). But progress on regional integration would enable other countries to join them. The Southern African Development Community comprises 15 member states with a market of almost 250 million consumers, a combined GDP of $649 billion, and per capita income of $2,617. The 15 import $213 billion worth of goods, and their exports are valued at around $207 billion. Similarly, the Economic Community of West African States comprises 15 member states, with a market of about 320 million people, a combined GDP of $396 billion, and per capita income of around $1,245. With an open market in each bloc, FDI manufacturers would become more interested in the blocs as possible sites for manufacturing plants. And member countries—even the small ones—would with good policies, adequate infrastructure, and logistics stand a better chance of becoming locations for FDI manufacturing.

Agroprocessing—natural potential

Agriculture has the potential to contribute greatly to economic transformation. It can increase incomes in rural areas. It can also

(continued)

Box 1 Four pathways to transformation *(continued)*

increase exports and the foreign exchange needed to import machinery and inputs for industry. It can supply the raw materials to support agricultural processing industries. It can release labor from agriculture to manufacturing and other sectors of the economy. It can boost the supply of food to the growing urban areas and the growing industrial labor force, thus moderating increases in the cost of living and consequently in wages. And it can expand the markets for inputs and consumption goods and services for the nonagricultural sectors.

The broader agriculture-to-agroprocessing value chain can, if successful, bring together a potent combination of genuine comparative advantage, scalability, and substantial spillovers for African countries. Agroprocessing typically offers a big step up in generating employment, income, and foreign exchange, which can be unlocked by well designed policies to overcome barriers that prevent domestic players from emerging, reaching scale, and becoming globally competitive.

Here the focus is on three major types of such opportunities:

- Processing traditional exports such as coffee, cocoa, and cotton, where Africa has demonstrated its global competitiveness in production, adding value, and creating jobs. Producer countries typically have relative advantages in raw material and labor costs that can, with the appropriate combination of policies and investments, offset other challenges to start a processing base. The scale of the commercial opportunity in processing is typically many multiples of the current raw production opportunity, making this a particularly high value area if successfully leveraged.

- Scaling up promising nontraditional exports such as fruits by upgrading the supply chain—from farms to processing factories—increasing farmer incomes, and generating jobs in factories and allied agribusiness services. A broad range of potentially very high value, but underexploited, crops and growing international demand provides a scale opportunity. If leveraged, the associated supply chain and infrastructure investments can form a platform for (or reduce the cost of) entry into other adjacent export sectors.

- Substituting agricultural imports, which are growing in importance given the rapid rate of increase in agricultural imports into Sub-Saharan Africa. The total value of imports rose 62% between 2007 and 2011 to reach $37 billion. Some of the fastest growing products are poultry meat and associated inputs such as soybean cake, which have increased 139% and 119% in value respectively to reach a combined value of $2.1 billion. They are set to continue this rapid increase as incomes and the consumption of meat, particularly by the growing urban middle class, rise. Upgrading the domestic supply chain to put local players on a competitive footing with imports is critical to unlocking this opportunity.

Oil, gas, and minerals—part of portfolio of assets

Africa is the least explored continent, but a large number of African countries are endowed with abundant oil, gas, and mineral resources and have economies that depend heavily on their extraction and exports. The extractive industry in many of these countries is highly concentrated on extraction upstream, so the exports are also limited to the raw primary product, not semi-processed or processed. The upstream part of the value chain is often in an enclave with few links to the rest of the economy, and the concentration on unprocessed products exposes countries to volatile prices and thus volatile revenues. This, coupled with the fact that extractive resources tend to be exhaustible and nonrenewable, makes sustainable development particularly challenging for countries highly dependent on them.

A first step to realizing the blessings of natural resource endowments and avoiding the curses is to get better at geological surveys to know what you have and at negotiating with foreign companies to get fair deals. Three instruments dominate in exacting revenues from the extractors: taxes on profits, royalties per unit of production, and equity stakes in a joint-venture subsidiary. Taxes on profits depend on keeping

(continued)

Box 1 Four pathways to transformation *(continued)*

a close eye on revenues, costs, and transfer prices. Royalties depend on tracking the units of production. And a minority stake in a joint venture can come up dry, producing no dividends. Each instrument has pluses and minuses, and each demands considerable accounting capabilities. All these options require good capacity in accounting and monitoring.

Because resources, once extracted, are gone forever, a second step in turning oil, gas, and minerals into blessings is to see them as part of a portfolio of national assets that also includes human capital, physical capital, financial capital, and institutional capital. Countries can enjoy fast growth and fat revenues from extraction for a time, but they can end up worse off than before a boom if they do not use their share of the revenues to build those other assets—for this and future generations. Government revenues from oil, gas, and minerals can also promote technological upgrading, higher productivity, and growth in other economic sectors.

That is why it is important to spend today to build human, physical, and financial assets along with the institutional assets not just for regulating extraction but also for selecting and monitoring projects—and for delivering services and managing the entire economy. It is also important to separate resource revenues from other revenues and to invest them for the long term.

Tourism—for leisure and for business

Sub-Saharan Africa had 34 million international visitors in 2011. Half were leisure tourists, a quarter were visiting family and friends, and about a sixth were business and professional visitors. On current trends the arrivals are set to rise to 55 million over the 2010s, contributing $66 billion to the region's GDP by 2020, and 6.5 million jobs, up from 5.2 million at decade's start. Adding indirect and induced spending, tourism's total contribution would almost triple to $172 billion and almost 16 million jobs. Those projections are on current trends. Given the continent's recent dynamism they are likely to be low, especially for business and professional travel. And for those visiting family and friends, their increased contributions to spending and investment are likely to be considerable.

Boosting tourism would contribute to Africa's economic transformation by increasing the foreign exchange to finance imports, creating jobs, and increasing demand for local material inputs. And by advertising countries to the rest of the world, it would help attract foreign investment. *Tourism Towards 2030* forecasts international tourist arrivals of 1.4 billion in 2020 and 1.8 billion by 2030. East, West, and Southern Africa would have 55 million international tourists in 2020 and 88 million in 2030.[1]

The institutions that countries choose for tourism, the policies they adopt, their attendant regulations, and their ability to implement them are all important—whether the economy is market-driven with little regulatory interference, whether the state wields a heavier hand, or whether the sector is merely stifled by outdated legal and regulatory clutter. The actions of public institutions can go a long way to determining whether the needed long-term private investment is forthcoming. Public investments in tourism (from infrastructure to marketing programs) are also critical, as is assuring coordination of the myriad, cross-sector programs that affect tourism.

The private sector, crucial for investing in and operating tourism facilities, has a key role as an interlocutor with government. Working through professional and trade associations, firms can defend their interests in line with their profit motive, achieve credible, competitive service standards for the industry, highlight their concerns to government, and advocate specific positions through analysis of policy proposals.

1. UNWTO 2011.

skills development, in addition to investments and policy actions, will be needed to turn potential into a competitive advantage on the global market.

Prospective world demand suggests that while the traditional markets of Europe, Japan, and the United States will continue to be important, Sub-Saharan countries should also expand their exports to such emerging economies as Brazil, China, and India. But they need to avoid being lured by high commodity demand into relaxing their

efforts to industrialize and upgrade the technology of their exports. They should seek to take better advantage of the preferences available to them—but in ways that do not foreclose their policy options for diversifying their production and upgrading their technologies. And they should work hard to prevail on their partners in Europe and the United States to harmonize their trade preferences, particularly those under the European Union's Everything But Arms and the U.S. African Growth and Opportunity Act, to make them more useful to Africa's transformation efforts. The regional markets in Sub-Saharan Africa could also support a dynamic expansion of exports, but governments will have to do much more to remove barriers to intraregional trade and improve regional transport infrastructure.

A viable export-oriented strategy for Sub-Saharan countries would thus emphasize adding value to agricultural and extractive resources, developing related upstream and downstream industries, and promoting links along the chain. It would also opportunistically pursue labor-intensive manufacturing, taking advantage of foreign direct investment and using well run special economic zones and specialized industrial parks to reduce costs. And it would promote tourism based on culture and natural assets (wildlife and year-round sunny beaches) and telephone and simple information technology services. All have to be based on a higher platform of skills, so short-, medium-, and long-term strategies to develop skills have to be core parts of the export drive.

Formulating an explicit export strategy

If countries see expanding and diversifying exports as top priorities, they need clear strategies for pursuing them. An export promotion strategy could be an elaboration of the objectives for exports in the national transformation strategy. Among the key areas to address:

- Maintaining a general economic environment that makes exporting profitable.
- Adding value to selected traditional exports, based on market prospects.
- Providing targeted support to promising nontraditional or new exports, including technologically more advanced exports.
- Strengthening the country's position in existing export markets and diversifying into new ones.
- Attracting export-oriented foreign direct investment, particularly in manufacturing.
- Responding to the immediate skill requirements of the exports being promoted.

Export promotion requires a whole-of-government approach and close state-private sector collaboration. It requires more than just the Ministry of Trade and Industry; it requires several ministries and agencies in government, including the Ministries of Planning, Finance, Agriculture, Infrastructure, Education, Science and Technology, Mineral and Petroleum Resources, and Tourism—as well as the Central Bank and the Export Credit and Guarantee Agency. Coordination within government by a central coordinating agency is thus essential. As with the overall economic transformation strategy, the export strategy should be developed in consultation with the private sector. And it should have sensible targets monitored and discussed by the state and exporters in the state-private sector collaboration forum.

Enhancing the profitability of exports

A realistic exchange rate is key to the profitability of exports because it determines how much exporters receive in domestic currency for their foreign exchange earnings. If the exchange rate is too low, receipts in domestic currency might not cover their costs, so they would not survive as exporters. To avoid this, the exchange rate, once set at a level that makes exports profitable, should move over time to reflect movements in the costs of domestic factors of production and trends on international markets. Since the exchange rate also determines the domestic currency price of imports and therefore the welfare of a large number of consumers and producers, the government cannot just keep hiking it to keep up with rising domestic costs. It will be important, therefore, to take measures to contain domestic costs.

Export promotion requires a whole-of-government approach and close state-private sector collaboration

Prudent macroeconomic policy that controls inflation can help keep domestic costs down. Efficient and honest administration of customs and ports can also save exporters unnecessary costs and delays. Domestic exporters are put at serious cost disadvantage if they have to pay high tariffs on imports used in producing exports. But a duty drawback or bonded warehouse scheme can ensure that they get access to imported inputs at free-trade prices. They are similarly disadvantaged if they do not have access to reliable infrastructure at reasonable prices. In the short term special economic zones can provide quality infrastructure (which the country cannot afford to provide on a national basis), ease the administration of duty drawback schemes, and pilot the streamlining of regulations. Export credit and insurance are also critical, and several governments run programs to cater to these needs, including guarantees to banks to ease exporters' access to credit. But such incentives are sometimes considered subsidies and may thus be subject to countervailing duties.

Apart from these general measures, governments may also find it

justifiable to use fiscal or credit measures to enhance the profitability or reduce the production and marketing costs of selected export products or selected types of firms, such as domestic small and medium-size enterprises or export-oriented firms, including foreign-owned subsidiaries, subject to compliance with World Trade Organization rules.

Most Sub-Saharan countries can use export processing zones or special economic zones to attract firms, particularly foreign-owned firms, and to encourage them to export

Protecting domestic producers

Import substitution has often been the gateway to breaking into export markets. The significant share of unbound tariffs and the gap still prevailing between bound and actual tariff rates for many Sub-Saharan countries, together with the more favorable safeguard provision on imports, still provide room for selective import substitution. In this sense, the cap on bound rates rules out excessively high tariff rates that foster highly inefficient import-substitution industries. It also strengthens the hand of policymakers in resisting pressure from domestic industry for high levels of protection.

Providing subsidies

A deficiency in tariff protection is that, even if the raised rates are explicitly temporary, there is no way to discipline firms enjoying the protection if they fail to improve their efficiency. Subsidies can overcome this disadvantage since the actual conferring of the benefits can be firm-specific and contingent on performance even if the eligibility criteria are objective and broad. Subsidies to promote exports include cash payments, credit at below-market interest rates, tax exemptions, reduced tax rates, and reduced prices for services such as infrastructure. And making the subsidies contingent on exports provides a practical and efficient way to monitor and enforce discipline. To be considered, however, are the opportunity costs in relation to other government spending, given the other urgent needs in poor countries.

Most Sub-Saharan countries are now exempt from the World Trade Organization prohibition on using subsidies that are specific to and contingent on exports. This enables them to use export processing zones or special economic zones to attract firms, particularly foreign-owned firms, and to encourage them to export. But countries should view subsidies contingent on exports as temporary measures to facilitate building domestic capability and productivity. The quicker these are built and the subsidies withdrawn, the better, for there is no merit in a poor country persisting in paying subsidies to supply goods and services to other countries, particularly richer ones, at lower prices.

Requiring firms to hire local workers

The World Trade Organization's Trade Related Investment Measures agreement prohibits governments from requiring firms to buy "products of domestic origin," but it places no restrictions on the requirement for firms to hire local labor, which in principle could apply to both foreign and domestically owned firms (and thereby satisfy the national treatment requirement). However, such a requirement must be consistent with the profit motives of firms, and the country must have people with skills that firms, including foreign ones, would find in their economic interest to hire. So, there is still scope for countries to combine focused skills development with strategic programs to attract export-oriented foreign-owned firms. Highly trained locals that foreign-owned firms find economical to take on as managers, engineers, and technicians not only provide employment. They also present a cadre of potential entrepreneurs who can set up dynamic modern firms in the future.

Increasing access to technology

Expanding, diversifying, and technologically upgrading exports have to be part of the economic transformation agenda. Governments have two main options to help firms acquire technology. First, they can facilitate licensing by providing access to information (including subsidized technology study tours), easing regulations, and providing targeted subsidies, contingent on performance, to lower the cost of technology licenses (or critical new machinery). Second, they can establish research and development facilities that address technological constraints in specific subsectors in consultation with firms.

Building technical knowledge and skills

Economic transformation demands a healthy workforce equipped with the knowledge and skills to be highly productive on farms, in firms, and in government offices—and to generate innovations in technologies, processes, products, and services.

By mid-century Sub-Saharan Africa will have a larger and younger workforce than India or China. Its share of the world's working-age population (ages 15–64) is set to double from just more than 10% in 2010 to about 20% in 2050—to 1.22 billion, slightly higher than India's at 1.14 billion and much larger than China's at 790 million. The share of 15–24 year olds in the working population would be 18.5%, well above the projected world average of 13.5%.[6]

This young and growing workforce can be a global competitive advantage and a great asset in driving economic transformation—if it is healthy and has the right skills. Or

it could be a drag on growth and a threat to social and political stability.

What's needed to make the labor force an asset is well known. Ensure universal primary education. Boost secondary and tertiary enrollments. Improve the quality of teaching. Increase the scientific and technological orientation of the education system and align it to the requirements of the workplace. Develop vocational, technical, and polytechnic education. And support on-the-job training and continuing education. Typically, most of the effort is government-led in traditional education and training systems. Also to be considered is complementing that system by moving outside it to quickly produce workers with the skills that businesses need.

The challenges are big on both the supply and the demand sides. Start with supply.

- Educational attainment in Sub-Saharan Africa, despite recent progress, is still generally lower than elsewhere.
- The quality of teaching and classroom materials is also low, so students are not learning, nor are they expanding their capabilities for self-development.
- Primary enrollments are up, but completion rates are still low, secondary and higher enrollments are very low, and teaching is not geared to science or technology.
- Vocational, technical, and polytechnic education is underdeveloped.
- Structured programs for continuing education and on-the-job training are weak.

Now move to demand and the ironic situation of economies having a tough time employing even the small numbers of secondary school and college graduates. A study of 23 countries found that just over half of college graduates (ages 25–34) were working in the formal economy, a fifth were in the informal economy, and the rest were unemployed or inactive. For secondary school graduates, 36% were in formal work, 46% were in informal work, and the rest were unemployed or inactive.[7]

Early industrialization relies on low- and mid-level technicians, prepared mainly by technical and vocational institutes, mainly at the secondary level. The region's share of vocational students at the secondary level is around 8%. In South Korea the share of technical-vocational high schools in the 1970s was around 45%. In Singapore the Institute of Technical Education and the polytechnic system enroll about half the students in upper secondary and higher education.[8]

What's needed to fix things? A lot, and no one system is right for all countries and all times. Here are some improvements and innovations that could be considered by countries aiming to promote economic transformation.

Extending access to basic education and improving quality

Improving quality requires qualified, motivated teachers and good teaching materials. As countries have expanded primary schooling, they have found it more difficult to attract good teachers, particularly in rural areas. And it could get worse. To achieve universal primary schooling by 2015, it is estimated that the region will need 4 million teachers, up from 2.4 million in 2006.[9]

One way to address the shortfall is to supplement the output of the normal teacher training systems by taking unemployed college and upper secondary graduates, training them for about six months, and deploying them to schools. The initial training would be followed by periodic further training during, say, the long school breaks. Incentives should attract graduates to stay on for a set number of years or to choose teaching as their profession. That could kill two birds—providing more teachers and reducing graduate unemployment—with one stone.

Good (and affordable) teaching materials are also important for quality. Primary students in many Sub-Saharan countries do not have textbooks they can bring home; instead students share books that are locked up at the end of the school day. In 15 countries that are part of a consortium in East and Southern Africa to monitor education quality, only about 40% of sixth graders had their own reading and math textbooks.[10] Developing context-appropriate textbooks and streamlining their production and distribution could reduce costs and improve learning.

So could loading more African textbooks onto simple e-readers, as with Worldreader and One Laptop per Child. For two years Worldreader has been putting Amazon Kindle e-readers—and more than half a million books, many of them by Africans—in the hands of students in Ghana and Kenya. IRead students in Ghana are scoring better on reading tests. Working with biNu, an Australian app maker, Worldreader now has its books available on low-end cellular phones, enabling half a million readers, many of them in Africa, to view 20 billion pages a month. One Laptop per Child claims to have delivered 2 million laptops loaded with educational software and content students in developing countries, among them Ghana, Rwanda, and Sierra Leone.

Expanding technical and vocational education

Policymakers need to view technical and vocational education as essential to supporting their transformation strategies. They should align

This young and growing workforce can be a global competitive advantage and a great asset in driving economic transformation—if it is healthy and has the right skills

Sub-Saharan governments can favor technical and vocational institutes in their expansion of public education

the training with the jobs being created in industry and make it a true stepping stone to good career prospects. They should emphasize training that provides a solid foundation in language skills and in science, technology, engineering, and mathematics for lifelong learning and skills upgrading. And they should campaign at the highest levels to lift the image of technical and vocational education and let potential students know about the new work prospects stemming from the economic transformation strategy.

Many Sub-Saharan governments may not have the central control that the Asian countries had over education in the second half of the twentieth century, but they still have room to maneuver. They can favor technical and vocational institutes (at the secondary and tertiary levels) in their expansion of public education. They can charge lower tuition in these institutes, as South Korea did. They can also subsidize tuition at private technical and vocational institutes, since governments cannot expand these institutions at the pace needed.

Businesses have to be part of technical and vocational education and training for practical reasons. First, it is expensive. In Singapore the cost of training at a polytechnic is about the same as that at a medical doctor. In Sub-Saharan Africa the unit costs are up to six times those for general secondary. Second, involving businesses in curriculum design increases the relevance to industry and motivates them to provide industrial equipment support, internships during training, and jobs on graduation. Third, businesses can also provide attachments for teachers to refresh their skills—and be a source of instructors. Fourth, businesses will be more confident that they can hire people with the skills they need to make investments profitable. Indeed, if businesses have been part of formulating the national transformation strategy—and their investment plans are informed by that strategy—their involvement in training is one of the key ways of working with government in implementing it (box 2).

Favoring science and technology at universities

Governments can also favor university enrollments in science, technology, engineering, and mathematics (STEM). In Brazil, Chile, and South Korea public universities focus precisely on those disciplines, leaving the private sector, which provides around 70% of higher education in each country, to focus on the less expensive humanities and social sciences.

As with technical education, students in public universities enrolled in STEM courses could pay lower tuition fees, and those in private universities could receive subsidies. State funding for facilities and faculties could favor STEM departments at public universities, and new faculty openings could be similarly skewed toward STEM departments.

Box 2 What company executives have to say about productivity and skills in Africa

ACET interviewed top executives of 10 multinational manufacturing companies with operations in sectors aligned to Sub-Saharan Africa's comparative advantages and with some type of manufacturing presence in emerging markets. The objective was to find out the key factors that the companies consider when deciding where to locate their manufacturing operations, with a specific view to Sub-Saharan Africa.

The most important factors they cite are labor productivity (expressed primarily as the education and skills of the workforce) and policies (consistent policy environment, fiscal incentives, and tariff and nontariff barriers).

The low productivity and high costs arising from the lack of education and skills make it infeasible for them to locate in Sub-Saharan Africa, especially in comparison with India and other low-cost producers. As one executive said: "Until there is an educated and skilled workforce, all other initiatives and incentives are of no use."

The lack of skills affects not only the companies' manufacturing but also the presence of a reliable and skilled local supply chain. Several executives interviewed indicated that a strong local supply chain does not yet exist, except for South Africa to a degree. Companies need to be able to source components and parts locally to sustain cost-effective manufacturing. And the more technically sophisticated the product, the more difficult it is for companies to find local components.

Source: ACET interviews of company executives.

The state could also offer competitive grants to private universities to steer them toward science and technology. In some cases the state might even do more to promote such education by providing grants to upgrade several private nonprofit universities rather than incurring the full expense of building a new university.

Again, behind quantity lurk quality and relevance—and behind quality are adequate numbers of qualified instructors. Vacancy rates for university faculty in Sub-Saharan Africa run 25–50%, with science and technology at the high end.[11] To fill these slots and those opened by expanding science and technology courses will not be easy, but here are some possibilities.

- First, enhance the incentives by offering research grants, lowering teaching loads, and increasing benefits. That can help in retaining faculty. It can also attract nationals teaching or working at research institutes outside Africa. South Korea and Taiwan (China) did this to attract top scientific talent from the diaspora.

- Second, ramp up graduate training in STEM, both at national universities and through indemnified scholarships at foreign universities. National universities should also seek partnerships with world-class universities to accept students and send visiting professors, as Rwanda has done with Carnegie Mellon.

- Third, encourage donors to fund training for university lecturers and, as a short-term measure, pay for visiting (and retired) professors and researchers to teach at African universities.

Moving outside traditional systems

The number of youths in Africa who have graduated from secondary and higher institutions but are unemployed is large and growing. This difficulty could be turned into an advantage.

Countries should consider a skills development program outside the traditional institutions to provide specific job-oriented short-term training for high school and university graduates who either are unemployed or working in jobs that do not use their education. Right from the start, such a program should be organized with business. This type of training initially cannot take place in traditional universities and other mainstream education institutions given their academic cultures and set curricula that make them less able to engage with businesses and adapt flexibly to meet their needs. This need not be only for establishing new institutes. Some existing institutes could be taken outside the regular academic system, given a mission-oriented governance structure, and run jointly by the government and business.

Skills for agribusiness. Few African countries have institutes dedicated to training young graduates so that they can go into agroprocessing or agribusiness—or into work solving the technical problems of these sectors. Exceptions include floriculture in Ethiopia and wine in South Africa. Governments should consider developing or spinning off an institute to develop skills, amass knowledge, and solve problems for a small number of products in which they have a comparative advantage. The institute should partner with private producers, work with them to solve their problems, and prepare graduates for careers in the product, either as staff or as entrepreneurs. Chile has done this for fish and fruits, Finland for forest products.

Skills for mining. Many African countries are exporting oil, gas, and minerals, but the resources have mainly been developed as enclave projects with few links with the economy and few jobs for nationals. With resource-based industrialization as one of the more promising transformation options, governments need to promote links between extraction and the economy. How? By targeting skills development. Governments should partner with extractive firms to support efforts to produce skills relevant for extractives and related activities. The government of Botswana did just this in partnering with Debswana, the diamond miner. Companies could also strengthen engineering and other science departments in existing universities and in technical and vocational institutes. The Jubilee Technical Training Center, recently set up at the Takoradi Polytechnic in Ghana by the Jubilee Partners, an oil drilling and production company, will offer courses in instrumentation, occupational health and safety, and mechanical, electrical, and process engineering.

Countries should consider a skills development program outside the traditional institutions to provide specific job-oriented short-term training for high school and university graduates

Skills for construction. In the 1970s, when Korea's transformation strategy called for it, the country created specialized training institutes to quickly develop a cadre of skilled construction workers. When it began building the Seoul Busan expressway, the World Bank doubted the feasibility. The country finished the project ahead of schedule using its own trained expertise. Later, when the economy went into recession, it deployed its skilled construction workers to the Middle East, earning valuable foreign exchange.

Now consider roads in Africa. Many governments have looked to foreign donors and financing entities to support road construction, thinking only of the product—a road—and not of who is building it and how. But foreign contractors typically bring their own technical staff and skilled workers. Through

A recurring theme throughout this report is the potential for regional integration to accelerate economic transformation in Africa

the rest of the 2010s billions of dollars will be poured into Africa's transport network under the Program for Infrastructure Development in Africa, requiring many millions of workers. Billions more will go into national highways and feeder roads.

Rather than just thinking of getting foreigners to finance and build roads (and major buildings) for them, governments should think about developing construction capabilities and skilled construction workers, which foreign finance would help put to work. For that to happen, governments need to enter serious discussions with donors and development banks about local hiring preferences in construction tenders.

Upskilling workers through lifelong learning

Also important is upgrading the skills of people already on the job, not once but all through their working lives. A national qualifications framework can support competency-based skills training, and technical and vocational institutes, especially those outside the regular education system, can offer such training outside work hours. Companies and unions can pay into a skills development fund, open to employers or directly to workers, to finance the cost of training.

The organization of training, the split of training between in-house and outside, and the nature of funding and terms of access will naturally differ by country. But such programs for upskilling and lifelong learning have driven the transformations in Finland, Ireland, Singapore, South Korea, and many others.

Providing literacy, training, and apprenticeships for informal workers

Engineering an economic transformation is impossible if many workers cannot read or are locked in low-return activities. By 2015 Sub-Saharan Africa will have 176 million people ages 15 and older who are illiterate, 44 million of them ages 15–24 and set to be in the labor force for decades. Added to this are many literate people working in activities with low earnings.[12]

Because it will take time for the formal economy to absorb the bulk of the labor force, countries should provide literacy training for adults and opportunities for those in informal work to enhance their skills and earnings—in three ways.

- Adult literacy programs can be run at low cost in school classrooms and other community facilities after hours and during weekends. Again, unemployed secondary and university graduates could be recruited and trained as teachers, and those already working could volunteer. Grants to civil society organizations could attract them as well. Coming out of war in 1975, Vietnam set the goal of universal literacy in the South, and thanks to communities working with government, 1.3 million of the 1.4 million targeted were literate by 1978.[13]

- Second-chance programs, some run by private providers and subsidized by the state, can encourage young school dropouts to go back to school or get instruction that enables them to obtain primary and secondary diploma equivalents. Simplified curricula, especially for English, allow students to progress quickly and get back into the formal system.

- Apprenticeships dominate in providing trade skills in Sub-Saharan Africa, with easy entry and often in mother tongues.[14] But most are detached from the formal economy and technological advances. To remedy this, technical and vocational institutes could update the skills of educated master craftsmen for free or at subsidized rates. They could also provide incentives to their graduates operating as independent technicians who are running repair and installation shops to take on and train apprentices. And they could enroll apprentices in complementary training and expose them to modern industrial equipment. Burkina Faso, Ghana, and Senegal are moving in these directions.[15]

In addition, competency-based tests that enable apprentices and craftsmen in the informal economy to formally certify their skills would set standards and lift the quality of craftsmanship, as they have done in Kenya and Mauritius.[16]

Regional integration for Africa's transformation

A recurring theme throughout this report is the potential for regional integration to accelerate economic transformation in Africa. Many Sub-Saharan economies are small and have to import most inputs in order to manufacture. They also lack a large domestic market that would provide some form of natural protection for their manufacturers. These challenges are ultimately surmountable through becoming competitive on global export markets. But at the early stages of industrial development they make it more difficult for domestic firms to compete against foreign firms that have the advantages of scale and dense industrial clusters. The report provides several examples of how integration of national markets in the region can help countries overcome these challenges and seize opportunities to advance on economic transformation.

One example is the garment industry. Sub-Saharan exporters now

import most of their fabric. But the region has the potential, with additional progress on regional integration, to develop a more integrated textiles and clothing industry. West African countries like Burkina Faso and Mali are significant producers and exporters of raw cotton, but they lack the logistics, large middle class, and industrial infrastructure of some of their coastal neighbors such as Côte d'Ivoire, Ghana, Nigeria, and Senegal. A regional cotton textile and garment industry, which would be more competitive than the current national industries, could be facilitated by an Economic Community of West African States customs union and better intercountry transport infrastructure.

With several countries across Africa now producing oil and gas, the crude ingredients for a synthetic textile industry are more available. Regional integration could help turn this potential into a viable industry. In addition, Sub-Saharan countries should get the European Union and the United States to allow garments incorporating inputs sourced from any country in the region to qualify for full duty preferences under Everything But Arms and the African Growth and Opportunity Act, regardless of whether the supplying country is developing or least developed and whether it also is eligible.

In agroprocessing, easier market access among countries would boost the fruit and juice industry in East and West Africa. It would also accelerate soybean growing, processing, and trade in the region. For example, Nigerian soy products could be exported more easily to Angola and Senegal to support modern poultry industries and improve diets, particularly in the fast-growing urban areas. Even in traditional agricultural exports, improved regional integration would enable African countries to realize more value—for coffee it would make feasible the establishment of a coffee trading hub in say Nairobi, which would help coffee exporters from Ethiopia, Tanzania, and Uganda as well.

More integrated regional markets would also greatly improve the chances of attracting FDI in garments, textiles, agroprocessing, and other forms of manufacturing, particularly for smaller countries. Today, only Nigeria and South Africa have domestic markets large enough to attract market-seeking FDI. But regional economic blocs could enable many more countries to have access to the benefits of a wider domestic market. The Southern African Development Community comprises 15 member states with a market of almost 250 million consumers, and a combined GDP of $649 billion. Similarly, the Economic Community of West African States comprises 15 member states, with a market of about 320 million people and a combined GDP of $396 billion. With an open market in each bloc, FDI manufacturers would become more interested in the blocs as possible sites for manufacturing plants. And member countries—even the small ones—would with good policies, adequate infrastructure, and logistics stand a better chance of becoming locations for FDI manufacturing.

There are also opportunities in services. Tourism could get a boost if it were possible for tourists obtaining a visa for a country in East, West, or Southern Africa that could be used to travel to other neighboring countries, along the lines of the Schengen model. Together with other forms of regional cooperation, such developing regional game circuits in East and Southern Africa, this could attract more tourists and encourage Africans to travel and pursue business opportunities within the region. Nationals of some Economic Community of West African States, Southern African Development Community, and the East African Community member countries can now travel within their blocs without visas, and there are attempts to pilot the Schengen model for tourists from the outside.

In skills development African countries could pull together in ways that make the whole better than the sum of the parts. Examples include regional centers of excellence in science and technology, as pioneered by the African University of Science and Technology in Abuja, the African Institute of Science and Technology in Arusha, Tanzania, and the International Institute for Water and Environmental Engineering in Ouagadougou. Countries could go further and develop common curricula, textbooks, and accreditation systems in science and technology. This would not only reduce the unit costs of textbooks. It would also integrate skills markets and promote cooperation in developing and exchanging scientific and technical knowledge.

More integrated regional markets would greatly improve the chances of attracting FDI in garments, textiles, agroprocessing, and other forms of manufacturing, particularly for smaller countries

What would it take for Africa to seize the opportunities that regional integration offers for economic transformation? Three key elements:

- Financing and building regional infrastructure, including roads, rail, ports, air connections, and information and communication technologies, notably under the Program for Infrastructure Development in Africa.
- Trade facilitation, including customs and other cross-border regulations (with one-stop border posts as a key element), as well as logistics, shipping, forwarding, finance, and insurance driven by the private sector.
- Political leadership and commitment to the regional project.

Regional infrastructure—linking countries and providing cheaper services

Infrastructure is critical for each country's economic transformation.

Most of the funding for infrastructure will come from the resources that national governments can mobilize at home

But the supply of some important infrastructure, such as power (particularly hydroelectric power and natural gas) and seaports, tends to be location specific. (Landlocked countries are at a particular disadvantage when it comes to seaports.) Arrangements enabling countries that are well endowed with these types of infrastructure to develop them at scale so as to also serve neighboring countries at lower cost (than those countries could produce for themselves, if all) can promote faster transformation in both countries. Second, just as national roads and other means of transport integrate and widen the market within a country, regional roads and other transport systems can be a boon to regional integration.

Africa's infrastructure contributed to more than half the continent's faster growth in the 2000s, and it can contribute even more moving forward, according to the landmark study, *Africa's Infrastructure: A Time for Transformation,* prepared by the African Union, African Development Bank, and World Bank.[17] Several roadblocks stand in the way, however: missing links in regional systems, poor household access to networks, high costs because of little competition, and frequent outages increasing the premium for alternative power sources. The demand for power is set to rise fivefold from around 600 terawatt hours in 2010 to more than 3,000 in 2040. To meet that demand, power generation will have to rise from 125 gigawatts to around 700. But with the priority regional projects identified by the Program for Infrastructure Development in Africa, access to power would shoot to 70%, reaching 800 million more Africans. Annual cost savings for producing electricity are expected to average $30 billion a year, totaling $850 billion.

Transport volumes are expected to rise sevenfold, and twice that for landlocked countries. The cargo that goes through ports is expected to rise from fewer than 300 million tons today to more than 2 billion in 2040, delivering efficiency gains of more than $170 billion, and possibly much more as the planned trade corridors begin to operate. The demand for broadband connections will shoot up even faster to serve the greater use of information and communication technologies—from 300 gigabits per second to 6,000 by 2020, or even before. That alone has the potential to boost the continent's GDP by 1%.

The annual bill for capital spending and for operations and maintenance is expected to run about $0.5 billion for information and communication technologies, $18 billion for transport, and $40 billion for power, or just under $60 billion a year for all regional projects. Private and official financing will be forthcoming if projects are sound and the enabling environments are good. Financiers will invest in creditworthy utilities if the potential for returns is high. But most of the funding for infrastructure will come from the resources that national governments can mobilize at home.

In April the African Development Bank proposed the Africa50 Fund as a vehicle to augment its funds by leveraging financing from central bank reserves, sovereign wealth funds, pension funds, and the diaspora to boost its funding of infrastructure projects. Targeting projects that fall between the mainly public (major ports) and the mainly private (submarine cables), the fund hopes to raise $50 billion and begin operating before the end of the year.

For projects to get off the ground, however, they have to be well prepared. The New Partnership for Africa's Development infrastructure preparation fund provides financing for early stage work on regional projects. But such facilities will need replenishment to increase the flow of bankable projects. They also need to be better coordinated. Of the various facilities, most support separate phases of project development, not all phases—from concept to feasibility and due diligence and to structuring the legal and financial sides of the deal. And preparing a project is not cheap—it can run to 10% of the full project cost, especially for those involving the private sector, or to $25 million for a $250 million project.

Facilitating trade—reducing costs, speeding transit

The ratio of trading costs to production costs in Africa is about 12%, compared with 4% for Western Europe and 7% for Latin America.[18] Not only are the costs higher, but multiple borders and controls cause delays and slow commerce. Reducing those costs will boost the competitiveness of firms and enable them to export more. The increase in trade will increase the opportunities for productive jobs and higher incomes, spurring economic growth and reducing poverty.

Trade facilitation involves simplification, harmonization, and standardization across countries. Better physical infrastructure will help reduce costs and enable larger volumes of trade. But action is also needed to harmonize regulations and to simplify and streamline border procedures. Licensing vehicles to operate across borders and harmonizing insurance regulations and payment procedures is under way in most parts of the continent, usually under the aegis of the regional economic communities. Also under way is the harmonization of vehicle standards, such as axle loads, weight limits, and vehicle dimensions. Such reforms are financially cheaper than improving infrastructure services, but they can be much more costly politically.

One-stop border posts are becoming a major part of the trade facilitation drive, following promising experience on the continent, especially in Southern Africa. Space and facilities are provided so that transit traffic stops once for inspection and clearance by the two countries' authorities the border. As important as the physical co-location of two countries' border authorities is the steady adoption of border management systems that help integrate the various national authorities for customs, immigration, security, and health and phytosanitary regulation. But the challenges can be as great as those for cross-border harmonization, because of bureaucratic inertia, fiefdoms, and rent-seeking.

Information and communication technologies can help, because cross-border trade is complicated, with many players. Suppliers and buyers have to deal with four agencies—the traditional ones for customs, immigration, quarantine, and security—and perhaps with the authorities and ports and airports. Then there are the freight forwarders, banks, insurance companies, and other businesses for legal and accounting services.

To make things easier for traders, many countries are moving to single windows and automating customs to speed clearance and transit. Kenya, Mauritius, Senegal, and South Africa have tailored systems to do this, and more than 30 others use the United Nations Conference on Trade and Development's off-the-shelf system.

Having information online for the movement of trucks, goods, people, and money cuts back on times at checkpoints (and even on the need for checkpoints) and on the opportunities for bribes. Digitally recorded transactions reduce the need for paper forms, data checks, and transactions with officials. Mobile phones can be used to pay some fees.

With trade so complex, developing single windows naturally takes time, progressing through many small steps. Kenya, having integrated some of its customs processing, formed Kentrade to begin assembling its single window. It is looking through that window for similar windows across its borders and through its ports.

Also important is opening those windows to informal traders, who face bribes, unofficial fees, and other hassles. Facilitating trade for small producers and traders by reducing paperwork and waiting time can lower their costs, encourage them to enter markets across borders, and boost their incomes.[19]

Political leadership and commitment

Building infrastructure and facilitating trade will require strong national leadership. The African Economic Community, endorsed by the Abuja Treaty of 1991, envisages full integration of all African countries by 2034, with eight regional economic communities as building blocks. In broad terms, the integration process envisages free trade areas (with tariffs eliminated among the member states) leading to customs unions (with common external tariffs), then a common market (with free movement of factors of production), followed by an economic and monetary union, with common fiscal and monetary policies and, eventually, a common currency.

The regional economic communities are at different stages of integration, with the Southern African Development Community, Common Market for Eastern and Southern Africa, East African Community, and Economic Community of West African States significantly more advanced than the other four. In addition, there is an issue of overlapping membership, subgroups (such as the Southern African Customs Union) that are more integrated than the other members, and with varying degrees of political commitment. A pragmatic and stepwise approach has led to progress in several areas—not dramatic, but sufficiently visible and beneficial to the parties to serve as models and build interest in supporting integration. Thus the AU heads of state agreed in 2008 on a minimum integration program, which would identify and act on priorities for accelerated integration—again in a pragmatic manner. One result was the move toward a Tripartite Free Trade Area, comprising the 26 countries of the Common Market for Eastern and Southern Africa, Southern African Development Community, and East African Community, with negotiations continuing. But with free trade areas still being negotiated, the path is long from free trade area to customs union to common market and to economic and monetary union. Just look at the European Union.

Building infrastructure and facilitating trade will require strong national leadership

What should be the priorities for political and business leaders in promoting economic integration in the interests of each country's economic transformation?

For the short term they should begin to improve the soft infrastructure that will ensure the payoffs from building and maintaining hard infrastructure. Reforming institutions and regulations can improve the quality—and the competitiveness—of transport and logistics services. That will require incurring the wrath of those now benefiting from trucking monopolies, roadblocks, and administrative barriers and talking with express shippers and freight forwarders about the biggest constraints to their operations.

For the medium term they should build the hard infrastructure for their economies to work and trade better. Identifying and preparing

Each country has to assess its assets, its constraints, and its realistic prospects as it embarks on its economic transformation by pursuing growth with depth

bankable projects, especially those in energy and transport, including those for the priority action plan of the Program for Infrastructure Development in Africa through 2020, can start the process of partnering with the private sector to smooth the flows of goods, services, workers, and capital. That will require working with the various project preparation facilities and understanding their key features, issues, and requirements for success.

For the long term they should continue on the long path to common markets and eventually on to economic and monetary union. Unifying Africa's small and fragmented markets will increase trade, attract foreign investors, and support the growth of exports—creating jobs, reducing inequality, and extending prosperity. That will require rationalizing today's eight regional economic communities to a more manageable number and increasing their financing and clout.

* * *

To keep in mind in all this is that African economies are far from monolithic. Some are large, others small. Some are rich in minerals, others not. Some are coastal, others landlocked. Some are at peace, others wracked by conflict. Some are beginning to pursue long-term transformation plans, others struggle with daily exigencies. Some have rapidly growing pools of talented business people and dedicated technocrats, others work to develop basic skills. Some have world-class logistics, others have budding express shippers and freight forwarders. That is why each country has to assess its assets, its constraints, and its realistic prospects as it embarks on its economic transformation by pursuing growth with depth to create better jobs and to have everyone share in national prosperity.

Notes

1. African Union 2013.
2. African Union 2013.
3. UNECA 2013.
4. IMF African Economic Outlook 2013.
5. See the country profiles in annex 2.
6. UN 2010.
7. Majgaard and Mingat (2012)—reported in Ansu and Tan (2012).
8. Lee 2007.
9. Mulkeen 2010.
10. SACMEQ 2011.
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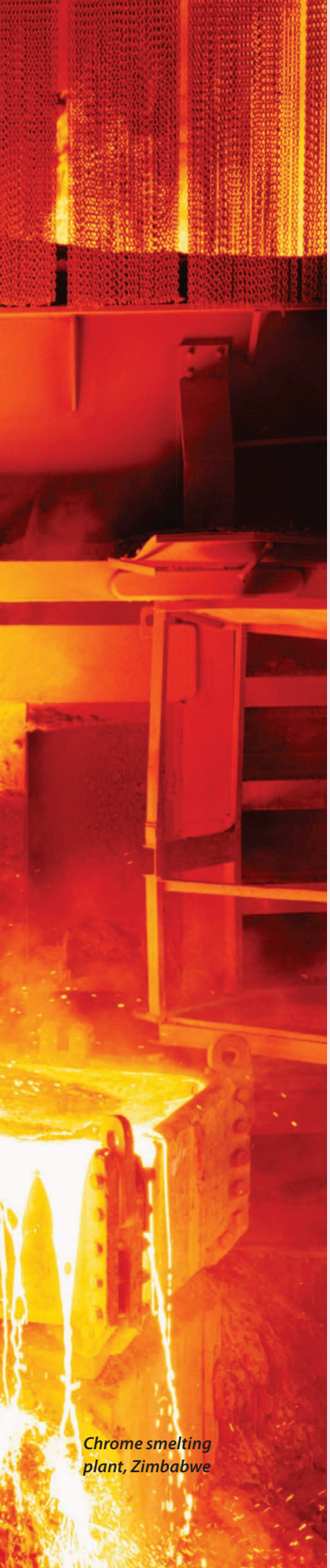


Chrome smelting plant, Zimbabwe

CHAPTER 1

Tracking economic transformation

Since the mid-1990s many Sub-Saharan countries have seen solid economic growth buoyed by reforms in macroeconomic management, stronger incentives for business, high commodity prices, and expanding exports of extractives. The rising incomes are supporting the emergence of an African middle class, and young Africans are now much more likely to return home to pursue a career after an education abroad.

The premise of this first *African Transformation Report* is that the recent economic growth, largely on the back of a boom in commodity prices and resource extraction, while welcome, will by itself not sustain development on the continent. To ensure that growth is sustainable and continues to improve the lives of the many, countries now need to vigorously promote economic transformation. In addition to faster economic growth, the key elements of transformation are diversifying production and exports, becoming more competitive on international markets, increasing the productivity of all resource inputs (especially labor), upgrading technology in production and exports, and ensuring that growth increases formal employment and results in shared prosperity.

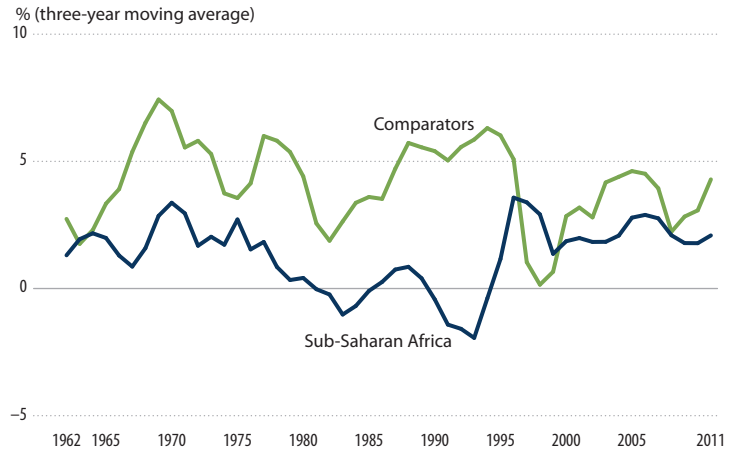
Growing rapidly again

After rising in the late 1960s, GDP growth in Sub-Saharan Africa fell in the mid-1970s following the first oil price shock (figure 1.1). The 1980s and the first half of the 1990s saw GDP decline and poverty increase across the region. In response to the economic crisis of the 1980s, many Sub-Saharan countries adopted International Monetary Fund–World Bank structural adjustment programs, which pursued macroeconomic stabilization and promoted reforms aimed at rolling back state involvement in the economy and shifting to markets as the main allocators of resources. The programs also provided resources for much-needed imports and some investments. By the mid-1990s African countries had begun to see economic growth resume, thanks to economic reforms, better macroeconomic management, donor resources, and a sharp rise in commodity prices.

Many African economies are now growing faster than they have in 40 years. Six of the world's 10 fastest growing countries in the 2000s were in Sub-Saharan Africa: Angola at 11.1% a year, Nigeria 8.9%, Ethiopia 8.4%, Chad 7.9%, Mozambique 7.9%, and Rwanda 7.6%. And several others were above or near the 7% growth needed to double their economies in 10 years. In 2012 Sierra Leone led the way with a 17.2% spurt.[1]

Although growth has resumed in Sub-Saharan Africa, progress on the other aspects of economic transformation is lagging, and this demands greater attention from policymakers

Figure 1.1 Growth in GDP per capita, 1962–2011



Source: World Development Indicators (database).

Contributing to the recovery has been rising investment since the mid-1980s, reversing the collapse of a decade earlier. Investment was around 24% over the five years ending in 2010. But this rise is still below the 30% that the East Asian tigers maintained during their transformation drives. High investment rates are needed not only for expanding production capacity, but also for launching new economic activities and introducing new machinery, often a channel for upgrading technology, which can help raise productivity. With domestic savings low, at around 13–14%, big chunks of the rising investment have been financed by external aid. Africa's large saving-investment gap is not sustainable.[2] To raise and sustain investment over the medium term, more domestic savings must come from both the public and private sectors.

Transforming slowly—growth without much depth

African economies are still fragile despite the recent upswing in growth. Economies are still narrowly based on the production and export of unprocessed agricultural products, minerals, and crude oil. There is little manufacturing—indeed, in many countries the share of manufacturing in GDP is lower now than in the 1970s. Competitiveness on global markets, apart from crude extractive products, is low due to low productivity and technology. Reflecting these features, with few exceptions, more than 80% of the labor force is employed in low-productivity traditional agriculture or informal activities in towns and cities.

Africa's rapid growth in the past decade and half is not new; growth was also rapid in the late 1960s and early 1970s, but it was not sustained. What would make the difference this time around? Economic transformation. In addition to faster economic growth, economic transformation entails:

- **D**iversification of production and exports.
- **E**xport competitiveness and gains.
- **P**roductivity increases.
- **T**echnology upgrading.
- **H**uman economic well-being improvements, particularly by expanding formal productive employment and raising incomes, that improve people's lives.

So, economic transformation boils down to **Growth with depth.**

This chapter reviews performance in Sub-Saharan Africa over the past 40 years (1970–2010) on growth and the other aspects of economic transformation.[3] It highlights 15 countries (the ACET 15, for short) where ACET worked with local think tanks to gain a deeper understanding of transformation performance. It also compares the performance of Sub-Saharan Africa and the ACET 15 to eight comparator countries from outside Africa (box 1.1). And it compares individual African countries using indexes for the various aspects of economic transformation as well as an overall index, the African Transformation Index (ATI). The chapter shows that although growth has resumed in Sub-Saharan Africa, progress on the other aspects of economic transformation is lagging, and this demands greater attention from policymakers.

D—diversification

Diversified production. Two essentials in economic development are acquiring the capability to produce a widening array of goods and services and choosing which ones to specialize in based on international relative prices. Today's developed countries have gone through a phase of diversifying production before specializing to take better advantage of market opportunities. In this sense, specialization is a market-based choice to focus on a subset of goods and services that a country is capable of producing, not a choice forced on a country because it lacks the capabilities to produce anything else.[4] The only effective way to acquire capabilities for new economic activities is through learning-by-doing. African countries thus need to purposively

learn how to produce new goods and services. Only by learning can they expand their economies from ones based mainly on traditional agriculture and primary commodities to ones that also increasingly include modern agricultural production, manufactures, and high-value services.

One indicator of progress toward a more diversified production structure is the share of manufacturing value added in GDP. Sub-Saharan Africa's average share was 9% in 2010, much the same as in the 1970s (figure 1.2a). For the ACET 15 the share has actually fallen—from around 12% in the 1970s and 1980s to roughly 10% in 2010. For the comparators the share rose from 15% in 1970 to almost 25% in 2010. Indeed, it appears that Sub-Saharan countries are directly replacing agriculture with services as the largest economic sector without passing through the intermediate phase of industrialization and an expanding manufacturing sector, the experience of almost all successful economies. Moreover, a large part of the services sector in many Sub-Saharan countries consists of low-technology and low-value activities. These trends are of great concern, since manufacturing has historically been the main source of technological learning. This is true even in the current knowledge economy, since a large part of the value of computer software, for example, is its impact on manufacturing technology and processes.

Diversified exports. The importance of diversified production applies equally to exports.[5] A diversified export base can minimize volatility in foreign exchange earnings, which for small, open developing economies allows access to capital, technology, and critical intermediate inputs. For many African countries exports are concentrated in a narrow range of primary products that has remained much the same over the past 40 years. The top five export commodities account for about 70% of merchandise exports in Sub-Saharan countries, much more than the 44% in the comparator countries (figure 1.2b).

African countries need to purposively learn how to produce new goods and services

Box 1.1 Comparing the ACET 15 with eight earlier transformers

This inaugural issue of the *African Transformation Report* highlights a subset of 15 Sub-Saharan countries, the ACET 15. Future issues will progressively expand the coverage to include other African countries.

The ACET 15 are Senegal, Burkina Faso, Ghana, and Nigeria in West Africa; Ethiopia, Kenya, Uganda, Tanzania, and Rwanda in East Africa; Cameroon in Central Africa; and Zambia, Botswana, South Africa, Mozambique, and Mauritius in Southern Africa. Rather representative, these countries comprise 70% of the population (in 2010), 76% of GDP, 85% of manufacturing value added, 65% of agricultural value added, and 80% of exports. All the subregions of Sub-Saharan Africa are represented (some more than others), as are the major official languages of English, French, and Portuguese. Countries in conflict or recently emerging from conflict are not included, since reconstruction is more pressing in these countries than economic transformation.

Working with local think tanks, ACET prepared country transformation studies for each of the 15, assessing the transformation record, platform, and prospects.

The comparator countries are Brazil, Chile, Indonesia, Malaysia, Singapore, South Korea, Thailand, and Vietnam, whose economies 30–40 years ago had several features in common with many African countries today—widespread poverty, low productivity, low levels of technology, and limited exports. But they ignited and sustained long periods of high GDP and export growth, technological upgrading, and substantial improvements in the lives of their people to become middle- or high-income countries.

Individual comparators could also be related to individual ACET 15 countries. Brazil and Indonesia—with their large populations, agriculture, and oil—could be related to Nigeria. Brazil, a middle-income country with budding technological prospects, and Korea could point the way for South Africa. Chile, Malaysia, and Thailand could point the way for Ghana, Kenya, and Senegal in agribusiness and in attracting foreign direct investment for manufacturing. Chile, a big copper producer that has also managed to develop agribusiness, could point the way for Zambia, a large copper producer with large tracts of undeveloped agricultural land. And Vietnam, evolving from a statist economic approach to an attractive foreign direct investment destination, could hold lessons for Ethiopia, which has roughly the same population and a government with a fairly heavy hand in the economy.

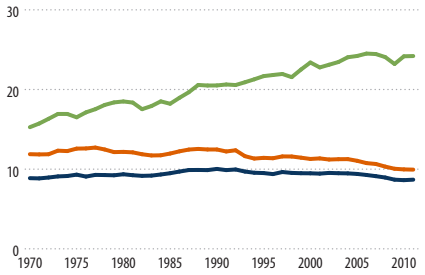
Figure 1.2 How Sub-Saharan Africa fares in relation to eight earlier transformers

The figures here show how Sub-Saharan Africa is performing in relation to eight earlier transformers on various indicators of depth.

ACET 15
Sub-Saharan Africa
Earlier transformers

a Diversity: production

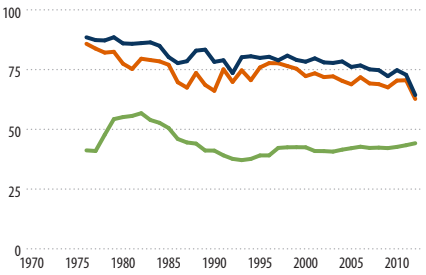
% of manufacturing in GDP



Source: World Development Indicators (database).

b Diversity: exports

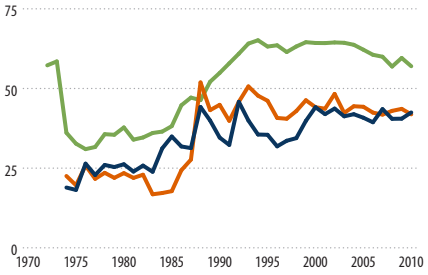
% of top five exports in total exports



Source: UN Comtrade, Revision 2, Digit 3.

c Diversity: exports of manufactures and services

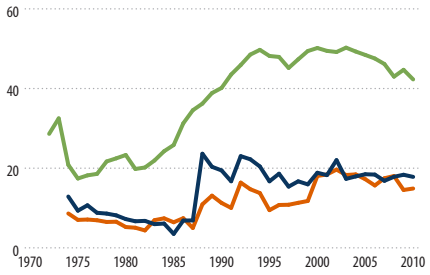
% of total goods and services exports



Source: World Bank staff estimates; World Trade Organization; IMF.

d Diversity: exports of manufactures

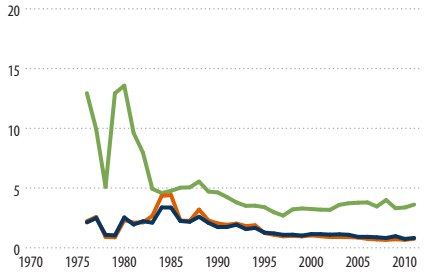
% of total goods and services exports



Source: World Bank staff estimates; World Trade Organization; IMF.

e Export competiveness: export market share without extractives

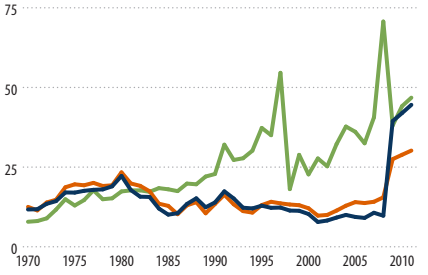
% of exports in GDP relative to world average (without extractives)



Source: World Development Indicators (database); UN Comtrade, Revision 2, Digit 3.

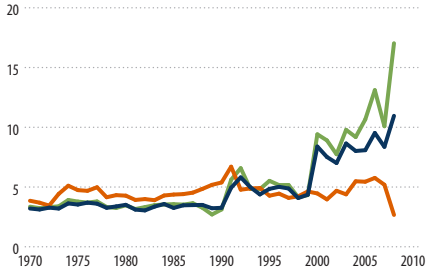
f Productivity: manufacturing value added per worker

Manufacturing value added ($ thousands)



Source: UNIDO, Revision 3, Digit 2.

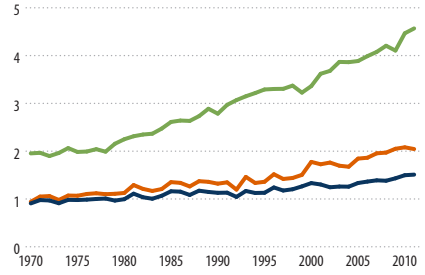
g Productivity: ratio of labor productivity to the average wage in manufacturing



Source: UNIDO, Revision 3, Digit 2.

h Productivity: cereal yields

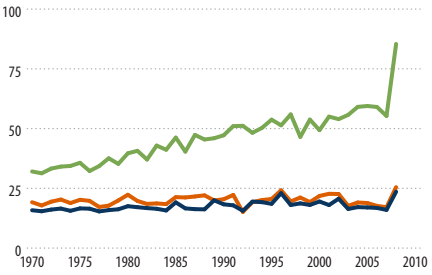
Kilograms per hectare (thousands)



Source: World Development Indicators (database).

i Technological upgrading: medium- and high-technology in manufacturing

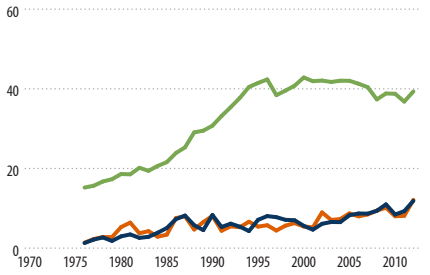
% of total manufacturing production



Source: UNIDO, Revision 3, Digit 2.

j Technological upgrading: medium- and high-technology in exports

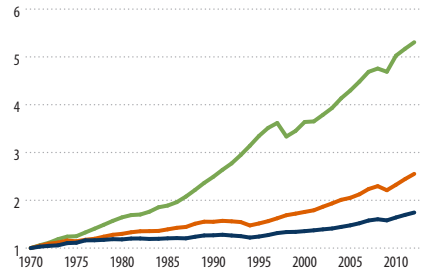
% of total exports



Source: UN Comtrade, Revision 2, Digit 3.

k Human economic well-being: GDP per capita

Index, 1970 = 1



Source: World Development Indicators (database).

Apart from broadening the range of export products, a further challenge is to broaden the sectoral origin of exports to include more manufactures and high-value services. Sub-Saharan Africa's share of manufactures and services in total exports is below that of the comparators, but it saw a bump in the mid-1990s (figure 1.2c). For both Sub-Saharan Africa and the ACET 15, more than half the rise has come from services; the gap with the comparators in manufactures has remained wide (figure 1.2d).

E—export competitiveness

Exporting provides the opportunity to expand production, boost employment, reduce unit costs, and increase incomes. It also enables a country to better exploit its comparative advantage to generate higher incomes, which can pay for the investments in skills, capital, and technology to enhance competitiveness over time. And the knowledge gained from exposure to export competition helps in raising productivity and innovating with new products. Indeed, exporting was a key to success for the East Asian countries. And although the global economic environment has changed, exporting can still be a viable and important part of Africa's economic transformation (chapter 3).

A good indicator of a country's export competitiveness is its share in world exports of goods and services and how that share moves over time. However, a small economy could be very competitive in exports and still have a small world share (Mauritius and Singapore). A way to overcome this is to divide world export shares by world GDP shares. This ratio is equivalent to the exports-to-GDP ratio of a country divided by the exports-to-GDP ratio of the world. If this measure is greater than 1, the country is exporting a greater share of its GDP than the world average, so it is in a sense more competitive in exporting.[6] And a rising trend in the ratio indicates rising export competitiveness.[7]

In Africa a large increase in the exports of extractives by a country may not indicate that the country's economy is transforming, so extractives are removed from both exports and GDP in calculating the measure. Trends in this measure of export competitiveness show a large gap between the African countries and the comparators (figure 1.2e). The share of nonextractive exports in nonextractive GDP rose between 1980 and 1985. It has since been on a downward trend, revealing that the region's recent GDP growth has not been matched by corresponding growth in exports outside extractives.

P—productivity gains

Productivity gains enable more goods and services to be produced from existing resources and technology. Manufacturing value added per manufacturing worker is one indicator of labor productivity in manufacturing. Dividing this indicator by the average wage in manufacturing gives labor productivity in manufacturing per dollar paid in wages.

Manufacturing value added per worker in Sub-Saharan Africa and the ACET 15 is lower than in the comparators, especially before 2008 (figure 1.2f), but the gap is narrower when wages are taken into account (figure 1.2g). In fact, adjusted for wages, Sub-Saharan countries have been slightly above the comparator countries since the mid-1990s.[8] This suggests that Africa could compete on wage costs in manufacturing if it could control and gradually reduce its other considerable disadvantages, such as infrastructure deficits, regulatory and governance constraints, and the tendency in resource-rich countries toward overvalued exchange rates.

In many Sub-Saharan countries the majority of the population lives in rural areas, mostly dependent on agriculture. Increasing agricultural productivity would thus be a powerful way to raise incomes and make inroads into poverty reduction. It would also facilitate overall industrialization and economic transformation. Indeed, in most industrialization experiences, a rise in agricultural productivity allowed agriculture to release labor to industry, produce more food to moderate rises in urban food prices and thus industrial wage demands, produce raw materials for processing in industries, increase exports, and enhance the domestic market for industrial products. Boosting agriculture's productivity thus has to be a key part of the economic transformation agenda.

Exporting provides the opportunity to expand production, boost employment, reduce unit costs, and increase incomes

Cereal yields provide a reasonable proxy for productivity in agriculture. In 1970 yields in Sub-Saharan Africa were about half those in the comparator countries (figure 1.2h). But with yields growing among both groups, the absolute differences in yields were larger in 2011. For the ACET 15 yields rose from about 900 kilograms in 1970 to 2,045 in 2011, and for the comparators, from 1,955 kilograms in 1970 to 4,570 kilograms in 2011.[9]

T—technological upgrading

As a country's manufacturing advances from low to medium and high technology, it can produce goods that command higher prices on international markets. Also, a rising capability to introduce new and improved technologies enables a country to sustain productivity growth over time. In both production and exports the shares of medium- and high-technology manufactures in Sub-Saharan Africa are much lower than in the comparators (figures 1.2i and 1.2j).[10] More important, while the level of manufacturing technology has been

Interest in economic transformation ultimately stems from its potential to improve people's lives

rising in the comparator countries, the opposite has been true in Africa. Another way of looking at the evolution of the technology of exports is to focus on the top 10 exports of individual countries. In the comparator countries the general trend has been for the top 10 to be transformed from primary, resource-based, and low technology—to medium and high technology exports. In Sub-Saharan countries this transformation has yet to occur (table 1.1).

H—human economic well-being

Interest in economic transformation ultimately stems from its potential to improve people's lives. Human well-being is a broad and complex topic involving many factors, including per capita incomes; employment; poverty; inequality in income and wealth; access to affordable health care, education, and other social services; equal economic opportunities for all; gender equality; justice; peace; security; the environment; and so on. The United Nations Development Programme's Human Development Index tracks human well-being using a broad range of variables. Here, we confine ourselves to variables closely related to economic transformation.

GDP per capita and the share of formal employment in the labor force are summary indicators of human economic well-being associated with economic transformation. High rates of economic growth (given the rate of population growth) lead to higher levels of GDP per capita. A high GDP per capita indicates that the economy could in principle support each citizen at a high income.[11] Whether the income is widely shared, however, depends on the nature of economic growth and factor payments, the underlying distribution of assets and political power, and the social policies of the country. But a high rate of well remunerated employment is the most effective way for a high GDP per capita to translate into improvement in people's lives. If opportunities for well remunerated employment (in jobs or self-employment) are expanding with rising GDP per capita, economic growth will be inclusive, prosperity will be widely shared, and poverty and inequality will be reduced.

GDP per capita. The trend in GDP per capita in Africa over the 40 years since 1970 leaves much to be desired. By 2010 GDP per capita in Sub-Saharan Africa was only about 60 percent higher than in 1970 (1.6 times the level in 1970). The ACET 15's performance was a bit better: GDP per capita was slightly more than double (2.3 times) the level in 1970. In stark contrast, GDP per capita in the comparator countries in 2010 was five times the level in 1970 (figure 1.2k).[12] But note the slow yet steady increase in Africa since 1995. Reflecting the pickup, poverty in Sub-Saharan Africa, though still high, came down from 59% in 1990 to 48% in 2010 (from 25% to 9% for the comparators) and is set to fall to 42% by 2015.[13]

Employment. If an economy is transforming, we would expect to see more of the labor force in formal employment as the shares of modern agriculture, manufacturing, and high-value services in GDP expand and as entrants to the labor force become more educated. So the share of formal employment (whether in jobs or self-employment) in the labor force is a reasonable measure to track the employment impact of economic transformation.[14] It encapsulates the goal of raising the rate of employment as well as formalizing or modernizing it.[15]

The problem is that many African countries do not have good data on employment. Labor surveys are

Table 1.1 Sub-Saharan Africa—stuck in low-technology exports

Technology exports over time—Sub-Saharan Africa versus comparator countries

	Top 10 exports in 1976					Top 10 exports in 2010				
	Primary production	Resource based	Low technology	Medium technology	High technology	Primary production	Resource based	Low technology	Medium technology	High technology
Brazil	••	•••••	••	•		••••	••••		••	
Chile	••	••••••••				•	••••••••		•	
Malaysia	•••	••••••			•		••••		•	•••••
Korea, Rep.		•	••••••	••	•		••	•	••••	•••
Singapore	•	••••		•••	••		•		•••	••••••
Thailand	•••••	••	•	••		••	••		••••	••
Burkina Faso	••••••••	••				•••••••	•••			
Cameroon	••••	•••••	•			•••••	•••••			
Ethiopia	••••••••	••				•••••••	••	•		
Kenya	••••	••••••				••••	•••••		•	
Mauritius	•	•••	••••••			•	•••	••••••		
Senegal	•••••	•••••				••	•••••••	•		
Zambia	••	••••••	•	•		••	•••••••	•		

Note: For countries where commodity values for 1976 or 2010 were not reported, commodity values were replaced with the nearest lagged or forward value, but not more than four years away from the missing year.

Source: UN Comtrade, Revision 2, Digit 3 (using ACET's reclassification based on Lall's Classification of Commodity Exports).

few and far between. Reported unemployment rates are very low, mainly below 5%—lower than in industrialized countries. The low reported unemployment rates, however, belie the much worse situation on the ground. Many people classified as employed are engaged in low-productivity agriculture or services and are severely underemployed, barely eking out a living. Informal employment (in the informal sector or in the formal sector but without a contract and social protection) makes up more than 80% of employment, and vulnerable employment (own-account and contributing family work) is around 80% of employment (table 1.2). Both informal employment and vulnerable employment tend to lack formal work arrangements and social benefits.[16]

Table 1.2 Some features of employment in selected Sub-Saharan countries

Country	Informal employment (% of total employment)	Vulnerable employment (% of total employment)
Benin (2010)	92.9	89.9[a]
Ethiopia (2005)	na	83.9
Ghana (2010)	86.1	71.5
Kenya (2009)	na	63.4[b]
Mozambique (2005)	92.8	84.8
Rwanda (2006)	93.9	76.6
Uganda (2009)	85.5	82.7[c]

na is not available.
a. Data are for 2003.
b. Data are for 1999.
c. Data are for 2005.
Source: Baah-Boateng, Ansu, and Amoako-Tuffour 2013.

Despite the severe problems with the availability and quality of employment data in Sub-Saharan Africa, it is important to highlight and track employment as a central part of the discussion on economic transformation. Since there are no consistent data on the share of formal employment in Sub-Saharan countries, we use an estimate that modifies the overall employment rate by the rate of vulnerable employment as estimated by the International Labour Organization.[17] Even so, consistent time series data are not available for many countries. The share of formal employment in the labor force in Mauritius and South Africa, two Sub-Saharan countries that regularly produce data, is around 70%. For the rest of the ACET 15, data are sparse, but the share is seldom above 25%. In Zambia it fell from 31% in 1990 to 16% in 2005. In Kenya it was around 33% in 1999. In contrast, the share of formal employment in the labor force is more than 50% in the comparator countries.

Youth unemployment. Unemployment is especially serious for youth (ages 15–24) in Africa, with a formal unemployment rate much higher than for adults (ages 25–64). Their vulnerable unemployment rate is also high. The 2012 *African Economic Outlook* calculates that 75% of the working young are in vulnerable employment in low-income African countries, 57% in lower middle-income countries, and 26% in upper middle-income countries.[18] In today's Africa a rising share of the youth are being educated at considerable national expense, but on leaving school a majority either remain unemployed or cannot find jobs, threatening social and political stability.

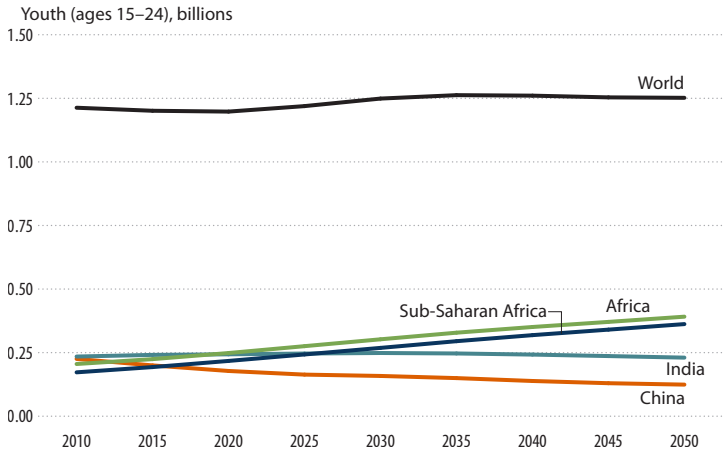
Given the continent's demographics, youth unemployment is likely to increase if Africa's jobless growth continues. In 2010 the share of youth in the working-age population (ages 15–64) in Sub-Saharan Africa (and Africa) was 20%, compared with the world average of 18%. By 2050 the world average is expected to have fallen to 14%, but in Sub-Saharan Africa the share would still be around 19%. In 2050 Sub-Saharan Africa's youth population of 362 million will be almost three times China's 124 million (figure 1.3). With economic transformation strategies that create demand for employment and provide education and the right skills, this bulging youth population can be turned into an asset.

Comparing African countries on transformation

The African Transformation Index provides a quantitative measure for comparing African countries on the various aspects of economic transformation

The African Transformation Index (ATI) provides a quantitative measure for comparing African countries on the various aspects of economic transformation reviewed above. It is a composite of the five elements of depth—**D**iversification, **E**xport competitiveness, **P**roductivity, **T**echnological upgrading, and **H**uman economic well-being. Here, we show country rankings on the ATI and on the five subindexes for two three-year periods centered on 2000 and 2010 (averages of 1999–2001 and of 2009–2011). We take averages because the volatility of the commodity-dependent African economies can skew the values of the relevant variables for any particular year, giving misleading results. We show results for the 21 Sub-Saharan countries that have the required data. Note that the results reflect economic outcomes rather than policy inputs and institutional environments (see annex 1 on the ATI's outcome-based approach).

Figure 1.3 Sub-Saharan Africa's youth population to outstrip China's and India's



Source: UN 2010.

Mauritius, South Africa, Côte d'Ivoire, Senegal, Uganda, Kenya, and Gabon are the top seven countries on economic transformation

Putting together all of the elements of DEPTH, the ATI shows Mauritius, South Africa, Côte d'Ivoire, Senegal, Uganda, Kenya, and Gabon as the top seven countries on economic transformation in 2010 (figure 1.4a). The middle seven are Cameroon, Madagascar, Botswana, Mozambique, Tanzania, Zambia, and Malawi. The least transformed are Benin, Ghana, Ethiopia, Rwanda, Nigeria, Burundi, and Burkina Faso.

The main surprises are Botswana, Ghana, and Nigeria. Botswana had a stellar record on GDP growth over 1970 to 2010, raising its per capita GDP to the second highest in Sub-Saharan Africa (after Gabon). But its economy is based primarily on the production and exports of raw diamonds—extractives—which we do not include in the measures of diversification and export competitiveness. The country has made efforts in recent years to diversify away from raw diamonds by moving into cutting and polishing, but the results have yet to register in the data. Meanwhile, the economy remains very weak in some of the key indicators of transformation. For example, the share of manufacturing in GDP is around 4% (11% in Burkina Faso, at the bottom of the transformation rankings), and cereal yields are about 375 kilograms per hectare (900 kilograms per hectare in Burkina Faso).[19] Ghana's poor showing in 2010 results mainly from a steady decline in manufacturing production, export diversification, and export competitiveness over the decade. It also relies considerably on unprocessed mineral exports (gold and bauxite). Nigeria's poor showing also reflects its extreme dependence on producing and exporting extractives.

Uganda, Mozambique, and Rwanda made the most progress on transformation, each improving its rank by three places or more. Kenya, Madagascar, Malawi, Côte d'Ivoire, Tanzania, and Ethiopia improved their rankings by one or two positions. The worst deteriorations were in Ghana and Botswana. Ghana fell seven places, and Botswana five places, between 2000 and 2010. Burkina Faso, Cameroon, Senegal, and Zambia also dropped in rankings.

Diversification

Mauritius, South Africa, Madagascar, Cameroon, Senegal, Kenya, and Côte d'Ivoire occupy the top tier of the diversification ranking. Ethiopia, Zambia, Ghana, Burkina Faso, Gabon, Botswana, and Nigeria are in the bottom third (figure 1.4b). Rwanda and Benin improved dramatically (five and four places respectively). A big part of the change in Rwanda was the expansion of nontraditional exports, particularly vegetables and beverages. Uganda, Burundi, and Ethiopia also made good progress on diversification, with Ethiopia adding horticultural and leather exports. Regional integration agreements, such as the Southern African Development Community and the East African Community, have benefited Kenya, Uganda, and Tanzania. The removal of requirements for export registration, licensing, and surrender of proceeds—and the elimination of most commodity export taxes—facilitated their export diversification.

Three of the bottom five countries on diversification are from the Economic Community of West African States—Ghana, Burkina Faso, and Nigeria. Ghana had the worst decline on diversification, reflecting the dramatic decline in the shares of manufactures and services in exports, from 49% in 2000 to 23% in 2010. Revenues from the new crude oil exports could dampen the urgency to diversify production and exports as the growth of agriculture and industry threaten declines.

Export competitiveness

When it comes to export competitiveness (the share of exports of goods and services in a country's GDP relative to the corresponding share for the world),[20] Mauritius, Côte d'Ivoire, Malawi, Kenya, Mozambique, Tanzania, and Ghana are in the top third, while Cameroon, Benin, Botswana, Nigeria, Rwanda, Burkina Faso, and Burundi are in the bottom third. Mozambique, Tanzania, Uganda, and Kenya

improved their competitiveness rank the most between 2000 and 2010 (figure 1.4c). Kenya made great strides in tea, coffee, horticulture, hides and skins, cement, tobacco, textiles, and fish. Medicinal and pharmaceutical products are also emerging as important opportunities for expanding export volumes and upgrading quality and value. Ghana, though still in the top third in competitiveness, experienced a steep fall in competitiveness between 2000 and 2010. Part of this fall reflects the 60% revaluation of the country's GDP in 2006. With exports not similarly revalued upward, the share of exports in GDP fell steeply. Botswana's steep fall reflects its struggle to develop exports outside diamonds, since extractives are excluded from the export competitiveness measure.

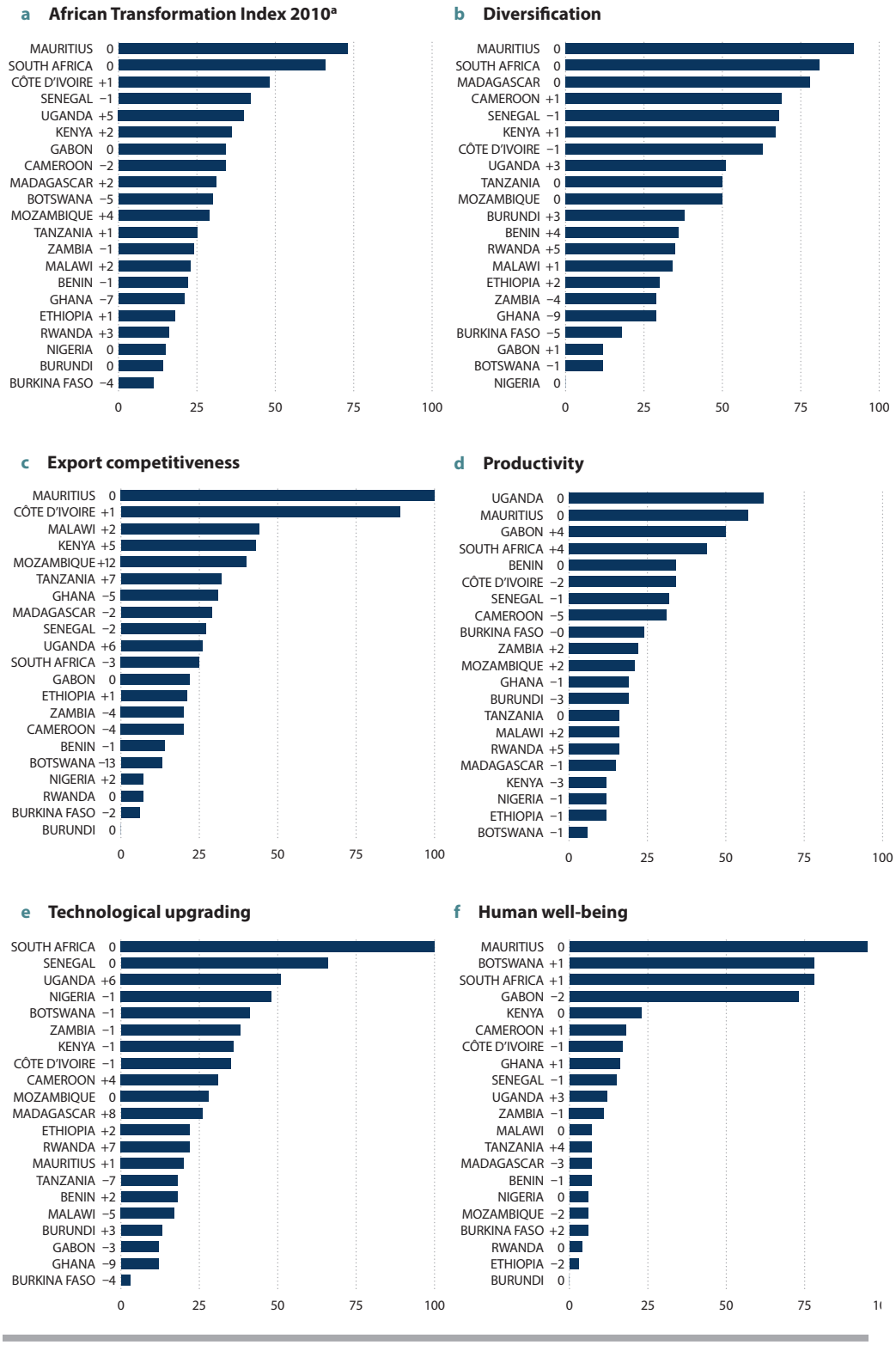
Productivity

At the top in productivity are Uganda, Mauritius, Gabon, South Africa, Benin, Côte d'Ivoire, and Senegal (figure 1.4d). The ranks for Uganda, Gabon, and Benin are influenced by large values for manufacturing value added per manufacturing worker, values likely for a small number of large establishments that are not representative of manufacturing in the countries. At the bottom are Malawi, Rwanda, Madagascar, Kenya, Nigeria, Ethiopia, and Botswana. Zambia, Mozambique, and Malawi made good progress on productivity over 2000–10.

Technology

South Africa, a clear leader on technology, is followed at quite a distance by Senegal, Uganda, Nigeria, Botswana, Zambia, and Kenya (figure 1.4e). For Senegal the share of medium- and high-technology products in manufacturing value added slipped from 38% in 2000 to 36% in 2010. And for Uganda the share of medium- and high-technology products in exports slipped

Figure 1.4 How 21 African countries rank on transformation and depth



a. The 2010 score is the average for 2009–11. The numbers after each country name show the change in rank between 2000 and 2010.

Source: ACET research. See annex 1 for the construction of the African Transformation Index.

from 11% in 2000 to 10% in 2010. Starting from a low base, the share of medium- and high-technology exports has been rising—from 2% to 11% between the 1990s and 2000s. That Mauritius is not on this list is a surprise. This could reflect the focus of its manufacturing sector and exports on textiles, which are classified as low technology. Again, Ghana's poor performance is a puzzle, reflecting its steady decline in manufacturing. The biggest improvements were by Uganda, Madagascar, and Rwanda.

Human well-being

The human well-being index comprises GDP per capita and the share of formal employment in the labor force (figure 1.4f).[21] Mauritius, Botswana, South Africa, and Gabon stand out mainly because of their high GDP per capita. Although Gabon has the highest per capita GDP, it is fourth on the index due to its low share of formal employment in the labor force. Although Botswana's GDP per capita is higher than Mauritius's, it is second to Mauritius on human well-being, again because of its low share of formal employment. The biggest improvements were for Uganda and Tanzania. Although Ghana revalued its GDP upward by 60% in 2006, it moved up only one place on the index between 2000 and 2010 partly because of its large informal sector, which by one estimate contributes nearly 86% of total employment in 2010. The steepest falls were for Madagascar, Gabon, Mozambique, and Ethiopia.

Propelling economic transformation in Africa

As the review in the first part of the chapter shows, growth has picked up in Sub-Saharan Africa in the past decade and half, but progress has been limited on the other key elements of economic transformation, particularly in relation to the comparators in East Asia and Latin America. This limited progress is evident in the state-led import-substitution strategy era of the 1970s and in the structural adjustment programs era of the 1980s to the early 2000s. Sub-Saharan countries and their policymakers must thus reflect on these experiences and current global economic trends so as to chart new approaches that can accelerate progress on economic transformation—on growth with depth.

But growth with depth is not mechanical. It requires effective implementation of creative strategies, unique to each country's circumstances. While there is no specific formula for economic transformation, there is some agreement on policies, institutions, and approaches that have been important in driving the transformation of successful countries. Beyond peace and security, these include:

- Increasing state capacity for macroeconomic management, public expenditure management, and guiding economic transformation.
- Creating a business friendly environment that fosters effective state-business consultation and collaboration on economic transformation.
- Developing people's skills for a modern economy.
- Boosting domestic private savings and investment.
- Attracting direct foreign investment.
- Building and maintaining physical infrastructure.
- Promoting exports.
- Facilitating technology acquisition and diffusion.
- Fostering smooth labor-management relations.
- Identifying and supporting particular sectors, products, and economic activities in each country's potential comparative advantage.

The exact combination and sequence of the 10 drivers may differ from country to country, and even in the same country they may change over time. But awareness of how successful countries have used the drivers to help them transform can help African countries as they develop their own strategies. In addition to the 10 drivers above, each within the exclusive control of national policymakers and citizens, progress on regional economic integration will in several tangible ways also provide a tremendous boost to the economic transformation efforts of Sub-Saharan countries.

Economic transformation requires an environment of prudent macroeconomic policies that is also conducive to economic activities and entrepreneurship

First, economic transformation requires an environment of prudent macroeconomic policies that is also conducive to economic activities and entrepreneurship in general, particularly an environment that enables private business to flourish.[22] While the first nine drivers help create conditions that generally favor all economic activities, pursuing the tenth may involve selected activities. This requires consulting with the private sector, identifying the areas of current or potential comparative advantage, and exploring opportunities for learning in order to increase capabilities. In these areas policymakers could work with business to identify the policy, institutional, technological, infrastructural, and other constraints that stand in the way and the approaches and instruments needed to relieve them.[23] All require a state that has the desire and capacity to play the traditional state economic roles and to collaborate with the private sector (and other relevant stakeholders) in setting coherent transformation strategies and pursuing specific transformation initiatives.

Although countries differ, Sub-Saharan Africa generally is well endowed with cheap labor and abundant natural resources. And its relative advantage in these areas is

likely to increase. So it would make sense for Sub-Saharan countries to build their transformation strategies around leveraging those relative advantages and seeking over time to move to higher value activities by upgrading skills and technology. It would also make sense for policymakers so as to expand the opportunities for productive employment by supporting greater labor intensity in the modern sectors.

The chapters that follow discuss several, but not all, of transformation's drivers. Chapter 2 explores the institutional and general policy environment for promoting economic transformation. It discusses how the state can be strengthened to effectively discharge the roles critical for economic transformation, and how the state, the private sector, and labor could form a strategic partnership to promote transformation.

Chapter 3 examines the important task of promoting exports. It argues that even though the current global situation is in important respects different from that in the second half of the last century—when the comparator countries (particularly in East Asia) pursued export promotion as a central part of their economic transformation strategy—the approach is still relevant to Sub-Saharan countries. But it has to be modified to fit the times.

Chapter 4 looks at skills development, exploring how access to education can be broadened and quality improved. It discusses how to orient the education system more to science, technology, engineering, and mathematics (the STEM disciplines), how to increase the role of technical and vocational education and training, and how to make the education system more practical and aligned to economic transformation strategies by closely involving business in skills development.

The rest of the report discusses possible pathways for Sub-Saharan countries to become more internationally competitive in subsectors and broad product groups in which they appear to have a comparative advantage. Exploring how Sub-Saharan Africa can use its abundant labor and natural resources for economic transformation, chapter 5 discusses labor-intensive manufacturing, chapter 6 agroprocessing, chapter 7 oil, gas, and minerals, and chapter 8 leisure tourism.

The chapters focus more on the formal sectors in agriculture, manufacturing, and services. This is consistent with going for the best prospects first. The spark that ignites economic transformation is more likely to come from the formal or modern sectors than from the informal or traditional sectors. But this does not mean ignoring the informal or traditional sectors. Ongoing efforts to promote them should continue if they are showing results, and promising new initiatives to lift incomes should continue to be explored. Among them, and central to transformation strategy, are initiatives that draw smaller enterprises, the informal sector, and traditional agriculture into the transformation process through links with the modern transforming sectors. This includes increasing the capabilities of small and informal enterprises (through training and access to improved technology) to supply the expanding modern firms—and implementing programs that encourage modern firms to source inputs and services from them. A similar approach could encourage a new class of commercial farmers and agroprocessors to source inputs from traditional smallholder farmers—through outgrower schemes, for example.

Notes

1. IMF African Economic Outlook 2013.
2. Private foreign investment has also been low but is beginning to rise in several countries.
3. Some data are for 2012.
4. The classical (Ricardian) theory, implying that a country should focus on its comparative advantage, has nothing to say about the possibility of a country learning to improve its comparative advantage over time. And the Hecksher-Olin-Samuelson relative factor proportions theory of comparative advantage assumes that each country is equally capable technologically of engaging in any economic activity. This clearly is not the case for African countries in relation to the developed industrial countries.
5. For instance, see Greenwald and Stiglitz (2006) and Hausmann, Hwang, and Rodrik (2007).
6. Note that dividing by GDP reduces the potential bias against small economies, it could introduce a bias against large economies, which tend to have lower shares of exports to GDP. But among Sub-Saharan countries this potential large economy bias is likely to be less of an issue than the potential small economy bias.
7. Another way to show trends in export competitiveness while avoiding the bias against small economies is to take the growth rate of world export shares. We do not use this measure because all the other indicators in this report and for the indexes are in levels.
8. The sharp jump in 2000 for Sub-Saharan Africa and the ACET 15 is difficult to explain, but it appears the African countries have become more competitive on this productivity measure.
9. There are more comprehensive and sophisticated measures of economywide productivity than the proxies we use here, such as total factor productivity. But for reasons of data availability and comparability across countries, and to focus attention on the key sectors of manufacturing and agriculture, we chose to use these simple proxies.

Central to transformation strategy, are initiatives that draw smaller enterprises, the informal sector, and traditional agriculture into the transformation process through links with the modern transforming sectors

10. Lall 2000; UNIDO 2009. For production, we use International Standard Industrial Classification of All Economic Activities Revision 3 at the two-digit level; for exports, we use Standard International Trade Classification Revision 2 at the three-digit level. Several African countries do not report a consistent series of manufacturing production data, so the low digit level is required by data availability.

11. Strictly speaking this is true of gross national product (GNP) per capita growth, but not necessarily GDP per capita growth. Where a large share of incomes from domestic production accrues to foreigners, or where there are receipts of large transfers from abroad, GDP may not be a good measure of income received by nationals. But given our focus on economic transformation, with its emphasis on domestic production and economic structure, we chose GDP over GNP.

12. Corresponding data for 2012 are Sub-Saharan Africa, 1.74 times, ACET 15, 2.55 times, and comparators, 5.31 times. All the averages in this chapter are simple (not weighted).

13. Annual time series data on poverty rates (measured by PPP$1.25 a day) are not available for countries, but it is often possible to find at least one data point over a five-year interval. If there is only one data point in the interval, we use it to represent each year in the interval; if there is more than one data point, we use the average (see annex table A1.1).

14. A high level of employment in government (or public sector) would raise the share of formal employment in the labor force, but it may not necessarily reflect progress on economic transformation. So perhaps a better measure would be formal employment in the private sector as a share of the labor force, but such data are not easily available.

15. The share of formal employment in the labor force is the same as the share of the labor force that is employed (rate of employment) times the share of formal employment in total employment. A high level of employment in government (or public sector) would raise the share of formal employment in the labor force, but it may not necessarily reflect progress on economic transformation. So perhaps a better measure would be formal employment in the private sector as a share of the labor force, but such data are not readily available.

16. AfDB and others 2012.

17. We estimate the share of formal employment in the labor force by the product of the employment rate and one minus the rate of vulnerable employment. The source for both the employment rate and the vulnerable employment rate is ILO, Key Indicators of the Labour Market (database).

18. AfDB and others 2012.

19. See country profiles in annex 2.

20. Both exports and GDP exclude extractives, as explained earlier.

21. For those interested in comparing African countries on purely the structural indicators, without taking into account GDP per capita and employment, annex 1 provides an index and rankings based on just diversification, export competitiveness, productivity, and technology.

22. We are focusing here on the economic requirements. We assume that peace, political stability, and the rule of law already exist; otherwise there is little point thinking about how best to promote economic transformation.

23. Lin and Monga 2011.

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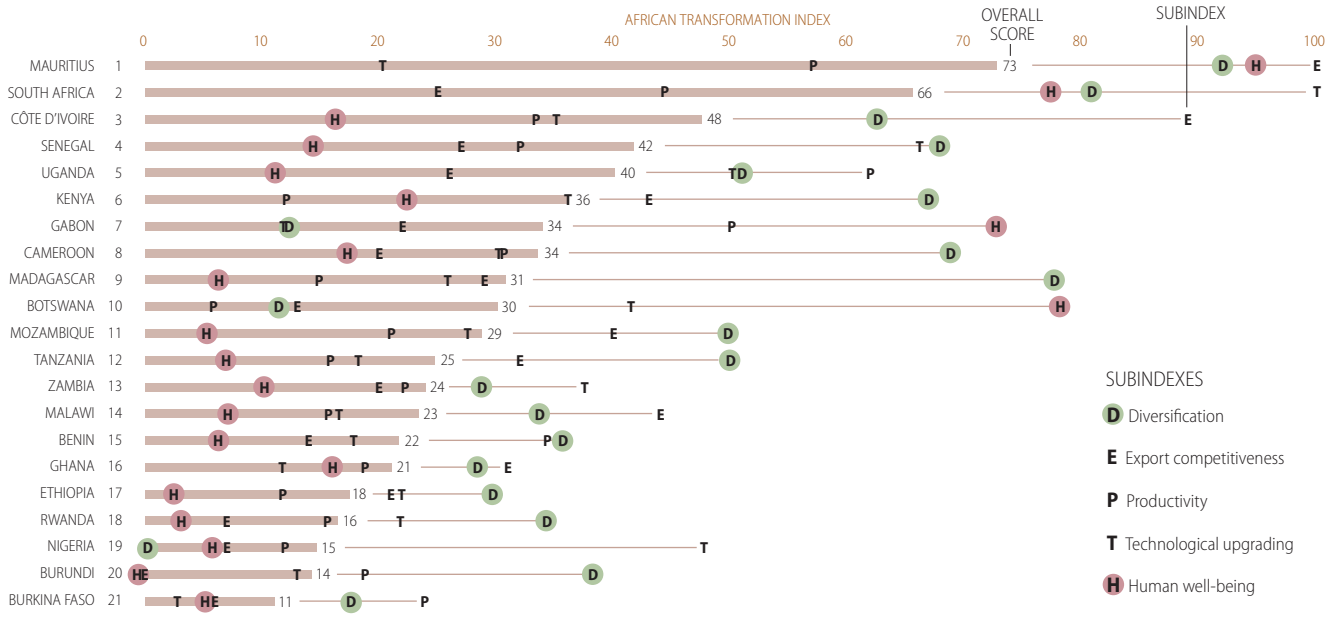
SPECIAL FEATURE **LOOKING AT THE AFRICAN TRANSFORMATION INDEX IN GREATER DEPTH**



COUNTRY RANKING BY SUBINDEX

TOP RANK → **TOP 5** countries overall in blue, **BOTTOM 5** overall in red

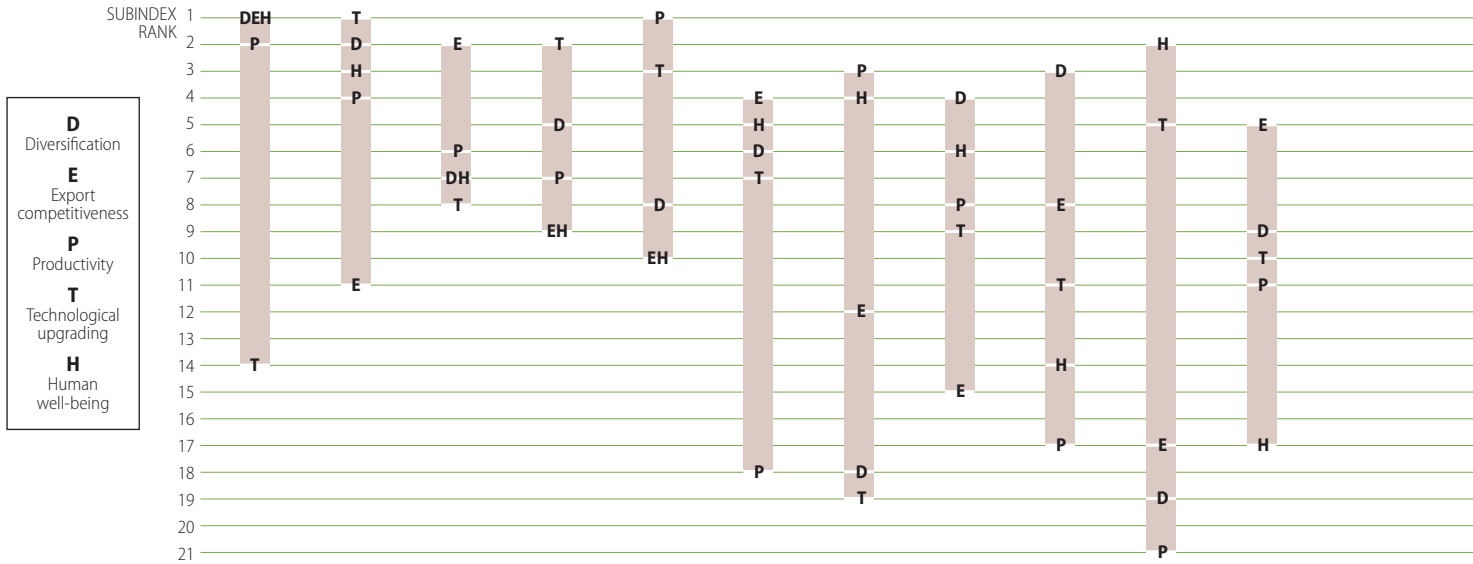
2010 SUBINDEX RANK	1	2	3	4	5	6	7	8	9	10	11
D Diversification	MAURITIUS 92	SOUTH AFRICA 81	MADAGASCAR 78	CAMEROON 69	SENEGAL 68	KENYA 67	CÔTE D'IVOIRE 63	UGANDA 51	MOZAMBIQUE 50	BURUNDI 38	BENIN 36
E Export competitiveness	MAURITIUS 100	CÔTE D'IVOIRE 89	MALAWI 44	KENYA 43	MOZAMBIQUE 40	TANZANIA 32	GHANA 31	MADAGASCAR 29	SENEGAL 27	UGANDA 26	SOUTH AFRICA 25
P Productivity	UGANDA 62	MAURITIUS 57	GABON 50	SOUTH AFRICA 44	BENIN 34	CÔTE D'IVOIRE 33	SENEGAL 32	CAMEROON 31	BURKINA FASO 24	ZAMBIA 22	MOZAMBIQUE 21
T Technological upgrading	SOUTH AFRICA 100	SENEGAL 66	UGANDA 51	NIGERIA 48	BOTSWANA 41	ZAMBIA 38	KENYA 36	CÔTE D'IVOIRE 35	CAMEROON 31	MOZAMBIQUE 28	MADAGASCAR 26
H Human well-being	MAURITIUS 95	BOTSWANA 78	SOUTH AFRICA 78	GABON 73	KENYA 23	CAMEROON 18	CÔTE D'IVOIRE 17	GHANA 16	SENEGAL 15	UGANDA 12	ZAMBIA 11

SUBINDEX VALUE

RANKING ON OVERALL ATI AND SUBINDEXES

TOP RANK →

	MAURITIUS	SOUTH AFRICA	CÔTE D'IVOIRE	SENEGAL	UGANDA	KENYA	GABON	CAMEROON	MADAGASCAR	BOTSWANA	MOZAMBIQUE
2010 OVERALL RANK	1	2	3	4	5	6	7	8	9	10	11
OVERALL RANK CHANGE 2000–2010	0	0	1	−1	5	2	0	−2	2	−5	4
OVERALL ATI SCORE, 2010	73	66	48	42	40	36	34	34	31	30	29

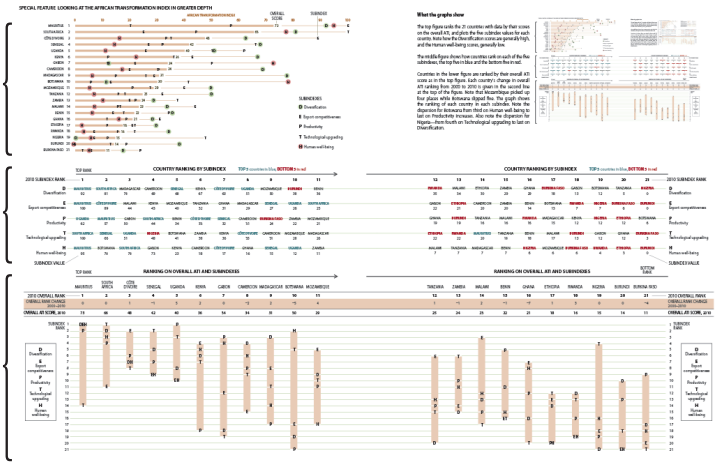


What the graphs show

The top figure ranks the 21 countries with data by their scores on the overall ATI, and plots the five subindex values for each country. Note how the Diversification scores are generally high, and the Human well-being scores, generally low.

The middle figure shows how countries rank on each of the five subindexes, the top five in blue and the bottom five in red.

Countries in the lower figure are ranked by their overall ATI score as in the top figure. Each country's change in overall ATI ranking from 2000 to 2010 is given in the second line at the top of the figure. Note that Mozambique picked up four places while Botswana slipped five. The graph shows the ranking of each country in each subindex. Note the dispersion for Botswana from third on Human well-being to last on Productivity increases. Also note the dispersion for Nigeria—from fourth on Technological upgrading to last on Diversification.



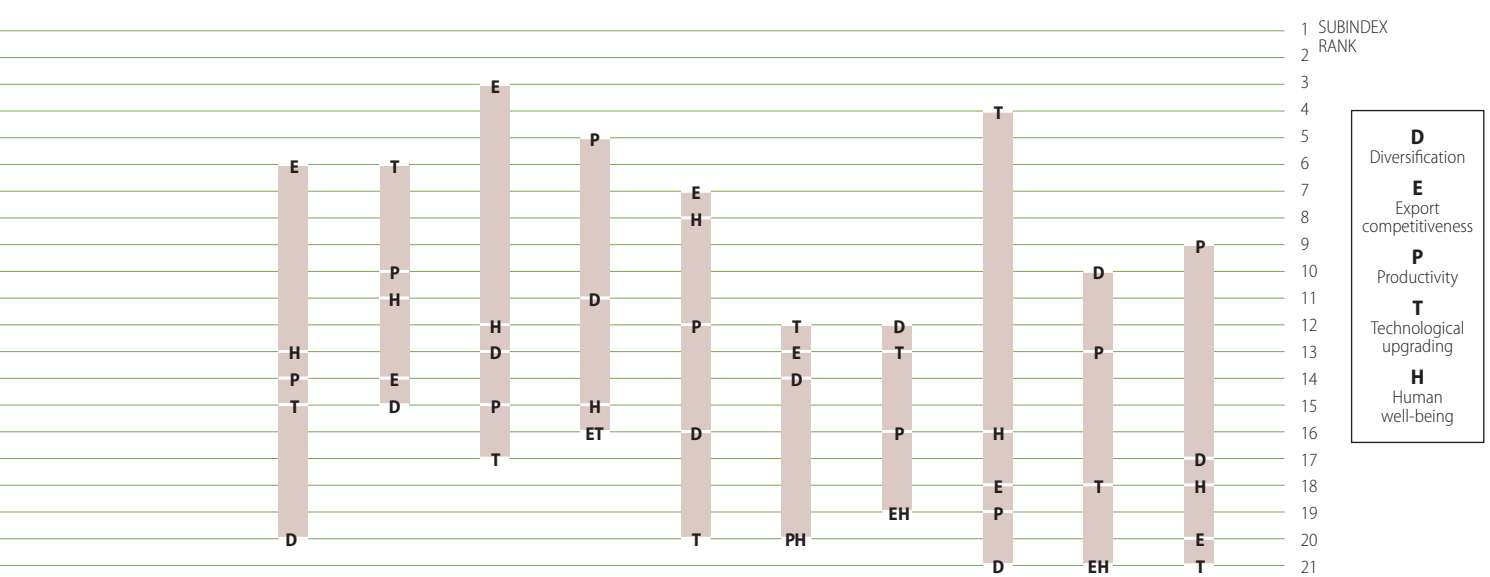
TOP 5 countries overall in blue, **BOTTOM 5** overall in red

COUNTRY RANKING BY SUBINDEX

BOTTOM RANK										
12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	2010 SUBINDEX RANK
RWANDA	MALAWI	ETHIOPIA	ZAMBIA	GHANA	**BURKINA FASO**	GABON	BOTSWANA	TANZANIA	**NIGERIA**	**D** Diversification
35	34	30	29	29	18	13	12	5	0	
GABON	**ETHIOPIA**	CAMEROON	ZAMBIA	BENIN	BOTSWANA	**RWANDA**	**NIGERIA**	**BURKINA FASO**	**BURUNDI**	**E** Export competitiveness
22	21	20	20	14	13	7	7	6	0	
GHANA	**BURUNDI**	TANZANIA	MALAWI	**RWANDA**	MADAGASCAR	KENYA	**NIGERIA**	**ETHIOPIA**	BOTSWANA	**P** Productivity
19	19	16	16	16	15	12	12	12	6	
ETHIOPIA	**RWANDA**	**MAURITIUS**	TANZANIA	BENIN	MALAWI	**BURUNDI**	GABON	GHANA	**BURKINA FASO**	**T** Technological upgrading
22	22	20	18	18	17	13	12	12	3	
MALAWI	TANZANIA	MADAGASCAR	BENIN	**NIGERIA**	MOZAMBIQUE	**BURKINA FASO**	**RWANDA**	**ETHIOPIA**	**BURUNDI**	**H** Human well-being
7	7	7	7	6	6	6	4	3	0	SUBINDEX VALUE

RANKING ON OVERALL ATI AND SUBINDEXES

BOTTOM RANK										
TANZANIA	ZAMBIA	MALAWI	BENIN	GHANA	ETHIOPIA	RWANDA	NIGERIA	BURUNDI	BURKINA FASO	
12	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	2010 OVERALL RANK
1	−1	2	−1	−7	1	3	0	0	−4	OVERALL RANK CHANGE 2000–2010
25	24	23	22	21	18	16	15	14	11	OVERALL ATI SCORE, 2010



Source: ACET research. See annex 1.

Cityscape, Nairobi, Kenya

CHAPTER 2

The state and the private sector—partners in transformation

From the 1960s to the early 1980s governments in many Sub-Saharan countries pursued overly state-led development, often regarding markets and private businesses with suspicion and at times even trying to suppress them.[1] Then from the 1980s through the 2000s the pendulum swung to the other extreme. Under reforms inspired and financed by the International Monetary Fund, World Bank, and some donors, the state was seen as the impediment to economic efficiency and growth. The goal was to roll it back and give room to markets and to business, which thus unshackled would propel growth and structural change while the state confined itself to setting the rules of the game, acting as an impartial umpire and supplying such public goods as education and health care. Neither approach transformed Africa's economies, and the failure has engendered a search for new approaches, including a reconsideration of the two previous extremes.

Domestic firms in late-developing countries face difficult challenges in learning about and introducing new technologies, processes, products, and services—and breaking into foreign markets. A favorable business environment helps but seldom is sufficient. The experiences of almost all successful transformers show that the state can help business meet these challenges. But history also shows that state involvement in the economy can block private initiative, introduce inefficiencies, and retard economic progress.

Economic transformation thus requires getting the balance right between the state and private enterprise—and having effective mechanisms for the two to collaborate and support each other in the pursuit of economic and technological learning while paying sufficient attention to economic efficiency. This chapter looks at "market-oriented industrial policy" to promote economic transformation, interpreted broadly as a set of policies that promote the efficient production and export of a diverse range of technologically upgraded goods and services, whether from agriculture, industry, or services.

The right balance between the state and the private sector in promoting economic transformation cannot be prescribed

The right balance between the state and the private sector in promoting economic transformation cannot be prescribed. It will vary depending on each country's history, political system, and institutions—and on the specific economic challenges and opportunities it faces. And for any country the balance will change over time as its underlying conditions change. In light of this, the chapter does not provide a prescription for any one country. Instead, it discusses an agenda that is broadly relevant for a wide range of African countries, but that would have to be tailored to the circumstances of each country.

At the core of that agenda is active collaboration between the state and the private sector. Businesses large and small, primarily in the private sector, lead in producing and distributing goods and services, in upgrading technologies and production processes, in expanding and diversifying production and exports, and in expanding productive employment opportunities. But they can be helped by a capable state, which can also gain much from inputs from business in setting the national economic vision and strategy—and in fashioning policies, institutions, public investments, and incentive packages to support that strategy.

Organized labor and civil society also have roles. While organized labor is a small fraction of the labor force in African countries, it is very important to the modern economic sectors that are likely to spearhead economic transformation. Its cooperation with government and business is key to maintaining industrial peace and to supporting the continuing upskilling of workers to promote competitiveness. And strong third-party accountability mechanisms—involving parliaments, independent media, academics, think tanks, and other parts of civil society—can ensure that close collaboration between the state and business does not degenerate into crony capitalism and corruption.

The discussion here is informed by the experiences of countries that have been economically successful after the Second World War, particularly those in East Asia.[2] It also benefits from much earlier experiences, since in many ways the East Asian countries (including Japan) learned from and modified the approaches of developed Europe and America in their earlier transformations.[3] But it rests on three fundamental assumptions: first, there is peace and security in the country; second, the state is committed to a private sector–led economy; and third, the political leadership sees economic transformation as a top priority. If these conditions are absent, it makes little sense to talk about promoting rapid economic transformation.

Subject to these three assumptions, the state can promote rapid economic transformation by:

- Providing leadership in setting a coherent national economic transformation vision and strategy in consultation with the private sector and other key stakeholders.
- Managing the economy well and providing a business-friendly environment, which entails:
  - Providing a stable macroeconomic environment.
  - Managing public resources honestly and efficiently to provide the public goods and services essential for economic transformation, including infrastructure, education, public health, and port administration.[4]
  - Maintaining a favorable regulatory environment for business.
  - Producing timely and quality economic and social statistics.
- Facilitating the private sector's access to new technologies, supporting it to upgrade its capabilities to become more internationally competitive in the production of new products and services and facilitating its access to new export markets.

The functions under the second bullet are now widely accepted; at issue is how to perform them better. But those in the other two bullets—setting a national economic transformation agenda and establishing incentives and institutions to facilitate access to technology and markets and to develop capabilities to competitively produce new products and services—are not universally accepted. But developing new capabilities is critical in the early stages of economic transformation, and in most successful transformers the state did help business overcome its many challenges in this regard.

A voluminous theoretical literature discusses the conditions that justify state involvement in the economy and the risks of such involvement—often in terms of "market failure" and "government failure." The main elements of market failure include information asymmetries, learning spillovers, coordination failures, increasing returns, and capital market imperfections. The main elements of government failure: government officials lack the relevant knowledge to enable them to make the right choices about which activities to promote; many public sector operations are inefficient; and rent-seeking behavior, particularly corruption, can be fueled by greater government involvement in business.

The many elements under market failure and government failure apply to almost all Sub-Saharan countries. So the focus should be on finding pragmatic solutions to both types of failures rather than

on emphasizing one type of failure to the neglect of the other. Note, however, that just because there is a market failure does not mean government intervention will make things better; it could make things worse. And just because government intervention could make things worse does not mean a country is better off living with market failures that shackle its economic transformation. What is needed is a pragmatic middle course that weighs the potential costs and benefits of government inaction against various options for government intervention—in what we call market-oriented industrial policy. The process is difficult and messy, but it is the only real option for economic transformation.

Setting and implementing a national transformation vision and strategy—the institutional framework

How can African countries begin to progress faster with low technology, limited human skills, scarce financial resources, and weak institutional capabilities? By having clear goals and priorities for activities and resources—and a national vision and an explicit strategy to carry it out. A national vision can inspire citizens and mobilize their support for sacrifices in the early stages of economic transformation. A well developed strategy can clarify the interrelationships among government branches and between relevant government and private sector activities—thus improving information, understanding, and coordination among the key players in the economy.[5] And the targets in the strategy—aspirational but realistic—can help citizens and businesses in a democracy to hold government accountable for results.

Almost all Sub-Saharan countries periodically produce national economic plans, but these have not focused on economic transformation. The plans of the 1960s and 1970s were top-down, bureaucratic, and mostly state-oriented, with little input from business. Those in the 1980s and early 1990s focused mainly on macroeconomic stabilization and economic liberalization. And starting from the mid-1990s they began to focus on poverty-reducing public social expenditures. Called Poverty Reduction Strategy Papers (PRSPs), many of these plans were required for countries to gain access to donor resources.

Producing a PRSP had to involve stakeholder consultations that donors often promoted and funded. In many countries donors also financed consultants to provide technical inputs to the papers. The focus was on setting priorities for public (and donor) expenditures for poverty reduction—not for promoting economic transformation. Whether national leaders owned the process and content of PRSPs is an open question.

Sub-Saharan countries have in recent years begun to take the lead in producing medium- and long-term strategies more focused on the growth and transformation of their economies. In Ghana, Ethiopia, and Rwanda the new strategies result from the countries taking more ownership of the PRSP process (box 2.1). In Kenya and Nigeria they emerge from a separate process, not always related to the PRSP.

African countries should have clear goals and priorities for activities and resources—and a national vision and an explicit strategy to carry it out

Box 2.1 Next-generation transformation plans

Ethiopia launched its Growth and Transformation Plan for 2011–15 to maintain an average real GDP growth rate of at least 11% and to achieve the Millennium Development Goals. Under the plan it would expand and ensure the quality of education and health services, establish suitable conditions for sustainable nation-building through a stable democratic and developmental state, and ensure the sustainability of growth within a stable macroeconomic framework.

The aim is to build an economy with modern, productive, and technologically enhanced agricultural and industrial sectors that lead in the economy. To this end, the plan includes clear targets: for exports of flowers, coffee, meat, and vegetables in agriculture, and exports of sugar, textiles and garments, and leather and leather products in agro-based manufacturing.

The plan also targets pharmaceuticals and medical supplies—and metals and engineering. For pharmaceuticals and medical supplies the target by the end of the plan period is to raise the share of local production to 50% from less than 15%. For basic metals and engineering the target is to raise capacity use in the sector to 95%, raise per capita metal consumption to 35 kilograms from 12, and eventually have local production meet the demand for components and parts by key manufacturing sectors such as leather, textiles, cement, and agroprocessing.

Source: ACET 2012a.

Often, however, the expenditures in the annual budgets bear little relation to the priorities in the medium- or long-term strategies—and even less so when separate government ministries or agencies carry out the two functions of planning and budgeting.

Since almost any serious transformation initiative would cut across several ministries and agencies, close coordination is needed

A central agency to coordinate the implementation of transformation strategies

One of the biggest challenges that many Sub-Saharan countries face in promoting economic transformation is coordination within government to produce and implement realistic plans. Many plans are produced by planning agencies using experts from outside government, with little input and commitment from senior staff in other government ministries and agencies. A planning ministry, if separate from the finance ministry, may have little influence in ensuring that expenditures in the plan are actually reflected in the budget—making planning a paper exercise. Having planning and finance under one ministry could solve this problem, but it could also create the problem that the short-term exigencies of finance swamp the long-term studies and reflection needed for planning.

Since almost any serious transformation initiative would cut across several ministries and agencies, close coordination is needed.[6] This can be done only by an agency whose authority is accepted by other ministers and by the staff in other ministries and agencies. In some cases, coordination is overseen by a powerful minister—a planning minister, a finance minister (or someone holding both portfolios), or a minister of trade and industry—regarded by colleagues as senior to them. In other cases, coordination is performed by an agency directly under the president, vice president, or prime minister. Perceived as having a higher rank, this agency can convene meetings of various arms of government, assign tasks, monitor implementation, and discharge rewards and sanctions as occasions warrant. In addition to its location in the hierarchy of power, the agency needs to be staffed by top class professionals in order to be up to the tasks required and to earn the respect of other units in government.

Archetypal examples of a central coordination agency include:

- The Ministry of International Trade and Industry in Japan for several decades after the Second World War.
- The Economic Planning Board of South Korea, under a Deputy Prime Minister.
- The Council for Economic Planning and Development and the Industrial Development Bureau in Taiwan (China).
- The Economic Development Board of Singapore, initially under the Ministry of Finance, but later under the Ministry of Trade and Industry.
- The National Economic and Social Development Board of Thailand, under the office of the prime minister.
- The National Development Council of Malaysia, under the prime minister and in charge of coordinating implementation of the development plan at the federal level.
- The Planning Commission of India, with the prime minister as chairman, but run by the deputy chairman, who is of cabinet rank.

Even the United States, that great proponent of free markets, has the National Economic Council under the Office of the President. It is difficult to find institutions playing comparable roles in Africa. But some countries are taking steps to improve coordination of economic policy and implementation in government. Notable examples are Ethiopia and Rwanda, where the heads of governments—the late Meles Zenawi in Ethiopia and Paul Kagame in Rwanda—play very active roles in economic policy coordination. Another example is Nigeria, where the minister of finance is now also the senior minister in charge of the economy.

State-business deliberative mechanisms

While the state should provide leadership in setting and guiding the transformation strategy, it is entrepreneurial firms—both large and small, and mostly private—that will spearhead the creation of employment and the production and distribution of goods and services that drive economic transformation. That is why government should create mechanisms that bring it into regular contact with business to seek its inputs. State-business engagements should aim at three objectives: to seek business inputs on medium- and long-term national plans, to seek feedback from business on how government policies and programs affect them, and to seek inputs to the design and monitoring of specific transformation initiatives.

Several Sub-Saharan countries have made some progress on the first objective of seeking business inputs on national plans, spurred partly by the PRSP process. But business participation could be deepened beyond consultation. A good example in this direction was the process in Kenya to prepare its Vision 2030 Plan. The National Economic and Social Council that spearheaded its preparation comprised business people and public officials.

On the second objective—seeking feedback from business on the impacts of government programs—several Sub-Saharan countries have public-private forums that meet

periodically (say, once or twice a year) to discuss issues affecting the private sector (box 2.2). A good beginning, but these large meetings are too infrequent, and they tend to be long on ceremony and short on fact-based discussions of issues. And in some countries, various business associations submit presentations to the government during budget preparation time, advancing their particular interests. These exchanges between the government and business are welcome, but they could be improved.

The discussions should be substantive reviews of the impacts of government policies and actions on the general environment for business operations and how it could be improved—not focusing on special favors for particular business subgroups. The meetings should be chaired by the head of government or of the central coordinating agency. A secretariat should prepare analyses and reports to be discussed at the meeting and follow up on decisions taken and monitor their implementation by the relevant agencies.

Kenya's National Economic and Social Council, with meetings chaired by the president or prime minister, goes in this direction.[7] Mauritius also has a well developed consultation mechanism between the government and business through the Joint Economic Council, an umbrella organization for business.

The third objective—deliberating on selected transformation initiatives, on the instruments to promote them, and on the monitoring and compliance mechanisms—is not well developed. This stems in part from the low capacity and organizational weakness in government to translate general objectives in economic plans to specific initiatives to discuss with business. It also stems from the fact that throughout the 1980s and 1990s, Sub-Saharan governments, heavily dependent on donor funding, were encouraged to focus on macroeconomic management and poverty alleviation—and to leave production, exports, and finance to the private sector. In addition, some governments in the region, despite their new pro-business rhetoric, still have not embraced business as a partner with knowledge and expertise that the state can benefit from.

Government technocrats can come up with transformational initiatives that they would want the state to promote. But however smart they may be, they do not live and operate in the business world every day. Businesspeople do, and so can supply the market-informed perspectives that could make the difference between a well designed promotional initiative and an economic disaster. Sub-Saharan governments that want to promote economic transformation should court this knowledge, as governments in Japan, South Korea, and other East Asian countries did regularly in driving their economic transformations.[8]

Entrepreneurial firms—both large and small, and mostly private—will spearhead the creation of employment and the production and distribution of goods and services

Bringing in organized labor

Organized labor is another key part of the collaboration, particularly in democracies where labor can exercise the right to strike. Popular support for the economic

Box 2.2 Rwanda—business speaks out

"Work hard," Rwanda's president, Paul Kagame, tells businesspeople. But the hundreds gathered at the Amahoro mini stadium have hardly come for a lecture. They have come to speak out. The president encourages them to do that, too: "You must speak up about challenges you face." The event is Rwanda's annual public-private dialogue, a structured platform for joint solutions to lift the constraints on business and growth.

Informed by similar platforms in Mauritius and Singapore, the dialogue is a joint initiative of the Rwanda Development Board and the Private Sector Federation. As an integral part of the nation's 2020 transformation strategy, it fits in a broader framework for state-business collaboration. The state funds 30% of the budget of the joint initiative, with a goal to build capacity and conduct research that feeds back into government policy for removing the challenges to enterprise development.

The dialogue is an improvement on previous mechanisms that did not work as planned. And it takes lessons from other countries' experiences, including that of Singapore.

Across the globe, public-private dialogues are initiated by governments, entrepreneurs, or third parties. One cross-cutting lesson is that the most tangible outcomes from dialogues are policy reforms. In Rwanda the president's leadership on the dialogues enhances the chances that they would lead to real reforms and remove the constraints to growth and transformation.

Source: ACET research.

State support initiatives must be within a policy and institutional environment conducive to the pursuit of business and entrepreneurship

transformation vision is also necessary to gain acceptance for the difficult reforms that may be required, and having labor on board could help in this. In some East Asian countries the political regimes either controlled the labor unions (South Korea) or co-opted them into the ruling party (Singapore) in the early parts of their transformation drives. So organized labor was not an independent force that could challenge the transformation process. For several Sub-Saharan countries that are now democracies, independent labor unions exist and their interests should be considered. Organized labor can indeed play very important roles, particularly in skill development programs, including the upskilling and continuing education of the workforce. In 1987 Ireland brought in organized labor as a third partner, along with the government and business, to promote economic transformation—and over the next decades the country's economic transformation was so dramatic Ireland earned the appellation, Celtic Tiger.[9] Many other countries, particularly in Scandinavia and post–Second World War West Germany, have pursued variants of this approach of engaging organized labor in a partnership for economic transformation.

Third-party transparency and accountability mechanisms

How to ensure that strong collaboration among the government, business, and labor does not degenerate into cronyism among politicians, senior bureaucrats, big business people, and labor bosses? By having academics and staff from independent economic think tanks as members of the deliberative bodies. And by making the decisions and their rationales available to the public (through the secretariat's website and the media).

The incentive packages to promote the initiatives and the associated eligibility and performance criteria should also be published, along with the beneficiaries and performance assessments. In countries with strong and independent parliaments, the legislature can insist on having such information available, so that it can enforce accountability. Civil groups, including the media, could also demand the information and use it to push for accountability. And foreign donors supporting economic transformation could support competent civil society groups and think tanks to enhance their ability to promote transparency and accountability.

Bridging changes in government

Economic transformation is a long-term process requiring sustained efforts over long periods—30 years or more—before a country really begins to take off. Such sustained efforts are not possible where national visions and strategies change every four or five years with elections. Almost all the East Asian transformers went through decades of single-party rule. Sub-Saharan Africa now has more countries conducting free and fair elections that can change governments. Each new government naturally wants to pursue its own economic program, but if the country keeps changing its vision and strategy every four or five years, it is unlikely to make much headway on economic transformation (box 2.3).

How best to solve the conundrum? Aim for a broad-based process in producing the vision and the strategy, involving the government in power, the major political parties, the private sector, and the key economic policy–oriented civil society groups, including independent academics and the media. The national vision would be widely shared and the long-term strategy reflecting the vision would have broad goals and a range of targets, but without specific programs or projects. Each government that comes to power would then produce a medium-term economic plan with programs and projects consistent with the long-term strategy.

Adherence by new governments to the vision would be promoted through public discussion, and businesses, academics, media, and other stakeholders that helped formulate the long-term strategy would have an interest in it not being abandoned. The vision and the strategy would be national, but the medium-term implementation plans and annual budgets would reflect the priorities of the government of the day.

Managing the economy well and providing a business-friendly environment

Promoting economic transformation requires the state to support the private sector in overcoming specific challenges related to learning to competitively produce new products and services, upgrading technology, and accessing new markets. But specific state support initiatives must be within a policy and institutional environment conducive to the pursuit of business and entrepreneurship. Otherwise the specific and isolated promotional initiatives are unlikely to lead to economic transformation. The list of state functions that could help provide an environment conducive to business can indeed be very long, but in view of capacity constraints in most African countries, it would make sense for the state to focus on performing a core priority set of functions effectively.

Among the core set are macroeconomic management that avoids high inflation and high public debt and an exchange rate that is managed to keep exports competitive. After decades of structural adjustment programs and reforms

Box 2.3 Pursuing a long-term transformation agenda in a democracy

Ghana has conducted six peaceful and successful democratic elections since 1992. Two of these elections resulted in the defeat of the ruling party (2000 and 2008), which had to hand over power to the opposition party. These rare feats in Sub-Saharan Africa have justifiably won the country international respect and goodwill. In addition, the gradual deepening of democracy is broadening and strengthening the rule of law, human rights, freedom of expression, and active participation of civil society organizations in national discourse. But the country is greatly challenged in how to combine these benefits with maintaining continuity in the planning and implementation of long-term transformation plans.

In 1995 the government came out with Vision 2020, which was expected to be the country's long-term plan for more than two decades. In January 2001 a new government from a different political party came to power. It set aside the Vision 2020 and produced two Poverty Reduction Strategy Papers as its medium-term economic plans. It also produced a draft seven-year development plan in 2008.

In January 2009 a new government from a different political party came to power, and it too set aside the previous government's long-term plan and proceeded to produce its own Ghana Shared Growth and Development Agenda.

With the changes in government also come changes in the leadership and in all the commissioners of the National Development Planning Commission, which further disrupt the institution responsible for preparing and monitoring long-term plans.

There have since been informal attempts to involve independent personalities from civil society and academia, as well as representatives of opposition political parties in the planning commission's deliberations. There have also been suggestions during a constitutional review to change the constitution to improve the planning process, strengthen the commission, and improve adherence to long-term plans. But clear decisions have yet to be taken on the way forward.

Source: ACET 2012b.

Expenditures should be allocated in line with the objectives of the economic transformation program—and government projects appraised and selected professionally

in Africa that highlighted these functions, they are now generally well understood and accepted by policymakers in the region, so this section will not dwell on them. The structural adjustment programs also stressed the importance of a streamlined regulatory environment that facilitates business. This section reinforces the importance of this requirement by pointing out its key link to economic transformation. It also highlights a small number of other policies and institutions that should—together with macroeconomic and exchange management, and a streamlined regulatory environment—form a core priority package for managing the economy well to promote all economic activities. They are:

- Efficient planning and management of public resources to provide the public goods necessary for economic transformation.
- Honest and transparent public procurement to provide value for money.
- Honest and efficient management of ports and customs.
- Production of timely and quality economic and social statistics.

Planning and managing public investments, particularly for infrastructure

In addition to the overall level of public expenditures, which falls in the domain macroeconomic management, the composition of public expenditures is also important, particularly the share that finances public infrastructure, education, public health, and other critical functions that underpin an economic transformation strategy.[10] Expenditures should be allocated in line with the objectives of the economic transformation program—and government projects appraised and selected professionally (box 2.4). They should be undertaken efficiently to ensure value for money. And they should be monitored and reported on in a timely manner.

In many Sub-Saharan countries the capacity for efficient management of public investments has deteriorated severely over the years. This capacity needs to be revived and strengthened if the state is to contribute to investment for economic transformation—or if it wants to ensure that investments financed by external partners are aligned with its transformation agenda. The need for efficiency is especially important for poor countries,

such as those in Sub-Saharan Africa, where the gap between needs and available funds is so large.[11] Indeed, Africa's economic transformation is severely constrained by inadequate infrastructure, where the annual gap in funding is estimated to be around $45 billion.[12] In addition to strengthening capacity to use public resources efficiently to provide infrastructure (and other critical public services), there is the need to strengthen capacity to attract and manage private resources for public infrastructure through public-private partnerships (PPPs). In many African countries the legal and government institutional frameworks for PPPs are still very weak. Strong capacity in government for public investment management also enhances the capacity to properly appraise PPPs.

Government efforts to institute efficient and transparent procurement could be worth more to a country's economic transformation than the efforts deployed chasing external donor finance

Making public procurement efficient and transparent

Corruption in government has deservedly received much attention in recent years. In promoting economic transformation, a key aspect is reducing the corruption in government procurement. In many Sub-Saharan countries substantial amounts of finance for public investments are siphoned away by corrupt politicians and officials. The result: shoddy projects that deliver poor services. And when officials award projects to the highest bribers, tenders get unduly disputed and prolonged, and projects get abandoned or construction times excessively delayed as contractors struggle to implement the projects after having paid the hefty bribes. Another result is tying up public resources in uncompleted projects, thus holding back economic growth and welfare. Government efforts to institute efficient and transparent procurement could be worth more to a country's economic transformation than the efforts deployed chasing external donor finance (box 2.5).

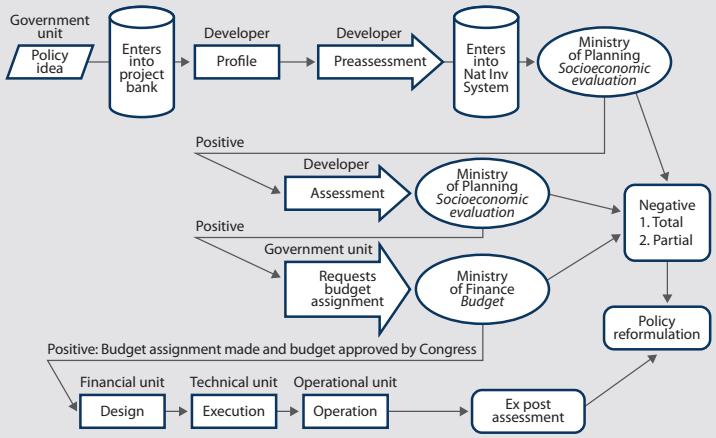
Administering customs, seaports, and airports honestly and efficiently

Trade and tourism create jobs and boost foreign exchange to pay for imports, which provide technology, machinery, goods, and services. But the right government policies, institutions, and investments are necessary to fully realize the potential benefits.

Box 2.4 Chile's system for evaluating public investment

Chile has decades of experience in the systematic appraisal of public investment and discipline in public finances. In 1975 the government established the National System of Investments to appraise every modern public investment project on the basis of cost-benefit analysis. The system improves the quality of public investments by selecting the projects with the highest net social present value. Under the law the capital budget that the Ministry of Finance sends to Congress can include only projects within the National System of Investments, projects that have also been favorably assessed by the Ministry of Planning.

Box figure 1 Chile's detailed project appraisal process



Before the Ministry of Planning starts to appraise a public investment project by performing full-fledged cost-benefit analysis, a policy idea by a government unit or agency is first assigned a project ID and further developed into a project profile subjected to legal, technical, and socioeconomic assessments. The project ID is then entered into the National System of Investments, awaiting further analysis—which includes legal issues, alignment with policy priorities, environmental issues, and stakeholder participation—by the Ministry of Planning for a go or no-go recommendation.

Source: World Bank 2006.

Box 2.5 Public procurement reform in Kenya

Kenya's public procurement system has evolved from a crude system with no regulations to an orderly and legally regulated procurement system that meets today's international standards. Beginning in the 2000s Kenya undertook reforms to modernize public procurement. The reforms were badly needed.

The government procurement system had been spelled out in the supply manual of the 1970s and regulated by treasury circulars. An independent procurement review in the late 1990s established that:

- There was no uniform procurement system for the public sector as a whole.
- The supply manual did not cover procurement of works.
- It did not have sanctions or penalties against persons who breached the regulations in the supply manual, other than internal disciplinary action. Consequently applying the rules was lax and many norms were not followed.
- The dispute settlement mechanisms for award procedures were weak and unreliable.
- Records of many procurement transactions were inaccurate, incomplete, or absent, suggesting dishonest dealings at the tender boards.

Following the review a law was passed to govern the procurement system in the public sector and to establish institutions to ensure that all procurement entities observe the provisions of the law in an open tender system. The Exchequer and Audit (Public Procurement) Regulations of 2001 created the Public Procurement Directorate and the Public Procurement Complaints, Review, and Appeals Board as a department in the Ministry of Finance, which provided staff, facilities, and funding. Although largely independent in their activities, an oversight institution was needed to preserve their impartiality. The Public Procurement and Disposal Act of 2005 was enacted and became operational in 2007. It created the Public Procurement Oversight Authority and the Public Procurement Advisory Board as autonomous institutions and reconstituted the Public Procurement Complaints, Review, and Appeals Board as the Public Procurement Administrative Review Board.

Kenya's reforms have put the necessary procurement legislation and institutions in place, but what ultimately counts is the commitment to implementation. A number of countries in Africa have also put in place modern procurement legislation and institutions, but procurement practice has not changed much. Ultimately, high-level political commitment and consistent support for enforcement are critical.

Source: Adapted from the Kenya Public Procurement Oversight Authority website: www.ppoa.go.ke.

Timely and high-quality economic and social statistics widely available to the public are critical for the government to formulate realistic plans, monitor implementation, and correct course

An honest and efficient customs administration facilitates trade and contributes to government revenues, since trade taxes are a big share of government revenues. But the government's desire to control corruption can lead to cumbersome customs procedures, which impose additional costs on traders and reduce international competitiveness, particularly for exporters. In this age of global supply chains with just-in-time sourcing by foreign buyers in a wide range of products, long delays at ports due to inefficient administration, cumbersome customs procedures, and extortions for bribes reduce the ability of a country's exporters to compete. Simplifying and expediting port customs procedures and controlling corruption should be key priorities in promoting economic transformation (box 2.6).

Building statistical capacity

Timely and high-quality economic and social statistics widely available to the public are critical for the government to formulate realistic plans, monitor implementation, and correct course when necessary. They also help businesses and donors in making investment decisions. And they allow citizens to hold governments accountable for their economic plans and promises.

But many Sub-Saharan countries do not regularly collect and publish data on their productive sectors or on employment. Industrial and agricultural censuses as well as labor force surveys are few and far between. So governments do not really know what industrial products their countries produce or could produce. Nor do they know the scope or nature of unemployment. Even for budget data, which should be fairly easy to compile, only a small number of countries produce timely, regular,

Box 2.6 Customs reform in Cameroon

Customs reform should be comprehensive, based on three principles:

- Strengthen accountability—regularly publish revenue collection data and other customs performance data in the media with a strong oversight committee or appoint an external auditor to scrutinize activities.
- Make information more symmetrical between the head of customs and the frontline customs officers—have accurate information on economic activities and behaviors.
- Design new human resource policies—adopt new reward procedures and structures for frontline customs officers and consistently monitor performance.

Cameroon customs launched a reform and modernization of its customs administration in 2007—to reduce corruption, long a stain on the reputation of the administration. The reform began with ASYCUDA, a customs clearance system that enables the administration to track the processing of each consignment. It measures the performance of customs officers and criteria relevant to the reform, such as complying with the deadline for consignees to record the manifest.

The first phase yielded good results, but a second phase stalled. So Cameroon customs introduced performance contracts in 2010, signed by the director general and frontline officers in the port of Douala. The contracts focused on speeding up processing and reducing fraud and corruption. The goal was to develop a culture in customs agencies based on positive performance.

After four months of implementation the initial results were encouraging (including lower corruption, higher revenue collection, and shorter clearance times) and pointed to the birth of a new professional culture. For instance, customs revenues, only CFA 324 billion in 2004, rose to CFA 504 billion by 2010. Duties and taxes assessed from Douala Port I were up 6% from the same period in 2009, even though the number of imported containers was down 3%.

Change is possible—and rewarding.

Source: Cantens, Raballand, and Djeuwo 2011.

Entrepreneurship and competition among domestic firms need to be encouraged, and unnecessary government regulations should not stand in the way

and comprehensive data on actual spending. With the support of donors much effort has been put into collecting statistics on poverty, even as national statistical systems have been deteriorating. This needs to be corrected, and the African Development Bank is providing important help in this area (box 2.7).

Streamlining regulation

Economic transformation essentially involves learning to produce new goods and services competitively, conducting economic activities more efficiently using better technology and processes, and getting into new markets. The learning entails exploration and experimentation, and the more actors engaged in these processes and the faster and cheaper they can implement their planned activities, the greater are the chances that a country will make progress on economic transformation.

Entrepreneurship and competition among domestic firms therefore need to be encouraged, and unnecessary government regulations should not stand in the way. And streamlining regulations does not require much additional government expenditures; if anything, the government could save money by eliminating unnecessary processes. The private sector could also save money as the burden of corruption from excessive and cumbersome regulations is reduced. So a critical requirement for economic transformation—streamlined regulation—can also be cheap and a win-win for the government and for the private sector. The only losers are corrupt public officials.

Hard-pressed for financial resources, a government should extract the maximum benefit from streamlining regulations as it explores what more to do in more complicated and costly areas to speed up economic transformation. Though controversial in some respects, the Doing Business ranking of the World Bank is one source for countries to see how they compare with others in regulation. But policymakers should supplement that information with their own in-country analyses.

Building centers of excellence

The functions at the core of the state's support to economic transformation have to be performed well, so the institutions responsible for them and their staff have to be first class. These institutions

Box 2.7 The African Development Bank and statistical capacity strengthening

Over the last decade the African Development Bank (AfDB) has mobilized close to $100 million in direct grants to assist African countries in strengthening their statistical capacity. Ethiopia is among the countries receiving statistical capacity-building support through the Africa Region International Comparison Program (ICP), which the AfDB coordinates. The support is based on ICP statistical preassessments and requests from the government for support to the Central Statistical Authority and the National Accounts Department of Ministry of Finance and Economic Planning. The support involves building capacity in price and expenditure statistics for ICP by providing computers, training, and technical assistance.

The AfDB, in partnership with the World Bank and Paris21, has also supported African countries in designing their national statistical development strategies.

Source: www.afdb.org/en/knowledge/statistics.

Appointments to head the core functions should be based on competence and the ability to deliver results

include the central bank, the ministry of finance, the national planning agency (where different from the ministry of finance), the ministry of trade and industry, the ministry of land and agriculture, the ministry of education and skills development, the national statistical service, the investment and export promotion agencies, the national development bank, the export finance facility (if different from the national development bank), the administration of customs, and the management of seaports and international airports.

For a leader serious about promoting economic transformation, the appointments to head the core functions should be based on competence and the ability to deliver results—and should not be for repayment of political debts. The same applies to the directors and officials of these ministries and agencies. And these officials should be empowered and supported to run their units professionally. Many African countries now have talent pools—in government, in business, in academia, in think tanks, and in the diaspora—that leaders can tap.

Such implementation bodies as customs, ports management, and investment and export promotion agencies could be made into semi-autonomous statutory bodies with terms and conditions of service different from those in the civil service and set to attract the best. Appointments to these statutory bodies outside the civil service should be based on contracts, and continued employment should be based on performance, as specified in the contracts, not on changes in governments or the whims of political leaders.

Ideally, countries would reform and strengthen the entire public service, not focus on a few core ministries and agencies. Some African countries are now boldly pushing broad reforms. But for many it will take time to change the culture in the public service and to find the resources to provide adequate remuneration to attract top talent. The focus on a few core ministries and agencies is thus a pragmatic first step toward later broad public service reforms. The reformed core ministries and agencies could serve as centers of excellence and beacons for others in the public service to emulate. And if these centers help accelerate economic growth and transformation, resources would be generated to finance and sustain reform in the rest of the public service.

Helping businesses master new activities, technologies, and markets

In addition to performing the core functions well to facilitate all economic activities, governments can also support specific initiatives to accelerate economic transformation.

Promoting private foreign investments and exports

Most Sub-Saharan governments have agencies to promote investments and exports. Sometimes one agency performs both functions, as with the Rwanda Investment and Export Promotion Agency and the Botswana Export Development and Investment Authority. Sometimes there is a separate agency for each function, as with the Ghana Investment Promotion Center and Ghana Export Promotion Authority and the Uganda Export Promotion Board and Uganda Investment Authority.

Where separate agencies are involved, good coordination is key, particularly when going after foreign direct investment (FDI) to set up in the country to produce manufactures for export, since this combines both investment and export promotion (box 2.8).

FDI, particularly in manufacturing, can facilitate a country's access to technology, better management practices, and global value chains. But to realize these benefits the country has to have a clear strategy for attracting the right kinds of FDI, developing skills, and promoting links between foreign and domestic firms. An important part of export promotion is providing information on foreign markets to domestic enterprises and facilitating their access to those markets. This function was performed very well by the

The country has to have a clear strategy for attracting the right kinds of FDI, developing skills, and promoting links between foreign and domestic firms

Box 2.8 Leading transformation—the buck starts here

In August 2011 late Prime Minister Meles Zenawi went to Beijing, advised by Justin Lin, then chief economist at the World Bank, about the rising wages and pending relocation of the Chinese shoe industry to low-income countries. Zenawi's mission? Bring a factory back to Ethiopia.

Meeting with Chinese investors on this trip, Zenawi emphasized that Ethiopia's transformation plan was targeting industrial development to grow its economy. In that spirit, he invited the investors to visit Ethiopia, which they did two months later, to consider prospects for investing in the country in areas that would provide jobs and boost exports.

The investors were enticed by Ethiopia's low wages, social stability, and double-digit GDP growth over the previous 10 years. They were also impressed by the government's proactivity to make FDI attractive, manifested in this visit by the Prime Minister and the appointment of deputy trade minister as the project's champion.

In January 2012, five months after the Prime Minister's visit, the Huijan Group opened a shoe factory outside Addis Ababa, Ethiopia's capital, hiring 550 Ethiopians. With plans for expansion into a multibillion dollar industrial park and projected to create 30,000 jobs by 2016, this factory has become one of Ethiopia's largest exporters, earning worldwide praise as a promising model for transforming African economies.

The Huijan Group, a large-scale Chinese shoe manufacturer, had seen a win-win formula in the making. Like most African countries, Ethiopia boasts young, abundant, and eager labor at low wages. Besides, Ethiopia's established cattle industry provided consistent raw material, which, with Huijan's capital and expertise, promised a winning formula.

The success of the partnership is due in large part to the government's focused efforts. In addition to attracting Chinese investors, the government offered four-year tax breaks, cheap land for factory development, and low-price electricity to investors who set up in the industrial zone.

Contrary to popular perceptions of Chinese attitudes toward Africa, Huijan's Vice President and General Manager for overseas investment, Helen Hai explains, "One thing in my strategy is very clear: I don't want to compete with locals," she says. "The sheepskin and goatskin processing by Ethiopian artisans is good, but local people don't know how to manage cowskin. I want to offer my skills to help the locals. I don't want to have my own tannery because I don't want to create problems," she says. "I want to help them grow because when local producers grow, the whole market is growing. If it is just myself growing here in five years' time, I will leave."

Zemedeneh Negatu, managing partner at Ernst & Young Ethiopia, applauds Hai's efforts to transfer skills and build a complete supply chain for the shoe industry. He says, "That should be the goal. You create clusters around one or two major foreign or Ethiopian investors, throughout the country, based on competitiveness and comparative advantages. It should be made clear to investors that they need to help build local capacity."

Other African countries can learn from this project, above all the need for leadership at the highest levels to make projects happen. Two other key lessons are to target sectors in the economy's comparative advantage and to integrate various elements of a transformation strategy. Taxation, power generation, and skills training had to come together to make the project work.

Investors can also learn—that producing and exporting profitably in Africa are possible and that, with government support and citizen motivation, the traditional barriers to business on the continent can be overcome.

Source: ACET research.

China External Trade Development Council of Taiwan (China) and the Korean Trade Promotion Corporation in those countries' transformation drives (chapter 3).

Generally in Sub-Saharan Africa the agencies responsible for investment and export promotion do not receive high priority. They are not held to targets, their accomplishments are not publicly honored, and their failures are not punished. So they tend to be bureaucratic and passive, going to trade fairs and essentially waiting for investors and exporters to come to them rather than researching, identifying, and aggressively pursuing potential investors and exporters as demonstrated by successful agencies in Ireland (the Industrial Development Agency) and Singapore (the Economic Development Board).

Often, countries use special industrial parks or special economic zones to promote investment and exports. They can provide first-rate power, water, and factory shells and logistics in a localized area, and they can be financed partly or fully by business.

The parks and zones enable piloting simplified regulations and procedures and fiscal exemptions, while also allowing customs exemptions. Because reforms are not easy to introduce rapidly on a national scale, piloting of new approaches and special treatment in the parks and zones may be justified in the short to medium terms. But the aim should be to gradually create a uniform national system by extending good practices in the parks and zones to the whole economy—or by removing the policy distortions that make it necessary to provide the special treatments.

Africa has more than 100 special economic zones.[13] Except in Mauritius, they have not been very successful. The main reasons are lack of government commitment to the program, weak links to a national economic agenda, policy reversals, high cost and unreliable infrastructure, poor locations, ineffective planning and management, and bureaucratic and opaque procedures that investors have to go through to access the incentives.[14]

Providing access to land for commercial agriculture

Africa's comparative advantage in agriculture and agroprocessing is not being realized because modern commercial farmers have difficulty gaining access to land due mainly to the communal land tenure. In other regions of the world a small number of landlords controlled large tracts of land while many in the rural areas were landless—so the solution was to redistribute land. But communal tenure in Africa is much more complex, so the solutions are correspondingly complex.

Countries need to continue exploring various approaches to finding lasting solutions. In the meantime potential investors in modern commercial farming should get access to land in ways that avoid complicated and prolonged disputes but that also respect the rights of communities and the environment. For example, Ethiopia's cut flower export industry was greatly facilitated by the government's helping the first foreign investor obtain land.[15] This is probably easier in Ethiopia where all land is vested in the state. But even in many other countries, the state could acquire (purchase or lease) tracts of land through negotiation with communities, and make them available to potential investors in modern commercial agriculture. At a minimum the state should have a streamlined program that mediates between potential investors and communities—expediting investor access to land in a way that safeguards the interests of communities, just as it has one-stop shops for potential investors in industry.

Conducting R&D to support domestic enterprises in targeted activities

Special industrial parks or special economic zones can provide first-rate power, water, and factory shells and logistics

Conducting agricultural research and extension to introduce small-scale farmers to new products, inputs, and practices have long been recognized as a legitimate government role. In many African countries it facilitated the introduction and expansion of agricultural exports during colonial times, as with the cocoa and palm oil research institutes in Ghana and the tea research institute in East Africa, now the tea research foundation in Kenya. Similar approaches can promote the production and export of promising new agricultural products, particularly in processed forms, as Malaysia did in oil palm and Chile in wine and salmon.

The same logic that justifies support to small-scale farmers through research and extension can be applied to small-scale firms in manufacturing, and indeed most domestically owned manufacturing firms in Africa are small. Taiwan's (China) Industrial Technology Research Institute supported small and medium-size manufacturing firms with research and extension (box 2.9). Such support strengthened the capabilities of Taiwanese firms to become exporters as well as suppliers to FDI firms in the country.

Providing finance

Producing goods and services that are new in a country and entering new export markets are risky. If a pioneer enterprise succeeds, other enterprises can emulate it and benefit, with the whole country also benefiting. But private commercial banks unfamiliar with product innovations or new markets may consider the pioneer

Box 2.9 R&D for small enterprises—Taiwan's Industrial Technology Research Institute

Founded in 1973 to accelerate industrial technology development through pioneering research, the state-sponsored Industrial Technology Research Institute (ITRI) has been a key driver in transforming Taiwan's (China) economy from labor-intensive to high-tech industries, under the supervision of the Ministry of Economic Affairs.

Over its 40 years ITRI has been dedicated to research, development, and industrial services and to assisting the government in executing industrial technology policies and promoting industrial development by nourishing technological capabilities. Its accomplishments include establishing high-tech industries, applying various technologies in those industries, improving industrial structures, advancing Taiwan's international market competitiveness, promoting environmental protection, and more generally enhancing the quality of life.

ITRI holds more than 17,659 patents, and many well known high-tech companies in Taiwan—including such leaders in semiconductors as TSMC and UMC, trace their origins to ITRI. As an incubation center, ITRI has spun off more than 162 companies. Many companies in Hsinchu Industrial Park are ITRI spinoffs, and about 50% of the manufacturers have some sort of partnership with ITRI for joint development, technology transfer, or technology services.

ITRI, a nonprofit R&D organization, focuses on six research fields, information and communications; electronics and optoelectronics; material, chemical, and nano technology; medical device and biomedical technologies; mechanical and systems technologies; and green energy and environment technologies. It has aggressively researched and developed countless next-generation technologies, including WiMAX wireless broadband, solar cells, radio-frequency identification, light electric vehicles, flexible displays, three-dimensional packaging of integrated circuits, and telecare technologies.

Source: www.itri.org.tw/eng/econtent/about/about01.aspx.

There is a case for facilitating and underwriting some of the costs of pioneers

venture too risky and price their loans too high. The same applies to pioneering efforts to upgrade technology. So there is a case for facilitating and underwriting some of the costs of pioneers.[16] Sometimes, breaking into new products requires coordinated investments in the value chain and in the required infrastructure. Private lenders are unlikely to take this on, except with substantial incentives from the public sector.[17] And almost all domestically owned production firms in Sub-Saharan countries are small and thus have difficulty getting finance from private commercial banks.

So, if domestically owned private enterprises are to be part of the economic transformation process in Sub-Saharan countries, ways need to be found to address their access to finance for going into new products, technologies, or exports.

In most countries the state has stepped in to complement private banks in providing finance for long-term investment, risky innovations, and small enterprises. Indeed, for financing innovations and small enterprises, even the most developed countries still provide state finance.[18]

Many states have development banks or finance institutions to complement private finance.[19] Interest rates on loans from these banks have sometimes been subsidized or set below market rates. In the decades after the Second World War the Japan Development Bank (JDB) did this for domestic firms. Indeed, a JDB loan often was a seal of approval that crowded in additional private finance, since the project was then seen as a high priority in the national transformation agenda—and viable, given the JDB's reputation for quality appraisal.[20] Korea, Singapore, and Taiwan (China) also used development banks to good effect.

Brazil's Banco Nacional de Desenvolvimento Econômico e Social, now bigger than the World Bank, is a state-owned and professionally run development bank that has supported the country's economic transformation. More telling, the role of government-owned or -supported development banks in providing access to long-term and cheaper finance to promote economic transformation is recognized in the very existence of the World Bank, the African Development Bank, and other regional development banks. So the issue is not whether to have government-owned or -affiliated development banks. It is how to ensure they are run efficiently and effectively to pursue economic transformation.

Many Sub-Saharan countries have, or have had, development banks. But few of them have performed well.[21] Aside from the severe macroeconomic instability and extreme financial repression once common in the region (but now less so), three main reasons account for the failure. The banks were usually fully owned by the state, which often appointed management based more on political than professional considerations. They operated in an economic environment often heavy with state enterprises and hostile to private enterprises, and therefore lacking entrepreneurial clients. They were not held to account on the basis of clear targets in a national transformation agenda. Most were just another state enterprise doling out money to other state enterprises and well connected private operators.

Some collapsed and some were justifiably privatized in the wave of privatizations in the 1980s and 1990s. Others remain, but with the possible exception of the Development Bank of South Africa, the Botswana Development Corporation, the more recent continental African Finance Corporation (of Nigeria), and to some extent the Ethiopian Development Bank, they are not doing much to support economic transformation. Correcting this should be a very high priority for institutional and governance reforms (box 2.10).

The rationale for providing domestic firms with access to export finance is similar to that for having development banks provide long-term finance. Exporting is riskier than selling on the domestic market, particularly for new exporters and those exporting to new markets. The time between shipping goods and receiving payment is longer, and credit on favorable terms helps exporters bear this implied financing burden without having to raise prices, which would put them at a competitive disadvantage. Such help is justified since the country benefits from higher foreign exchange receipts and higher domestic employment. Most developed and rapidly growing developing countries run state export finance facilities. Several Sub-Saharan countries also run export finance agencies (box 2.11), but they have not been very effective. Several of the principles for reforming development banks could apply to reforming export finance agencies.

Strengthening links with small firms and farms

Given that the formal sector in many Sub-Saharan countries employs no more than 20% of the labor force, links should be sought between the dynamic transforming subsectors in the formal sector and the informal sector, including small firms and small farms. This will in many cases require raising the capabilities of the small enterprises to become competitive suppliers to large formal firms. One way to raise the capabilities of informal firms is to create very basic industrial parks next to selected technical institutes. Water, electricity, and simple sheds could be provided to qualifying artisans at affordable rates. The technical institutes would provide technical advice and simple solutions and training to artisans in the adjacent industrial park.

Governments should also explore areas where they can increase the capabilities of smallholders as suppliers to commercial farmers and processors and should give commercial farmers incentives to reach out to neighboring smallholders, as in outgrower schemes (chapter 6). They could also facilitate institutions that help smallholders and commercial farmers negotiate and enforce fair contracts in their relationships (to avoid smallholders being cheated in pricing and to avoid commercial farmers being cheated by smallholders who take subsidized inputs from them and sell their outputs to others).

Links should also be explored for extractive resources (oil, gas, and minerals) through upstream and downstream activities in the extractive value chain (chapter 7). The activities could range from the basic (such as catering services) to the more sophisticated (locally owned small firms supplying manufactured inputs and technical services or using extractive outputs to manufacture products).

Links should be sought between the dynamic transforming subsectors in the formal sector and the informal sector, including small firms and small farms

The entrepreneurial nation

Economic transformation entails learning and mastering new technologies, learning to produce new goods and services competitively for global markets, and breaking into new export markets. It thus requires taking risks—making bold, but informed bets. In a sense, it requires the whole nation to become entrepreneurial. The state and the private sector have their respective roles in advancing this goal, and working together they can leverage each other's contributions for a greater collective impact. The state, given the constraints on human and financial resources, needs to focus on core transformation functions and perform them well. This will require creating centers of excellence in the public service by strengthening the institutions that perform these core functions. Over time, other parts of the public service could also be strengthened progressively.

The government also has to engage more with business, to engage it in formulating economic plans, to listen to its concerns regularly, and to use the information to keep improving the general business environment. Above all, it needs to engage business in designing, implementing, and monitoring specific economic transformation

Box 2.10 Toward transformational development banks—a nine-point plan

Sub-Saharan countries can learn from their past experiences to create modern transformational development banks to support their transformation agendas. This does not necessarily mean new banks; in several countries it may call for restructuring some existing institutions and possibly closing or privatizing others. While transformational development banks should not be judged on the same profit-making yardstick as private commercial banks, they should nevertheless be financially viable. Here are nine key principles that could inform reform.

First, governments should separate ownership from management. That the state supplies the capital does not mean it should run the bank. Management could be contracted to professionals who should be allowed the freedom to run the bank, consistent with clear directives and targets that reflect the country's economic transformation agenda. In fact, it would be better for the state not to fully own the bank. It should seek equity participation from private investors (domestic and foreign), including domestic banks, international institutions such as the World Bank/International Finance Corporation and the African Development Bank, successful development banks in other countries, and foreign sovereign wealth funds. Bilateral donors interested in entrepreneurship development could also invest some of their program funds as equity in the banks.

Second, the investors should have representation on the boards. This governance structure would make it easier to select professional managers and hold them to professional standards. Given the improved business environment in many countries, the chances of professionally managed development banks being successful are now much greater.

Third, governments should explore borrowing long-term from the World Bank or African Development Bank (say, through "budget support" credits) to fund additional equity participation in their transformational development banks. (This is different from the lines of credit these institutions extend to the development banks.) In this way, governments would further leverage their access to cheap and long-term funds to directly benefit the private sector. In many cases, passing the money on to the private sector in this way is likely to produce much better results for economic transformation than the amounts governments borrow from international institutions for "poverty reduction" projects that the public sector implements could.

Fourth, the development banks should develop first-class technical expertise in project appraisal and in the key areas in the national economic transformation agenda, so they can provide advisory services to their clients. Governments should regard these functions as being as important as the provision of funds, and they should monitor results.

Fifth, the World Bank/International Finance Corporation, the African Development Bank, and donors interested in entrepreneurship development should target technical assistance to the reformed development banks to raise their technical expertise. This would complement their financial support and oversight of the banks through their representation on the boards.

Sixth, the banks should lend only to businesses that have a majority and controlling private stake. In particular, the banks would not lend to enterprises in which the state holds the controlling stakes. They could, however, lend to a business in which the state has a minority equity stake and whose board has majority private membership.

Seventh, the banks should follow a graduation policy in their support to enterprises. For example, there could be an initial period (such as five years) for supporting an enterprise that qualifies, according to objective and transparent criteria, with subsidized loans (up to a capped amount). After that initial period, if the enterprise has performed well, it would graduate into a class that does not receive subsidized loans, but instead receives the bank's guarantee for loans from private lenders. If the enterprise has failed to perform well in the initial period, the bank would discontinue its support (no more funding and no guarantees). The period for providing a guarantee would also be limited (say, to five years).

Eighth, senior managers of the bank should have personal stakes in its success and in the success of its clients. One way to do this would be to have the bank take equity stakes in the firms it finances. Part of the pay or bonuses of senior managers could be linked to the performance of those equity stakes.

Ninth, the development banks should operate in a way that develops the capital market, so that the country becomes less reliant on them over time for financing transformation. To this end, they should over time increase their funding through the issue of domestic bonds (with the monetary and financial authorities taking measures to facilitate the development of the domestic bond market). They should also periodically sell their equity stakes in firms on the stock market. These measures would also increase the number of citizens outside government with financial stakes in the banks, further increasing accountability.

Source: ACET research.

Box 2.11 Export finance in Ghana

Ghana's Export Development and Agricultural Investment Fund provides export credit, export insurance, refinancing, and credit guarantees. It also supports products for export, capacity building, market research, development of infrastructure, and other export-oriented activities.

The institution has two main facilities: one for export development and promotion and another for credit. The export development and promotion facility supports activities of groups and institutions in the development and promotion of export products and provision of services to the export sector. The credit facility offers concessionary loans that individuals, corporate exporters, and producers of export goods access through designated financial institutions.

To boost nontraditional exports, the fund has signed a marketing partnership agreement for the supply of mangoes with a British produce-buying company Minor, Weir & Willis. The agreement ensures a ready market for mango farmers. And the fund supports farmers with credit facilities for the cultivation of mangoes to meet the demand. The agreement is expected to generate export revenue of GH¢46 million (about $23 million) in 2013 and to grow to about GH¢184 million (about $92 million) by 2017, when the project closes.

Source: www.edifgh.org/en/about-edif.php.

To keep the state-business-labor engagement honest and guard against rent-seeking, information on their deliberations has to be made available to the public

initiatives (the bold informed bets). Organized labor also needs to be brought to the table as a key partner to articulate the interests and perspectives of labor—and to ensure that labor is committed to the transformation agenda and works in a way that supports it. And to keep the state-business-labor engagement honest and guard against rent-seeking, information on their deliberations has to be made available to the public—to the media, civil society organizations, and economic think tanks—so they can demand accountability and complement the monitoring by parliaments.

Notes

1. In addition to ideology, in some countries the unfriendly attitude to the private sector also stemmed from the fact the sector was dominated by ethnic minorities.
2. See, for example, Johnson (1982), Amsden (1989), World Bank (1993), Stiglitz (1996), Lall (1997), Wade (2003), Weiss (2005), and Studwell (2013).
3. Hamilton 1791; List 1885; Lewis 1955; Chang 2002; Lin and Monga 2011.
4. We use the term "public goods" loosely to include both pure public goods that are nonexcludable and nonrivalrous in consumption (clean air or climate change mitigation) as well as quasi-public goods that are not strictly so but have large externalities (health, education, and much physical infrastructure).
5. Lewis 1966.
6. For example, to build and smoothly operate an industrial park or special economic zone requires coordination with municipal and regional authorities for land; ministries responsible for power and water; ministries of finance and of trade and industry (for fiscal and trade exemptions), and ministries and agencies responsible for permits for health, environment, and so on. Many countries talk of operating a "one-stop-shop" in this regard. In reality, this often fails to work, since the various agencies, even if they co-locate in the industrial park or special economic zone, still insist on separate procedures that are not harmonized. Another example is promoting commercial agriculture and agricultural processing. This would involve the ministry of land and agriculture (which are sometimes separate), the ministry of finance, perhaps the central bank (to address credit issues), and the ministry of trade and industry.
7. The statement refers to the period from 2009 to 2012 when Kenya had both a president and a prime minister.
8. See Page (2011). For Japan see Komiya, Okuno, and Suzumura (1988). For Korea see Lim (2011) and Rhee, Ross-Larson, and Pursell (2010).
9. See the articles in Sweeney (2008).
10. The structure of the tax system is also important, since it affects incentives for savings, investments, and the relative profitability of various economic activities. We do not discuss this issue directly here, although it comes up when we discuss export promotion in chapter 3.
11. The successful East Asian/comparator countries maintained an average investment to GDP ratio of more than 30% for decades. Average investment rates in Sub-Saharan Africa are now around 25%, but a substantial share of it is externally financed (mainly by donors) since savings rate are around 10%. This cannot provide the basis for economic transformation. Government should thus also aim to increase government savings for investment and should

adopt policies to promote domestic private savings for investment.

12. World Bank 2010.

13. FIAS (2008) as cited in Farole (2011).

14. Farole 2011; Stein 2012.

15. Dinh and others 2013.

16. Hausmann and Rodrik 2003; Stiglitz 2012.

17. This is "coordination failure." For example, see Lewis (1966) and Rodrik (2007).

18. On promoting innovation recent examples include the U.S. Department of Energy's funding for alternative energy technology development and the U.K. Treasury's funding for the establishment of the "Green Energy Bank." On financing small and medium-size enterprises, almost every developed country has its version, including the Small Business Administration of the United States and the Business Development Bank of Canada.

19. de Aghion 1999.

20. Stiglitz and Uy 1996.

21. World Bank 2011. See also UNDESA (2005), Rudolph (2009), and de Luna-Martinez and Vicente (2012).

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Loading cargo at Takoradi, Ghana

CHAPTER 3

Promoting exports—essential for transformation

The East (and South-East) Asian tiger economies used exports to power their economic transformation from the mid-1960s through the 1990s. Should Sub-Saharan countries try to do the same? Can they? And how?

Why export?

Exporting is critical for transforming small and medium-size economies. The opportunity to export widens the market available to domestic producers and thus increases potential demand and the prospects for higher prices. Higher demand allows a larger scale of production, which can increase employment and the use of other domestic factors of production. Larger scale production could also lower unit costs and increase competitiveness and thus boost profit margins for domestic producers. Exporting also enables a country to better align its production to its comparative advantage and to earn more from its factor endowments.

Exports also provide the foreign exchange to import the machinery and technology necessary in the short to medium term for technological upgrading. Over time, higher earnings from exports make it easier to finance investments (such as skills, technology development, and infrastructure) to change a country's underlying factor endowments and comparative advantage. Exposed to competition on international markets, exporters have to increase their efficiency in production and marketing, in the process showing other domestic producers what is possible. Exporting also exposes domestic entrepreneurs to global tastes, standards, technologies, and best practices—providing opportunities for learning about new products, services, processes, and technologies that they could introduce at home.

Competition from imports on the domestic market also pressures domestic firms to be more efficient. Ultimately, however, the foreign exchange to pay for imports must come from exports. So, through all these channels, exporting can help the economy—particularly a small or medium-size one—to expand, raise employment and incomes, and promote structural change by facilitating learning and the introduction of new products, services, production processes, and technologies.

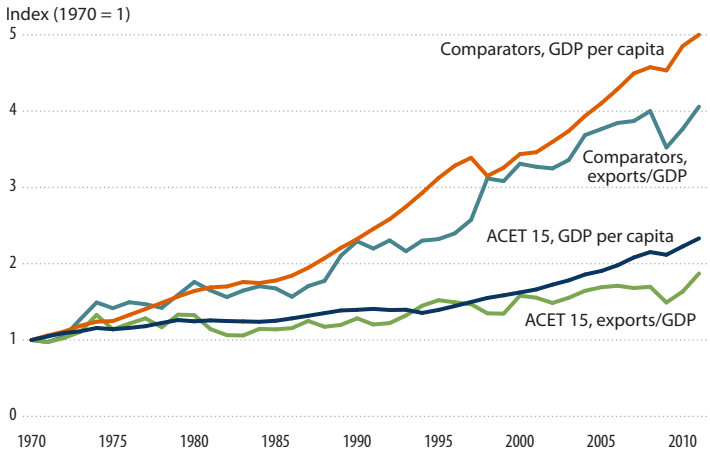
The East (and South-East) Asian tiger economies took advantage of such links to transform their economies from the mid-1960s through the 1990s.[1] But that was decades ago. And the global economy has since changed. Can Sub-Saharan countries use the same export strategy today to drive their economic transformation? And how must they adapt that strategy to suit the times?

East Asian countries started with labor-intensive exports that took advantage of their relative abundance of labor and low wages

Before addressing these questions, consider some simple relationships between exports and GDP in the ACET 15 countries and in the comparator countries, six from East and South-East Asia. As a group the comparators attained higher growth than the ACET 15 did both in exports as a share of GDP and in real GDP per capita (figure 3.1). There clearly is a positive correlation between exports as a share of GDP and real GDP per capita in both groups of countries over the 40 years.

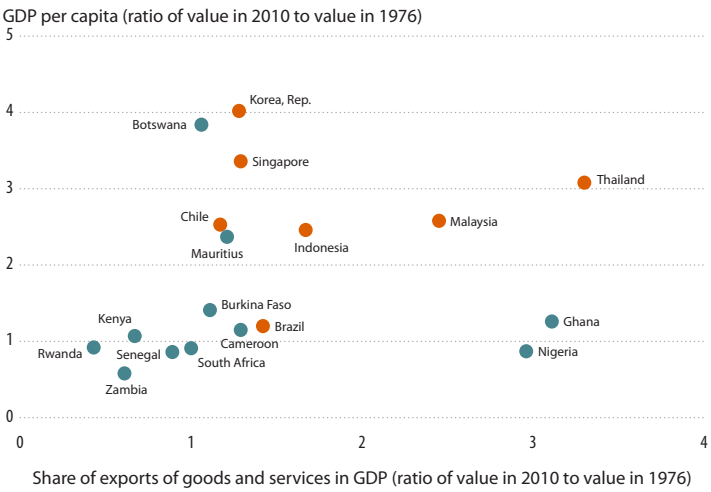
The relationship is similar for individual countries (figure 3.2). Botswana and Nigeria are interesting outliers. Both are richly endowed with extractives (diamonds in Botswana and crude oil in Nigeria), which have substantially raised the share of exports in their economies. But while Botswana managed to raise its GDP per capita significantly over the 40 years, Nigeria barely moved it. Part of the reason is Nigeria's much larger population (169 million versus 2 million in 2012). But part must also stem from differences in policies and institutions.[2]

Figure 3.1 Trends in exports as a share of GDP and in real GDP per capita



Source: World Development Indicators (database).

Figure 3.2 Real GDP per capita and share of exports in GDP



Source: World Development Indicators (database).

The East Asian model and its relevance to Sub-Saharan Africa

The East (and South-East) Asian countries pursued, with some variations, an export promotion model that had many common elements—and served them well. The general thrust of the model could still be useful for Sub-Saharan countries, if adapted to reflect changes in global trading rules, sources of demand growth, and sources of comparative advantage. It would also have to suit the circumstances of individual countries.

Outlines of the East Asian export strategy

East Asian countries started with labor-intensive exports—such as textiles, food, beverages, toys, wigs, and the assembly of simple industrial products that took advantage of their relative abundance of labor and low wages. And increasing access to education, initially at a basic level, ensured that the labor force was trainable for work in industry. Over time they steadily raised the skills of their labor forces by expanding access to secondary and higher education. They made sure that the training offered by the education system was aligned to their economic development needs by paying particular attention to technical and vocational education (chapter 4).

The countries built on their advantage in cheap and productive labor with policies, incentives, and institutions that favored exports—and in many cases restricted imports. They maintained stable macroeconomic environments and ensured (through periodic devaluations) that their exchange rates did not make their main exports uncompetitive. And with the possible exception of Hong Kong SAR (China) and Singapore, they used tariffs and other measures to protect domestic

import-substitution industries. But they did not shelter them behind protective walls for long, as happened in Sub-Saharan Africa. Protection was often granted to firms against performance requirements that usually included being able to export. And the state helped firms improve their production capabilities and their ability to export. The export promotion instruments ranged from the general (or horizontal)—in principle available to every firm in the economy or in a set of identified sectors—to the very specific (or vertical)—tailored to particular firms or products (box 3.1).

Malaysia, Singapore, and Thailand focused on attracting foreign direct investment (FDI), and Japan and South Korea on grooming homegrown "champions"—private conglomerates that initially used mostly licensing to acquire foreign technology. Taiwan (China) and later China pursued a mixed strategy involving large state-owned enterprises, small private domestic companies, and foreign firms. Almost all of them used special economic zones or specialized industrial parks that provided upgraded infrastructure and streamlined procedures as well as fiscal and trade policy incentives to attract export-oriented FDI and domestic industrial investment. Over time the special economic zones and specialized industrial parks evolved into clusters that provided the advantages of agglomeration.

With expanding import demand from the United States and Western Europe, and the relative ease of entering these markets, thanks in part to the Cold War, each of the East and South-East Asian countries rapidly expanded and gradually upgraded exports.[3]

Changes in the global economy

The global economy has changed greatly since the East Asian export drives started 40–50 years ago. First, there is considerable uncertainty about whether robust demand growth in the United States and Western Europe can be counted on in the future. Second, the entry of China into the world trading system, with its large labor supply, scale economies, deep domestic supply chains in industrial clusters, and excellent logistics, has raised the bar for all other countries trying to compete on global export markets on the basis of low wages.[4] Third, with the advent of the World Trade Organization (WTO) in 1995, the scope for active export-promotion instruments has narrowed, so some of the instruments used by East Asia may no longer be options.

Toward a viable export-oriented strategy

What types of products and services could power exports from Sub-Saharan countries, and where will the export markets be?

Which exports?

In the short to medium term the pathways to export expansion are determined by the relative comparative advantages and disadvantages of African countries, though these can be changed over time. Broadly speaking, Africa's existing relative advantages are abundant low-wage labor and abundant land and natural resources. By 2050 almost a fifth of the global population of working age will be in Africa. Half the world's acreage of cultivable land not yet cultivated is in Africa. And Africa's known reserves of oil, gas, and minerals, with further exploration over the next decades, are set to grow dramatically. However, Sub-Saharan countries are

Africa's existing relative advantages are abundant low-wage labor and abundant land and natural resources

Box 3.1 Instruments East Asian countries used to promote exports

- Access to imported inputs at duty-free prices.
- Access to import licenses and foreign exchange for imports (where these were rationed).
- Access to long-term loans.
- Automatic access to loans for working capital.
- Subsidized interest rates on loans.
- Tax exemptions and reductions.
- Facilitation of access to foreign technology through licensing, support for research and development, financial incentives to firms, or government research institutes.
- Government procurement.
- Export market intelligence.
- Export finance facilities and export credit guarantees.
- Special economic zones or specialized industrial parks.
- Public recognition for high-performing exporters (especially Korea).

at a relative disadvantage in capital (including physical infrastructure), technology, and skills. So it makes sense for them to leverage their current comparative advantage while upgrading their capabilities in the disadvantaged areas.

Sub-Saharan countries need to address their relative cost disadvantages, particularly with China and other Asian countries

Labor-intensive manufactures. Sub-Saharan Africa's abundant labor and low wages make it potentially competitive in the export of labor-intensive manufactures, such as garments and assembling consumer electronics (chapter 5). But since labor productivity in the region is low relative to China and other East Asian countries, abundant low-wage labor does not necessarily translate to low labor costs in production. Consider Ethiopia and Tanzania. Wages for producing polo shirts, leather loafers, and wooden chairs range from about a tenth to half those in China. But polo shirt workers in Ethiopia and Tanzania would finish half the number of shirts that workers do in China, eroding half the wage advantage (table 3.1). For wooden chairs they would produce 1 or 2 for every 100 in China, pushing Tanzania's costs to 19 times those in China—and Ethiopia's to 26 times. Only for leather loafers are the unit labor costs lower.[5]

Table 3.1 Relative wages and productivity in manufacturing, 2011

	China	Vietnam	Ethiopia	Tanzania
Wage (monthly) relative to China				
Polo shirts	100	42	24	48
Wooden chairs	100	51	23	27
Leather loafers	100	27	12	37
Productivity (items produced per day) relative to China				
Polo shirts	100	42	49	47
Wooden chairs	100	6	1	1
Leather loafers	100	70	80	100
Unit labor cost (wages-productivity ratio) relative to China				
Polo shirts	100	101	50	102
Wooden chairs	100	888	2,592	1,884
Leather loafers	100	39	15	37

Source: Constructed using data from Dinh and others (2012).

Furthermore, poor infrastructure, onerous regulations, and official corruption tend to raise the cost of operations in Sub-Saharan Africa, so low wages do not necessarily translate to a comparative cost advantage (box 3.2).

To leverage their abundant labor resources into a competitive advantage in labor-intensive manufacturing exports (such as garments and component assembly), Sub-Saharan countries need to address their relative cost disadvantages, particularly with China and other Asian countries. One possible measure in the short to medium term, in addition to improving the overall business environment, is having well run special economic zones and specialized industrial parks to reduce the high costs from

Box 3.2 Indirect costs in Sub-Saharan Africa—the burden of operating in difficult business environments

In addition to the direct costs of capital, labor, and raw materials, the difficult business environment in many Sub-Saharan countries, marked by poor infrastructure and governance, imposes additional costs on firms compared with those operating elsewhere.

A study based on the World Bank's Enterprise Survey data reports that in Kenya about 70% of firms own their own electricity generators, and in Nigeria about 40% of the electricity comes from private generators. In Mozambique, Benin, Burkina Faso, Senegal, the Gambia, Madagascar, and Niger firms spend more than 10% of their total costs on energy, compared with only about 3% in China. Transport is also a major constraint on firms.

Beyond the infrastructure constraints are also other indirect costs such as licensing fees and bribes, which raise the costs of firms in Sub-Saharan Africa. Whereas in China indirect costs, which in addition to power and transport costs are defined to also include license fees and bribes, make up 5–25% of gross total value added (sales minus the cost of raw materials); in Kenya, Tanzania, and Zambia they made up 40–70%.

Source: Adapted from Ramachandran, Gelb, and Shah (2009).

poor infrastructure and onerous regulation (chapter 2). A second is targeting industry-aligned training programs at unemployed secondary and tertiary school leavers to provide low-wage labor at skill levels that are a little higher than they now are in Sub-Saharan countries, and possibly even higher than the average levels currently typical of assembly plant workers in Asia (chapter 4). A third is combating official corruption. Such measures could position Sub-Saharan countries to benefit from the rising wages in China and other Asian countries, which are pushing some exporters to relocate to lower cost areas.[6]

But staying competitive in the export of labor-intensive manufactures based on a low-wage advantage will become more difficult. Re-shoring and near-shoring, multinational companies from developed countries are relocating manufacturing back to, or near, their home bases. And such technological developments as three-dimensional printing and packaging of integrated circuits are likely to reduce the demand for low-skilled assembly workers.[7]

Processing natural resources (and agricultural commodities). The prospects of Sub-Saharan countries are brighter for manufacturing exports based on processing agricultural and extractive resources (oil, gas, and minerals), which they have in relative abundance. Many development successes have begun by working and transforming local natural resources.[8]

But processing tends to be intensive in capital and skills, so it would demand more of the factors Sub-Saharan countries lack and less of the untrained labor they have in abundance. These constraints can be overcome through skills development (chapter 4) and with deliberate programs to develop capabilities in more labor-intensive industries upstream and downstream (chapters 6 and 7).[9] In agricultural processing, developing links to smallholders and improving their productivity and access to markets will also reduce rural poverty, as with oil palm in Malaysia.[10]

Some Sub-Saharan countries also have good export prospects in services, particularly tourism, based on the attractions of their varied cultures, exotic wildlife, and sunny beaches (chapter 8). Also possible are teleservices, such as business process outsourcing, based on fairly low wages and medium skills—for the U.K and U.S. markets for Anglophone Africa and the French market for Francophone Africa. Again, skills development, in addition to investments and policy actions, will be needed to turn potential into a competitive advantage on the global market.

A viable export-oriented strategy for Sub-Saharan countries would thus emphasize adding value to agricultural and extractive resources, developing related upstream and downstream industries, and promoting links along the chain. It would also opportunistically pursue labor-intensive manufacturing, taking advantage of FDI, and using well run special economic zones and specialized industrial parks to reduce costs. And it would promote telephone and simple information technology services and tourism based on culture and natural assets (wildlife and year-round sunny beaches). All have to be based on a higher platform of skills, so short-, medium-, and long-term strategies to develop skills have to be core parts of the export drive.

Where are the export markets?

The European Union, Japan, and the United States have been the traditional export markets for Sub-Saharan countries. They were also the main markets for the rising exports of East and South-East Asian countries. But these markets cannot be counted on to do the same for Sub-Saharan countries. They will continue to be very important, and Sub-Saharan countries need to continue efforts to expand their exports to them. But they also have to explore and expand their access to other markets, especially the emerging markets in Brazil, China, and India and the internal market in Africa.

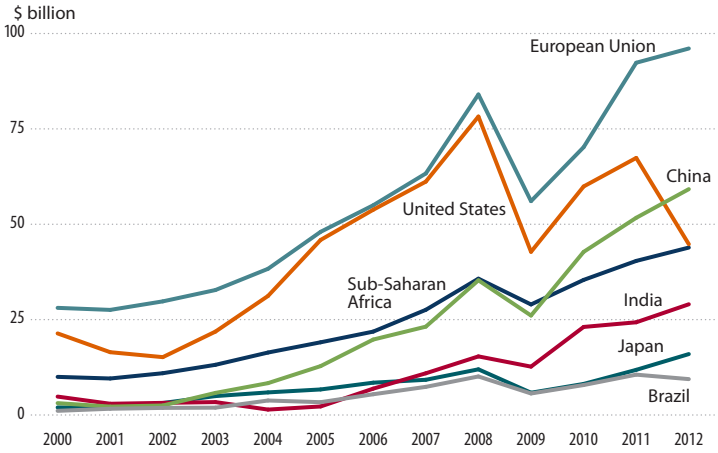
Sub-Saharan countries need to explore and expand their access to other markets, especially the emerging markets in Brazil, China, and India and the internal market in Africa

The European Union is still the major market for Sub-Saharan exports (figure 3.3). But China has eclipsed the United States, with India following as the third largest (table 3.2). China, India, and Brazil lead in market growth (figure 3.4). Note that intra-Sub-Saharan exports, though small, have grown faster than exports to the European Union and the United States—from around 9% in 1990 to almost 12% in 2012.

Markets in OECD countries. Sub-Saharan countries should still strive to expand their exports to the European Union and the United States. They should seek to take better advantage of preferences available to them, but in ways that do not foreclose their policy options for diversifying their production and upgrading their technologies. With the end of the Multi Fibre Arrangement and the arrival of the WTO in 1995, the United States in 2000 offered trade preferences (duty-free and quota-free access, subject to certain limitations) to eligible Sub-Saharan countries under the African Growth and Opportunities Act (AGOA). And the European Union offered Everything But Arms (EBA) to the 49 least developed countries, 27 of them in Africa, and Economic Partnership Agreements (EPAs) to many others.[11]

Although helpful, AGOA and EBA have serious limitations, including

Figure 3.3 Sub-Saharan exports of goods to main markets



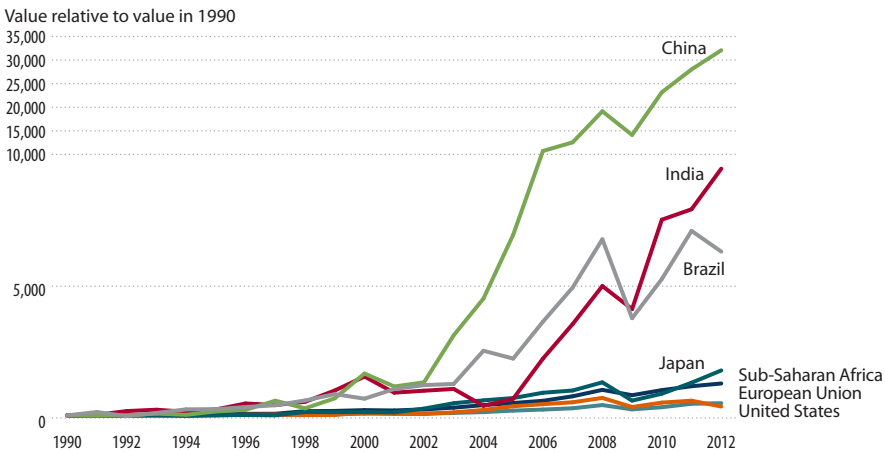
Source: Constructed using data from the International Monetary Fund elibrary, accessed July 8, 2013.

Table 3.2 Sub-Saharan Africa's top 10 merchandise trade partners, 2012

	Values ($ billions)				Shares (% of world)		
	Exports	Imports	Trade	Trade balance	Exports	Imports	Trade
China	59.2	65.0	124.2	–5.8	16.0	17.1	16.6
United States	44.8	23.9	68.7	20.9	12.1	6.3	9.2
India	29.0	23.0	52.0	6.0	7.9	6.1	6.9
Germany	13.4	17.1	30.4	–3.7	3.6	4.5	4.1
France	13.2	15.7	29.0	–2.5	3.6	4.1	3.9
Netherlands	18.2	9.4	27.6	8.8	4.9	2.5	3.7
Japan	16.0	11.3	27.3	4.6	4.3	3.0	3.6
South Africa	9.4	15.9	25.4	–6.5	2.6	4.2	3.4
United Kingdom	12.6	10.8	23.4	1.9	3.4	2.8	3.1
Spain	14.3	5.1	19.4	9.2	3.9	1.3	2.6

Source: Constructed using data from the International Monetary Fund elibrary, accessed July 8, 2013.

Figure 3.4 Where the growing export markets are



Source: Constructed using data from the International Monetary Fund elibrary, accessed July 8, 2013.

country coverage, product coverage, rules of origin, and uncertainty about their duration.[12] AGOA sets stringent performance-based criteria for eligibility, while the EBA's primarily income-based criterion excludes many Sub-Saharan countries that have good prospects for trade (such as Ghana and Kenya). And since the least developed, developing, and middle-income countries of Sub-Saharan Africa tend to belong to the same regional economic groupings, EBA's and particularly the EPAs' distinctions among these countries complicate efforts to create regional markets.

Coupled with rules of origin, the distinctions could discourage the least developed Sub-Saharan countries from procuring inputs from other Sub-Saharan countries. Similarly, the reciprocity requirement of EPAs could discourage regional economic groups in Sub-Saharan Africa from moving to common external tariffs to enlarge regional markets.

Product coverage of the preference schemes is sometimes a problem as well. At more than 90% the product coverage of AGOA appears high, but the reality is that many countries produce and export only a narrow range of products, so the few tariff lines excluded from the preferences could make a huge difference to them. For example, AGOA excludes cotton and other agricultural commodities that loom large in the exports of several African countries. Indeed, 90% of Sub-Saharan exports under AGOA are petroleum.

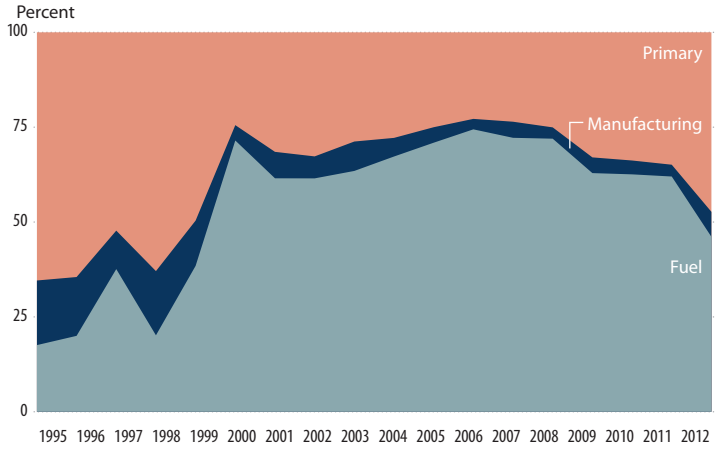
The rules of origin for the programs are different and tend to be complicated, especially for EBA, making it difficult for Sub-Saharan exporters to benefit. And the rules of origin specified in percentages of value added do not reflect the reality of today's fragmented task-based production and exports in global value chains. Setting the required local value-added percentage high

makes it very difficult for countries to take advantage of the task-based production in global value chains to promote exports.

Moreover, uncertainty over whether each round of AGOA (and some of the other trade preferences) will be renewed on expiration further reduces the incentives of businesses to make large long-term investments to take advantage of them.

While African countries do their part to make better use of these preferences, the United States and the European Union also need to reform them to better serve the aspirations of Africans for economic transformation (box 3.3).

Figure 3.5 Composition of China's imports from Sub-Saharan Africa, 1995–2012



Note: Primary = SITC 0+1+2+4+68+971; Fuels = SITC 3; Manufacturing = SITC 5+6+7+8–667–68.
Source: Calculated using data from UNCTADstat (database), accessed July 9, 2013.

China's growth and rising incomes also present African countries with market opportunities as well as challenges

Markets in the emerging economies (China, India, and Brazil). China's rise as a global trading power has squeezed Sub-Saharan countries' ability to compete in manufacturing exports. But its growth and rising incomes also present African countries with market opportunities. The same applies to the expanding economies of India and Brazil.

The expanding Chinese market also carries some risk. A large part of China's demand from Sub-Saharan countries is for raw natural resources (figure 3.5). The high demand for natural resources by China to power its explosive growth has pushed up world commodity prices. This is good for Sub-Saharan countries in the short term, as it raises incomes and foreign exchange earnings. But

Box 3.3 Harmonizing U.S.-EU trade preferences for lower income Africa

The present system of preferences is a nightmare: different schemes cover different countries with different product coverage and different rules of origin. Rationalizing and expanding the trade preferences would help the region's economic transformation, as it would help its integration in the world economy. OECD countries and, to the extent possible, emerging economies should agree on a common scheme of preferences for Sub-Saharan Africa with the following features:

- All low-income and lower middle-income countries in Africa to benefit, not just the least developed countries (only upper middle-income countries should be excluded).
- All products should be covered, as excluding just a few could encompass most products that many African countries can produce competitively.
- Rules of origin need to be harmonized, flexible, simple, and relevant: the requirement for local content must be low enough, say around 25%, or permit the cumulation of inputs from other developing countries granted similar preferences; better still, extend preferences to include all African exports to all OECD markets so that producers can source their inputs at the lowest cost and so that Sub-Saharan Africa can participate more effectively in global value chains.
- Preferences need to be long lasting, if not permanent, to ensure the stability and predictability needed to encourage investment in the relevant export sectors.

Source: Herfkens 2013.

The potential export market for Sub-Saharan countries within Africa is expanding with the growth of the middle class and urbanization

in the medium to long term it poses a risk, since it provides incentives for them to deepen their dependency on commodity exports rather than to strive to industrialize. So if African countries are not strategic in their engagement with China (and with the other emerging countries), they could witness a replay of what happened between Africa and Europe in the second half of the 1800s, when a boom in commodity exports supported Europe's industrialization, leaving African colonies as raw material exporters.[13]

The difference now is that the Europe, Japan, and the United States are more advanced technologically and thus more inclined to vacate production of simple manufacturing products and import them instead (recent re-shoring trends notwithstanding). China is still very much into the production of those products; even as it becomes less competitive in exporting them due to rising wages, it might still take it a while to switch from being a huge net exporter to a significant importer.[14] Sub-Saharan countries thus have to creatively and aggressively find ways to balance their exports to China (and the other emerging countries) by increasing processed agricultural goods and other manufactures. They should also encourage the emerging countries to increase market access along the lines of a reformed AGOA and EBA.[15]

Markets in Africa—the rising middle class and the potential of regional trade. The potential export market for Sub-Saharan countries within Africa is expanding with the growth of the middle class and urbanization. The African Development Bank estimates that in 2010 the size of the middle class in Africa (not just Sub-Saharan Africa) was 327 million, or 34% of the population, having grown from 26% in 1980.[16] So far, the growth of the middle class in most countries has been fueled mainly by growth in services—finance, telecommunications, and donor-financed activities, including foreign-financed nongovernmental organizations. For its growth to continue, manufacturing activities will have to create more job opportunities for middle class incomes, which in turn will generate growing demand for manufactured consumer goods, processed and convenience foods, and high-value services.

With borders in the region more open, African countries could capture these opportunities through intraregional trade, advancing their economic transformations. Otherwise, most of the demand growth would leak to imports from outside the region, which could slow the pace of transformation. So, African policymakers need to take a more serious approach to implementing the various regional agreements on regional free trade, customs unions, and economic integration. The larger integrated regional markets would also make countries in the region more attractive for large manufacturing plants of foreign and domestic investors.

Key differences between the proposed Sub-Saharan strategy and that of East Asia. While taking advantage of low labor costs, this strategy puts more emphasis on leveraging Sub-Saharan Africa's relative advantages in abundant natural resources. The skills required would also be a little higher than those generally prevailing in the South-East Asian countries when they initiated their export drives in the 1960s and 1970s. The strategy is also a little different in the markets to target—emerging and African countries as well as OECD markets. In addition, the promotional instruments the state could use to implement the strategy would have to be modified in some key respects.

Promoting exports—how

Formulate an explicit export promotion strategy

If countries see expanding and diversifying exports as top priorities, they need clear strategies for pursuing them. An export promotion strategy could be an elaboration of the objectives for exports in the National Transformation Strategy (chapter 2). Among the key areas to address in the export promotion strategy:

- Maintaining a general economic environment that makes exporting profitable.
- Adding value to selected traditional exports, based on market prospects.
- Providing targeted support to promising nontraditional or new exports, including technologically more advanced exports.
- Strengthening the country's position in existing export markets and diversifying into new ones.
- Attracting export-oriented FDI, particularly in manufacturing.
- Responding to the immediate skill requirements of the exports being promoted.

Indeed, since export promotion is such a key part of overall economic transformation, the discussion here in many ways mirrors that in chapter 2 on promoting overall transformation, looked at through an exports lens.

Export promotion requires a whole-government approach and close state–private sector collaboration. As with the overall economic transformation strategy, the export strategy should be developed in consultation with the private sector. And it should have sensible targets discussed and monitored by the state and exporters in the state–private sector collaboration forum. Export promotion requires more than just the Ministry of Trade

and Industry and the Export Promotion Agency. It requires several ministries and agencies in government, including the Ministries of Planning, Finance, Agriculture, Infrastructure, Education, Science and Technology, Mineral and Petroleum Resources, Tourism—as well as the Central Bank and the Export Credit and Guarantee Agency. Coordination within government by a central coordinating agency is thus essential.

Enhancing the profitability of exports. A realistic exchange rate policy is key to the profitability of exports because it determines how much exporters receive in domestic currency for their foreign exchange earnings. If the exchange rate is too low, receipts in domestic currency cannot cover their costs, and they cannot survive as exporters.[17] To avoid this, the exchange rate should, at a minimum, move over time to reflect movements in the costs of domestic factors of production once it has been set initially at a level that makes a significant number of exports profitable.[18]

Since the exchange rate also determines the domestic currency price of imports and therefore the welfare of a large number of consumers and producers, the government cannot just keep hiking it to keep up with rising domestic costs. It will be important, therefore, to take measures to contain domestic costs.

Prudent macroeconomic policy that controls inflation can keep domestic costs down. Efficient and honest administration of customs and ports can also save exporters unnecessary costs and delays. Domestic exporters are put at serious cost disadvantage if they have to pay high tariffs on imports used in producing exports. But a duty drawback or bonded warehouse scheme can ensure that they get access to imported inputs at free-trade prices. They are similarly disadvantaged if they do not have access to reliable infrastructure at reasonable prices. In the short term special economic zones can provide quality infrastructure (which the country cannot afford to provide on a national basis), ease the administration of duty drawback schemes, and pilot the streamlining of regulations.

The export strategy should have sensible targets discussed and monitored by the state and exporters in the state–private sector collaboration forum

Export credit and insurance are also critical, and several governments run programs to cater to these needs, including guarantees to banks to ease exporters' access to credit (box 3.4). But such incentives are sometimes considered subsidies and may thus be subject to countervailing duties.

Apart from these general measures, governments may also find it

Box 3.4 Financing exporters' working capital with cascading letters of credit

One of the biggest things exporters need is automatic access to working capital to cover their operating costs from the time they receive an export order to the time they receive payment.

In developed markets exporters can get credit from banks against an export letter of credit. The Korean central bank, Bank of Korea, took this a step further with cascading domestic letters of credit to an exporter's suppliers and to the suppliers of those suppliers, all the way to small shops in the mountains. (Korea was proud to have invented the system, but it turns out Japan used a similar system in the 1950s, as did England in the 1800s.)

This may sound straightforward, but there are some wrinkles, and the administrative arrangements are crucial in running the system.

Exporters might use the working capital loans to produce for the home market, so the loans have to be tied to what is needed for export. That requires documentation of the order, of the cost of inputs needed to fulfill the order, and of the completed order. The same is true for suppliers, so coefficients are needed for the part of their production that will eventually be exported, and setting those coefficients is not a simple administrative order. Given their data and capacity constraints, African countries will have to exploit simpler ways of implementing such a system.

The innovation was to extend domestic letters of credit to local suppliers. That draws them into value chains and producing inputs that meet global standards.

It works only if exporters and their suppliers have duty-free access to imported inputs, an essential complement. Exporters pay tariffs and indirect taxes when they import their inputs and draw back the rebates when they document the completed export—still quite a burden. But early on they received rebates on the basis of export orders and did not have to wait.

Source: Rhee, Ross-Larson, and Pursell 2010.

A big part of export diversification requires learning and technological upgrading, areas where the market often fails, opening the door to productive state-business collaboration

justifiable to use fiscal or credit measures to enhance the profitability or reduce the production and marketing costs of selected export products or selected types of firms, such as domestic small and medium-size enterprises or export-oriented foreign-owned subsidiaries, subject to compliance with WTO rules.

Diversifying exports. Diversifying export products and services requires upgrading existing exports (such as processing traditional agricultural commodity exports) or entering new exports, which often requires higher technology. A big part of export diversification thus requires learning and technological upgrading, areas where the market often fails, opening the door to productive state-business collaboration. (Chapters 5–8 provide examples of such opportunities and how countries can respond to the challenges.)

Deepening and diversifying export markets. Governments should provide exporters with good and timely information on export markets. They can start by having their ministries of trade and industry, in consultation with exporter associations, assign well trained economists and business school graduates to key embassies abroad. They can also consider full commercial sections abroad, either as sections in the embassies or as separate offices, preferably overseen and run mainly by exporters, with some personnel and financial support from government. Taiwan's (China) External Trade Development Council has been very effective in providing information, organizing participation in trade fairs, and carrying out market research, with a majority of council members from industry and export associations. Started in 1970 and financed by a 0.0625% levy on exports, it had 42 overseas offices by 1983.[19] Another example is the Korea Trade Promotion Council.[20] Governments could also consider subsidizing carefully designed external trade promotion tours by exporters, as Mauritius does.

Active export promotion under the World Trade Organization

The WTO has reduced the scope for active export promotion, banning or severely circumscribing some instruments that the East and South-East Asian countries used from the 1960s to the 1990s. The policy space is now much narrower than in the pre-WTO era when today's developed countries were transforming their economies or when the East Asian countries were pushing exports. But Sub-Saharan countries, particularly those temporarily exempted from the subsidy prohibition, still have some room to actively promote exports. In addition to making smart, aggressive, and efficient use of the exemptions, they can also come up with other efficient and WTO-compatible ways of promoting exports.

Protecting domestic producers

Import substitution has often been the gateway to breaking into export markets. The significant share of unbound tariffs and the gap still prevailing between bound and actual tariff rates for many Sub-Saharan countries, together with the more favorable safeguard provision on imports, still provides room for selective import substitution.[21] In some sense, the cap on bound rates can be seen in a positive light. It rules out excessively high tariff rates that foster highly inefficient import-substitution industries. It also strengthens the hand of policymakers in resisting pressure from domestic industry for high levels of protection.

Import-substituting firms benefiting from import protection could be required to become internationally competitive (with exports or with imports on the domestic market) within a specified period. This could be done by making it explicit, when increasing a tariff, that the raised tariff will last only up to a specified date—or that an existing high (applied) tariff rate will be reduced by a certain date.

Providing subsidies to promote exports

A deficiency in tariff protection is that even if the raised rates are explicitly temporary, there is no way to discipline firms enjoying the protection if they fail to improve their efficiency. Subsidies can overcome this disadvantage since the actual payment or conferring of the benefits can be firm-specific and contingent on performance even if the eligibility criteria are objective and broad. Subsidies that have been used by countries to promote exports include cash payments, credit at below market interest rates, tax exemptions, reduced tax rates, and reduced prices for services such as infrastructure. And making the subsidies contingent on exports provides a practical and efficient way to monitor and enforce discipline.[22] To be considered, however, are the opportunity costs in relation to other government spending, given the other urgent needs in poor countries.

Most Sub-Saharan countries are now exempt from the WTO prohibition on using subsidies that are specific to and contingent on exports. This enables them to use export processing zones or special economic zones to attract firms, particularly foreign-owned firms, and to encourage them to export. But countries should view subsidies contingent on exports as temporary measures to facilitate building domestic capability and productivity. The quicker these are built and the subsidies withdrawn, the better.

There is no merit in a poor country persisting in paying subsidies to supply goods and services to other countries, particularly richer ones, at lower prices.

The trend under the WTO is toward stricter controls on specific subsidies contingent on exports, so Sub-Saharan countries need to come up with other approaches. Subsidies could be targeted at firms and made contingent on producing specified products at no higher than prescribed unit costs. The unit cost could be benchmarked against those of successful developing country exporters of the products in question. This is equivalent to requiring subsidy recipients to be internationally competitive. Implementing such a system takes more than simply requiring firms to export, but the requirement focuses more directly on the root problem, which is operational efficiency and cost reduction, and it applies equally to import substitution and export promotion.

The greater complexity in this approach is one more reason to build higher skills in key agencies (such as those for investment and export promotion) and to increase collaboration between the state and the business community. Since cost reduction requires action by firms and by the state (such as reliable and reasonably priced infrastructure, and streamlined regulations), subsidies contingent on cost reduction could be part of a concrete program for public-private dialogue and collaboration to promote economic transformation.

Requiring firms to hire local workers

The Agreement on Trade-Related Investment Measures prohibits governments from requiring firms to buy "products of domestic origin." But it places no restrictions on the requirement for firms to hire local labor, which in principle could apply to both foreign and domestically owned firms (and thereby satisfy the national treatment requirement). However, such a requirement must be consistent with the profit motives of firms, and the country must have people with skills that firms, including foreign firms, would find in their economic interest to hire. So, there is still scope for countries to combine focused skills development with strategic programs to attract export-oriented foreign-owned firms. Highly trained locals that foreign-owned firms find economical to take on as managers, engineers, and technicians not only provide employment. They also present a cadre of potential entrepreneurs who could set up dynamic modern firms in the future, as in Ireland, Malaysia (Penang), and Singapore.

Increasing access to technology

The Agreement on Trade-Related Aspects of Intellectual Property Rights now makes it more difficult for firms to acquire technology through copying, reverse engineering, or lax enforcement of copyright and patent laws—methods the developed countries and successful East Asians used in the past.[23] There is an expectation in the agreement that developed countries would make it easier for least developed countries to access technology, but it is not clear how this would be implemented, monitored, or enforced.[24]

Governments have two main options to help their firms acquire technology. First, they can facilitate licensing by providing access to information (including subsidized technology study tours), easing regulations, and providing targeted subsidies, contingent on performance, to lower the cost of technology licenses (or critical new machinery).[25] Second, they can establish R&D facilities that address technological constraints in specific subsectors in consultation with firms (see box 2.9 in chapter 2).

So, although the WTO regime now restrains active export promotion measures, Sub-Saharan governments, particularly those in the developing and least developed countries, still have room to maneuver—if they are creative.

* * *

Expanding, diversifying, and technologically upgrading exports have to be part of the economic transformation agenda. Given the current international trading environment and the relative endowments of Sub-Saharan countries, the export-oriented strategies and the instruments for their pursuit will have to differ from those the East and South-East Asian countries used successfully from the 1960s to the 1990s.

Although the region has low wages and a growing labor force, these do not always translate into competitive advantage on labor costs because of labor's low productivity. Aggressive skills development and training will thus be needed for the region to leverage its potential comparative advantage in abundant low-wage labor. Streamlined regulations and improved infrastructure (possibly in special economic zones and specialized industrial parks in the short term) will also help reduce costs. But governments will have to supplement them with more focused efforts at export promotion. This will include macroeconomic, exchange rate, and other horizontal measures. But also needed are vertical efforts to promote targeted exports, which may entail performance-based subsidies and other support to exporters to help them acquire and master technology, develop new exports, and expand into new markets. Although the WTO regime puts

Countries should view subsidies contingent on exports as temporary measures to facilitate building domestic capability and productivity

some restraints on the proactive export promotion measures, for the developing and least developed countries of Sub-Saharan Africa there are still options that governments could use creatively.

Governments will have to do much more to remove barriers to intraregional trade and to improve regional transport infrastructure

A reasonable export strategy for countries in the region would leverage their relative comparative advantage in agriculture and natural resources and take advantage of their low-wage labor. Prospective world demand suggests that while the traditional markets of the European Union, Japan, and the United States will continue to be important, Sub-Saharan countries should also expand their exports to such emerging economies such as Brazil, China, and India. But they need to avoid being lured by high commodity demand into relaxing their efforts to industrialize and upgrade the technology of their exports. The regional market in Sub-Saharan Africa could also support a dynamic expansion of exports, but governments will have to do much more to remove barriers to intraregional trade and to improve regional transport infrastructure.

Notes

1. Although cross-country regression studies between economic growth and exports appear inconclusive, case studies of the East Asian countries clearly show the decisive role of exports in their GDP growth and economic transformation in general. See World Bank (1993), Lall (1997, 2004), Pangestu (2002), and Weiss (2005).
2. See, for example, Acemoglu, Johnson, and Robinson (2003).
3. Lall 2004; Weiss 2005.
4. The rise of China as a global economic and trading power also presents some potential opportunities discussed later in the chapter.
5. Dinh and others 2012.
6. Average monthly wages in manufacturing in urban areas increased by an average of 14.2% a year from 2003 to 2011 (in nominal yuan). In nominal U.S. dollar terms it increased 17.9% a year over the same period. For wage rates in yuan see (National Bureau of Statistics of China 2011); for exchange rates see International Monetary Fund elibrary, accessed July 10, 2013.
7. *The Economist* 2012.
8. Examples include Britain at the start of the industrial revolution (iron and coal); similarly for Belgium, France, Germany, and the United States (which was a leading producer of several minerals and also petroleum). Other examples include Finland and Sweden (forestry products).
9. For example, Finland and Sweden leveraged forestry resources into increasingly sophisticated products, including production of the associated machinery and engineering services (Blomstrom and Kokko 2007). The mining engineering expertise of the United States in the nineteenth century, or more recently of Australia and even South Africa are other relevant examples (Wright and Czelusta 2007). Chile (salmon, wine, and fruits) and Malaysia (palm oil) have been able to leverage their potential in agriculture into global comparative advantage. (Both examples in Chandra [2006].)
10. Rasiah 2006.
11. Other OECD countries such as Canada also have trade preferences for developing countries that cover Sub-Saharan countries.
12. Herfkens 2013.
13. Williamson 2011.
14. Kaplinsky and Farooki 2010; Kaplinsky, Terheggen, and Tijaja 2010.
15. Herfkens 2013.
16. The African Development Bank defines the middle class in Africa as those with per capita daily consumption level of $2–20 in 2005 PPP terms. This group is classified into three categories: the floating class, with daily per capita consumption of $2–4; the lower middle class, with consumption of $4–10 a day; and the upper middle class, with daily consumption of $10–20. Of the estimated middle class population in Africa in 2010 of 326.7 million, 61% was in the floating category, 25.5% in the lower middle class, and 13.5% was in the upper middle class (AfDB 2011).
17. The exchange rate is defined for this discussion as the units of domestic currency per a unit of foreign currency. Currencies of major or potentially major trading partners are particularly important. In fact it may be important for policymakers to also track the effective exchange rate, which is the units of domestic currency for a weighted unit of the currencies of main trading partners.
18. In other words, the real exchange rate should be stable over time once it has been set at an appropriate initial level. This is a minimal condition in the sense that changes in external markets (such as emergence of external competitors with much lower costs and prices) may necessitate additional movement in the exchange rate.
19. Wade 2004.
20. Visit and discussion at KOTRA's Seoul office (November 2011). See also Rhee, Ross-Larson, and Pursell (2010), Lall (1997) and English and De Wulf (2002).
21. See Akyuz (2005) and UNCTAD (2006).
22. For instance, see World Bank (1993).
23. Chang 2002, 2005.
24. For example, Correa (2005).
25. Subsidized study tours have been an important source of learning about technology for Chilean producers and exporters of salmon and wines (Katz 2006; Benavente 2006).

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Rural classroom, Transkei, South Africa

CHAPTER 4

Building technical knowledge and skills

Economic transformation demands a healthy workforce equipped with the knowledge and skills to be highly productive in the workplace and to generate innovations in technologies, processes, products, and services. As chapter 3 shows, Sub-Saharan Africa will, by 2050, be among the regions with the largest and youngest labor force in the world.[1] This young and growing workforce can be a global competitive advantage and a great asset in driving economic transformation—if it is healthy and has the right skills. Or it could be a drag on growth and a threat to social and political stability. This chapter discusses approaches that Sub-Saharan countries may use to upgrade the skills of their labor force to drive economic transformation.

The challenge of quality

Sub-Saharan Africa has made good progress in the past two decades providing access to primary education and is now close to other regions in gross enrollments. But at the secondary and tertiary levels it lags far behind. And quality is a challenge at all levels. At the secondary and tertiary levels there is inadequate emphasis on the science, technology, engineering, and mathematics (STEM) needed for today's technologically oriented global economy. Nor is there enough attention to technical and vocational education and training (TVET) and to links with business. The results: although only a small fraction of the population has attained secondary and tertiary education, the region faces a growing problem of educated but unemployed youth—reflecting challenges on both the supply and demand sides of skills.

Primary education

Primary enrollments have expanded significantly in the past two decades, to the point where the region is now almost at par with other regions. While this progress is welcome, completion rates are still low—at around 70%, compared with 100% in the comparator countries, but up from 52% in 1970.

Quality is also low. International tests monitoring primary education quality include the Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ),[2] the Programme d'Analyse des Systèmes Éducatifs de la CONFEMEN (PASEC),[3] and the Trends in International Mathematics

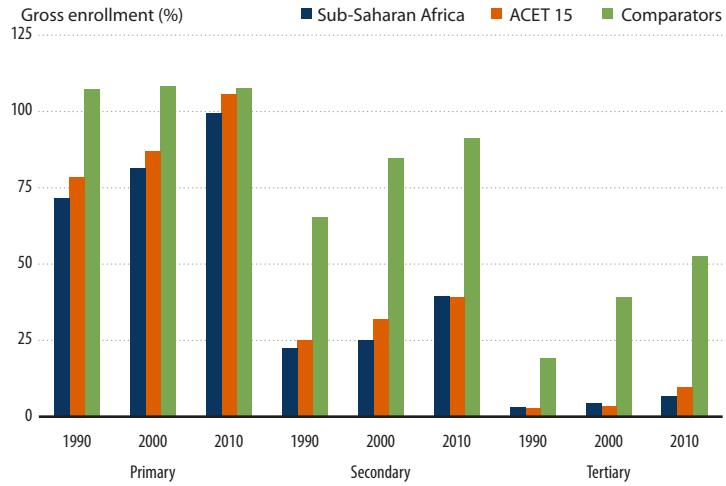
Early stage industrialization rests on lower and middle-level technicians produced mainly by technical and vocational institutes

and Science Study (TIMSS). The 2012 Education For All report shows that fewer than 65% of children in PASEC countries starting grade 1 reach grade 4 and achieve minimum learning in mathematics.[4] Of the SACMEQ countries, more than 50% of the children in Kenya, Mauritius, and Swaziland reach grade 4 and achieve minimum learning. But in Lesotho, Malawi, Mozambique, Namibia, Uganda, and Zambia only about 20% do.

Secondary education

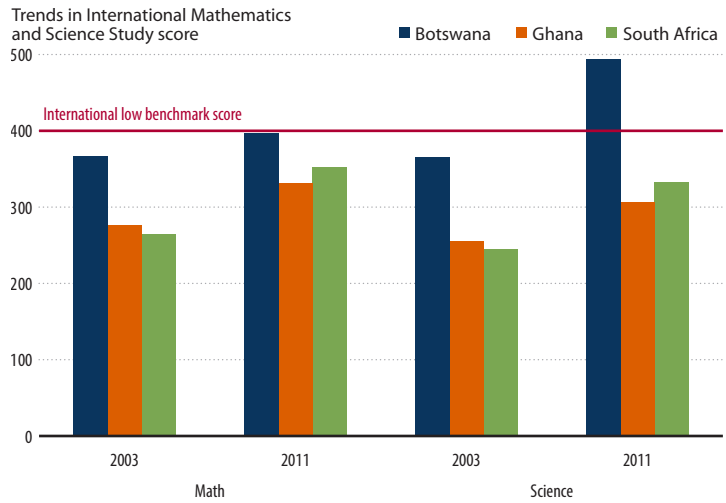
Given today's technologies and competitive global landscape, primary education is by no means adequate. But secondary and tertiary enrollments are very low in Sub-Saharan countries (figure 4.1), with female to male rates of 82% for secondary and 63% for tertiary in 2010. Though secondary enrollments are rising, completion rates remain low (below 40% for lower secondary, compared with more than 80% in the comparator countries).

Figure 4.1 Secondary and tertiary enrollments still very low



Source: Computed using data from World Development Indicators (database).

Figure 4.2 Math and science scores below international low benchmarks



Note: For Botswana and South Africa the students were in grade 9; for Ghana the students were in grade 8.

Source: Data for 2003 from World Development Indicators (database) and 2011 from TIMSS International Database 2011.

Few data are available to assess secondary quality across the continent as done at the basic education level. Some country assessments are available but are not comparable. But Botswana, Ghana, and South Africa have participated in the TIMSS at the grade 8 level (lower secondary).[5] The three are among countries at the bottom (figure 4.2). But they should be commended for exposing themselves to international competition and for their higher aspirations.

Technical and vocational education and training

Early stage industrialization rests on lower and middle-level technicians produced mainly by technical and vocational institutes. In many countries this training takes place at the secondary level, but in some (such as Singapore) it starts after secondary education. The share of TVET students in secondary education is around 8% in Sub-Saharan Africa, far below the comparators (figure 4.3). And given the different levels of starting TVET, the differences between the Sub-Saharan and East Asian countries are even greater. In Singapore enrollments in the Institute of Technical Education and the polytechnic systems are around half of upper secondary and tertiary enrollment.[6] And in South Korea the share of technical-vocational high schools in enrollments was around 45% in the 1970s and 1980s, 35% in the 1990s to 2000s, and 26% in 2006.[7] Except for Mauritius, TVET enrollment shares do not match the rising aspirations to industrialize in Sub-Saharan Africa.

The quality of TVET education is also poor. Technical and vocational

training either is generally inserted as part of the curriculum of general secondary education, which tends to shortchange quality of both types of education, or is regarded as the option for those not good enough to make it in the academic stream. The low image of TVET and governments' weak efforts to embed TVET in a robust transformation agenda widen its disconnect from industry and the types of technical industrial jobs that would make TVET attractive to large numbers of good and ambitious students. As a result, many TVET institutes focus on accounting, secretarial studies, and other service jobs.[8]

Tertiary education

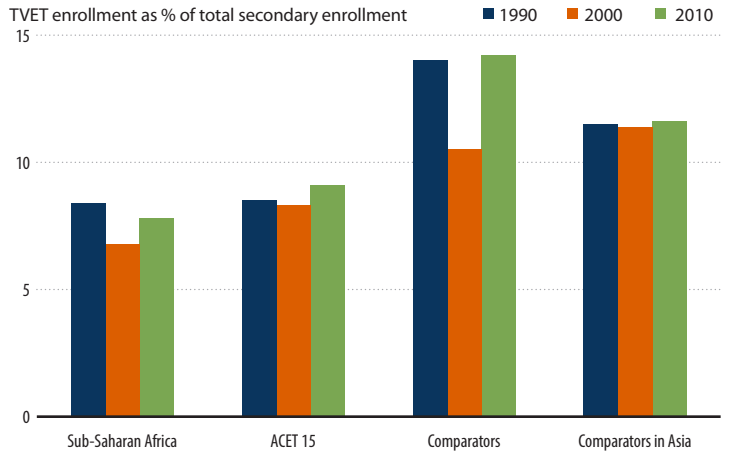
Tertiary graduation rates are also low in the ACET 15 (figure 4.4). And only a small share of students are enrolled in the STEM disciplines of science, engineering, and mathematics required for economic transformation and competition in today's technology-driven economies. The share in the ACET 15 is around half of that in the Asian comparator countries and seems to be going down.

Low demand for graduates

On the demand side it ironically appears that Sub-Saharan economies have difficulty creating employment for even the small numbers of secondary and tertiary graduates. A study of 23 Sub-Saharan countries done around 2003 found that among 25–34 year olds with higher (tertiary) education, 55% were formally employed, 20% informally employed, 26% unemployed, and 3% inactive. For those with upper secondary education only 36% were formally employed, 46% informally employed, 18% unemployed, and 8% inactive.[9]

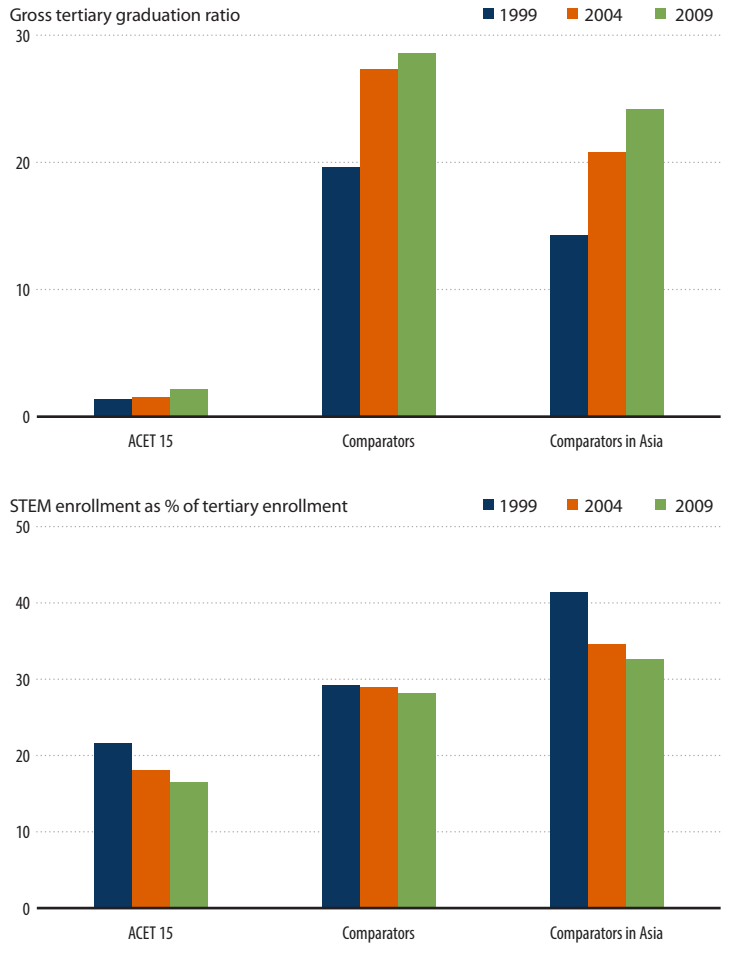
In Ghana around 250,000 graduates from public and private universities

Figure 4.3 Few technical and vocational enrollments in secondary school



Source: Calculated using data from World Development Indicators (database).

Figure 4.4 Few graduates from tertiary education—and few enrollments in STEM disciplines



Source: Calculated using data from World Development Indicators (database).

Weak efforts to embed TVET in a robust transformation agenda widen its disconnect from industry and the types of technical industrial jobs that would make TVET attractive to large numbers of good and ambitious students

and the polytechnics currently enter the labor market annually.[10] Of these graduates only about 2% (fewer than 5,000 people) are absorbed by the formal sector, leaving 98% to try to make it in the informal sector. In Ethiopia roughly 3,000 jobs in engineering, manufacturing, and construction were advertised on a website between 2007 and 2010.[11] If that is any indication of the formal jobs available, only 27% of the roughly 11,000 graduates in these fields entered the labor market.[12]

Countries should work with their neighbors to produce common textbooks in math and science to reduce costs

So a region short of educated labor and trying hard to increase the supply is presiding over a large and growing number of educated but unemployed or underemployed youth.

Options for addressing the skills challenge

Improving quality and extending basic education

Improving quality requires qualified, motivated teachers, and good teaching materials. As countries expanded primary schooling, they found it more difficult to attract good teachers, particularly in rural areas. And it could get worse. To achieve universal primary schooling by 2015, the region will need 4 million teachers, up from 2.4 million in 2006.[13]

Producing more teachers. One way to address the shortfall is to take unemployed college and upper secondary graduates, train them for about six months, and deploy them to schools. The initial training would be followed by periodic further training during, say, the long school breaks. Incentives should be provided to attract graduates to stay on for a set number of years or to choose teaching as their profession. That could kill two birds—providing more teachers and reducing graduate unemployment—with one stone.

Some countries now require graduates to do national service. A variant would be to offer special incentives to those electing to teach for three to five years. They could get a higher monthly allowance and state guarantees of tuition assistance for further study. Teach for America does something similar in the United States, as does Teach for All in the United Kingdom.

To encourage teachers to work in rural schools, the state could pay for communities to build modest but modern housing for them. Getting communities involved could have the added benefit of their making sure teachers do what they are supposed to do: teach during school hours.

Producing teaching materials. Good (and affordable) teaching materials are also important for quality. Primary students in many Sub-Saharan countries do not have textbooks they can bring home; instead, students share books that are locked up at the end of the school day. In 15 SACMEQ countries only about 40% of sixth graders had their own reading and math textbooks.[14] Developing context-appropriate textbooks and streamlining their production and distribution could reduce costs and improve learning.

So could loading more African textbooks onto simple e-readers, as with Worldreader and One Laptop per Child. For two years Worldreader has been putting Amazon Kindle e-readers—and more than half a million books, many of them by Africans—in the hands of students in Ghana and Kenya. IRead students in Ghana are scoring better on reading tests. Working with biNu, an Australia app maker, Worldreader now has its books available on low-end cellular phones, enabling access to half a million readers, many of them in Africa. One Laptop per Child claims to have delivered 2 million laptops loaded with educational software and content students across the developing world, among them Ghana, Rwanda, and Sierra Leone.

Countries should also work with their neighbors—in the Southern African Development Community and in the Economic Community of West African States, both Anglophone and Francophone—to produce common textbooks in math and science to reduce costs. Core content would be the same, with examples tailored to countries. This would require harmonizing curricula—difficult, but the payoff could be much more than lower costs. It could also lead to cross-border recognition of certificates in relevant subjects and thus promote regional skills markets.

Building schools. As countries make primary school universal and move to extend it to the first 9 or 10 years of basic education, the cost of building schools quickly becomes an issue. Having standard costs and construction models can help in this, as can better public procurement and project management. Cost comparisons of construction managed by education ministries, branch offices of those ministries, local governments, contractors outside government, nongovernmental organizations, and communities show that approaches closer to the ground generally have lower costs. And delegating construction management to communities produces quality classrooms at the lowest costs, about a third less than the other approaches.[15] Communities contributing in kind can further reduce the burden on the state and give them the motivation to enforce accountability in schools.

Expanding technical and vocational education and training

Policymakers need to view TVET as essential to supporting their transformation strategies.

- Their economic policies should promote the creation of the

industrial jobs that students would train for.
- They should align the training with the jobs being created and make it a true stepping stone to good career prospects.
- They should emphasize training that provides a solid foundation in STEM and language skills for lifelong learning and skills upgrading.
- They should campaign at the highest levels to lift the image of TVET and let potential students know about the new work prospects stemming from the economic transformation strategy.

Singapore now has one of the world's best TVET systems. But early on, people in the country looked down on it. They derided the initials for the Institute of Technical Education (ITE) as It's The End, with no career prospects. What changed? Training that provided good job prospects, and making it possible to graduate from ITE (perhaps work for a while), and then proceed to a polytechnical institute and even to a university engineering degree. ITE no longer means it's the end.[16]

Policymakers in Africa could also provide incentives to favor TVET over academic education in secondary schools and universities. In the 1960s Taiwan (China) put a limit on the expansion of general academic schools and encouraged enrollment in technical and vocational secondary schools. By the 1970s, 57% of secondary students were in technical and vocational schools, and by 1990, 72%.[17] Singapore and South Korea also narrowed the gate to academic education early on, emphasizing the technical and vocational.[18]

Many Sub-Saharan governments may not have the central control that these three Asian countries had over education, but they still have room to maneuver.
- They can favor technical and vocational secondary and higher institutes in their expansion of public education.
- They can charge lower tuition in these institutes, as South Korea did.
- They could also subsidize tuition at private technical and vocational institutes, since governments cannot expand these institutions at the pace needed.

Chile introduced scholarships for technical and vocational students in 2000 through the Nuevo Milenio (new millennium) program and in 2006 allowed them access to guaranteed student loans. In response, at the tertiary level the share of technical institutes in first-year enrollments went from 41% in 2006 to 52% in 2011. Finland also makes technical education more attractive, lifting it to 42% of upper secondary enrollments.[19]

Businesses have to be part of TVET for practical reasons.
- It is expensive. In Singapore officials estimate that the cost of training at a polytechnic is about the same as that for training a medical doctor. In Sub-Saharan Africa the unit costs could be up to six times those for general secondary education.[20]
- Involving businesses in curriculum design increases the relevance to industry and motivates them to provide industrial equipment, support, and internships during training and to offer jobs on graduation.
- Businesses can also provide attachments for teachers to refresh their skills—and be a source of instructors, especially as adjuncts.
- Businesses would then be more confident that they will be able to hire people with the skills they need to make investments profitable.

Indeed, if businesses have been involved in formulating the national transformation strategy—and their investment plans are informed by that strategy—their involvement in training is one of the key ways of working with government in implementing it.

Favor science, technology, engineering, and mathematics at universities

Policymakers in Africa could provide incentives to favor TVET over academic education in secondary schools and universities

Governments can also favor university enrollments in STEM. In Brazil, Chile, and South Korea public universities focus precisely on those disciplines, leaving the private sector, which provides around 70% of higher education in each country, to focus on the less expensive humanities and social sciences.

As with technical education, students majoring in STEM in public universities could pay lower tuition fees, and similarly STEM students in private universities could receive subsidies. State funding for facilities and faculties could favor such courses at public universities, and new faculty openings could be skewed toward science and technology departments in universities. The state could also offer competitive grants to private universities to steer them toward science and technology. In some cases the state might even do more to promote such education by providing grants to upgrade several private nonprofit universities rather than incurring the full expense of building a new university.

Again, behind quantity lurk quality and relevance—and behind quality are adequate numbers of qualified instructors. Vacancy rates for university faculty in Sub-Saharan Africa run 25–50%, with science and technology at the high end.[21] To fill these slots and those opened by expanding science and technology courses will not be easy, but here are some possibilities.

First, enhance the incentives by offering research grants, lowering teaching loads, and increasing

benefits. That can help in retaining faculty. It can also attract nationals teaching or working at research institutes outside Africa. South Korea and Taiwan (China) did this to attract top scientific talent in the diaspora (box 4.1).

National universities should seek partnerships with world-class universities to accept students and to send visiting professors

Second, ramp up graduate training in STEM, both at national universities and through indemnified scholarships at foreign universities. National universities should also seek partnerships with world-class universities to accept students and to send visiting professors, as Rwanda has done with Carnegie Mellon in Pittsburgh (box 4.2).

Third, encourage donors to fund training for university lecturers and, as a short-term measure, pay for visiting (and retired) professors and researchers from donor countries to teach at African universities.

Fourth, cooperate with neighbors to capture economies of scale in facilities and in lecturers and researchers. The Nelson Mandela Institute of Science and Technology, with campuses in Abuja and Arusha, and the International Institute for Water and Environmental Engineering in Ouagadougou are good examples to replicate (box 4.3). So is Rwanda's ICT University, open to students from other African countries.

Move outside traditional systems

The number of youths who have graduated from secondary and higher institutions but are unemployed is large and growing. This problem could be turned into an advantage.

Countries should consider a skills development program outside the traditional institutions to provide specific job-oriented short-term training for high school and university graduates who are either unemployed or working in jobs that do not use their education. Right from the start, such a program should be organized with business. This type of training initially cannot take place in traditional universities and other mainstream education institutions given their academic cultures and set curricula that make them less able to engage with businesses and adapt flexibly to meet their needs. This need not necessarily mean establishing new institutes. Existing institutes could be taken outside the regular academic system, given a mission-oriented mandate and governance structure, and run jointly by the government and business.

Four possible areas: construction, export-oriented manufacturing, mining, and agribusiness.

Skills for construction. When its transformation strategy called for it, Korea created specialized training institutes to quickly develop a cadre of skilled construction workers. The country built the Seoul-Busan expressway (the World Bank doubted the feasibility) with

Box 4.1 Reverse the brain drain with a brain gain

The Korean government set up the Korean Institute of Science and Technology (KIST) in 1966 to spearhead and coordinate the technical drive for industrialization. KIST contacted 800 Korean scientists living abroad, selected 69 candidates specializing in the research areas it needed, and after personal interviews hired 18. It recruited 68 more in 1975. Incentives included salaries as much as three times those of national university professors.

Although the huge incentives and differential between KIST scientists and those in national universities no longer prevail, the initial efforts to attract world-class researchers have paid off. KIST now is the hub of a network for scientific research with 5,000 scientists, 40% in Korean universities, 40% in industry, and 20% in other research institutes.

KIST's leadership underpinned Korea's industrial drive in steel, automobiles, ships, petrochemicals, semiconductors, and telecommunications. With a branch in Saarburcken, Germany, KIST is now world renowned, owning high-tech patents and attracting top researchers and students from around the world, including Sub-Saharan Africa.

On a similar path Taiwan (China) created the Industrial Technology Research Institute (ITRI) in 1970 and the Hsinchu science-based industrial park in 1980. To attract Taiwanese scientists and engineers from abroad, it offered high-quality residential and recreational facilities and a bilingual high school for their children.

By the mid 1980s Taiwan Semiconductor, founded by ITRI, had 800 engineers, 100 with degrees from U.S. universities and another 10 with work experience of more than a decade in the United States.

Source: Hsueh, Hsu, and Perkins 2002.

Box 4.2 Developing information and communication technology skills

Rwanda is trying to become a leading information and communication technology hub and knowledge economy in East Africa. To do this it has to train a mass of information and communication technology professionals, so the country has partnered with Carnegie Mellon University, one of the world's leading engineering universities.

Carnegie Mellon Rwanda opened for classes in fall 2012 with six faculty and 40 students pursuing a master of science degree in information technology. It expects 150 students by 2017.

Open to students worldwide, the program caters mainly to East Africans, with government scholarship covering 50% of costs for Rwandan students, who can also get loans for their other costs.

The university also offers four-day courses for executives and mid-level professionals to strengthen leadership and innovation skills. It plans a master of science degree in electrical and computer engineering for fall 2014.

Source: www.cmu.edu/rwanda.

Governments need to enter serious discussions with donors and development banks about local hiring preferences in construction tenders

Box 4.3 Creating regional centers of excellence in science

The African University of Science and Technology (AUST) was set up in Abuja in 2007 to become a regional center of excellence, as was the the African Institute of Science and Technology in Arusha in 2009, with the support of governments and the World Bank. Both offer masters and doctoral programs, accepting students from all African countries. AUST issued 64 master's degrees and one doctoral degree in 2013. In 2011 a student from AUST won the Bernard Ziegler Award for work on discrete event systems, modeling language and graphical simulation, with a professor from Blaise Pascal University in Clermont-Ferrand, France.

The International Institute for Water and Environmental Engineering was set up in Ouagadougou in 2006 to train professionals for 14 West and Central African countries. It has since trained 5,000 and now has 2,000 students on campus (from 27 countries) and 1,500 distance learners (from 43 countries worldwide). Some 90% of the institutes graduates find work within six months of graduating.

In 2012 two students won an entrepreneurship award at the Global Social Venture Competition (University of California, Berkeley) for coming up with a highly nutritious powder to fight malnutrition, called FasoProt. And in 2013 two others won the grand prize at the same competition, the first by non-Americans, for inventing a soap to fight malaria, FasoSoap.

Source: www.nm-aist.ac.tz, www.aust-abuja.org, and www.2ie-edu.org.

local expertise and finished the 429 kilometer project in 29 months—ahead of schedule. In the 1970s, when the economy went into recession, following the first oil shock, it deployed its skilled construction workers to the Middle East, earning valuable foreign exchange.[22]

Now consider roads in Africa. Many governments have looked to foreign donors and financing entities to support road construction, thinking only of the product—a road—and not of who is building it and how. But foreign contractors typically bring their own technical staff and skilled workers. Through the rest of this decade billions of dollars will be poured into Africa's transport network under the Programme for Infrastructure Development in Africa, requiring many thousands of workers. Billions more will go into national highways and feeder roads.

Rather than just thinking of getting foreigners to finance and build roads (and major buildings) for them, governments should think about developing construction capabilities and skilled construction workers, which foreign finance would help put to work. For that to happen, governments need to enter serious discussions with donors and development banks about local hiring preferences in construction tenders.

Malaysia and Singapore ignited exports by developing skills outside the education system to attract foreign investors

Skills for export-oriented manufacturing. Ireland, Malaysia, and Singapore ignited exports by developing skills outside the education system to attract foreign investors. True, they provided fiscal and trade incentives and the conveniences of special economic zones and industrial parks, but the availability of skilled labor was a key part of their value proposition (box 4.4).

In 1969 Ireland began setting up regional technical colleges, later renamed Institutes of Technology, outside the traditional system of higher education. Eventually there were 13 in major cities and towns providing mid-level technical education in science, engineering, business, and art and design to staff the export-oriented growth poles. Staffing the institutes were young and creative people with foreign experience. Importantly, they were not steeped in the culture prevailing in existing institutions of higher learning—and they had considerable freedom to innovate.[23]

Inspired by this example, the national institutes of higher learning in Dublin and Limerick also organized along these lines and worked with business to introduce incubators on campus. Later, other established universities followed suit and began to undertake applied research. To market Ireland's skills base as a competitive advantage, the presidents of these institutions, along with faculty, joined tours organized by the Ireland Development Authority (the investment promotion agency) to attract foreign direct investors.

Singapore's Economic Development Board established training centers in collaboration with foreign companies and foreign governments. Several training centers were established to develop skills required by the companies that the board had attracted or was trying to attract to Singapore. Although the Ministry of Education was involved, these training centers were outside the regular education system and under the board, which was coordinating Singapore's economic transformation drive and its efforts to attract foreign direct investment.[24] A hallmark of these training centers was the involvement of the private sector and their flexibility to respond to market needs. Later, they were amalgamated to form Singapore's polytechnic system, which has retained these attributes.

African countries can emulate these models. Indeed, Kenya, Nigeria, and South Africa are going outside their traditional education systems in partnerships with Samsung (box 4.5). Another good recent example in Africa is training in shoemaking (box 4.6).

Skills for mining. Many African countries are exporting oil, gas, and minerals, but the resources have been developed mainly as enclave projects with few links with the economy and few jobs for nationals. With resource-based industrialization as one of the more promising transformation options, governments need to promote links between extraction and the economy. How?

Box 4.4 Malaysia's three-part harmony: official, private, academic

To ignite Malaysia's economic transformation, the government, firms, and academia set up the Penang Skills Development Center to provide job-oriented training outside the regular education system. The state's chief minister brought in the chief executive officers of Hewlett-Packard, Intel, and Motorola to form a steering committee that asked their training and human resource managers to develop a concept paper for the center, which opened in 1989, with 24 companies as founding members.

Based in Penang, home to many foreign-owned operations, the center now has more than 170 business partners—constituting a global who's who of major multinationals—that supply ideas, content, equipment, trainees, and leadership. About 75 companies offer attachment programs in precision machining technology, diplomas in engineering, and industrial skills training for recent graduates.

The first industry-led skills center in Malaysia, it set the mold for the country's other states, many of which now have similar programs. Its certificate and diploma courses train shop-floor workers as engineers and technicians. It also prepares trainees for entry to undergraduate and graduate programs at four Malaysian and eight foreign universities.

The center produces an industrial talent requirement study that assesses the capacity and proficiency of Penang's workforce and estimates future manpower requirements of the state's manufacturing companies, identifying gaps in proficiency and mismatches in skills.

Source: www.psdc.org.my.

Box 4.5 Samsung's electrical engineering academies

In Kenya, Nigeria, and South Africa, Samsung is providing hands-on skills training for students in grades 10–12 in line with government drives to create well paying jobs. With plans to expand to more African countries, the goal is to develop 10,000 electronics engineers by 2015.

The academy in Lagos is at the Agidingbi technical college. During the opening in August 2012, Lagos State Governor Babatunde Raji Fashola said, "There is no doubt that a sound knowledge of modern technology is the most important resource for entrepreneurship and wealth creation for technicians."

Students who complete the yearlong program in basic, intermediate, and advanced electrical engineering are eligible for internships with Samsung or its distributors. Outstanding performers have a shot at 100 slots for annual learnerships in Seoul, part of Samsung's program for young leaders.

Samsung is also working with universities in Cape Town and Nairobi to enable students to develop applications as part of their informatics and computer science courses—applications directly relevant to Africa.

Upstream, Samsung is investing in solar-powered internet schools to provide rich learning environments for K–12 students, with electronic white boards, printers, and notebook computers for Internet access and videoconferencing. The goal: 2.5 million learners by 2015.

Source: www.samsung.com/Africa_en.

Box 4.6 Training shoemakers and managers

In January 2012 China's Huijan Group opened a shoe factory outside Addis Ababa, Ethiopia's capital, hiring 550 Ethiopians. After two weeks of training, the Ethiopian workers had achieved 80% of the productivity of their Chinese counterparts. Within six months, the number of local jobs had almost doubled to 1,000. Today, the factory employs about 2,500 Ethiopians.

To ensure a skilled workforce, Huijan partnered with the government's Leather Institute to develop a three-month training program for shoemaking. On completion, participants earn a certificate and are equipped with employable skills. One employee noted that Huijan was not only building skills but was also imparting the Chinese work ethic and brand of discipline to its employees.

Helen Hai, Huijan's Vice President and General Manager for overseas investment, notes, "Localization is so important. I don't see myself managing this factory in five to eight years' time. I see someone local standing here."

As part of that vision, Huijan now employs 130 Chinese workers in supervisory roles, 70 fewer than when the factory began production. To further replace expatriate labor with local hires in management positions, the company has selected 130 Ethiopian university graduates to spend a year in its training facility in China, with 270 more to be recruited later. The intention is to groom the recruits to fill those management positions.

Source: ACET research.

With resource-based industrialization as one of the more promising transformation options, governments need to promote links between extraction and the economy

By targeting skills development. Governments should partner with extractive firms to support efforts to produce skills relevant for extractives and related activities. The government of Botswana did just this in partnering with Debswana, the diamond miner (box 4.7).

Companies could also help strengthen engineering and other science departments in existing universities and in technical and vocational institutes. The Jubilee Technical Training Centre, recently set up at the Takoradi Polytechnic in Ghana by the Jubilee Partners, an oil drilling and production company, will offer courses in instrumentation, occupational health and safety, and mechanical, electrical, and process engineering.[25]

Skills for agribusiness. Few African countries have institutes dedicated

Box 4.7 Government and business building skills in Botswana

Debswana Diamond Company, the world's leading producer of gem diamonds, is owned in equal shares by the government of Botswana and the South African company De Beers. Early on it built and ran primary schools at its Orapa and Jwaneng mines, targeting employee children but also benefiting those from the communities. Later it set up junior secondary schools in the two towns, working with the government. And through its Government Schools Development Program, launched in 2002, it promotes the quality of teaching in English, science, and mathematics.

For some fields, such as rigging and refrigeration mechanics, company trainees receive theoretical training at government-run centers and practical training at Debswana centers. Debswana set academic and technical standards for technical and vocational training before Botswana had an accreditation system—standards that later informed government standards, such as the national craft certificate, which Debswana then adopted.

Another collaborative effort is the Botswana Accountancy College, to provide qualified accountants for both Debswana and the ministry of finance and development planning, which joined in the venture along with the Botswana Institute of Accountants. Enrollments grew from 349 in 1996 to 2,355 in 2007, by which time the college was financially self-sufficient and the partners ended their support.

Then there is PEO Venture Capital Limited—to teach entrepreneurial skills and provide scholarships in mining and other fields in secondary and higher institutions. In one year the scholarships supported 232 students in Australia, 83 in Botswana, 58 in the United Kingdom, 30 in South Africa, and 1 each in Canada and the United States.

Source: ACET research.

Countries should provide literacy training for adults and opportunities for those in informal work to enhance their skills and earnings

to training young graduates so that they can go into agroprocessing or agribusiness—or into work solving the technical problems of these sectors. Exceptions include floriculture and horticulture in Ethiopia and wine in South Africa.

Governments should consider an institute to develop skills, amass knowledge, and solve problems for a small number of agricultural products in their comparative advantage. The institute should partner with private producers, working with them to solve their problems and prepare graduates for careers in the sector.

Models for doing this abound. U.S. land grant and state universities, such as Cornell, Texas A&M, and the University of California at Davis (UC Davis), deliver skills and solutions to support agriculture and related industries. Finland and Sweden have universities and technical institutes for forest products. Chile trains forestry engineers and had an agreement with UC Davis to train agronomists and agricultural economists. Malaysia has the Palm Oil Research Institute, the Agricultural Research and Development Institute, and university courses for product diversification and new product development.[26] The success of Ghana's cocoa industry owes a lot to the Cocoa Research Institute, which researches cocoa diseases and develops hybrids of seedings to improve both yield and quality of Ghana's cocoa—the standard for bean quality on the world market.

What about informal work?

Engineering an economic transformation is impossible if many workers cannot read or are locked in low-return activities. By 2015 Sub-Saharan Africa will have 176 million people ages 15 and older who are illiterate, 44 million of them ages 15–24 and set to be in the labor force for decades.[27] Added to this are many literate people working in activities with low earnings.

Because it will take time for the formal economy to absorb the bulk of the labor force, countries should provide literacy training for adults and opportunities for those in informal work to enhance their skills and earnings—in three ways.

- Adult literacy programs can be run at low cost in school classrooms and other community facilities after hours and during weekends. Again, unemployed secondary and university graduates could be recruited and trained as teachers, and those already working could volunteer. Grants to civil society organizations could attract them as well. Coming out of war in 1975, Vietnam set the goal of universal literacy in the South, and thanks to communities working with government, 1.3 million of the

1.4 million targeted were literate by 1978.[28]

- Second-chance programs, some run by private providers and subsidized by the state, can encourage young school dropouts to go back to school or get instruction that enables them to obtain primary and secondary diploma equivalents. Simplified curricula, especially for English, allow students to progress quickly and get back into the formal system.
- Apprenticeships dominate in providing trade skills in Sub-Saharan Africa, with easy entry and often in mother tongues.[29] But most are detached from the formal economy and technological advances. To remedy this, technical and vocational institutes could update the skills of educated master craftsmen for free or at subsidized rates. They could also provide incentives to their own graduates who are operating as independent technicians running repair and installation shops to take on and train apprentices. And they could enroll apprentices in complementary (such as weekend) training and expose them to modern industrial equipment. Burkina Faso, Ghana, and Senegal are moving in these directions.[30]

In addition, competency-based tests that enable apprentices and craftsmen in the informal economy to formally certify their skills would set standards and lift the quality of craftsmanship, as they have done in Mauritius and Kenya (box 4.8).[31] It is also important for public safety.

Upskilling workers through lifelong learning

Also important is upgrading the skills of people already on the job, not once but all through their working lives. A national qualifications framework can support competency-based skills training, and technical and vocational institutes, especially those outside the regular education system, can offer such training outside work hours. Companies and unions can pay into a skills development fund, open to employers or directly to workers, to finance the cost of training.

Also important is upgrading the skills of people already on the job, not once but all through their working lives

The organization of training, the split of training between in-house and outside, and the nature of funding and terms of access will naturally differ by country. But such programs for upskilling and lifelong learning have driven the transformations in Finland, Ireland, Singapore, South Korea, and many other countries.[32]

Coordinate skill building, don't fragment it

A country needs to establish a system for building technical skills

Box 4.8 Training entrepreneurs for Kenya's informal sector

The Kenyan government and the country's leading private sector alliance, KEPSA, have forged a promising new partnership to train unemployed youth to start their own businesses—or to work for entrepreneurs already in business. It is known as the Kenya Youth Empowerment Project, and the results so far, based on a three-year pilot project with nearly 9,000 of the country's estimated 5 million unemployed youth, suggest a promising model.

The $18 million training program seems simple on the surface. Program participants—who must be between the ages of 15 and 29, have the equivalent of a high school degree or above, and be unemployed for the previous 12 months to qualify—are put through an intensive six-month immersion that not only teaches them core business skills but also enhances their self-esteem. Next they receive several weeks of intensive training in sector-specific business and career development skills, as well as financial management training for entrepreneurship. Then they are assigned a business mentor, who helps them get their fledgling enterprise up and running and guides and supports them as they grow.

More than 6,000 interns—about 70% of total program participants—are now working in the country's informal sector, and some 2,250 graduated in 2013 alone. Ehud Gachugu, who directs KEPSA, is drawing up plans to expand the current program beyond the three training centers operating in Nairobi, Mombasa, and Kisumu. "The informal sector is a growing part of the economies throughout Africa, and this is not going to change any time soon," Gachugu notes. "Urgent attention must be given to create a conducive business environment for sustained growth here in Kenya and elsewhere—and getting youth working again is the key." Thousands more Kenyan youth could be accommodated with additional funding.

Source: Personal communication with Ehud Gachugu; Njoroge 2010.

Box 4.9 Putting skills at the core of Ethiopia's growth and transformation

To implement Ethiopia's five-year Growth and Transformation Plan for 2011–15 (see chapter 1), Mekonnen Manyazewal, former minister of industry and now commissioner of the new national planning commission, says, "We must provide a learning base for entrepreneurs to grow. Ethiopia's education sector must be restructured toward science and technology, with a target of 70% of students enrolling in science and technology programs, 40% of them in engineering."

The plan's strategic directions for education and training focus on preparing a workforce that industry demands. Some of the highlights resonate with many of the ideas in this chapter.

For general education:

- Expand early childhood education.
- Supervise quality, support materials development, and provide curriculum standards.
- Improve the quality and efficiency of education at all levels.
- Expand functional adult literacy to all regions.

For TVET:

- Develop occupational standards, accredit competencies, assess, and accredit occupations.
- Assess whether trainees fit the profile and demands of their chosen career.
- Ensure that training is in line with the demands of the economy.
- Facilitate transfers of technology and knowledge.

For higher education:

- Ensure quality and relevance.
- Increase graduate and post-graduate enrollments in line with the 70/30 targets for science and technology.
- Improve the performance of science and technology institutes and university department to support transfers of technology and technical skills.

Source: Ethiopia Ministry of Finance and Education 2010.

A country needs to establish a system for building technical skills that is aligned with its ambitious transformation objectives and that motivates individuals to respond

that is aligned with its ambitious transformation objectives and that motivates individuals to respond. And that system has to go beyond the ministries with portfolios for education and training. It has to involve the many economic ministries and agencies in government. It also has to involve firms large and small, formal and informal. This requires good coordination—within government and between government and business.

The coordinating economic bodies in Singapore (Economic Development Board), South Korea (Economic Planning Board), and Taiwan (China; Council for Economic Planning and Development) had overriding power over other institutions responsible for skills development. That allowed them to monitor the supply and demand for skills in the industries they were trying to develop and to adjust to market developments.

In the 1990s Finland responded to the loss of the Soviet market, a financial crisis, and impending accession to the European Union by formulating a new national competitiveness strategy that would help it diversify away from forest products and other traditional industries and move toward private innovation in knowledge and information industries, particularly telecommunications. The government also ramped up its support for research and development and built new partnerships with industry and academia, with profound impacts on secondary and even primary education.[33]

In short, these countries put skill building at the core of their transformation agendas. Sub-Saharan countries need to do the same if they are to ignite and sustain their economic transformations. Ethiopia and Rwanda are doing just that, putting their efforts and their resources into raising education performance (box 4.9). They have also identified the strategic economic areas where they have potential comparative advantages, and they are rapidly building the skills critical to turning that potential into real competitive market advantages.

Notes

1. In 2010 the region had 10.3% of the world's working-age population (those ages 15–64). By 2050 its share is estimated to double to 20.8%. From 465.8 million in 2010, the region's working-age population is estimated to rise to 1.22 billion by 2050, surpassing India (1.14 billion) and China (0.79 billion). The share of youth (ages 15–24) in the working population in 2050 is estimated to be 18.5% in Sub-Saharan Africa, compared with the world average of 13.5% (UNDESA 2011).

2. Current SACMEQ member countries are Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zanzibar, and Zimbabwe.
3. CONFEMEN stands for Conférence des Ministres de l'Education Nationale des pays ayant le français en partage (Conference of National Education Ministers in French-speaking World). PASEC was created in 1960. Current member countries in Africa are Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Democratic Republic of Congo, Côte d'Ivoire, Djibouti, Egypt, Guinea, Guinea-Bissau, Madagascar, Mali, Mauritania, Mauritius, Morocco, Niger, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Togo, and Tunisia.
4. Minimum learning in mathematics is defined as level 1 for PASEC and level 3 for SACMEQ.
5. TIMSS also tests at the grade 4 level, but no Sub-Saharan country participates. For Botswana and South Africa the grade 8 tests are taken by their grade 9 students. For Ghana the grade 8 tests are taken by grade 8 students.
6. Using data from Singapore Ministry of Education (2012).
7. Lee 2007; Ashton 2012.
8. World Bank 2009.
9. Majgaard and Mingat (2012)—reported in Ansu and Tan (2012).
10. www.gateway4youthgh.org/, accessed November 30, 2012.
11. www.ezega.com, accessed November 30, 2012.
12. Authors' calculation using data from UNESCO (2012).
13. Mulkeen 2010.
14. SACMEQ 2011.
15. Theunynck 2009.
16. Law forthcoming.
17. Ashton 2012.
18. Singapore continues with the policy. South Korea widened the "gate" starting in the mid-1990s leading to higher enrollments at the tertiary level for both technical and academic disciplines, but also increasing the unemployment rate of tertiary education graduates (Ashton 2012).
19. OECD 2011.
20. World Bank 2009 (p. 75 and also table 3.2).
21. World Bank 2009.
22. Lim 2011.
23. O'Hare 2008.
24. The Economic Development Board was set up under the Ministry of Finance and later placed under the Ministry of Trade and Industry.
25. *Daily Graphic* 2013. The Jubilee Partners comprise the following oil companies operating in Ghana: Tullow Oil, Ghana; Kosmos Energy, Ghana; Anadarko WCTP, Ghana; Ghana National Petroleum Corporation (GNPC); and Sabre Oil and Holdings.
26. For Sweden and Finland see Blomstrom and Kokko (2007). For Chile see Maloney (2007). For Malaysia see Rasiah (2006).
27. Fredriksen and Kagia 2013.
28. Kinh and Chi 2008.
29. World Bank 2012.
30. Afeti and Adubra 2012.
31. Afeti and Adubra 2012.
32. Ashton 2012.
33. OECD 2011.

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Textile factory, South Africa

CHAPTER 5

Leveraging abundant labor for manufacturing

Manufacturing has decided pluses. It can deliver increasing returns to scale and has great opportunities for technological learning. It gives agriculture a boost by creating demand for its products and by absorbing its labor. And it spawns an array of services from market research and design to shipping and payments. But manufacturing is yet to take off in Sub-Saharan Africa. Not only is the share of manufacturing in GDP low across the region, the shares in several countries have been falling.

A rising manufacturing capability propelled all previous economic transformations in their early stages. It diversified the production and export base and thus increased employment and export earnings. It reduced economic volatility from weather and the swings in international commodity prices. It also widened the scope for learning about and upgrading technology and thus for raising productivity.

This chapter shows how Sub-Saharan countries can leverage their abundant labor and low wages to enter the competitive production and export of manufactured goods. But since every country desires to raise the incomes of its workers, a low wage is not something a country should preserve as its long-term competitive advantage. Leveraging low wages should be seen as an interim strategy to make the most of the current situation while efforts are under way to change the underlying domestic supply conditions. The aim should be to reduce other domestic costs and raise productivity and technological capabilities over time so that real wages can rise while preserving global competitiveness. That is the way to transition from the poverty of low wages to the prosperity of high incomes.

The first section on garments starts with the key factors driving the global export markets in garments. The second provides short case studies of garments production and exports in six of the most important Sub-Saharan countries in the industry—Mauritius, Madagascar, Lesotho, Kenya, Ghana, and Senegal in that order. It brings out the domestic supply and policy constraints covered in the previous chapter on exports. The third section explores assembling and exporting consumer electronics and home appliances. Because the prospects depend on the ability of countries to attract foreign direct investment (FDI) by the multinational companies that control most global production and exports, the section centers on attracting manufacturing FDI and features the results of interviews with top executives of such companies.

Garment manufacturing in the global economy

Given the labor intensity of garment production, Africa has an opportunity to leverage its labor cost advantage for higher exports and employment

Textile and garment manufacturing has been among the first rungs that countries climbed on their way up the manufacturing ladder. Both were labor intensive. The capital requirements were generally modest. The technology and skills requirements were fairly simple. And there was local demand for the products. Today, textile manufacturing has become more capital and technology intensive, particularly textiles from synthetic materials. But garment manufacturing remains fairly simple and labor intensive. But to sustain a viable garment manufacturing industry today, small and medium-size countries (including all Sub-Saharan countries) have to export, and competition on the global market is fierce due to easy entry. (This section uses garments, apparel, and clothing interchangeably.)

Global exports of clothing, $422 billion in 2012, have been growing at 6.7% a year since 2005, in the post–Multi Fibre Arrangement (MFA) era.[1] Between 2008 and 2012, despite the global recession, garment exports grew on average by 4.2% a year. Average annual growth since 1995—when the transition from the MFA to the World Trade Organization (WTO) in textiles and clothing began—has been 6.5%. Most of the growth has been outside Africa, predominantly in Asia, particularly China. China's world market share of 38% in 2012 was almost twice the combined share of the next five developing countries—Hong Kong SAR (China), Bangladesh, Turkey, Vietnam, and India, in that order—at 20% (figure 5.1). In contrast, the growth of clothing exports from Sub-Saharan countries has been erratic, with truly minuscule world market shares, even as low as 0.0001% in Senegal.

Three challenges in the global garment industry

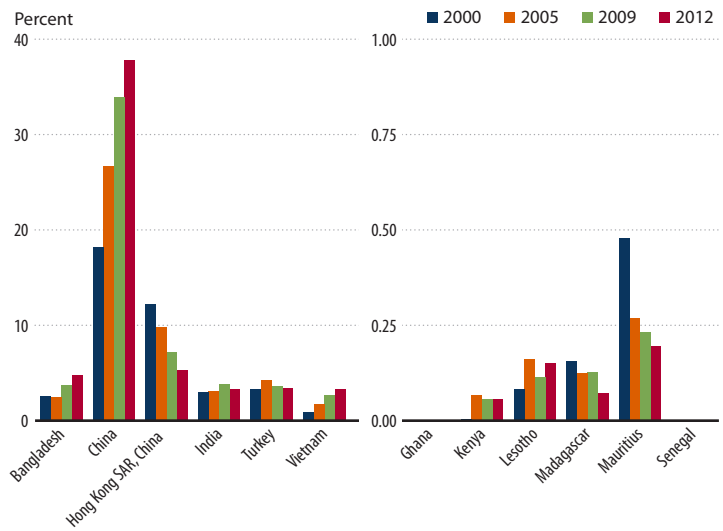
Given the labor intensity of garment production, Africa has an opportunity to leverage its labor cost advantage for higher exports and employment if it can overcome its domestic supply constraints and the three major challenges in the global garment market.

- One is dealing with the WTO and other international trade regimes—such as the African Growth and Opportunity Act (AGOA) and Everything But Arms (EBA)—that now shape global competition and market access.
- Second is the emergence of China (with its huge labor force, scale economies, deep domestic supply chains, and good logistics) on the world textile and garment market (since the end of the MFA in 2004), making competition based on low wages more difficult.
- Third is competing with or entering the global value chains that now dominate global exports of garments and have huge impacts on the viability of garment manufacturing in low-wage countries.

International trade regimes. Given the labor intensity of garment manufacturing, abundant labor at low wages can be a great advantage on the global market. From 1974 to 1994 the MFA muted this advantage for some labor-abundant countries. It allowed Europe and the United States to impose country-specific quotas on access to their textile and clothing markets—an attempt to protect their domestic producers. The practice restricted textile and clothing market access for large labor-surplus and low-wage countries, particularly China. And it prompted textile and clothing manufacturers in competitive countries such as Hong Kong SAR (China), South Korea, and Taiwan (China), which soon exceeded their quota limits, to move production to other low-wage developing countries.

The quotas hastened the entry of many developing countries into garments exports, including some that would not otherwise have been competitive. So, manufacturers in developed countries did not quite

Figure 5.1 Country shares in world garment exports



Source: Calculated using data from the WTO, accessed September 2, 2013.

receive the protection envisaged. Many responded by locating some of their operations in developing countries or sourcing from the Asian producers, which in turn also sourced part of their orders from their plants or independent suppliers in other developing countries.

The MFA quota system began to be phased out in 1995, and it was replaced in 2005 by the WTO system. This gave China and other competitive countries greater access to the international garments market, putting severe pressure on developing countries (including those in Sub-Saharan Africa) whose garments exports had depended mainly on the protection afforded them by the MFA quotas.

China's entry. China—with its low-wage advantage complemented by higher productivity, scale economies, deep supply chains, and good logistics—quickly shot up to become the world's leading textile and clothing exporter. Sub-Saharan countries obtained preferential access to the U.S. market under AGOA, introduced in 2000, and many continued to have preferential access to the EU market under the EBA agreement. But they have found it difficult to remain competitive. Several found their clothing exports and even domestic sales displaced by cheaper supplies from China and other more competitive countries.

Global value chains. Most global exports of garments are now controlled by global value chains. At the head of the chains are the buyers—large retailers, marketers, and branded manufacturers. Mostly in Europe and the United States, they focus on design and marketing. Retailers and marketers such as Wal-Mart, the Gap, and Liz Claiborne contract out their designs and requirements to suppliers in low-wage countries, mostly in Asia.[2] Some of these suppliers (such as those in Hong Kong SAR [China]) have factories in several low-wage countries and coordinate the sourcing of inputs, the production of the garments, and the exports to buyers. Others (such as Li & Fung Ltd.) no longer produce, focusing instead on sourcing from and coordinating a wide network of factories owned by others. Under this triangle manufacturing the retailers and marketers at the top of the garment global value chains have no direct relationship with producers.[3] These buyers now look for full-package suppliers who can deliver orders based on their designs or specifications. Brand manufacturers (such as Levi Strauss) still have direct relationships with factories in low-wage countries, either through factories they own or through production-sharing arrangements with factories owned by others.

Most Sub-Saharan garment manufacturers cannot now provide the full-package services that retailers at the top of the garment global value chains look for. Capabilities in most African countries are generally in the cut, make, and trim stage—and in niche African designs. So entering the garment global value chains for large-scale exports would have to be through production sharing with a brand manufacturer or through working with a larger supplier in triangle manufacturing.

The requirements for exporting through global value chains have been getting tougher. Retailers, under the lean retailing model, now prefer to keep inventories low and replenish them at short notice. This puts a premium on suppliers that can deliver orders quickly and meet price and quality requirements. Buyers have several suppliers to choose from, which in turn can source from many manufacturers. So producers in the chain that are not able to meet the price, quality, and timeliness requirements are quickly dropped (box 5.1).

Any particular manufacturer's ability to respond quickly depends on more than its own capabilities alone. It also depends on the general supply conditions in its home country, including trade policies and port logistics—to receive imported inputs and export promptly. It also depends on good infrastructure—reliable power and water supplies—to ensure continuous operations. And it depends on the availability of quality inputs (domestically produced or imported) at competitive prices. That makes an efficient duty-drawback system for imported inputs critical.

Sub-Saharan experiences in garments

The foregoing considerations reinforce the discussions in chapters 2 and 3 on the policy, institutional, and public investment requirements for economic transformation and export promotion. Provided here are summaries of the experiences of six Sub-Saharan countries with garment production and exports and how domestic supply conditions have interacted with the global market challenges to determine each country's performance. The countries are Mauritius, Madagascar, Lesotho, Kenya, Ghana, and Senegal. The discussion of Mauritius is more extensive, since it is the only Sub-Saharan country to have been very successful in producing and exporting garments.

- Mauritius achieved spectacular success in garment exporting from the early 1970s to the end of the century, riding the industry into job growth, rising incomes, and progress in transforming its economy.
- After initial promise in the early 2000s, Madagascar's growing garment exports were stalled by a political crisis that emerged in 2009 and broke its access to its main market, the United States.

Mauritius achieved spectacular success in garment exporting from the early 1970s to the end of the century, riding the industry into job growth, rising incomes, and progress in transforming its economy

Box 5.1 What executives say about the global value chain for garments

To find out more about Sub-Saharan Africa's prospects in the global value chain for garments, ACET surveyed senior executives from eight companies in the industry and conducted more extensive interviews with three of the companies.

Of the three, one is a very large U.S. retail chain that sources its own brand garments from suppliers in several countries. The vendors are outside Africa, but some have factories in Sub-Saharan Africa. Two other companies are brand manufacturers that have manufacturing plants in several countries. Both had plants in Sub-Saharan Africa at one time but have since pulled out.

The retail company's project design and development group decides on the apparel (and accessories) product, including design, sizing, and colors. It then decides which of its approved vendors to place orders with. Vendors are in charge of production decisions, and the product may be manufactured in several vendor or vendor-affiliated factories in different countries. The retailer inspects the factories periodically for quality and social compliance.

The main criterion for vendor selection is execution, including time to market. As the executive noted, "A vendor needs to be late in delivery only once to be dropped from the list."

The vendors are mainly in the United States (with overseas representatives), South Korea, Hong Kong SAR (China), Shanghai, and Taiwan (China). The factories are mainly in China (a majority of factories), South Korea, South-East Asia, the Indian subcontinent, Egypt, Turkey, and Central America.

To take advantage of quotas during the MFA period, the retailer sourced from Sub-Saharan Africa through vendors in Hong Kong SAR (China) that had factories in Kenya, Lesotho, and Namibia. But when the MFA came to an end, the African countries became uncompetitive.

The main reason for dropping them was their difficulty in meeting the time-to-market requirement. Usually, the agreed date is around 90 days. Within that time, fabric must be sourced and garments made, packaged, transported, cleared through customs, distributed to the stores, and put on store shelves.

Sub-Saharan countries have had difficulty meeting the timeliness requirement—for four reasons. The majority of fabric and other inputs (zippers and buttons) were imported from China, adding to long lead times. If there were last minute changes in design by the retailer after the fabric was shipped, it was difficult to change production. Difficulties in the domestic environment added to production times. And shipping times were long because of poor logistics. The other companies surveyed also identified the same main obstacles to their sourcing from Sub-Saharan Africa.

Separately, one of the other executives surveyed indicated the need to air-freight garments from Sub-Saharan Africa in order to meet deadlines, adding considerably to production costs.

The retailer experience is mirrored by that of the brand manufacturers. One, a pioneer in "fast fashion" clothing (inexpensive, designer-mirrored, and ready-to-wear), set up operations in Sub-Saharan Africa before AGOA was launched in 2000 and advocated strongly for that program. But its operation failed, mainly because of political instability and political interference that made it difficult to meet cost and timeliness targets. The company is now looking to set up production in India, saying that Sub-Saharan Africa is "no longer on the radar screen." The other manufacturer cites difficulties with the "low productivity of the unskilled workforce." Its operation failed, but it is considering setting up again on a "very small" scale, mainly for reasons of corporate and social responsibility.

Source: ACET interviews with senior executives of multinational garment companies.

Lesotho's garment exports, after a promising start, have been facing serious challenges since the expiration of the Multi Fibre Arrangement

- Lesotho's garment exports, after a promising start, have been facing serious challenges since the expiration of the MFA and the opening of the global garment market to large labor-surplus countries like China. Preferential access to the U.S. market under AGOA has not been enough for it to overcome all of its competitive disadvantages relative to China and other growing exporters.
- The garment industries in Kenya, Ghana, and Senegal have traditionally been oriented to

the domestic market, started and sheltered under import-substitution regimes. With trade liberalizations in the mid-1980s and 1990s, the industries in these countries found it difficult to compete with imports. The situation is not helped by an influx of secondhand clothing that comes in under low duties and "porous" customs borders. Despite market access granted through AGOA and EBA, they have found it difficult to progress. But the potential remains for leveraging low wages and profiting from niche African designs.

Mauritius—garment-based transformation

Mauritius has one of the most developed textile and clothing industries in Sub-Saharan Africa.[4] In 2012 its textile and clothing exports of $850 million were 47% of its merchandise exports. With a workforce of 40,300 in 2012, or 7% of total employment, the sector is the largest employer in export manufacturing. At the industry's height in 1990 it employed 90,000 workers. Apparel is by far the largest subgroup, with exports of around $800 million and employment of 36,000 in 2012. It focuses on pullovers, shirts, trousers, shorts, swimwear, and lingerie, and its main markets are Europe and the United States.

At independence in 1968 the Mauritian economy was highly dependent on sugar, with 90% of exports. In 1970 it established an export processing zone (EPZ) to diversify into textile and clothing manufacturing. EPZ firms, allowed to import inputs free of tariffs, were given liberal tax exemptions and a less regulated labor environment. The EPZ also provided job options for women, who became a majority of its workers.

By 1985 apparel exports from the EPZ had overtaken sugar as the main foreign exchange earner. Starting with $0.7 million in 1971, EPZ export earnings surpassed $17.5 million in 1974, $111.9 million in 1981 and $639 million in 1991. By 2000 garments from the EPZ constituted 76% of exports, up from only 2% in 1970, upending sugar, which fell to 12%.[5]

Mauritius illustrates the points in chapters 2 and 3 about government and private sector roles in transforming economies and promoting exports. Cheap labor was enhanced by labor laws in the EPZ that minimized strikes. EPZ factories were scattered throughout the island in small or individual industrial sites, public and private. The government provided infrastructure and factory spaces as part of an incentive framework to confer some cost competitiveness to the industry. It also provided tax holidays, duty-free imports of inputs, and an exchange rate that kept exporting competitive. Substantive reforms were undertaken between 1980 and 1986 with the help of the International Monetary Fund and the World Bank as part of a stabilization and structural adjustment program aimed at accelerating export-oriented textiles and clothing.

The government also negotiated preferential trade agreements for textiles and clothing to ensure a stable market for Mauritian exports. And the Lomé Convention gave Mauritian textiles and clothing preferential access to European Community markets.

Garment exports from the EPZ really took off in 1984, thanks mainly to FDI from Hong Kong SAR (China).[6] After China announced in 1983 that it was setting in train the process to take over Hong Kong, many industrialists became very nervous and decided to relocate elsewhere. Mauritius was attractive because of the EPZ facilities, access to European markets under a preferential trade agreement, abundant cheap labor, and government support in such areas as the provision of factory premises. Investments in the EPZ were mainly by Hong Kong and Taiwanese companies. With dedicated factory sites provided by government agencies, the investments were predominantly in machinery and equipment.

The garment industries in Kenya, Ghana, and Senegal have traditionally been oriented to the domestic market, started and sheltered under import-substitution regimes

The initial success of the EPZs had spillovers on the nation's entrepreneurial spirit. Many locals set up apparel businesses, most clustered around larger firms, operating as contract manufacturers. And some exported directly.

The success of the EPZ in the 1980s was also due to government policies and institutions. Commercial banks were reluctant to lend to new EPZ firms and to smaller Mauritian entrepreneurs because of the perceived high risks in manufacturing. But the Development Bank of Mauritius, a public development finance agency, provided capital to EPZ operators. It also built several industrial estates around the island and leased sites to operators at subsidized rates.

The manufacturing activity spurred banking, transportation, and trade—and induced demand for such services as accounting, auditing, consultancies, mechanical workshops, and engineering works. Packaging and freight forwarding also developed in the textile and garment boom.

By 1988 Mauritius was at full employment for the first time in its history. Mauritian workers had more bargaining power, and their standard of living improved. And thanks to buoyant tax receipts from consumers and a more diversified business base, the government could invest massively in new roads and port facilities and in redeveloping the airport.

Information technology moved beyond the shop floor to support such operations as cost accounting, so that management could better allocate resources and discontinue loss-making lines

But beginning in the mid-1990s the export strategy came under severe stress from rising wages and the phasing out of the MFA quotas. That reduced Mauritius's competitive advantages in cheap labor and preferential access to European and U.S. markets. For many industrialists, mostly those from Hong Kong SAR (China) and Taiwan (China), the rising labor costs removed the reason to keep their operations in Mauritius. Many foreign investors left when their tax holidays lapsed.

Textiles and garments survived thanks to the resilience of Mauritian operators, who continued to develop new technologies, products, and markets. By 2000 Mauritian companies held as much as 60% of the industry ownership. Some operators also started to vertically integrate their businesses, producing textiles (spinning and weaving) as well as garments.

Computerized sewing and stitching machines, backed by rigorous quality systems like ISO 9000, became a priority for most companies. Workflows and production controls improved efficiency. Automating the pressing, folding, and packaging also raised productivity. And information technology moved beyond the shop floor to support such operations as cost accounting, so that management could better allocate resources and discontinue loss-making lines. Some Mauritian companies also expanded operations offshore to Madagascar to take advantage of lower labor costs there.

The government beefed up the resources of the Mauritius Export Development and Investment Authority, which became very aggressive in prospecting new markets and new investors for the EPZ. The Mauritius Standards Bureau and the Industrial and Vocational Training Board were very responsive to the needs of the textile and clothing sector. Even the University of Mauritius became involved in developing skills and technology for clothing. And the Technology Diffusion Scheme provided grants to firms that wanted to procure technical services to improve productivity, quality, and design and promote quality assurance standards and systems in garments.

The efforts of the government and private sector helped industry weather the storm. Although 111 factories closed between June 2005 and June 2013, costing nearly 16,000 jobs, businesses kept growing even in the face of the global recession. Mauritian textile and clothing exports grew 25% between 2005 and 2012—to reach $850 million. The industry increased its productivity and competitiveness and upgraded to higher value-added products in all product categories, as apparel makers scaled up their design capabilities.

Madagascar: paying the price of political instability

In the 1960s and 1970s textiles and clothing were a top priority for the government of Madagascar, which poured in public money and ran factories. Supported by the domestic cotton supply, the industry emerged as one of the country's fastest growing.

In the 1990s the industry suffered from declining output due to inefficiencies at the state-owned companies and to trade liberalization. The government then changed its orientation toward the private sector, establishing EPZs for manufacturing. With a business-friendly climate and low labor costs, the industry recovered, attracting FDI, including that from Mauritian firms on the lookout for offshore locations.

The sector also got a boost from AGOA. By 2009 apparel was by far the largest manufacturing activity, with exports at about $600 million, more than half to the United States. The factories operating under AGOA employed about 50,000 people and provided work to a further 100,000 indirectly. But the political instability that began in 2009 cut the industry's exports to $300 million in 2011. The United States closed its market as Madagascar was suspended from AGOA following the political upheaval.

Lesotho: dangerous overreliance on U.S. markets

The geographic closeness of Lesotho, a small landlocked country, to South Africa is one of the reasons for its garment industry taking off in the 1980s. To avoid global trade sanctions on South Africa's apartheid government and access the international market, many African and Asian investors moved their textile and clothing operations to Lesotho. Proximity to South Africa also enabled Lesotho to leverage its big neighbor's developed port and transport infrastructure to move goods in and out under more favorable conditions than other landlocked African countries could.

The clothing industry accounted for nearly 12% of Lesotho's GDP in 2012. The country's manufacturing base is by far dominated by garment-making; textile and clothing industries made up around 85% of manufacturing employment in 2012 (a bit lower than in 2007 when it constituted about 90%). Multiplier effects on other sectors of Lesotho's economy are high. A range of formal and informal activities feed into the industry: packaging, road freight transport, courier services, clearing and forwarding, security, passenger transport, traders that sell food to workers, residential accommodation, water, and utilities for electricity and telecommunications.

Lesotho's garment firms specialize in denim (mostly jeans, but some chinos and corduroys) and cotton knit fabrics (t-shirts, polo

shirts, tracksuits, and fleece), mainly through cut-make-trim assembly, selling mainly to the United States. Lesotho joined AGOA in 2000. The trade agreement attracted new industrialists, creating much-needed jobs and increasing textile and apparel exports to the United States.

The removal of the Multi Fibre Arrangement in 2005 intensified global competition and caused the industry to contract. Employment fell from 53,000 in 2004 to 40,000 in 2013. Part of the slowing exports and job losses also stemmed from the global economic crisis.

Lesotho benefits from its connection to South Africa's inland transportation systems and ultimately to its port and airport logistics. Apparel firms in the country can also count on favorable labor and import policies, as well as factory shells.

But challenges abound. The lack of skilled labor, underdeveloped infrastructure, and inadequate market information make business very costly in Lesotho. Many facilities are either deficient or simply nonexistent, and the quality of road and rail infrastructure in the country is lower than in regional competitors.

More industrial sites are needed to attract new investments and expand volumes and value. Poor utilities also prevent the industry from moving up the value ladder. Water and wastewater treatment require urgent attention. Lesotho's water is adequate but hard and inappropriate for dyeing yarns, fabrics, or garments. The ability to wash garments would allow Lesotho's manufacturers to produce clothing that international buyers demand.

Kenya: imported used clothing thwarts the garment industry

Kenyan clothing has been competing with a terrible rival: imported secondhand garments. The widespread sale of used clothing (mitumba in Swahili) threatens a struggling domestic industry. As shoppers, especially the poor, hunt for the best deals on shirts, trousers, dresses, and other clothing, Kenyan apparel manufacturers see few prospects to keep their local sales running.

The Kenyan textile and apparel industry employs fewer than 20,000 workers, down from more than 200,000 at its peak in the late 1980s. The invasion of secondhand clothes is the latest destabilizer. Used clothes emanate from charities in Europe and the United States and should in principle be donated to poor communities. But they are diverted to Kenyan businesses almost free of cost, making their way through informal distribution channels in cities and villages.

But the problem is more complicated. The used garments, which enjoy low duties as they enter Kenya, also camouflage new imported clothes, which get to the market without paying the higher duties. That makes it even more difficult for domestic producers to compete.

Kenya had nurtured its textiles industry under a very protective environment. But in the late 1980s and early 1990s the government lowered tariffs on textiles and apparel, allowing more imports. The sector could not adjust. Capacity utilization dropped below 50%, and most of the 50 textile mills operating in 1990 had closed by 2006. AGOA provided some temporary respite in 2000, but mostly in the export sector rather than for the domestic market, the backbone of the textile activity.

Mauritius had integrated its domestic-oriented and export-oriented manufacturing in a single platform. But Kenya keeps the two segments separate. Some Kenyan industrialists claim that if the EPZs could produce for the local market, they would compete with the imported secondhand clothing at the same price or even cheaper.

Potentially competitive export products for Kenya include yarn and fabric from organically grown cotton. Niche products can garner a premium price that helps compensate for higher production and transport costs. Kenya also sources a large portion of its raw materials locally. Textile and apparel inputs produced by Kenya's small but vertically integrated industry include cotton yarn and some synthetic yarn, knit cotton fabric, and woven fabric for blankets. These products are either exported directly or incorporated in products exported to the European Union and the United States. Although Kenya has developed an export-oriented apparel industry, expensive electricity and poor infrastructure hinder its growth and competitiveness.

Potentially competitive export products for Kenya include yarn and fabric from organically grown cotton

Ghana: searching for renewal

Garment manufacturers in Ghana face formidable challenges—even with AGOA. The industry has come a long way since the 1960s, when it set in train import-substitution manufacturing to diversify the country's economy away from agriculture. But unlike the Mauritian industry, large parts of apparel production in Ghana are geared toward the domestic market. So confronting imports is a marketing and business development challenge. The textile activity in Ghana goes beyond apparel and embraces bed sheets and towels, produced in limited quantities.

Early on foreign-owned firms dominated the industry. Then in the 1960s the state increased its stake. Whereas Mauritius supported the industry through policies, legislation, support institutions, and a range of facilities, Ghanaian authorities owned and operated textile

mills, in 1970 employing about 25,000 people, slightly more than a quarter of manufacturing workers.

The industry relied heavily on imported raw materials, and in 1982 a shortage of foreign exchange left factories operating at extremely low capacity. Most firms closed shop. Manufacturers were also exposed to a wave of trade liberalization under structural adjustment programs in the 1980s and 1990s.

Some rays of hope have emerged of late with opportunities under the AGOA's preferential market access to the United States

The lower trade barriers encouraged the entry of foreign garments, making local producers even more vulnerable. By the mid-1990s the industry employed only 7,000 workers, a figure that shrank to 5,000 five years later. Today it employs only around 3,000.

Some rays of hope have emerged of late with opportunities under the AGOA's preferential market access to the United States. There has also been interest in expanding to serve local demand for garments. But some problematic issues keep the apparel activity under considerable stress.

Cheap imports, including smuggled goods, particularly from China and Pakistan, have turned into a major threat, compounded by the rising imports of used clothes and the rapid spread of pirated designs and smuggled counterfeit garments.

Smuggling and counterfeiting are just part of the story. The local industry finds it difficult to compete even when imported low-cost products from Asia come in through the regular international trade channel. Its high production costs and poor fabric quality do not meet standards.

Ghana's deficiencies in trade-related infrastructure add to the already high costs of production. The country's two ports are inefficient, causing long delivery delays, sometimes several weeks, making it a costly and an unreliable source of supply. Mauritius made improving trade-related logistics a key requirement for productivity and competitiveness. Without tackling these issues, there is little chance for Ghana to enter the world apparel market. But refocusing the apparel sector on the export market could spur activity in the export chains and logistics services. New sources of raw materials at more competitive prices should be explored. But manufacturers will need to make sure that the supplies of foreign fabric comply with AGOA's rules of origin.

Regional demand is growing for African print fabrics, a niche market that Ghana is beginning to tap (box 5.2). And Ghana's industry could also tap local demand to develop the domestic market. The government can help by favoring local firms in government procurement of garments and nongarment textiles. It can also assist through training and the facilitation of technology transfers.

Senegal: tailoring to export

Close to Europe and North America, Senegal's ports and airports are well connected to shipping lines and air routes serving these markets. But many other constraints overpower the location and transport-related advantages.

Small and medium-size enterprises see poor access to bank financing as a main hurdle. Banks have stopped backing textile companies, which have a bad record of not meeting their repayment commitments. Power is unreliable and expensive, and high production costs make Senegalese garments uncompetitive in local and global markets. Locally manufactured apparel faces stiff competition from imports of secondhand clothing under widespread customs fraud. The authorities estimate that more than half the domestic demand for apparel is met by fraudulent imports.

Senegalese garments seldom match the high standard of imported garments. Manufacturers have to put up with low-quality cotton that produces substandard apparel. And trade liberalization exposes local products to foreign competition.

Despite the drawbacks Senegal has carved out a niche in the "haute couture" segment, especially in European fashion centers. It has a reputation for high-quality African design cloth and exclusive embroidery of premium clothing. Senegalese designers and fashion stylists are regular participants in major fashion events in European cities.

The fashion- and design-intensive product range reflects the country's ability to connect its high-end fashion to grassroots skills, with the apparel industry clustered around a wide network of individual tailors and firms. The National Federation of Garment Professionals counts some 100,000 members. The Center for the Promotion of Textiles helps firms meet international standards and facilitate technology transfers. And more private training institutions are offering courses that cater to manufacturers.

Senegal can leverage its strengths. Closeness to main markets remains a key asset. It is also at the door to Africa's largest cotton producing zone, so sourcing raw materials can be competitive. And as an AGOA-eligible country, a signatory to the Cotonou Agreement and the EBA, and a member of the Economic Community of West African States, Senegal does not face major tariff barriers. Senegal should thus strive to transform artisanal clothing and tailoring into a thriving business integrated with a robust high-end apparel platform.

Box 5.2 Riding African designs into niche exports

Every Friday is African Wear Day in Ghana. Workers in businesses and government offices around the country fold their conventional western attire and don their African prints. While most of the outfits are custom-made by neighborhood tailors, one ready-made label, Woodin, has recently become a mark of style.

With billboards emblazoned with confident young people, Woodin professes to be "capturing the optimism of the modern African lifestyle." Undergirding that image is a long history of traditional African designs now welded to modern Africa styling. Owned by the Vlisco Group of the Netherlands, Woodin has been producing fabrics in Ghana since 1966.

Vlisco designs, produces, and distributes African-inspired fabrics and apparel. The group comprises four brands, targeting four consumer segments. Vlisco, the luxury, high-fashion brand, produces intricate patterns and vibrant colors to appeal to the international market. Woodin offers casual ready-to-wear styles in its retail outlets, using Vlisco manufactured fabric. GTP and Uniwax are the group's two nationally oriented brands, with GTP tailored to Ghana's cultural aesthetic, and Uniwax to the Ivoirian market.

Woodin's apparel business has taken off in the last decade, thanks to popular styles, signature retail outlets, and Africa's booming middle class. Thus, new opportunities are opening for exports to the subregion and beyond. Woodin now has outlets in West and Central Africa: Benin, Democratic Republic of Congo, Côte d'Ivoire, Ghana, and Togo. It also has stores in London, New York, and Paris. And exports make up 15% of sales.

Even as Vlisco's fabric business expands beyond Ghana's borders, it faces a major threat: counterfeits from China—at a third the price of the originals. Within months of coming up with new fabric designs, counterfeits appear on the Ghanaian and West African markets. Take away the fakes, and the company estimates its sales could shoot up from 20 million yards a year to 36 million.

But as an apparel business, Woodin faces no such challenge. Moving down the textile value chain, the industry becomes less capital intensive and more labor intensive. So Woodin, operating at the tail end of the chain, plays to Africa's advantage in low-wage labor. Add to that the growing middle class, and the future inside Africa looks promising. The preferential treatment under AGOA, the Cotonou Agreement, and EBA also helps with exports to the United States and Europe.

A push to new heights will require addressing access to finance, efficient logistics, and reliable electricity.

Source: Site interview at GTP factory, and http://woodinfashion.com/About; http://www.ghanabusinessnews.com/2010/09/08/ghanas-gtp-woodin-sold-for-151m/; and http://www.ghanabusinessnews.com/2010/09/08/ghanas-gtp-woodin-sold-for-151m/#sthash.pzhA3w8O.dpuf.

As with garments, global exports in assembled products, particularly consumer electronics, are organized in global value chains

Component assembly

Component assembly was another way for poor countries to leverage their low-wage labor to industrialize in the second half of the twentieth century. Korea, Malaysia, Singapore, Taiwan (China), and now China rode the assembly of simple consumer electronics (radios, televisions, computers, computer peripherals, cellphones) and home appliances (fans, refrigerators, microwave ovens, air conditioners) to get onto the first rungs of the global manufacturing ladder.

As with garments, global exports in assembled products, particularly consumer electronics, are organized in global value chains. The lead firms in these chains are technology-intensive multinational corporations, most headquartered in Europe, Japan, Singapore, and the United States.[7] Although initially involved in production through FDI in offshore factories, these firms now focus much more on design and marketing, leaving production to contract manufacturers in Europe, Singapore, Taiwan (China), and the United States, which in turn operate plants in low-wage countries, primarily China and other East Asian countries.

Sub-Saharan Africa has yet to take advantage of component assembly as a stepping stone to manufacturing exports. Of the $998 billion in world exports of electronics in 2012, its share was 0.1% (figure 5.2).[8] And of the $123 billion in world exports of domestic appliances, its share was 0.15% (figure 5.3). No country in Sub-Saharan Africa is a major player in these industries either as an exporter or as a producer for

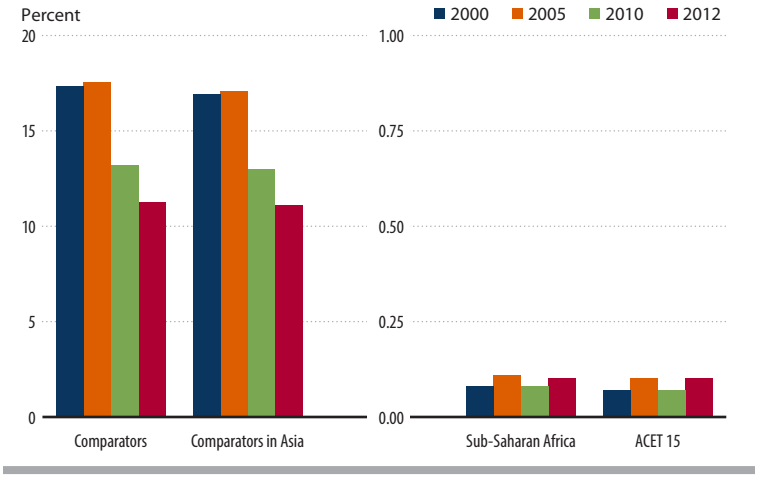
the domestic market (except South Africa for home appliances in the domestic market). This, despite the region's enthusiastic embrace of cellphones and the potentially large market for fans, refrigerators, and air conditioners in the hot tropical climate.

Foreign direct investment for assembly in Sub-Saharan Africa

A big part of Sub-Saharan Africa's efforts to get into the global production and exports of assembly manufactures will depend on attracting FDI

A big part of Sub-Saharan Africa's efforts to get into the global production and exports of assembly manufactures will depend on attracting FDI—by lead global value chain firms or by contract manufacturers. Purely domestically owned firms will find it difficult to compete in the export market (or even in the domestic market without high protection). As chapter 2 stressed, however, the FDI strategy would have to be coupled with increasing the capabilities of domestic firms and linking them to FDI firms as suppliers and ultimately as exporters.

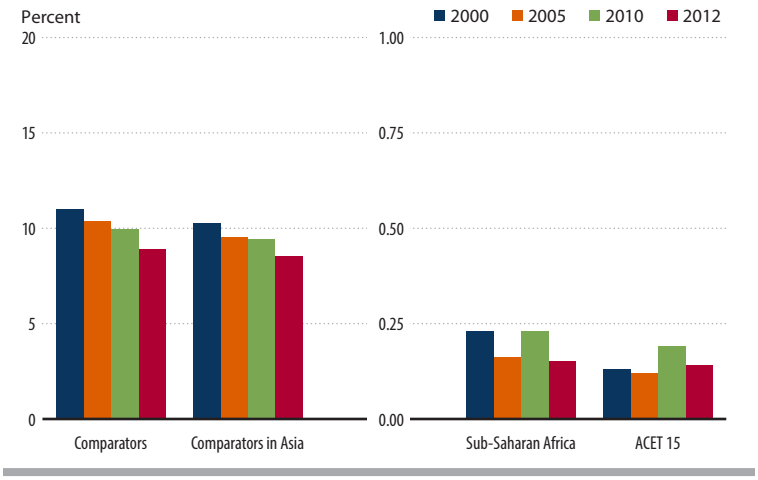
Figure 5.2 Shares of world electronic equipment exports



Note: Electronic equipment (SITC rev 3, 762, 764, 761, 751, 752).

Source: Calculated using data from UN Comtrade, accessed December 12, 2013.

Figure 5.3 Shares of world domestic appliances exports



Note: Domestic appliance (SITC rev 3, 697, 775).

Source: Calculated using data from UN-data.org, accessed December 9, 2013.

A foreign direct investment manufacturing matrix

Sub-Saharan countries have in recent years seen a rise in FDI inflows, mostly into extractive operations in oil, gas, and minerals. In 2012, 70% of Africa's FDI was in resource-rich countries, presumably for extractives.[9] Indeed, the region's landscape is rather sparse in FDI manufacturing plants, particularly those for consumer electronics and home appliances.

Several sources provide systematic information on FDI financial flows into Sub-Saharan Africa (such as the International Monetary Fund, the United Nations Conference on Trade and Development, and the World Bank). But there does not appear to be a similar effort to track FDI in manufacturing, so ACET is developing a simple tool to track it. Dubbed the FDI manufacturing matrix, it shows which global manufacturing powerhouses—in sectors aligned to Sub-Saharan Africa's abundant labor and natural resources—have manufacturing plants in the region (box 5.3). The matrix provides a starting point for countries to assess where they stand relative to other countries in making inroads into global manufacturing through FDI.

Table 5.1 and box 5.4 show a summary of the results. Not surprisingly, China (including Taiwan), with 167 manufacturing facilities, had the most plants, followed by the rest of Asia, India, and Brazil with 141, 107, and 97 facilities respectively. South Africa, with 61 facilities, showed the greatest concentration in Africa.

The results in the matrix and star categories are not meant to suggest that all countries should have the same number of FDI manufacturing plants. Many factors influence the decision of multinational companies to locate plants abroad, including the size of the

Box 5.3 ACET's FDI manufacturing matrix

The matrix maps the location of manufacturing FDI by taking a group of companies and tallying the number of manufacturing facilities they have in each of the ACET 15 countries and in Brazil, China, India, countries in South-East Asia, and a catchall "other," representing Mexico, Turkey, and other Latin American markets.[1]

The dataset comprises 200 companies selected from ACET's survey of companies and from the 2012 *IndustryWeek* 1000, the magazine's annual ranking of the 1,000 largest public global manufacturers based on revenue.[2] The companies were selected based on four criteria:

- *Industry:* light manufacturing in those sectors more aligned to Africa's relative comparative advantage in labor and natural resources.
- *Revenue growth:* companies with positive global growth or strong demonstrated growth in Africa.
- *Revenue:* companies above $3.5 billion.
- *Geographic representation*: companies headquartered in traditional OECD countries (Europe, Japan, and the United States) as well as in South Korea and in emerging economies (Brazil, China, India, and Turkey).

The sample clearly is biased toward large multinational corporations and likely misses FDI manufacturing plants of medium-size companies, which are beginning to move to Africa. We plan to rectify this over time.

1. The South-East Asian countries comprise members of the Association of South East Asian Nations: Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Burma (Myanmar), Cambodia, Lao PDR, and Vietnam.
2. www.industryweek.com/resources/iw1000/2012

Source: ACET research.

The FDI manufacturing matrix provides a starting point for countries to assess where they stand relative to other countries in making inroads into global manufacturing

domestic market, which tends to favor large countries such as Brazil and China. But policies that encourage investment also matter, as evidenced by the success of such small economies as Ireland, Malaysia, Singapore, and Taiwan (China). The point of the matrix and stars is to provide data for countries keen on attracting FDI manufacturing so that they can benchmark themselves against comparable countries and then ask why those countries are doing better (or worse) in attracting manufacturing FDI.

For the ACET 15, other factors, in addition to economic size, may also influence the location decision for FDI manufacturing plants (table 5.2). Indeed, South Africa, with the largest GDP, has the largest number of plants. But Nigeria, with the second largest GDP and by far the largest population, has the same number of plants as Kenya, which is fifth in GDP and population. Ethiopia, with the third largest GDP and second largest population, is among countries with the lowest number of FDI manufacturing plants.

The hope is that the matrix results and the stars will prompt policymakers to ask questions. Take Nigeria and Kenya: Why does Kenya have the same number of FDI manufacturing plants as Nigeria, and yet has about a fifth the GDP and population? Is it because of differences in domestic policies? Does Kenya have better access to the regional East African market than Nigeria has to the West African regional market? And if so, is it due to regional trade policies or to regional infrastructure and logistics? Now consider Ghana and Kenya. Ghana's GDP is about the same as Kenya's, but Kenya has twice as many FDI manufacturing plants. Why? Is it because Kenya's population is significantly larger than Ghana's? Or is it because of differences in domestic policies, and if so, which one?

What foreign direct investment firms say about locating in Sub-Saharan Africa

Supplementing the FDI manufacturing matrix are interviews with executives of 10 global FDI manufacturing companies to find out why they are in a particular Sub-Saharan country or why they have stayed out. The objective was to find out the key factors in deciding where to locate their manufacturing operations. The results provide qualitative information to complement the FDI manufacturing matrix. Although the sample size is small, the detailed and pointed answers add nuances to the results from large datasets.

Recognizing the rising importance of emerging economies in trade and manufacturing FDI, in addition to U.S.- and Europe-headquartered companies, we interviewed companies with headquarters in India and South Korea. All had or still have some type of presence in Sub-Saharan Africa.

All the executives interviewed recognized that Sub-Saharan Africa is a market they could not afford not to be in

Table 5.1 ACET's FDI manufacturing matrix

Industry	Apparel (5)	Food and beverages (7)	Chemicals (50)	Communications equipment (10)	Computer and other electronics (41)	Electronic equipment and appliances (13)	Machinery (3)	Miscellaneous (7)	Motor vehicle parts (21)	Motor vehicles (28)	Rubber products (8)	Industry (7)	Total plants
Country													
Botswana			1										1
Burkina Faso			1										1
Cameroon		3	2										5
Ethiopia		1	1										2
Ghana		3	1							1			5
Kenya		2	5							4			11
Mauritius	1												1
Mozambique		1	1										2
Nigeria		3	4			1				3			11
Rwanda		1											1
Senegal			2										2
South Africa	2	2	17	2	4	3	1	1	13	11	4	1	61
Tanzania		1	1									1	3
Uganda		1											1
Zambia		1	2										3
Brazil	1	5	27	5	14	6	1	2	15	16	3	2	97
India	1	3	26	5	19	5		3	18	20	4	3	107
China (including Taiwan)	3	5	43	8	36	12	3	5	19	21	7	5	167
Russia/CIS		5	13	5	9	3	1	3	8	13		3	63
Asia (excluding China)	4	3	39	6	27	7		6	17	20	7	5	141
Other	3	5	33	6	21	8	1	3	19	27	5	4	135
Number of survey countries with plants	7	17	18	7	7	8	5	7	7	10	6	8	

Note: Numbers in parentheses indicate how many of the 200 companies surveyed fall into each industry. For example, 41 of the 200 companies manufacture computer and other electronics. CIS is Commonwealth of Independent States.

Source: ACET research.

Box 5.4 Stars of FDI manufacturing

For the ACET 15 we further classified "Star Categories," awarding five stars to countries that had 100 or more plants; four stars for countries with 51–100 plants, and so on. Gold Star Achievement Awards, used to recognize rising stars in almost every industry, can be a powerful symbol of recognition and motivation.

★★★★★ (100+ plants)

★★★★ (51–100 plants)
South Africa (61)

★★★ (11–50 plants)
Kenya (11)
Nigeria (11)

★★ (5–10 plants)
Cameroon (5)
Ghana (5)

★ (0–4 plants)
Tanzania (3)
Zambia (3)
Senegal (2)
Botswana (1)
Burkina Faso (1)
Ethiopia (1)
Mauritius (1)
Mozambique (1)
Rwanda (1)
Uganda (1)

Source: ACET research.

Table 5.2 Economic size of the ACET 15, 2012

Country	GDP (current US$ billions)	GDP per capita (current US$ billions)	Population (millions)
South Africa	384	7,508	51.2
Nigeria	263	1,555	168.8
Ethiopia	42	454	91.7
Ghana	41	1,605	25.4
Kenya	41	943	43.2
Tanzania	28	609	47.8
Cameroon	25	1,167	21.7
Zambia	21	1,469	14.1
Uganda	20	547	36.4
Botswana	15	7,238	2.0
Mozambique	14	565	25.2
Senegal	14	1,023	13.7
Mauritius	10	8,120	1.3
Burkina Faso	10	634	16.5
Rwanda	7	620	11.5

Source: Calculated using data from World Bank (2012).

Most of those interviewed were developing their sales and service capabilities across Sub-Saharan Africa to take advantage of the growing economies. Two had full product manufacturing facilities, one of them with 15 plants across East, West, and Southern Africa. Four operated some type of assembly facilities, including semi-knocked down, completely knocked down, and conversion in Sub-Saharan Africa—either owned directly or operating through distribution partners. Three once had completely knocked down and manufacturing facilities but closed them due to the lack of commercial viability, primarily from high production costs.

All recognized that Sub-Saharan Africa is a market they could not afford not to be in. According to one executive, with the region's growing middle class, a company was "crazy not to consider building a processing plant in Africa just to supply the local market demand. Yet the challenges are still too large for us to be comfortable to invest."

Across industries, the responses clustered around six main areas:

- Policy (consistent policy environment, fiscal incentives, and tariff and nontariff barriers).
- Governance (regulations and corruption).
- Infrastructure.
- Labor (skills and stability).
- Supply chain (existence of local supply).
- Markets (size of the domestic market).

The most important factors cited are policy and the low productivity of labor (expressed primarily as the dearth of an educated and skilled workforce). The low productivity and high costs arising from the lack of education and skills make it infeasible for them to locate manufacturing in Sub-Saharan Africa, especially when compared with India and other low-cost producers. As one executive said: "Until there is an educated and skilled workforce, all other initiatives/incentives are of no use." Another reported that when it wanted to train its workers to use computers to upgrade their productivity, it ran into difficulty because the workers could not read even at a basic level. Indeed, all the companies interviewed were involved in local employee training, and two were involved in skills training beyond their employees.

The lack of skills affects not only the companies' manufacturing but also a reliable and skilled local supply chain

The lack of skills affects not only the companies' manufacturing but also a reliable and skilled local supply chain. Several executives indicated that a strong local supply chain does not yet exist in Sub-Saharan Africa, except for South Africa to a degree. Companies need to source parts and components locally to sustain cost-effective manufacturing, and the more technically sophisticated the product, the more difficult it is for them.

The policy environment was also a major factor, especially tariff and nontariff barriers, which increase manufacturing costs and make manufacturing uncompetitive with other markets.

Ranking third was small market size, preventing economies of scale. Some executives suggested that more progress in freeing trade within regional groups (Southern African Development Community, East African Community, Economic Community of West African States) could ameliorate the problem. But one executive said that customs duties make regional trade "prohibitive." Another reported that he had just imported a service vehicle from the United Kingdom for his operations in Zambia. The vehicle had been manufactured in South Africa, yet it was still 30% cheaper to bring it in from the United Kingdom than to import it directly from South Africa (within driving distance).

On governance, five companies complained about cumbersome regulations and inefficient import and export logistics. Interestingly, while corruption is often cited as a reason for not investing, it did not

figure as one of the top obstacles with the executives. According to several of those interviewed corruption may exist, but as a result of the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, there was no way they were going to pay bribes. By making this clear upfront, none experienced significant problems.

While the lack of infrastructure does pose a challenge, only two of the executives interviewed cited it (specifically power) as a key constraint. This is rather surprising, since infrastructure is always prominent in discussions of the constraints to manufacturing. For these executives the challenges of trade policy, labor productivity, and market size appear more pressing.

Integrating the region's national markets would give a powerful boost to developing competitive manufacturing industries

Regional integration and manufacturing

Many Sub-Saharan economies are small and have to import most inputs in order to manufacture, and they lack a large domestic market that would provide some form of natural protection for their manufacturers. While these challenges are surmountable through exports, at the early stages of development they make it more difficult for domestic firms to compete against foreign firms that have the advantages of scale, dense industrial clusters, and local supply chains. Integrating the region's national markets would thus give a powerful boost to developing competitive manufacturing industries, including the labor-intensive manufactures discussed in this chapter.

Sub-Saharan garment exporters now import most of their fabric. But the region has the potential, with more progress in regional integration, to develop a more integrated textiles and clothing industry. West African countries like Burkina Faso and Mali are significant producers and exporters of raw cotton, but they lack the logistics, large middle class, and industrial infrastructure of some of their coastal neighbors such as Ghana, Nigeria, and Senegal. A regional cotton textiles and garments industry, which would be more competitive than the current national industries, could be facilitated by an Economic Community of West African States customs union and better intercountry transport infrastructure.

With several Sub-Saharan countries now producing oil and gas, the crude ingredients for a synthetic fiber industry are more available. Regional integration could help turn this potential into a viable industry. In addition, Sub-Saharan countries should get the European Union and the United States to allow garments incorporating inputs sourced from any country in the region to qualify for full duty preferences under AGOA and EBA, regardless of whether the supplying country is developing or least developed and whether it also is eligible for AGOA or EBA.

Attracting FDI for component assembly, particularly home appliances, will be abetted by large and buoyant markets, supported by the growing middle class, and perhaps more important, by integrating the national markets. Only Nigeria and South Africa have a large enough domestic market to attract a market-seeking FDI (as many heavy home appliance manufacturers tend to be). But the regional economic blocs could enable many more countries to have access to the benefits of a wider domestic market. The Southern African Development Community comprises 15 member states with a market of almost 250 million consumers, a combined GDP of $649 billion, and per capita incomes of $2,600. The 15 import $213 billion worth of goods, and their exports are valued at around $207 billion.[10] Similarly, the Economic Community of West African States comprises 15 member states, with a market of about 320 million people, a combined GDP of $396 billion, and per capita incomes of around $1,250. With an open market in each bloc, FDI manufacturers would become more interested in the blocs as possible sites for manufacturing plants. And member countries—even the small ones—would with good policies, adequate infrastructure, and logistics stand a better chance of becoming locations for FDI manufacturing.

Notes

1. http://stat.wto.org/StatisticalProgram/WSDBStatProgramHome.aspx?Language=E
2. Adhikari and Yamamoto 2007; Gereffi and Memedovic 2003.
3. Gereffi and Memedovic 2003; Gereffi and Frederick 2010.
4. The Mauritius and other country cases are based on an ACET (2012).
5. Besides textile and clothing, the EPZ firm also produced fish preparations, pearls, precious stones, optical goods, watches, clocks, toys, games, sporting goods, and jewelry.
6. EPZ growth was 30% in 1985, 35% in 1986, 22% in 1987, and 12% in 1988 (www.gov.mu/portal/goc/cso/hs/industry/t1–2010.xls).
7. Sturgeon and Kawakami 2010.
8. In figures 5.2 and 5.3, the comparators are South Korea, Singapore, Indonesia, Malaysia, Thailand, Vietnam, Brazil, and Chile and the Comparators in Asia include the first six.
9. AfDB and others 2013.
10. World Bank 2012; Mauritius Chamber of Commerce and Industry: www.mcci.org/.

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Soya combine harvesters, Zambia

CHAPTER 6

Kickstarting agroprocessing value chains

Agriculture has the potential to contribute greatly to economic transformation, just as it did earlier in many developed countries. It can increase incomes in rural areas. It can increase exports and the foreign exchange needed to import machinery and other inputs for industry. It can supply the raw materials to support agricultural processing. It can release labor to manufacturing and other sectors of the economy. It can boost the supply of food to the growing urban areas and the growing industrial labor force, thus moderating increases in the cost of living and thus wages. And it can expand the markets for inputs and consumption goods and services for the nonagricultural sectors.

With agriculture making up the bulk of most African economies, and with most of the poor relying on subsistence farming for their livelihoods, Africa's economic transformation has to include modernizing agriculture to increase the productivity of smallholders. Using agriculture as a basis for manufacturing and services, particularly by increasing agroprocessing and other agribusiness, will create jobs, especially for women and youth. It will also increase the demand (and prices) for what smallholders produce.

But modernizing agriculture and increasing its links with other parts of the economy have been slow. In most Sub-Saharan countries smallholders use traditional low-productivity methods, and most exports are unprocessed agricultural commodities. Converting subsistence agriculture into a modern commercial sector—whether large commercial farms, small and medium-size farms using modern and intensive methods, outgrower schemes, or other commercially scalable models—is thus an essential part of the transformation agenda. But achieving broad results across rural Africa will take time (box 6.1).

In the meantime, what opportunities exist to focus on more discrete, manageable areas but still drive a substantial and catalytic effect toward economic transformation? The agriculture-to-agroprocessing value chain is an area that can, if successful, bring together a potent combination of genuine comparative advantage, scalability, and substantial spillovers for African countries. Agroprocessing typically offers a big step up in generating employment, income, and foreign exchange, which can often be unlocked by well designed policies to overcome barriers that prevent domestic players from emerging, reaching scale, and becoming globally competitive.

Agroprocessing typically offers a big step up in generating employment, income, and foreign exchange, which can often be unlocked by well designed policies

Box 6.1 Challenges in modernizing agriculture

Improvements in agricultural technology have come slowly in Africa, and not much is known about the diffusion of better technologies. In many ways, Africa is late in developing research capacity, and many crops and commodities had very little research effort until the past 10–20 years. In addition to research and technology, many challenges remain, including:

- *Roads.* Many rural areas are cut off from markets so it is very costly to move goods—including agricultural inputs and outputs, but also nonagricultural goods.
- *Power.* Electricity is essential for agricultural processing and postharvest uses of crops and livestock. And for dairy products it allows cooling and makes more efficient collection schedules possible.
- *Irrigation.* Infrastructure to convert rainfed to irrigated farming will be a public good in some places and purely private in others. But irrigation has the potential to transform agriculture in many locations, both by increasing productivity and by reducing weather risk.
- *Competition.* Rural isolation opens the door for noncompetitive behavior. With rural markets spread thinly and handling low volumes, traders can often set prices for both farmers and consumers. Transport also lacks competition, especially on long-haul and cross-border routes. Mobile phones can reduce information asymmetries.
- *Property rights.* Tenure security is necessary for farmers to invest in long-term land improvements, but in most parts of Africa, cadastral surveys are lacking, and formal programs of land registration and titling have not advanced far. Customary systems of property rights provide adequate security for traditional agriculture, but it is not clear that they can provide the tenure security required for agriculture's transformation. And western-style land titles and markets cannot be introduced without doing violence to existing economic, social, and cultural arrangements. An enigma.

Source: ACET agriculture study prepared for this report.

Here the focus is on three major types of such opportunities:

- *Processing traditional exports* such as coffee, cocoa, and cotton, where Africa has demonstrated its global competitiveness in producing raw products, adding value, and creating jobs. Producer countries typically have relative advantages in raw material and labor costs that can, with the appropriate combination of policies and investments, offset other challenges to start a processing base. The scale of the commercial opportunity in processing is typically many multiples of the current raw production opportunity, making this a particularly high value area if successfully leveraged.
- *Scaling up promising nontraditional exports* such as fruits by upgrading the supply chain—from farms to processing factories—increasing farmer incomes, and generating jobs in factories and allied agribusiness services. A broad range of potentially very high value, but underexploited, crops and growing international demand provides a scale opportunity. If leveraged, the associated supply chain and infrastructure investments can form a platform for (or reduce the cost of) entry into other adjacent export sectors.
- *Substituting agricultural imports,* which are growing in importance given the rapid rate of increase in agricultural imports into Sub-Saharan Africa. The total value of imports rose 62% between 2007 and 2011 to reach $37 billion. Some of the fastest growing products are poultry meat and associated inputs such as soybean cake, which have increased 139% and 119% in value respectively to reach a combined value of $2.1 billion.[1] They are set to continue this rapid increase as incomes and meat consumption, particularly by the growing urban middle class, rise. Upgrading the domestic supply chain to put local players on a competitive footing with imports is critical to unlocking this opportunity.

Coffee, fruits, and soybeans illustrate the pantheon of possibilities for adding value to traditional crops, for moving into new or

nontraditional crops, and for substituting for imports. For each of them we look at the value chain, the opportunities for capturing value, and the requirements for policy. For all three the potential is considerable for drawing smallholders into the supply chain and factory workers into formal employment.[2]

Adding value to coffee, a traditional export

Globally, coffee is one of the most traded agricultural commodities, with production dominated by Brazil, Colombia, and more recently Vietnam. Most value addition is through processing, branding, and distribution to consumers through retail and food service outlets in consuming regions.

Africa is a small but significant player in coffee production, but has only a marginal role in processing and more advanced stages of value addition. It had a 13% share of global green bean production in the 2012/13 growing season,[3] an export market worth about $26 billion. However, the region has only a 7% share of processed coffee, whose price tends to be double or even triple that of the green coffee in export value per ton. World demand for coffee is expected to grow by more than 2% a year to reach 9.6 million tons by 2020,[4] and major buyers such as Nestlé expect major non-African exporters such as Brazil and Vietnam to capture most of this increase. African producers cannot look forward to a long-run supply squeeze to increase the value they capture in the coffee value chain.

African coffees of the Arabica variety are among the best in the world, with the highest graded Kenyan and Ethiopian coffees trading for many multiples of the price of "standard grade" Arabicas. Africa is thus well positioned to meet the growing demand for high-quality Arabicas in established markets in North America and Europe.

Structure of African production

Coffee production in Africa is largely a smallholder activity, with more than 90% of beans produced on farms of less than a hectare. Africa produces both Arabica and Robusta varieties, with a slight skew toward Arabica, with 61% of production in 2013.[5] Arabica production is dominated by East African countries, given the availability of land at suitable altitude. Indeed, Ethiopia, Tanzania, Uganda, and Kenya account for more than 90% of Africa's Arabica production. Robusta is produced in 17 African countries, with Uganda and Côte d'Ivoire accounting for more than 70% of Africa's production in 2013 (figure 6.1). As of June 2013 Uganda and Côte d'Ivoire have maintained their dominance over the production of Robusta coffee, accounting for 63% of total production in Africa.

Most major producers have coffee boards responsible for coordinating inputs, agricultural extension, processing, and exports. Coffee authorities—such as the Kenya Coffee Board, Uganda Coffee Development Authority, and Ethiopian Fine Coffee Stakeholders Committee—aim to coordinate production and marketing activity, so that they can maximize the value of coffee production and manage the price volatility that farmers experienced.

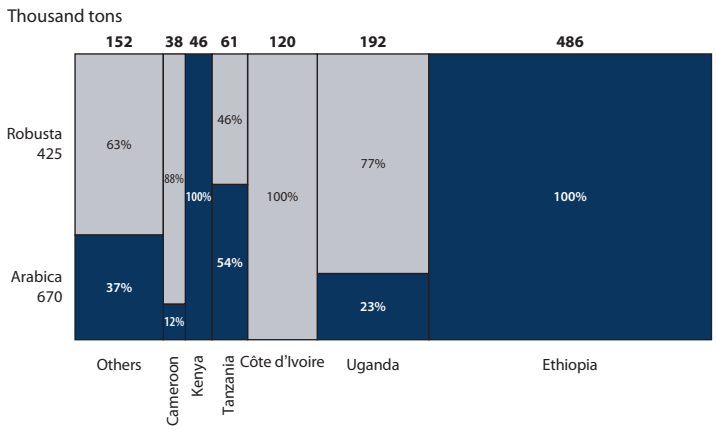
Most final output in the region is traded by major international and regional trading houses, such as Volcafe/ED&F Man, Dormans, Socfinaf, and Schluters. But beyond coffee production Africa does not have a substantial domestic processing industry. Its processing of roast and ground coffee is 8% of the world total, and its production of instant coffee is 2% of the world total, most at Nescafé plants in Abidjan, Côte d'Ivoire, and Durban, South Africa, and a marginal amount at TANICA in Tanzania. Given Africa's low coffee consumption—7% of the world total in 2013, with most concentrated in Ethiopia—processors need to focus mainly on export markets outside the region in the short to medium term.

Africa is a small but significant player in coffee production, but has only a marginal role in processing and more advanced stages of value addition

Opportunities in the coffee value chain

The coffee value chain has three subsectors relevant for Africa, each

Figure 6.1 Sub-Saharan green coffee production, by variety and country, 2012/13 season



Source: ACET coffee study prepared for this report.

with different economic and competitive dynamics.

- *Green coffee production.* Arabica and Robusta beans differ in their taste, growing conditions, and economics. Robusta produces an inferior tasting beverage with higher caffeine content than Arabica. Both types are often mixed by processors, so countries that can cultivate both varieties have an advantage in creating roasted and ground coffees. Since the 2008/09 growing season the production of Robusta coffees worldwide has increased by more than 20% to reach 3.7 million tons in the 2012/13 season while Arabica coffee production has grown only 4% to reach 5.3 million tons. The combined value of both Arabica and Robusta exports in 2012/13 is estimated at $26 billion. Africa's share in world production has been in long-term decline, falling from 27% in 1980 to 13% in 2013, as volume growth stagnated against growth in Brazil and Vietnam's emergence as a major Robusta producer.

- *Roast and ground processing.* About 80% of green coffee is processed into roast and ground coffee, almost 90% by processor companies in consumption markets. Processing is far more fragmented than instant coffee production, with a long tail of small players and specialists. Most processors tend to locate in the markets for final consumption, given the short shelf life of roast coffee (without high-cost packaging to preserve freshness) and the need to mix blends customized to local tastes. African countries have an 8% share of this sector by volume globally, and less than 1% of internationally traded roast and ground coffee volumes. Most African processors serve a small local market and supply international clients either with their own branded coffees or as contract manufacturers (known as "toll processors").

- *Instant or soluble coffee.* Between 15% and 20% of green coffee is processed into instant coffee worldwide. The consumption of instant coffee has been growing, especially in emerging markets that do not have established roast and ground coffee culture, with current consumption hitting 1.1 million tons in 2012/13. Manufacturing powder and granules is capital-intensive, requiring high production volumes to achieve the minimum efficient scale in a single plant—and high levels of investment in marketing and branding to secure market share and availability among retailers. So a small number of large facilities are owned by a few major firms, particularly Mondelēz International (formerly Kraft Foods) and Nestlé. Geographically, however, facilities can feasibly be located in coffee-producing countries. For example, Nestlé operates factories for instant coffee in Africa. Even so, Africa has only a 2% share in the global production of instant coffee.

To capture a larger share of value, countries now focusing on Robusta production, such as Côte d'Ivoire and to less extent Uganda, could shift to processing

Countries engaged in green coffee production tend to earn about 15% of the final value of instant coffee and 25–30% of the final value of roast and ground coffee, the difference determined by the type of beans and the cost of processing. Instant coffees tend to use a high proportion of cheaper Robusta beans and high-cost processing methods, while roast and ground products use a higher proportion of Arabica beans but have lower processing costs.

To capture a larger share of value, countries now focusing on Robusta production, such as Côte d'Ivoire and to less extent Uganda, could shift to processing. Arabica producers also stand to gain from shifting to processing, as well as increasing the value of their green beans in the value chain.

Increasing the value of green coffee

African countries can increase the value of green coffee production by increasing volumes or by increasing value.

Increasing volumes. This can be achieved primarily by increasing areas under cultivation or increasing yields by using more fertilizer, pesticides, and fungicides, planting hybrid trees, and improving husbandry. In some countries this could lead to a 2.5-fold increase in production from the same planted area.

Exploiting high-value niche markets. While meeting an emerging supply gap, countries can also exploit high-value markets by processing coffee through efficient wet mills to produce specialty coffee. That would be a key lever to maximize the value of African Arabica production. More than 50% of Arabica coffee output from Africa is sold as "natural" parchment, without being washed. There is a 40% price premium for washed coffee, and efficient washing (using Tanzania as a benchmark) adds 25% in costs, for a net increase in margin of 15%.[6] Washing coffee enables classifying beans as "specialty single origin" and thus makes it easier to brand or promote them, even at the commodity level. There is a wide variety in price premiums, however, and gains can be substantially higher than this in some cases. In the 2010/11 season some of the highest grade washed Kenyan Arabicas realized an average price premium of well over 1,000% over "natural parchment" coffees.

Several other high-value niches exist, such as certified fair-trade and organic coffee beans—and single-origin or origin-branded beans, as in specialty coffees from East Africa and Colombia. But the opportunity needs to be carefully assessed, especially given the low penetration of fair-trade coffee (at less than 2% of consumption in green bean equivalent) after several decades of promotion.[7]

Creating a "coffee hub." Several "natural" hubs exist for trading coffee, with entry generally driven either by leveraging high existing consumption or by leveraging existing commodity trading expertise—with some locations combining both capabilities.

The ability to source multiple bean origins, enabling roasters to match client taste profiles and recipes, is essential for servicing mainstream roasters, which will typically include more than 10 origins in a single roast. Hubs can thus help develop intermediate processing by providing access to a broad variety of beans, which can to some extent offset any disadvantage from the lack of a nearby consumption market. East Africa has logical locations for hubs in Mombasa and Dar es Salaam to serve Ethiopia, Kenya, Rwanda, Tanzania, and Uganda.

Creating such a hub would require:

- *Excellent logistics:* to enable regular, convenient, and cost-effective shipments of multiple size lots of coffee to consumers around the globe. This advantage is enjoyed by European Community hubs in the efficiency of their infrastructure and proximity to consumption markets. It is also enjoyed by Asian re-exporters, such as Singapore and Hong Kong SAR (China), which also have highly efficient port logistics. They can leverage a logistics network that already engages in high transport volumes to key consumption markets in North America and Europe to close much of the proximity advantage that Europe-based hubs enjoy. For locations such as Dar es Salaam and Mombasa, there is a substantial gap in efficiency with world-class ports and trading hubs. So in the short to medium term there may be value in focusing on some key areas with a proximity advantage—such as consumption markets in the Gulf and North Africa—while continuing to reduce or eliminate today's key barriers to efficiency.
- *A well developed financial sector to provide the requisite skills in commodity trading and financing trading activity:* to enable hubs to hold large volumes of coffee while managing (and potentially even benefiting from) the volatility in coffee commodity markets, as enjoyed by Asian and European hubs. The emergence of Nairobi in East Africa and Lagos in West Africa as key professional service centers, as well as Johannesburg in the South, suggest multiple locations that could supply the requisite skills and knowhow. The key challenge is achieving sufficient market depth to gain critical mass in trading activity.
- *Proximity to a large market to enable moving large volumes of multiple-origin coffees at low marginal costs:* this advantage is enjoyed by such European hubs as Belgium, Germany, and Italy. East African producers enjoy proximity to growing consumption markets in the Gulf, and West African countries have proximity to North African markets (such as Algeria) and Southern Europe. Successfully aggregating African demand (currently 7% of global consumption) into an addressable market—by relaxing or eliminating regional barriers to trade—could create a sizable opportunity for local producers and traders.

Producing instant coffee

With a potentially viable consumption market of around 15,000 tons emerging for instant coffee, there is a possibility for producing more instant coffee to substitute for imports

With a potentially viable consumption market of around 15,000 tons emerging for instant coffee in Africa, compared with production of about 4,000 tons, there is a possibility for producing more instant coffee to substitute for imports in the region.

African countries have several options for configuring instant coffee production and supply chains. Positioning plants close to Robusta production can minimize transport costs. Locating close to regional consumption markets offers the potential to mix beans from multiple origins—to optimize costs, blend to multiple recipes, and leverage local demand as a platform for entering export markets. And disaggregating instant coffee production from packaging (such as processing near a source of Robusta and packaging in a regional or international export market) can combine efficiencies in transport with customization to local demand.

Toll processing of roast and ground coffee

For the 80% of world coffee consumption rated as "average" or of nonspecialty quality, an African coffee processor can specialize in cost-competitive roasting close to origin (box 6.2) and still generate a positive return. But this would need to be compared with the cost of toll processing in traditional consumption markets, especially given the lower transport costs for green coffee than for packaged coffee. Roasted and packaged coffee costs about twice as much as green beans to transport, but the higher cost is just 2% of the wholesale coffee price.

Box 6.2 An African processor and a global giant

Dormans, a green coffee trading company based in Kenya, focuses on exporting from East Africa, participating in both the Nairobi and Dar es Salaam green coffee auctions. Dormans also does roasting, with a factory in Nairobi producing branded roast and ground coffees, as well as coffee equipment and accessories. In addition, Dormans produces a branded instant coffee locally.

While a key player in East Africa, Dormans remains a small player in the global context, exporting about 15,000 tons of green coffee and roasting 900 tons for distribution to local and Middle East markets. These small volumes are partly a response to the local market: the Kenyan market leans toward tea. As part of its brand development, Dormans also operates a chain of 11 coffee shops in high–foot traffic, prime pitch locations in Nairobi.

Nestlé, by contrast, is the world's largest nutrition and food company, controlling 22% of the global market for instant coffee.[1] It purchases 780,000 tons of green beans a year, taking 10% of the global supply. While 90,000 tons is sourced directly from farmers, most is from traders. The company has 26 coffee factories around the world, including an instant coffee production facility in Côte d'Ivoire, operating since the 1960s.

Recently it has been hedging the volatility in its green coffee supply chain by investing in coffee production (including research for new coffee varieties). It is also increasing direct sourcing from farmers and opening new factories in key producing countries.

1. Passariello and Iliff 2010.

Source: ACET coffee study prepared for this report.

A policy agenda to support a coffee value-addition strategy must be adapted to the needs and resources of each country

Challenges for coffee processing

Instant coffee production in African countries is more expensive than in developed consumer markets. Processing in a country that produces its own coffee can provide some opportunities for raw material and transport cost-efficiencies for the upstream supply chain, but other costs tend to be high. Instant coffee production is highly intensive in energy and water, and both tend to be more expensive in Sub-Saharan countries. It is also intensive in capital and involves sophisticated production, which can require importing specialized capital goods and supplies of spare parts and hiring specialized labor, at substantial price premiums. Tariff escalation creates additional barriers for producers of processed coffee that intend to export to consumption markets.

Beyond processing economics, the consolidation of the instant coffee market, with substantial investments in branding and established relationships with key channels, creates barriers to entry by any new players based in African countries. Entry into international retail markets will likely require collaboration with a major multinational unless prospective African processors are willing and able to make very high upfront investments in brand building and establishing distribution channels.

For toll processing a lack of skills in Africa will make it necessary to import knowhow, but the key issues are the number of coffee varieties and the efficiency of logistics to serve consumer markets. Toll roasters can lack access to the many varieties of Robusta and Arabica required at a cost that is competitive with roasters in key importing markets, which have established supply chains for a broad variety of beans. This is compounded by a lack of reliable logistics to enable just-in-time deliveries for key clients, which specify tight delivery windows. Roast coffee is a perishable product that does not travel well, so it can be vulnerable to spoilage during sea transport.

Policymakers working with farmers and firms

Based on the opportunities for value capture and the associated policy bottlenecks, a policy agenda to support a coffee value-addition strategy must be adapted to the needs and resources of each country, though some general themes are common. Beyond measures to improve the environment for agroprocessing in general—such as improving the reliability and cost-effectiveness of energy, improving road and port infrastructure, and providing investment incentives for industry—a few measures could be directed at the coffee industry.

- *Stabilizing farmer incomes.* The volatility of coffee prices and the long lead times between planting decisions and first harvests of coffee mean that farmers underinvest in coffee

production, so a small and contracting coffee supply precludes processing. Stabilizing farmer incomes through price guarantees or insurance can support stable and then rising production. But the feasibility of such schemes needs to be assessed in the light of marketing boards in the 1970s and 1980s to inform any related policy interventions.

- *Liberalizing coffee export markets—smartly.* Export markets are highly regulated, creating challenges for the efficient international and even regional export of green coffee. Processors note that being tied to a single origin can be a major constraint, especially when tied to high-cost sources (especially in high-quality production countries like Kenya). Policymakers should consider the net value of liberalizing regional green coffee trade to enable processors to reduce the cost of processing regional coffee blends. That would also allow more efficient arbitrage between highest quality coffees (where the most value can be realized through their direct export) versus lower quality coffees. This could allow processors to reduce prices and support local demand growth. Liberalization will also enable processors to source beans from multiple origins, including Brazil and Colombia, which will help an Africa-based hub provide a broader range of blends for domestic consumption and position African roasters to compete with international competitors.

- *Creating demand.* As Brazil's experience of increasing local demand for coffee consumption shows, a strong or growing local market is a foundation for the processing sector. It also provides a way to capture the full value added from bean to cup. While at the regional level Sub-Saharan countries' share of global consumption at 7% is low, if it were consolidated into a single addressable market it would constitute a scale commercial opportunity. There is, therefore, a regional opportunity that can be created if barriers to trading processed coffee products across borders in the region were eliminated.

Policymakers need to acknowledge that any sector-specific strategy must compete with many other overlapping, and potentially conflicting, priorities. For a coffee strategy the potential tradeoffs include:

- *Regulating or laissez-faire?* There is a choice between opting for a regime of strong regulator control of the market that may include, say, a restricted number of export agents for coffee beans—or a liberalized market where traders can purchase from producers and where producers can go directly to traders and processors. Limiting the number of exporters and consolidating country production could make it possible to earn more from coffee exports, but this shifts local market power to a few licensed exporters, enabling them to extract rents from the commodity at the expense of farmers.

- *Focusing on niche or commodity coffee exports?* Given limited resources, it may not be possible to simultaneously pursue a strategy of developing scale production of low-cost coffee and also target niche markets and earn higher value on small quantities through certification (for example, from groups including Fair Trade, UTZ Kapeh, Organic, and Rainforest Alliance) and branding in consuming countries.

- *Capturing value in processing or in branding and marketing?* When entering the processing segment of the coffee value chain, countries could choose to be a toll processor of coffee (a medium-capital, high-volume, and very low-margin sector) or to enable local businesses to enter into the branding, marketing, and distribution segment, which has higher capital demands and is a lower volume, higher margin activity, through partnerships with actors in traditional and emerging consuming markets.

- *Develop local capacity or leveraging international players?* For an export-oriented strategy, it may be critical to engage the expertise of international players, especially in the global market for instant coffee, given their strong positions in most major markets. But this must be weighed against the risk of fewer knowledge transfers and fewer spillovers to the economy.

Policymakers need to acknowledge that any sector-specific strategy must compete with many other overlapping, and potentially conflicting, priorities

Processing fruit, a new export

Much tropical fruit is wasted, with estimates ranging from 10% to 80%. Troubles along the entire supply chain contribute to the waste, either directly—from poor handling, transportation, and storage to retail loss—or indirectly—predominantly through low farmgate prices for farmers that make it commercially unviable for them to harvest their fruit crops, especially for low-quality grades and poorly known or regarded local varieties.

Processing presents an opportunity to mitigate this waste, add value to crops, increase prices and incomes realized by smallholder fruit farmers, and create employment in processing factories and associated services. While exports of fresh fruit

Processing presents an opportunity to mitigate this waste, add value to crops, increase prices and incomes realized by smallholder fruit farmers, and create employment in processing factories and associated services

can be constrained by the costs of shipping perishable produce over long distances and complying with food safety standards, processing offers an alternative route to market, especially for fresh fruit below export grade. Investing in processing facilities can thus be an important means to bring many labor-intensive fruit crops to the world market.

Structure of fruit processing in Africa

South Africa, with its well developed agroprocessing sector and focus on horticulture, accounted for almost 60% of processed fruit in Sub-Saharan Africa by volume in 2011, with raisins, juice (especially grapefruit and concentrated orange juice), and canned fruit (especially pineapple) the most significant products (figure 6.2). Major fruit processors include Ceres, which produces a range of juices exported regionally and internationally, and the multinational firm Dole, which focuses on trading fresh fruit but also has a portfolio of processed fruit (and vegetable) products.

Kenya, another major fruit processor, accounted for 20% of total processed volumes in Sub-Saharan Africa in 2011. Kenya produces substantial quantities of canned pineapple through Del Monte's operations in Thika and has several domestic fruit processors. Countries such as Nigeria, with a ban on importing fruit juice in individual consumer–size packaging, appear to be understated in the data on juice production. However, a domestic sector involved in repackaging fruit juice and mixing concentrate is growing rapidly with rising domestic demand.

Sub-Saharan Africa's fruit juice consumption is estimated to be growing at more than 7% a year, a good opportunity for processors. The sector comprises largely informal processors, but volumes are shifting toward the formal sector, driven by the growth of organized retail and the broader reach of branded juice manufacturers.

The ACET 15 fall into three main groups:

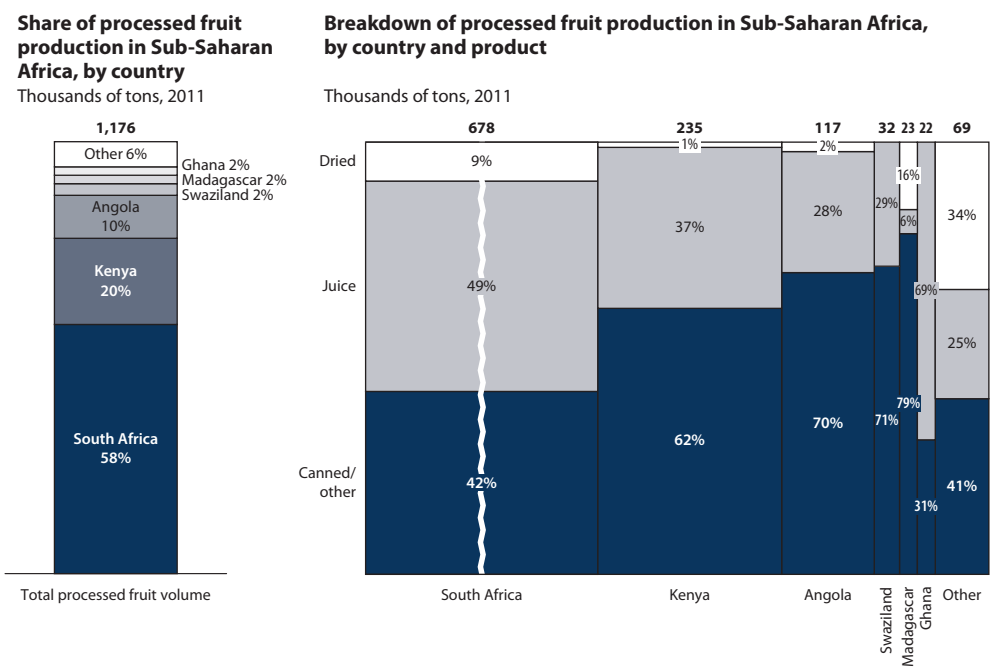
- *Fruit producers.* Ethiopia, Ghana, Nigeria, Rwanda, Senegal, and Tanzania all produce more than 250,000 metric tons of fruit a year, but they do not add value to a large share of output through processing or exporting, the opportunities for value addition. They typically have a limited degree of processing and face substantial challenges in scaling up, including access to finance and sourcing enough fruit of the right quality at a low enough cost. The same is true for Uganda. Nigeria's juice processing has grown rapidly in response to an import ban on single-serve or consumer-size juice products—but it is difficult to disentangle how much of the growth has involved manufacturing juice versus repackaging bulk juice manufactured elsewhere.

- *Fruit exporters.* Cameroon and Mozambique are scale producers of fruit and export a significant share of output. They focus on bananas and have yet to exploit opportunities in fruit processing. Challenges in processing are similar to those for fruit producers: an existing niche industry faces challenges in scaling up.

- *Integrated fruit processors.* Kenya and South Africa extract value from fruit by exporting "export-quality" fruits to other African countries and worldwide and by processing fruits locally, especially for juice.

An additional category—nonplayers—includes countries that do not have a significant volume of fruit

Figure 6.2 Processed fruit production in Sub-Saharan Africa, 2011



Source: ACET fruit study prepared for this report.

production today. It includes Botswana, Burkina Faso, Mauritius, and Zambia, which may well have opportunities to add value to fruit. But fruit processing may not justify more attention than other commodities, such as cotton for Burkina Faso or soybean for Zambia.

The domestic processed fruit market in Sub-Saharan Africa includes juice, dried fruit, and canned fruit. Demand is difficult to quantify, but it is likely growing fast, with juice consumption estimated to be growing more than twice as fast as fresh fruit.[8]

The opportunity may be larger than the market estimate of less than $1 billion across the region, for two main reasons. First, low-cost processing technologies, such as solar drying, can be easily and cost-effectively adopted by smallholder farmers and cooperatives to add value to or efficiently store harvested fruit. Solar drying allows farmers to extend the commercial cycle beyond the natural harvest cycle and thus address demand that is completely unserved out of season. Second, a large informal sector, particularly in juice processing, exists in most Sub-Saharan countries, and informal juice processing could account for 70% of total volumes. The informal sector caters largely to out-of-home occasions (such as informal roadside juice makers). The formal sector is growing, as modern retail grows and as brands from multinational players and local processors extend their coverage of formal and informal outlets.

Malian mango nectar shows the scale of the value addition opportunity for processors, even if they are focused on the domestic market opportunity alone. Processing mango into pulp increased its value by a factor of 2.8,[9] while conversion to a ready-to-drink beverage at the factory gate raised its value 17.8 times.[10]

Opportunities in the fruit value chain

Fruit processing has three segments:

- *Canned and preserved fruit* accounted for 58% of total global processed fruit volumes in 2011. African countries are well placed to have a major role in the sector, and in some cases they are already in it, such as Del Monte's canned pineapple production in Kenya and Dole's substantial operations in South Africa. But the sector can be unattractive for new entrants given the high entry costs and low margins. Working with large multinational fruit processors is one of the best ways to realize the value available.

- *Juice,* the highest value processed fruit category, accounted for around 42% of processed fruit by volume in 2011. Juice is very attractive prospect for Sub-Saharan Africa, with fast global demand growth (3.7% a year from 2009 to 2011 versus 2.7% a year for fresh fruit), particularly for tropical fruit juices, thanks to the greater interest in new tropical flavors in mature markets and the growth of demand in emerging markets. Sub-Saharan Africa has a large informal domestic sector, allowing processors to scale up first for the local market because of less challenging health and safety requirements before addressing the international market. Juice processing has the advantage of combining sophisticated agroprocessing with a large number of low-skilled jobs involved in sorting, cutting, and preparing fruit, especially during harvest seasons.

- *Specialty fruit*, a tiny segment, serves the needs of specific food processors for ingredients in dairy (fruit chunks and flavors for yogurts), baby food, prepared dishes, and instant desserts. Clients typically have precise requirements for water content, color, and flavor, making the sector highly challenging for new entrants if they cannot already leverage highly sophisticated food-processing capabilities. But margins can be quite high in some areas. Overall, specialty fruit constitutes an attractive set of niche areas, but it typically requires an established food-processing sector. Sub-Saharan Africa is hardly a player in this market.

The focus here is on juice since it is the main manufacturing and value-adding activity in the value chain. Juice processing involves two businesses with different activities, means of value addition, and economics:

- *Fruit processing* converts fresh fruit into intermediate products (pulp, puree, and concentrate). Pulps and purees are direct outputs from processes that break down the flesh of fruits, while concentrates are created by eliminating excess fibers in the pulp or puree and evaporating naturally occurring water.

- *Juice manufacturing* involves mixing pulp, puree, or concentrate with water, sugar, and stabilizers to create bulk beverages. The mixture is then packaged for the market into cartons, plastic pouches, or plastic or glass bottles. There can be a broad assortment of pack sizes and types, ranging from small single-serve cans to large plastic bottles for families to consume at home. Juicers use a variety of methods to create intermediate and final products.

The two businesses do not have to be vertically integrated. The juice manufacturing industry in both East Africa (Kenya and Uganda) and West

Juice processing has the advantage of combining sophisticated agroprocessing with a large number of low-skilled jobs involved in sorting, cutting, and preparing fruit, especially during harvest seasons

Box 6.3 Ghana's Blue Skies

Blue Skies exports $40 million worth of 100% natural juice with no preservatives from Ghana to the United Kingdom and other European countries each year. Each day, the company flies about 20 tons of bottled juice and packs of fresh cut fruit from Ghana. This, in the face of most of the major challenges of agroprocessing in Africa: consistency of inputs, quality control, infrastructure, logistics, rising energy prices, declining farming, and many more. With a shelf life of five days, the margin for error is thin. And government can do more to remove these constraints. As a company spokesperson put it, "An enterprising spirit can make a real difference when given support and encouragement."

At the height of an aviation fuel shortage in Ghana in February 2013, the company reported losing some $750,000 in exports in one week. Fortunately for the company, Ghanaians were there to drink up some of the juice. Led by its employees through informal market tests, the company had discovered a local market for its products. Domestic sales are around $2 million a year.

Blue Skies engages more than 150 Ghanaian farmers and more than 1,500 Ghanaian factory workers picking fruit and packing juice.

Source: ACET fruit study prepared for this report.

Juice processors face high energy costs, high transport and logistics costs, and the difficulties in accessing finance that characterize agroprocessing throughout Sub-Saharan Africa

Africa (Ghana and Nigeria) includes players that either process local fruit or import concentrate and mix and package it locally, or do both, depending on the season (box 6.3).

Challenges in processing juice

For juice processors, three key sets of challenges need to be addressed:

Managing seasonality. Most fresh fruits for production are seasonal. In some cases fruit may be harvested in just a few months, while in others it may be harvested continually but only in small quantities in any month. A short time from harvest-to-pulp is critical, due to the challenges and expense of storing substantial inventories of fruit for extended periods, so throughput needs to match the crop cycles for fruit inputs. Fruit processors manage this by:

- *Processing a portfolio of fruits.* An example is Jakana Foods of Uganda, which processes bananas, which can be harvested throughout the year, to make banana juice. It also processes mangoes, which have a short and high-volume season. Other East African processors include vegetables, especially tomatoes, in their portfolio of processed outputs.
- *Storage.* Processed fruit that is pasteurized appropriately, concentrates with high sugar content, and fruit juice packaged appropriately can typically be stored for extended periods. For example, pasteurized mango juice packaged in 200-milliliter Tetra Pak cartons or sterile aseptic pouches can be stored at ambient temperature for more than a year. Processors can then manage their production capacity closer to their products' crop cycles. However, this requires access to affordable finance to fund the required buildup in working capital.
- *Right-sizing capacity.* To build the right-size plant, the minimum efficient scale of plant, the costs of inputs, and the costs to upscale and downscale capacity (including the impact of adding shifts and the knock-on impact of increasing throughput on all aspects of the processing chain—from intake to loading for distribution) should be considered. Setting the right capacity can be difficult before a processor has operating experience.

Building an effective supply chain. Acquiring sufficient volumes of fruit—of the right varieties, of the right quality, at the right time—is critical. Fruit production is often spread across a large base of smallholder farmers, many lacking commercial orientation and the understanding or ability to meet requirements. Processors can focus on aggregators as their key source of supply, but this carries a cost and can make enforcing quality standards more difficult.

Meeting (international) standards. Substantial quantities of intermediates and juice are exported to North American and EU markets, which enforce rigorous standards for quality of process and product specification. Plants need to have Hazard Analysis and Critical Control Points or ISO 22000 certification and adhere to the General Principles of Food Hygiene recommended by Codex Alimentarius.

Beyond these challenges, juice processors face high energy costs, high transport and logistics costs, and the difficulties in accessing finance that characterize agroprocessing throughout Sub-Saharan Africa.

Policymakers working with firms and farmers

A generic roadmap for private players and policymakers to develop an internationally competitive processing sector could focus initially on fruits with easier entry (box 6.4).

Developing fruit processing at scale requires efficient and high-volume domestic production, efficient domestic logistics, and basic adherence to quality standards. So the sector might first focus on identifying the local or regional sources with the most naturally abundant

A generic roadmap for private players and policymakers to develop an internationally competitive processing sector could focus initially on fruits with easier entry

Box 6.4 China—moving from fresh apples to apple juice

China is the world's leading supplier of concentrated apple juice, thanks to direct government intervention in fruit production and agroprocessing as part of a deliberate strategy to develop a commercial basis for exporting labor-intensive agricultural commodities. China's horticulture faces challenges in the export market for fresh fruit, given the cost of long-distance logistics for perishable products and sanitary and phytosanitary concerns. Concentrated apple juice, an alternative to exporting fresh apples, circumvents these challenges.

Substantial financial incentives and government intervention have been important for developing the industry, as has China's ability to integrate fruit producers with processors to provide high volumes of low-cost raw materials, access to finance, high-quality logistics, and skilled management. The most critical factors for adding value in fruit processing include:

- *Incentives for investment and access to finance.* Although juice processing requires investing in plant and machinery, the critical bottleneck for most juice processors is working capital.
- *Market links between producers and processors.* Chinese government support to the processing sector in forming direct links with farmers created the dual benefit of eliminating consolidator margins from processor costs, while also ensuring that processors could capture a more reliable supply of fruit and incentivize farmers to produce fruit of the appropriate quality.
- *Scale, low-cost production.* The cost of fruit is a major determinant of the economics of juice processing. Processors often compete for local production with other sectors—especially domestic and export markets for fresh fruit but also other processing sectors—and are unable to offer the highest prices for fruit. Processors are thus one of the last in line to buy fruit.
- *Efficient logistics.* Before processing, fruit is vulnerable to spoilage and heavier than final juice or concentrate. Potential losses in transport and the high cost of transporting whole fruit to the processing site result in processing economics highly sensitive to the efficiency and cost of logistics.
- *Capability and credibility in meeting safety standards and quality requirements.* Although the domestic informal juice production sector can be viable for developing a juice processing sector, long-term transformation will require that processors export to key markets such as the European Union and the United States. To export to these markets, the local sector must evaluate, implement, and enforce international standards of food safety and meet client requirements in color, taste, sugar content, and packaging.
- *Large domestic market to support early stage sector growth.* China is an exception, not an example. The country's "market" has from the outset been an export sector, with an aim to develop a channel for capturing value from fruit that was difficult to export in fresh form. An alternative development path—already open for African countries—is to have the informal juice processing sector serve the domestic market for juice.

While the Chinese government had a high level of direct intervention in developing the juice sector, key success factors such as the availability of finance, integration of production with processors, and the availability of abundant and low-cost fruit do not necessarily require government support. Still, the Chinese model demonstrates that targeted support to these areas can be highly effective in making a transformational change in value addition in the fruit sector.

Source: ACET fruit study prepared for this report.

fruits while looking for additional niches for high-value fruits that can be grown in the local climate, such as berries. This naturally has implications for removing the intra-African barriers to trade. Outgrower schemes with a large producer sourcing from neighboring smallholders and facilitating their production and transportation of produce should also be encouraged. Examples include Cameroon and Mozambique, which have leveraged international players to help develop contract farming around nucleus farms.

Given the importance (and cost) of packaging for a viable fresh fruit export sector, there likely are synergies in combining packaging with dairy processing

Once basic production and infrastructure are in place, the fruit processing sector may transition to a more sophisticated approach of segmenting production into two or three submarkets by quality and monetizing each level:

- *Export-grade fruit* involves developing capabilities in compliance and monitoring adherence to minimum residue levels, sorting and separating fruit that adheres to international client quality specifications, and developing cost-effective international logistics.

- *Local and regional consumption-grade fruit* is not export-grade and can be diverted to regional exports or local markets to realize value.

Developing an internationally competitive processing sector requires adhering to standards. For example, the Hazard Analysis of Critical Control Points for juice processors involves monitoring and control points across the entire supply chain from farm to packaged output. Also required is building on capabilities in sorting, quality control, and domestic and international logistics developed in prior steps.

Ensuring availability of the right varieties of fruit or using the right taste profile is also important. Similar to the export market for fresh fruit, exporting processed fruit requires that processors use varieties that match client tastes. Countries need to ensure that they can meet client requirements either by ensuring a supply of the right varieties or by using local varieties that have a similar taste profile. There may also be opportunities to promote special varieties of common fruits. Tropicana, for example, has developed a broad range of special orange juices that use niche varieties as alternative products to its standard juice.

Given the importance (and cost) of packaging for a viable fresh fruit export sector, there likely are synergies in combining packaging with dairy processing since the underlying Tetra Pak technology is the same as in Eastern Europe and South Asia.

Processing soy, to substitute imports and supply the poultry industry

Africa is a net importer of both soybean and processed soy products, but it has the capacity to produce substantial soybean volumes. True, major soybean producing and processing countries have low unit costs, but domestic production in Africa is not necessarily at a significant price disadvantage to imports. So, soybean offers an import-substitution opportunity. It can also facilitate entry into generally high-price elastic markets for meat production, particularly poultry, in Sub-Saharan Africa.

Structure of the African market

Sub-Saharan Africa accounts for less than 1% of the global soybean industry. Soybean is mainly a crop for processing—rather than for consuming raw or cooked—and imports from key producers such as Argentina, Brazil, and the United States can serve African markets below the local cost of production, hindering a domestic soybean industry.

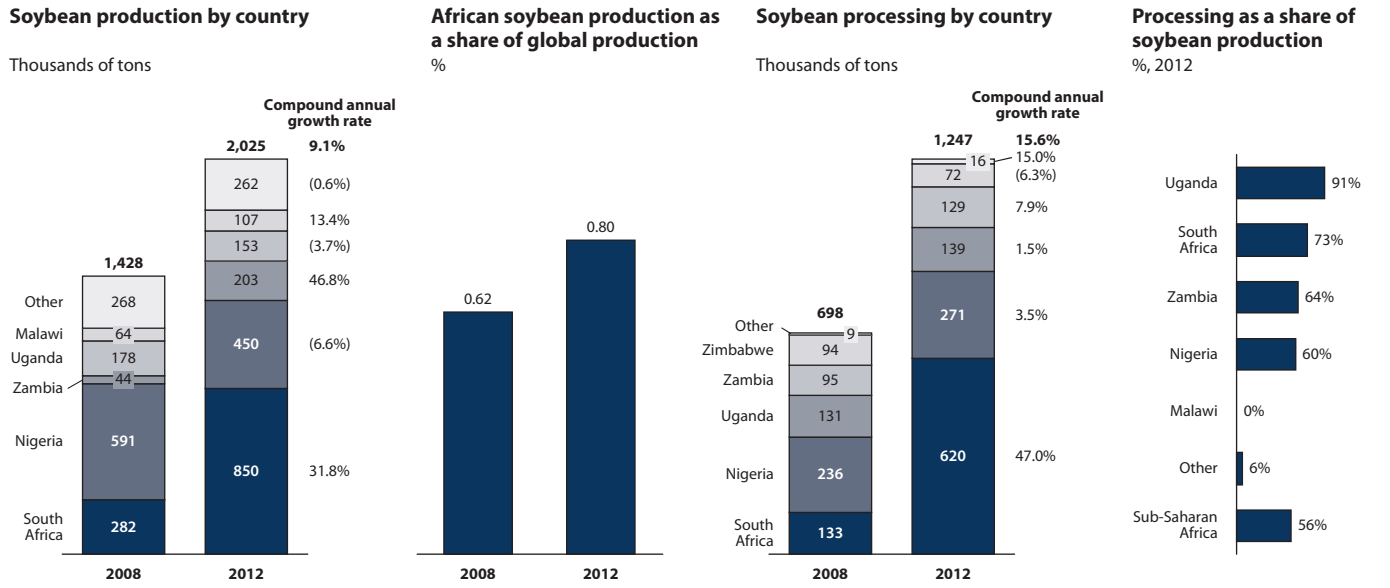
Soybean production in the region has been growing slightly faster than global production, at 9% a year over 2008–12 compared with 2% for the rest of the world. Much of this recent growth has been driven by South Africa, which has increased soybean production by an average of 32% a year over this period (figure 6.3). Even so, Africa's share remains inconsequential at less than 1% of global production in 2012.

South Africa's soybean production reflects its highly developed agroprocessing sector (with substantial poultry production). It is also a destination market for regional producers like Zambia and Zimbabwe. Nigeria, Uganda, and Zambia also produce substantial amounts of soybean, with poultry playing a similar role in driving demand. In all these markets, processing is typically done by animal feed and livestock producers rather than general oilseed processors.

Roughly 60% of Sub-Saharan soybean production is processed in the region, with more than half in Nigeria and South Africa.[11] Of the main African soybean producers, Nigeria has a conversion rate into processed soybean of 60%, compared with South Africa at 73% and Uganda at more than 90%. But the true scale of processing is hard to determine, since a large proportion of soybean may well be processed locally in a rudimentary fashion to generate meal and edible cake and oils, especially in Nigeria where there is a domestic market for human soybean consumption.

Demand for soy, cake, and oil is growing rapidly across the region, driven largely by growth in demand

Figure 6.3 Recent soybean production and processing growth in Sub-Saharan Africa



Note: Estimate based on FAOSTAT data on soybean oil production by country and the assumption that 18% of the total volume of processed soybean is oil.
Source: ACET soy study prepared for this report.

for poultry and, to less extent, human consumption in such markets as Malawi and Nigeria. Production has not kept up with the growth in demand, resulting in a rapid increase in imports.

The ACET 15 can be grouped in three market segments:[12]

- *Major soybean producers*. South Africa and Nigeria are the biggest soybean producers. Growth is driven largely by demand for feed for the domestic poultry industry and stocks for domestic vegetable oil producers. Nigeria protects both sectors with a ban on imports. South Africa has a relatively efficient and globally competitive agroprocessing sector with a particularly fast growing demand for poultry. Zambia and Uganda are also key producers, with Zambia rapidly emerging as a future key player in soybean and poultry, given recent very high rates of growth (box 6.5). All these countries process much of their production for oil and cake, with cake demand largely for poultry and a small but fast-growing market for human consumption.

- *Cake consumption markets*. Cameroon, Kenya, Mauritius, and Mozambique import significant quantities of soy cake (more than 10,000 tons), much as poultry feed. In Ethiopia, Ghana, Senegal, and Tanzania soy cake is not yet a major part of poultry feed, but it offers opportunities to processors who can source domestic or international supplies of soybean at sufficiently low costs.

- *Tactical consumption markets*. Botswana, Kenya, and Mozambique do not have domestic poultry production industries on par with Nigeria, but they may provide export opportunities for processors from key processing countries in the region.

Opportunities in the soy value chain

Given Sub-Saharan Africa's low overall soybean production and processing in the global soybean market and the substantial imports of soybean products into the region, opportunities for capturing value need to focus on local opportunities for displacing imports and catering to domestic growth sectors. These opportunities fall into three groups (figure 6.4).

Substitute soy imports. Sub-Saharan countries imported $1.5 billion in soybean and processed soy products in 2011, with soybean oil the largest import sector at $945 million, followed by imported cake at $552 million. Imports of soybeans have been in decline, while those of processed soybean in the form of both cake and oil have been increasing. South Africa is the largest import market at more than $700 million, a good opportunity for players in East and Southern Africa such as Uganda and Zambia. Angola and Senegal may present opportunities for processors in Nigeria (figure 6.5).

Displace other oils and meals in the African market. Within the broader oilseed market, soybean competes

Box 6.5 Zambia—a midsize soybean producer and processor

South Africa is the largest import market at more than $700 million, a good opportunity for players in East and Southern Africa such as Uganda and Zambia

Largely self-sufficient in soybean production, Zambia produced 112,000 metric tons of soybean and processed 90,000 metric tons in 2010. Only 2% of the soybean supply in 2010 came from imports. Around 85% of the supply comes from commercial farmers, characterized by use of irrigation, high input use, and fairly high yields of more than 2.9 metric tons a hectare. The processing sector has an installed crushing capacity of roughly 155,000 metric tons, more than enough for domestic demand, making Zambia a net exporter regionally.

- Integrated feed manufacturers produce animal feed and are often vertically integrated into livestock production. Zamanita, the former parastatal organization now owned by Zambeef, sells cake to Novatek and exports cake to Zimbabwe. It has the largest capacity in Zambia, some 50,000–60,000 metric tons a year. Quality Commodities, Agri Options, and National Milling Company are also important players (with 20,000, 12,000, and 12,000 metric tons of capacity).
- Oil producers refine edible oils, are often involved in oilseed crushing, and trade cake to other players. Key players include Unified Chemical, which focuses solely on refining both domestic and imported oils (mainly from Argentina), and Hi-Protein, a smaller player that refines palm oil and small quantities of soybean oil. Zamanita is also a key player in the refined soybean oil sector, with a 30% market share.

Animal feed accounted for 89% of soybean consumption in 2010, with most used for the poultry sector, which has recently grown 20% a year. Human consumption, as soy chunks and soy products such as "Yummy Soy," account for the remaining 11%. This fast-growing sector is expected to expand 8% a year through 2020.

The Zambian soybean sector appears positioned for growth. Given its location, Zambia can export soybean and processed soybean products to regional markets like South Africa and Zimbabwe, especially given the exclusive use of non–genetically modified strains. Most Zambian land with agricultural potential is still uncultivated and well suited to soybean production.

However, the soybean sector faces challenges in delivering viable financial returns. Best-in-class soybean cultivation by commercial farmers appears to be only marginally attractive, with farmgate prices of $350 a metric ton, almost the same as the breakeven price of $349. And smallholder farmers are unable to achieve attractive returns, perceiving soybean to be a riskier crop than maize, which has a guaranteed price from the government's Food Reserve Agency. The government keeps tight control over import and export permits, so only a few traders can trade internationally. Traders and processors are thus cautious when developing import and export strategies.

Source: ACET soy study prepared for this report.

with alternative sources of edible oil and oilcake. African imports of oilseed products are broadly reflective of global flows of processed oilseeds: soybean dominates Sub-Saharan imports of cake, accounting for 88% of the value of total cake imports in 2011 but only 17% of total edible oil imports (figure 6.6).

Palm oil dominates Sub-Saharan imports of edible oil, claiming a 68% share of total edible oil imports into the region by value and 72% by volume in 2011. Soybean oil is the second largest imported vegetable oil, at 17% by value and 15% by volume. Across Sub-Saharan Africa, palm oil import prices averaged $1,131 a metric ton, compared with $1,337 for soybean oil in 2011, an 18% premium. In low-income consumer segments this price differential needs to be overcome in order to compete with palm oil.

Target growth markets for soy cake. The substitution opportunity in soybean oil processing depends on finding markets for the associated soybean cake. The typical output from a crushing facility is 82% cake, so for every ton of oil sold processors need to sell approximately 4 tons of cake. In Sub-Saharan Africa exploiting the oil substitution opportunity is currently constrained by a lack of cake markets, a challenge for prospective processors. There appear to be at least two growth segments for processors to realize value from cake production:

- *Animal feed.* Although animal feed is a key application for

Figure 6.4 Key value capture opportunities in soybean

1 Substitute soy imports

- Sub-Saharan countries imported 1.4 million tons of cake, 700,000 tons of oil, and 30,000 tons of soybeans in 2011
- Represents a $1.5 billion import substitution market opportunity
- Largely localized in South Africa, although Senegal and Angola may be addressable opportunities for nearby Nigeria

2 Displace other oils and meals in the African market

- Total imports of oilseed cakes and edible oils were worth $0.6 billion and $5.6 billion into Sub-Saharan Africa respectively in 2011
- Soybean cake was the second most expensive product in its category (after groundnut cake), but was more than 80% of all cake imports by volume, implying robust demand for this product
- Conversely, soybean oil is a low share of imported oils and more expensive than palm oil, the main competing product

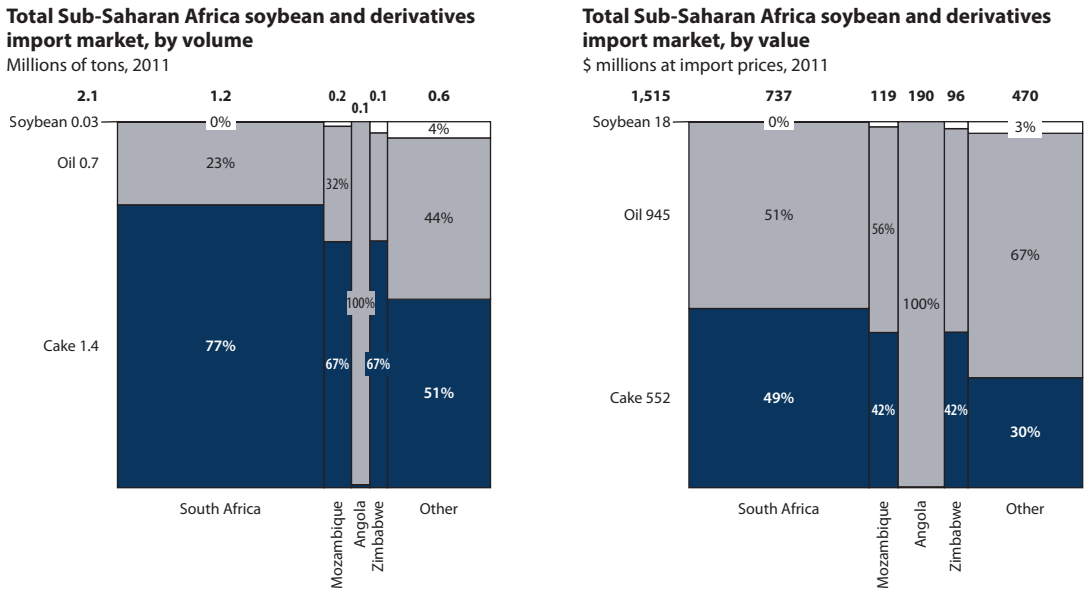
3 Target growth markets for soy

- Growth in poultry consumption largely determines which geographical markets are the most attractive to target
- Some local niches in terms of human consumption (Malawi) and nonpoultry feed (Zambia), but these remain fairly small

The substitution opportunity in soybean oil processing depends on finding markets for the associated soybean cake

Source: ACET soy study prepared for this report.

Figure 6.5 The soy import-substitution opportunity by country



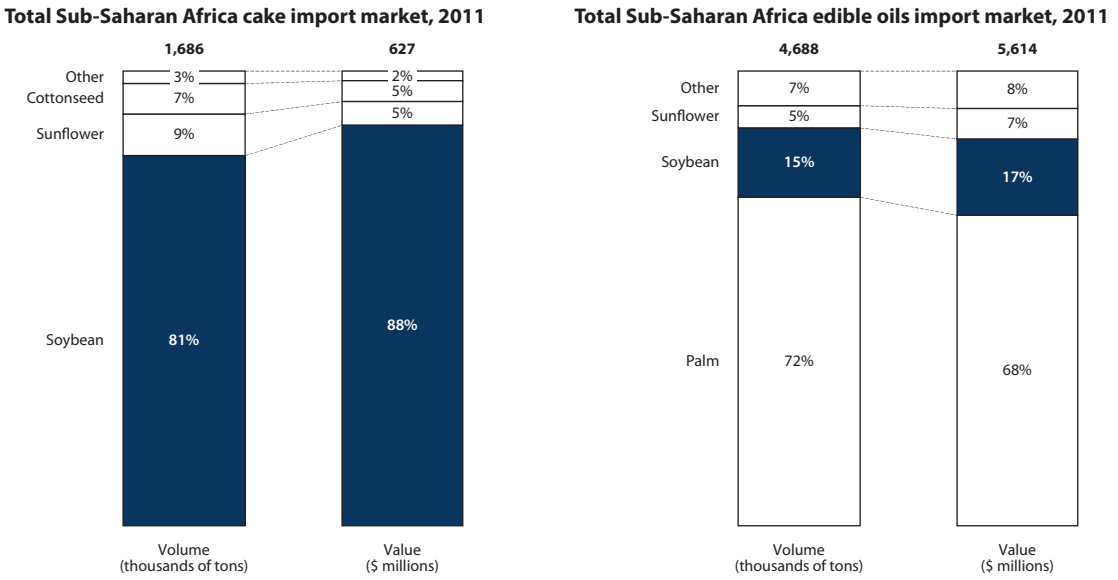
Note: Figures include trade between Sub-Saharan countries.

Source: ACET soy study prepared for this report.

soy cake in Sub-Saharan Africa, livestock feed often uses local sources of cake, such as groundnut and cottonseed. These are lower in quality, with lower protein content, but as by-products of other production processes, they can be available at low cost. Beyond displacing lower cost substitutes, fast-growing poultry sectors in Ghana, Senegal, and Zimbabwe present growth opportunities for high soy cake content feeds. As incomes increase and the urban

Converting soybean protein to poultry is a key opportunity for value addition

Figure 6.6 Sub-Saharan Africa's broader oilcake and edible oils import-substitution opportunity



Note: Figures include trade between Sub-Saharan countries.

Source: ACET soy study prepared for this report.

middle class expands, demand for poultry is set to grow rapidly.

- *Human consumption.* Soy products for human consumption such as texturized soy protein, soy milk, or corn-soy blends present an opportunity to substantially improve nutrition for low-income households. Human consumption of soy products is fairly low in Sub-Saharan Africa, with Malawi and Nigeria as key exceptions. Where there is no market for human consumption, deliberate demand-creation programs, such as those driven by the International Institute of Tropical Agriculture in Nigeria in the late 1980s and early 1990s, show that it can be stimulated. Zambia, with only a budding human consumption market, can expect to see demand growth of more than 8% a year.

Converting soybean to poultry

Simply processing soybean into oil and cake does not offer large returns. Per metric ton, soybean oil sells at a substantially higher price than cake.[13] The combined sales value tends to generate a positive gross processing margin. But margins are volatile and do not set the stage for a meaningful increase in value capture, and the simplicity of soybean crushing does not create the prospect of significant broader positive spillovers, especially in fostering a broader industrial base.

But converting soybean protein to poultry is a key opportunity for value addition. Soybean is just one component of producing poultry, but it can be the largest production cost (box 6.6). For Mozambique, $1.50 of soybean cake is required to produce a kilogram of poultry, which can be sold at a minimum breakeven price of $2.25. In many Sub-Saharan markets, demand for poultry is highly price-elastic. A reduction in soybean input costs through efficient local production could increase poultry meat affordability and lead to a substantial increase in local demand—and thus foster both the expansion of the sector and better nutritional outcomes for Sub-Saharan African populations.

Challenges for soy processing

Raw material costs—in this case for raw soybean—dominate the cost structure of soybean processors. So, prices for soybean cake and soybean oil are tied closely to soybean production costs, and processors that cannot source competitively priced raw inputs will find it hard to produce processed products at competitive prices.

African production appears to have recently become cost-competitive with international imports. South African production is 30% cheaper than Argentine soybean on the same basis (figure 6.7). With the cost of soybean processing dominated by the raw input cost of soybean, this suggests that African countries could substitute for imported processed soybean products.

Local producers may now be able to produce meal and oil for the local market at a cost advantage over

Box 6.6 Brazil—converting soy into poultry

Brazil is a leading player in the global market for production and processing. It is an important example of applying seed technology and government support to develop the sector. It also has leveraged its scale and low-cost soybean production into the poultry sector, becoming one of the world's highest volume and lowest priced exporters of poultry meat.

The Brazilian experience demonstrates many of the success factors for countries to capture value at more advanced stages in the soybean value chain.

- *Seed technologies, good practices, and technology transfers*. Developing strains well suited to cultivation in the Cerrado allowed the industry to take advantage of a latent bank of agricultural land—a precursor to exploiting massive economies of scale. For seed technology an area of debate is whether the use of genetically modified strains is an important success factor. Traits of genetically modified soybeans reduce the level of inputs required and increase farmer convenience, thus increasing yields and reducing costs. Several alternative approaches to genetically modified seed also exist—such as applying lime and using irrigation—that can deliver comparable gains. But the dominance of genetically modified soybean production both in Brazil and in the other major producers appears to be indicative of its importance for internationally competitive costs.
- *Low input costs*. Efficient soybean cultivation requires using inputs appropriately, such as inoculants to deliver economically viable yields.
- *Efficient logistics*. Strong transport infrastructure is required to aggregate cost-effectively as well as to bulk and deliver soybean to processing plants.
- *Strong domestic demand, mainly from the poultry sector.* Although Brazilian soybean producers were able to exploit massive economies of scale in production, a substantial addressable market was necessary to absorb these volumes.
- Public support focused on higher value final consumption goods sectors, especially poultry. Government support of poultry production, rather than soybean production, stimulated the entire vertically integrated soybean-to-poultry sector. Providing low-cost finance and promoting exports supported both the efficiency and the expansion of the poultry sector, thus driving domestic demand for processed soybean.

Source: ACET soy study prepared for this report.

Local producers may now be able to produce meal and oil for the local market at a cost advantage over imports

imports. Import tariffs of 8–10% on soybean meal are no longer a material factor in determining Sub-Saharan Africa's local competitiveness in the soybean sector.

But uncertainties remain. It is not clear whether the emerging cost-competitiveness of the domestic sector will be stable over time as Argentina, Brazil, and the United States continue to invest in production efficiency—especially with better genetically modified strains of soybean. Nor is it clear whether the cost advantages will remain if production in Sub-Saharan Africa were to rise to a level capable of addressing all regional demand or whether local capacity constraints and challenges in such areas as domestic logistics would more than offset any production efficiencies.

Policymakers working with firms and farms

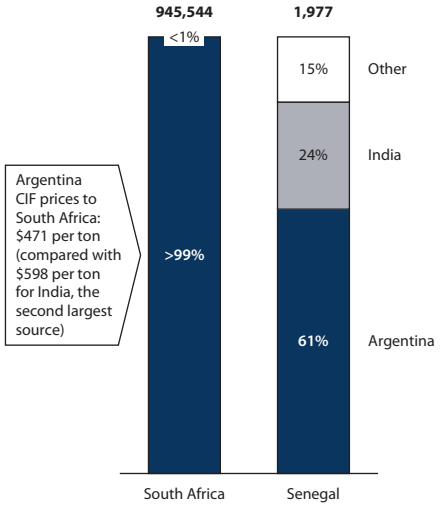
Developing soybean processing should be understood mainly as a means to reduce expensive imports and to increase the dietary protein of citizens (consumed directly or as poultry). Policymakers need to work with producers to develop an approach that can foster a fledgling industry that could—despite indications of emerging price competitiveness in African production—face some price competition in its development phase before reaching a minimum efficient scale.

Policymakers also need to decide whether to work with multinational oilseed traders and processors or to develop the processing capabilities of local firms. The development of local capabilities has many broad benefits, including employment, skills development, and income generation. But the fairly low value added from soybean processing suggests that a detailed analysis of country-specific impacts is required to determine the appropriate policy balance. A full case for soybean

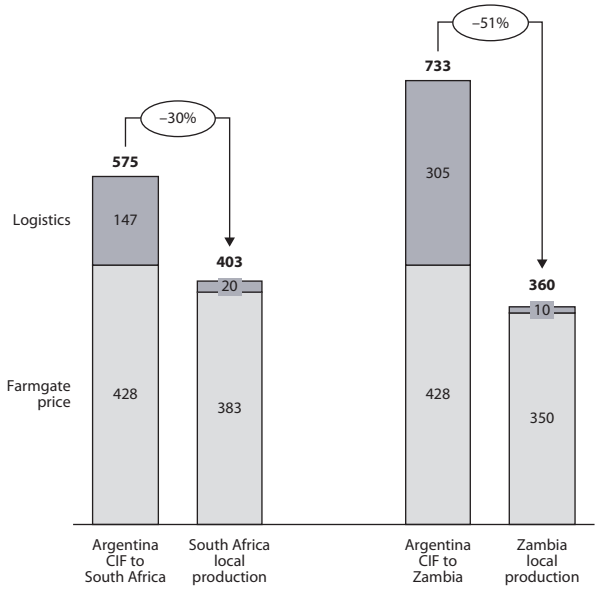
The public sector can promote better organization of the soybean supply chain to improve efficiency and minimize the number of market intermediaries

Figure 6.7 How South Africa measures up to Argentina

Sources of imports for South Africa and Senegal: soybean cake
Tons, 2011



Comparison of imported soybean vs. local production for South Africa and Zambia
$ per ton, 2010



Note: CIF is cost, insurance, and freight.
Source: ACET soy study prepared for this report.

processing should thus include the implications for poultry, since soya feed typically accounts for almost 40% of total production cost of poultry meat in commercial farms in Sub-Saharan Africa. Efficient low-cost production could materially increase the affordability and level of poultry protein consumption in Sub-Saharan African countries, and the commercial and social benefits could be substantial.

Ensure the availability of soybean supply for processors. The cost of raw soybean is most important for processors. To be viable, a soybean processor needs sufficient quantities of quality soybean at a reasonable cost. Local crop cycles can require large stocks, leading to high demand for working capital and storage facilities.

For countries that cultivate soybean largely through commercial farming, such as Zambia, processors that source soybean need to interact with only a small number of commercial farmers. But for countries with highly fragmented production, processors typically need to source soybean from traders that will consolidate volumes at a markup, reducing margins. The public sector can promote better organization of the soybean supply chain to improve efficiency and minimize the number of market intermediaries in aggregating soybean. One option is for producers to organize in groups or cooperatives that can trade their volumes in bulk directly with processors.

Assess regional opportunities. Although it may be possible to stimulate soybean processing domestically, producing countries can also assess the available regional processing opportunities, which may justify a much larger response or higher priority for the sector. Zambia's ability to export to regional markets like South Africa, as well as potentially nascent local markets, presents an important opportunity, especially given the expected continuation of rapid growth in South Africa's poultry sector. Nigeria is well placed to serve markets in Angola and Senegal, with both likely to see rising demand from their local livestock sectors.

For non-soybean-producing countries or countries with existing processing capabilities in soybean or other oilseed markets, greater regional soybean production could provide feedstock for a new business line. South African oilseed processors serving local demand for sunflower oil could also be viable partners for regional soybean producers that lack the ability or interest to invest in soybean processing facilities.

Address potential policy tradeoffs. Policy tradeoffs specific to the soybean sector need to be addressed when determining an overall approach for defining a soybean strategy:

- *Planting genetically or non–genetically modified soybean?* Although genetically modified soybean is usually assumed to be adapted to deliver higher yields, this is not the case. The traits for genetically modified soybean, focused mainly on enhancing farmer convenience and lowering input costs, do not directly increase yields, but they can contribute to yield increases by reducing pest damage and weeds. This indirect effect has recently been estimated to generate a 12% increase in yields.[14] But applying good agronomic practices and conventional agricultural technologies can deliver equivalent or greater yield increases. Irrigation can increase yields 20–100%, while using inoculants and lime can increase them more than 10%.[15]

- *Promoting soybean or alternative crops?* Given limited agricultural resources and constrained public sector management capacity and finances, any decision to accelerate the soybean sector needs to consider the net impact on other crops, especially if direct support to the soybean sector creates market-distorting incentives rather than business-enabling policies that support agroprocessing generally.

- *Protecting infant industries or protecting consumers?* With tariffs or import bans, or more general support of a domestic sector for substituting for imports, governments must assess a tradeoff between the potential positive effects on the industry and the negative effects on consumers and clients who would need to pay higher prices. The need to weigh these considerations with the potential dynamic development of the sector over time adds further complexity to the tradeoffs in formulating policy to protect an infant industry.

- *Leveraging the expertise of key international players or developing local knowhow?* Major international players—such as Archer Daniels Midland, Cargill, and Bunge—have extensive knowhow in producing, processing, marketing, and trading soybeans, and they are likely to expand into Sub-Saharan Africa over the medium term. Rapid expansion of the sector could be achieved by governments that work with such players to leverage their knowhow and access to capital and markets. But this could be at the expense of developing domestic businesses in the sector, unless deliberate strategies to promote spillovers and links between the international players and domestic businesses are promoted.

* * *

The analysis of the three crops points to many opportunities in Sub-Saharan Africa for adding value to agricultural production through processing and other measures. Representing traditional exports, nontraditional exports, and import substitution, the discussions on coffee, fruits, and soybean have identified the opportunities. The analysis has also shown that for countries to take advantage of them would require several specific initiatives from governments, in addition to improvements in the general business environment, in order to help the budding processors and commercial farmers as well as the smallholders in the region.

Many of the policy issues and initiatives identified as required for promoting the three products in fact would also facilitate processing and value addition in other agricultural products. For example, promoting the establishment of coffee hubs would require improved port logistics, deepening of financial services, and a more liberalized interregional trade. As the chapter shows, progress in these areas would also help fruit processing as well as development of soybean processing together with the associated poultry industry. Clearly, these improvements would also benefit processing and value addition in other agricultural products, and indeed those outside agriculture. Similarly, value addition in fruits and soybean requires initiatives to link processors and disbursed small farmers, including in outgrower schemes. A country that learns how to organize this effectively in one agricultural product can certainly extend the approach to other agricultural products with considerable smallholder involvement.

A country that learns how to organize one agricultural product can extend the approach to other agricultural products with considerable smallholder involvement

As a last example, the discussions of all three products raised the issues of the tradeoff between expanding the volume of exports and branding and niche exports and the tradeoff between linking up with the big multinationals for quick results and export entry and the slower but perhaps more enduring process of developing domestic firms. These are issues germane to the whole economic transformation process.

Notes

1. ACET soy study prepared for this report.
2. The discussions of coffee, fruits, and soy are drawn from agroprocessing studies commissioned by ACET and conducted by Dalberg Associates. Other studies conducted by Dalberg Associates and ACET staff cover cocoa, cotton, palm oil, and sugar.
3. International Coffee Association 2013.
4. Based on an estimate of 160 million 60-kilogram bags—or 9.6 million tons—of coffee that could be absorbed (that is, traded) by 2020 according to the International Coffee Association and Nestlé. The Fairtrade Foundation (2012) estimates that

global consumption could reach 9.09 million tons by 2019.

5. USDA 2011.

6. At free-on-board export prices.

7. Based on an estimate of total exports of green coffee of 6.3 million tons in the 2010/11 season by the International Coffee Organization (ICO 2013) and an estimate of global Fairtrade certified coffee sold of 88,000 tons in 2010, according to the Fairtrade Foundation (2012)

8. Based on estimates of consumption demand for fruit juice in Sub-Saharan Africa of 7.1% a year over 2007–12, versus 2.7% a year for fresh fruit.

9. USAID 2009.

10. Based on the fact that raw mango accounts for only 4.5% of the total retail value of the product and that pulp and nectar in pouches account for 12.6% and 80% of the value, respectively. The factor-level increase in converting raw mango to pulp is calculated by dividing the share of retail value of pulp (12.6%) by the share of retail value of the raw mango (4.5%).

11. Processing volumes are estimated from FAO (2011) data by using soybean oil production data, assuming that 18% of the total volume of crushed soybean is oil.

12. The countries reflect the 15 covered in the *African Transformation Report*.

13. As an example, based on a small 36,000 metric ton crushing facility in Rwanda, soybean meal prices were 0.9 times the cost of raw soybeans, while soybean oil was sold at 4.3 times the price of raw soybean.

14. Yield gains for herbicide-tolerant soybean versus conventional soybean have been estimated at 12.4% globally (Sexton and Zilberman 2010).

15. TechnoServe 2011.

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Oil refinery, Port Harcourt, Nigeria

CHAPTER 7

Managing oil, gas, and minerals

Africa's natural resources belong to its people—today and in the future. How, then, can countries ensure that extracting those resources benefits more than a few? By managing everything that's involved—well, fairly, and openly.

Africa is the least explored continent, but many African countries are endowed with abundant oil, gas, and mineral resources and have economies that depend heavily on their extraction and exports. The extractive industry in many of these countries is highly concentrated on extraction upstream, so the exports are also limited to the raw primary product, not semi-processed or processed versions. The upstream part of the value chain is often in an enclave with few links to the rest of the economy. Similarly, the concentration on unprocessed products misses opportunities to develop links with the economy to increase incomes and employment. Moreover, the exports of raw commodities can expose a country to volatile prices and thus volatile revenues. All this, coupled with the fact that extractive resources tend to be exhaustible and nonrenewable, makes sustainable development particularly challenging for countries highly dependent on them.

The goal must be to manage natural resource endowments to develop the rest of the economy—and to avoid concentrating wealth in the hands of a few, spending for current consumption rather than investing in the future, allowing the exchange rate to become overvalued to discourage other exports, and creating environmental nightmares. It must also be to avoid the curse of relying on highly volatile commodity export prices and public revenues.

The first steps to good management are getting better at geological surveys in order to know what the country has and getting better at negotiating with foreign companies to ensure fair deals. Three instruments dominate in deriving revenues from extractive industries: taxes on profits, royalties per unit of production, and equity stakes in a joint-venture subsidiary. Taxes on profits depend on keeping a close eye on revenues, costs, and transfer prices. Royalties depend on tracking the units of production. And a minority stake in a joint venture can depend on overall profitability and the dividend policy of the extractive firm. Each instrument has pluses and minuses, and each demands considerable accounting and auditing capabilities.

Because resources, once extracted, are gone forever, another step in turning oil, gas, and minerals into blessings is to see them as part of a portfolio of national assets that also includes human capital, physical capital, financial

The key for Africa is to capture value through policies that, along the value chain, generate productivity improvements and strong local links and ultimately produce inclusive growth

capital, and institutional capital. Countries can enjoy fast growth and sizable revenues from extraction for a time, but they can end up worse off than before a boom if they do not use their share of the revenues to build those other assets—for this and future generations. Government revenues from oil, gas, and minerals can also promote technological upgrading, productivity increases, and growth in other sectors of the economy.

That is why it is important to spend today to build human, physical, and financial assets along with the institutional assets not just for regulating extraction but also for selecting and monitoring projects—and for delivering services and managing the entire economy. It is also important to separate resource revenues from other revenues—and to invest in the long term. And it is important to do more than simply extract—to refine oil, to liquefy natural gas, to process diamonds and other minerals. Also required is monitoring what companies do, investing in the transport infrastructure that also supports agriculture and other parts of the economy, reducing the social and environmental costs, and saving and investing for future generations.

Looking forward, the key for Africa is to capture value through policies that, along the value chain, generate productivity improvements and strong local links and ultimately produce inclusive growth. The oil, gas, and mineral sector does not generate much employment, unlike manufacturing industries or related services, and is unlikely to absorb surplus labor from agriculture. So the challenge is how to use the oil, gas, and minerals to leverage structural change from low- to high-productivity sectors and activities in the economy. Africa is the world's top producer of numerous minerals and has the world's greatest reserves of many more. It can use them strategically as a platform for transformation and help accelerate growth.

This chapter does not provide a comprehensive analysis of natural resources in Africa. Such analysis is readily available in *African Mining Vision* (2009), *Oil and Gas in Africa* (2009), and *Minerals and Africa's Development* (2011), initiated separately or jointly by the African Union, African Development Bank, and the UN Economic Commission for Africa.[1] Nor does it discuss the macroeconomics of overall expenditure control to avoid excessive inflation, exchange rate overvaluation, and the attendant Dutch disease that can wipe out non-resource-based exports. These issues have received widespread attention elsewhere and are covered to some extent in the discussion of macroeconomic and exchange rate policies in chapters 2 and 3. Instead, this chapter focuses on governance issues within the ambit of direct government action.

- Improving governance and management of the extractive sector.
- Designing and executing fiscal regimes.
- Linking resource extraction to the rest of the economy.
- Adding local content and finding opportunities in the extractive value chain.
- Managing artisanal mining.

But first, an overview of Africa's reserves and revenue potential.

Reserves and revenues

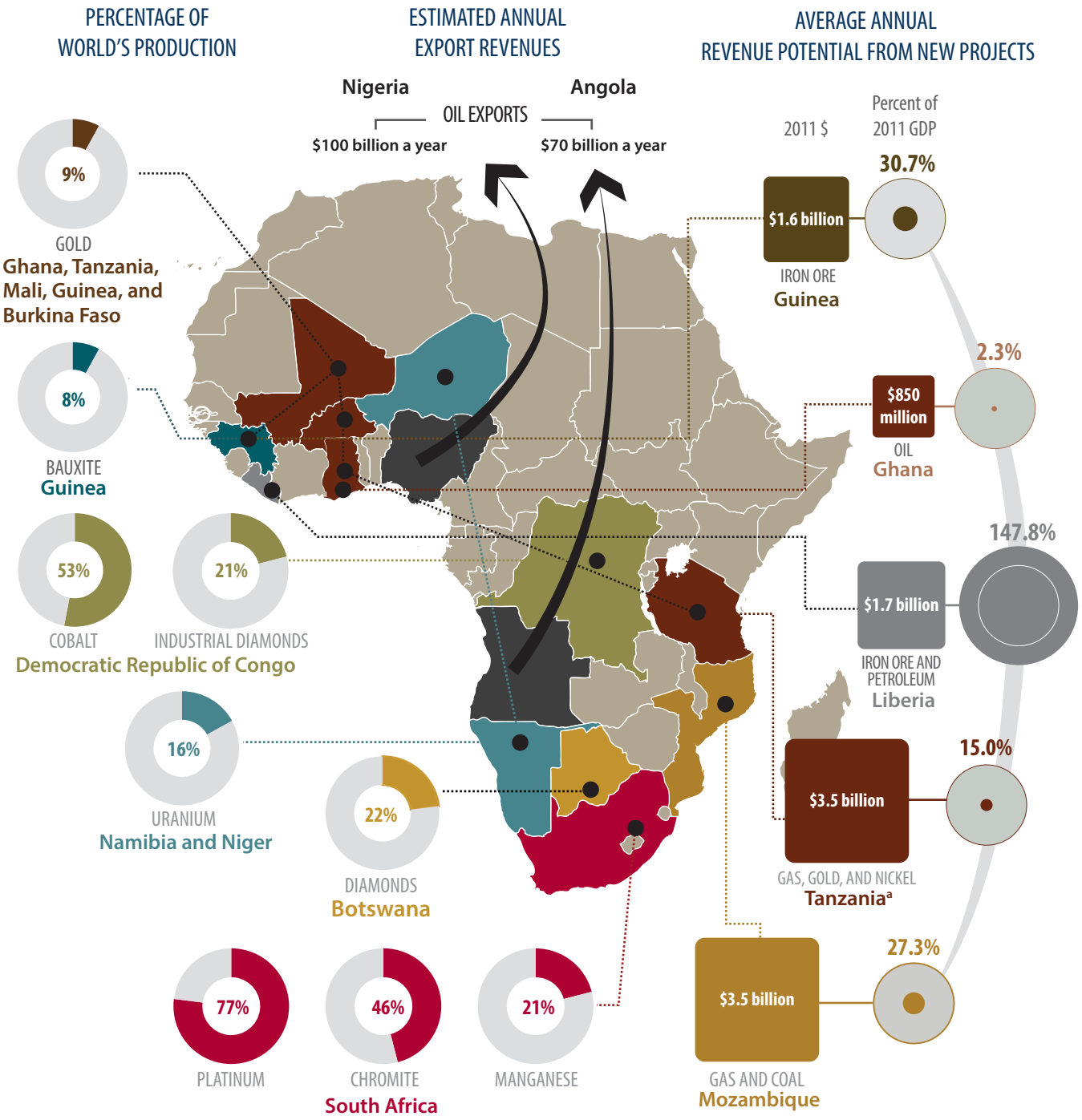
Africa's known reserves of oil, gas, and minerals are enormous. South Africa alone has 80% of the world's high-grade manganese deposits, and South Africa and Zimbabwe have 80% of the platinum-group metals. Guinea has the largest bauxite reserves. Africa's two major iron ore producers today, South Africa and Mauritania, together account for about 2% of world reserves. For gold South Africa and Ghana together account for about 15% of 2012 world reserves. For copper the Democratic Republic of Congo and Zambia together have about 6% of world reserves, and for cobalt the Democratic Republic of Congo has about 45% of world reserves. Africa's unknown reserves are likely many times more. Witness the recent discoveries: oil in Ghana, high-grade iron ore in Guinea, oil and gas in East Africa, gas and coal in Mozambique.[2]

And thanks to high global demand, Africa's share of global production is significant for many minerals: South Africa at 77% for platinum and 46% for chromite, Democratic Republic of Congo at 53% for cobalt and 21% for industrial diamonds, and Namibia and Niger at 16% for uranium (figure 7.1).[3]

In 2010 mineral rents—the difference between the value of output of several minerals at world prices and their total cost of production—were about 2.7% of GDP for Sub-Saharan Africa—and more than 1% for 19 countries. Mauritania had the highest at about 54%, followed by Zambia at 27%, Democratic Republic of Congo at 16%, Ghana at 9%, Botswana at 5%, and South Africa at 4%. In 2010 oil rents were nearly 30% of GDP in Nigeria. Petroleum's share in export revenues was 96% in Angola and 86% in Nigeria.[4]

The enlarged fiscal space from natural resource extraction can generate large revenues for governments, which in turn can finance the provision of public goods and services that benefit sustainable development and poverty reduction. Managed properly, windfall revenues can be an important source of financing for development. Well designed and implemented, resource extraction can also be a catalyst for job creation and service provision through backward and

Figure 7.1 Examples of Africa's natural resource wealth



Note: The estimates show orders of magnitude. Revenue projections are highly sensitive to assumptions about prices, production phasing, and underlying production and capital costs.

a. Data represent annual revenue at peak production.

Source: Reproduced with permission from African Progress Panel (2013).

forward links that generate additional economic activity.

Governance and management

The fiscal regime in a resource-rich country is the main instrument for turning natural wealth into financial wealth that can fund government investments and activities in development

Not using natural resource wealth to transform economies and enrich the lives of citizens remains the failure of many resource-rich African countries. Extracting wealth has provoked conflicts and inflicted deleterious social and economic impacts, as in Angola, Chad, Democratic Republic of Congo, Liberia, Nigeria, Sierra Leone, and recently South Sudan. For those that have averted open conflicts over their natural wealth, the beneficial impacts have been modest or contestable (Ghana and Zambia, despite their long histories of mineral development).

Africa's resource-based development and industrialization have fallen behind. And dependency on the initial resource endowment remains high. Nigeria with its abundant oil and gas reserves (the world's fourth largest oil exporter) has for nearly five decades failed to build a sustainable competitive and diversified economy. And after a century of gold mining, Ghana's share of resource rents is small, its employment generation low, and the links with the rest of the economy very limited. The same is true for Zambia's copper, Democratic Republic of Congo's cobalt, Namibia's and Niger's uranium, Guinea's bauxite, and until recently Botswana's diamonds.

Governments are failing on two fronts: in the commercial exploitation of the resource and in the judicious use of revenues for greater public benefit, the two ends of the chain of required government actions.

Government action begins with controlling the resource. First is setting the policy and rule of law for commercial arrangements to exploit the resource, the regulations and institutional arrangements, and the sharing of benefits between the government and private firms. Next are the institutional and operational arrangements for assessing, collecting, and managing the revenues—and linking with the rest of the economy through local content and value addition. Third is delivering on the social contract between government and citizens by using the enlarged fiscal space to accelerate growth and make inroads into poverty reduction and economic transformation.

The key element determining whether a resource will be a curse or blessing, according to *African Mining Vision,* is the capacity for governance and the functioning of institutions.[5] Governance refers to the legal and institutional environment for various actors to promote resource control, transparency, and accountability. According to the World Bank's Worldwide Governance Indicators, good governance is about government effectiveness, regulatory quality, the rule of law, the control of corruption, political stability, and voice and accountability.

A recent study, *Oil and Gas in Africa,* identified the critical ingredients to be embedded in any coherent strategy aimed at harnessing a country's resource wealth to include resource control, preserving and optimizing the resource base, protecting the environment, and securing equitable and intergenerational long-term benefits.[6] Governance thus goes beyond laws and regulations. And capable institutions are critical in the administration of the laws and regulations. No less critical is the free flow of information among institutions charged with regulatory oversight and between government and the public.

Botswana shows that the resource curse is not inevitable, that good resource control is possible without deterring private interests, and that dedicated leadership can create the right environment and incentives to exploit natural resources without destroying the environment (box 7.1). The risks of rent-based economies can also be mitigated by paying attention to the links among policy, laws, and institutions. And to prevent possible conflicts of interest and vulnerabilities to bad governance and corruption, there needs to be a clear separation of political and regulatory powers in the country's public management structure.

Long-term economic planning and good fiscal discipline can ensure the best use of resource revenues. Financial assets can be invested for the long term with transparent rules and regulations and accountable structures to manage the fund. The responsibilities for regulating and managing natural resources can be clearly defined and followed. And the institutions in charge of regulating and managing the sector can be insulated from undue pressure and influence, with their operations monitored regularly by the relevant oversight institutions.

Designing and executing the fiscal regime and getting a fair deal

The fiscal regime in a resource-rich country is the main instrument for turning natural wealth into financial wealth that can fund government investments and activities in development. Countries want revenues, companies want profits, and citizens want visible benefits. There is tension between an oil, gas, and mineral company's profit motives and a government's desires for revenues from the exploitation of natural resources. This can be particularly acute in frontier countries with newly discovered resources that need to attract foreign direct investment.

Box 7.1 Botswana's political leadership and governance

Botswana stands out in making its minerals a source of economic growth and social development for its people. It has done so through good political leadership, good regulation, effective economic management, powerful anticorruption policies, and providing strong voice to the public.

Holding government to account. Parliamentary elections have been held regularly since independence in 1966 without major incidents, allowing citizens to hold to account those managing resource revenues on their behalf.

Long-term economic planning and fiscal discipline. There is a close connection between long-term national planning and the national budget. Botswana's fiscal discipline has avoided prestige projects and significantly reduced the opportunities for corruption. Mineral revenues can be spent only for capital projects included in the national development plan (45%), education and training (42%), and health services (13%). Nonmineral revenues finance other recurrent spending.

Regulating and managing the mining sector. Clear demarcation of responsibilities for the natural resource sector has also been a key factor. The Minister of Minerals, Energy, and Water Resources issues all applications for prospecting licenses on a first-come, first-served basis and collects mineral royalties. The Botswana Unified Revenue Service collects mining taxes and dividends. They both report to Parliament and the Office of the Auditor-General.

Controlling public spending. The government transfers revenues or provides subventions to district and town councils in accord with a formula that takes predetermined factors into account. These operations are monitored by the Auditor-General, the Public Accounts Committee of Parliament, the full Parliament, the media, an independent judiciary, and the Directorate on Corruption and Economic Crime.

Investing revenues. To preserve part of the diamond revenues for future generations, Botswana's Pula Fund is managed by the Executive Team of the Reserve Bank, without undue interference from the government.

Improving the investment climate. The government has created an enabling environment for investments. Successive negotiations with De Beers have enabled the government to buy 50% of Debswana, the operating company. Its "take" is now 81%, including royalties, taxes, and dividends.

Anticorruption institutions. A transparent budgetary and procurement process prevents corruption. The Directorate on Corruption and Economic Crime was established in 1994 to drive the anticorruption agenda.

Source: Amegashie and Kamara 2008.

Countries want revenues, companies want profits, and citizens want visible benefits

In the global competition to attract foreign direct investment for the development of natural resources, countries use their fiscal regimes and policies to enhance their chances. The question of how much the investor captures and how much the nation retains is continually examined.

The fiscal regime encompasses the policies and the arrangements that determine the sharing of benefits between the resource companies and the government as the resource owner. The key questions include:

- Does the fiscal regime balance fairly the long-term interest of the country and the risks and market uncertainties of investors that provide capital?
- Can the existing fiscal system flexibly accommodate changing circumstances to guard against unintended asymmetric distributions of rewards and risks?
- Will the domestic tax system encourage proper cost controls and the use of new technologies for the most efficient extraction?
- How can the net impact of extractive resources improve with appropriate reforms?

These questions should be at the heart of government concerns, and the answers are usually context-specific, so it is seldom helpful to make general prescriptions. But some design and implementation features are common.

Design features encompass how blocks or concessions are assigned as well as the contractual framework, the bonus system, the royalty and taxation instruments, the incentives to control costs, the repatriation of profits, and the state's participation over the life of the project.[7]

Good design should guard against giving away too much while at the

To learn more about what natural assets they have, governments should invest more in geological surveys, starting with aerial photographs and satellite images

same time enabling companies to earn good returns on their investments. The 2007 Big Table on Managing African Natural Resources for Growth and Poverty Reduction stressed the need to exact better terms from natural resource exploitation, sentiments echoed by the *African Mining Vision* in 2009. Several governments are taking fresh steps to capture a bigger share of the resource rents in different forms.

- Zimbabwe introduced a new indigenization law that requires foreign companies to cede 51% of their equity to black Zimbabweans.
- South Africa appears to be considering a 50% windfall tax on mining "super profits" and a 50% capital gains tax on the sale of prospecting rights.
- Ghana announced a review and possible renegotiation of all mining contracts in 2010 to ensure that mining profits are maximized and later increased its royalties from 3% to 5%.
- Zambia recently doubled its oil, gas, and mineral royalties to 6%.
- Namibia is transferring all new mining and exploration to a state-owned company.
- Nigeria seems keen to renegotiate offshore oil contracts because today's "unfair fiscal terms" supposedly cost the country up to $5 billion a year in lost revenue.
- Kenya, in its Mining Bill 2013, reviewed all its royalty and drilling charges. Royalty rates on valuable rare earths (niobium, titanium ores) increased to 10%, gold to 5%, and metallic ores such as iron, manganese, chromium, and bauxite to 8%.[8]

Such measures, often prompted by rising resource prices, can be justifiable in some circumstances. But they can also mark the reputation of governments for fiscal and contract instability. And there are concerns whether changing the fiscal regime's design will be enough to generate the desired fiscal outcomes.

Whatever the fiscal terms, much more can be done about things that affect the overall fiscal benefits to the state and the effectiveness of implementation, especially in awarding licenses and contracts and administering revenues.

Awarding rights, licenses, and contracts

Mining companies bidding for exploration rights always know more about the real prospects than the governments issuing the rights. They also have a world to explore and decades of experience in acquiring and exercising rights. And they have patience, often preferring to let others improve their prospects and proceeding with exploration only when other discoveries near their parcels are confirmed.

To learn more about what natural assets they have, governments should invest more in geological surveys, starting with aerial photographs and satellite images to get a sense of promising terrain, moving to geodetic surveys of the surface to map topographic features, and then exploring below the surface to produce three-dimensional patterns. Just having high-resolution aerial surveys can put governments on a better footing before auctioning exploration rights and attracting investors. To avoid giving away too much, governments can auction such rights in stages, not in one go. They should also limit the terms of agreements to a few years so that rights holders do not wait for the discoveries of others before moving ahead.

Where there is no open process for bidding or tendering rights, the licenses, rights, and contracts are awarded through some administrative process, with the right to stake an exploration claim most likely going to whoever pays the requisite fees. But where agreements are kept confidential with no oversight or publication requirements, the system opens the door to rent seeking and tax evasion. Consider how mining rights are allocated in Ghana, the strong role of the executive, the weak oversight of parliament, and the potential impact on the fiscal benefits to the public (box 7.2). It seems reasonable to assume that governments issuing prospecting and exploration rights to private firms based on executive negotiation are less likely to generate fair deals and optimum benefits to the public.

Auctions and bonus bidding, in addition to royalty taxes, can secure for governments a higher share of revenues over the life of projects. Witness Kenya's attempt to increase transparency and maximize revenue flows in auctioning petroleum exploration blocks (box 7.3).

Open tender is also the means of petroleum licensing in Angola's Petroleum Activities Law to maximize transparency and benefits to the state and to set the incentives for open tender (box 7.4).

Administering revenues

Because of the weak links of resource activities to the rest of the economy, most resource-rich Sub-Saharan economies have relied almost exclusively on direct fiscal terms (South Africa is the exception). So the clarity of those fiscal terms and the effectiveness of resource revenue administration are critical. As noted earlier, the fiscal terms include all the tax (including downstream taxes) and cost-recovery elements. Models of good fiscal terms, with regard to their effects on exploration, development, and extraction, and best practices abound and can be adapted to suit country-specific circumstances. But many resource-producing countries lack the capacity to fully

Box 7.2 Executive control and parliamentary oversight in Ghana's mineral licensing

Ghana's Minerals and Mining Act (Act 703) stipulates that companies apply for a mining right, which the sector minister, on the recommendations of the Mineral Commission, may grant or reject with cause. The final outcome is the result of negotiations between government through the sector minister and Mineral Commission and the mining companies.

Act 703 also requires that any contract or undertaking for the exploitation of minerals in Ghana should be ratified by parliament, and this includes a stability agreement and a development agreement. But more often than not, agreements are "ratified" by a parliamentary subcommittee on mines (chaired by a member of the majority ruling party) rather than the whole body.

That aside, section 5.5 of Act 703 states that some class of transactions, contracts, or undertakings—supported by the votes of not less than two-thirds of all members of parliament—may be exempted from parliamentary ratification. By not spelling out the triggers for this waiver, section 5.5 inadvertently undermines accountability. And it further strengthens executive dominance over licenses and concessions, arguably creating opportunities for opaque transactions on a company-by-company basis.

In the parliamentary debates of October 20, 2008, it came to light that mining leases granted to 21 companies between 1994 and 2007 were operational even without parliament's ratification. The fiscal provisions of the agreements, never debated, were ratified ex post. Indeed, the role of parliament in the overall governance of the mining regime raises concerns about transparency, accountability, and the power of the executive over parliamentary scrutiny. Strong executive dominance and the weak oversight role of parliament greatly compromise the fiscal benefits to the primary resources owners.

Source: ACET 2013b.

Box 7.3 Auctioning Kenya's exploration blocks

Thanks to an airborne gradiometry survey and geochemical modeling, Taipan Resources, based in Vancouver and Nairobi, thinks it will find a few billion barrels of oil in Kenya's Anza block, where it has exploration rights. Adding to the outlook, recent discoveries by Tullow in western Kenya and Uganda are in similar geological settings. Across its northern border, South Sudan, southern Somalia, and Ethiopia have fields very similar geologically to those in Kenya.

Kenya now auctions the licensing of blocks, having previously issued them to first comers. It also sets deadlines for surveys and offers additional exploration periods. And in line with the good management practice of staggering the issue of licenses, rather than all at once, Kenya is rolling out eight new blocks after the new government is in place, following the recent elections.

Energy Ministry official Patrick Nyoike said, "Some of the new blocks had been relinquished by explorers and will be repackaged for the auctions. Many companies have shown interest, Chevron and Eni among them."

Source: www.taipanresources.com; http://africajournalismtheworld.com/tag/permanent-secretary-for-energy-patrick-nyoike/.

Good resource revenue management presumes effective resource administration. Having several ministries and agencies assessing and collecting revenues can undermine collection

assess and collect the revenues due to the state. And different filing and payment rules and ill-constructed procedures and tax instruments increase the complexity.[9]

Good resource revenue management presumes effective resource administration. Having several ministries and agencies assessing and collecting revenues can undermine collection. Poor institutional coordination, poor information technology and management information systems, and the absence of an information technology network

Box 7.4 Angola's petroleum activities law

The Petroleum Activities Law deals with petroleum concessions for the National Concessionaire where it wants to apply for concession in association with other companies. Subsection 4 provides that award should be done by open tender—and can be done by direct negotiations only:

- Immediately following an open tender procedure that has not resulted in the awarding of the status of associate of the National Concessionaire to a company because of the lack of bids.
- Immediately following an open tender procedure that has not resulted in the awarding of the status of associate of the National Concessionaire due to the supervising ministry, after consulting with the National Concessionaire, considering the submitted bids unsatisfactory in view of the adopted criteria for the award.

Subsection 5 further provides a disincentive for direct negotiation in favor of open tender. It states that "In the event of receiving a proposal for direct negotiations the National Concessionaire, if the supervising ministry decides to go ahead with the award of the petroleum concession, shall declare the same through a public notice, and may commence direct negotiations with the company involved if, within 15 days from the date of the notice, no other entity declares an interest in the area in question." The law further provides, "If other entities declare an interest in the same concession area, a tender shall be held limited to the interested companies."

Source: Republic of Angola 2004.

Countries have to put in place systems to ensure that they are earning a fair share from its resources—and to promote local content and linkages to the rest of the economy

connecting different agencies can make coordination and collaboration even more difficult. And the absence of clearly delineated responsibilities and accountabilities for ministries can produce confusion in implementing the fiscal regime. Consider the varying arrangements for assessing and collecting different sources of resource revenues—from a single institution in Equatorial Guinea, Gabon, and Guinea to three institutions in Nigeria (table 7.1).

No matter how well a country designs its fiscal regime, if the institutional and administrative ability of the government is not well developed, it is likely that fewer revenues will be collected and fewer benefits created.

Many resource-rich countries lack the institutional capacity to fully assess and collect the government's share of profits from all income sources, including bonuses, royalties, oil taxes, and government's participating interest—for many reasons. The number of taxes can cause excess complexity with different filing and payment rules, procedures, and forms. The number of ministries and agencies responsible for assessing the different income streams to government can also impair the ability to collect revenues, as can the weak government accounting systems. Poor information technology and management information systems connecting different agencies make coordination and collaboration in assessing revenues even more difficult.

These agencies need the skills and resources to create a clear, comprehensive tax and fiscal regime that can be managed to collect revenue for the state. Where skills are not available domestically, countries should engage qualified international audit, legal, and commercial consultants—and twin their support to develop local capability.

Countries have to put in place systems to ensure that they are earning a fair share from its resources—and to promote local content and linkages to the rest of the economy. Governments should not allow the revenues from the resource extraction to lead to uncontrolled public spending that contributes to high inflation, wage hikes, and exchange rate appreciations, discouraging other exports. Prudent macroeconomic and exchange rate management is thus critical in avoiding the resource curse.

Assessing the risks and benefits of state equity participation

Resource extractive industries have largely been shaped by privately owned companies. In petroleum state participation in one form or the other began in the 1920s. Direct state participation gained traction worldwide in the 1970s led by OPEC countries—to control resources and to gain revenues from the private international oil companies. In mining privatization was in vogue in the mid-1990s as part of the worldwide reforms of the sector under

Table 7.1 Institutions for collecting resource revenue

		Government revenue collection agency or body		
Country	**Resource**	**Ministry of finance or directorate under this ministry**	**Sector ministry or directorate under ministry**	**State natural resource company**
Angola	Hydrocarbons	Finance ministry collects income taxes from companies.		Sonangol determines and collects the petroleum profits.
Botswana	Minerals	The Botswana Unified Revenue Service collects taxes.	Department of Mines, Energy and Water Resources collects mineral royalties and regulates the industry.	
Cameroon	Hydrocarbons	Tax department of the finance ministry collects corporate taxes from private oil companies and the national oil company.		The Société Nationale des Hydrocarbures collects the largest revenue streams.
Congo, Rep.	Hydrocarbons and minerals	The finance ministry collects all taxes from resource companies.		In joint ventures signing bonuses, royalties, and proceeds from asset sales go directly to the natural resource company.
Equatorial Guinea, Ghana, Guinea, Liberia, Mozambique, South Africa, Zambia	Hydrocarbons and minerals	Finance ministry or central finance agencies (revenue authorities) under the ministry collect all payments from extractive industry companies. In Ghana the Ghana Revenue Authority under the finance ministry collects income from all sources. In Mozambique the general tax directorate of the finance ministry collects royalties, taxes, and profit shares from companies.		Signing bonuses may accrue to the natural resource company, as in Liberia.
Nigeria	Hydrocarbons	Federal internal revenue service collects petroleum profit tax.	Department of petroleum resources collects rents, royalties, license fees, bonuses, and other payments.	The Nigerian National Petroleum Corporation collects government equity share, receives and markets the government share of crude production, and receives allocations to local refineries.
Sierra Leone	Diamonds	National revenue authority collects taxes on mining activities.	Mines and mineral resources ministry collects other payments (including royalties and bonuses).	
Tanzania	Minerals	The revenue authority collects tax payments from mining companies.	The energy and minerals ministry collects other nontax payments from mining companies.	

Source: ACET research.

Production sharing, a popular form of state participation in the oil and gas sector, provides the state with a share of income or physical production after cost recovery by the private investor

a variety of partnership arrangements in a country's mining fiscal regime.

State equity participation can take three forms: full equity, free equity, and production sharing. Full equity participation can range from a state-owned national company responsible for funding the enterprise—to the state acquiring either an interest in an incorporated joint enterprise or a share in an unincorporated joint venture. The former is common in mining projects, and the latter in oil and gas projects. In 2011 there were 17 national oil companies in Africa, including some of the world's largest producers: Algeria, Libya, and Nigeria.[10]

Free equity participation—the grant of an equity interest to the state with no financial obligation—is common in West Africa. Ghana's mining fiscal regime requires a 10% free equity share in projects but, at least on the books, also allows for the state to purchase an additional 20% at fair market value. Côte d'Ivoire and Guinea have similar arrangements but with variants for the mineral being extracted.

Production sharing, a popular form of state participation in the oil and gas sector, provides the state with a share of income or physical production after cost recovery by the private investor, without any offsetting financial obligation. Government equity shares may also take the form of a participating interest, where the government pays its full share of all applicable costs and

takes its share of revenue distribution net of relevant costs.

The three most common vehicles are operating entities set up to exploit and market the resource, public-private partnerships associated with the development projects, and public-private partnerships that deal with infrastructure projects to support the exploitation of the resources. Resource development and the infrastructure component of the development are often separated and structured as different entities to increase efficiency and attract investment finance. For its coal project in Mozambique's Tete province, Vale operates a mine and a railway. In Guinea the 2011 Settlement Agreement between Rio Tinto and the government for the Simandou iron ore deposit spells out the framework for the development of the mine as separate from the construction and operation of rail and port infrastructure. But the state has a carried interest in the mining project and an option for additional equity in both investments.

Many governments see equity participation as both a vehicle for extracting greater value and an integral part of their responsibility to manage resources

Common trends and perceptions

Most laws directly link state ownership of the resource with the right to acquire equity in the operating entities. In Guinea the minimum stake by the government is a 10% carried interest, but this can increase to 35%, subject to a negotiated settlement with the developer. In Ghana the state is entitled to a 10% carried interest for oil deposits (with provisions for additional participating interest). And in Botswana the state can purchase 15%, with an option to increase or decrease the shareholding, subject to negotiation with the investor. In Mozambique the state reserves the right to participate in petroleum operations.

Many governments see equity participation as both a vehicle for extracting greater value and an integral part of their responsibility to manage resources, even if their investor partners are wary of the state as an investor and a regulator. Citizens may also see state participation as a legitimate extension of the government's custodial role, given the public ownership of the resources.

But investors, industry observers, and others see the matter differently. Investors comply with the laws as a precondition to acquiring resources extraction rights but would prefer wholly owned investor-operated entities. Industry observers see it as a form of "resource nationalism" and therefore a risk to their investments. A 2011 study by Ernst & Young reveals that resource nationalization is considered the top risk for mining companies contemplating investment in Africa.[11]

As with most questions on appropriate policy directions, there is no single solution. Instead, the policy choice should be context-specific. A more useful approach is to help policymakers come to terms with the tradeoffs and to use this knowledge to design appropriate policies that meet specific conditions.

Tradeoffs

As shareholders, governments forfeit the advantage of not incurring investment risk while enjoying the benefits of fiscal receipts, employment generation, and foreign earnings. Once a government acquires a stake, it also inherits commercial risk. Where governments are required to raise equity finance, there is an opportunity cost for using public funds. Even with its carried interest, the state must provide the human, institutional, and other resources to manage the investment—another opportunity cost.

Since investors prefer to develop projects alone, governments that promote state equity participation are less likely to be competitive. The tradeoffs here are reduced attractiveness to foreign investment in the resource sector. To the extent that investors see carried interest as a cost of doing business, it is reasonable to assume that they will revise the initial development costs upward and thus reduce revenues, taxes, and ultimately dividends. So in the medium term the main tradeoff may be to lower financial receipts.

Risks

The reality: all forms of ownership in a private company operating in the unpredictable environment like the global commodity and financial markets carry some risk for the shareholders. While governments may not be burdened with the need to raise equity finance when setting up the company, this does not mean that future shareholder liabilities will never arise.

For example, De Beers Group called on its partners to inject cash into the company as a more cost-efficient way of raising finance and reducing debt during the financial crisis in 2009. But Botswana's leaders and public did not take the call for a liquidity injection kindly. The public was enraged that, at a time when public projects were suspended and jobs lost, the government was putting in money to strengthen the company's balance sheet. After the announcement, a local newspaper reflected the national sentiment and reported that "The decision to bail out De Beers comes at a time when government itself is heavily in debt, having posted a P13.39 billion budget deficit last year, and expects to borrow a further P12 billion this year to finance both its recurrent and capital obligations. The P1 billion rights issue comes after government again gave a P570 million shareholder loan to De Beers, according to the 2010/11 national budget statement presented by Finance Minister Kenneth Matambo to parliament last month."[12]

But suggesting that the government was bailing out De Beers missed the point that this is a shareholder responsibility. By not factoring this contingent liability into the expenditure budget, the state understated the state's liabilities and fiscal risk as a shareholder.

Other challenges relate to the capacity of the state to be an active and meaningful investor. Power imbalances in the boardrooms of the joint-venture company can erode shareholder value, so finding the right people to protect government interests is vital. Joint ventures are time consuming and very difficult to manage because of the divergent goals and perspectives of the shareholders.

Government dual roles as regulator and investor also present conflicts of interest. Designing institutions and policies to minimize these conflicts is essential for the effectiveness of public and private institutions.

Rewards

But there can be rewards. A lack of industry expertise limits the ability of resource-rich governments to manage oil, gas, and mineral resources. And information is asymmetrical between governments and investors. Both parties can be rewarded if government is a shareholder in the operating entities. One important right of shareholders is access to information and to the expertise of the executive team. Leveraged properly and systematically through nonexecutive directors, state equity participation can be a source of strategic knowledge. It can also be a very effective conduit for skill transfers.

If a government wishes to establish its own natural resource company, shareholding in a joint venture can be a first step. Increasing the holding progressively from a minority to a majority position can manage risk and reduce initial capital outlays. Shareholding also enables the state to influence major decisions on the exploitation of what for many countries is their single most economically valuable national asset. Governments can influence expenditure by the entities on strategic matters such as human capital development to improve national skills development in the sector. They can use their understanding of industry needs to influence the structure of public-private partnerships and promote links with the rest of the economy. In Guinea the state has an option to acquire a majority stake in the infrastructure company and the rail and port facilities, which will also service third parties.

Adding local content and linking to the rest of the economy

For extractive resources to be a pathway to transform African economies and drive industrialization requires more than attracting investors to extract the resource. It also requires developing local backward and lateral links, strengthening links between the extractive industry and the rest of the economy, and developing forward links to add value to the commodities in the industry value chain.

Resource industries are heavy on capital investments but light on direct employment. In Botswana the share of mining in employment was 3% in 2011.[13] In Uganda the oil and gas sector will probably provide no more than 0.2% of the total jobs needed in the country.[14] For most resource-rich countries, governments' greatest undoing has been the inability to effectively communicate this reality to citizens, especially the youth.

Promoting and requiring local content have become ways to capture more value from extractives, spur local entrepreneurship, and stimulate local employment. Local content provisions are now the norm. But specifying what content is local is not simple. Local content can be described as the composite volume and value of all material inputs supplied by locals to deliver resource projects, whether in project finance, capital goods, human resources, or other support services.

Promoting and requiring local content have become ways to capture more value from extractives, spur local entrepreneurship, and stimulate local employment

Well formulated and implemented, local content policies can boost national economic growth by providing the platform for promoting links between resource projects and the broader domestic economy. They can also be vehicles for robust industrial development policies, spearheading the manufacturing sector, developing entrepreneurial skills, and meeting (the often unfulfilled) citizen expectations about the benefits of resource extraction.

One issue of contention is defining a local company. Should it be by registration, by ownership, or by employment size? Another is whether local content provisions should be in legislation to enforce compliance or in administrative measures and incentives to encourage voluntary compliance. A third is whether the state has to correctly apply and implement local content measures.

Nigeria's local content policy recognizes that local content—the volume or percentage of spending on the domestic market to purchase material inputs from locals is not the same as local value added and emphasizes that it is the second notion (the depth) that matters, not the first (the breadth) (box 7.5).

Perhaps the more popular focus of local content is in numbers of citizens employed, engagements of local communities for the supply of inputs, and the development of nationwide entrepreneurial small and medium-size enterprises. Ultimately, though, what matters most

Well formulated and implemented, local content policies can boost national economic growth by providing the platform for promoting links between resource projects and the broader domestic economy

Box 7.5 Nigeria's backward links and local content

Nigeria has a long history of local content policy designed to deepen backward links. The Petroleum Act of 1969 contained a section on the protection of indigenous Nigerian firms. The 1991 Joint Operating Agreements and the 1993 Production Sharing Contracts contained provisions to promote local content even if meeting those provisions meant that firms would pay a bit more for local inputs.

In 2005 the federal government issued 23 directives mandating the use of local services and the sourcing of low-technology goods and services to local firms. The directives set a local content target of 49% by 2009 and 70% by 2010. Estimates of local content in Nigeria's oil and gas industry have risen in the past decade, but not nearly as much as wished for. According to the United Nations Conference on Trade and Development, local content rose from 3–5% in the 1970s to 20% in 2004 and to only 39% in 2009. Nigeria's local sourcing is much lower than in Brazil, Malaysia, Venezuela, and Norway, which have local content between 45% and 75%.

The lack of progress raises questions about the depth of local content provisions. High local sourcing does not always translate into desired backward links. Are local sources merely a front for the import of goods and services, or local in the sense of depth to backward links by way of value addition? The first sense of local cannot create links with the rest of the economy since local suppliers become mere conduits for importing goods and services. The second sense reflects beneficial outcomes because of the value addition along the value chain.

Nigerian policy recognizes that the percentage of goods and services procured domestically is not the same as local value added. So the Nigeria definition of local content is instructive and worth quoting here:

> "The quantum of composite value added to, or created in, the Nigerian economy through the utilization of Nigerian human and material resources and services in the exploration, development, exploitation, transportation, sale, and processing of Nigerian crude oil and gas resources resulting in the development of indigenous capabilities, while encouraging foreign investment and participation without compromising quality, health and safety, and environmental standards."[1]

1. Nigerian National Petroleum Corporation 2009, p.89.

Source: Morris, Kaplinsky, and Kaplan 2012.

is the shares of income to locals, the revenues accruing to land and resource owners, and the income streams to local shareholders and creditors.

Nigeria's linkage development through local content dates to the 1970s. The Nigerian Content Policy of 2005, revised in 2010, has directives to promote local value addition, build local capacity, support domestic procurement, and improve links between the oil and gas industry and the rest of the economy.[15] Its model leans more toward prescription backed by a dedicated oversight board.

Ghana's policy for petroleum is also a prescriptive approach backed by a local content committee. Local sourcing can make good business sense, but from the perspective of investors, prescriptive policies, as in Ghana, can counter corporate strategies that favor capitalizing on global trade networks and economies of scale made possible through centralized supply chains. Compelled to comply, investors can see local content policies as pushing up project and operating costs, eroding investment returns, and rendering prospective projects uncompetitive.

Local content can make a difference, however. Nigeria's local engineering man-hours increased from about 250,000 in 2004 to 3.5 million in 2008, and the number of local engineering companies from 5 to 60.[16] Fabrication increased from about 12,000 tons to 100,000, and vessel fabrication from one to three, with another in progress. For pipe manufacturing, previously thought infeasible locally, there is now one functional local mill, and two are under way. There are new skills development and training programs and access to funds has improved.

In Angola the government arranged to provide training and certification for small and medium-size enterprises that plan to service the oil industry. More than 1,500 Angolan-owned businesses took part, with 124 certified as suppliers for the oil industry. Three hundred contracts and contract extensions resulted, $214 million in oil industry contracts generated, and 2,700 Angolan jobs were

created. One certified firm supplies safety shoes and coveralls to the oil industry under contracts exceeding $5 million. Another smaller enterprise won a $680,000 contract with an oil company for the repair and maintenance of stairway lights in a modern high-rise building.[17]

But in other areas local content remains limited. In Nigeria, despite the efforts to raise local participation and improve links between oil and gas and other sectors, success has been mixed.[18] As just seen, local content has increased—but not as fast or as much as hoped. The local sourcing of inputs servicing control systems and information and communication technologies is less than that in the other subsectors, rising from 3–5% in the 1990s to 20% in 2004 and 39% in 2009, better but still below the 45–75% for Brazil, Malaysia, and Venezuela. The links between first-tier and second-tier suppliers are also weak. In Burkina Faso, Ghana, Guinea, Mali, and Senegal provisions in regional and national mining policy, such as a preference for local companies that can match the cost and technical aspects of imported products, have often been insufficiently developed, disseminated, monitored, or enforced.[19]

Nigeria's local content has suffered from a lack of comprehensive legislation and from the poor monitoring and weak capacity of the national oil company.[20] For Ghana the concessionary and ownership structure of the mining companies largely accounts for the weak local content. In 2001, 12 of the 16 operating mines were at least 90% foreign owned. In 2011, 7 of the top 9 mining companies had 90% foreign ownership. Anglogold Ashanti had 99.6% foreign ownership and Newmont 100%. Intensive in capital and technology and high in skills, mining companies have relied more on their multinational supply chain and less on promoting local participation and building domestic links. Nor have successive governments done much to foster backward links. Indeed, six years after the Mining and Minerals Act of 2006 (Act 703) was enacted, the passing of regulations in 2012 holds little prospects of strengthening the desired backward links. Nor does Ghana have an indicative industrial policy about how it plans to leverage mining activities to build related spinoffs and advance economic development. The story is nearly the same in Tanzania gold mining (box 7.6).

Going forward, any local ownership requirements should in principle target activities that have the highest potential to add value. But for most major resource companies, procurement is a specialized function generally managed from corporate headquarters rather than from their country offices. Local firms have difficulty meeting the procurement needs due to the high standards and quality requirements, so partnering with international suppliers should be considered for global supply contracts.

It makes sense to define national content in terms of value addition in the locale, by locals, and using local materials or facilities

It makes sense to define national content in terms of value addition in the locale, by locals, and using local materials or facilities, as in Malaysia and Norway, where national content is high and defined as value added in the country, not in terms of ownership.

Local entrepreneurs seem eager and ready if they are given the opportunity, as in Uganda. In the Nigerian oil industry, local content could increase if there were more communication and awareness of the opportunities.[21] Despite the local content policy, the capacity of indigenous firms remains hugely underused, and the industry is still dominated by foreign firms handling projects that local firms could easily undertake.

Local content policies should focus on reconciling the divergent interests and long-term goals of investors and governments. The goal should be to ensure that

Box 7.6 Local content and links in Tanzania gold mining

While government policy recognizes the need to develop links into and out of the mining sector, no elements in legislation or directives specifically target local content or restrict the mining companies from importing inputs. Local provision of inputs is weak. Local content is limited largely to local labor inputs. Local value addition is nil.

Even when foreign firms establish subsidiaries in Tanzania, they serve as conduits to source inputs from global suppliers. The maintenance and repair of heavy equipment are also generally outsourced—to global firms that supply equipment for the global operations of mining companies. All the major active gold mines are 100% foreign owned. And with two exceptions all the junior exploration companies draw all their inputs from abroad.

Source: Morris, Kaplinsky, and Kaplan 2012.

governments can use resource projects to nurture national development, give a fair return on investment to investors, maintain country competitiveness, manage expectations, and bridge the divide between local and foreign firms. But such policies cannot be in place forever. Countries must thus have a strategy to nurture local enterprises in the early stages and gradually expose them to competition. Only those that can survive in a competitive market situation will have a future.

Public-private partnerships can enhance the capacity to build infrastructure within a country by using proceeds from resource activities to directly fund the construction of roads, schools, and medical facilities

Another way to create greater benefits in other businesses outside extractives is to use public-private partnerships, which can enhance the capacity to build infrastructure within a country by using proceeds from resource activities to directly fund the construction of roads, schools, and medical facilities. The funding can come either directly from the resource project as part of, or as an adjunct to, its fiscal agreement or indirectly from government tax revenues (box 7.7).

Finding opportunities in the oil and gas value chain

The oil and gas value chain has upstream exploration, development, and production—and downstream refining, petrochemicals, and marketing.[22] It is supported by general management, human resources, technology, and procurement. Of the three main industry segments, the bulk of the value, 77%, tends to be upstream (exploration and production) with 14% downstream (refining and marketing) and 9% midstream (transportation and distribution) (figure 7.2).[23] Upstream requires the biggest investments and has the highest profits, and downstream is both capital intensive and highly volatile (box 7.8).

Finding opportunities in the mining value chain

The mining value chain has upstream resource-related activities—such as exploration, planning, and evaluation—and downstream industrial activities—such as engineering, construction, operations, logistics, and sales and marketing. The chain is supported by general management, human resources, technology, and procurement. The typical stages are to locate (determine the presence of a deposit), valuate (determine the profitability of a project), establish (execute the mine plan), mine (remove mineral resources), transport (move classified broken rock from source to destination), smelt or refine (extract salable products and dispose residue), market (maximize profit), and divest (curtail operations) (figure 7.3).[24]

Most of the value tends to be downstream. The average export price of

Box 7.7 Zimele: Anglo American in South Africa

Anglo American established Zimele in 1989. The word zimele, derived from the Zulu and Xhosa languages, means "to be independent" or "to stand on one's own feet." Its business model is to provide a comprehensive incubator approach to startups with funding and mentoring for entrepreneurs. This strategy, and a commitment to provide support for a predetermined period, allows the investee company to stand on its own feet, fostering long-term commercial viability.

An enterprise development and investment fund helps create and support commercially viable small and medium-size enterprises by providing opportunities to participate in Anglo American's supply chain, to meet the needs of local communities, or to mitigate environmental risks and improve the long-term environmental welfare of communities. For mining-related investments the Anglo American Khula Mining Fund works with Khula Enterprise Finance Limited, a South African government-owned entity that promotes small and medium-size enterprises.

The Zimele model of promoting small and medium-size enterprises has achieved widespread success over the past two decades—with investments in more than 150 supply chain–related companies and cumulative procurement spending and enterprise development investment of $7.2 billion from 1993 to 2007.

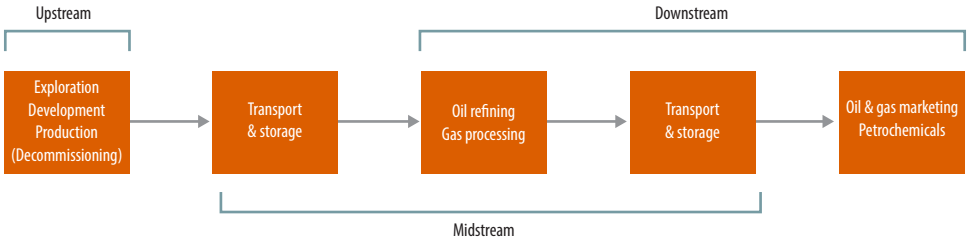
In 2010 Anglo American announced plans to establish 12 enterprise development hubs in high unemployment areas in South Africa through Zimele. This expansion was expected to create 25,000 new jobs in up to 1,500 new businesses across South Africa within seven years. Other local and global firms have adopted the Zimele model, including the International Finance Corporation, Mondi, De Beers, and Barloworld. The International Finance Corporation promotes dissemination of the model to companies around the world desiring to integrate local small and medium-size enterprises into their supply chains.

Source: Anglo American and IFC 2008.

iron ore is about one-tenth of the export price of construction steel, hot rolled coils, cold rolled coils, or galvanized and colored steel.[25] The retail value at the end of the diamond chain tends to be more than three times the producer-selling value at the start. The largest value added margins are in retail, the smallest in cutting and polishing.

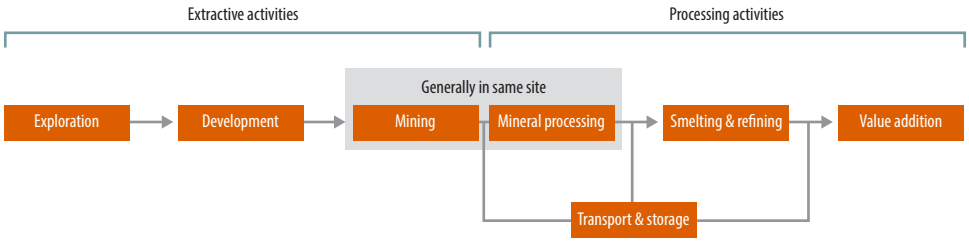
Players across the value chain include equipment suppliers, engineering consultants, environmental specialists, ship owners, and insurers. So many local business and job opportunities are associated with a mining project, such as digging and trenching with heavy equipment, tree planting, camp construction, vehicle rental, laboratory services, road maintenance, drainage systems, water analysis, water treatment, and site security.[26]

Figure 7.2 Oil and gas value chain



Source: Adapted from UNCTAD (2012a).

Figure 7.3 Mining value chain



Source: Adapted from UNECA (2011).

Under Botswana's strategy, cutting and polishing diamonds are done locally to further local economic development, to capture for Botswana a greater proportion of value derived from diamond exploitation, and to benefit local communities through an increase in skills and employment (box 7.9). Cutting and polishing factories recruit locals to train for technical and skilled jobs, which are involved directly in the production of polished diamonds in the factory and represent the majority of employment in the industry. Technical and skilled jobs require a low-level education, good English communication skills, good eyesight, good dexterity, and a basic knowledge of mathematics, physics, and computers. Training for technical and skilled jobs in cutting

Box 7.8 Uganda's new oil refinery

Landlocked Uganda is about to join the list of oil-producing nations in Sub-Saharan Africa. New oil reserves, now estimated at 3.5 billion barrels, were discovered in Uganda in 2006 and production is expected to begin in 2015.

Today, Uganda imports most of its oil through Kenya—almost 30,000 barrels daily, roughly the same amount that it now plans to refine locally. Though competitors, Uganda and Kenya will collaborate in the construction of a new pipeline so that both nations can start exporting their newfound crude through Kenyan ports on the Indian Ocean.

Uganda plans to construct a refinery in Hoima District. The government has purchased a 30 square kilometer plot of sparsely settled land and is developing a resettlement program for the people there. The new refinery, to serve both the internal and export markets, is expected to cost $2 billion. Uganda is approaching foreign investors to finance the construction, but will retain a 40% ownership stake.

"We have been receiving a lot of interest from prospective investors in the project, but we couldn't start on any negotiations because there was no legal framework," energy minister Peter Lokeris told Reuters in February 2013. "Now we'll proceed very fast."

Source: Shepherd 2013; Ouga 2013; Kron 2011.

A country does not have to wait for perfect institutions. To the contrary, creating the structures to manage oil, gas, and mineral resources can strengthen the institutions for broader governance

Box 7.9 Diamonds—adding value beyond sorting in Gaborone

More than $3 billion worth of De Beers diamonds have been sorted in Gaborone in the first eight months since the industry leader recently relocated its diamond aggregation and distribution activities after some 80 years in London.

The move is part of a comprehensive 10-year deal that started with the 2006 renewal of the lease of the mines and was completed with the government of Botswana in September 2011. Also emerging from the negotiations was an agreement for De Beers to sell at least 10% of the rough diamonds it mines to a state-owned company in Botswana, rising to 20% by the end of the 10-year agreement. With that provision the world's biggest diamond-producing country by value can market more of its own diamonds and create incentives for more value addition in-country.

Previously all of Botswana's rough diamond production went to the trading arm of De Beers in London, which then aggregated the Botswana stones with its stock from around the world and sold most of them to its dealers (sightholders) in Antwerp, Mumbai, New York, and Tel Aviv (with China and Thailand growing in importance). With that arrangement, Botswana was not much different from most other resource-rich African countries: extracting the minerals and exporting them for value addition elsewhere; this, in an industry where only $15 billion of the $71 billion final value is captured before cutting.

But the government has long aspired to move from mere extraction to the more profitable stages of the value chain. Its strategy has been to become a diamond hub, one that creates high-value services, such as cutting, polishing, jewelry making, retailing, logistics, and information technology, and sophisticated security services. If successful, it would create jobs, diversify the economy, and make it resilient in the post-diamond mining world.

On full execution of the program, an estimated $6 billion worth of diamonds will be processed through the country each year, with $1.2 billion available for local processing, up from $800 million before. Dozens of the world's top diamantaires will converge on Botswana to buy diamonds (and, no doubt, stay at a hotel, eat local food, perhaps sneak in a safari, and identify other business opportunities). That is certain to raise Botswana's global profile and help it attract additional foreign investors in copper, nickel, iron ore, and nonmineral sectors.

Source: ACET research.

and polishing factories is on-the-job, cutting and polishing skills are largely firm-specific, and the basic skills are industry-specific. Some inputs sourced locally are catering, security, and cleaning. Telecommunications, water, and electricity are more complex. Sight brokering, gem certification, financial services, legal services, insurance, rough diamonds, and transport are even more so.

Can other African countries replicate Botswana's deal? Probably not, because diamonds are unique: few minerals have such dependence on one country or on one company. And Botswana is unique for its history of peace or political stability, with a democracy since independence in 1966. Its civil service and public institutions are known for discipline and good governance.

But Botswana is not unique in using what it has to get what it wants. The deal makes De Beers want to transform Botswana as much as the government and people do. In the words of industry analyst Chaim Even-Zohar, "The Botswana government used its leverage skillfully." And as Nobel laureate Joe Stiglitz puts it, "The value of strong, mutually beneficial relationships between governments and investors is key."

The lessons for other African countries:

- *Build incremental value.* Whether it is shareholding or marketing arrangements or revenue splitting, Botswana's use of leverage has been progressive and considered.
- *Know what you have.* The government has educated itself enough about the industry (and more important, the resource base) to know what the deal was worth to its partners. It staked its position and demonstrated the patience and perseverance to wait. Countries sometimes run the risk of overestimating the worth or overestimating what the investor is capable of.
- *Know what your potential partner brings.* You want a partner that can bring the best out of you, be it technical expertise, marketing muscle, or corporate citizenship.

- *Get help.* In industry expertise and negotiating skills.
- *Be transparent.* Elements of any business negotiation process can justifiably be concealed, but the main terms of final agreements and the responsibilities of the parties should be available to citizens.
- *Build strong relationships.* Despite occasional speculation, the government has not entertained the prospect of another partner.
- *Give fair value.* Botswana's policy of the investor's right to receive fair value to recoup investments and make profits is a matter of record.

A country does not have to wait for perfect institutions. To the contrary, creating the structures to manage oil, gas, and mineral resources can strengthen the institutions for broader governance.

Managing artisanal and small-scale mining

The discourse on mining sector governance typically pits large-scale mining against artisanal and small-scale mining as if they are always in conflict. Formal and capital intensive, large-scale mining contributes to development through tax payments and direct and indirect employment and generally is responsive to social and environmental concerns. Informal and unregulated, small-scale mining tends to be difficult to tax and often fraught with health, safety, and environmental hazards. But because it is labor intensive, it offers many more direct and indirect job opportunities.

About 3.7 million Africans are directly engaged in artisanal and small-scale mining, and about 30 million depend on it.[27] The revenues it generates can boost local economies, stimulating further sources of livelihoods. Indeed, in many countries it is expanding and contributing a growing share of mining output. Between the health, safety, and environmental hazards and the provision of livelihoods for large numbers of rural people lies the ambivalence of many policymakers (and citizens) about what the right policy should be for managing it.

Artisanal mining has both preceded and survived large-scale mining. In Ghana it is more than 2,000 years old.[28] An estimated million artisans work mainly in gold and diamond mines,[29] and in 2012 artisanal and small-scale mines produced 1.5 million ounces of gold and large-scale 2.8 million ounces.[30] In Democratic Republic of Congo an estimated 2 million people worked in artisanal mining in 2008. Operations are also significant in Liberia, Sierra Leone, Tanzania, and Zimbabwe. Mali's gold production from artisanal mining is reportedly considerable. The rising commodity prices and the lagging alternative sources of livelihood, especially in agriculture, increase the urgency for action by governments and proactive steps by large mines.

About 3.7 million Africans are directly engaged in artisanal and small-scale mining, and about 30 million depend on it

The 2012 conference, *Investing in Africa Mining Indaba,* highlighted the urgency of addressing artisanal opportunities and challenges. But there are no simple solutions because of big differences in institutional traditions and regulatory cultures. And for most of Sub-Saharan Africa local politics can be complex and far more involved than what is apparent. Contrast the clarity and formal recognition of artisanal mining in the legal framework in Ethiopia (box 7.10) with the ambiguity and regulatory challenges in Ghana (box 7.11). Ethiopia shows what can be done. Ghana shows how problems can be intractable when traditional landholdings and traditional authorities meet a weak regulatory system.

Addressing the policy challenges of artisanal mining begins with some basic questions. How to define it and set a borderline between it and small-scale mining operations.

Box 7.10 Ethiopia's classification of artisanal and small-scale mining

Ethiopia's Mining Proclamation 678/2010, issued in August 2010, provides a clear classification of artisanal mining based on the volume of minerals produced and the mechanization in mining operations. Artisanal mining is defined as nonmechanized mining (mainly manual) that does not involve the engagement of employed workers. Financial resources, technical competence, and professional skill and experience are not required to acquire an artisanal mining license. Small-scale mining is mechanized and requires the applicant to have access to financial resources and technical ability to conduct mining operations. Mining licenses for artisanal, small-scale, and large-scale operations are for 3, 10, or 20 years respectively, with renewal periods of 3, 5, or 10 years each.

Source: ACET research.

Box 7.11 Not coping with artisanal mining in Ghana

The regulatory frameworks in Ghana have not integrated artisanal mining activities into the mainstream economy. As a result, artisanal mining coexists, often in conflict, with large-scale mining. Many aspects of the artisanal mining value chain are unregulated, and legitimate traditional activities are often confused with "illegal mining."

The land tenure system vests much of the administration of land rights in traditional leaders, while mineral rights are vested in the state. The separation poses a challenge for state institutions seeking to regulate artisanal mining because access to land is the first regulatory gateway. Reconciling the role of traditional leaders and the state may require establishing a single and final authority for artisanal mining. This could resolve the licensing of exploitation; the setting of health, safety, and environmental standards; and the monitoring of production, sales, and exports.

Revenue collection is complicated by the formal and informal structures that regulate artisanal mining, by the informality of artisanal mining, by the large numbers of miners involved, and by the structure of the artisanal value chain. Informality means that miners cannot be easily identified and traced for tax purposes. Many Ghanaian traders in the artisanal value chain are merely agents of foreign buyers that have links to global commodity markets. So the prices paid in Ghana do not reflect the true market value, and the state and citizens do not receive fair value.

Social and physical environmental challenges receive inadequate regulatory control and monitoring. The Obuasi gold areas show how artisanal mining can destroy the environment. The use of mercury persists despite the well known negative environmental impacts. And health and work conditions defy global conventions for labor and industrial relations.

Source: ACET research.

Perhaps most important for transforming resource-rich economies is adding local content and linking to rest of the economy

How to harmonize the land tenure systems with the need to regulate access to minerals. How to ensure that artisanal mining and large-scale mining coexist in a mutually beneficial arrangement. And how best to regulate it to protect workers' rights and deliver fair value to citizen traders and to the state.

* * *

Again, because such macroeconomic issues as inflation, exchange rates, and Dutch disease have received widespread attention, the focus here has been on governance issues within the ambit of direct government action. That action begins with controlling the resource and securing equitable and intergenerational long-term benefits. Next is designing the fiscal regime to accommodate changing circumstances and guard against unintended distributions of risks and rewards—and to ensure that the domestic tax system encourages cost controls and efficient extraction. And regardless of the fiscal regime, it is essential to develop the institutional and administrative ability to collect the most revenues and deliver the greatest benefits. Perhaps most important for transforming resource-rich economies is adding local content and linking to rest of the economy.

Notes

1. Recent works in this direction include the AU and others (2009), AfDB and AU (2009), and UNECA and AU (2011).
2. ACET 2013a.
3. African Progress Panel 2013.
4. ACET 2013a.
5. AU and others 2009.
6. AfDB and AU 2009.
7. Nakhle 2010. For details on tax types and reasoning, see Commonwealth Secretariat and ICMM (2009) and more recently IMF (2012).
8. Otuki 2013.
9. Calder 2010.
10. AAPG Africa Region 2011.
11. *Mining Weekly* 2011.
12. Benza 2010.
13. Botswana Central Statistics Office: www.cso.gov.bw.
14. MMED 2011.
15. UNECA 2013.
16. Oyejide and Adewuyi 2011.
17. Levett and Chandler 2012.
18. UNECA 2013.
19. World Bank 2012.
20. UNECA 2013.
21. Ihua 2010.
22. Garcia and Camus 2011.
23. UNCTAD 2012.
24. Bloch and Owusu 2011.

25. UNCTAD 2012.
26. UNCTAD 2012.
27. AU and others 2009.
28. Hilson 2001.
29. www.ghana-mining.org.
30. www.mineralscommission.com.

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Kilimanjaro's southern icefields, Tanzania

CHAPTER 8

Boosting tourism

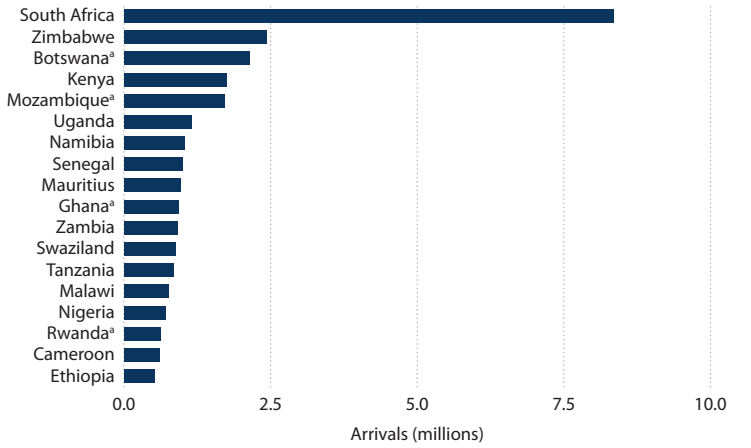
Sub-Saharan Africa had 34 million international visitors in 2012.[1] On current trends the arrivals are set to rise to 55 million by 2020, contributing $68 billion to the region's GDP, and 6.4 million jobs, up from 4.9 million at decade's start. Adding indirect and induced spending, tourism's total contribution would almost triple to $177 billion and almost 16 million jobs.[2] In addition, the foreign exchange from tourism helps finance purchases of machinery and other inputs needed for economic transformation. The projections are on current trends. Given the continent's recent dynamism, they are likely to be low, especially for business and professional travel.

Nearly half the international tourists go to Southern Africa, which has the top destinations (figure 8.1). South Africa is the continent's leader, and many leading destinations in the region are geographically close to it (Johannesburg and Cape Town are hubs for all of Southern Africa and the southern Indian Ocean). Zimbabwe, despite recent difficulties, is second. Botswana, with its well managed economy and remarkable geography and wildlife in the Okavango Delta, is third. And Kenya, Mozambique, and Uganda, having done much to promote both tourism and investment, take the next three places. Indeed, Mozambique has recently had two resorts on Condé Nast's "World Top 100 New Resorts."

South Africa has nearly $10 billion in tourist receipts. Mauritius and Tanzania each earn about $1.5 billion a year. And Angola, Ghana, Ethiopia, Kenya, Nigeria, Uganda, and Zimbabwe each have receipts of more than $500 million.[3] South Africa, with its geography, climate, and resources, has been an aggressive promoter of its wildlife, beaches, wine tours, gaming, and adventure. And it has greatly improved the quality of its products—ranging from large resorts to community-based tourism. Tanzania has one of the region's highest receipts per arrival, thanks to high-income travelers visiting its northern circuit around Serengeti, Ngorongoro Crater, and Mount Kilimanjaro (also marketed by Kenya) and its beach and cultural destinations around Dar es Salaam and Zanzibar.

Why do tourists come? Propinquity drives cross-border trips in Southern and, indeed, most of Africa. Visits are for leisure, work, visiting friends and family, and shopping and trading. The United Kingdom and United States are leading source markets, but Germany features in most of the selections, and China is very strong in Nigeria, while France is the leading market for Senegal. Indeed, the traditional markets are Western Europe and North America. Recently, however, the Asian market has been growing rapidly,

Figure 8.1 Leading tourism destinations, by arrivals, 2011



a. Data are for 2010.

Source: UNWTO 2012.

Boosting tourism would contribute to Africa's economic transformation by increasing the foreign exchange to finance imports, creating jobs, and increasing demand for local material inputs

particularly China and India. Australia, Japan, and New Zealand are also sending more tourists to Africa. Europeans often visit a single country on a trip to Africa, perhaps including two destinations in the same country (for example, safari and beach trips to Kenya or Tanzania). North Americans tend to visit several countries in the same trip, completing circuits that may include East, West, and Southern Africa, with Johannesburg, Addis Ababa, Nairobi, Accra, and Abidjan as the hubs.

Growth prospects

Boosting tourism would contribute to Africa's economic transformation by increasing the foreign exchange to finance imports, creating jobs, and increasing demand for local material inputs. And by advertising countries to the rest of the world, it would attract foreign investment. *Tourism Towards 2030* forecasts that globally, international tourist arrivals would be 1.4 billion in 2020 and 1.8 billion by 2030.[4] East, West, and Southern Africa would have 55 million international tourists in 2020 and 88 million in 2030, increasing their share of world tourism from 3.4% in 2010 to 4.9% in 2030.

Tourism growth and its contribution to economic transformation are enhanced by the growing links between tourism and other sectors. The tourism industry is often thought of as narrowly focused on just traveling, eating, and sleeping, but with a broader vision there is a real opportunity to link tourism to other sectors, with beneficial effects. Concerns may be expressed about the "leakage factor," the part of the tourist dollar that leaves the country to pay for the imports tourists consume. Forging links such as environmental conservation and tourism; infrastructure provision and tourism; and culture, history, and tourism can offset such leakages. But there are many other opportunities both for adding value to tourism products and creating new products in urban and rural settings.

What makes for success?

Some countries are not ready for tourism because of civil unrest, a weak economic environment, or a lack of tourism resources that can be developed into economically productive assets. Some are on the threshold. Others are more advanced. And a few are already world-class. Tourism is subject to changes in tastes and trends so operators have to constantly upgrade their product to stay ahead of the curve. Each country, at a different stage of development, requires a different solution for supporting tourism.

Get the right institutions to formulate policy and regulate operators

The institutions that countries choose to manage tourism, the policies they adopt, their attendant regulations, and their ability to implement them are all important—whether the economy is market-driven with little regulatory interference, whether the state wields a heavier hand, or whether the sector is merely stifled by outdated legal and regulatory clutter. The actions of public institutions can go a long way to determining whether long-term private investment is forthcoming. Public investments in tourism (from infrastructure to marketing programs) are also critical, as is assuring coordination of the myriad, cross-sector programs that affect tourism.

The private sector, crucial for investing in and operating tourism facilities, has a key role as an interlocutor with government. Working through professional and trade associations, the sector can defend its interests in line with its profit motive, achieve credible and competitive service standards for the industry, highlight its concerns to government, and advocate specific positions through analysis of policy proposals.

Models of tourism institutions vary considerably, but where tourism is important, there is usually a ministry

of tourism, a statutory body responsible for marketing the country, and a private organization for the industry. Tourism also partners with environment, civil aviation, commerce, communications, culture, transport, wildlife, and others. Where the agency resides is generally less important than what the agency is assigned to do and how it performs. Many African tourism agencies are understaffed and underfunded, with limited budgets that do little more than pay wages. As a result, they can get in the way of tourism growth. In Mauritius and Cape Verde the legislation is clear, with sound public policies, well performing public institutions, and transparent "rules of the game" (boxes 8.1 and 8.2).

A core objective in setting up an institutional framework is to be

The actions of public institutions can go a long way to determining whether long-term private investment is forthcoming

Box 8.1 Mauritius—a determined competitor

Few countries have established export-led growth with as much drive as Mauritius. It all started with export promotion in the 1970s, perfecting the idea of a one-stop-shop for investors. Today's tourism has much in common with export promotion zones, requiring serviced sites.

Today, Mauritius, a small island of 1.3 million people, has 112 hotels and a burgeoning bed and breakfast market. The Beach Authority ensures that new properties along the coastline conform to environmental standards; 90% of hotels are on tropical beaches. To avoid the pitfalls of overexpansion, the government declares a moratorium on hotel construction when it judges that occupancies have dipped too far. Local entrepreneurs run taxi and small bus companies, handicraft and sports activities, as well as food supplies for the hotels.

Mauritius credits its growth in tourism to three key factors. First, far from its main markets in Europe, it needed impeccable air access (60% of its market is from France, South Africa, and the United Kingdom). So Air Mauritius partnered with British Airways, Air France, and others as a core strategy, using its distance from markets to nurture an image of exclusivity. Second is a passion for high-quality personal service: it markets quality as part of the brand and has one of the best records in Africa (and a fine hotel school). In the general education system, students are encouraged to learn four languages. Third is the success of public-private partnerships.

The Ministry of Tourism and Leisure works closely with a dynamic private sector, represented at the highest level by the Joint Economic Council. Private associations are active in advocacy and policy dialogue. The national investment promotion agency (Board of Investment) stands ready to help in every aspect of export development and attracting foreign direct investment, including that for tourism. Mauritius has a well developed financial sector with incentives for qualified operations in tourism. It also provides incentives for entrepreneurs to release their staff for training.

Source: ACET 2013.

Box 8.2 Cape Verde—a rising star

Cape Verde in West Africa is experiencing fast growth in its tourism (arrivals in 2012 up 43% from 2010), mostly on 2 of its 10 islands, Sal and Boa Vista. It has beautiful beaches and an interesting culture. It also has a stable macroeconomic environment and an investor-friendly investment code. And it has a modern, fully certified airport. Tourism took off after the government made it a priority, reformed banks, pegged the escudo to the euro, and introduced an attractive investment code.

Surprised by its success, Cape Verde found that managing large groups of tourists can create the need for trained personnel, public infrastructure, and intense coastal zone management. Integrating tourism into the economy fully will take time, especially into its poverty alleviation efforts, but it has made a great start.

Source: Twining-Ward 2010.

transparent and open-minded—and to identify problems and find solutions. The more involved the various parties, the more likely that an atmosphere of trust will grow, even where interests are entrenched. In general, institutional arrangements should be designed for specific functions, given the many links in the tourism value chain. Some institutions will be private, others public, and a few will be a mix. A recent development is the destination management organization, a partnership of the many (public and private) players that strive to deliver high-quality experiences for tourists.

The more involved the various parties, the more likely that an atmosphere of trust will grow, even where interests are entrenched

Plan well

Tourism went through a phase where practically every country aspiring to develop tourism prepared a master plan that described the sector, discussed problems and opportunities, proposed a strategy, recommended priority project sites, and prepared limited prefeasibility studies. Many of these plans were never implemented. They were too complex for countries with limited resources and perhaps with limited commitments to proceed. While such studies are still in place, they are used more for determining areas for development on a broad scale, with detailed studies prepared later for specific sites.

Site plans indicate current and proposed land uses along with regulations. They also cover infrastructure proposals and densities. Land use planning has evolved from a narrow approach with single solutions carried out by the public sector to a participatory process that recognizes local interests and takes inputs from all groups of stakeholders. It now must consider the complexity of change, how it affects stakeholders, the interests at play, and the need for give and take in the development process.

Recent examples of more promising planning approaches include:

- Tanzania created a master plan that sought to identify and rank new areas for development to head off pressure on its prized northern circuit around Arusha.
- Morocco reformed its tourism department and launched projects for private investors to bid on planned communities.
- Gabon held to its original goal of conserving some of its land and biodiversity by creating 13 national parks. It then worked on master plans for the first six and sought private investment.
- Mozambique decided to modernize its tourism by revamping its institutions, tapping into land reform by creating zones for tourism development, repopulating its national parks with animals, and launching an investment promotion campaign.
- Cape Verde sought to launch tourism by improving the business environment, building a modern airport, and capitalizing on its diverse islands and seeking hotel investments.
- Mauritius perfected the one-stop-shop for investors and offered incentives to attract investment.

Improve the business environment

The private sector carries out the bulk of the investments and activities in successful tourism. Operators in each country compete for the international tourist with their counterparts in others. So the business climate should not put tourist operators at a competitive disadvantage. That means streamlining regulations and expediting licenses. The financial and exchange rate systems must also make it easy for international tourists to bring in foreign currency and take back what they do not spend.

Fly the tourists in and out

Some African carriers survive and prosper—such as Ethiopian Airlines, Kenya Airways, and South African Airways—and several international groups (KLM, British, and Virgin) have set up local airlines. A second option is to have scheduled airlines from originating countries—Air France, British Airways, Lufthansa, Brussels Airlines, Emirates, South African Airways, and Swiss—increase their services to Africa. Although most air transport is point to point, several countries rely on the "triangular" routes linking three points, and even regional routes, with tourism as the unifying factor. There may also be options for low-cost carriers in countries with larger populations.

Charters are another possibility, though some civil aviation authorities view them as a challenge to national security. In a few cases charters may be the only option that is well adapted to market conditions—seasonality, low volume, poor airports, and security. Some charter operations have shifted from chartered services to scheduled flights, such as Nouvelles Frontières' Corsair airline from France to Madagascar. Point Afrique, operating in West Africa, is a cooperative in France where members of the public can buy membership and then have access to the company's travel and tourism offerings in the Sahel. It charters carriers (Air Horizon or Air Méditerranée) that are adapted to local conditions and can customize their destinations. Vacation clubs, popular in Italy, own and manage vacation villages and provide charter service.

Modern airliners are well adapted to African conditions: wide body models (twin aisles with 150–300+ passengers) are good for long-haul flights with high traffic. Narrow body models (single-aisle with 100–200 passengers) are suited to regional intra-Africa travel. And regional jets (30–100 passengers) are well adapted to national and local routes. In some cases smaller

prop planes are required for the less traveled routes. Coastal Travels in Tanzania uses planes carrying 14–20 people on its safari lodge circuits and to the islands. In the Maldives, Twin Otters (18–20 seats), fitted to land on water, serve the country's many atolls.

Air transport requires international agreements, safety standards, suitable airports, and sound regulation. Many countries still treat air transport first as a security issue and then as a commercial opportunity. But flexible flights are needed to expand tourism and ensure that tourists can reach countries and return safely at suitable times. This implies close relations between civil aviation and tourism authorities. It also requires finding investors to support air transport. Most scheduled carriers consider African markets as business destinations (with consequently higher fares), though they do book groups and individual travelers.

Countries also need to facilitate transfers through the point of entry (frontier or transport terminal). Tour operators are smoothing the process by issuing visas processed on board (charter planes) before reaching the destination. Most African countries now offer visas at the frontier and are experimenting with regional visas akin to the Schengen model (the East African Community, the Economic Community of West African States, and the Southern African Development Community). But for some countries a visa can be obtained only at the point of departure, often a considerable inconvenience.

Lodge tourists comfortably

Several African-owned chains offer superb lodging, including Sun International, Southern Sun, and Protea from South Africa; Serena and Sopa Lodges from Kenya; and smaller chains (Governors' Camp, Conservation Corporation of Africa, Wildlife Safaris). The non-African international chains include Accor, with three French brands (Sofitel, Novotel, and Arcades); Intercontinental, with several U.K. brands (Crowne Plaza and Holiday Inns); Cendant, Hilton, Sheraton, and Best Western from the United States; and recently Kempinski from Dubai. There are also vacation clubs, owned mostly by French and Italian interests. Partial ownership properties include timeshares (two-week ownership in a property) and fractionals (one-quarter to one-sixth ownership, usually in luxury resorts), with the latter particularly important.

Tour operators have their own branded hotels and resorts, sold through wholesalers and retailers—often from a brochure, an important marketing tool for Africa, bringing consumers to otherwise unknown places. There are also many others with fewer properties (such as Hyatt and Rosewood). Many of the companies specialize in management (or simply marketing in the case of Best Western) and look to local investors to build the properties. By far, most establishments in Africa are locally owned and managed, and their character sets them apart from international chains. There is scope for expanding this category as tourism grows, along with inns, guesthouses, and bed and breakfasts (B&Bs).

Many countries are seeing B&Bs grow rapidly, challenging hotels for tourists. In Mauritius and the Seychelles B&Bs are becoming very competitive, often as pricey as top hotels. Many small hotels, guesthouses, and B&Bs have sprung up in Livingstone, Zambia, following Sun International's investment in the Zambezi Sun and Royal Livingstone Hotels. In Madagascar lodging establishments (outside the capital) have on average no more than 10 rooms.

Involve communities—and create jobs

Investors have recently been working more with communities to develop tourism by engaging locals as employees, suppliers of goods and services, and even as shareholders. They are also establishing small enterprises to supply tourism needs, and upgrading training and skills for specific activities, such as guiding. Improving relations between the local community and the tourism facilities generally provides mutual benefits. Examples include the Sabyinyo Silverback Lodge in Rwanda (box 8.3), conservancies in Namibia, and public-private partnerships in South Africa.

Ecotourism projects have been creating jobs, often for people with few skills and little education, while larger tourism projects can be a significant part of overall employment

Ecotourism projects have been creating jobs, often for people with few skills and little education, while larger tourism projects can be a significant part of overall employment. On average, tourism requires one to two employees per hotel room, depending on the type of hotel and local skills. There is evidence that tourism is more labor intensive than manufacturing and employs a higher proportion of low-skilled men and women. In hotels and restaurants women make up almost 40% of employers, and almost half of all self-employed businesspeople.[5]

On Mount Kilimanjaro (box 8.4) porters and guides earn two to three times the wages of farm employees. Hotels and tourist services use contractors to meet many of their staff requirements for waiters, drivers, and maintenance engineers, who are relatively well paid, particularly when supplemented by tips. Some tourism firms still focus primarily on a low-wage advantage, so their priority is a low wage bill. More enlightened companies, depending on locals for their staff, are upgrading skills with formal and informal training

To succeed, tourism needs stable jobs with high service standards and career prospects to retain local staff

Box 8.3 Sabyinyo Silverback Lodge pays communities and protects gorillas

The Virunga Mountains in Rwanda, home to endangered gorillas, previously had limited accommodation. Then the African Wildlife Foundation brokered a deal for development of a lodge with the Kinigi, a local community owning the land bordering the Volcanoes National Park. Sabyinyo Silverback Lodge now provides a luxury experience for guests and a model for community involvement.

Governors' Camp, a well known tourism operator, built and runs the 18-bed lodge for the owners, the Sabyinyo Community Lodge Association, which represents the four Rwandan districts that border the park and has 33 members acting on behalf of about 300,000 people. The community owns the land and the lodge's immovable assets and now also has access to new job opportunities.

The cost for a half-day visit is $750 per person, including a fee for the community. The community fees are managed by a community trust, with equal amounts allocated to community projects, microfinance for local enterprises, and household dividend payments. Governors' Camp guarantees the association 7.5% of the after-tax profits.

Source: African Wildlife Foundation (www.awf.org) and Sabyinyo Lodge (www.governorscamp.com).

Box 8.4 Mount Kilimanjaro guides doing well

Climbing Mount Kilimanjaro in Tanzania, one of the best trekking experiences in Africa, now attracting 40,000 tourists annually, is a $50 million a year business, possible thanks to the mountain's network of 400 guides, 10,000 porters, and 500 cooks (mostly young Tanzanian men) who work with tour operators and TANAPA, the national park authority. Of the revenues, $13 million accrues to the poor. TANAPA is committed to ecotourism, but infrastructure has lagged behind the growth in trekking.

The government, TANAPA, the African Wildlife Foundation, and the Netherlands Development Organization are all working to improve conditions on the mountain. And the guides and porters play their roles through their trade organizations. The Kilimanjaro Porters' Assistance Project, Kilimanjaro Environmental Conservation Management Trust, and Kilimanjaro Guides Association advocate for better working conditions and sustaining the resource that supports their lives.

Source: Mitchell and Ashley 2009.

and focusing on career development. Sun International processes new employees through its hotel school and hotels. Accor, a French group, sends promising staff to its university in Europe. Locals are thus rising through the ranks to technical and senior positions. And many local entrepreneurs emerge from the ranks of senior employees who have acquired business skills.

To succeed, tourism needs stable jobs with high service standards and career prospects to retain local staff. But still there are such issues as restrictive immigration policies for key workers, high minimum wages, hiring and firing regulations, unequal enforcement of regulations, and corporate social responsibility. Government's training policies for the sector are central; and private operators have clear interests too, not only when there is a training tax but also when the quality of skills training is in question.

Broadly, primary and secondary schooling is desirable for young people destined to work in hospitality. Higher education is required for future entrepreneurs, managers, and supervisors. Vocational education is needed for other staff. If a country is large enough, the state can provide such training in-country; if not, private institutions might jump in (but they require good regulation). Another option, though expensive, is for students to train in a foreign country. Many countries have exchange agreements (faculty and students) with reputable institutions overseas (Kenya's hospitality

institution, Utalii College, was built on cooperation between Kenyan and Swiss institutions). For lodging and food services, hotels combine classroom experience with practical work in an attached hotel—a "practice hotel," such as the Fairview Hotel in Zambia. Countries may choose from a range of options for training depending on their tourism profile and their aspirations in the sector. They include in-house training and apprenticeships, day release programs, and short-term (six months to a year) and longer term institutional forms (two to four years). Many governments and nongovernmental organizations offer tourism training through on-the-job and informal programs.

Allocate land

Tourism is about land, and access to it is often at the heart of efforts to promote tourism. Yet many countries lack adequate and transparent procedures for allocating land, making it hard to develop tourism in new areas.[6] Governments should create incentives to conserve, protect, and use land for productive purposes as well as a land registry providing authoritative information on land ownership and transfers within a jurisdiction. Investors can then gain access to land through outright purchases—or, as often happens in Africa, long-term leases. In Madagascar, Mozambique, Namibia, and South Africa the government and the private sector worked on this together, with some success (box 8.5).

Land management policies, practices, and institutions determine the types of place that emerge for tourism—from urban centers to remote areas and islands—and how they grow. They should at least include secure tenure and property rights, information systems for recording transactions, land use planning for tourism, support for infrastructure development, and regulations that protect land resources. Resolving land issues can be messy and prolonged; a dispute resolution mechanism can help process claims.

Governments should preserve community stakes in land, while also allowing for appropriate environmental conservation and responsible tourism development. Clear, accountable, and transparent land policies strengthen the investment climate, facilitate access to credit markets, enhance government revenue potential, and foster sustainability.

Build infrastructure

The best incentive for investment in tourism may be secure access to serviced land. In some cases infrastructure is provided by the private sector, but most frequently infrastructure is built and operated by the state or its agents, such as utilities or municipalities. Long-term plans for utilities must factor in the needs of tourism development. Many large tourism projects resemble land development schemes for housing or industry. But small projects must link into utility networks or self-provide (safari lodges, for example). Innovative infrastructure solutions offer the prospect for creating tourism where it was formerly impossible—remote areas or small islands. Such solutions include desalinization (the Maldives' capital, Malé, relies entirely on desalted water for its potable water), renewable energy sources (such as wind power and different types of solar), and solid waste treatment. Most tourism infrastructure serves not only tourists but local populations, sometimes a strong argument for building it.

Land management policies, practices, and institutions determine the types of place that emerge for tourism and how they grow

Box 8.5 Mozambique's land for tourism

Pressure to develop land for tourism in Mozambique started in the mid-1990s, after the civil war. Much of the land suited to tourism is subject to rights of use, with many people holding titles for speculation, and illegal subletting is widespread. These uncertain conditions made it difficult to assemble parcels of land for tourism investment with clear title.

In 2004 Mozambique introduced a Land Law that ensures state ownership of land. It "guarantees" access to land for investors while recognizing customary rights. The law defines basic regulations for the transfer of land use rights and promotes sustainable use of natural resources. In a parallel action the 2004 Tourism Law recognized two types of land: conservation and tourism development. The law also covers sustainable development, national parks, reserves, hunting preserves, and transfrontier parks. It has led to the creation of 18 priority areas for tourism investment. The law also enables the Tourism Promotion Fund to conduct tourism development. These measures have helped make land available to tourism and also protect the rights of local people. However, further work is needed to make procedures for land transfer less complex and bureaucratic.

Source: Tanner 2002.

Africa has the natural assets for tourism. The task is to convert them into competitive advantage and keep ahead of changing trends

Develop products

Africa has the natural assets for tourism. The task is to convert them into competitive advantage and keep ahead of changing trends. The model of high volume–low markup tourism launched mass travel. It brought Spain, Portugal, and Ireland into the ranks of advanced economies. It spread to areas in the Caribbean that used to cater to exclusive high-income markets but are now "all inclusive," a market type once viewed with suspicion. The sun-and-sand market has been commoditized to the point where sun-searchers do not mind where they go—as long as there is sun and sand. Promoters of community-based tourism sometimes bring in backpackers and tourists prepared to live in typical local villages.

Many destinations' first inclination is to aim for the luxury market, which is fairly small, and the cost of entry is high. It probably has less impact on the environment than mass tourism, where it is difficult to control the movements of large numbers of people. But target markets are not an either–or proposition ("mass or class" in the popular idiom). Given the variety of assets and the diversity of customers, products can be designed in multiple, interesting, and creative ways. Every market segment involves tradeoffs, and given the resource base, one destination may be better positioned than others. Competing for these markets is mainly a private activity, but building the brand, often the tourism board's responsibility, has to be addressed with inputs from all stakeholders. Senegal's Sali Portudal started business as a three-star destination 30 years ago; it has since moved up-market, and new hotels are typically four- and five-stars.

Many tourists are looking for experiences beyond just visiting a "place" and will go to great lengths to find what they are seeking. Birdwatchers, generally well heeled, will spend freely to find rare or hard-to-see species. Climbers (or bikers) will search out the mountain of their dreams. Adventure seekers will push the frontiers to get the adrenalin rush they need. There was a time when bungee jumpers were at the forefront of those seeking adrenalin rushes—now people are dropping out of planes without parachutes, relying on aerodynamic suits in what seems a remarkable degree of recklessness. Hunters seek trophies, and many African countries are organized to host them (and wildlife ranches rear the animals).

Finance

Many African countries have a network of financial institutions, including commercial banks and microfinance institutions, that support the tourism industry.[7] Insurance funds also finance hotels, and occasionally state pension or social security funds invest in tourism real estate as long-term projects. For large projects many investors bring in partners for their debt and equity finance. Some microfinance institutions lend for restaurants, bars, and shops. Commercial banks in Africa are wary of tourism projects and lend only to their established customers (often with substantial collateral). A refrain often heard from African operators is that there is no financing available; bankers, on the other hand, say there are no bankable projects. Part of the problem is that few projects are well prepared. This and other challenges need well tailored responses so that the lack of credit does not impede tourism's growth.

Get taxes right

Tourism taxation is complex. Tourism often is highly taxed either directly or through consumer taxes (value added tax and a variety of sales taxes), which can cut into demand via (cross) price elasticity and reduce enterprise and government revenues. But tax incentives to encourage investment are usually available; they too reduce government revenues. Such reductions in revenues can cancel the economic benefits of tourism, so care is required in planning tourism taxation.

A good tax is fair, easily understood, and simple to administer for those paying and those collecting. Poor administration and costs of compliance can be more onerous on taxpayers than the incidence of the tax. Tourist demand is elastic to price, and value added taxes are clearly not neutral. So, taxation is a double-edged sword. It must generate revenues in a stable and predictable way. But it is also a tool for stimulating or dampening economic activity. In general, a simple broad-based tax system with lower rates is preferable to one with high rates, lower collections, numerous exemptions, and weak administration.

A key issue is whether a tax is destined for general government revenues or earmarked for supporting the tourism sector. This may seem to be a low order consideration, but it can be quite contentious. Some targeted tourist taxes, such as entry and exit taxes, generate limited revenues and are regressive (especially if a fixed amount rather than a percentage). They also are hard to administer, and the cost of compliance is high.

Boosting tourism: East, West, and South

The experiences of Senegal (West Africa), Tanzania (East Africa), and Zambia (Southern Africa) show how each country has built a tourism sector and what needs to be done to move to the next level. Each started to nurture international tourism in the 1970s, with the state building the first tourist hotels. Senegal went

for large beach resorts. Tanzania, building on the attraction of its wildlife, made smaller investments close to its national parks, spurring growth around Arusha. Zambia built a thriving industry in the very remote Luangwa Valley and its first larger tourism complexes in Livingstone, next to Victoria Falls. Senegal had 1.0 million tourists in 2011, Tanzania 843,000, and Zambia 906,000 (figure 8.2). Each country offers a model for countries in Africa with aspirations to develop a modern tourism sector.

Senegal—among West Africa's top tourist destinations

Senegal has been very successful in beach resort tourism, with international receipts of $484 million in 2011,[8] contributing 5.6% to GDP and 19.5% to exports.[9] Indeed, tourism is one of the largest exports after agriculture, phosphates, and fisheries. Employment in the sector reached 133,500, 3.2% of total employment.

Resort and business travel are the two main segments. The main season for resort tourism is November to March, during Europe's winter. Western Europe accounts for 55% of arrivals (Italy, Spain, and Belgium each account for a little over 10,000 visitors). French visitors, 42% of all tourists, have long dominated arrivals (but a decline of 50% a few years ago).[10] Africans from other countries are the next biggest market (neighboring Guinea, Mali, and Nigeria are the leading African countries of origin), accounting for 23% of foreign arrivals and appearing to be mostly business visitors. The average tourist stay is short (three to four nights). Dependence is heavy on one country, France, as a source market. The rate of repeat tourism is low (estimated at 5%). And the peak season is fairly short (mainly January and February). In addition to resort tourism, Senegal should look to cultural tourism and nature, wildlife, and adventure tourism (including rafting, hiking, and biking).

Tourism has been a ministerial portfolio for many years, though it has found different homes at different times (Air Transport, Exterior) and is now housed in the Ministry of Culture and Tourism. An independent national tourist board handles marketing and runs a hotel training school.

By 2020 Senegal hopes to become an important cultural and leisure site and a tourism destination of international renown. Its climate and resort assets are competitive with other "reverse" climate destinations. For French-speaking tourists Senegal is the nearest warm resort destination during Europe's winter (just as The Gambia is for English-speaking tourists). Senegal can build on the success of Sali, which has grown more than the authorities envisioned into a viable resort and is going up-market.

Senegal can move its tourism to the next level by taking action in several areas.

- *Diversify the product.* Niche market attractions could be combined with resort tourism to make new products. Although demand for niche markets is small, they have high rates of growth, and tourists are usually professional people with higher incomes. They can also be packaged in a variety of combinations to suit the taste of tourists not so interested in the beach. One niche is sport fishing (all along the coast, including Casamance,

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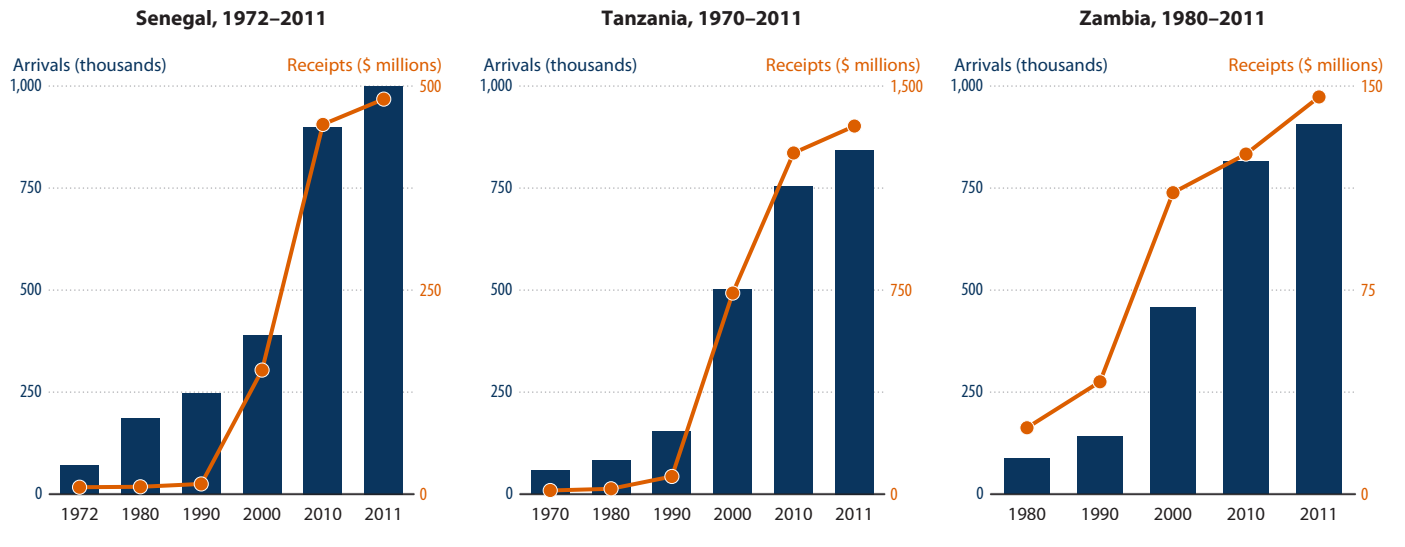
Figure 8.2 Senegal, Tanzania, and Zambia: growth of tourism to 2011



Source: UNWTO 2013, UNWTO database, and authors' calculations.

With 843,000 international visitors in 2011, Tanzania reached an enviable position as a high expenditure–low volume destination

Sali, and Siné Saloum) and diving in some of these areas. Others are bird watching (Djoudj, Siné Saloum, Tambacounda, and Casamance) and ecotourism, with distinctive natural assets for viewing and photography. Adventure tourism can entail trekking, climbing, boating, and hunting (Siné Saloum, Casamance, Tambacounda).

- *Invest in sites that already have master plans.* Sali, the site of most tourism, continues to grow. But there are real opportunities for development in the north (St. Louis), south, and parts of the interior. Senegal has two master plans that await implementation: for St. Louis and Siné Saloum, probably with the most potential after Sali. With the plans ready, it would be appropriate to prepare international tenders for developers to bid on projects, under the conditions set in the plans.

- *Step up promotion of Senegal as a tourist destination and diversify the source markets.* Promoting and marketing of tourism is weak and underfunded, though individuals vigorously market their hotels and tourist services internationally. The impetus that the new minister brings (well known singer Youssou N'Dour) and the restructured ministry should help change this. Senegal should aim to diversify beyond France to other francophone countries (Belgium, Canada [Quebec],[11] Switzerland, and North Africa), and beyond. With its new international airport set to open in 2014, Senegal would do well to open its skies to new airlines.

- *Improve the dialogue between the government and the industry.* Talks between the public sector and the private operators are intermittent, and need to be improved. SAPCO, the public developer attached to the presidency, has gained valuable experience managing Sali and other operations. But it might be time to let the private sector take over this activity in stages and for SAPCO to focus on preparing sites for tendering to the private sector.[12]

- *Control land speculation.* This is difficult to manage anywhere. In the Sali site many sold lots remain vacant even now, held for speculation, more than 30 years later. For such land the government should consider a penalty for nondevelopment, such as a tax on vacant land or a preemptive right to take back and reallocate the land.

Tanzania—high spenders

Tourism, at about 13% of GDP in 2012, is one of the country's largest exports (about $1.4 billion in 2012, or 25% of exports).[13] The earnings were second only to those from gold, ahead of agriculture and manufacturing. The sector employs about 430,000 people directly.

With 843,000 international visitors in 2011, Tanzania reached an enviable position as a high expenditure–low volume destination. The top five source markets were Italy (mainly vacation clubs), the United Kingdom, the United States, Germany, and Spain. Some 55% of visitors were ages 25–44, and 27% were ages 45–64. Almost 80% were leisure travelers.[14]

Tanzania attracts some of the world's most illustrious tour operators, some that market only Tanzania. It has about 32,000 rooms of all types, with 58,000 beds and room occupancies around 50–60%. Most hotels are privately owned, medium to small, and locally branded, except in Dar es Salaam, where several international groups operate. The travel industry, represented by the tour operators and travel agencies, has been improving its products and services through creative packaging, including visits to local communities.

Responsibility for tourism policy lies with the Ministry of Natural Resources and Tourism. Three departments (tourism, wildlife, antiquities) lead the sector through a number of agencies, such as TANAPA (the national park authority), the Ngorongoro Conservation Area Authority, and the Tanzania Tourist Board, which markets the country. The Tanzania Investment Center handles investment promotion. The Presidential Parastatal Sector Reform Commission encourages wider ownership of productive assets, and privatization in tourism has been substantial. Zanzibar has three agencies for tourism: the Zanzibar Tourism Commission, the Zanzibar Investment Promotion Agency, and the Commission for Land and Environment. The Tourism Confederation of Tanzania, the umbrella private sector institution, has 14 industry and trade member associations. The Tanzania Tourist Board has done a good job of marketing tourism on a very limited budget.

A Tourism Master Plan was widely circulated and debated in 1996 as a strategic document and updated in 2002. The plan emphasizes clusters, aggressive management to stay abreast of trends, and differentiating products to add value. A plan for Zanzibar, completed in 2003, focuses on beach and cultural tourism. There is also a new tourism law, but it offers little improvement over earlier versions.

Tourism investment has been concentrated in a few areas, notably around Arusha (the northern circuit) and Zanzibar. A new National College of Tourism is a state-of-the art facility expected to enroll 600 students annually from Southern African Development Community

countries. This gives Tanzania a much-needed option to improve service standards in its tourism industry and to serve the region.

What does Tanzania need to do to get to the next level?

- *Implement the master plan in phases*. With the northern circuit overcrowded in the mid-1990s, Tanzania imposed moratoriums on new construction. And a United Nations Educational, Scientific and Cultural Organization threat to delist the Ngorongoro Crater created the necessity for early action. The southern circuit is the most accessible and, unlike the western zones (with Gombe National Park), it offers an internationally competitive product mix of wildlife and beach tourism at reasonable investment costs. It will require new and rehabilitated infrastructure (road and rail and better park investment), through public-private partnerships, nongovernmental organization support, and private groups, as well as the state.

- *Revisit the sector's constraints and opportunities in the legal framework*. The tourism law does not measure up to the industry's expectations. So the country should revisit the law's basic principles and add policies in subsequent ministerial or national decrees without having to redo the underlying law. It should create a commission with clear goals, objectives, and terms of reference and a mandate to propose action on key pressing issues. Actions are also needed in other areas including:
  - Options for an open skies policy.
  - Pooling wisdom on new products.
  - Seeking an implementable budget mechanism.
  - Reviewing the fiscal and incentive regime.
  - Simplifying and rationalizing the licensing system and harmonizing payments.
  - Elaborating proposals for a destination management organization.
  - Proposing a master tourism plan for East Africa.
  - Considering a single visa for international visitors to the region.

Zambia—water courses everywhere

Zambia is a landlocked country whose attractions hinge on its great watercourses—the Zambezi, Kafue, Luangwa, and Luapula that form part of the Great Rift Valley—and its pristine natural environment. Its best-known destination is Victoria Falls (which it shares with Zimbabwe) near Livingstone, one of the Seven Natural Wonders of the World and a United Nations Educational, Scientific and Cultural Organization World Heritage site. It has good potential for tourist circuits to neighboring Zimbabwe, Botswana, Namibia, Tanzania, Malawi, and Mozambique.

Total arrivals were more than 900,000 in 2011, but only 20–30% were leisure and holiday visitors, most from Zimbabwe, South Africa, the United Kingdom, the United States, and Australia. Contributing 5.7% to GDP, tourism earnings were $146 million in 2011, and direct employment was about 25,000.[15]

Tourism policy is the responsibility of the Ministry of Arts and Tourism. The Zambia National Tourism Board is responsible for advisory services, licensing, and destination promotion. The Zambia Wildlife Authority, a parastatal established under an act of parliament, is responsible for national parks, wildlife conservation, and development, including game management areas, which border the national parks. There are also conservation and museum boards and the Hotel and Tourism Training Institute. The Tourism Council of Zambia is an umbrella organization for about a dozen trade and professional associations.

Visas and frontier formalities have been a concern. At Livingstone the bridge to Victoria Falls, Zimbabwe, has been open for some time, and a regional proposal involves an agreement among the governments of Angola, Botswana, South Africa, Zambia, and Zimbabwe to create a transfrontier national park—around Chobe National Park and the Zambezi—and to introduce a single visa for the five countries. A pilot is under way for Zambia and Zimbabwe, to be in place in 2014.

Zambia has good potential for tourist circuits to neighboring Zimbabwe, Botswana, Namibia, Tanzania, Malawi, and Mozambique

Tourism is a priority for diversification and growth in the Sixth National Development Plan (2011–15). Five regions are deemed high-growth areas: Livingstone and Victoria Falls, Kafue National Park and the surrounding game management areas, Lower Zambezi (Siavonga to Feira), Lusaka City and surrounding areas, and the Luangwa Regional Program. The goal is to create visitor centers, attractions to support tourism, and infrastructure platforms (roads, airports, signage, and communication).

To stimulate faster growth and employment, action is needed on several fronts.

- *Fix infrastructure*. With a land area of 260,000 square miles and some of the largest, most remote national parks on the continent, access is a problem. Due to high fuel costs, air transport to remote areas can be prohibitive. It also depends on charter rather than scheduled services. Livingstone airport, next to Victoria Falls, has more passengers than the capital Lusaka, thanks to tourist arrivals, mostly from South Africa. The Zambia Wildlife Authority

Success depends on the location and maturity of the destination and on the size and level of professionalism of the operators

has responsibility for building and maintaining roads, paths, and trains in national parks but does not have enough revenue from licenses to do this. The TAZARA railway, jointly run by Zambia and Tanzania, could promote tourism among Tanzania, Zambia, and South Africa. TAZARA also runs Zambia's second railway line from Kapiri Mposhi (copper belt) to Dar es Salaam in Tanzania. Basically a freight line, it has had infrequent visits by South Africa's famed passenger Blue Train. Expanding passenger service on this line would open the Luangwa Valley and offer possibilities for tourism. Micro hydroelectric systems and wind and photovoltaics could also be explored for power.

- *Set policy for concessioning in and around national parks and for public-private partnerships to handle park management.* Other Southern African countries are ahead of Zambia on this. Experienced and expert management could come in through public-private partnerships, if it balances conservation and revenue aims. Public-private partnerships could also ensure that local communities retain ownership in communal land, rather than simply sell out.

- *Establish the legal and regulatory framework for the sector.* Licensing for hotels and lodges is fairly restrictive, lagging behind licensing reforms in trade and manufacturing. Wildlife legislation needs to bring the management of Zambia's wildlife resources closer to such industry leaders as Namibia. Managing human-animal conflict in some game management areas and surrounding communities calls for allocating revenue from nonconsumptive sources (such as photographic safaris[16]) more directly to communities and for encouraging partnerships between communities and commercial operators.

- *Build skills.* The Zambian labor force lacks specialized skills for hospitality, which expatriates now supply, even at fairly low levels. The government and the hospitality industry need to design and implement approaches to ensure high workforce standards.

Closer coordination of stakeholders, stronger institutional capacity for management of wildlife and protected areas, and greater investment promotion would make it possible to develop Zambia's considerable assets.

How tour operators view Africa's potential

Most tour operators see significant potential for Africa as a tour destination—with some destinations having more than others.

- High-performing destinations: Botswana, Cape Verde, Kenya, Mauritius, Namibia, South Africa, and Tanzania.
- Emerging destinations: Benin, Ethiopia, Ghana, Madagascar, Malawi, Mozambique, Rwanda, Uganda, and Zambia.
- Destinations repositioning due to political difficulties and the challenges of charter tourism operation: The Gambia, Mali, Senegal, and Zimbabwe.
- Destinations with potential: Cameroon, Gabon, Guinea-Bissau, Lesotho, Malawi, São Tomé and Príncipe, and Swaziland.
- Destinations not currently viable: Burkina Faso, Burundi,

Table 8.1 Success factors for Sub-Saharan tour destinations and operations

Successful Sub-Saharan tour destinations have:	Successful international operators have:	Successful ground operators have:
Stable government	In-depth knowledge of the product	Good relationships with international operators
Airports serving key markets with a range of scheduled and charter airlines	Staff who are knowledgeable, resourceful, and passionate about Africa	Undertaken overseas training or have a deep understanding of source market expectations
Attractive business environment that is conducive to tourism investment	Staff who are well paid	Operations in a number of countries within the region
Modern communications and road infrastructure	An effective customer feedback system	Online booking capability
Wide range of tourism products	An innovative website	Integrated accommodation or transport ownership into their business
Professional tourist board	Strong relationships with ground operators	Taken steps to encourage conservation and environmental sustainability in their operations
A high level of high school and college graduates	A high number of returning clients	Direct sales capacity

Source: Twining-Ward 2010.

Table 8.2 Recommended actions for tour destinations

Action area	Countries where priority action is needed	Tour destinations
Access	Gabon, Kenya, Mozambique, Namibia, São Tomé and Príncipe	Take steps to liberalize air regulations and invest in road improvements
Customer service	Ethiopia, Tanzania, Uganda	Develop on-the-job service quality training
Business environment	Angola, Cameroon, Gabon, Tanzania, Uganda	Improve incentive packages and make loans more accessible
Visa processing	Angola, Gabon, Guinea	Experiment with a regional visa and reduced visa costs
Ground operator training	Cameroon, Ethiopia, Madagascar	Organize regular training for ground operators
Marketing	Cameroon, São Tomé and Príncipe, Zambia, Zimbabwe	Allocate more funds for destination marketing and learn from successful campaigns elsewhere in the region
Product development	Malawi, Namibia, Rwanda, Uganda	Upgrade iconic tourism sites and add to their appeal
E-commerce	All destinations	Provide e-commerce training courses for operators
Sustainability	Kenya, Mozambique, Zambia, Zimbabwe	Invest in park management and conservation, and promote eco certification of suppliers

Source: Twining-Ward 2010.

Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Eritrea, Guinea, Liberia, Mauritania, Niger, Nigeria, Sierra Leone, Somalia, Sudan, and Togo.

What influences the success of tour destinations, international tour operators, and ground operators? Achieving the success factors in table 8.1 depends on the location and maturity of the destination and on the size and level of professionalism of the operators. But what is needed to move tourism to the next level varies greatly by country (table 8.2).

Notes

1. World Bank 2013.
2. UNWTO 2013 and WTTC 2013.
3. UNWTO 2013.
4. UNWTO 2011.
5. World Bank 2011.
6. Some countries have specific denominations of land for tourism development, however, and these can help accelerate tourism development, if well designed. Countries include Madagascar and Mozambique. Tourism planning, discussed earlier, is a key part of land and infrastructure policy.
7. The focus here is on investment but, on the retail side, tourists rely on banking services for transfers, foreign exchange services, cash withdrawals, and credit services. In some remote places in Africa these are in short supply.
8. UNWTO 2013.
9. WTTC 2012.
10. Numbers in this section are from the ACET tourism study (2013).
11. Canadian consultants, for example, are quite active in Senegal.
12. For example, the Dominican Republic realized its first project, Puerto Plata with a national agency, INFRATUR, a department of the Central Bank. Subsequent projects were handled by private developers, including land assembly, infrastructure provision (airport, drinking water, electricity, and the like) and INFRATUR was dismantled.
13. WTTC 2013b.
14. Tanzania National Bureau of Statistics, Bank of Tanzania, and Ministry of Natural Resources and Tourism 2011.
15. UNWTO 2013; WTTC 2013c.
16. Compared with consumptive sources, such as hunting. More generally, tourism that includes sustained conservation of resources in a nonconsumptive manner for future generations through the controlled use and management of cultural and environmental resources (Sirakaya, Sasidharan, and Sönmez 1999).

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ANNEX 1

Technical note on the construction of the African Transformation Index

To compare African countries among themselves, we developed a subindex for each of the five main aspects of economic transformation and combined them to form an index, the African Transformation Index (ATI). Countries are compared for three-year periods centered on 2000 and 2010 (1999–2001 and 2009–11). The comparison is for Sub-Saharan Africa, but due to the lack of data, only 21 countries are represented. We plan in time to extend the index to all of Africa.

Indicators of transformation (DEPTH)

The ATI tracks five subindexes of economic outcomes that are considered to be key features that characterize a transformed economy: diversification of production and exports, export competitiveness, productivity increases, technology upgrading, and human economic well-being (which combines GDP per capita and the share of formal employment in the labor force). The reasons behind the choice of these indicators are discussed in chapter 1; here we summarize these reasons and provide more discussion on how the subindexes are measured and combined to form the ATI.

Diversification of production and exports

The diversification subindex tries to capture diversity in production and exports. We use the share of manufacturing in GDP to reflect the diversity of the production base.[1] The reason is that in most Sub-Saharan (and indeed African) countries production is heavily weighted in favor of the primary sector, and an increase in the share of manufacturing will in most cases lead to a diversification of the production base.[2] True, there is a general tendency for the share of manufacturing to start falling in industrialized countries at high incomes as the countries move up the technology ladder and increasingly move out of low- and medium-technology manufacturing. But hardly any Sub-Saharan country has industrialized to the level that one would reasonably expect this phenomenon to be relevant. An increasing share of manufacturing will therefore continue to be a reasonable indicator of production diversification in Sub-Saharan economies for the foreseeable future.

Diversification in exports is captured by two separate variables: 100 minus the percentage share of the top five products in merchandise exports, and

Coal fired power station, South Africa

the percentage share of manufacturing and services in total exports of goods and services.

In many African countries merchandise exports are concentrated on a small number of products, usually primary commodities, with the top five often exceeding 70%. One aspect of export diversification is to broaden the range of commodities exported, which would reduce this share. So we use 100 minus the percentage share of the top five export commodities as a measure of export diversification.

Another goal of export diversification is to increase manufacturing and service exports to reduce the volatility in export earnings from extreme reliance on primary commodity exports (as well as to also increase export earnings). We try to capture this by the percentage share of manufactures and services in total exports of goods and services. Manufactures include processed agricultural products, which we see as one of the possible options for early industrialization in many African countries. The two export diversification measures are combined with the diversification measure for production to create a single diversification subindex. (The two export diversification measures combined have a weight equal to that of the single measure for production diversification.)

Note that the inclusion of service exports in the diversification measure reflects a view of economic transformation that is broader than the old view of transformation as representing a shift from agricultural to manufacturing (or from primary to industrial) production. We do not include the share of services in GDP in the measure of production diversification because in most African countries the bulk of service production is in low-productivity activities, mainly in the informal sector.

Export competitiveness

We measure export competitiveness by the ratio of a country's share in the world's exports of nonextractive goods and services to its share in world nonextractive GDP. This is equivalent to the share of nonextractive exports in a country's nonextractive GDP divided by the share of nonextractive exports in world nonextractive GDP.[3] If this ratio is greater than 1, the country's production is more export intensive (in nonextractives) than the world average. In other words the country is able to export more nonextractives as a share of total nonextractive production than the world average, so it is competitive in nonextractives on the world market.

A rising ratio over time indicates that the country is becoming more competitive. One reason for using this ratio instead of the country's simple world export market share (in nonextractives) is that we want to reduce the impact of country economic size on our export competitiveness subindex. In general a country with a large GDP (such as the United States) is likely to have a larger world export market share than a small economy (such as Singapore), even if the smaller economy is much more export oriented. A similar comparison in Africa would be between South Africa and Mauritius.[4]

We take out extractive exports in calculating the competitiveness measure because the focus is on transformation. In Africa a large increase in the exports of extractives seldom indicates that a country's economy is transforming. Often, extractive exports are produced by foreign companies within enclaves that have few links to the rest of the economy.[5]

Productivity

Our measures of productivity are manufacturing value added per manufacturing worker (in 2005 US$) and cereal yields (kilograms per hectare).[6] Including agricultural productivity again reflects our view that economic transformation entails more than shifting from agriculture to manufacturing; it also entails modernizing agriculture and thus raising its productivity. Including productivity in manufacturing reflects our view that raising the share of manufacturing in GDP (which our diversification measure promotes) must be done efficiently. Our need to have consistent data across countries over time and to have a more direct focus on policy dictates our choice of these measures of productivity over the more sophisticated and comprehensive measure of total factor productivity.

Technology

We measure technology using Lall's decomposition. We apply the approach to manufacturing value added in production and to manufactured exports.[7] We classify manufacturing value added into low technology, medium technology, and high technology and combine the shares of medium and high technology to represent the level of technology in the manufacturing sector. Similarly, we use the combined shares of medium- and high-technology exports (in merchandise exports) for the level of export technology. The average of manufacturing technology in production and in exports represents the economy's level of technology.[8]

Human economic well-being

A transformed economy should, among other things, generate modern and productive employment and support high incomes. We use GDP per capita and the share of formal employment (jobs or self-employment) in the labor force to represent human economic well-being (while acknowledging that this concept actually

includes many other factors). GDP per capita indicates the economy's ability to generate high incomes from domestic production, and a high level of gainful employment is the most effective way for people to share in the income generated. (We use GDP per capita instead of GNP per capita, given our focus on transforming the production and export structures.) Generally, the higher the level of gainful employment, the more widely any level of GDP per capita will be distributed for shared prosperity. Quite apart from distributional concerns, the level of formal employment in the labor force ties our measure of human economic well-being to transformation in economic structure. It captures both the need to raise employment and to formalize it.[9] Otherwise, it is possible for an economy to generate a high GDP per capita level with enclave extraction of oil, gas, or minerals while the bulk of the economy and people remain in a rudimentary state in traditional agriculture and low-productivity informal activities.[10]

Overall transformation index

We construct an overall transformation index, the ATI, by combining subindexes constructed for the five indicators discussed above. Our measure of economic transformation therefore goes beyond GDP growth. Yes, we want high GDP growth to raise the level of GDP per capita. But we want more than that: we want growth with DEPTH—**D**iversification of production and exports, **E**xport competitiveness, **P**roductivity increases, **T**echnology upgrading, and improvements in **H**uman economic well-being.

Each of the DEPTH indicators is constructed as a subindex, in most cases by aggregating indexes of subindicators. The five resulting subindexes are combined to form the ATI.

Indicators and associated subindicators

- **D:** Diversification of production and exports
  - Production diversification: share of manufacturing value added in GDP. (D1)
  - Export commodity diversification: 100 minus the share of top five exports. (D2)
  - Export sector diversification: share of manufacturing and service exports in total exports. Manufacturing exports include processed agricultural products. (D3)
- **E:** Export competitiveness
  - Country's share of world nonextractive exports of goods and services divided by country's share of world nonextractive GDP (equivalent to the exports-to-GDP ratio of the country divided by the world's exports-to-GDP ratio, with extractives taken out of exports and GDP for both the country and the world).
- **P:** Productivity
  - Manufacturing: manufacturing value added per manufacturing worker (2005 US$). (P1)
  - Agriculture: cereal yield (kilograms per hectare). (P2)
- **T:** Technology
  - Production: share of medium- and high-technology products in manufacturing value added. (The Lall approach is used for the technology decomposition of manufacturing value added.) (T1)[11]
  - Exports: Share of medium- and high-technology products in merchandise exports. (The Lall approach to technology decomposition of commodity exports is used; resource-based and agricultural exports are separate; low-, medium-, and high-technology refer only to manufactured exports.) (T2)
- **H:** Human economic well-being
  - The level of GDP per capita (2005 US$ PPP). (H1)
  - The ratio of formal sector employment to the labor force. (H2)[12]

Normalization of subindicators

Each subindicator for each country is normalized to produce an index ranging from 0 to 100 according to the procedure below:

$$NCS = [RCS - Min(RCS)]/[Max(RCS) - Min(RCS)] * 100 \quad (1)$$

where NCS is the normalized country score (on subindicator), RCS is the raw country score (that is, the raw data on the subindicator for the country), Min (RCS) is the minimum raw country score among the group of countries (on subindicator), Max (RCS) is the maximum raw country score among the group of countries (on subindicator) and where

NCS = 0 when RCS = Min (RCS)

NCS = 100 when RCS = Max (RCS)

Specification of DEPTH subindexes

Subindexes for the five DEPTH indicators are constructed from the subindicator indexes as follows:

Diversification of production and exports	D = 0.5D1 + (0.25D2 + 0.25D3)
Export competitiveness	E = 1.0E
Productivity	P = 0.5P1 + 0.5P2
Technology	T = 0.5T1 + 0.5T2
Human economic well-being	H = 0.5H1 + 0.5H2

Since each subindicator index ranges from 0 to 100, the five DEPTH

subindexes constructed using the above weighting scheme also lie in the same range. The DEPTH subindexes score each country on each of the five main economic transformation indicators, with a higher score indicating better performance. Countries can be thus compared on each transformation indicator.

Specification of the aggregate African Transformation Index

The ATI is constructed from the five DEPTH subindexes using equal weights.

$$ATI = 0.2D + 0.2E + 0.2P + 0.2T + 0.2H \quad (2)$$

Since the ATI is a weighted sum of indices, it also is an index ranging from 0 to 100. Each country has an ATI score, and countries can be compared according to their ATI scores. The higher the score, the better the performance.

Weights

The five DEPTH subindexes are given equal weights in the aggregate index for the simple reason that we have no strong reasons to think one is more important than the other in a country's transformation. For constructing each DEPTH subindex, we have again followed this principle of equal weights. For the first subindex, we have weighted production diversification (D1) and export diversification (D2 + D3) equally. The second subindex, export competitiveness, involves no subindicators. Equal weights are also given to productivity in manufacturing and in agriculture in the third subindex. For the fourth subindex, technology in production and technology in exports have been weighed equally. The fifth subindex, which comprises GDP per capita and the share of formal employment in the labor force, are again weighted equally. We use GDP per capita instead of GNP per capita because we want to focus on production.

Time periods

We show country rankings on the ATI and on the DEPTH subindexes for the two three-year periods centered on 2000 and 2010 (the average for 1999–2001 and the average for 2009–11). We take averages because, given the volatility of the commodity-dependent economies of Africa, the values of the relevant variables for any given year could give misleading results. Averaging helps diminish this possibility.

Scores and rankings

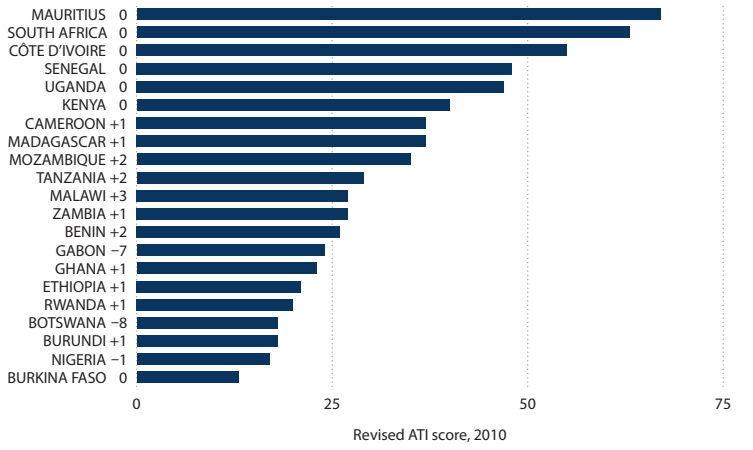
For any given period, the scores on the ATI (and on the associated DEPTH subindexes) provide a ranking of the countries. In addition, for that particular period the difference in the scores of any two countries indicates how far apart the countries are on an index. When we compare performance across two periods, we focus only on the changes in country rankings over the periods. We use a country's change in rank over two periods on the ATI (and the associated subindexes) to measure whether it is improving (lowering its rank) relative to other countries or deteriorating (lifting its rank).[13]

African Transformation Index without the human well-being subindex

One could consider human economic well-being as an end of transformation and the other subindexes as means, so we also compute the ATI for only those four (figure A1.1). The revised index therefore comprises: **D**iversification of production and exports, **E**xport competitiveness, **P**roductivity increases, and **T**echnology upgrading.

For the most part the rankings on this index are similar to those on the index that includes human economic well-being. The only significant rank changes are for countries that have a high per capita GDP based primarily on extractive resources, such as Botswana and Gabon. For 2010 Botswana ranks 10th on the original ATI (shown in chapter 1) but falls to 18th once the human

Figure A1.1 Overall African Transformation Index without the human economic well-being subindex



Note: The numbers after each country name show the change in rank between the overall ATI and the overall ATI minus the human economic well-being subindex.

Source: ACET research.

well-being index, which includes GDP per capita, is removed from the ATI. Similarly, Gabon falls from 7th to 14th.

How the African Transformation Index relates to other indexes of economic performance

There is now a heightened focus all across Africa, and indeed in the international development community, on the need for economic transformation. The ATI is an attempt to systematically specify and quantify economic transformation and compare countries on it.

Unlike many indexes that measure economic performance, the ATI focuses only on outcome measures of the economy, not on policy inputs or institutional forms that are believed to affect outcomes. We start from a definite view of the important features one expects to observe in a transformed economy or in an economy undergoing economic transformation—the DEPTH indicators specified here. Although they do not cover every important economic feature, most policymakers in Africa would consider them essential in their thinking about economic transformation. They are the outcomes policymakers care about, and policies and institutional reforms are means to achieving them.

Whether a country's policies and institutional reforms are appropriate depends on the country's progress toward achieving its desired economic outcomes. Indeed, there is some agreement on a number of policies and institutions that in general matter for economic transformation, and chapter 2 touches on some of them. But country context matters. And trying to get policymakers to pursue particular standard policies or institutional reforms, which is the implied rationale of the input indexes, may not always be helpful.

The approach here is to use our DEPTH indicators, subindexes, and the overall index to generate information for policymakers on the outcomes they profess to care about. The expectation is that for policymakers keen on promoting economic transformation, poor performance on the desired outcomes would prompt them to ask questions and begin to look for answers.

The questions asked and the answers generated would depend on a country's circumstance—its current economic and institutional structures, and the priorities on its economic development agenda. For any given period the package of policy and institutional reforms as well as the sequencing of required reforms may vary from one country to another. And for any particular country what is required may change over time. In most cases policymakers may not know the right package from the beginning. But as long as they are focused on the outcomes, aided by indexes such as ours, and are willing to seek improvements and make corrections as they learn, they are likely to make progress.

The ATI, as a purely economic and an outcome-oriented index, is in some ways similar and in others different from some of the well known indexes, such as a GDP per capita index (purely economic and purely outcome-oriented), the United Nations Development Programme's Human Development Index (HDI; partly economic, partly social, and purely outcome-oriented), and the Africa Competitiveness Index (purely economic and a mixture of inputs and outcomes).

On the whole, the correlation between the ranking on ATI and the rankings on the other indexes is positive. But there are differences. Some countries that do well on both the GDP per capita index and the HDI, do poorly on the ATI, and vice versa. The main reason is that, despite overlaps, the indexes are not trying to measure the same things. The ATI is focused exclusively on economic transformation, as defined and specified in this annex.

Notes

1. An increasing share of modern and high-value services in production would also be an indicator of production diversification, in addition to increasing manufacturing. But we do not have the required data. Although there are more sophisticated ways of measuring production diversity—for example, as in the "product-space" approach of Hidalgo, Klinger, Barabasi, and Hausmann (2007)—we focus on the share of manufacturing value added in GDP due to data constraints and a desire to focus on simple and more recognizable measures.
2. Imbs and Wacziarg (2003) show that countries diversify their production base as they develop up to around $9,000 per capita. Then they begin to re-specialize.
3. Export competitiveness = (Country Exp/World Exp)/(Country GDP/World GDP) = (Country Exp/Country GDP)/(World Exp/World GDP), where both exports and GDP exclude extractives for both country and world. We do not have actual data for extractive GDP so we subtract extractive exports from GDP to get non-extractive GDP. This has the drawback that GDP data are on a value-added basis and exports are on an output basis. But the trends in this ratio are essentially the same as those obtained when extractives are not subtracted from GDP.
4. Note that while the division by GDP reduces the bias against small economies, it could be biased against large economies, which tend to have low shares of exports relative to GDP. But among Sub-Saharan countries, this potential large economy bias is likely to be

less of an issue than the potential small economy bias. Another way to reduce the effect of country size is to take the growth rate of the market share. But in the ATI we use only the levels, not the growth rates, of variables.

5. The export "sophistication" measure of Lall, Weiss, and Zhang (2006) and Hausmann, Hwang, and Rodrik (2005) could also be used to show trends in export competitiveness. This measure is essentially the per capita income equivalent of a country's export basket. Hausmann, Hwang, and Rodrik call their version EXPY. A country has a high EXPY if its export basket includes a high share of products also exported by high-income countries. In that sense the country's export basket could be said to be "sophisticated," since the country appears to be competing with higher income, and usually more developed, countries. We use the simpler measure because we think it has more direct policy implications for export competitiveness. But we report the EXPY values in annex table A1.1. Note that a country whose exports basket is dominated by a product that tends to be exported by high-income countries would necessarily have a high EXPY even if the product is unsophisticated. This is the case with Nigeria with about 90% of its exports from crude oil. And oil-exporting countries tend to have high incomes.

6. A limitation is that countries are not equally suited, in the agro-climatic sense, to cultivate cereals. One could also argue for using value added per farm worker, rather than output (in kilograms) per hectare. But comparable data for the former measure are not available.

7. We classify all commodity exports, but we put agricultural exports and resource-based (that is, extractive) exports in separate categories, so the low, medium, and high categories refer only to manufactured exports. The full classification is therefore: agriculture, resource-based, low-technology, medium-technology, and high-technology.

8. The classification schemes use International Standard Industrial Classification of All Economic Activities for manufacturing value added and Standard International Trade Classification for exports. Another classification scheme that is sometimes used for exports is the "exports sophistication" measure of Lall or, equivalently the EXPY of Hausmann and Rodrik. This approach can also be adapted for manufacturing value added, as done in UNIDO (2009). We use Lall's technology approach since it is more technology-focused than the sophistication approach, which is related more to per capita income levels. Data on EXPY for Sub-Saharan Africa, ACET 15, and the comparator countries are given in annex table A1.1.

9. The share of formal employment (F) in the labor force (L) can be decomposed as:

   $F/L = (F/E) \times (E/L)$, where E is the level of employment. The first term on the right is the measure of "formality" in employment, and the second is the rate of overall employment.

10. A high level of employment in government (or public sector) would raise the share of formal employment in the labor force, but it may not necessarily reflect progress on economic transformation. So perhaps a better measure would be formal employment in the private sector as a share of the labor force, but such data are not readily available.

11. The Lall decomposition of the technology of exports is in Lall (2000). UNIDO (2009) applies the decomposition to productions. We have modified the classifications a bit by making a clearer distinction among resource-based, agricultural, and low-technology products. See www.africantransformation.org for our classifications by SITC and SIC codes. The high level of aggregation (low digit level) reflects the lack of finely calibrated data in Sub-Saharan Africa.

12. The rate of formal employment is derived as (rate of employment) × (100 – rate of vulnerable employment). Data are from the International Labour Organization's *Key Indicators of the Labour Market*.

13. Due to the normalization procedure used in the construction of the indexes for the subindicators, a rise in a country's index score on a subindicator (and therefore on the associated index) from one period to the next may not necessarily signify an improvement or deterioration in the country's performance on that subindicator in an absolute sense. For example, if the underlying raw score for a subindicator stays the same for a country while the maximum and minimum values in the sample for the subindicator change, the country's score on the subindicator could rise or fall, which would affect the country's score on the associated index. So we have to compare the increase (or fall) in the country's score with the corresponding changes in the scores of the other countries to determine how well the country has done—hence our focus on the rankings.

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Table A1.1 African Transformation Index indicators

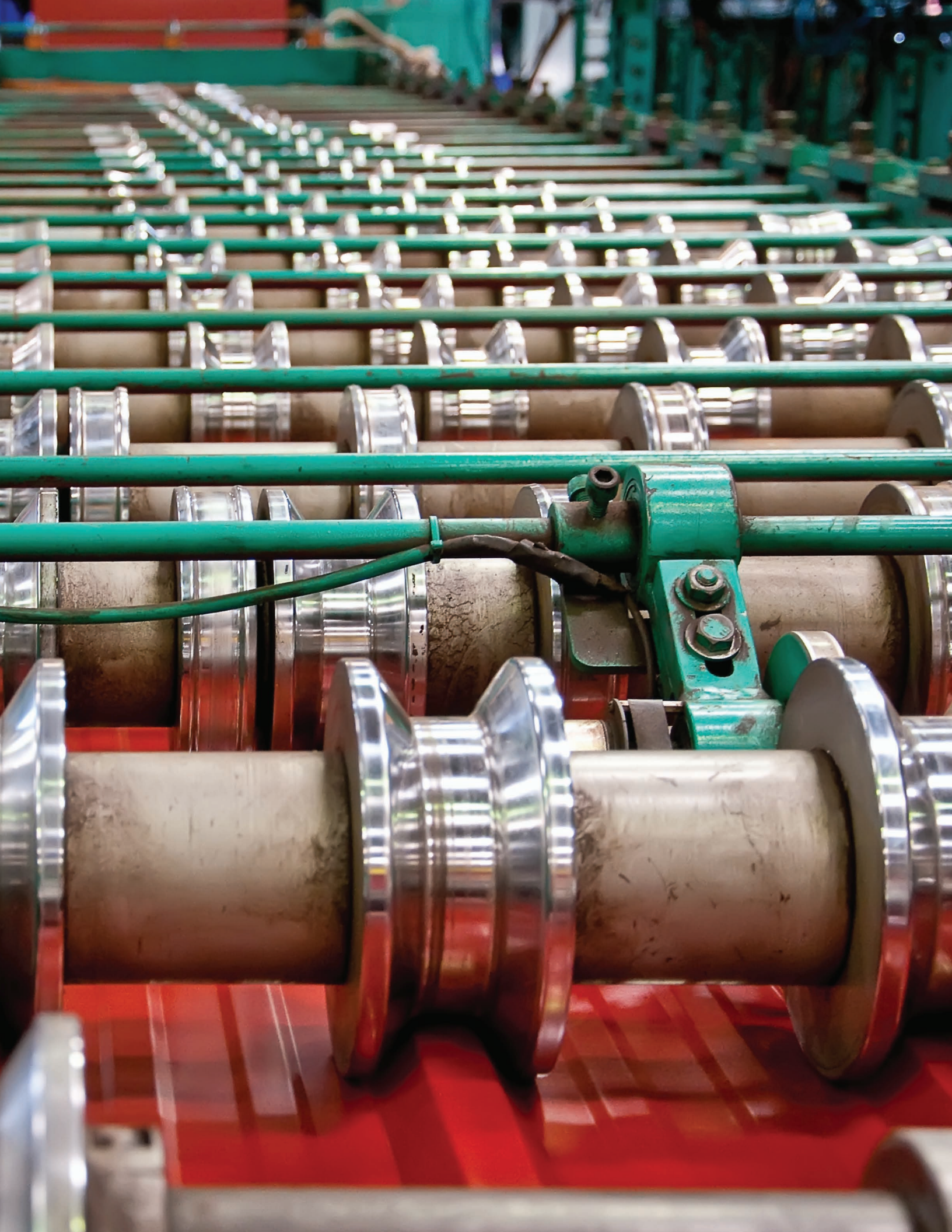
Indicator	Country groupings	Year								
		1970	1975	1980	1985	1990	1995	2000	2005	2010
(D1) Manufacturing value added (% of GDP)	SSA	10	11	10	11	12	11	11	10	10
	ACET 15	12	14	13	13	15	12	12	11	10
	COMP	19	20	23	21	22	22	25	25	22
(D2) Share of top 5 exports (%)	SSA	—	—	86	83	78	79	78	76	75
	ACET 15	—	—	80	82	66	76	72	69	70
	COMP	—	—	63	54	43	40	43	42	43
(D3) Manufactured and services exports (% of total exports of goods and services)	SSA	—	18	26	35	35	35	44	41	42
	ACET 15	—	20	23	18	45	46	44	44	42
	COMP	—	33	38	38	55	63	64	62	57
(E) Nonextractive export-to-GDP share of country divided by nonextractive export-to-GDP share of the world	SSA	—	—	3	3	2	1	1	1	1
	ACET 15	—	—	2	4	2	1	1	1	1
	COMP	—	—	14	5	5	3	3	4	3
(P1) Manufacturing value added per manufacturing worker (in 2005 US$)	SSA	13,217	13,996	16,301	16,383	18,184	19,371	19,371	30,911	41,949
	ACET 15	11,630	11,560	11,371	12,229	13,492	14,389	19,274	25,202	28,861
	COMP	13,075	12,034	14,858	16,942	19,719	26,346	31,580	35,896	44,121
(P2) Cereal yield (kilograms per hectare)	SSA	918	995	1,006	1,174	1,138	1,144	1,333	1,331	1,552
	ACET 15	954	1,080	1,116	1,386	1,325	1,360	1,776	1,851	2,240
	COMP	2,109	2,176	2,405	2,780	2,987	3,222	3,339	3,946	4,462
(T1) Medium- and high-technology manufactures (% of total manufacturing output)	SSA	15	17	17	18	17	19	18	15	—
	ACET 15	19	20	22	19	20	21	19	16	—
	COMP	33	36	40	46	46	53	47	58	—
(T2) Medium- and high-technology commodity exports (% of total exports)	SSA	—	—	3	4	8	7	6	8	9
	ACET 15	—	—	4	2	8	5	5	9	8
	COMP	—	—	14	17	27	37	39	37	34
(H1) GDP per capita (PPP 2005 international $)	SSA	—	—	2,383	2,325	2,369	2,319	2,663	3,186	3,584
	ACET 15	—	—	2,244	2,080	2,225	2,245	2,581	2,964	3,445
	COMP	—	—	6,075	6,183	8,065	10,652	12,019	14,207	16,513
(H2) Ratio of formal employment to labor force (%)	SSA	—	—	—	—	—	27	27	27	—
	ACET 15	—	—	—	—	—	20	30	30	—
	COMP	—	—	—	—	—	53	55	55	—

Source: **(D1)** ACET staff calculations from undata.org. **(D2)** ACET staff calculations from UN Comtrade, Revision 2, Digit 3. **(D3)** World Bank Development Indicators (database); International Monetary Fund, Balance of Payments Statistics Yearbook and data files; World Bank staff estimates from UN Comtrade; World Trade Organization; World Bank national accounts data; OECD National Accounts data files. **(E)** World Development Indicators (database); UN Comtrade, Revision 2, Digit 3. **(P1)** UNIDO INDSTAT2, Revision 3, Digit 2, and undata.org. **(P2)** Food and Agriculture Organization, electronic files and web site (http://faostat3.fao.org/). **(T1)** ACET staff calculations from UNIDO INDSTAT2, Revision 3, Digit 2. **(T2)** ACET staff calculations from UN Comtrade, Revision 2, Digit 3. **(H1)** World Bank national accounts data; OECD National Accounts data files; World Development Indicators (database). **(H2)** ACET staff calculations from International Labour Organization, World Bank population estimates, and Key Indicators of the Labour Market (database).

Table A1.2 Other transformation indicators

Indicator	Country groupings	Year								
		1970	1975	1980	1985	1990	1995	2000	2005	2010
GDP per capita growth (annual %)	SSA	—	1.94	0.83	−0.16	0.47	−0.76	1.96	2.00	2.42
	ACET 15	—	2.31	1.67	−0.68	1.56	−0.22	2.23	3.11	3.41
	Comp	—	4.20	5.71	1.96	—	5.81	1.91	3.48	3.54
Manufactured exports (% of total exports of goods and services)	SSA	—	7.02	5.23	6.42	11.27	9.46	18.05	17.24	14.28
	ACET 15	—	9.33	7.20	3.50	19.44	16.70	18.86	18.48	17.82
	Comp	—	17.40	23.31	25.82	40.15	48.17	50.17	48.43	42.28
Commercial services exports (% of total exports of goods and services)	SSA	14.34	14.10	16.35	18.60	19.76	22.93	25.86	22.27	23.15
	ACET 15	14.34	14.28	14.68	17.04	20.62	24.06	25.71	24.23	24.06
	Comp	—	15.29	14.47	12.36	14.74	14.99	14.11	13.74	13.93
EXPY (GDP, PPP 2005 international $)	SSA	—	—	1,901.66	995.67	1,883.17	3,002.77	5,304.79	5,606.83	3,690.13
	ACET 15	—	—	1,847.79	937.79	2,431.07	3,461.86	6,424.79	7,262.88	7,291.23
	Comp	—	—	3,733.56	6,561.26	8,132.47	8,252.72	10,506.10	11,369.20	8,617.77
Gross fixed capital formation (% of GDP)	SSA	16.39	20.29	22.41	18.05	19.06	20.07	18.42	20.65	23.16
	ACET 15	18.96	19.56	17.72	15.05	19.41	19.22	20.14	21.72	23.72
	Comp	22.15	25.84	26.38	25.49	29.54	30.65	23.22	23.45	25.18
Gross domestic savings (% of GDP)	SSA	13.81	10.27	8.56	8.15	8.14	7.55	8.98	9.68	13.23
	ACET 15	16.33	13.97	10.74	13.91	12.13	12.01	12.46	13.47	14.16
	Comp	19.84	23.22	27.79	28.37	28.44	31.23	31.96	33.38	33.39
Poverty headcount ratio at PPP$1.25 a day (% of population)	SSA	—	—	76.06	51.02	59.39	57.51	48.49	43.44	60.70
	ACET 15	—	—	66.22	54.30	53.86	50.60	55.64	43.91	65.58
	Comp	—	—	25.71	21.60	24.80	18.84	13.22	8.59	18.06

Source: **GDP per capita growth:** World Bank national accounts data; OECD National Accounts data files; World Development Indicators (database). **Manufactured exports:** ACET staff calculations from World Trade Organization, and World Bank staff estimates from UN Comtrade. **Commercial services exports:** International Monetary Fund, Balance of Payments Statistics Yearbook and data files. **EXPY:** ACET staff calculations from UN Comtrade, Revision 2, Digit 3, and World Development Indicators (database). **Gross fixed capital formation:** World Bank national accounts data; OECD National Accounts data files. **Gross domestic savings:** World Bank national accounts data; OECD National Accounts data files. **Poverty headcount ratio at PPP$1.25 a day:** ACET staff calculations from World Bank Development Research Group. Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments. Data for high-income economies are from the Luxembourg Income Study (database). For more information and methodology see PovcalNet (http://iresearch.worldbank.org/PovcalNet/index.htm), World Development Indicators (database), and Key Indicators of the Labour Market (database).



Rolling machine for roof sheets, Kampala, Uganda

ANNEX 2

Country transformation profiles

Annex 2 provides a short profile of economic transformation in each of the ACET 15 countries.

Much of each profile is based on case studies by think tanks or experts in each country, supervised by ACET. The "transformation platform" assesses the institutional context for promoting economic transformation. It reviews state capacity to guide and manage the economy in a way that promotes transformation, including a favorable environment for business and the effectiveness of state-private sector collaboration.

The "transformation prospects" flag low-hanging fruits that—with policy attention to remove specific constraints and to support the private sector—could be scaled up as exports, new exports, or competitive import substitutes.

The growth with depth boxes elaborate the results from the transformation indexes. A figure compares each country's transformation and depth scores with the average scores for the ACET 15 countries. The results are ACET calculations using comparable data from international sources, and the average annual GDP growth rates are calculated as point-to-point compound (exponential) rates.

We hope the profiles will focus discussions of African economic policies squarely on economic transformation.

Contents

Botswana—Ambitions to diversify

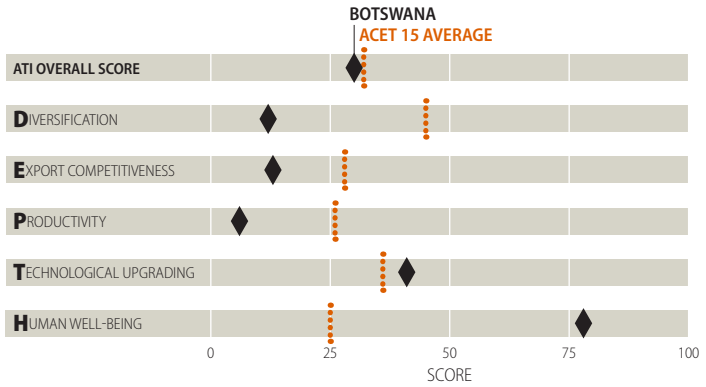
With strong institutions, a flourishing democracy, and noted for prudent management of its diamond revenues, small, landlocked Botswana has achieved impressive economic growth. From one of the poorest countries in Africa in the 1960s, Botswana, through good management of its diamond mining and exports, has progressed to become an upper middle-income country, with an average GDP per capita during 2009–11 of more than $12,000 (PPP 2005 US$). Real GDP per capita in 2010 was more than eight times what it was in 1971—an achievement unequaled on the continent, with only Mauritius coming close. But most of the impressive growth was between 1970 and 1990; since then growth has significantly faltered.

Botswana has not been able to leverage its high income from diamonds to transform the economy, despite the impressive growth. The export base remains narrow. Diamonds account for more than 70% of total exports, followed by copper, nickel matte, textiles, and beef products (in that order). With growth slowing in the past two decades, pursuing transformation while the diamond income lasts should be a foremost concern of policymakers.

Transformation platform

Botswana's political stability has provided continuity for the government to develop policies and programs and build strong institutions that can ensure effective implementation. Recognizing its reliance on a few nonrenewable resources and the mining industry's weak labor absorptive capacity and weak links with the rest of the economy, Botswana has recently embarked on ambitious initiatives to diversify its economy, including diamond polishing. But these initiatives have yet to produce sustainable, productive, and competitive sectors that would ensure future growth. Its transformation will demand not just creative and vigorous diversification, but also deeper partnerships with the private sector and stronger foundations for competitiveness, mostly in developing the skills and knowledge capabilities of the workforce. Despite its favorable rankings on human well-being, expansions in education and health, infrastructure, and other welfare-enhancing programs that target vulnerable groups would strengthen the country's transformation effort.

Botswana's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Transformation prospects

Sectors that can boost transformation include services, manufacturing, and tourism. Very important in current diversification initiatives are the six hubs for diamonds, transportation, agriculture, health, education, and innovation—identified in *Vision 2016* and coordinated by the National Strategy Office.

Tin products are the fastest growing export. Botswana has a high revealed comparative advantage in pearls and precious and semiprecious stones, unworked and worked ores and concentrates of base metals, and meat and edible meat offal, fresh, chilled, or frozen. Other areas with good prospects for boosting exports include financial services, mining and minerals value addition, glass manufacturing, health services, ICT and data processing, tourism, and manufacturing.

In addition to the recent initiative to upgrade part of diamond exports into polished stones, diversification priorities could focus in the short to medium term on garments and textiles, packaging food and beverages, packaging materials, leather, ceramics, jewelry, tourism, and financial services. Attention will need to be paid to improving transportation and power generation, including solar power in rural areas.

Botswana's growth with depth

- ***Transformation—10th of 21.*** Botswana moved from 5th in 2000 (1999–2001) to 10th in 2010 (2009–11) on the overall transformation ranking. The overall ranking is not as high as its GDP per capita ranking due to the economy's lack of diversity, low productivity (in manufacturing and agriculture), and low level of formal employment, compared with other relatively high GDP per capita countries such as Mauritius and South Africa. The drop in rank between 2000 and 2010 mainly reflects a loss of export competitiveness (in nonextractives).

- ***Growth.*** GDP growth averaged an impressive 11.7% a year from 1971 to 1980, followed by another decade of high growth in 1981 to 1990, when the growth rate averaged 9.5%. GDP per capita grew robustly over those two decades at 8.4% and 6.5%, respectively. Since then growth has significantly slowed, averaging 4.8% in 1991–2000 and 3.7% in 2001–10, with corresponding per capita growth of 2.7% and 2.5%. Much of Botswana's growth has come from mining and exporting diamonds.

- ***Diversification—20th.*** Botswana was 20th of the 21 countries on diversification in 2010, a slight deterioration from its 19th position in 2000. The share of manufacturing in GDP stayed around 4%, the share of the top five exports dropped from 92% to 86% (an improvement), and the share of manufactures and services in exports fell from 24% to 18%.

- ***Export competitiveness—17th.*** Botswana's export competitiveness deteriorated markedly over the decade, falling from 9th in 2000 to 17th in 2010. Export competitiveness is measured as the share of a country's exports of goods and services in GDP divided by the corresponding share for the world, with extractives (including raw diamond exports) excluded (as explained in chapter 1 and in annex 1). This ratio fell from 1.35 in 1999–2001 to 0.44 in 2009–11. This means, from being able to export about 35% more of its nonextractive GDP than the world average in 1999–2001, Botswana was exporting less than half the world average by 2009–11.

- ***Productivity—21st.*** Manufacturing value added per worker (in 2005 US$) rose from $10,638 in 2000 to $12,887 in 2010, and agricultural productivity (cereal yield) rose from 303 kilograms per hectare to 375. The levels in both manufacturing and agriculture are so low relative to other African countries that Botswana comes at the bottom of the productivity index in 2010. It ranked 20th in 2000.

- ***Technology—5th.*** Botswana does relatively well on technology, ranking 5th in 2010, up from 6th in 2000. Botswana's rank is largely attributable to the level of technology in production but not in exports.

- ***Human well-being—2nd.*** Botswana's average GDP per capita was around $12,462 (PPP 2005 US$) during 2009–11—up from $9,470 a decade earlier. Although Botswana's per capita GDP was higher, it came 2nd to Mauritius on the human well-being index because of its lower level of formal employment.

Burkina Faso—Reducing the costs of being landlocked

Burkina Faso's economy grew slowly with high volatility during 1971–2000—then growth nudged up and volatility abated. Services dominate in contributions to GDP followed by agriculture and manufacturing, which has stagnated for most of the past four decades. The share of manufacturing in GDP in 2010 (average of 2009–11) is now around 7%, and in exports of goods and services about 3%. Resource-based exports have expanded since 2005 when the gold mining boom started. Revenues from gold exports, if properly managed, could help diversify the economy, which remains highly dependent on unprocessed agricultural and resource-based products.

The economy grew 10.0% in 2012, up from 4.2% in 2011 and an average of 5.1% in the 2000s. But growth has not translated into more jobs, especially for youth, and lower poverty rates. In 2007 youth unemployment was estimated at 29.4% for 15–24 year olds and at 21.4% for 25–29 year olds. Roughly 85% of employment is in agriculture. Poverty fell from 71% in 1994 to 45% in 2009 (share of population living on less than $1.25 a day), and the Gini index of inequality from 51 to 40.

Transformation platform

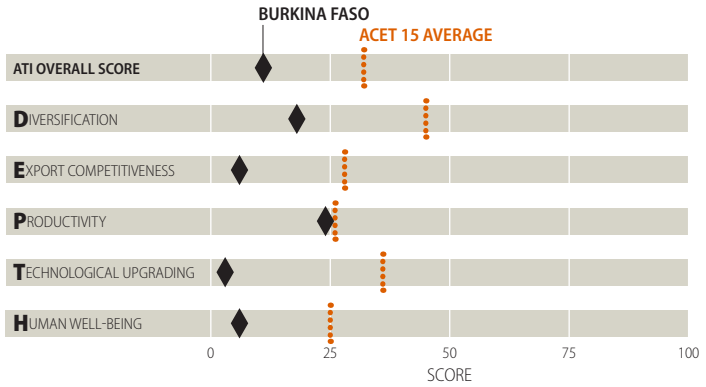
Democratic elections returned in 1991, and the ruling party has won all presidential and parliamentary elections since then. But there has been some social and political unrest, especially in 2008–11. Technical capacity in the public service is good, with 21% of the public sector employees holding a bachelor's degree or higher and 56% holding a high school diploma or higher. And most employees are recruited through examinations.

The review of implementation of the national growth and development strategy shows good results for public finance—87% of measures met in 2012 compared with 37% in 2011—but only 57% of measures were met for sustained and inclusive growth in 2012 compared with 64% in 2011. The fight against corruption has also shown mixed results in recent years, and the recurrent social unrest (food riots, trade unions, demonstrations) and cabinet reshuffles challenge the state's capacity to implement and manage transformation.

The business climate improved, with the country's ranking on the Doing Business Index going from 171st of 175 countries in 2005 to 163rd in 2006 and from 154th of 183 countries in 2010 to 151st in 2011. Burkina Faso was among the top five most improved economies for the five-year (2006–11) cumulative change on the Doing Business Index, with the areas improved being hiring workers, paying taxes, registering property, and dealing with construction permits.

In global competitiveness Burkina Faso ranked among the bottom 10 countries in 2010–11, at 134th of 139 countries. The most challenging areas include infrastructure, health, primary education, higher education and training, and business sophistication. Burkina Faso has shown a commitment to making the private sector the driving force of economic development. For more than 15 years the public authorities have set up a dialogue mechanism between the private and public sectors, which includes annual meetings between the government and the private sector. But challenges remain including the poorly skilled labor force, the lack of business sophistication, and credit constraints.

Burkina Faso's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Transformation prospects

The most promising products for Burkina Faso's exports include:

- *Cotton.* Burkina Faso's world market share for cotton has increased from 0.9% in 1980 to 3.2% in 2009, its revealed comparative advantage in cotton was 466.42 in 2009, and the country is

Burkina Faso's growth with depth

- ***Transformation—21st of 21.*** Burkina Faso ranked last among the 21 countries on the overall transformation index in 2010 (2009–11), having dropped from 17th in 2000 (1999–2001) and losing ground to Ethiopia, Nigeria, Burundi, and Rwanda.
- ***Growth.*** Burkina's GDP grew at 4.4% a year from 1971 to 2010, yielding a GDP per capita growth of 1.8% a year. But growth has been extremely volatile. Since 2001 growth has picked up—5.1% for GDP and 2.5% for GDP per capita. Volatility in growth has abated but is still evident.
- ***Diversification—18th.*** The share of manufacturing in GDP dropped from 12% in 2000 to 7% in 2010, and the share of manufacturing and services in total exports fell from 27% to 18%. The top five exports made up 79% of total exports of goods and services during 2009–11 (but export concentration is rising with the expansion of gold exports). The composition of the top 10 export products did not vary much over the decade except for the occasional product that enters the list one year and drops out the next.
- ***Export competitiveness—20th.*** Burkina Faso ranked 18th in 2000 but dropped to 20th in 2010, losing ground to Rwanda and Nigeria.
- ***Productivity—9th.*** Burkina Faso ranked 9th on productivity in both 2000 and 2010, though levels of manufacturing value added per worker and cereal yields went down.
- ***Technology—21st.*** Burkina Faso's rank on technology dropped from 17th in 2000 to 21st in 2010, indicating that production in the economy remains at low levels of technology.
- ***Human well-being—18th.*** GDP per capita (PPP 2005 US$) was $1,124 in 2010, up from $867 in 2000. Burkina Faso's human well-being score improved slightly from 20th to 18th over the two periods.

the top Sub-Saharan cotton producer. If productivity improves, there are opportunities to capture more value by moving up the value chain (animal feed, cooking oil, biogas, medical and hygiene products, and textiles).

- *Food products from animals*. Given the large livestock herds and poultry flocks, industrial production of meat, milk, and butter could be promoted. Indeed, livestock has consistently been among the top 10 exports in the past decade.
- *Agricultural food products*. Large-scale production and packaging of agricultural products can be envisaged for tomatoes, French beans, Shea nut butter, and mangoes.

To transform the economy, policymakers need to work on reducing the costs imposed by being landlocked, one of the major constraints on the country's competitiveness. Indeed, investment in infrastructure needs to be stepped up and sustained to bring transport costs down and increase trade with countries in the region and beyond. A strategic investment policy involving airports, roads, railways, and storage facilities is needed. Reliable and affordable energy is also critical.

Other measures to promote economic transformation include attracting more private investment, both foreign and domestic, promoting financial sector development, investing in skills development through state-private sector partnerships, and improving the quality of exported products to meet the requirements of foreign markets. Reinforcing the capacity of the technical secretariat of the national growth and development plan to coordinate the implementation of the needed reforms will be crucial for starting and sustaining transformation.

Cameroon—Manufacturing expansion but income stagnation

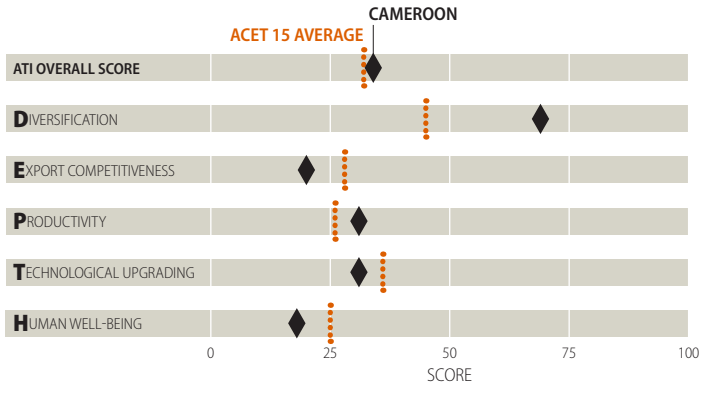
Cameroon's rise in the share of manufacturing, which should be good for transformation, did not lead to a rise in GDP per capita. Manufacturing's share rose from around 14% of GDP in the early 1980s to around 18–19% from the end of the 1980s to the mid-2000s, before falling to 16–17% by the end of the 2000s. But GDP per capita (PPP 2005 US$) hardly changed from 1980 to 2010—it averaged $2,098 in 1979–81 and $2,052 in 2009–11, a clear reminder that there is more to economic transformation than just building up manufacturing.

But the country has many of the ingredients to transform its economy—agricultural resources (bananas, cocoa, coffee, cotton, honey, livestock), forestry products, minerals (bauxite, iron, cobalt, nickel, manganese, diamond), and crude petroleum (which has accounted for more than 40% of exports in most of the 2000s). It is also second to Democratic Republic of Congo in Africa in water resources. Crude oil and dried and roasted cocoa beans dominate exports.

Most Cameroonians operate their economic activities in the informal sector. And as for most Sub-Saharan countries the true size of the sector is unknown. There are no reliable statistics on the labor force. The National Institute of Statistics estimates unemployment at 4.4% in 2005 (against 7.2% for 2001), but this is not believed to reflect severe underemployment.

The incidence of poverty remains high, currently at 39% but down from 53% in 1996 and 40% in 2001. Extreme poverty (share of population living on less than $1.25 a day) declined from 25% in 1996 to 10% in 2007, and the Gini index of inequality from 41 in 1996 to 39 in 2007. Health problems persist, and life expectancy remains low. In 2006–11 the risk of infant mortality was estimated at 62 deaths for 1,000 live births. Generally, the risk of death before the age of five is 12.5%.

Cameroon's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Transformation platform

Politically stable, Cameroon ranked 34th of 134 countries on the Global Competitiveness Index in 2009 in political and macroeconomic stability. The ruling Democratic Rally of the Cameroon People has dominated Cameroonian politics and controlled the government since independence.

Budget management is a challenge. Although a functional budget nomenclature exists, it is not used in budget implementation. Moreover, the lack of an operational medium term expenditure framework is likely a major reason why Cameroon is unable to reach the goals set in its Poverty Reduction Strategy Paper.

The business climate has improved somewhat since 2000, but Cameroon ranked 161st of 183 countries on the overall Doing Business Index in 2012. Cameroon's best ranking was on electricity (66th), but it ranked very unfavorably (below 130th) on enforcing contracts, paying taxes, trading across borders, registering property, and resolving insolvency. On the overall Global Competitiveness Index in 2011–12, Cameroon ranked 116th of 142 countries, 114th on basic requirements of doing business, 101st on innovation and business sophistication, and 120th on efficiency enhancers. The poor quality of health and infrastructure as well as the low levels of secondary and tertiary education are seen to be major contributors to Cameroon's lack of competitiveness.

Constraining private sector development are corruption, poor quality infrastructure, arbitrary judicial system, unfavorable income tax system, and limited financial services. In 2010 Cameroon made some progress on the indicators of

Cameroon's growth with depth

- ***Transformation—8th of 21.*** Cameroon ranked 8th on the overall economic transformation index in 2010, after dropping from 6th in 2000, losing ground to Kenya and Uganda.
- ***Growth.*** Average GDP growth was 3.5% a year from 1971 to 2010. It was high and volatile in the first 20 years, averaging 4.6% a year, –1.1% a year from 1991 to 1995, and a stagnant 3.4% a year from 1996 to 2010. Real GDP per capita was essentially flat from 1980 to 2010.
- ***Diversification—4th.*** Cameroon's rank on diversification improved from 5th in 2000 to 4th in 2010. The share of manufacturing and services in exports of goods and services rose from 26% in 2000 to 32% in 2010. In 2010 the top 5 exports made up 77% of total merchandise exports (crude petroleum, cocoa, refined petroleum product, and rough wood and other wood), and the top 10, 89%.
- ***Export competitiveness—15th.*** Cameroon's rank fell from 11th in 2000 to 15th in 2010, losing ground to Ethiopia, Gabon, Mozambique, and Tanzania.
- ***Productivity—8th.*** Manufacturing value added per worker was $50,489 in 2001 after a sharp increase from $43,856 in 1999. Cereal yields averaged 1,704 kilograms per hectare in the 2000s, up from 851 kilograms in the 1970s.
- ***Technology—9th.*** Cameroon ranked 13th on the level of technology in 2000, but gained on Ethiopia, Mauritius, and Mozambique to reach 9th in 2010. The share of medium and high technology in exports grew from 1.6% in 1999 to 15.2% in 2010.
- ***Human well-being—6th.*** Cameroon's average GDP per capita (PPP 2005 US$) over 2009–11 was $2,052, up from $1,855 over 1999–2001. Its rank on human well-being improved marginally from 7th to 6th over the two periods.

starting a business, reducing time (19 days instead of 34), number of procedures (6 instead of 12), and fixed costs (70%), thanks to pilot centers that facilitate the process of firm creation. Cameroon has set the goal of becoming an emerging country by 2035. Cameroon *Vision 2035* is part of the Growth and Employment Strategy Paper, which sees higher investment and greater participation of the private sector as prerequisites for transformation.

A National Competitiveness Committee has been created to tackle problems constraining the ability to export, including inadequate basic infrastructure, weak governance, low capacity, and hostility toward the private sector.

Transformation prospects

Increasing production in the agricultural, forest, and extractive sectors, all high-growth potential areas, is a major challenge for Cameroon but essential for diversifying its oil-dominated exports. Tourism also offers opportunities to bring rapid economic growth and could be an opportunity to diversify exports since, as part of the Congo Basin, Cameroon is endowed with rich cultural and ecological diversity.

Measures to expand agricultural production and productivity and promote agricultural products with high-growth potential should include making land, water, and agricultural inputs (particularly fertilizers and seeds) more easily accessible; promoting access to technological innovation; improving access to markets through better organized domestic market channels and neighboring export markets; and investing in transportation and communication infrastructures (road, rail, sea, air, telecommunication) in agricultural production areas.

Ethiopia—Rapid recovery and big transformation plans

A centralized economic system that discouraged private sector growth and a prolonged civil war were the main causes of Ethiopia's dismal growth in the 1980s and 1990s. But growth has been impressive since 2000, powered not by the extraction of natural resources and higher commodity prices, but largely by government attention to economic transformation, a change in policy direction toward welcoming the private sector, support to agriculture and export promotion, rapid expansion in public investment that likely attracted private investment and capital inflows, and debt relief.

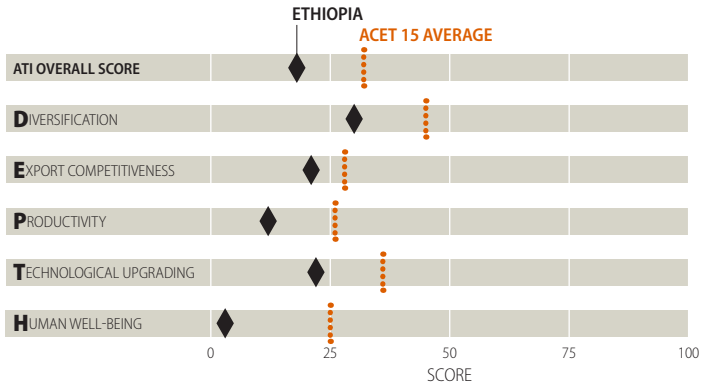
Agriculture remains important, but its contribution to output fell from 58% in 1980–81 to 46% in 2010–12. The share of services rose from 31% to 43%. Industry's share in GDP was 10.5% in 2010–12 and manufacturing's about 3.6%, about 90% of which is low technology. Wholesale and retail trade, real estate and renting, and other business support activities have dominated Ethiopia's services sector since the economic policy reforms of the 1990s.

The top exports are primary products, and the five largest constitute almost three-quarters of export revenues. Manufacturing value added per worker has increased since the 1990s, particularly in textiles. Policy reforms of the 1990s—reducing tariffs, eliminating export taxes, providing new investment incentives, and improving global market access—have encouraged restructuring in textiles and in light manufacturing, especially in leather and leather products (shoes). Overall export growth is estimated at about 10% a year between 2000 and 2011 by volume.

Transformation platform

To speed economic transformation, Ethiopia launched a five-year Growth and Transformation Plan for 2010–15, aiming to build implementation capacity, including a Civil Service Reform Program as one of its pillars. The Plan aims to establish mechanisms to maximize the benefits of foreign aid in the areas of agriculture, food security, social services (education, health), and physical infrastructure (roads, water, power).

Ethiopia's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

The government is addressing weakness in tax administration, especially in registration, collection, assessment, audit, and enforcement. It is targeting an increase in taxes from 8% of GDP in 2010 to 16% by 2015 and in the tax financing of spending from 53% to 87%.

Implementing the Growth and Transformation Plan requires coordination among public agencies, development partners, and civil society organizations. The executive bodies are expected to establish strong networks with regional and local executive bodies to ensure that information flows smoothly at the national level. The National Strategy for the Development of Statistics for 2010–14 aims to strengthen statistical capacity and tackle both human and infrastructure gaps.

The Ethiopian Chamber of Commerce and Sectoral Associations, the Ministry of Trade, and the Ethiopian Investment Agency each have an agenda to foster public-private collaboration. The ministry has a public-private sector forum on trade and related issues. The investment agency has initiated several joint public-private meetings to promote public-private investment partnerships as part of its five-year investment plan, with the Ethiopian Chamber of Commerce acting as a bridge between the public and private sectors.

Recent public-private dialogues reveal optimism about the prospects for economic transformation. But they also uncover some concerns. For example, shoe manufacturers are concerned about the weak links in the value chain between leather and shoe manufacturing. Tanneries prefer to sell semiprocessed leather in export markets rather than leather to local shoemakers, creating a shortage of raw materials and leading to escalating prices of hides and skins for

Ethiopia's growth with depth

- ***Transformation—17th of 21.*** Overall transformation remains limited, with the country improving only marginally from its 18th place in 2000 (1999–2001) to 17th in 2010 (2009–11).
- ***Growth.*** Real GDP grew 1.9% a year in 1981–90, 3.5% in 1991–2000, and 7.3% in 2001–10, while real GDP per capita grew –1.0% a year, 0.8%, and 5.3%.
- ***Diversification—15th.*** Ethiopia improved its rank on diversification from 17th in 2000 to 15th in 2010. It progressed on export commodity diversification, as the share of the top five commodity exports fell from around 90% in earlier decades to 77% in the 2000s. But the share of manufacturing and services in exports fell from 54% of GDP in the 1980s to 49% in the 2000s, which is still high. The bulk comes from services, including from the operations of Ethiopian Airways, tourism, and real estate.
- ***Export competitiveness—13th.*** Ethiopia improved its export competitiveness rank from 14th in 2000 to 13th in 2010 as the share of exports in GDP almost doubled from 7% to 13% and as its relative export intensity of production (the export-to-GDP ratio relative to that of the world) rose from an average of 0.34 in the 1980s to 0.46 in the 2000s. The export volume (value) index increased from 2000 to 2011 by 112% (438%), reflecting rising export competitiveness especially of coffee, oilseeds, chat, flowers, and leather and leather products.
- ***Productivity—20th.*** Productivity of workers in manufacturing rose from $4,469 in 2000 (in 2005 US$) to $5,876 in 2010. Similarly, cereal yields rose from 1,146 kilograms per hectare to 1,699 over the period, reflecting in part the government's fertilizer and technology push since 2000. Even so, Ethiopia fell one notch on the productivity ranking from 19th to 20th.
- ***Technology—12th.*** The share of medium and high technology in exports jumped from 0.25% in 2000 to 3.91% in 2010, while that in production stayed between 14% and 15% over the period. Ethiopia ranked 12th in 2010, a two-step improvement from that in 2000.
- ***Human well-being—20th.*** Despite recent improvements, the levels of GDP per capita and of formal employment in Ethiopia remain very low. GDP per capita shrank from $600 (PPP 2005 US$) in 1981 to and average of $531 in 1999–2001, before rising to an average of $921 in 2009–11.

manufacturers. The depth and consistency of government support to the private sector needs to increase. Uncertain government policy drives investors away from higher risk investments in manufacturing and into low-risk ventures in services. Many regulations are inconsistently enforced.

Transformation prospects

Ethiopia's ambitious Growth and Transformation Plan envisions maintaining real GDP growth of 11% and building an economy with modern, productive, and technologically enhanced agricultural and industrial sectors. Key export products slated for attention are flowers, coffee, meat, oilseeds, pulses, and horticultural products in the agricultural sector and sugar, textiles and garments, and leather and leather products in the industrial sector. The plan also sets ambitious targets for infrastructure and social development. Other key sectors are pharmaceuticals and medical supplies and basic metals and engineering products.

Going forward, Ethiopia can focus first on processing resources for which it has a comparative advantage and then gradually stepping up to higher value products and increasing its participation in regional free-trade areas and in preferential trade agreements, such as the Common Market for Eastern and Southern Africa.

Ethiopia's most promising products for export or import substitution are coffee, flowers, leather and leather products, textiles and garments, metal and engineering products (mainly for import substitution), and pharmaceuticals and medical supplies. Other products with clear potential advantage include oilseeds, live animals, meat and meat products, assembly plants, and electronics.

Ghana—Punching below its weight

After a severe collapse in the 1970s, Ghana began a recovery in the late 1980s that accelerated in the 2000s, generating optimism in the country's capacity to realize its economic potential. Buoyed by high commodity prices and now by oil production, the economy grew from its average of 5.3% in the 2000s to 14% in 2011 and is projected to grow at about 8% in 2013–14, carried largely by extractives and high global commodity prices.

Sustained output growth has not been matched by employment growth. Total employment increased 3.5% a year on average between 2000 and 2010 (with most of the new jobs in the informal sector). With only about 24% of the labor force in the formal sector, informal employment dominates. Youth unemployment doubled from 6.6% in 2006 to 12.9% in 2012. Extreme poverty has come down from 52% in 1992 to 29% in 2005–06 and further to 24% in 2012, according to World Bank simulations, but the Gini index of inequality rose from 36 in 1990 to 43 in 2005.

Ghana's economy remains stuck in extractives and primary products, with the share of manufacturing falling despite the recovery in growth, and agriculture is still based on traditional methods. The new production of oil and gas provides additional fiscal space and opportunities to promote economic transformation; whether the potential is realized will depend on national economic management.

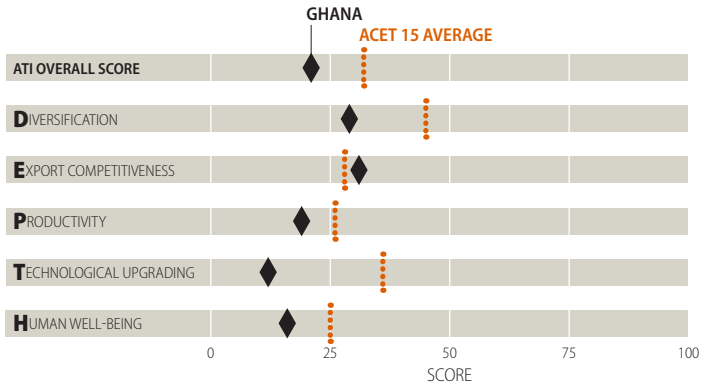
Transformation platform

The technical capacity of Ghana's once experienced and well trained civil service has diminished, with some ministries having to rely on the services of outside specialists and professionals to execute their mandates. The National Development Planning Commission has not become the focal point for economic transformation because its programs are often driven by short-term political manifestos. State capacity is notably weak in public financial management and resource mobilization and in enforcing transparency and accountability. Fiscal deficits remain high. Rising public debt (up from 30% of GDP in 2007 to nearly 50% in 2012), energy subsidies, and a high public sector wage bill threaten macroeconomic stability. Inflation has moved into double digits, as have interest rates, pushing up the cost of credit.

But the business climate has improved considerably since 2000. Ghana's rank of 63rd of 183 countries on the 2012 Doing Business Index places it in the middle among comparator countries, outperforming Indonesia and Brazil but falling short of Malaysia, Thailand, and Korea. Ghana ranked favorably on registering property, getting credit, protecting investor, and enforcing contracts, but unfavorably on starting a business, dealing with permits, trading across borders, and resolving insolvency.

Ghana ranked 114th of 142 countries on the 2011–12 Global Competitiveness Index, 122nd on the basic requirement of doing business, 98th on innovation and business sophistication, and 92nd on efficiency enhancers. Despite recent initiatives to develop private sector development strategies, formal business-government consultations—in developing policy frameworks, identifying growth opportunities, and tackling internal constraints to the private sector—are sporadic.

Ghana's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Transformation prospects

Ghana's comparative advantage in export products is strongest in cocoa and gold and strong in seeds and fruits, wood products, palm products, aluminum products, fish, crustaceans, mollusks, tourism, and, to some extent, horticulture.

- Cocoa offers opportunities to increase export earnings by improving yields and moving up the value chain into intermediate

Ghana's growth with depth

- ***Transformation—16th of 21.*** Ghana's recent experience since 2000 shows that rapid growth does not in itself translate into structural transformation. The country ranked 9th on the economic transformation index in 2000 (1999–2001) and dropped to 16th in 2010 (2009–11).

- ***Growth.*** Average GDP growth was barely 1% a year from 1971 to 1990, resulting in falling GDP per capita of around –1.5% a year. Real GDP per capita in 1990 was about 30% less than that in 1971. Growth recovered in the 1990s, with GDP rising at 3.7% a year from 1991 to 2000 and GDP per capita at 1.4% a year. From 2001 to 2010 average growth accelerated to 5.3% a year and per capita growth to 3.1%. (From 1971 to 2010 GDP per capita rose barely 20%—an average annual growth of around 0.45%).

- ***Diversification—17th.*** Ghana fell from 8th in 2000 to 17th in 2010 on economic diversification. The share of manufacturing in GDP in 2010 is low at 7%, well below the world average of 16% and the Sub-Saharan average of around 10%. Merchandise exports became more concentrated as the share of the top five products (cocoa, gold, wood, veneers and plywood, and fruit and nuts) in merchandise exports rose from 70% in 2000 to 85%. Further, the share of manufacturing and services in total exports almost halved between 2000 and 2010.

- ***Export competitiveness—7th.*** Ghana's rank deteriorated from 2nd in 2000 to 7th in 2010, losing ground to Côte d'Ivoire, Kenya, Malawi, Mozambique, and Tanzania. The export competitiveness ratio (the share of exports in GDP relative to the share for the world) plunged from 1.62 in 2000 to 0.72 in 2010—partly a statistical artifact, given Ghana's upward revaluation of its GDP by 60% in 2006.

- ***Productivity—12th.*** Ghana's rank fell from 11th in 2000 to 12th in 2010. Manufacturing value added per worker moved up from $14,910 (in 2005 US$) in 2000 to $20,162 in 2010. Productivity in agriculture, proxied by cereal yields, was at 1,689 kilograms per hectare in 2010 (above the Sub-Saharan average of around 1,500), up from 1,264 in 2000.

- ***Technology—20th.*** The manufacturing sector is small and at a low technological level. Ghana dropped from 11th in 2000 to 20th in 2010. The share of medium- and high-technology exports averaged just 2.3% in the 2000s.

- ***Human well-being—8th.*** GDP per capita (PPP 2005 US$) rose from $1,068 in 2000 (1999–2001) to $1,512 in 2010 (2009–11). Only about 24% of the labor force is in formal employment.

processing. But Ghana should first resolve whether to continue to export its raw cocoa beans or encourage domestic processing of its beans, and under what price and nonprice incentives.

- Other opportunities are in light manufacturing of wood, palm oil, and aluminum products. Both palm oil and wood have the potential for backward linkages and strong value addition prospects for regional and global markets.

- Ghana's horticultural exports, led by pineapples, yams, and bananas, can extend to mangoes, citrus fruits, melons, and avocados. If scientifically managed, emerging aquaculture could drive exports of fresh and frozen fish. Increased domestic production of rice, sugar, meat, and poultry is another food processing segment for the domestic and regional markets.

- Tourism and business travel can be further leveraged with better infrastructure and support services.

- There are also opportunities for harnessing gas to generate power, for developing ancillary oil and gas services, and for producing petrochemicals.

Kenya—A Silicon Savannah?

Kenya shows an uneven growth pattern, with periods of promising growth overshadowed by a combination of adverse external shocks, weak internal economic management, and political unrest in 2007. As a result per capita economic growth has been lackluster, and output and employment are not shifting from low-productivity areas to high-productivity areas. Per capita income in 2010 was essentially the same as in 1981, with only a modest 7.8% cumulative increase over three decades.

Despite the diminishing contribution of agricultural output, agricultural employment remains high, and there are few signs that workers are migrating into higher productivity areas. Agricultural output is now about a quarter of GDP, down from a third in 1980, yet agricultural employment is about 70% of total employment. Manufacturing output has stagnated at about 10% of GDP for decades and remains largely agro-based. The services sector, now the biggest contributor to GDP, remains highly informal and—except for the few large firms in finance, telecommunication, and ICTs—is dominated by a large number of low-productivity small firms.

Formal sector employment has grown at between 0.1% and 0.4% a year since the 1980s. The informal sector constitutes about 80% of employment. Between 2000 and 2001 the prospects of new graduates getting formal sector employment averaged about 1% and improved to 10% in 2008 and 14% in 2009. Youth unemployment is high—at around 24%.

Transformation platform

According to the 2011–12 Global Competitiveness Index, Kenya's strength lies in the more complex areas of innovation and sophistication in business. It ranked 73rd of 142 countries thanks to its maturing private sector, the degree of business sophistication, and innovative capacity. Kenya receives good assessments for its labor market efficiency (37th) and for its relatively well developed financial markets (26th).

The constraints that have slowed Kenya's transformation include institutional weaknesses, infrastructure gaps, and inadequate financing coupled with limited fiscal space in the government budget and low productivity of the public and private sectors. Overcoming these constraints is essential to providing a platform for economic transformation.

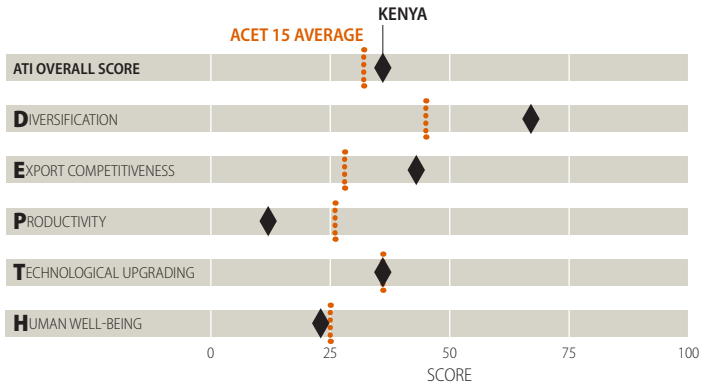
The 2010 Kenya Constitution and the Kenya *Vision 2030* are two important documents that contain critical measures for sustaining the economic transformation agenda. Implementation of the constitutional reforms and the Kenya *Vision 2030* plan is thus imperative for transformation.

Transformation prospects

Traditional high export earners include tea, coffee, and horticulture and resource-based products such as butter and ghee, pyrethrum extract, wattle extract, meat products, canned pineapples, and cement and petroleum products. Low-technology products include textiles, leather, footwear, and articles of plastics. Medium-technology products include metal containers, wire products, insecticides and fungicides, and screws and nuts. In the high-technology category there is potential to scale up the manufacture of medicinal and pharmaceutical products.

In transport Kenya can exploit its geographical position to serve the large hinterland. The financial sector, rated 26th of 142 countries on the 2011–12 Global Competitiveness Index, can make Kenya the financial hub for the region. The strong growth in the ICT sector (epitomized by the successful mobile telephone M-Pesa financial services platform), the development of the largest techno city in Africa (the Konza technolopolis), and the relatively high levels of education position Kenya as a

Kenya's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Kenya's growth with depth

- ***Transformation—6th of 21.*** Kenya improved its transformation rank from 8th in 2000 (1999–2001) to 6th in 2010 (2009–11), largely on the strength of its diversification, export competitiveness, and technological innovation, offset by weakness in productivity in manufacturing and agriculture.
- ***Growth.*** Kenya's rapid growth in the 1970s, averaging 5.7% a year from 1971 to 1980, dipped to 3.6% in 1981–90, collapsed to 1.7% in 1991–2000, and revived to 3.7% in 2001–10. Corresponding GDP per capita growth rates were 2.4%, 0.3%, –0.8% and 1.3%. GDP growth turned negative (–1.0%) in 2008 in the wake of the post-election violence at the end of 2007, but has since recovered, rising to an average of around 5.1% in 2010–12, and expected to average 6.0% in 2013–14.
- ***Diversification—6th.*** Manufacturing's share of GDP was 11.7% in 2000 and 11.8% in 2010 (down from an average of 14% in 1971–80). The share of the top five export products fell from 59% in 2000 to 46% in 2010 (an improvement), while the share of manufacturing and services in exports of goods and services also rose from 47% to 51%. These developments moved Kenya up one step in the diversification rank from 7th in 2000 to 6th in 2010.
- ***Export competitiveness—4th.*** The relative export intensity of production (the share of exports in GDP relative to the share for the world) fell from 0.96 in 2000 to 0.92 in 2010. But Kenya improved in rank from 9th to 4th due to greater falls in the ratio for some of the other countries.
- ***Productivity—18th.*** Kenya dropped from 15th in 2000 to 18th in 2010 on productivity. Manufacturing value added per worker rose from $7,826 (in 2005 US$) to $9,512 over the period, while cereal yields stagnated around 1,480 kilograms per hectare.
- ***Technology—7th.*** The share of medium and high technology in production fell from 21% in 2000 to 14.4% in 2010, while the share in exports rose from 6.4% to 12.4% resulting in Kenya's rank on technology falling from 6th to 7th.
- ***Human well-being—5th.*** Real GDP per capita (PPP 2005 US$) in 2010 was $1,479, up from $1,297 in 2000. Youth unemployment, at around 24%, is a serious challenge.

competitive ICT innovation and business process outsourcing hub providing high-value services such as software development, call centers, and medical transcription. Indeed, the country's ambition is to leverage these potential assets to make Kenya the "Silicon Savannah."

Regional integration arrangements offer further opportunities for economic transformation. Kenya is party to the East African Community and the Common Market for Eastern and Southern Africa regional integration agreements. The East African Community is now Kenya's leading destination for exports, accounting for about 26% of exports. The prospects for even faster growth of Kenya's exports to the East African Community are considerable because of the expected growth in Tanzania and Uganda from exploiting oil and other natural resources.

The Common Market for Eastern and Southern Africa region presents an opportunity to increase exports of manufactured goods. Most Kenyan exports to this region are manufactured rather than primary products, thus enhancing the diversification of Kenya's manufacturing base.

Mauritius—Steady growth but new challenges

The five pillars of Mauritius's growth are sugar, textiles, tourism and hospitality, and the more recent expanding sectors—financial services and ICT. Together with Botswana, Mauritius has had the most impressive growth in GDP per capita from 1971 to 2010. Starting with a growth rate of –0.6% a year in the 1970s, GDP per capita climbed rapidly to 5.1% a year in the 1980s when Mauritius embarked on its transformation from a mono-crop sugar exporter to a textiles and garments exporter. Its GDP per capita (PPP 2005 US$) more than tripled from 1981 to 2010. Only Botswana among the ACET 15 did better over the period. Mauritius owes its remarkable economic performance to sound economic governance, steady reforms to sustain long-term growth, a favorable business environment, effective state-business relations, and proactivity of the state in supporting transformation, including attracting foreign investors and gaining access to foreign markets.

Unlike Botswana, Mauritius has combined steady growth with diversification of production and exports. The share of manufacturing in GDP rose from an average of 19% in the 1970s to 25% in the 1980s, but has since fallen to 17% in 2011. Through an export-oriented development strategy, Mauritius developed the exports of textiles and garments and tourism to complement sugar exports. With the expiration of the Multi-Fibre Agreement and the advent of China in the global textile market, Mauritius is now refining its strategy to find other sources of export growth. Services contribute a rising share of GDP particularly from financial services, tourism, and hotels and restaurants.

Transformation platform

Mauritius's success in promoting sugar, export processing zones for textiles, tourism, real estate development, and offshore financial intermediation lies in its institutions, flexibility, and responsiveness. It boasts a stable democracy, a good legal system, respect for and protection of private property, macroeconomic discipline, good exchange rate management, and streamlined regulation.

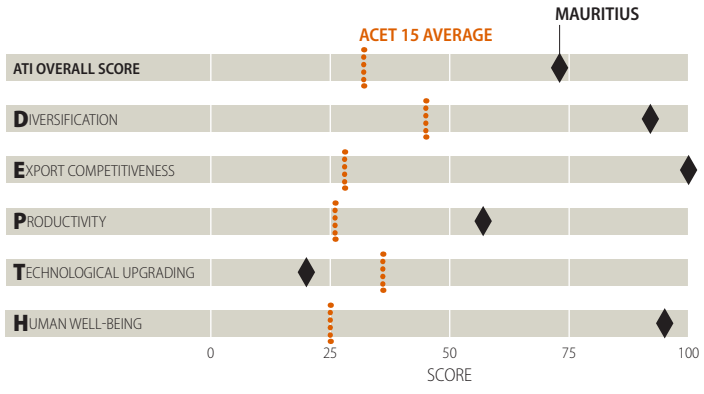
The Joint Economic Council, a coordinating body of the private sector, promotes the interests of business and shares business views on the government's development strategy. The consensus is that government is a facilitator and provider of an enabling environment for private enterprises. There also exists a formal mechanism of interaction through tripartite wage negotiations, the submission of memoranda for the national budget, and representation in public-private committees. Mauritius has various institutional advantages, not least a transparent and well defined investment code and legal system, and a competitive and efficient tax system. Companies and individuals pay a flat income tax rate of 15%.

Mauritius has been improving its position in international indexes for the rule of law, investment, and ease of doing business. The island is first in Sub-Sahara Africa on the rule of law index. It has made progress on the ease of doing business, ranking 19th of 183 countries on the 2012 Doing Business Index, first in Africa ahead of South Africa (34th) and Botswana (59th). It also ranks 14th worldwide on the ease of starting a business and on the strength of investor protection—and 12th on the ease of paying taxes.

Transformation prospects

Mauritius's economy so far has been dominated by the sugar sector, high-end tourism, and manufacturing of apparel. Three expanding sectors and potential growth boosters are financial services; tourism, hospitality, and property development; and ICTs and business process outsourcing.

Mauritius's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Mauritius's growth with depth

- ***Transformation—1st of 21.*** Mauritius has progressed from a "three pillar economy"—sugar, tourism, and textiles—into a modern strong economy revolving around agriculture, manufacturing, financial services, ICT, real estate, and hospitality. The country ranked 1st on the overall transformation index in both 2000 (1999–2001) and 2010 (2009–11).
- ***Growth.*** The promotion of textile and garment exports (in addition to sugar) through special economic zones and tourism powered Mauritius's GDP growth at 5.2% a year from 1981 to 2000, while GDP per capita grew at 4.3%, taking the level in 2000 to more than 2.3 times the level in 1981. From 2001 to 2010 growth slowed to an average of 3.4% a year, while GDP per capita rose at an average of 2.8% a year.
- ***Diversification—1st.*** Mauritius was again 1st in diversification in both periods. The share of manufacturing in GDP fell from 23% in 2000 to 18% in 2010, which is still much higher than the 10% average in Sub-Saharan Africa. The share of manufacturing and services in total exports is very high—87% in 2000 and 82% in 2010, while the top five exports make up 57% of exports—down from 70% in 2000.
- ***Export competitiveness—1st.*** On export competitiveness too (the share of exports in GDP relative the share for the world), Mauritius was 1st in both periods. The export competitiveness ratio, or the relative export intensity of production, was 1.85 in 2010. This was a fall from 2.90 in 2000, but still much higher than the comparator African countries.
- ***Productivity—2nd.*** Mauritius was 2nd on productivity in both periods. Manufacturing value added per worker rose from an average of $9,351 in 2000 to $15,307 in the 2010. Cereal yields are very high—7,002 kilograms per hectare in 2000 and 7,425 in 2010, compared with the Sub-Saharan average of around 1,500.
- ***Technology—14th.*** Mauritius's rank of 14th on technology in 2010 reflects the fact that a significant part of production and the bulk of exports are in garments, which are classified as low technology. The share of medium and high technology in both production and exports was around 8%. The rank of 14th in 2010 was a one-step improvement from 15th in 2000.
- ***Human well-being—1st.*** GDP per capita (PPP 2005 US$) was $12,289 in 2010, having risen from $8,774 in 2000. Though behind Gabon and Botswana in GDP per capita, Mauritius ranks 1st on human well-being in both periods due to its relatively higher level of formal employment for its labor force.

Financial services. Mauritius's financial center has international recognition as a safe and trusted jurisdiction. But there is need to move to the next stage in financial development. The offshore financial sector, though fairly well developed, is weakly integrated with the domestic economy. Recent measures to strengthen the anti–money laundering regime should mitigate vulnerability and reputational risks.

Tourism, hospitality, and property development. From 935,000 tourists in 2010, the government has set the ambitious goal of attracting 2 million tourists a year by 2025. Mauritius has always promoted high-end tourism, directed primarily at the high-spending European market. It is now moving beyond its traditional beach resort tourism into a broader phase of tourism development with hospitality and property development.

Hospitality encompasses hotels, leisure parks, green and medical tourism, restaurants, tour operators, training institutions, international conferences, and airline companies. Property development has the potential to attract a range of developers seeking cross-border opportunities. Major constraints include serious scarcity of beachfront sites for further hotel development and an ever-growing need for skilled manpower.

ICTs and business process outsourcing. Mauritius has progressed in network readiness with ICT prowess and leadership in Africa, displaying a first-class environment characterized by the ease for starting a business, a conducive regulatory environment for ICT development, favorable laws on ICT; and stiff competition among Internet and telephony providers.

Mozambique—Tapping great potential

After its independence in 1975 Mozambique went through 16 years of civil war (ending in 1992), followed by a period of poor economic performance before turning around in 1995. Mozambique has since attracted significant FDI to its "megaprojects," generating faster economic growth. The share of agriculture in GDP has fallen, but still contributes about a third of output. Manufacturing has maintained a slow upward trend thanks mainly to the megaprojects. And services have emerged as the largest sector.

Exports have increased in recent years but remain concentrated in a small number of products. In 2011 aluminum ingots, electric current, and fruits and nuts made up 60% of the country's exports. More recently Mozambique has become Africa's second largest exporter of coal, with plans to increase production and exports.

The economy has been highly dependent on aluminum exports (about 45% of total exports) and thus dependent on aluminum prices. Agriculture contributes slightly less than a third of total output and employs about 80% of labor force. Export performance has been impressive, as the share of exports in GDP doubled from 14% to 30%, raising the relative export intensity of production from 0.62 in the 1990s to 1.07 in the 2000s.

Mozambique's real GDP growth was 7.4% in 2012. The progressive increase in coal production and the implementation of large infrastructure projects are expected to drive growth above 8% in 2013 and 2014. But unemployment is still high, estimated at 19% of the economically active. Poverty and income inequality remain high. In 2008, the latest year with data, the $1.25 a day poverty rate was 60%, down from 81% in 1996, and the Gini index of inequality was 45.7, up from 44.5 in 1996.

Transformation platform

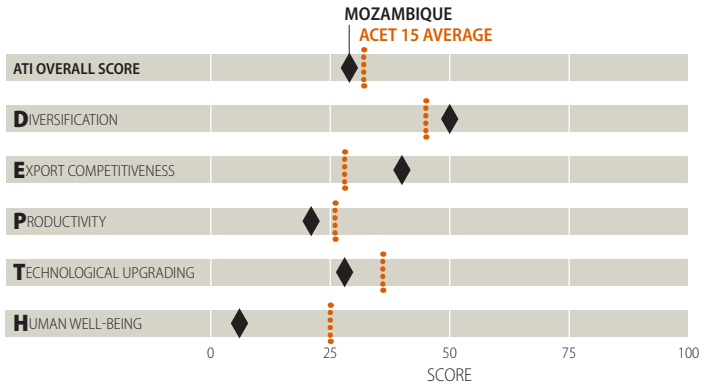
Since independence, Mozambique has suffered prolonged periods of instability. And since the signing of the 1992 Peace Agreement, Mozambique has held relatively peaceful elections (in 1994, 1999, 2005, and 2009), though the last one was marked by tension. Mozambique suffers from a deficit of technical capacity in the civil service, which limits the state's ability to design and implement adequate development and transformation strategies. It is estimated that only 9% of public servants have higher education, while 42% have basic education and 26% elementary.

Mozambique's economic planning is incremental. Donors play a large role in its design and implementation, and it suffers from weak internal demand for accountability (through parliament and civil society) to improve public finance management. But the government is improving the planning process to allocate resources based on priorities and outputs. It is also promoting the creation of higher education institutions to strengthen institutional capacity.

Mozambique's performance on the World Bank's Doing Business Index has been inconsistent and poor. In 2012 it was ranked 139th of 183 countries. But Mozambique is doing relatively well in protecting investors and starting a business. Global competitiveness is low, which does not favor private sector development. The country ranked 133rd of 142 countries on the 2011–12 Global Competitiveness Index. Weak institutions, poor infrastructure, and low educational levels are the main factors reducing competitiveness. Its institutions, infrastructure, financial markets, and technological readiness do not support a competitive economy. Mozambique also suffers from a weak macroeconomic environment.

The government has recently promoted private sector development. The Institute for Promotion of Small

Mozambique's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Mozambique's growth with depth

- ***Transformation—11th of 21.*** Mozambique's progress has been encouraging. It ranked 15th in 2000 (1999–2001) and improved to 11th in 2010 (2009–11), moving ahead of Ghana, Benin, Malawi, and Tanzania.
- ***Growth.*** GDP per capita growth has been impressive since the war ended in 1992. From 1993 to 2000 average GDP growth was 5.7%, with per capita growth at 3.1%. In 2001–10 GDP growth accelerated to an average of 6.4% a year, with a corresponding jump in per capita growth to 4.1%.
- ***Diversification—10th.*** Mozambique's rank on diversification in 2010 was the same as in 2000. The share of manufacturing in GDP in 2010 was 13.7%. The top 5 exports—aluminum, electric current, fruits and nuts, natural and manufactured gas, and unmanufactured tobacco—made up around 70% of merchandise exports and the top 10 about 89% in 2010. The share of manufacturing and services in total exports was 23% in 2010.
- ***Export competitiveness—5th.*** Mozambique's rank improved significantly, moving from 16th in 2000 to 5th 2010, mainly due to the expansion of electric power exports and the electric power–intensive exports from the megaprojects. Its competitiveness ratio, or the relative export intensity of production, rose from 0.61 in 2000 to 0.87 in 2010.
- ***Productivity—11th.*** Mozambique improved from 13th in 2000 to 11th in 2010. Manufacturing value added per worker (in 2005 US$) increased from $15,594 in 2000 to $34,102 in 2010, while productivity in agriculture, proxied by cereal yields, rose from 911 kilograms per hectare in 2000 to 1,042 in 2010.
- ***Technology—10th.*** Mozambique's technology rank remained unchanged from 2000. The share of medium and high technology in exports is low, at 4% in 2000 and 6% in 2010, while the share in production is around 16%.
- ***Human well-being—17th.*** Despite significant growth in per capita income in the 2000s, Mozambique's per capita income is very low—$824 in 2010 (PPP 2005 US$)—and so is the level of formal and nonvulnerable employment—around 12%. Mozambique's 17th rank on human well-being in 2010 was a drop from its 15th rank in 2000.

and Medium Sized Enterprises was created in 2008, and a new law for public-private partnerships was passed in 2011. The Mozambique Confederation of Economic Associations, a private umbrella organization of various economic associations, undertakes independent studies and reviews its member priorities.

Transformation prospects

Given its coastal location, abundant natural and mineral resources, and unexplored potential in agriculture, Mozambique can embark on a wide range of opportunities in agriculture, tourism, and extractive industries. It also has an advantage in maritime transport that can serve neighboring landlocked countries.

Cotton and cashew nuts have the most promise for expanding exports. Intensive in labor, the two crops can be major sources of income for the majority of rural population, and if linked to light manufacturing, their beneficial spillover effects could be considerably high.

Cotton farming involves more than 100,000 producers, 70% of them family-based enterprises. The companies operating in cotton production employ about 4,700 people. Adding textile and garment industries makes the scenario look even more promising in terms of economic transformation. Some estimates show that the textile industry could employ, with existing capacity, more than 15,000 workers, 20% of them at Textile of Mocuba.

The cashew subsector is not much different from the cotton subsector. Cashew growing involves around 1 million people, all in rural areas. The cashew industry employed 8,200 nonfarm workers in 2010.

Significant FDI flows have boosted manufacturing prospects. Megaprojects should link with the rest of the economy and create jobs. Providing farmers with affordable agricultural inputs and investing in infrastructure and skills should be high priorities for Mozambican policymakers.

Nigeria—Is the giant waking up?

Since the 2000s Nigeria has had overall growth in the range of 6.5–8.0% a year, reaching 7.3% in 2011–12. But that growth has not translated into a strong diversified economy. Oil, gas, and agricultural output continue to dominate GDP, contributing around 70% of total output, with oil alone accounting for more than a third of GDP. Oil rose from 58% of exports in 1970 to more than 90% in the 2000s.

Formal employment in Nigeria remains low. Manufacturing employment has been declining since the mid-1980s. Driven mainly by the liberalization of telecommunications and the banking sector in the late 1990s, employment in services experienced a major boom at the end of the 1990s and continued to rise for most of the 2000s.

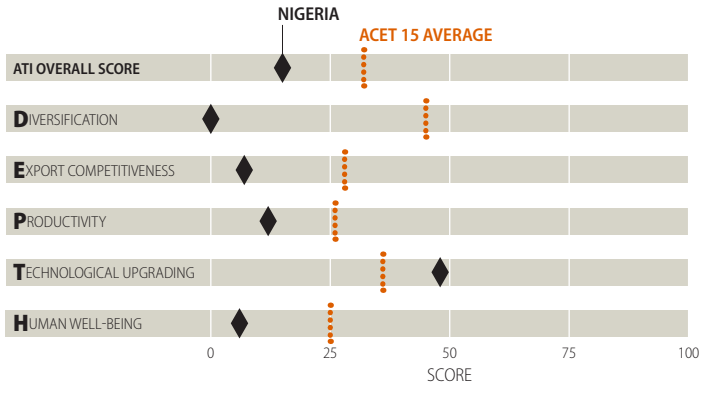
Nigeria's informal sector accounted for about 70% of total employment in 2010. Unemployment has been rising in the 2000s, reaching about 24% in 2011, up from 4% in 1986 and 13% in 2007. Youth unemployment remains a major challenge, more than doubling from 15% in 1986 to about 38% in 2011. Extreme poverty persists, at about 68% of the population in 2010 (share of population living on less than $1.25 a day).

Transformation platform

The return to democratic governance in 1999 strengthened the planning for growth and poverty reduction. Governments have since enacted laws and created institutions to strengthen institutional capacity for fighting corruption. The National Planning Commission and its three parastatal agencies—National Institute of Social and Economic Research, National Bureau of Statistics, and Center for Management Development—helped develop the *Vision 20:2020*.

External reserves rose from $4 billion in 1999 to $46 billion in 2010 after paying $12 billion to liquidate the external debt in 2005. But economic management remains challenged by weak implementation capacity.

Nigeria's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

The business climate has improved somewhat since the early 2000s. Nigeria was cited in the 2012 Doing Business report among the countries that make it easy to enforce contracts, get credit, and trade across borders. But its ranking of 133rd of 183 countries in the overall doing business ranking places it below comparator countries, slightly below Indonesia and Brazil but far below Malaysia, Thailand, Korea, and Chile. Nigeria ranked favorably on protecting investors, outperforming Vietnam, Brazil, and Korea, but unfavorably on registering property (180th) and getting electricity (176th).

Nigeria ranked 127th of 142 countries on the 2011–12 Global Competitiveness Index, 69th on innovation and business sophistication, and 80th on efficiency enhancers. The quantity and quality of health and primary education and infrastructure, as well as the macroeconomic environment, emerged as the primary reasons for Nigeria's weak overall global competitiveness.

One of the core strategies of Nigeria's *Vision 20:2020* is public-private partnership in investments, especially in core infrastructure (power, roads, ports) to generate employment opportunities. But the challenge is that in general the private sector remains relatively weak, mainly because a large part of it is the oil economy, which has been unable to link up with the rest of the economy and significantly contribute to structural change and transformation.

Transformation prospects

Nigeria's prospects for transformation built on the petroleum sector remain undiminished. In 2010 Nigeria ranked as the 10th largest global oil producer. Reserves at the end of 2007 (the latest estimate available) were about 36.2 billion

Nigeria's growth with depth

- ***Transformation—19th of 21.*** Nigeria ranked 19th on economic transformation in both 2000 (1999–2001) and 2010 (2009–11).
- ***Growth.*** Nigeria's economy grew sluggishly for 30 years—from 1971 to 2000—with average GDP growth at 2.4% a year and GDP per capita growth of –0.1%. But there has been a dramatic pick-up in growth since 2000. From 2001 to 2010 average GDP and GDP per capita growth jumped to 5.9% a year and to 4.0% a year. GDP growth reached 7.3% in 2010–12, and is projected to stay around that rate in 2013 and 2014.
- ***Diversification—21st.*** Nigeria's rank on diversification did not change from 2000. The share of manufacturing in GDP in 2000 and 2010 was very low at about 3%, well below even the Sub-Saharan average of around 10%. The share of manufacturing and services in exports moved up from 3.6% in 2000 to 6.2% in 2010. Commodity exports are very concentrated, with the top five exports in 2010 (crude petroleum, refined petroleum products, natural and manufactured gas, leather, and cocoa) making up around 94.3%—an improvement from 99.7% in 2000.
- ***Export competitiveness—18th.*** Nigeria's improved its rank on export competitiveness from 20th in 2000 to 18th in 2010. Its competitiveness ratio, or the relative export intensity of production, rose from 0.30 in 2000 to 0.33 in 2010.
- ***Productivity—19th.*** Nigeria ranked 18th in 2000 and 19th in 2010. Manufacturing value added per worker was $9,663 in 2010, more than doubling from $4,248 in 2000. Cereal yields were at 1,463 kilograms per hectare in 2010, up from 1,215 in 2000. But other countries achieved greater increases in productivity, thus the deterioration in Nigeria's rank.
- ***Technology—4th.*** Nigeria ranks high in technology—3rd in 2000 and 4th in 2010. The share of medium and high technology in manufacturing production is around 35%. But the share in exports is rather low—between 4% and 6%.
- ***Human well-being—16th.*** Nigeria retained its 16th rank in both periods. GDP per capita (PPP 2005 US$) rose from $1,459 in 2000 to $2,134 in 2010.

barrels, nearly 3% of the world total. Nigeria's growing policy focus on downstream forward linkages and local content is beginning to bear fruit. According to UNCTAD estimates, local content rose from 3–5% in the 1970s to 20% in 2004 and 39% in 2010, still below the planned target of 70% for 2010. There is considerable scope for improvements to strengthen links with the nonoil sector, as a source of employment and as a source of energy for both industrial and household uses.

Outside oil and gas, Nigeria's comparative advantage lies primarily in agriculture, especially cocoa, and in leather products, labor-intensive light manufacturing, and oil-related chemicals and pharmaceuticals.

Nigeria is the world's fourth largest producer and exporter of cocoa. The largest nonoil foreign exchange earner, cocoa generates directly or indirectly more than 2 million jobs. Nigeria can scale up the production and export of cocoa by improving productivity and moving into domestic processing of cocoa beans, as outlined in the *Vision 20:2020*.

Nigerian firms are expanding the use of improved leather tanning technologies, which should contribute to increasing exports from the sector. Like Ethiopia, Nigeria could gain further in job creation and foreign exchange earnings if it were to move up the value chain by expanding exports of processed leather and leather-based manufactures.

Chemical (refined oil, liquefied natural gas) and pharmaceuticals (over-the-counter drugs for export, mainly to the Economic Community of West African States region) are targeted as export industries in the *Vision 20:2020*. Nigeria should identify efficient ways to use natural gas for power generation.

Upgrading agricultural value chains and making a strong move into agribusiness would expand the manufacturing sector. So would strengthening local content policy by promoting private investment in backward and forward linkages.

Rwanda—Building a knowledge economy

Against the background of the destruction from the genocide and the postwar resource constraints, Rwanda is a case study of success in postconflict reconstruction. Invigorated by its leadership and the ability to guide national development, Rwanda has made great strides in improving the business environment. Private investment has risen since the introduction of a revised tax code and implementation of business reforms after 2005. Exports have increased, and export diversification is beginning in areas prioritized by government. Reflecting these developments, the country moved from last on the transformation index in 2000 to 18th in 2010.

Transformation platform

Elections are held at presidential, parliamentary, and local levels. Leaders are accountable to the electorate through performance contracts and annual progress reports. Although Rwanda has come a long way in reforming its civil service, low capacity results in high turnover, especially for mid-level positions, which adversely affects the continuity of government programs.

Government is working to strengthen the interaction and communication links between central and local government through consultative meetings and planning. Increased collaboration with development partners in harmonizing performance across sectors has improved the overall quality of the policy dialogue. Institutional capacity for planning and budgeting in the civil service in Rwanda is generally low due to the low human resource base. The National Institute of Statistics suffers from this weakness.

Rwanda moved up to 70th on the Global Competitiveness Index in 2012 (third in Sub-Saharan Africa after South Africa and Mauritius). Rwanda also improved its ranking from 143rd in 2009 to 67th on the World Bank's 2010 Doing Business report. Committed to sustainable economic growth coupled with job creation, Rwanda has made impressive progress in rehabilitating and stabilizing its economy.

Rwanda's *Vision 2020* aims to build a knowledge-based economy and to become a private sector–led middle-income country by 2020. The Economic Development and Poverty Reduction Strategy is the mid-term framework to implement the long-term development agenda. The Rwanda Development Board is a one-stop center for attracting FDI and increasing jobs in the different sectors of the economy). An annual leadership retreat addresses short-term priority issues aimed at private sector–led growth. And the Strategic Investments Plan boosts Rwanda's export growth through selected investments. Rwanda's private sector is small but growing, comprising family businesses, small and medium-size enterprises, and a few large companies and cooperatives.

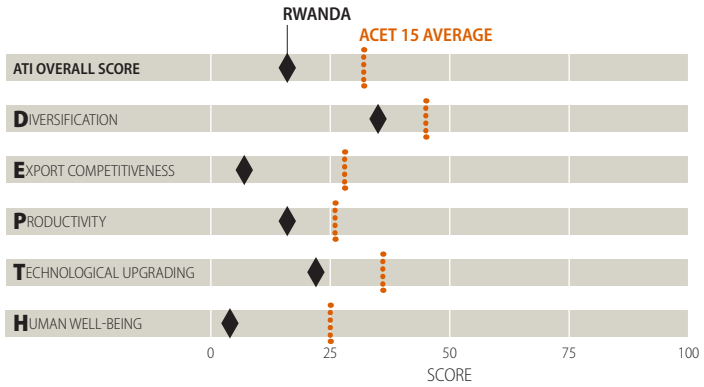
Transformation prospects

Falling transport and communication costs have fragmented much manufacturing production into trade in tasks. The opportunity to trade in tasks can simplify entry to international markets for industrial late-comers such as Rwanda, which no longer need vertically integrated industries to enter world trade.

Rwanda should thus take advantage of information technology-enabled shared services and business process outsourcing. It should also continue pursuing its long-term objective of positioning itself as a regional hub and a location that provides lower costs for high-value shared services. This will enable it to attract international companies in sectors such as banking to establish operations in Rwanda together with their service centers.

Rwanda's opportunities in manufacturing lie in silk textiles, fruits,

Rwanda's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Rwanda's growth with depth

- ***Transformation—18th of 21.*** Rwanda improved from last in 2000 (1999–2001) to 18th in 2010 (2009–11) on the overall economic transformation index.
- ***Growth.*** Average growth in GDP growth in the five years after the genocide—1996 to 2000—was 7.3% a year, but per capita growth was a low 0.6% a year, most likely reflecting the impact of returning refugees. From 2001 to 2010 GDP growth averaged 6.4% a year, and GDP per capita growth 4.2%. In the 15 years from the end of the genocide to 2010, Rwanda's GDP per capita rose by 63%.
- ***Diversification—13th.*** The share of manufacturing in GDP is low—falling from 7.2% in 2000 to 6.8% in 2010. But the share of the top five products in exports fell from 96% in 2000 to 79% in 2010, a very significant improvement in commodity export diversification. The share of manufacturing and services in exports rose from 32% to 50% over the period—again, a significant movement on export diversification. Reflecting these movements, Rwanda's rank on diversification improved from 18th to 13th.
- ***Export competitiveness—13th.*** Rwanda's export competitiveness rank remained unchanged as its relative export intensity of production moved only from a low 0.32 in 2000 to 0.33 in 2010.
- ***Productivity—16th.*** Rwanda moved from last on productivity in 2000 to 16th in 2010. Manufacturing value added per worker as well as cereal yields doubled over the period—the former from $5,425 in 2000 (in 2005 US$) to $11,082 in 2010, and the latter from 862 kilograms per hectare to 1,876.
- ***Technology—13th.*** Rwanda significantly improved its rank on technology from 20th in 2000 to 13th in 2010. This was primarily on account of the share of medium and high technology in exports rising from under 3% in 2000 to almost 11% in 2010. The share in production stayed around 7%.
- ***Human well-being—19th.*** Rwanda's rank remained unchanged. GDP per capita (PPP 2005 US$) increased from $660 in 2000 to $1,081 in 2010. But still Rwanda is very poor. According to the 2006 national household survey, 57% of the population was below the poverty line, with 37% of the population in extreme poverty.

dairy products, and vegetable processing—and in services like niche tourism and business process outsourcing. Rwanda has also identified financial services, engineering, construction, ICTs, agribusiness, mining, and transport as priorities.

The government has established horticulture, hides and skins, handicrafts, and pyrethrum as priorities for investment promotion. But it will have to overcome productivity and human resource challenges.

Rwanda should continue to deepen its efforts in facilitating trade and promoting conformity with standards to increase exports in both regional and international markets. The government has reduced tariff barriers through the negotiations in the East African Community trade bloc. But several nontariff barriers to trade remain. Rwanda faces the highest cost for exporting containers in the East African Community. The time to export a container in Rwanda is 42 days, compared with 24 days in Tanzania. The cost of transporting a container from Mombasa to Kigali (including all customs payments) amounts to 53% of its value.

Senegal—Good manufacturing base but slow growth

Senegal has a relatively high manufacturing base, compared with the other ACET 15. The share of manufacturing in GDP was around 14% in 2010, but it has been trending downward—from an average of 16.7% in 1991–2000 and 15.3% in 2001–10. The country's location as a gateway to several francophone countries in West Africa is an advantage for developing manufactures and also for serving as a transshipment point for exports. But this advantage is yet to be fully utilized. Growth has been very slow—average GDP per capita growth was 0.1% a year from 1971 to 2010.

Growth has picked up a bit in recent years, but unemployment has not changed much in the country, increasing slightly in recent years from 10.0% in 2005 to 10.2% in 2011. Unemployment affects women and youth much more. Youth unemployment was 12.7% in 2011, and was 13.3% for women, compared with 7.7% for men. The poverty rate has declined from 66% in 1991 to 29% in 2011 (share of population living on less than $1.25 a day), but income inequality remains high with a Gini index of 40.3 in 2011.

Transformation platform

Senegal is one of the few African countries that has escaped coup d'états and all their political and economic costs. The country is considered an example of successful democratic transition. Senegalese authorities have undertaken initiatives to transform the national economy. But the country remains highly dependent on donor support for the implementing and effectively monitoring development programs and projects. Economic planning is weak and government policies are based mainly on short-term projections.

Despite significant reforms in 2003 and 2007 (including reducing the corporate tax and facilitating the procedure for business creation), Senegal dropped from 152th of 183 countries in 2007 to 154th in 2012 on the Doing Business Index. But the country is fairly well ranked in trading across the borders (65th) and resolving insolvency (86th). Senegal's private sector suffers from a lack of competitiveness. Senegal ranked 111th of 142 counties on the 2011–12 Global Competitiveness Index. Infrastructure, primary education and health, and higher education and training constitute major constraints to Senegal's competitiveness.

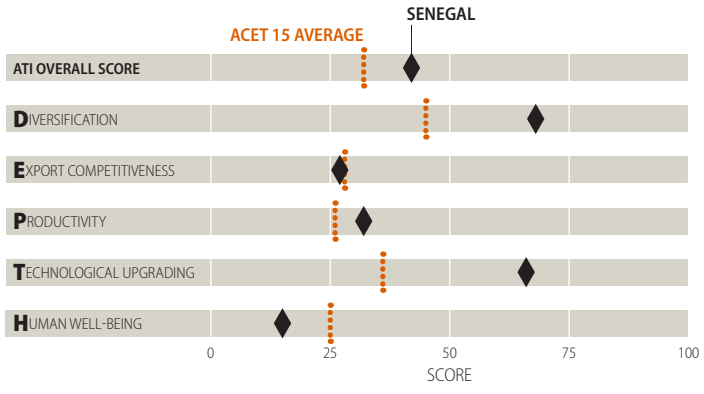
During the past decade Senegal has adopted a private sector strategy and implemented reforms to improve business environment. Under the leadership of the Presidential Council for Investment, reforms have focused on increasing private participation and improving the business environment and competitiveness. The country has adopted a legislative framework for public-private partnerships, and build–operate–transfer, especially for infrastructure and utilities.

Transformation prospects

Senegal's traditional exports include groundnut products, fish products, and cotton—and its non-traditional exports, salt, horticultural products, cement, refined petroleum products, and phosphate and its derivatives. Horticultural products, cement, and cotton have the greatest potential to increase and diversify Senegal's exports.

The country has a good climate for horticultural production throughout the year. About 70% of Senegal's exports to the EU are green beans, cherry tomatoes, mangoes, and melons. The labor-intensive vegetable and fruit industry employs more than 17,000 families in rural Senegal. Cement could be a booming sector with exports to neighboring countries and the rest

Senegal's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Senegal's growth with depth

- ***Transformation—4th of 21.*** Senegal was ranked 3rd on economic transformation in 2000 (1999–2001); it dropped to 4th in 2010 (2009–11), losing ground to Côte d'Ivoire.
- ***Growth.*** Senegal has grown slowly for four decades. Average GDP growth was 1.7% a year in the 1970s, 2.1% in the 1980s, 2.8% in the 1990s, and 3.5% from 2001 to 2010. And GDP per capita fell at –0.8% a year in the 1970s and –0.6% in the 1980s, before turning positive at 0.4% in the 1990s and 1.1% from 2001 to 2010. GDP per capita growth is projected at 2.6% in 2011 and about 3.7% in 2012.
- ***Diversification—5th.*** The manufacturing share in GDP was 14.2% in 2010, down from 15.7% in 2000. The share of manufacturing and services in total exports, 42.8% in 2000, rose to 45.4% in 2010, of which more than half was from services. In 2000 the top five exports made up 65% of Senegal's total merchandise exports, but the share dropped to 59% in 2010, indicating a positive trend in commodity diversification. But overall on diversification, Senegal did not make much progress compared with the other countries, so its rank of 5th in 2010 was a slight deterioration from 4th in 2000.
- ***Export competitiveness—9th.*** Senegal's rank of 9th in 2010 is deterioration from 7th in 2000. The relative export intensity of production (the share of exports in GDP relative to the share of the world) fell from 0.77 in the early 2000s to 0.66 at the end of the decade.
- ***Productivity—7th.*** Productivity in manufacturing, measured by manufacturing value added per worker, rose from $42,396 (in 2005 US$) in 2000 to $22,260 in 2010. Similarly, cereal yields have been on an upward trend—from and 865 kilograms per hectare in 2000 to 1,099 in 2010. But the improvements did not match those in the other countries, so Senegal dropped from 6th in 2000 to 7th in 2010.
- ***Technology—2nd.*** In 2000 the share of medium and high technology in production in manufacturing was 38%, dropping to 36% in 2010. The share of medium and high technology in exports was 11.2% in 2000, dropping to 10.1% in 2010. But Senegal's 2nd position went unchanged between the two periods.
- ***Human well-being—9th.*** Senegal's average GDP per capita (PPP 2005 international $) rose from $1,500 in 2000 to $1,732 in 2010. The country fell from 8th in 2000 to 9th in 2010.

of Sub-Saharan Africa. Cotton holds perhaps the greatest prospect for value addition. But authorities must invest in infrastructure to facilitate storage and transportation to markets. They should also improve the production and distribution of electricity—and invest in the training of farmers and facilitate their access to agricultural inputs. Leveraging cotton, Senegal's could build on its reputation in high fashion African designs to expand garments exports. The country also has good opportunities for raising its success in tourism to the next level by diversifying its tourism attractions and source markets.

South Africa—Linking to the rest of Africa

South Africa is the economic powerhouse of Sub-Saharan Africa. Since its transition to majority rule in 1994, the country has pursued a number of political, economic, and social reforms aimed at achieving a stable social democracy, ensuring a fine balance between meeting pressing social objectives and good macroeconomic management, and building a robust economy. It trades extensively within the region, and its companies have a growing presence in Africa. It also has a diversified manufacturing base that can compete in the global economy. And it boasts good transport, ICT and telecommunication infrastructure, and a well developed financial system.

South Africa's trade structure remains unchanged from its primary and resource-based products. Except in mining, movement toward a significant amount of high-tech products has been slow.

Transformation platform

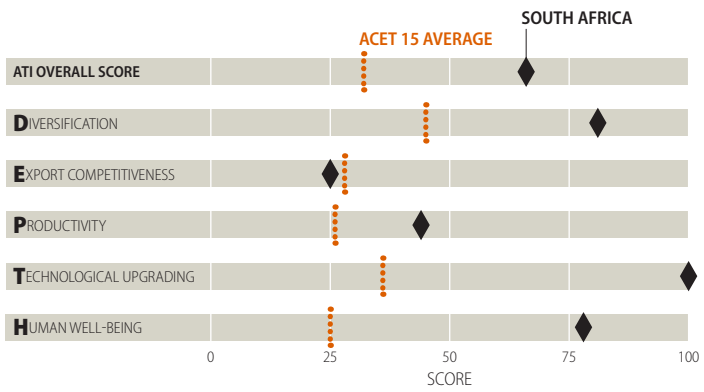
Policy frameworks adopted since 1994 have tried to respond to the economy's growth and development challenges.

- The Reconstruction and Development Program (1994) focused on growth with government investment playing a major role.
- The Growth, Employment, and Redistribution program (1996) emphasized increased private sector investment–led growth.
- The Accelerated and Shared Growth Initiative (2005) aimed to further the goals of the preceding policy frameworks with a higher commitment to macroeconomic stabilization policies relative to welfare policies.
- The New Growth Path framework (2010) aimed to address persistently high unemployment through the creation of decent jobs.
- The Industrial Policy Action Plan (2010) set out to diversify and grow exports, improve trade balances, build long-term industrial capacity, grow domestic technology, catalyze skills, and accelerate job creation in the next decade.

The 2014 version of the plan reinforces diversification, industrialization, and the move to a knowledge economy. It also promotes labor-absorbing industrialization to increase the participation of historically disadvantaged people and marginalized regions.

The consensus is that South Africa faces deep structural and microeconomic challenges that, separately and together, constrain growth and development. So resolving any one issue in isolation will not release the economy's growth and job-generating potential. A multipronged approach, and a refocused industrial and innovation policy, are imperative for economic transformation.

South Africa's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Transformation prospects

South Africa should focus on a few growth areas with:

- Significant externalities, particularly relating to training and innovation.
- Access to rapidly growing export markets, thus providing scope for scaling up.
- An element of economic rent and not easy for competitors to reproduce.
- High local value addition and intensive use of labor.

Tourism, mining equipment, solar energy, high-quality wines, and tea and fruit meet these criteria as potential sources of growth to varying degrees.

South Africa's trade with the rest of Africa has a huge potential. Exports of technology-intensive products

South Africa's growth with depth

- ***Transformation—2nd of 21.*** South Africa ranked 2nd in both 2000 (1999–2001) and 2010 (2009–11) on economic transformation, after only Mauritius.
- ***Growth.*** South Africa's GDP grew at an average of 2.4% a year in the seven years after independence. GDP per capita grew at an average of 0.4%. In the last seven years of apartheid average GDP growth was 0.6% and GDP per capita growth was a –1.2%. Growth accelerated from 2001 to 2010, with average GDP growth moving up to 3.2% and GDP per capita to 2.1%. Two episodes—the 1998 contagion of the East Asia financial crisis and the global recession of 2009—interrupted South Africa's longest period of economic expansion by ending 55 quarters of growth since the end of apartheid in 1994. GDP is projected to grow at 3% in 2013 and 2014.
- ***Diversification—2nd.*** South Africa's rank did not change from 2000. The share of manufacturing in GDP fell from an average of 19% in 2000 to 17% in 2010, while the share of manufacturing and services in exports also dropped from 37% to 32%. Meanwhile, the share of the top five exports rose from 35% to 40%. So all the indicators of diversification moved in the wrong direction between 2000 and 2010. But South Africa is so diversified relative to most of the countries compared on the index that it still retained its 2nd rank.
- ***Export competitiveness—11th.*** South Africa lost three places, falling from 8th in 2000 to 11th in 2010. Its relative export intensity of production (the share of exports in GDP relative to the share for the world—not counting extractives) is below 1.0, and it fell from 0.69 in 2000 to 0.66 in 2010.
- ***Productivity—4th.*** South Africa improved its rank on productivity from 8th in 2000 to 4th in 2010. Manufacturing value added per worker (in 2005 US$) rose from $26,703 in 2000 to $36,050 in 2010, while cereal yields rose from 2,458 kilograms per hectare to 4,193.
- ***Technology—1st.*** South Africa is the clear leader when it comes to the level of technology—in both 2000 and 2010. The share of medium and high technology is around 37% in production and around 32% in exports.
- ***Human well-being—3rd.*** GDP per capita was $9,510 (PPP 2005 US$) in 2010, up from $7,617 in 2000. Despite modest improvement in human and social indicators over the last decade, high open unemployment and inequality remain serious challenges.

to Sub-Saharan Africa range from specialized agricultural products to machinery, vehicles, and electronics. In turn, South Africa receives resource-based products such as oil, precious stones, base metals, and agricultural products. South Africa has the opportunity to further specialize in higher technology and more sophisticated products for the African market. Indeed, Southern African Development Community countries could soon become South Africa's biggest market for manufactured goods.

Travel service exports are on the rise. Other services in which world trade is growing faster than the average and faster than South Africa's market shares are increasing include ICTs, insurance, and finance. Call centers are a growing business, and South Africa's location is ideal for servicing major European and Asian markets because of time zones and cultural affinities. The installation of fiber optic cables around Sub-Saharan Africa—on the eastern and western coasts—should ensure cheaper and more widely available bandwidth, which should boost South Africa's connections with the rest of the world.

South Africa's participation in the EU-South Africa Free Trade Agreement, the Southern African Development Community trade protocol, the renegotiated Southern African Customs Union agreement, and the U.S. African Growth and Opportunity Act have all boosted market access. That should help exports of agricultural products, such as wines and fresh fruits, on the rise since the end of apartheid.

Tanzania—Steady progress but still lagging

Tanzania's economic policy has moved slowly from socialist to market-based. Starting in 1986, reforms dismantled the key pillars of the socialist economy, notably removing price controls and privatizing state enterprises. Growth stuttered at first, but accelerated after 1996 following aggressive macroeconomic stabilization and structural reforms. Further initiatives in the 2000s included the adoption of a National Strategy for Growth and Reduction of Poverty, with institutional reforms to improve capacity in macroeconomic management, planning, and budgeting.

Agriculture remains an important share (about 28%) of Tanzania's GDP, industry at 25%, and services at 47% in 2010–12. Mining has grown fast over the period as Tanzania emerges as a resource-rich economy producing gold, pearls, and precious stones, and thanks to the recently confirmed new discoveries of both onshore and offshore natural gas. Growth in manufacturing has been modest, however—moving from and average of around 8% of GDP in 1999–2001 to around 9% in 2009–11.

Despite numerous poverty reduction initiatives, low levels of productivity and high levels of unemployment and underemployment have constrained the country's ability to achieve meaningful poverty reduction.

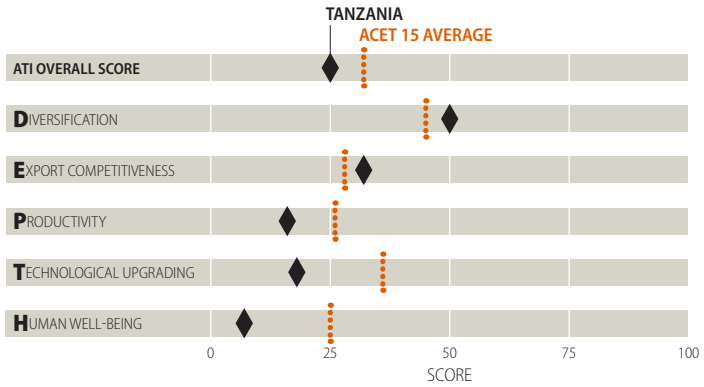
Transformation platform

The President's Office Planning Commission, the agency for strategic thinking on the national economy, drives and coordinates the implementation of transformation strategies. It advises on medium- and long-term strategies, monitors and analyzes development trends, and provides advice on macro and sectoral policies as well as broad socioeconomic development issues.

Tanzania uses three models to strengthen planning and budgeting. The Macroeconomic Model for Tanzania provides a quantitative framework for forecasting and policy analysis. The Strategic Budget Allocation System links the country's poverty reduction targets and resource requirements with the budget. And the Social Accounting Matrix estimates the impact of fiscal policy on progress being made to attain the country's *Vision 2025*. Despite strong growth in the formal sector, Tanzania's private sector is still largely informal. More than 95% of enterprises are informal to some degree.

Tanzania ranked 120th of 142 countries on the 2011–12 Global Competitiveness Index. It did not improve markedly on any of the major aspects of the indicators in 2012 relative to 2010. Its weakest ranks are in its sophistication of its business sector (104th), technological readiness of its businesses (126th), overall macro environment (129th), infrastructure development (130th), and higher education and training (131st). Its best rankings are 73rd for both innovation and labor market efficiency and 80th for institutions. The government set out in 2011 to develop a roadmap to improve the country's investment climate and to identify measures to reduce the regulatory burdens for doing business.

Tanzania's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Transformation prospects

Based on the revealed comparative advantage of the top 10 exports in 2009, there are opportunities in producing key products and services that can drive transformation. Tanzania's first export segment is in primary commodities, including gold, precious metals, and coffee. The second is in textiles, iron and steel, petroleum products, soda ash, cement, plastics, pharmaceutical products, and leather.

Tanzania also boasts many tourist attractions: 12 national parks, 17

Tanzania's growth with depth

- ***Transformation—12th of 21.*** Tanzania improved its rank on economic transformation from 13th in 2000 (1999–2001) to 12th in 2010 (2009–11), gaining on Zambia over the decade.

- ***Growth.*** GDP growth picked up after the reforms in the second half of the 1980s. Average growth was 3.5% a year from 1988 to 1990, 2.8% from 1991 to 2000, and a very impressive 6.1% from 2001 to 2010. Corresponding GDP per capita growth in the respective periods was 1.4%, 0.2%, and 3.7%. Tanzania recorded an average growth of 6.6% a year in 2011/12 and is projected to grow at 7.1% in 2013/14.

- ***Diversification—9th.*** Zambia's rank remained unchanged. The share of manufacturing in GDP rose from an average of 8.2% in 1999–2001 to 9.3% in 2009–11. Merchandise exports are relatively concentrated, but there has been some progress on diversification. The share of the top five merchandise exports fell from 64% in the 1990s to 57% in the 2000s. The share of manufacturing and services is relatively high, falling from around 47% in 2000 to 42% in 2010. Most of the share came from services, mainly tourism, as manufacturing exports made up only about 6% of exports in 2000 and 8% in 2010. But it is worth noting that the share of manufacturing exports has been rising.

- ***Export competitiveness—6th.*** In its relative export intensity of production, which divides a country's export-to-GDP ratio with the corresponding world ratio, without taking extractives into account, Tanzania did not move much—from 0.73 in 2000 to 0.74 in 2010. But since many of the countries experienced significant declines in this ratio over the period, Tanzania moved up significantly in export competitiveness from 13th in 2000 to 6th in 2010.

- ***Productivity—14th.*** Productivity in manufacturing shot up from $6,086 (in 2005 US$) per worker in 2000 to $18,776 in 2010. But cereal yields fell from 1,753 kilograms per hectare to 1,373. Tanzania's position on the productivity ranking did not change over the period.

- ***Technology—15th.*** The share of medium and high technology in production fell from 18.3% from 2000 to 6.9% in 2010, while the share in exports rose from 3.2% to 8.2%, leading to a decline in technology rank from 8th to 15th.

- ***Human well-being—13th.*** GDP per capita averaged $1,291 over 2009–11 (PPP 2005 US$), up significantly from $871 in 1999–2001. This helped improve the country's rank on human well-being from 17th to 13th.

game reserves, 50 game-controlled areas, a conservation area, 2 marine parks, and 2 marine reserves for significant revenue. Zanzibar, Lake Victoria, Lake Nyasa, and Lake Tanganyika provide opportunities for beach resorts, water sports, and game fishing. And taking a cue from the success of neighboring Kenya, Tanzania's horticultural industry has been growing over the years, especially around Arusha—and this should be supported to attain world-class standards.

Tanzania is part of two regional integration arrangements: the East African Community and the Southern African Development Community. Participation in those arrangements has increased market access for the country's manufactured products, and there is potential for driving the manufacturing sector.

Confirmed new discoveries of natural gas are expected to move Tanzania to 5th on the continent (34th globally) of countries with significant gas reserves. Gas production during 2020–40 should enhance the country's energy supply, boost its exports, and have positive spillovers for employment and fiscal revenues.

But significant improvement is needed in roads, water, electricity, and ICTs. And education and skills upgrading are essential to enhance productivity, improve competitiveness, and attract foreign investments. Trade policy should be geared toward promoting key exports by strengthening implementation of relevant regulations as well as relaxing export quotas and constraints on the import of capital goods needed to expand domestic production capacities.

Uganda—Managing oil revenues for transformation

After more than a decade of political instability and economic decline, Uganda began to turn the corner in the second half of the 1980s. An economic recovery program introduced in 1987 put the economy back on a growth path. Uganda has since had two decades of very strong economic growth, with GDP growth averaging 5.8% in the 1990s and 6.7% in the 2000s. Despite the impressive growth performance, the structure of the economy has merely shifted from low-productivity agriculture to services dominated by equally low–productivity small businesses. Production processes remain low in skill and technology application. Poverty rates declined from 64% in 1996 to 38% in 2009 (share of population living on less than $1.25 a day).

Transformation platform

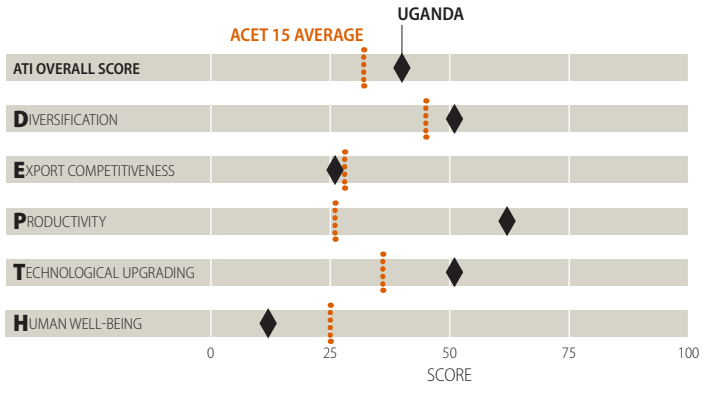
Uganda has had two decades of structural adjustment reforms aimed at creating a market-based economy, but the greater majority of the labor force is still employed in low-productivity activities.

Uganda ranks in the bottom quarter of most of the 2011–12 Global Competitive Index indicators. Its overall rank was 121st of 142 countries. Its competitiveness ranking was weakest in business sophistication (115th), technological readiness (111th), health and primary education (122nd), higher education and training (125th), macroeconomic management (127th), and infrastructure (128th). Its best ranks were in innovation (90th) and institutions (98th).

Oil discoveries offer the opportunity for Uganda to transform significant revenues into productive investments that can drive economic transformation. But optimizing the benefits from oil requires good governance, prudent macroeconomic and exchange rate management, and investing the revenues in human and physical infrastructure.

Uganda's National Development Plan of 2010 provides a blueprint of policies and measures needed to transform the economy. The five-year plan aims at accelerating socioeconomic transformation to achieve the national vision of transforming Uganda from a low- to a middle-income country by 2015. The plan is expected to act as a precursor to the development of longer term plans as envisaged by the Comprehensive National Development Planning Framework of 30 years.

Uganda's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

The end of the insurgency in northern Uganda presents an opportunity for attracting investments to the north, thus contributing to the National Development Plan growth targets. Opportunities also exist through increased trade. In particular, the East African Community regional integration process, the tripartite East African Community–Common Market for Eastern and Southern Africa–Southern African Development Community free trade agreement, and the independence of South Sudan all present new opportunities for increased trade and growth.

On policies the government has since 1989 focused mainly on market reforms and macroeconomic stability as the anchor for investment, economic growth, and structural transformation. While these policies paid off in macroeconomic stability and impressive GDP growth, they have not delivered significantly on economic transformation. In most cases there is a realization that the state must play a role in addressing market failures and helping markets work better, where they may not be working well.

Uganda already has the National Development Plan, which provides a basis for economic transformation. The plan identifies key sectors that will drive Uganda's economy forward. But liberal market policies should be accompanied with helpful regulation and support from the public sector to develop sectors in which Uganda enjoys a revealed comparative advantage. Uganda's National Development Plan prioritizes developing

Uganda's growth with depth

- ***Transformation—5th of 21.*** Uganda ranked 5th on the overall economic transformation index in 2010 (2009–11), a significant improvement from 10th in 2000 (1999–2001).
- ***Growth.*** Uganda's growth has been very impressive in the past two decades. GDP grew at an average rate of 5.8% a year from 1991 to 2000, and at 6.7% from 2001 to 2010, resulting in average GDP per capita growth of 3.0% and 3.8%. In contrast, average GDP growth from 1982 to 1990 was 2.9%, with per capita growth of –0.1%. Real GDP is projected to grow around 6% in 2013–14.
- ***Diversification—8th.*** Now ranking 8th, Uganda saw an improvement from 11th in 2000. The improvement came from a significant expansion in the number of commodity exports that saw the share of the top five commodities in exports fall from 70% to 40%. Manufacturing forms only a small part of Uganda's GDP, with a share that has stayed around 7% over the 2000s.
- ***Export competitiveness—10th.*** Uganda also saw a significant improvement in its rank on export competitiveness—from 16th in 2000 to 10th in 2010. The share of exports of goods and services more than doubled from an average of 10% in 1999–2001 to almost 24% in 2009–10. Uganda's competitiveness ratio, or the relative export intensity of production (the share of exports in GDP relative to the share for the world and excluding extractives), Uganda moved from 0.62 to 0.64 over the period. Uganda's jump of six places in the competitiveness ranking also results from the falls many of the other countries experienced.
- ***Productivity—1st.*** Uganda's 1st rank here, which remained unchanged from 2000, is due to incredibly high reported values for manufacturing value added per worker ($102,338 for 2010 and $53,927 for 2000 in 2005 US$). We doubt that these figures are representative of Uganda's manufacturing sector.
- ***Technology—3rd.*** Uganda improved from 9th to 3rd on the strength of the share of medium and high technology in exports rising from 3.2% to 17.6%.
- ***Human well-being—10th.*** Uganda improved from 13th to 10th primarily from GDP per capita rising from $778 to $1,152 (PPP 2005 US$).

infrastructure and enhancing production and productivity. Increases in the budgets for infrastructure have been significant, but what is lacking is a holistic development strategy.

Transformation prospects

The low-hanging fruit for improved international competitiveness are in food, live animals, and simple manufactures. Uganda also has comparative advantage in a few manufactured items, including beverages, tobacco, and chemicals and related products. Improving the quality and value of these manufactured products will be instrumental in promoting the industrial sector.

The discovery of commercially viable oil deposits in Uganda offers an opportunity for economic transformation if the oil revenues are well managed. Uganda has an estimated potential capacity of 2.5 billion barrels of oil reserves (as of June 2009). Oil revenues will reduce Uganda's dependency on foreign financing, and the oil sector can be instrumental in job creation both upstream and downstream.

Going forward, Uganda's economic transformation will require rethinking the country's development approach in policies, institutions, incentives, and public investments. In particular, while we do not recommend reintroducing public enterprises in business, selective state support could be provided in the following ways:

- Through public-private partnerships with selected export sectors at least in the initial stages until the sectors are self-sustaining. Promising sectors include food, live animals, footwear, garments, and textiles.
- State support could also help the private sector add value to primary commodities such as cotton, coffee, and hides and skins.

Zambia—Still too dependent on copper

From independence in 1964 through the 1980s, Zambia pursued a state-led import-substitution strategy. It sought to promote industrialization through backward and forward linkages to its copper mining industry. The initial success in building its manufacturing sector and industry was short-lived. As output collapsed so did government revenues, and the external current account balance deteriorated. Zambia experienced continuous declines in GDP per capita in the 1970s, 1980s, and 1990s, driven largely by a combination of poor economic policies and a downward trend in the international price of copper.

With policy reforms and an upswing in copper prices, the economy recovered in the 2000s. But the economy continues to depend heavily on copper mining and exports, despite government attempts to promote diversification.

The sector composition of the economy has changed notably since the 1980s with the most striking change being the decline in manufacturing. The sector's share in GDP increased from 21% in the early 1980s to a high of 30% in the early 1990, before declining to 11% in 2005–09 and further to 8% in 2011–12. Services dominated throughout the period, accounting for an average of about 41% a year in the early 1980s, declining marginally to 38% in the late 2000s but rebounding to 43% in 2010–12. Agriculture value added, which made up the smallest share in the 1980s (16%) expanded to around 21% of GDP in 2005–09, but fell back to 20% in 2010–12.

Copper mining remains the major contributor to Zambia's export earnings and economic growth, contributing about 70% to the country's foreign exchange earnings and 9% to formal employment.

Transformation platform

Zambia's overall rank of 113th of 142 countries puts it in the bottom quarter on most 2011–12 Global Competitiveness Index indicators. On the World Bank's Doing Business rankings Zambia lost ground in 2012 compared with 2011, dropping 11 places in starting a business to 69th of 183 countries, 12 in registering property to 96th, and 5 in protecting investors to 79th. But it gained in enforcing contracts.

The Sixth National Development Plan 2011–15 identifies agriculture, tourism, manufacturing, mining, and energy as growth sectors. Mining remains important and dominant, and will most likely continue to be promoted. But there is the need to diversify the economy to other sectors to cushion it against the negative effects of external commodity price shocks.

To this end, government intends to promote private investment and public-private partnerships. The developments in these sectors are to be augmented by human development, particularly in health, education, and skills development, and by investments in water and sanitation.

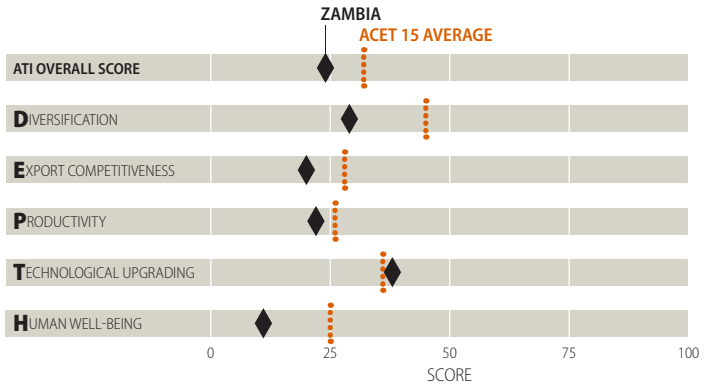
The Private Sector Development Reform Program addresses a range of issues that stifle business growth and discourage investment. The Action Plan contains about 78 actions rationalized into six reform areas: policy environment and institutions, regulations and law, infrastructure, business facilitation and economic diversification, trade expansion, and citizen empowerment.

The Zambia Development Agency promotes and coordinates the establishment of public-private partnerships. There are ongoing efforts to set up multifacility economic zones as an important form of cooperation under the public-private partnership framework.

Transformation prospects

Production and trade trends reveal the following (merchandise)

Zambia's overall ATI and depth compared with the ACET 15 average



Source: ACET research. See annex 1.

Zambia's growth with depth

- ***Transformation—13th of 21.*** Zambia fell in the overall transformation ranking from 12th in 2000 (1999–2001) to 13th in 2010 (2009–11), trading places with Tanzania.
- ***Growth.*** Zambia went through three decades of negative GDP per capita growth. It averaged –1.6% a year during 1971–80; –2.3% in 1981–90; and –1.7% in 1991–2000. By 2000 the level of real GDP per capita was almost half—57%—of the level in 1971. Fortunately for Zambia, growth has been robust since 2000. Average GDP growth was 5% from 2001 to 2010, with GDP per capita growing at 2.9%. Projections are for growth of around 6.3% in 2013/14. Recent growth has been boosted by a resource boom, specifically the price of copper, improved macroeconomic management, and sustained growth in services (including tourism) and agriculture.
- ***Diversification—16th.*** All the indicators of diversification deteriorated between 2000 and 2010. The share of manufacturing in GDP fell from 11.0% to 9.6%; the share of the top five products in merchandise exports rose from 75% to 85%; and the share of manufacturing and services in exports plunged from 23% to 12%. The rank on diversification thus deteriorated from 12th to 16th.
- ***Export competitiveness—14th.*** Zambia's export competitiveness ratio (the export-to-GDP ratio relative to the ratio for the world, excluding extractives) fell from 0.80 in 1999–2001 to 0.55 in 2009–11, which resulted in its export competitiveness rank dropping from 10th to 14th.
- ***Productivity—10th.*** Zambia saw an improvement from 12th to 10th. Manufacturing value added per worker increased from $11,855 to $18,044 (in 2005 US$), while cereal yields rose from 1,470 kilograms per hectare to 2,322, which improved Zambia's rank on productivity.
- ***Technology—6th.*** Zambia's rank on technology fell from 5th to 6th. The share of medium and high technology in production and exports have basically stagnated.
- ***Human well-being—11th.*** Real GDP per capita in 2010 was $1,385 (PPP 2005 US$) compared with $1,033 in 2000, but the rise was not enough to prevent Zambia falling one notch in human well being, from 10th to 11th.

products as being among those with significant potential for exports: cotton, tobacco, and sugar. Cotton is among the top 10 exports. Zambia has a world share of total exports at 0.71% and a revealed comparative advantage of 21.4 in 2008. Zambia's world market share in sugar moved from 0.15% in 1993 to 0.25% in 2000 and 2008. Zambia has the land and vast water systems to promote massive sugar production, and yet one company is currently responsible for more than 90% of Zambia's total sugar production. Other goods that have featured significantly in the country's total merchandise exports in recent times include edible vegetables, precious and semiprecious stones (natural and processed), electrical machinery and equipment, textile, honey, and soya bean products.

Investors have shown interest in the mining sector through investment pledges and inflows. Investment pledges (both local and international) more than doubled to $4.8 billion in 2010 compared with $2 billion in 2009. Both traditional large-scale mining of copper, nickel, and cobalt as well as new small-scale mining in semiprecious and precious stones have received attention. There is considerable scope for backward and forward linkages in the copper value chain. Zambia's exports of semifabricates including copper plates, copper wire, sheets and strips, and export values have increased substantially. There is good scope for expanding the downstream processing of copper into fabricates.

Zambia's tourism, cut flowers, sugar, and high-value financial services have the highest potential for spurring growth and development through links with other sectors. But they face challenges and risks that will need to be carefully considered product by product.

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ISBN 978-0-9833517-3-3