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.

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. To raise and sustain investment over the medium term, more domestic savings must come from both the public and private sectors.

**Figure 1.1 Growth in GDP per capita, 1962–2011**

![GDP per capita growth graph](image)

Source: World Development Indicators (database).

**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:

- **Diversification of production and exports.**
- **Export competitiveness and gains.**
- **Productivity increases.**
- **Technology upgrading.**
- **Human 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. 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. 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. 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).

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### 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, 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.

a **Diversity: production**

% of manufacturing in GDP

![Graph](source: World Development Indicators (database).

b **Diversity: exports**

% of top five exports in total exports

![Graph](source: UN Comtrade, Revision 2, Digit 3.

c **Diversity: exports of manufactures and services**

% of total goods and services exports

![Graph](source: World Bank staff estimates; World Trade Organization; IMF.

d **Diversity: exports of manufactures**

% of total goods and services exports

![Graph](source: World Bank staff estimates; World Trade Organization; IMF.

e **Export competitiveness: export market share without extractives**

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

![Graph](source: World Development Indicators (database); UN Comtrade, Revision 2, Digit 3.

f **Productivity: manufacturing value added per worker**

Manufacturing value added ($ thousands)

![Graph](source: UNIDO, Revision 3, Digit 2.

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

![Graph](source: UNIDO, Revision 3, Digit 2.

h **Productivity: cereal yields**

Kilograms per hectare (thousands)

![Graph](source: World Development Indicators (database).

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

% of total manufacturing production

![Graph](source: UNIDO, Revision 3, Digit 2.

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

% of total exports

![Graph](source: UN Comtrade, Revision 2, Digit 3.

k **Human economic well-being: GDP per capita**

Index, 1970 = 1

![Graph](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. And a rising trend in the ratio indicates rising export competitiveness.

In Africa a large increase in the imports 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 non-extractive 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. 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.

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.

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). More important, while the level of manufacturing technology has been
Interest in economic transformation ultimately stems from its potential to improve people’s lives.

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. 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). 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.

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. It encapsulates the goal of raising the rate of employment as well as formalizing or modernizing it.

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

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

<table>
<thead>
<tr>
<th>Technology exports over time—Sub-Saharan Africa versus comparator countries</th>
<th>Top 10 exports in 1976</th>
<th>Top 10 exports in 2010</th>
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</thead>
<tbody>
<tr>
<td>Primary</td>
<td>Resource</td>
<td>Low</td>
</tr>
<tr>
<td>Brazil</td>
<td></td>
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<td>Chile</td>
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<td>Malaysia</td>
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<td>Korea, Rep.</td>
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<td>Singapore</td>
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<td>Thailand</td>
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<td>Burkina Faso</td>
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<td>Cameroon</td>
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<td>Ethiopia</td>
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<tr>
<td>Kenya</td>
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</tr>
<tr>
<td>Mauritius</td>
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<tr>
<td>Senegal</td>
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<tr>
<td>Zambia</td>
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</tbody>
</table>

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

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 (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—Diversification, Export competitiveness, Productivity, Technological upgrading, and Human 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).

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

<table>
<thead>
<tr>
<th>Country</th>
<th>Informal employment (% of total employment)</th>
<th>Vulnerable employment (% of total employment)</th>
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<tbody>
<tr>
<td>Benin (2010)</td>
<td>92.9</td>
<td>89.9</td>
</tr>
<tr>
<td>Ethiopia (2005)</td>
<td>na</td>
<td>83.9</td>
</tr>
<tr>
<td>Ghana (2010)</td>
<td>86.1</td>
<td>71.5</td>
</tr>
<tr>
<td>Kenya (2009)</td>
<td>na</td>
<td>63.4</td>
</tr>
<tr>
<td>Mozambique (2005)</td>
<td>92.8</td>
<td>84.8</td>
</tr>
<tr>
<td>Rwanda (2006)</td>
<td>93.9</td>
<td>76.6</td>
</tr>
<tr>
<td>Uganda (2009)</td>
<td>85.5</td>
<td>82.7</td>
</tr>
</tbody>
</table>

na is not available.

a. Data are for 2003.
b. Data are for 1999.
c. Data are for 2005.

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).27 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),28 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...
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). Mauritis, 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 evidenced 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.

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. 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. 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—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 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
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 Heckscher-Ohlin-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.
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.


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.


References


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SPECIAL FEATURE  LOOKING AT THE AFRICAN TRANSFORMATION INDEX IN GREATER DEPTH

2010 SUBINDEX RANK

DIVERSIFICATION
- Mauritius
- South Africa
- Madagascar
- Cameroon
- Senegal
- Kenya
- Côte d’Ivoire
- Uganda
- Mozambique
- Burundi
- Benin

EXPORT COMPETITIVENESS
- Mauritius
- Côte d’Ivoire
- Malawi
- Kenya
- Mozambique
- Tanzania
- Ghana
- Madagascar
- Senegal
- Uganda
- South Africa

PRODUCTIVITY
- Uganda
- Mauritius
- Gabon
- South Africa
- Benin
- Côte d’Ivoire
- Senegal
- Cameroon
- Burkin Faso
- Zambia
- Mozambique

TECHNOLOGICAL UPGRADE
- South Africa
- Senegal
- Uganda
- Nigeria
- Botswana
- Zambia
- Kenya
- Cameroon
- Côte d’Ivoire
- Ghana
- Senegal
- Uganda
- Zambia

HUMAN WELL-BEING
- Mauritius
- Botswana
- South Africa
- Gabon
- Kenya
- Cameroon
- Côte d’Ivoire
- Ghana
- Senegal
- Uganda
- Zambia

RANKING ON OVERALL ATI AND SUBINDEXES

2010 OVERALL RANK

1. Mauritius
2. South Africa
3. Côte d’Ivoire
4. Senegal
5. Uganda
6. Kenya
7. Gabon
8. Cameroon
9. Madagascar
10. Botswana
11. Mozambique

OVERALL RANK CHANGE 2000-2010
- Mauritius: -1
- South Africa: -1
- Côte d’Ivoire: 0
- Senegal: 2
- Uganda: -2
- Kenya: 2
- Gabon: -5
- Cameroon: 4

OVERALL ATI SCORE, 2010
- Mauritius: 73
- South Africa: 66
- Côte d’Ivoire: 48
- Senegal: 42
- Uganda: 40
- Kenya: 36
- Gabon: 34
- Cameroon: 34
- Madagascar: 31
- Botswana: 30
- Mozambique: 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.

Source: ACET research. See annex 1.