Africa’s recent growth has been widespread and persistent
Chapter 1

Africa’s recent growth has been widespread and persistent. Over the past 15 years, Africa has grown much faster than many other regions of the world. Factors that contributed to this growth resurgence include internal factors (improvement in the quality of governance and institutions, improved macroeconomic policies and performance, more favourable conditions for agriculture, the emergence of an African middle class, more stable political conditions), and external factors (a spike in commodity prices, FDI inflows).

Recent growth experience in Africa has been widespread, and not limited to countries with natural resource or geographical advantages. An increased share of natural resource rents is associated with increasing per capita GNI for mineral exporting countries, but the association is converse for some oil-rich countries.

Major constraints to Africa’s future growth include sustaining these growth rates and enabling transformation. Despite the growth resurgence of the last 15 years, sustaining growth without adequate upgrading of production technology, infrastructure, human capital and business climate remains a major challenge. More importantly, structural transformation has yet to take place: The agricultural sector is losing more and more workforce, not to the labour-intensive manufacturing sector, but to the low value adding services sectors (trade), or to the informal sector.
1.0 Introduction

After a decade and a half of economic growth, occurring not just in a few, but in the majority of African countries, time has come to evaluate the sources of such growth, its sustainability and the extent to which it has fuelled poverty reduction and wellbeing across the continent. This chapter provides an update on Africa’s growth experience, contrasting the continent’s sustained growth over the past 15 years to previous episodes of weaker growth. The chapter then highlights key determinants of the recent growth in the context of fundamental structural economic change. The chapter concludes with discussions on the sustainability of recent growth episodes.
In the four decades preceding the new millennium, economic growth in Sub-Saharan Africa (SSA) as a whole was stagnant. GDP per capita in real terms for the entire region was only 7 percent higher in 2000 than it had been in 1960. Except for some positive outliers, such as Botswana which enjoyed high and steady growth throughout much of the pre-2000 period, and a few other countries that went through some temporary growth spells in the 1970s and 1980s, most of the region was mired in poverty. The lack (or slow pace) and narrow base of economic growth combined with extremely high population growth rates resulted in massive deprivation for the majority of African households, most of which were rural. The incidence of poverty kept rising with the headcount ratio (the proportion of the population below the $1.25 a day poverty line) climbing from 53 percent of the population in 1980 to 59 percent in 1999, according to the World Bank.\footnote{The generally low quality of African statistics has been characterised by Shanta Devarajan, the former Chief Economist for the African region at the World Bank, as “Africa’s Statistical Tragedy.” The tragedy is that while there is a strong presumption that the trends reported are real, we cannot vouch for their accuracy.}

The growth performance of the African continent saw significant improvement from the 1990s, with per capita GDP annual growth soaring from essentially zero in the 40 years preceding the new millennium, to almost 3 percent in the last fifteen years. Table 1.1 shows the annual growth rates of per capita GDP at constant 2005 US dollars for 37 SSA countries during four periods from 1980 to 2012. Out of this sample of 37 countries for which comparable data are available, 32 countries reported higher (or less negative) growth rates in the first decade of this century than in the preceding one.\footnote{For more detail see Shimeles and Thorbecke (2015)}
Table 1.1  Annual growth rates of per capita GDP for selected Sub-Saharan African countries*

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<tr>
<td>Angola (earliest data: 1985)</td>
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<td>-1.32%</td>
<td>0.68%</td>
<td>1.80%</td>
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<tr>
<td>Central African Republic</td>
<td>-1.35%</td>
<td>-1.01%</td>
<td>-0.73%</td>
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<td>7.23%</td>
<td>0.23%</td>
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<td>Congo, Rep.</td>
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<td>-1.64%</td>
<td>0.26%</td>
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<td>Guinea (earliest data: 1986)</td>
<td>0.79%</td>
<td>0.10%</td>
<td>0.41%</td>
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<td>-0.98%</td>
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<td>3.75%</td>
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<td>Liberia</td>
<td>-7.20%</td>
<td>-0.58%</td>
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<td>Madagascar</td>
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<td>-1.29%</td>
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<td>1.70%</td>
<td>1.66%</td>
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<tr>
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<td>1.34%</td>
<td>0.20%</td>
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<td>Sierra Leone</td>
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<td>-2.46%</td>
<td>3.41%</td>
<td>8.77%</td>
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<tr>
<td>South Africa</td>
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<td>-0.42%</td>
<td>2.45%</td>
<td>1.81%</td>
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<td>Sudan</td>
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<td>3.63%</td>
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<td>Swaziland</td>
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<td>0.85%</td>
<td>1.17%</td>
<td>-2.12%</td>
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<td>Tanzania (earliest data: 1988)</td>
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<td>0.12%</td>
<td>4.84%</td>
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<tr>
<td>Togo</td>
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<td>-0.45%</td>
<td>2.54%</td>
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<td>Uganda (earliest data: 1982)</td>
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<tr>
<td>Zambia</td>
<td>-1.73%</td>
<td>-1.70%</td>
<td>3.20%</td>
<td>3.83%</td>
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<tr>
<td>Africa*</td>
<td>-0.19%</td>
<td>0.22%</td>
<td>3.16%</td>
<td>1.95%</td>
</tr>
<tr>
<td>Sub Saharan Africa</td>
<td>-0.77%</td>
<td>-0.26%</td>
<td>3.21%</td>
<td>2.35%</td>
</tr>
<tr>
<td>SSA excluding South Africa</td>
<td>-1.08%</td>
<td>-0.16%</td>
<td>3.91%</td>
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African economies have been growing for more than a decade. A set of interrelated factors appears to have contributed to the current acceleration of the pace of growth and also, to a limited extent, to a more inclusive pattern of growth. Some of these factors are exogenous, in the sense that they are largely outside the control of individual states. Other factors are endogenous, at least partially, and influenced by the development strategies adopted by African governments. Because of the difficulty of establishing clear-cut causality between these factors and the present growth acceleration or its level of inclusiveness, a number of researchers refer to these factors as correlates of growth (see, for example, McMillan and Harttgen, 2014).

Starting with relatively exogenous shocks, the spike in commodity prices during the 2000s along with the big jump in foreign direct investment were clearly significant contributors to the acceleration of the pace of growth. Commodity price indices faced by many African countries doubled or even tripled between 2000 and 2010 (see Figures 1.1 and 1.2). High and rising export prices turned the terms of trade favourably for many resource-rich African countries and helped fuel economic growth. This commodity boom, in turn, was influenced by an enormous flow of foreign investment. The boom has not endured, recently, the index of primary commodity prices has fallen significantly.

Since 2000, the global Foreign Direct Investment (FDI) stock in sub-Saharan Africa has increased dramatically, from a base of $34 billion to $246 billion by 2012. This seven-fold increase in investment was predominantly directed to resource-rich countries. South Africa with its precious metals and minerals and Nigeria with its oil reserves received the majority of FDI (Brookings, 2014). Such investment, while fuelling the pace of growth, can exacerbate inequality, as it tends to be directed to highly capital-intensive projects creating few jobs. Yet, if part of the royalties accruing to governments from such types of investment are used to promote human development through productive social protection schemes benefiting the poor and unskilled, then FDI can be consistent with inclusive growth. In addition, the Heavily Indebted Poor Countries (HIPC) initiative launched in 1996 provided substantial debt relief to 30 African countries, which helped free up resources for more social spending.

Trade with the rest of the world has become an increasingly important determinant of growth. Between 1960 and 1974 the share of imports and exports in GDP were not increasing, rather they were decreasing, albeit slightly. Most economies were showing high GDP growth during this period; so the domestic economy was growing faster than foreign trade. The striking feature of the return to GDP growth in the 1990s is that it is accompanied by an even higher growth in the tradable sectors, with the continent significantly expanding trade partners around the world (see Box: 1.1).

The next set of contributing factors to be discussed tends to be more under the direct control of African governments. The most significant one is improvement in the quality of governance. McMillan and Harttgen (2014) compute an indicator reflecting the average polity score for SSA based on the “Polity IV Project” and the World Bank’s World Development Indicators for different sub-samples of African countries. The population-weighted average Polity
Figure 1.1 Trends in the prices of selected agricultural commodities

Source: Author’s calculations using data from UNCTAD (2014)

Figure 1.2 Trends in the prices of gold and crude oil

Source: Author’s calculations using data from UNCTAD (2014)
II score reveals clearly that from 1990 onwards, African regimes became more democratic and less autocratic.

Directly related to the quality of governance is the changing concern for, and *more policies directed towards agriculture*. After decades of taxing and exploiting the agricultural sector, many African governments have embraced policies and institutions to raise agricultural productivity, particularly on small farms that still constitute the predominant form of cultivation. A good example of this new commitment is the pan-African Comprehensive African Agriculture Development Program that recommends, among other things, that African countries allocate at least ten percent of their national budget to agriculture and mandate a six percent annual growth rate of output.\(^5\)

Still another relatively endogenous factor associated with the current growth spell is the emergence of an African *middle class*. According to Ncube and Lufumpa (2014), the size of the middle class has grown from around 66 million in 1980 to 137 million in 2010\(^6\). This recent analysis of the emerging African middle class concludes that "this new middle class has strong positive potential for the region. It has the capacity to increase domestic consumption; contribute to private sector growth and entrepreneurialism; boost demand for better governance and public services; improve gender equality; and raise standards of living, allowing many people to exit from poverty" (Ncube and Lufumpa, 2014, p.1). Historically, there has been a close interrelationship between the rise of a middle class and improved governance and the appearance of democratic institutions. While many obstacles still need to be overcome before a strong and sustainable middle class dominates the social fabric in Africa, a continuation of this trend is essential to the building of inclusive institutions. It must be noted however, that Africa’s high inequality is an obstacle to further growth of the middle class.

We now consider the basic determinants of economic growth, namely, labour, capital and technology. Growth arises when factors such as labour, capital and technology of production are available at a cost which gives the

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5 However, seven years after the launch of the CAADP initiative, only 9 out of 44 countries for which data was available had met the 10% expenditure target for agriculture (NEPAD 2013).

6 The middle class is defined as including individuals whose income per day ranges from $4 to $20.

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**Box 1.1 Trade openness and resilience of African economies**

In 1990 the share of trade in total GDP for Sub-Saharan Africa was still at the levels seen in the 1960s. Between 1990 and 2010 real total GDP for Sub-Saharan Africa doubled. Meanwhile, trade increased its share in total GDP from 50 to 75 percent. This implies around 6 percent per annum growth in trade, compared to a GDP growth of about 3 percent per annum. In sum, the growth experienced in the most recent period is, to a large extent, based on external trade. *Ceteris paribus*, African economies were therefore more vulnerable to external shocks at the beginning of the 2010s than they were at the beginning of the 1970s.

When the financial crisis hit in 2009, against the odds, growth has been sustained according to available statistics (African Development Bank, 2011). This is clearly not because African economies are less reliant on foreign trade, but rather because their trade is more geographically diversified. Demand from Asia is, for many economies, outstripping demand from traditional trading partners in the West (Alden 2007, Brautigam 2009, Cheru and Obi 2010). Using the Herfindahl-Hirschman Market Concentration Index, figure 1.3 illustrates how Africa has reduced its dependency on a limited number of traditional trade partners over time. The resulting improved resilience also reflects increased strength in growing domestic markets.

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*Source: Authors, data for the graph was obtained from World Bank*
producer a comparative advantage in local or international markets. The following section reviews some of the basic constraints to labour, human capital, capital investment, technological change, and how Africa’s economic transformation (implied by inter-sectoral shifts among these inputs) is associated with growth outcomes.

1.2.1 Africa’s human capital has improved, but has not become cheaper

It has been widely noted and accepted that, due to physical constraints, Africa has been a high cost location (Collier and Gunning, 1999). Both geography and the disease environment negatively affect the labour force (Bloom and Sachs, 1998). Historically, Africa has been characterised by a low supply of labour, and production has been constrained by the unavailability of wage-labour or availability of labour at a relatively high cost (Austin, 2008). It has been noted that the relatively high costs of labour is one of the main reasons that African economies fell behind in the 1970s and 1980s (Collier, 2007). When many Asian economies were profiting on employing low wage labour to supply manufactured goods for the world market, African economies were uncompetitive (Arrighi, 2002). In the past, wages have been too high for labour-intensive industrialisation to be an option for Sub-Saharan economies (Austin, 2011). Africa’s total population has multiplied almost 4 times, according to World Bank statistics, from about 280 million to more than 1 billion between 1960 and 2011. This increase has mainly attracted attention because of the challenges it raises for urban planning and other social issues in African countries. There will also be opportunities arising from this population growth. African economies may be able to enjoy economies of scale in terms of their own domestic market, and a supply of labour that will make them competitive in international markets.

Low wages is not enough alone: The productivity of the labour force crucially depends more broadly on human capital and the business environment. A neglected issue in African economic development, despite slow or even negative growth, human capital kept improving in the post-colonial period (Sender, 1999). Life-expectancy and literacy all increased very rapidly in the 1960s and 1970s. This continued improvement was seen despite structural adjustment programmes enforcing social expenditure cuts in the 1980s and 1990s. The Millennium Development Goal (MDG) agenda adopted since 2000 ensured a renewed improvement in human capital investment. Although the surge in education spending in the previous five decades did not yield large macroeconomic returns (Pritchett, 2001), this finding may be due to growth failing for other reasons, and does not give a clear story on the direct relationship between education and growth (Jerven, 2011b). Quality and years of schooling have not improved as much as enrolments, which may have weakened the link between education and growth outcomes.

1.2.2 Accumulation of physical capital and technology

Outdated technology and high transport costs have been important constraints on African growth in the past. African economies have been constrained by small domestic markets, high transport costs within those markets and being distant from major centres of economic activity. Furthermore, with low population densities, fixed infrastructural investments such a telephone landlines, roads and railways have had lower economic returns in Sub-Saharan Africa than elsewhere (Jerven, 2011c). Increasingly the importance of distance and geography to economic growth is being recognised, and particularly the cumulative processes deriving from increasing returns to scale (Venables, 2008). North Africa has benefited from being located close to European markets, but as of yet, South Africa or Nigeria are not big enough markets to create economies of agglomeration.

Africa’s savings remained relatively low over the past decades, picking up in the new Millennium, around the same time that the recent growth upsurge started in the continent (Figure 1.4). Despite the improved savings performance, the gap between SSA and other
developing regions, such as East Asia and Pacific and the Middle East and North Africa, has widened over the period. The role of savings in the continent’s recent growth has not been rigorously studied, but it may have played a vital role in growth. Apart from domestic savings, Africa’s diaspora savings were estimated at $40 billion in 2010 in the form of remittances, which, if properly captured, can stimulate economic progress in the continent (AfDB, 2013) \(^7\). Recent developments of diaspora bonds in many countries is a good step towards harnessing these remittances for growth. Governments, however, must put extra effort in ensuring an investment climate that will facilitate and sustain this source of financial flows.

As a non-frontier continent for technological innovation, Africa stands to benefit from accessing advanced technologies at low cost while it builds capacity to handle part-production of some of the technologies. Recent advances in mobile phone technology and the internet have brought immense benefits to the continent, including ease of financial access by the poor through mobile money transfer technologies. Overall, physical capital accumulation, proxy by savings as a share of GNI, has increased in Africa during the growth period. This rising savings ratio cannot be attributed to a slow growth of GNI (the denominator), since both savings volume and GNI were increasing during the same period. However, as noted above, faster growth in labour supply, both through new entrants to the labour market and inter-sectorial shifts, have not been accompanied by equivalent expansion of physical capital. Specifically, the industrial sector did not expand at the rate of labour expansion, resulting in the continent’s low capital per worker ratio.

### 1.2.2.1 Infrastructure development

The link between infrastructure development, growth and poverty reduction is unambiguous. Infrastructure development can promote inclusive growth by: (i) Generating jobs; (ii) Reducing production and transport costs; (iii) Expanding production capacity; and, by (iv) Connecting markets within and between countries. Infrastructure facilitates inclusive growth through economic exchange and trade, which allows specialisation and tapping into economies of scale. As Winters (2014) underscores, besides net aggregate gains, both gains and losses will occur at an individual level, since people differ in their ability to seize new opportunities. Calderon and Serven (2004) and Jones

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\(^7\) AfDB Economic Brief: Diaspora Bonds- Some lessons for African Countries

**Figure 1.4** Ratio of gross national savings to GNI, by region

![Figure 1.4 Ratio of gross national savings to GNI, by region](chart.png)

Source: Data from World Development Indicators, 2015.
(2006)\(^8\) noted that infrastructure investment is critical for accelerating growth, reducing inequality and alleviating poverty. In addition, for growth to be sustainable, it must be grounded on well-developed infrastructure that continues to make existing investments more efficient while at the same time, through cost efficiency, attracting new investments.

According to the World Economic Forum’s Global Competitiveness Index 2012–2013, Africa is the least competitive region in the world. The continent has made significant progress in improving human capital but has lagged behind the rest of the world in physical capital investments. In the past decade, Africa has grown substantially but the poverty reducing effect of growth has been limited. For the continent to sustain recent growth experiences, and to ensure better outcomes for the poor, it must become more competitive. This requires complementing the increasing quality and quantity of Africa’s labour force with physical capital investment. Particularly, attaining inclusive growth requires infrastructure investment that directly affects the wellbeing of the poor while contributing to overall growth. There are very few infrastructure investments that do not meet this requirement. Generally, growth that is accompanied by an expansion in infrastructure for the poor and the rich alike is more likely to achieve better outcomes for the poor, either directly or through redistributive means.\(^9\) On the other hand, infrastructure investment in sectors that are capital intensive or employ only a limited number of the poor may only influence poverty through more indirect means. For example, road and agriculture-related infrastructure are more likely to influence the livelihoods of the poor than expansion in oil processing plants. Africa needs infrastructure in order to make more significant progress in poverty reduction, and to sustain growth.

Research evidence has indicated that if Africa is to sustainably reduce its poverty rates, it has to maintain a growth rate in excess of 5 percent per annum in the medium to long term, and this will require maintaining an investment to GDP ratio of about 25 percent (UNCTAD, 2014; ECA, 1999). In the past, however, the average investment to GDP ratio in Africa has only been 18 percent, thus providing part-justification as to why the continent has not been able to grow at the desired rate (UNCTAD, 2014). Investment in infrastructure is therefore a prerequisite for economic growth. It fuels economic wellbeing directly and also by serving as the basis for further investment. Countries with high initial infrastructural investment are more likely to sustain growth over a long period of time.

In the past two decades, while the lack of infrastructure has undermined Africa’s capability to grow and reduce its poverty level, development approaches have focused on the MDGs to address poverty and its manifestations, mostly at the micro level. It has become clearer that addressing poverty, gender inequality, health and educational deficiencies requires a comprehensive approach that responds to these needs of the poor at the micro level, while addressing meso and macro infrastructural needs, including access to water and sanitation, good road networks, energy and means of communication. The multiplicity of deprivations calls for policies that target synergies across interventions. Successes in addressing extreme poverty necessitate providing: good access through roads and communication technologies - to help the poor reach markets, schools and health facilities; access to energy - to improve basic social services including health and education, and to support entrepreneurship among the poor; and, water and sanitation - to achieve better health among the poor. Clearly, the omission of a goal on infrastructure was a key shortcoming of the MDGs, especially as they apply to Africa. Thus, a key development focus of the 2015 Sustainable Development Goals (SDGs) is building resilient infrastructure that will stimulate and uphold inclusive and sustainable industrialisation. This more comprehensive approach to tackling poverty may be more fruitful than the narrower approach adopted by the MDGs.

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8 The recent (November 2014) statement of the MDBs and IMF posits: ‘Infrastructure is key to tackling poverty and promoting inclusive growth. Infrastructure helps improve access to basic services, especially for poor people, links producers to markets and connects countries to the opportunities in the global economy. …No country has developed without access to well-functioning infrastructure.’

9 It is important to note that infrastructure can contribute to poverty reduction even in the absence of economic growth. The availability of social amenities such as electricity, clean water, sanitation and means of communication improves the wellbeing of people in non-income dimensions.
Underscoring the importance of infrastructure investment, in 2010, a joint initiative by key institutions including the African Union Commission (AUC), New Partnership for Africa’s Development (NEPAD), and the African Development Bank formulated the Program for Infrastructure Development in Africa (PIDA) with the objective of identifying and prioritising Africa’s key infrastructure needs to support development and poverty reduction. PIDA classified Africa’s priority infrastructure investment areas into four: energy, transportation, water and sanitation, and, information and communication technology sectors. PIDA’s Priority Action Plan (PAP) for the period 2011 to 2040 estimated Africa’s annual infrastructure deficit to be $360 billion, spread among the four identified priority sectors with a significant proportion of the deficit (60%) accounted for by the energy sector. There are wide disparities between North African and sub-Saharan countries, and also among countries within sub-Saharan Africa. The Africa Infrastructure Index (AIDI) of the AfDB shows that all the northern African countries are among the top 10 performers in the 2010 ranking. These 10 best performing countries exhibit significant disparities with the rest of the countries: While the top performers had scores ranging from 33 to 100, the bottom ten only scored between 2 and 10. The highest scoring countries include the Seychelles, South Africa, Egypt, Libya, Mauritius, Tunisia, Morocco, Algeria, Cape Verde and Botswana, while the lowest scoring countries include Somalia, Niger, Ethiopia, Chad and Madagascar.

Experience has shown that the development of crucial infrastructure cannot be left entirely to the market, especially in countries where the capacity of private players is limited. The belief that markets can solve investment gaps does not hold for many infrastructure investment gaps. The state therefore has a role in complementing private sector initiatives to bridge the financing gap in infrastructure. The state is better able to address infrastructure gaps for which the associated private economic payoff is small relative to the associated social benefits. In particular, provision of mobility and health infrastructure often requires government intervention as such interventions must be timely.

Both the pace and level of infrastructure development in Africa is barely comparable to other regions of the world. Africa has, for example, the lowest per capita internet
usage and its progress in this sphere has been rather slow (Figure 1.5). In particular, Table 1.2 shows that in 2010, while access to electricity as a percentage of the population has been in the range of 95-100% for the rest of the world, only 43% of the population has access to electricity in Africa. This despite progress in the last decade (5 percentage points increase over its previous ten-year value).

Similarly, for every 100 square kilometres of land area, Africa has only 13 kilometres of road. This is relatively low when compared to other regions (Figure 1.6). A similar measure for the closest comparable performing region, Latin America and the Caribbean, is 18 kilometres. Other regions generally exhibit denser road networks, for example, East Asia & Pacific, Europe and Central Asia and North America each have 46, 104, 67 kilometres of paved roads per 100 square kilometres of land area.

In most countries, providing improved sanitation has remained a challenge. As in Figure 1.7, more than 50% of

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**Table 1.2 Electricity access (% population)**

<table>
<thead>
<tr>
<th>Region</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>35</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>East Asia &amp; Pacific</td>
<td>88</td>
<td>92</td>
<td>95</td>
</tr>
<tr>
<td>Europe &amp; Central Asia</td>
<td>99</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>88</td>
<td>92</td>
<td>95</td>
</tr>
<tr>
<td>North America</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Authors’ computation using World Development Indicators

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**Figure 1.5** Trends in internet use, by regions of the world

**Figure 1.6** Kilometres of road per 100 square kilometres of land, by region

Source: Authors’ computation using World Development Indicators
citizens are without access to improved sanitation in more than half the 54 African countries. This has direct implications for health and general wellbeing. The exceptions to this pattern are mostly countries in northern Africa plus some few countries where sanitation management is likely to be less challenging.

In the same way, the number of internet users is still low across the continent (Figure 1.8). This is due to factors ranging from policies that restrict internet access to the lack of appropriate infrastructure that lowers cost including user charges.

Exploring the association between infrastructure development and economic prosperity, we look at whether countries with better infrastructure tend to produce more sophisticated and diverse products using the Economic Complexity Index (ECI) as defined by Hausmann et al. (2011). According to these authors, the complexity of an economy is the amount of productive knowledge or capabilities contained in the society. Capabilities could be tangible or intangible and include human capital, physical capital (for instance infrastructure such as road, bridges, highways, energy, ICT), institutions, the legal system, etc. Countries that have more capabilities tend to produce more complex or sophisticated goods. Hausmann et al. (2011) found a strong positive correlation between the economic complexity index and economic growth. Based on their approach, Yameogo et al (2014) computed the ECI for African countries for which data were available. Using these data, we show in Figure 1.9 that the economic complexity index tends to be higher for countries with better infrastructure. The degree of sophistication and the extent of export diversification as implied by the ECI are highly correlated with the level of infrastructure development in a country. Therefore, investment in infrastructure matters for a country’s exports not only in quantity but in quality.

**Figure 1.7** Percentage of population with access to improved sanitation

![Graph showing percentage of population with access to improved sanitation](source: AfDB (2013))
**Figure 1.8** Number of internet users per 100 inhabitants

![Graph showing number of internet users per 100 inhabitants across different countries.](image)

Source: AfDB 2013 (Africa Infrastructure development Index), authors’ computation

**Figure 1.9** Economic complexity index and infrastructure development, 2012

![Graph showing economic complexity index and infrastructure index.](image)

1.2.2.2 Changes in the agricultural sector

The most important sector for African economies in terms of employment remains agriculture. Despite its low productivity, agriculture remains the continent’s largest employment sector with about 57% of Africa’s total labour force, and the main source of income for 90% of Africa’s rural population (Kanu et al., 2014). However, the share of the labour force in agriculture is falling more rapidly than in the past and workers leaving agriculture appear to be moving into the service sectors. The fact that only a very small proportion of workers are absorbed by the labour-intensive manufacturing sector remains a source of concern. Rodrik (2014) points out that workers leaving agriculture are typically absorbed in services and informal activities rather than formal manufacturing industries and surmises that, if Africa is able to continue to achieve high

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10 Based on a sample of 14 SSA countries for which at least two observations were available covering the period from around 2000 to around 2010, Shimeles and Thorbecke (2014) found that in only one country was the structural transformation flawed.
growth rates, it will do so “pursuing a growth model that is different from earlier miracles based on industrialisation” (Rodrik, 2014, p. 15).

It is relevant to note that the relatively large labour productivity gaps between sectors, with labour productivity in agriculture much lower than in other sectors, disappear when productivity is expressed on a per hour basis (McCullough, 2015). The much lower number of labour hours worked in agriculture reflects an employment gap and the high seasonality of agricultural production. One of the implications of this finding is that for the structural transformation to work more smoothly, the demand for productive labour in non-agricultural sectors has to grow faster than at present. Workers in agriculture have an excess of potential labour that could be absorbed productively in other sectors even though productivity per person/hour is not significantly higher outside of agriculture. This is evidence of the type of disguised unemployment inherent to the dual economy models of the past.

### 1.2.2.3 Changes in the manufacturing sector

With the exception of Mauritius, Sub-Saharan African economies have not had major success in exporting manufactures (Teal, 1999), nor has manufacturing been a major driver of economic growth (Rodrik, 2014). There are many plausible reasons for the low levels of manufacturing activity on the continent. Teal (1999) suggests four major reasons why most African economies are not successful exporters of manufactures. The first is low levels of skills and relative abundance of natural resources, which ensure that exporting manufactures is unprofitable (Wood and Berge, 1997). The second, is that African governments have created a bad policy environment for manufacturing, particularly for exports (Collier and Gunning, 1999). A third view sees the problem as the failure of policy to promote technological capabilities (Lall et al., 1994). Finally, one school of thought emphasises the role of economies of scale and importance of location (Krugman, 1995).

Does manufacturing growth drive the current economic growth? MacMillan and Harttgen (2014) use data from Demographic and Health Surveys (DHS) with a sample including 31 African countries with surveys from 1989. The DHS data show that the share of the labour force in agriculture increased by around 2 percentage points between 1990 and 1999, and fell by a little under 10 percentage points from 2000 onward. However, this decline is not mirrored in an increase in manufacturing or industry, but an expansion in service sectors. A similar pattern is visible from national accounts data on share in GDP, particularly after national accounts were rebased (Jerven and Duncan, 2012). Figure 1.10 shows that, since 2008, value added as a percentage of GDP has been declining for agriculture and manufacturing sectors. The share of service sectors in aggregate value added grew sharply between 2008 and 2009 and has remained high since then.

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**Figure 1.10** Value added by sector (% of GDP)

![Value added by sector (% of GDP)](image-url)

Source: Authors, based on data from World Development Indicators 2015
1.3 Natural resources have generated wealth in many African countries

1.3.1 Africa’s natural resource endowments

All African countries are endowed with some form of natural resources: renewable and non-renewable. Recently, more than forty-five (45) out of the 54 African countries have been reported as possessing proven or probable oil and/or gas reserves. African countries have natural resource endowments of varying value and profitability. Some have high value resources such as fossil fuels (oil, natural gas, coal), or minerals (diamond, gold, uranium…), while others have resources that provide low foreign exchange earnings (especially renewable resources). Understanding Africa’s recent growth experience requires assessing the amount of growth that is attributable to natural resource exploitation.

In Africa, the exploitation of natural resources provides significant foreign reserves to many countries. Table 1.3, below, shows the average contribution of natural resources to GDP by region in Africa11. The Central African region is the richest region on the continent in terms of natural resource endowments. On average, about 47% of countries’ GDP is composed of natural resource rents, of which oil rents are the major source. In North Africa, resource rents represent 30% of the region’s GDP. East Africa is the least endowed region in terms of natural resource wealth. In West Africa, many countries are agricultural producers and the region has the highest share of arable land compared to other regions in the continent.

In some countries - Congo Rep., Libya, Angola, and Gabon - natural resource rents contribute to more than 50% of GDP, with oil rents constituting the major share of resource rents. Countries such as Chad, Nigeria, Algeria, Mauritania, DRC, and Zambia have more than 20% of their GDP coming from natural resource rents. In addition to the resource rents, Table 1.3 also indicates that countries have significant agricultural potential with available arable and agricultural land12. On average, about 10% and 37% of land areas are arable and agricultural land respectively in Sub-Saharan Africa, while these shares are 6% and 25% respectively in North Africa. These resources

11 A more detailed table in the Annex includes information for all African countries.

12 Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Agricultural land refers to the share of land area that is arable, under permanent crops, and under permanent pastures. Land under permanent crops is land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee, and rubber. This category includes land under flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber. Permanent pasture is land used for five or more years for forage, including natural and cultivated crops.

<table>
<thead>
<tr>
<th>Region</th>
<th>Total natural resource rents (% GDP)</th>
<th>Oil rents (% GDP)</th>
<th>Natural gas rents (% GDP)</th>
<th>Mineral rents (% GDP)</th>
<th>Forest rents (% GDP)</th>
<th>Coal rents (% GDP)</th>
<th>Arable land (% of land area)</th>
<th>Agriculture value added (% GDP)</th>
<th>Agricultural land (% of land area)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Africa</td>
<td>46.76</td>
<td>42.13</td>
<td>0.383</td>
<td>0.27</td>
<td>2.88</td>
<td>0.01</td>
<td>2.761</td>
<td>12.61</td>
<td>7.93</td>
</tr>
<tr>
<td>East Africa</td>
<td>2.92</td>
<td>15.02</td>
<td>0.65</td>
<td>0.14</td>
<td>0.969</td>
<td>0.02</td>
<td>7.77</td>
<td>12.18</td>
<td>8.13</td>
</tr>
<tr>
<td>North Africa</td>
<td>30.48</td>
<td>23.35</td>
<td>5.61</td>
<td>2.55</td>
<td>0.11</td>
<td>0</td>
<td>7.321</td>
<td>7.92</td>
<td>30.03</td>
</tr>
<tr>
<td>Southern Africa</td>
<td>7.80</td>
<td>10.39</td>
<td>0.618</td>
<td>2.68</td>
<td>0.64</td>
<td>1.73</td>
<td>10.82</td>
<td>5.75</td>
<td>52.13</td>
</tr>
<tr>
<td>West Africa</td>
<td>7.49</td>
<td>13.29</td>
<td>1.75</td>
<td>1.55</td>
<td>1.92</td>
<td>0</td>
<td>19.35</td>
<td>24.03</td>
<td>44.95</td>
</tr>
</tbody>
</table>

Source: Authors’ computation using WDI data
can be exploited to increase agricultural production in most African countries. Water resources are also relatively abundant in the continent (see African Development Report 2007 and 2012 for detailed discussion).

1.3.2 How did resource rents and GDP evolve over recent decades?

Did increasing resource rents drive GDP growth? To answer this question, we look at the evolution of GDP per capita and natural resource rents\(^\text{13}\) at the continental level. As shown in figure 1.11, total rents and GDP per capita are positively related. Limiting the sample to only resource rich countries, the relationship between resources and GDP becomes relatively stronger. This is not proof, however, of a causal relationship between resource rents and growth.

\[\text{GDP per capita} = \text{Total natural resource rents (% of GDP)} + \text{Linear adjustment}\]

\(^{13}\) We define a resource rich country as a country with an average share of total natural resource rents higher or equal to 10% of GDP. For that, we used the average share of resource rents from 2000 to 2013, period, for which data is available for almost all African countries. A country can be rich in fossil fuel resources or mineral resources, or forest resources. The remaining countries are defined as resource-poor countries. Appendix 1.1 gives the list of each category of country.

A possible commodity price effect of natural resource rents can be assessed by comparing resource rents in a decade of stable commodity prices with those during a commodity price boom. In the period between 1990 and 2000, commodity prices have generally remained stable. However, the period 2000 until 2011 is described as a commodity super-cycle (IMF, 2015). Price booms such as those of 2008 may be associated with economic prosperity among commodity exporters. Correlation between total natural resource rents and GDP per capita for these two periods show a positive but insignificant coefficient (0.15) in the pre-2000 period while the results for the post-2000 period are positive and statistically significant (0.5). Though this analysis is based on a limited sample, the evidence shows that in a decade of lower commodity prices, GDP per capita is weaker. Overall, it shows that the general level of prices in the commodity market influences growth outcomes, and this effect seems particularly strong among countries that are heavily dependent on oil resources.

1.3.3 Oil price shocks and growth prospects

Apart from domestic factors, growth and its sustainability depend on a country’s exposure to external factors. Natural resource exports have been a vital source of growth in many African countries. Oil rents alone constitute about 47 percent of GDP of Central African economies, 30 percent of GDP of North African countries and 8 percent of GDP in West and Southern African economies. The Democratic Republic of Congo, Libya, Angola, Gabon, Chad and Nigeria all earn oil rents in excess of 10 percent of their respective GDP. Growth prospects of these countries depend on what happens to the price of oil in the international market. While positive oil price shocks can generate surpluses for these countries, losses associated with negative shocks of equivalent scale generally tend to outweigh the benefits from any temporary increases in oil prices. Another downside of these endowments is that they may reduce the incentive to invest in other productive sectors of the economy. In this way, resource dependent countries often have less diversified productive sectors making them more vulnerable to global shocks that drive down resource prices.
Chapter 1  Africa’s recent growth has been widespread and persistent

Figure 1.12  Evolution of commodity price indices (US$) Jan. 1992 - Aug. 2015

Source: Authors, using data from the IMF (2015)
From March 2014, prices per barrel of crude oil started a downward trend, falling by 12% to March 2015 (Figure 1.12). This trend is driven by a combination of factors, with supply factors being the most influential. In the wake of increased production coming from non-members of the Organization of Petroleum Exporting Countries (OPEC) such as the USA, production levels in OPEC member countries did not adjust to this increased supply, leading to a downward pressure on prices. The prolonged decline in this year’s oil prices plus the expected partial recovery means, ceteris paribus, future growth may be hampered. This is expected to impact the prospects of less diversified oil exporting countries more, such as Angola or Equatorial Guinea.

The recent downturn in oil prices has significantly eroded the growth potential of a number of oil revenue dependent economies in Africa. Projected growth of the continent for 2015 (3.7 percent) and 2016 (4.4 percent) have been revised downwards by 0.6 percentage points relative to March 2015 (AfDB, 2015). Expected real GDP growth in oil exporting economies, such as Nigeria and Angola, has been revised downwards from 6.3 and 4.5 percent in 2014 to 5.0 and 3.8 percent in 2015 respectively, due mainly to losses in oil revenues (AfDB et al., 2015). It is important to note that such shocks present an opportunity for policymakers to explore strategies for diversification of the economies into other sources of growth such as in the agriculture and manufacturing sectors.

For a number of oil importing countries, the shocks are expected to positively affect growth through improvements in their balance of trade. Current trends provide an opportunity for these countries to reallocate savings made from low oil prices to important social expenditures. It is expected that the positive effect will feed into growth through higher infrastructure investment and increased consumption spending. Their potential benefits are, however, expected to be partly offset by lower prices for non-oil commodity exports. In particular, for countries with export commodities that are positively correlated with oil prices, the outcome may not be wholly favourable even if they are net importers of oil products. Gold prices have seen a significant drop over the same period that oil prices were trending downwards. For countries such as South Africa and Ghana, this outcome may have limited their potential gains from the declining global oil prices. Similarly, for the Democratic Republic of Congo and Zambia, copper prices have resumed a downward trend since May 2015 after an initial increase in the price for this commodity between January and April 2015 (Figure 1.12).

At the household level, two factors explain why the effect of lower oil prices may not fully transmit to consumers in oil-importing African countries. First, given that a number of African countries still maintain energy subsidies, most of the windfall gains from lower oil prices are expected to occur to governments. Second, the pass-through of reduced oil prices to end-users is expected to be low because growth filtration to the poor is generally limited.
1.4 Conclusion

The current growth spell has led to a wave of optimism suggesting that an “African Renaissance” or “African Miracle” is underway. While it is too early to come up with any definitive judgment, it appears that Africa has embarked on a new and different growth and development pattern, which appears to be somewhat more resilient than in the past.

The current growth spell has, so far, lasted for almost two decades, and has shown resilience even during the global financial crisis of 2007-2008. Is Africa’s recent growth sustainable? What are some of the most crucial measures that African countries need to take in order to sustain or improve the current growth performance?

Firstly, it should be noted that some of the exogenous factors such as the decline in commodity prices, could negatively affect the balance of payments for resource-rich countries. Furthermore, as Africa becomes more integrated in the world economy, it will become more vulnerable to future negative shocks generated by the forces of globalisation. On the other hand, the future of foreign direct investment into Africa appears bright given the continued high demand for natural resources worldwide. Yet, there remains the risk of myopic contracts between African governments or entrepreneurs and foreign corporations, focusing on short-term gains and royalties at the expense of long-term gains. To achieve the growth impact, it is essential that part of the benefits of foreign direct investment be channelled into projects contributing to economic development.

Secondly, sustainability of the present growth trends depends crucially on continuation of the more favourable endogenous factors discussed earlier. The quality of governance needs to keep on improving. As Acemoglu and Robinson (2012, p.82) put it: “...inclusive economic institutions are forged on foundations laid by inclusive political institutions, which makes power broadly distributed in society.” More inclusive political institutions can reduce significantly the occurrence of civil conflicts. In many of the least developed SSA countries, where small-scale subsistence agriculture is still the main source of income for the majority of the population, the agricultural sector has to be nurtured and made more productive. Workers released out of agriculture (potential migrants) must be given the skills needed to prepare them for more productive jobs in other sectors. The emerging middle class will need to be supported by better schools that provide students entering the labour force with the type of education and skills conforming better to the needs of employers. Educated (youth) unemployment is not only a tragic waste of human resources but is also a source of social and political conflict as proven by the Arab Spring which began in Tunisia in late 2010.

Overall, the sustained growth of the past 15 years has been fuelled both by better use of the continent’s resources and by improvement of its institutions, combined with favourable external influences. The pace of growth has been highest in the service sectors, with manufacturing and agricultural sectors in most countries experiencing either a constant or declining contribution to GDP. This outcome is also mirrored in the employment shares of these sectors. The continued dependence on natural resource exports and the slow pace of economic diversification and structural change present risks for the future of growth on the continent.
References


Chapter 1

Africa's recent growth has been widespread and persistent.


## Appendix 1.1 List of African countries classified according to their resource endowment

<table>
<thead>
<tr>
<th>Oil rich countries</th>
<th>Mineral rich countries</th>
<th>Forest rich countries</th>
<th>Natural gas rich countries</th>
<th>Other resource rich countries</th>
<th>Resource poor countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>Mauritania</td>
<td>Burundi</td>
<td>Algeria</td>
<td>Burkina Faso</td>
<td>Benin</td>
</tr>
<tr>
<td>Angola</td>
<td>Zambia</td>
<td>Central African Republic</td>
<td>Cameroon</td>
<td>Botswana</td>
<td>Malawi</td>
</tr>
<tr>
<td>Congo, Rep.</td>
<td>Guinea*</td>
<td>Ethiopia</td>
<td>Ghana</td>
<td>Comoros</td>
<td>Morocco</td>
</tr>
<tr>
<td>Equatorial Guinea+</td>
<td>Guinea</td>
<td>Mali</td>
<td>Côte d’Ivoire</td>
<td>Namibia</td>
<td>Tunisia</td>
</tr>
<tr>
<td>Gabon</td>
<td>Guinea-Bissau</td>
<td>Mozambique</td>
<td>Djibouti</td>
<td>Rwanda</td>
<td>Zimbabwe</td>
</tr>
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<td>Libya</td>
<td>Liberia</td>
<td>Niger</td>
<td>Eritrea</td>
<td>São Tomé and Príncipe</td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>Sierra Leone</td>
<td>Gambia, The</td>
<td>Senegal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Sudan+</td>
<td>Uganda</td>
<td>Kenya</td>
<td>Seychelles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudan</td>
<td></td>
<td>Lesotho</td>
<td>Somalia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors, based on data from World Development Indicators
Note: *The 10-year mean is less than 10% of GDP but recent years’ rent are in excess of 10% of GDP
+ Data coverage is less than 10 years.
Chapter 1  Africa's recent growth has been widespread and persistent