

African Futures 2050

The next forty years

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List of abbreviations

ACCES	Africa, Climate Change, Environment and Security dialogue forum	ECOWAS	Economic Community of West African States
ADB	African Development Bank	EIA	US Energy Information Administration
AFP	African Futures Project	EU	European Union (includes 27 member countries)
AGRA	Alliance for a Green Revolution in Africa	FDI	Foreign direct investment
APSA	African Peace and Security Architecture	GDP	Gross domestic product
ASF	African Standby Force	GMO	Genetically modified organism
BRIC	Brazil, Russia, India and China	HDI	Human development index
CAADP	Comprehensive Africa Agriculture Development Programme	HDI	Human development indicators
CAR	Central African Republic	ICT	Information and communication technology
CD	Compact disc	IFs	International Futures
Central Africa	Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, and São Tomé and Príncipe	IMF	International Monetary Fund
COMESA	Common Market for Eastern and Southern Africa	IPCC	Intergovernmental Panel on Climate Change
DAC	Development Assistance Committee	ISS	Institute for Security Studies
DRC	Democratic Republic of Congo	IT	Information technology
EPAs	European partnership arrangements	MER	Market exchange rates
East Africa	Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tanzania and Uganda	MDGs	Millennium Development Goals
		NEPAD	New Partnership for African Development
		NGO	Non-governmental organisation
		NOAA	National Oceanic and Atmospheric Administration
		Northern Africa	Algeria, Egypt, Libya, Tunisia, Islamic Republic of Mauritania and Morocco
		ODA	Official development assistance
		OECD	Organisation for Economic Cooperation and Development
		PPP	Purchasing power parity
		SACU	Southern African Customs Union
		SADC	Southern African Development Community

SFI	State fragility index
SIPRI	Stockholm International Peace Research Institute
SMS	Short-messaging service
Southern Africa	Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe
TFR	Total fertility rate
UNDP	United Nations Development Programme
UNDPKO	UN Department of Peacekeeping Operations
UNECA	United Nations Economic Commission for Africa
UNHCR	United Nations High Commissioner for Refugees
US	United States of America
West Africa	Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo
WGI	World governance indicators
\$	US\$

Acknowledgements

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Preface

Major transitions are rapidly reshaping Africa. Populations are growing substantially and urbanising. Economic growth has accelerated over the last decade. New technologies, including mobile phones and solar cells, are sweeping across the continent. Longstanding conflicts have been or are being addressed. On the broader stage, but with important regional implications, the rise of China, India and other major emerging countries are changing our trading and investment patterns.

Yet major uncertainties face us. How rapidly will we bring communicable diseases under control and advance the education of our citizens? Can Africa diversify its economies and employ its growing populations in manufacturing and services, as well as successfully managing the wealth generated by its raw materials? Will climate change increase pressures on agriculture or will Africa have its own green revolution? How will the continent build the extensive infrastructures that it desperately needs? What will be the quality of our governance? How will external actors, both governments and firms, approach and affect Africa?

Africans share common goals. We seek extensive and sustainable human development. We strive for conflict reduction and widespread acceptance of and even support for diversity. We wish to see human rights respected everywhere. As we pursue our goals in the contexts of both rapid change and great uncertainty, we need insight into the path that we are on and where that path is taking us, as well as into the leverage that our choices provide us.

With this monograph the Institute for Security Studies and the Pardee Center for International Futures provide an extensive study of our current course. Combining the deep and wide knowledge of Africa within the ISS with extensive use of the IFs modelling system, this discussion goes beyond past work in a number of ways. It looks across most major issue arenas: demographics,

economics, sociopolitical change, the environment and human development itself, including health and education. It explores further into our future than perhaps any other extensive study of African futures has ever done. While not pushing forward specific policy initiatives, it provides a context within which those who pursue sustainable human development can consider our policies.

While providing us with a broad set of insights concerning where we *may* be going, clearly this study leaves room for much future work. No one can predict the future and we do not pretend to do so. Instead this publication provides one possible future, shaped by recent and likely future developments, but with the clear statement that it is only one such vision. The intention is to build, in the near future and in collaboration with other African institutions, other visions, rooted heavily in alternative choices and actions across the continent. Clearly, the story of Africa's future has only begun.

Jakkie Cilliers, Barry Hughes and Jonathan Moyer

Introduction

PERSPECTIVES ON THE FUTURE OF AFRICA

When one reads analyses and forecasts concerning global change, it is often as if the African continent were not part of the world, except as a source of commodities, for humanitarian considerations, or as an object of international intervention to halt the spread of instability.¹

The view from Africa, and increasingly Asia, is quite different. Here there is increasing recognition that things are rapidly changing across the continent. There are many critical and interacting transitions underway that help explain, for example, the very positive global investment and economic growth trends that preceded the 2008 global recession, as well as the relatively strong performance of the continent during it. In 2009, when the global economy contracted by 0,6 per cent, sub-Saharan African economies continued to expand, with growth averaging 2,6 per cent, rebounding to an expected 5 per cent in 2010. The continent's growing strengths range well beyond its traditional dependence on commodity exports, increasingly reflecting improvements in the quality of governance as well as its burgeoning population.²

At the human level, the continent is roughly halfway through a demographic transition from high to low death and birth rates, despite the impact of HIV/AIDS. The youthful momentum of Africa's growing population means that, by 2050, almost one in four of the world's people will live in Africa. Urbanisation is proceeding apace. By 2025, the majority of Africans will be living in towns and cities and the continent will cease to be predominantly rural.³ Urbanisation is bringing large numbers of people into cities, not just into tenuous and tumultuous life conditions with associated social discontent, but into increasingly productive economic environments.

Having started from a very low base, Africa will fail to reach many of the Millennium Development Goals (MDGs) on schedule, including halving

of extreme poverty rates and achieving universal primary education. Yet the progress towards most of them is clear, and often striking and accelerating.⁴ According to the World Bank:

... alongside the acceleration in [economic] growth, progress on the MDGs has been sufficiently rapid that many countries (such as Malawi, Ghana and Ethiopia) are likely to reach most of the goals, if not by 2015 then soon thereafter. Africa's poverty rate was falling at one percentage point a year, from 59 per cent in 1995 to 50 per cent in 2005. Child mortality rates are declining; HIV/AIDS is stabilising; and primary completion rates are rising faster in Africa than anywhere else.⁵

Although the percentage of people living in poverty in Africa generally increased from 1981 to 1996, it declined thereafter until the recent food crises and subsequent global financial crises interrupted progress. Although the actual numbers increased, progress is steady against the substantial increases in population numbers during this period.⁶ Advances in education have been irregular historically, but appear to be on track. Progress in meeting health challenges, especially key communicable diseases such as HIV/AIDS and malaria, is increasingly apparent, although the relative burden of non-communicable disease will grow as the population ages. Algeria, Morocco, Ethiopia, Botswana, Benin and Burkina Faso are all within the top 25 global best performers with regard to improvements in human development indicators (HDIs).⁷

Thus the global conclusion of the 2010 edition of the *Human Development Report* pertains also to Africa:

The past 20 years have seen substantial progress in many aspects of human development. Most people today are healthier, live longer, are more educated and have more access to goods and services. Even in countries facing adverse economic conditions, people's health and education have greatly improved. And there has been progress not only in improving health and education and raising income, but also in expanding people's power to select leaders, influence public decisions and share knowledge.⁸

At the economic level, within and outside of the continent there has been a degree of amazement at the extent to which the majority of African countries

have been able to withstand and weather the downturn, particularly when compared to the devastating impact of the 1973 oil shock. Infrastructure is still very inadequate, but it is being built, with especially dramatic progress in telecommunications. Even while new commodities are discovered and exploited, including significant expansions in energy production, transitions to more diversified economies are underway.

At the sociopolitical level, with some major and glaring exceptions, governance is improving and the intensified focus on and demand for further improvements bodes well for the continent. Democracy, for which there is widespread public support, has been advancing since the 1990s, although recent setbacks in Guinea, Madagascar, Côte d'Ivoire and elsewhere are a cause of concern. Although there are signs of resurgence in military intervention in African politics in certain countries, intrastate conflict levels have fallen significantly since 1998.⁹

In spite of progress across these issue areas, the continent faces daunting challenges such as poverty traps involving high fertility, reliance on subsistence agriculture, lack of nutrition and inadequate education. Africa is home to the only three countries globally that have a lower HDI today than in 1970 (Zimbabwe, the Democratic Republic of Congo [DRC] and Zambia).¹⁰ Unemployment and underemployment are extraordinarily high across much of the continent. There is still excessive dependence on primary agricultural and mineral commodities, and low levels of industrial manufacturing activities; the balance of payments crisis of the late 1970s and early 1980s is widely blamed on excessive vulnerability to external shocks. Rapid urbanisation and changing economic structures bring their own problems, such as social discontent and sociopolitical disruption. Regional and continental leaders still often fail to label and disown disastrously poor performances by fellow leaders.

In addition, there are new and emerging problems. Not least of these is climate change, and 2010 may prove to have been the warmest year in the world since 1880, the earliest date for which global data are available. During the next two decades, the global average temperature may rise by around 0,2 °C a decade; and a global temperature increase of 4 °C from the beginning to the end of the century (the Intergovernmental Panel on Climate Change [IPCC] high warming scenario) now appears increasingly likely.¹¹ Water stress will increase, especially across the already driest parts of Africa, and the impact of climate change may stall or reverse much of the progress made towards achieving some MDGs.¹²

Yet, when casting our eyes on events some 40 years into the future, it serves us well to consider how much has changed in the previous 40 years. In 1970, Biafra capitulated to Nigeria, ending a brutal civil war. Black Sabbath released the first true heavy metal record on vinyl – long before the rise (and then fall) of the compact disc (CD) and before the era of digital music. Rhodesia severed its last ties with the United Kingdom, declaring itself a racially segregated republic, and the Concorde made its first supersonic flight. During that year the Beatles disbanded, while the US invaded Cambodia to hunt down the Vietcong and later began the military withdrawals that would lead to the defeat of South Vietnam at the hands of the north. Norway discovered oil in the North Sea, and the voting age in the US was reduced to 18. France and China continued to test nuclear weapons – and the world had fewer than 3,7 billion people.¹³

We live in a time when human innovation and progress on many fronts continue to accelerate. If, by 2011, we have seen so many changes in the last four decades, we should recognise that the world would, by 2050, be very different indeed.

THE AFRICAN FUTURES PROJECT

This study is produced by the African Futures Project (AFP), a collaboration between the ISS (www.issafrica.org) and the Frederick S Pardee Center for International Futures (www.ifs.du.edu). The AFP promotes the exploration and identification of trends and policy interventions to promote human capability development and sustainability. It does this by providing tools to African institutions and leaders produced by both regional experts and quantitative modellers. A number of key African institutions are engaged in similar or complementary projects, most notably the NEPAD Planning and Coordination Agency, the ADB, UNECA and the African Union Commission itself. At some point over the last six months, members of all four have been involved in discussions on African futures at the ISS and training on the associated IFs software. We hope that our efforts will serve to complement the work done by these important actors as well as others.

This monograph augments an earlier study by the ISS, *Africa in the New World*, that sought to provide a glimpse of where change could take the continent by 2025. With the assistance of the Pardee Center modelling team, this monograph looks much further ahead, to 2050. This initial product of the AFP largely presents the base case (or business as usual) development of the

continent across the interaction of key global systems. This base case can also be described as a continuation, roughly, of current trends, although the forecasting is of complex and interrelated dynamic systems, not extrapolative.

Africa, a continent with 53 countries and more than 2 000 languages, presents a complex tapestry, and the analysis presented in these pages necessarily glosses over this rich diversity. Although it is surely not the intention of the AFP to ignore this nuance, the perspective in this publication takes a macro and long-term view. That approach has strengths and weaknesses. A key strength is its consideration of interactions within and across key global systems and countries, helping us see the ‘big picture’ of change. One weakness of this type of modelling is that it is not as attentive to trends at the micro-level (including ‘weak-signals’) that can eventually have broad impact. Similarly, we cannot forecast discrete events, although we can consider their implications.

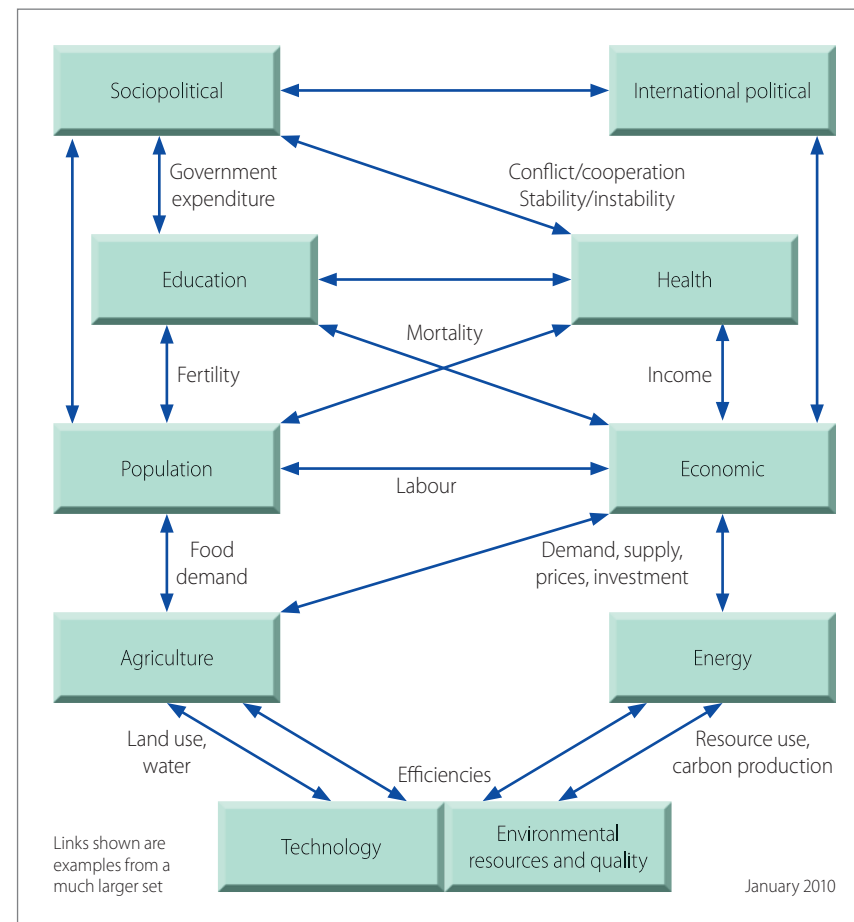
All forecasts, including those presented in these pages, must be treated with a great degree of caution; no one can predict the future, and all members of the AFP understand this well. Our forecasts are informed extensions of current trends and dynamics. They build on interpretations derived from our current knowledge of development patterns. They are the output of a complex modelling structure, 35 years of academic work and a team of dedicated scholars and students.

Throughout this paper, the use of ‘will’ in talking about the future should always be read as ‘may be’. We refer in that usage of ‘will’ to the forecasts of the IFs base case, unless noted otherwise.

While there are limits to forecasting, it is still a necessary human activity. Thinking systematically about the future – including doing so through the creation and use of quantitative models – creates a platform for people to plan for their future more effectively. When forecasts are explicit and transparent, they help leaders think about tradeoffs among choices in the face of uncertainty. While there will always be events that appear to be ‘black swans’ (high impact, unforeseen events), this should not, and historically has not, stopped people from doing their best to plan for what is likely to lie ahead.

The ISS is one of Africa’s premier applied policy research institutes. This pan-African organisation has offices in Ethiopia, Kenya, Senegal and South Africa, and its work spans a broad range of issues that relate to sustainable human security. The Institute has a staff of around 150 persons from 17 different African countries. Different from most of its peers, the Institute offers a pan-African approach and coverage to its work, which includes substantive teaching/training and technical

Figure 1 The major models of the International Futures (IFs) system



assistance as well as traditional evidence-based research and publications. The head office of the Institute is in Pretoria, South Africa, and its publications and other products are available free of charge at www.issafrica.org.

The Frederick S Pardee Center for International Futures is the home of the international futures (IFs) model. Based at the Josef Korbel School of International Studies at the University of Denver, this centre works with one of the most comprehensive integrated assessment models in the world. The model, originally created by Barry Hughes, combines impacts and effects from a wide

range of key global systems. Figure 1 outlines the general structure of the model. Each block represents a complex system of variables and interactions. For more information about the model, or for forecasts through 2060 of many variables from it across global regions and 183 countries, see our annual volume series¹⁴ or visit www.ifs.du.edu.¹⁵

For the purposes of this project, the AFP has created its own country groupings (see Map 1). Throughout this report we will present most forecasts in terms of those five regions – Central Africa, East Africa, West Africa, Southern Africa, and Northern Africa. This will help us summarise change for the continent, while also showing the substantial differences across it. The reader should understand, however, that we do the data analysis and forecasting at the country level (across 183 countries globally). We will sometimes drill down to the country level, and the IFs tool is freely available for those who wish to do so.

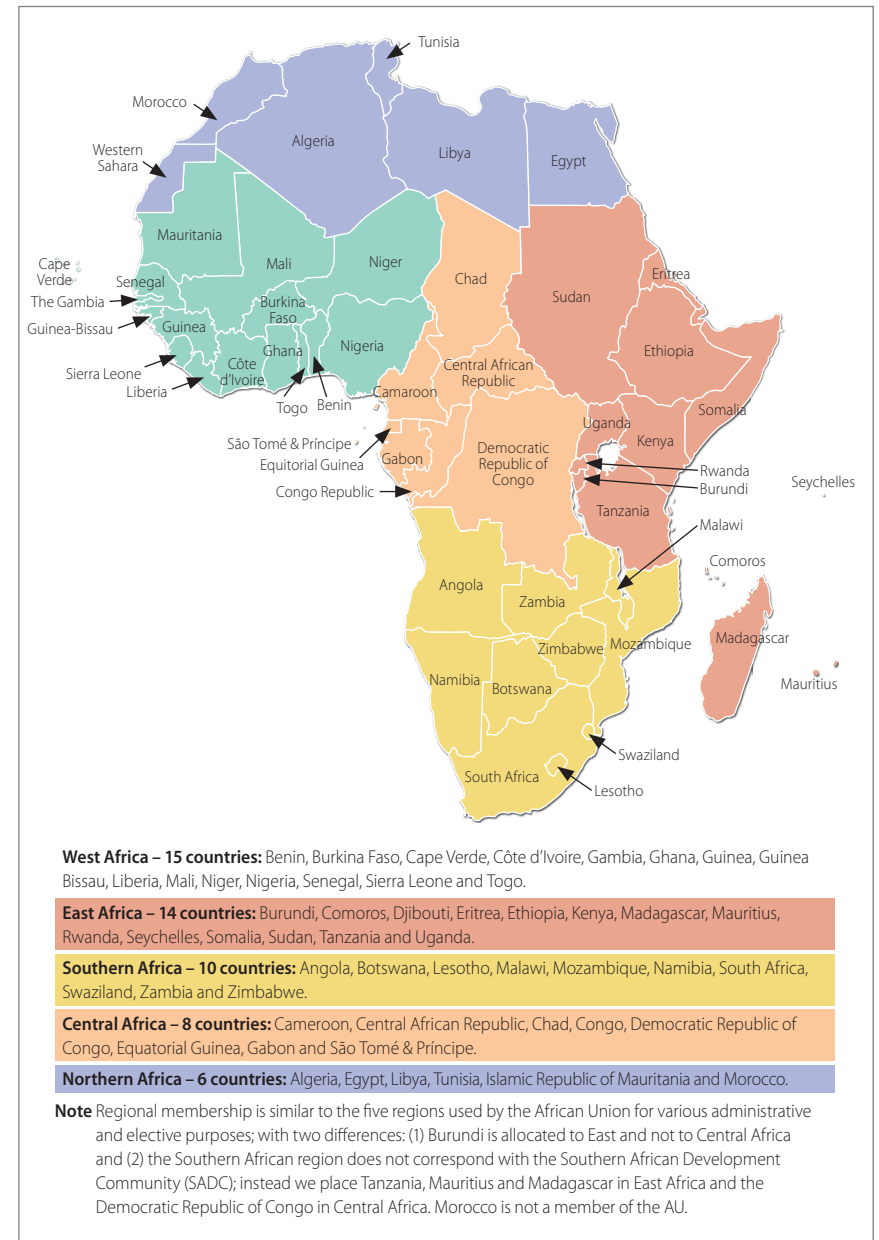
CONTENT AND STRUCTURE OF THIS REPORT

This monograph begins, in Chapter 1, to tell our core story (in forecasting terms, that of the base case or reference scenario) of African development through 2050. Both external forces and internal developments have shaped the history of Africa and they both will continue to interact in shaping its future.¹⁶ Chapter 1 considers the trade, finance, development-model, and security implications for Africa of changing global power and production patterns. These changing patterns include the rise of the East and of Brazil, Russia, India and China (BRIC) and other emerging countries more generally. There will be continuity as well as change, however, including the extension of longstanding relationships with European governments (which will almost certainly continue to support good governance and a rules-based global system), and the inevitable playing out of interest and influence from the United States.

The following three chapters explore key elements of development within Africa. Chapter 2 begins by identifying some fundamental demographic transitions (for example, changing population growth and age structure, urbanisation, and the growing dominance of East- and West African regions in continental population). Next, it turns to issues of advance in human capabilities, focusing on education and health.

Chapter 3 moves to the patterns of economic growth and transformation in Africa. Agricultural development remains fundamentally important; low and

Map 1 Regions of the African Futures Project 2050



historically very slowly growing per-hectare yields suggest the possibility of an African green revolution. There are, however, significant uncertainties around prospects for development of fragile African soils and strengthening of systems for support of agricultural production. Moreover, environmental factors, especially the availability of water and the impact of climate change, add to uncertainties for the prospects of agriculture. Because Africa has been relatively less extensively explored, there are also great uncertainties around the total extent of energy resources available for production, consumption and export.

Among the critical foundations for faster economic growth and accelerated rapid transformation to less resource-dependent economies are investment in infrastructure, regional integration and expanded global connections of African economies. Overall, the key to effective poverty reduction is raising the productive capacity of the African countries in a sustainable manner; it cannot depend on aid or charity.

Chapter 4 turns to sociopolitical elements of development. Democratisation is clearly part of that, and it offers a critical foundation for the protection of human rights. There is broad public support for pluralistic governance on the continent, and, with clear exceptions, democracy has advanced significantly in recent years.

The impact of democracy on economic development is contested, however, and especially in the middle range of the democratisation process it appears not to facilitate growth. Other aspects of sociopolitical change, especially the promotion of the rule of law and the reduction of corruption, have clear relationships with growth and thus also require improvement across Africa. So, too, does domestic security, which is fundamental to both democratisation and broader sociopolitical development.

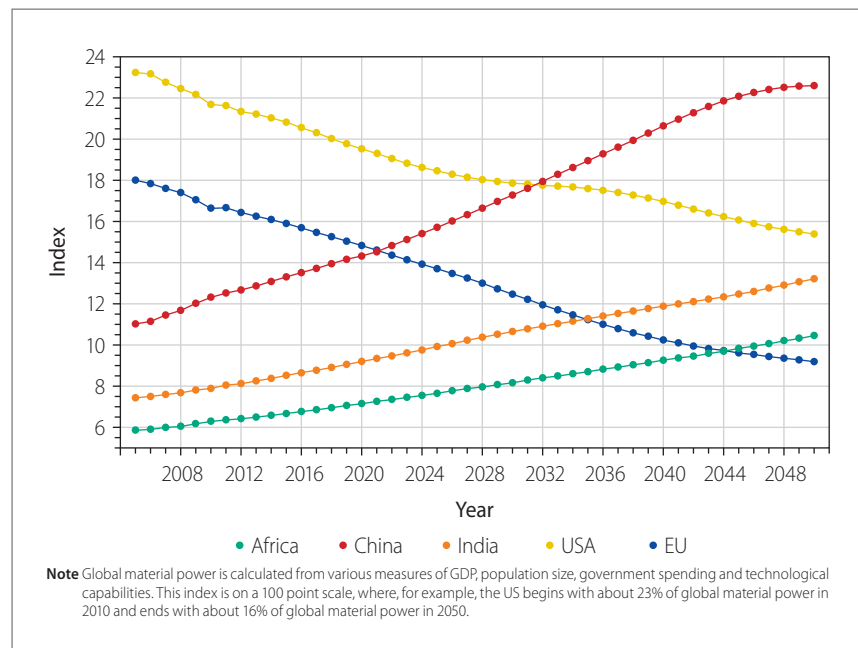
As a bridge to subsequent work of the AFP 2050 project, the final chapter broadens the picture beyond the base case analysis. To help paint a landscape as appropriately complicated as this rich continent deserves, we propose four scenarios that will help frame the possible range of uncertainty around change across the continent. It bears repeating that African futures will depend on the interaction of forces from the global context with developments within and across African states. The external forces may be friendly or hostile to Africa, and the internal ones may be strongly development-focused or weak and parasitic. We elaborate in this monograph on one important story of Africa's future, but many stories are possible, and human choices will always remain critical. Future studies and publications will explore those alternative stories.

1 Africa in the world¹⁷

The world is experiencing a seismic shift in power from the US predominance that emerged at the end of the Cold War to a newly multipolar world that will continue taking new shape across the first half of the 21st century. Aspects of this transition that have received much attention include the sustained economic growth of the BRIC countries, the insignificant impact of the global recession on Chinese economic growth (at least through 2010) and the growing importance of the G20 relative to the G7.

This transition is clear in Figure 1.1, which shows through 2050 a forecast of relative material power distribution across Africa and key global leaders. The relative decline of the US and European Union (EU) are as striking as is the sharp rise of China and India. Note also the strong and consistent relative growth of African material power, passing the EU by the end of the time horizon.

From the perspective of Africa, the greatest impact of this shift is not the decline of relative influence of the US, but the relative rise of China and India. These powers will continue to increase their political and economic influence on the region. This will be both positive and negative: trade will grow and

Figure 1.1 Global material power index: Africa and major global powers

Source International futures (IFs) base case version 6.37.

technology will spill over, but over-reliance on primary resource exploitation will remain a fundamental hurdle for African development.

While the economic gaze of Africa will increasingly turn to the east, development assistance for humanitarian crises and the promotion of good governance will continue to flow from Europe. The EU has a strong material and ideological interest in promoting African domestic security. Additionally, Europeans are motivated by the desire to promote human rights, governance and development, and will probably continue to fund this through aid programmes.

The US will also continue to play a major role in Africa. Like the Chinese and increasingly the Indians, it will seek raw materials, including energy. Like the Europeans, it will offer assistance, including help on health issues, and it will push for improved governance. In addition, attention to its own and broader global security issues will involve it heavily in regional security issues. In summary, the external influences on Africa will change, but are hardly likely to decline.

ECONOMIC SHIFT TO ASIA

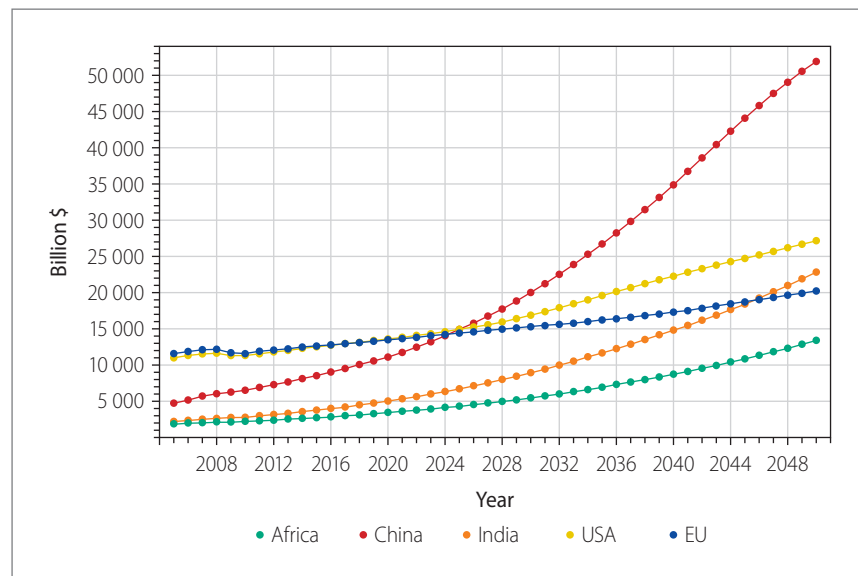
Much has been written about the shift in relative material power and influence towards Asia and especially China.¹⁸ This transition will fundamentally influence African futures. The signs of realignment are there to see, most prominently in the growing importance attached to the G20. Whereas the original G7 (Canada, Germany, France, United Kingdom, Italy, Japan and the US), produced 67-70 per cent of global gross domestic product (GDP) during the 40 years between 1960 and 2000, this dropped to around 59 per cent by 2010 and is likely to decline to about 30 per cent by 2050.¹⁹ The more inclusive G20, largely through its inclusion of countries such as China, India and Brazil, has produced about 80 per cent of global GDP since 1960 and still will do so in 2050.

We may be seeing the rise of what some describe as interpolarity (interdependent multipolarity).²⁰ Interpolarity reflects, on the one hand, a return to multiple centres of power across the world – with a number of competing centres of power emerging globally. Part and parcel of this trend is an accelerating shift away from Western dominance and towards greater heterogeneity and complexity. This hot, flat and crowded world (as depicted so graphically by Thomas Friedman)²¹ will also see the rising influence of non-state actors, including criminal networks, civil society and financial institutions.

At the same time the world will become more interdependent than ever before through its trade, financial systems, energy interdependence and global communication systems.²² The extent to which globalisation continues to deepen (as it has for many decades) is evident when one considers that global GDP, in nominal terms, increased from \$32,1 trillion in 2000 to \$61,2 trillion in 2008, ie almost doubling. World trade, also in nominal terms, increased from \$13,1 trillion to \$32,2 trillion over the same period – an increase of 245 per cent. Clearly, trade growth has outstripped GDP growth by a substantial margin.²³ Global institutions are also increasingly called upon (with different levels of success) to respond to global challenges such as climate change and organised crime.

Figure 1.2 shows, looking forward, China, not just overtaking the US and European economies, but considerably outstripping them by mid-century. In fact, India will probably overtake Europe by then and be near to catching the economy of the US. Moreover, the collective size of the African economies will exceed \$13 trillion by 2050 (at purchasing power parity [PPP])²⁴, making it larger than even the US or EU economies in 2010 (more on African growth further on).

Figure 1.2 GDP (at purchasing power parity) of Africa and major global powers



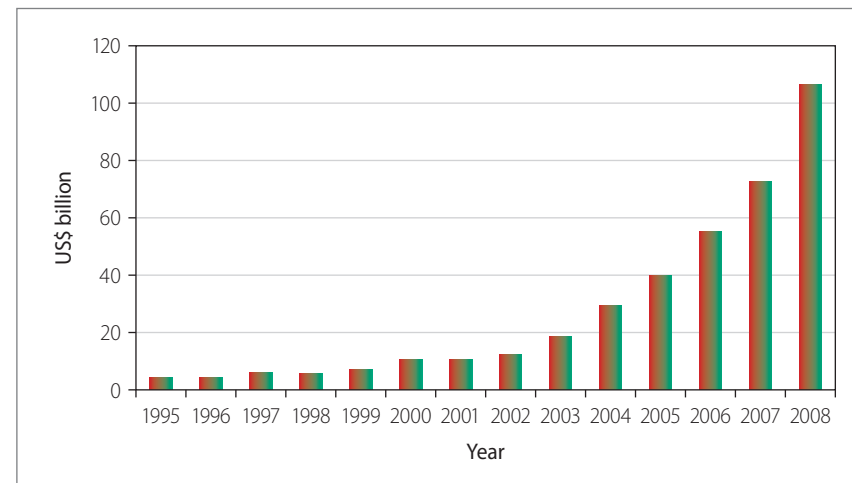
Source IFS base case version 6.37

The US remains today the single global superpower and will retain that position for at least a decade to come, despite the many challenges that it will confront. In military terms, US dominance is set to last much longer given the investment in fighting technology that it has made over the years. In 2010, it spent less than 5 per cent of GDP on defence, equivalent to roughly nine times that of China and to the total military spending of the rest of the G20 countries.²⁵

Apart from its military dominance the relative economic decline of the US and relative ascension of China (and others) have profound impacts on trade patterns that are already evident. Since 2003, according to a recent report by Standard Bank,²⁶ more than 21 per cent of Africa’s additional cumulative trade has been conducted with BRIC counterparts (especially China) – and that trade is growing rapidly. For instance, although in 2008 Africa’s total external trade of \$1 trillion accounted for only 3,1 per cent of world trade, it has doubled since 2002. BRIC-Africa trade has increased eight fold, from \$22,3 billion in 2000 to \$166 billion in 2008, and BRIC’s share of Africa trade increased from 4,6 per cent in 1993 to 19 per cent in 2008.

Since 2000, China-Africa trade has grown ten times – reaching \$106,8 billion in 2008.²⁷ Although Africa accounts for only 4 per cent of Chinese foreign

Figure 1.3 China-Africa trade in \$ billions 1995–2008



Source Simon Freemantle and Jeremy Stevens, *Confronting some of the major criticisms of Sino-Africa ties*, Economics: BRIC and Africa, Standard Bank, 5 March 2010, 5.

trade, Africa-China trade has doubled in nominal terms every three years. Most important, China’s trade with Africa proved remarkably resilient during the global recession, declining by only 14 per cent between 2008 and 2009,²⁸ whereas African trade with Japan, US and France declined by between 45 and 22 per cent. Standard Bank expects China-Africa trade to reach \$300 billion in 2012 – three times the 2008 level.²⁹ Figure 1.3 indicates the remarkable momentum of China-Africa trade in billion \$ from 1995 to 2008.³⁰ Although US trade growth with Africa has also been strong, China outpaced the US to become the continent’s largest trading partner in 2009.³¹

Chinese development is currently robust, but may experience turbulence in the future. Matters of environmental sustainability represent a possible constraint on large, sustained growth rates. In addition, economic liberalisation has the potential to translate into political pressure and the Chinese Communist Party will inevitably need to confront its democratic deficit. Finally, social inequalities could bring about fissures that undermine Chinese unity moving forward, also impacting development and trade.

While China is positioned to become the dominant future trade partner with Africa, India also plays a crucial role. Indian growth has been very strong over the past ten years. Its population is growing faster and is younger, with the

result that its economically active population will continue to grow more robustly and usurp that of China. This provides considerable scope for productivity-driven growth. The world's largest democracy does not suffer from the same democratic deficit as China, but has many other challenges sufficient to derail its growth rates over time. Its social inequalities are large and even growing. Its heavy and inefficient bureaucracy is a persistent retardant of growth. Overly strict labour laws that discourage employment and corruption are major challenges – almost as huge as that of upgrading India's decrepit infrastructure.³² These challenges should sound familiar for they are also those facing much of Africa.

AFRICAN DEVELOPMENT – LIKE INDIA?

In *Africa in the New World*³³, it was concluded that African development would, in fact, look much like that of India, and that it is towards Delhi that Africans should be looking if they wish to picture their most likely path(s) to development. A recent economics report by Simon Freemantle and Jeremy Stevens³⁴ provided substantial support to this line of reasoning. Acknowledging the complex confluence of domestic and global factors that underpin Indian growth, the authors identified three core elements, each with particular developmental relevance for Africa.

The first is India's green revolution (followed several years later by that in Latin America), driven largely by genetically advanced grains and various reforms that have allowed the country to become broadly food secure rather than using agriculture as a means of generating foreign exchange. That India was able to achieve this while its population doubled since 1960 is particularly remarkable – and a challenge very similar to that which Africa now faces. 'Staple foods must be elevated over cash crops. Investment must be channelled into greater use of irrigation and fertilisers, and government subsidies for local producers must support domestic production and output.'³⁵ That external demand is determining African economics is particularly evident in the agricultural sector. According to a recent study:

Since independence, African governments and policymakers have largely viewed agriculture as a key generator of foreign exchange, rather than as a conduit for domestic food security. ...As a result, while agricultural

exports are a major contributor to GDP in many countries in Africa, the continent remains a net importer of food.³⁶

The importance of agriculture should be evident if one considers that it is generally accepted that agriculture constitutes approximately 37 per cent of Africa's GDP and contributes about 40 per cent of the total export value with 65 per cent of the continent's population dependent on the sector for their livelihood – although figures differ slightly between sources.

None of the Indian interventions listed in these pages are new to Africa. Many are progressing, if not adequately advanced, such as the use of genetically modified crops and enhanced use of fertilizer. Important continental initiatives such as the Alliance for a Green Revolution in Africa (AGRA) and the African Union's Comprehensive Africa Agriculture Development Programme (CAADP) are both making impressive strides in reforming African agriculture.

The second factor was India's 1991 economic reform programme, which reversed the anaemic 'Hindu rate of growth' by laying the foundation for rapid increases in productivity, most evident in the rise of India's services sector. India's developmental model has thus been unique in the manner in which it has shifted from agriculture to services without major industrial expansion. India's inward-looking economic model has thus relied on domestic markets more than exports, on consumption more than investment, on services more than industry, and on high-tech more than low-skilled manufacturing.³⁷ Hence Freemantle and Stevens argued that:

...Africa needs to build economies of scale to provide the local supply-side dynamics to support the emergence of a strong and globally competitive private sector. For this to happen, markets must integrate on a regional basis. These developments will allow regional markets to aggregate demand and unlock demographic dividends, thereby attracting greater levels of foreign direct investment. Crucially, local firms must produce goods relevant to local and regional demand, thereby shielding themselves from exogenous trade-related shocks.³⁸

The final factor is that India unleashed the potential of its demographics through the private sector – protecting the home market from global competition where necessary, and relying on large and small domestic firms to create an

entrepreneurial culture of hope and ‘can do’ – using the forces of globalisation to galvanise domestic consumer consumption. It has been 20 years since Harvard Business School professor Michael Porter provided scholarly support to the common sense notion that well-crafted regulation actually promotes rather than hampers economic growth and competitiveness, and the need to provide limited protection and state support to Africa’s own industries is equally self-evident.

AFRICA INTERTWINED WITH EUROPE

The war on terror and associated stereotyping of ‘non-Europeans’ and Muslims in particular, have accentuated the sense of fortress Europe, a rich continent with a low birth rate, nervous about allowing entry of foreign nationals from the wider world into its territory. In addition, most of the expansion of Africa-China trade and of African south-south trade more generally has occurred at the expense of Western Europe, which has seen its share of trade with Africa decline from 51 per cent in 1990 to 28 per cent in 2008.³⁹

Beyond aspects of a shared history between some European countries and their former colonies, Africa will remain important for Europe for three reasons – physical proximity, as a source of commodities, and because of Africa’s importance in the development of norms for global governance. Similarly, Europe will remain important for Africa – despite all the hype about China, around 40 per cent of foreign direct investment into Africa originates from the EU.⁴⁰ Both regions will find that they need one another, and that they are better off with sustained interaction.

Economically, North Africa and Europe will continue to rely especially heavily on one another, though the rest of Africa will additionally extend its economic interests to the East. Proximity and interdependence have pushed the Arab-African states along the Mediterranean in North Africa to look towards Europe for their economic and possibly eventually their political future – and for Europe to look south in meeting its energy, labour and market requirements, as well as to secure its borders.

Europe needs cheap labour – a need that will not dissipate as its population continues to age – and the employment opportunities in North Africa are less than ideal. Backed up against the Sahara desert to their south, North African countries see the Mediterranean as their natural market. Algeria and Egypt, and to a lesser extent Libya, are significant exporters of liquefied natural gas,

primarily to European consumers. In addition, the Mediterranean Solar Plan could go a long way to helping the EU meet its 2020 renewable energy pledge. The plan, launched in July 2008 and updated in November 2010, envisages generating 20 GW of renewable energy (solar in particular) in North Africa for possible export to Europe, provided, of course, that Europe builds the proper infrastructure to improve electrical transmission routes between the Iberian Peninsula and the rest of Europe.⁴¹

Already, exports to the EU dominate the trade relations of Libya, Tunisia, Morocco, Algeria and Mauritania.⁴² The so-called MED countries (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Syria, Tunisia and the Palestinian Authority, as well as Turkey) accounted for around 9,7 per cent of total EU exports and 7,5 per cent of imports in 2007. This flow of goods and services could be further strengthened if barriers to trade were reduced.⁴³

Although the investment, trade and other opportunities on the African continent are expanding, Europe is being squeezed out of much of the rest of Africa, as its privileged influence stemming from the colonial era is steadily eroded, particularly by China, and as south-south trade expands. This development must necessarily force a rethink of the current modalities of economic cooperation between Europe and Africa under the Economic Partnership Agreements. Already south-south trade represents more than 50 per cent of Africa’s trade, although the low level of inter-African trade remains one of the major constraints on development on the continent.

While the economic landscape is changing, the real symbiotic interaction between Europe and Africa will take place in the promotion of stable and good governance. Poor governance leads to deteriorating human development conditions, which reduce productivity and further weaken political institutions. This vicious cycle has the possibility of highlighting tensions across groups and leading to conflict. Domestic instability is not in the interest of either African or European leaders, of citizens or the global community.

Europe is interested in African stability primarily for three reasons. First, an improved security situation decreases the possibility of destabilising migration flows and terrorism. Second, Europeans correctly define Africa as a swing region in their endeavour to advance human rights, democracy, civil society and the rights of women globally. Third, there remain within Europe emotional ties to Africa dating back to the colonial era (not least of which are feelings of guilt for abuses on the continent).

Without European assistance through the EU's African Peace Facility, the African Union's much-vaunted African Peace and Security Architecture (APSA) would not have been translated into the capabilities evident today in the African Standby Force (ASF) and its three almost operational brigade-size capabilities for conflict prevention and management in South, West and East Africa.⁴⁴ Since 2006, the EU has spent approximately €1 billion in its support for APSA and five peace support missions in Africa. Spending by Organisation for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) countries on strengthening governance has increased substantially in recent years.⁴⁵

CONCLUSION

With global multipolarity or interolarity, a multiple-tiered set of relationships and hopefully partnerships is developing for Africa – economically with the countries of Asia (as both trade and investment partners and as development models), on governance, peace and security with Europe, and across many issues including security and health with the US. While African heads of state may look with envy at the example of top-down state-led development exemplified by China and the Asian tigers such as Singapore and Taiwan of some decades earlier, African citizenry who stand to suffer the worst excesses of these examples look towards the freedoms in Europe as more appropriate to alleviate their stricken situation, even as they continue to desire the consumer culture and technological dynamism of the US.

2 Human development

A sustained population growth rate of 2,3 per cent, as recorded by Africa in 2010, would give rise to a doubling of the population in 31 years.

Although its fertility and population growth rates are declining, Africa has a very young and rapidly growing population. By 2050, roughly one in four people in the world will live on the African continent. Populations of East and West Africa will grow especially rapidly and become much larger than those of the northern, central or southern regions. By 2050, East and West Africa will each have populations that are nearly 2,5 times greater than those of any of the other three regions. This will probably lead to a transition in the way that regional institutions are organised and run, possibly also in political leadership and contestation on the continent, as well as in patterns of external engagement.

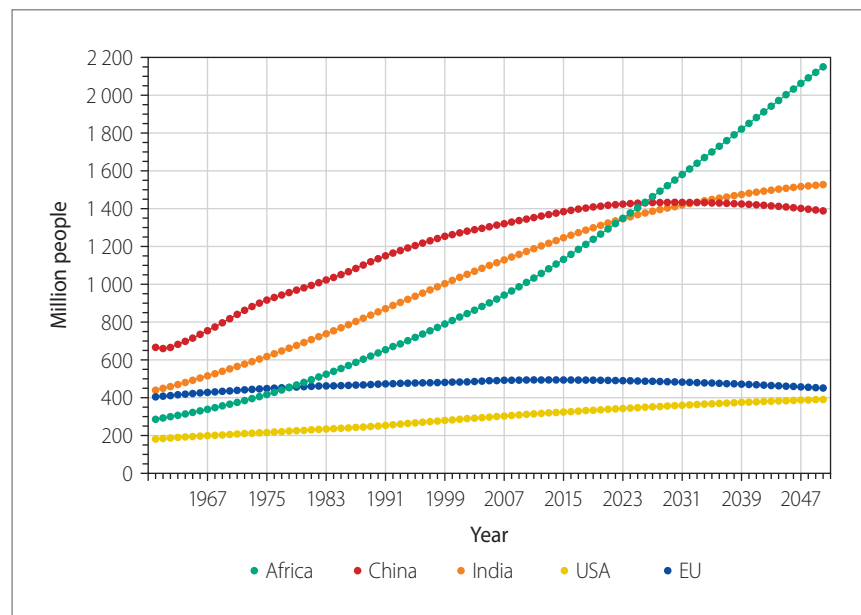
Ultimately, declining population growth in Africa rates will set the stage for a growing demographic dividend (larger shares of the population in the working years) and potentially faster economic growth. This transition in the ratio of working-aged population to total population will be accompanied by a rapid increase in urbanisation, which will fuel economic activity, but also place extraordinary demands on urban development. The challenges such growth rates pose for policymakers are obvious. Each year they must provide more

classrooms, more teachers, more health facilities and more services of all types to simply maintain current standards. Urban areas will mushroom and become the key drivers of African futures.

In terms of human development, Africa continues to improve access to primary education, giving rise to increases in levels of literacy and HDI. Regionally, while Northern Africa has the highest HDI because of its income, Southern Africa has the highest levels of literacy. In the global context, African literacy is at about the same level as in India and is expected to improve at roughly the same rate.

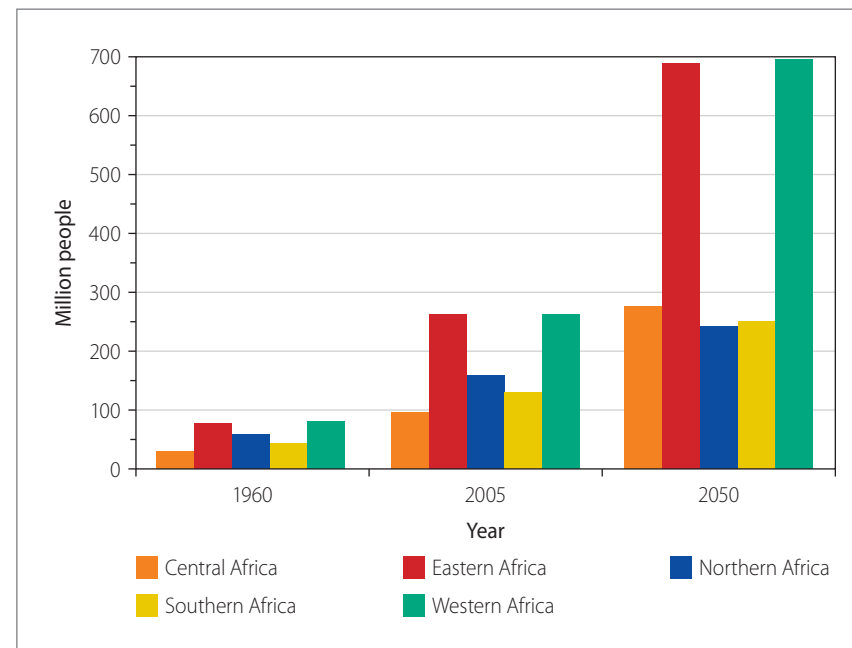
The HIV/AIDS epidemic appears to have reached a turning point and the forecasts show a decreasing burden of communicable disease more generally across the continent. Much still needs to be invested to sustain this reduction in levels of malaria, diarrheal and other preventable and treatable diseases. That said, with development comes new kinds of lifestyle-related diseases, such as diabetes and heart disease. These will become growing problems for Africa as it approaches mid-century.

Figure 2.1 African population in global context



Source IFs base case version 6.37.

Figure 2.2 African population in regional context



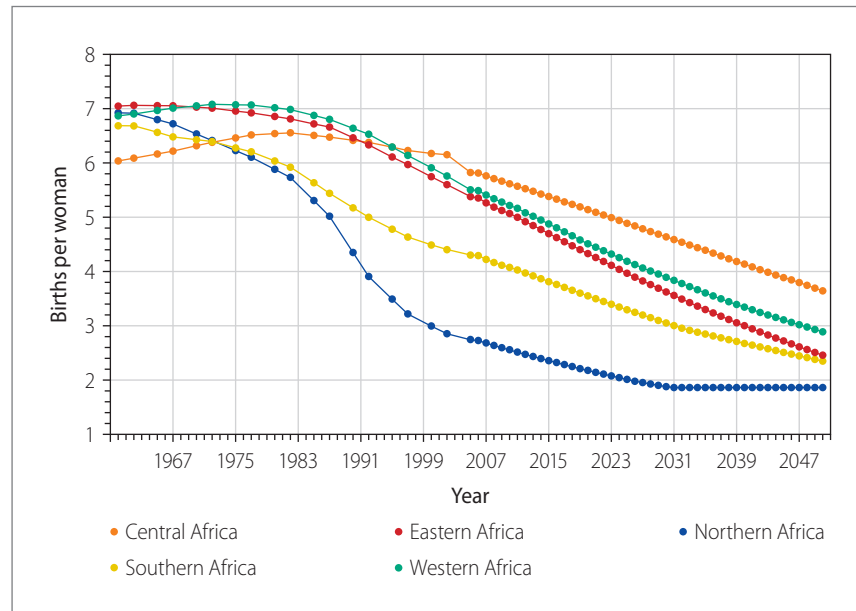
Source IFs base case version 6.37.

AFRICAN POPULATION GROWTH

The demographic size of Africa in the world has grown from 9 per cent of the total in 1960 to 15 per cent in 2010. By 2050, its share of global population will reach 23 per cent and it will be considerably larger than either China or India (see Figure 2.1). Moreover, its population will be still growing by more than 1 per cent annually, well above the rate of other global regions. This dramatic growth will considerably increase Africa’s importance in the world, regardless of what happens to other aspects of its development.

The population increases of Africa will, however, not be uniform. In fact, the demographic balance within Africa will shift rather sharply towards Eastern and Western Africa because of their higher total fertility rate (TFR). Figure 2.2 shows that the two subregions will each have nearly 700 million people and be more than 2,5 times as large as Central, Southern or Northern Africa. In addition, fertility is high and is likely to remain high (see Figure 2.3) in Central

Figure 2.3 African fertility rates



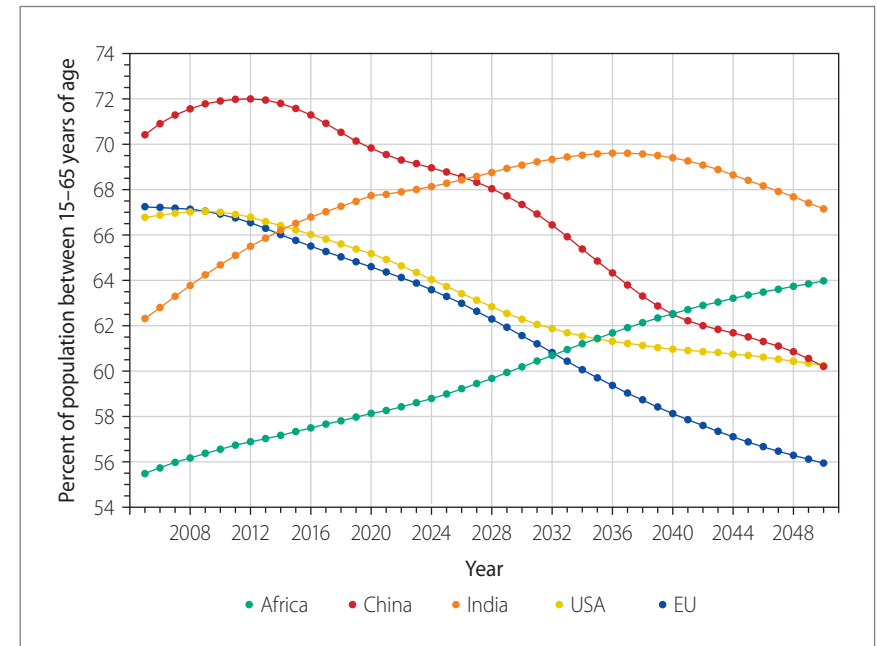
Source IFs base case version 6.37.

Africa. Whereas that region is currently considerably less populated than the other regions of the continent, it will be comparable in size to Northern and Southern Africa by 2050.

Unless current patterns change significantly (and there is considerable sociopolitical leverage in this area in the longer run), fertility rates in 2050 will have declined to replacement levels only in Northern Africa. This means that population growth across almost the entire continent, and especially in Central Africa, is likely to still have considerable momentum even in 2050, shortly before the size of the global population will peak. In fact, the African population may not approach stability until near or even shortly after the end of the century, by which time it could be about 3 billion people, or 32 per cent of the global total.

This continued growth in the African population will pose many problems. At the same time, however, at least two demographic opportunities will appear. The first is the demographic dividend, the phenomenon of the rising share of those of working age in the total population (it occurs when fertility

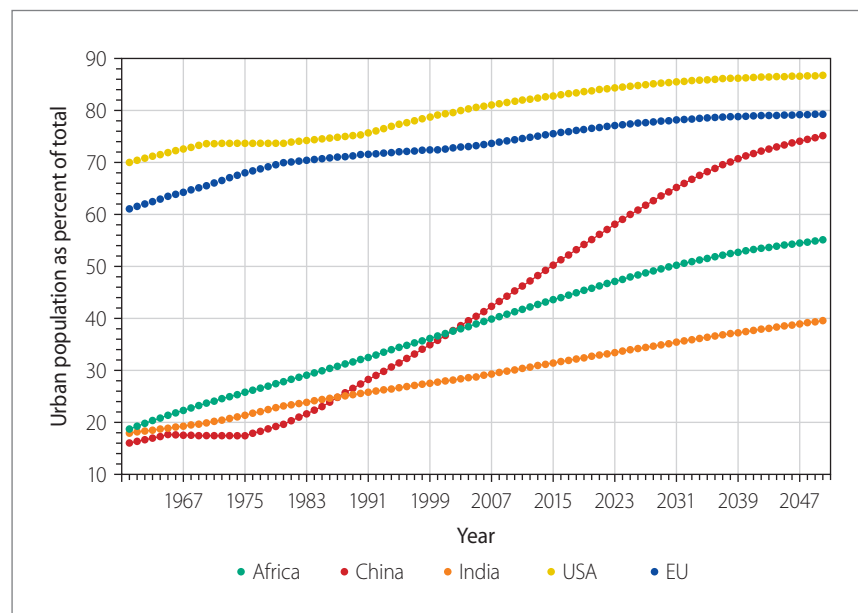
Figure 2.4 Demographic dividends, Africa in a global context



Source IFs base case version 6.37.

rates decline and reduce the relative size of the population below 15 years of age, before the population significantly ages and therefore rapidly increases the share of the elderly). Figure 2.4 shows that, currently, the share of the African population of working age (those between 15 and 65 years of age) is much lower than that of the US, the EU, India, or China. That share is growing for Africa, however, and will continue to do so through 2050, in sharp contrast to most of the rest of the world. Only India (and South Asia more generally) is also likely to have a continued demographic dividend through most of the first half of the century. The working population share of China is just now reaching its peak and is poised for rapid decline. The total size of the African workforce will exceed that of China before 2030 and India before 2035 – and continue to grow thereafter. Africa already has more middle-class households (with an income of more than \$20 000) than does India.⁴⁶

The share of population in the working-age category is currently highest in Southern Africa (about 65 per cent) and considerably lower elsewhere in the

Figure 2.5 Urban population as share of the total, Africa in a global context

Source IFS base case version 6.37.

continent. Even in Southern Africa, the demographic dividend will grow somewhat until about 2040, as the other regions of the continent gradually converge with its higher levels by 2050.

While potentially a blessing, growing demographic dividends can also be very problematic with respect to unemployment rates when inadequate numbers of jobs are available. Especially in the early stages of growth in demographic dividends, those newly available for work tend to be the young. Thus a ‘youth bulge’ often accompanies that stage of the demographic dividend and can be socially destabilising, especially when unemployed (unemployed young men are notoriously disruptive and globally the major source of crime and violence).

Second and similarly, urbanisation poses both opportunity and challenge. Figure 2.5 shows that urbanisation rates in Africa have advanced rapidly over the last 50 years. Although urbanisation rates are now especially rapid in China, and that country is likely to urbanise considerably more rapidly than Africa, more than 50 per cent of the continent’s population is likely to be in cities before 2025.⁴⁷ This growth will occur across African regions.

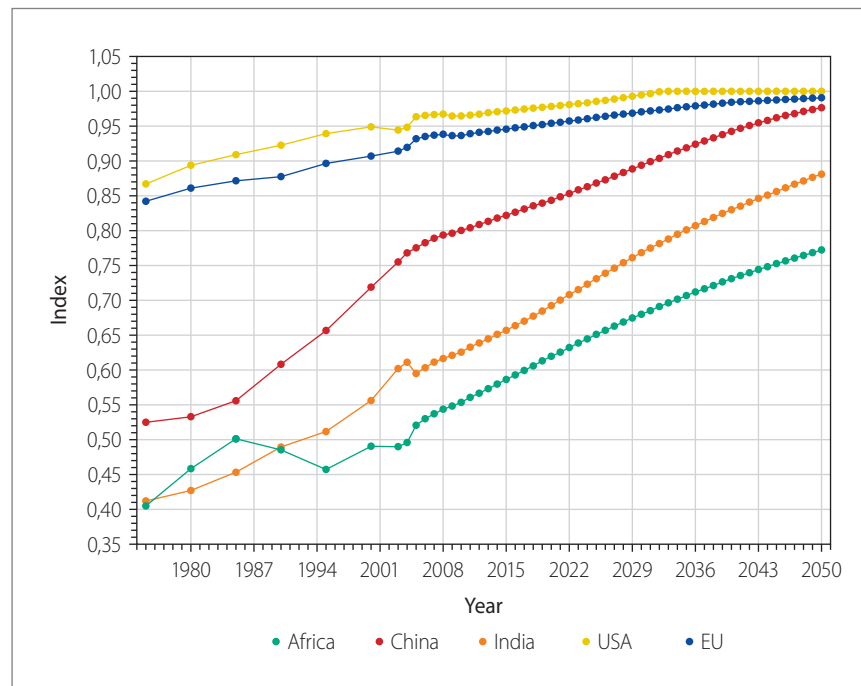
The urbanisation process is very important to the continent. A recent analysis by the McKinsey Global Institute found that the shift from rural to urban employment accounts for 20 to 50 per cent of productivity growth.⁴⁸ In 1980, McKinsey noted, a mere 28 per cent of Africans lived in cities. The proportion in 2010 was closer to 40 per cent and rising rapidly. By 2030, the continent’s top 18 cities could have a combined spending power of \$1,3 trillion.⁴⁹ Industries related to consumers (such as retail, telecommunications and banking), infrastructure development, agriculture and resources would be worth \$2,6 trillion in annual revenues by 2020.⁵⁰

HUMAN DEVELOPMENT

The HDI of the United Nations Development Programme (UNDP) provides the most widely used index through which to track human development and the living conditions of populations across the world. It captures progress in three basic capabilities: living a long and healthy life, being educated and knowledgeable, and enjoying a decent standard of living. The most recent report, released in 2010, finds that ‘[t]he past 20 years have seen substantial progress in many aspects of human development. Most people today are healthier, live longer, are more educated and have more access to goods and services.’⁵¹ The world’s average HDI (which combines information on life expectancy, schooling and income) has increased by 18 per cent since 1990 and, overall, poor countries are catching up with rich countries in the HDI. Almost all countries have benefited from this progress, with only three – all in Africa, namely the DRC, Zambia, and Zimbabwe – having a lower HDI today than in 1970.⁵² This convergence, the 2010 report notes, ‘paints a far more optimistic picture than a perspective limited to trends in income, where divergence has continued’.⁵³

Figure 2.6 shows that on the HDI measure India pulled away from Africa over the last two decades, largely because of the HIV/AIDS epidemic and the associated decline in life expectancy in Africa.⁵⁴ Yet, African HDI values have begun to turn upward again, and the IFS base case forecast suggests that the continent will roughly track the rates of rise in India and even China going forward. To be sure, poverty as measured in health, education and income is currently particularly prevalent in sub-Saharan Africa, especially in countries such as Niger, Gabon, Lesotho and Swaziland. As noted by the UNDP, a quarter of the world’s multidimensional poor (458 million people) live in Africa.⁵⁵

Figure 2.6 Human development index (HDI), Africa in a global context



Source IFs base case version 6.37.

An analysis of HDI movers provides some interesting findings. Apart from the stellar performance of countries such as China, Indonesia and South Korea, the list of top 25 improvers includes a number of African countries, namely Algeria (9th), Morocco (10th), Ethiopia (11th), Botswana (14th), Benin (18th) and Burkina Faso (25th). The largest drag on improvements in HDI in Africa in recent years is the impact of the HIV epidemic, and life expectancy has fallen below 1970 levels in six sub-Saharan African countries.⁵⁶

Within the continent, Northern Africa currently has the highest HDI level (at about 0,7, well above India and close to the current level of China). Central Africa has the lowest level, near 0,45. Globally, sub-Saharan Africa is typically considered the region facing the greatest challenges in human development. Across all dimensions, it has the lowest HDI indicators of any region.⁵⁷

The 2010 HDI report also indicates the extent to which countries (such as Namibia and the Central African Republic [CAR]) with less human development

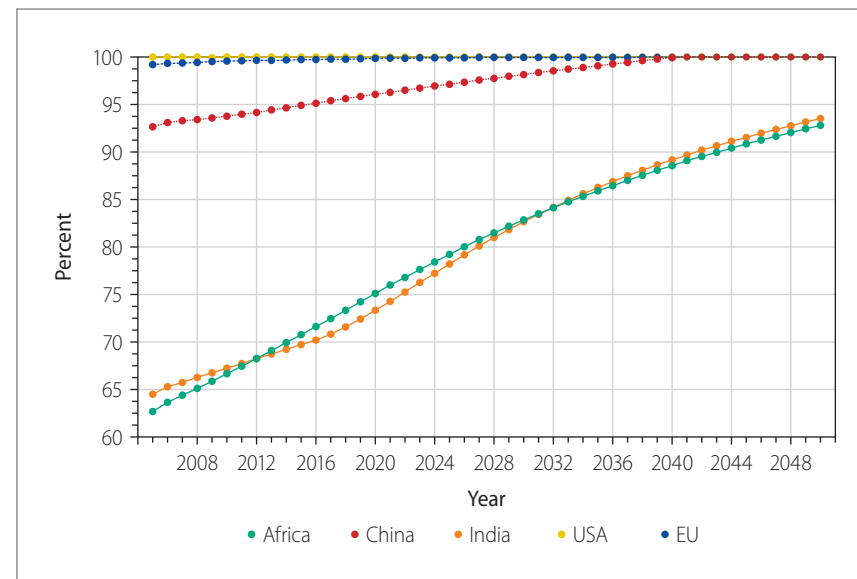
tend to have greater inequality in health, education and income. Low human development countries also tend to experience high gender inequality, evident in the CAR and Mozambique.⁵⁸

Literacy and education

Education and literacy are key components of the HDI (as are life expectancy and income, which are further explored later). Education is an important driver of countries’ economic performance and potential. Adequate primary education is essential, but the quality and accessibility of secondary and higher education will be even more important for determining whether these societies successfully graduate up the value-added production ladder.⁵⁹

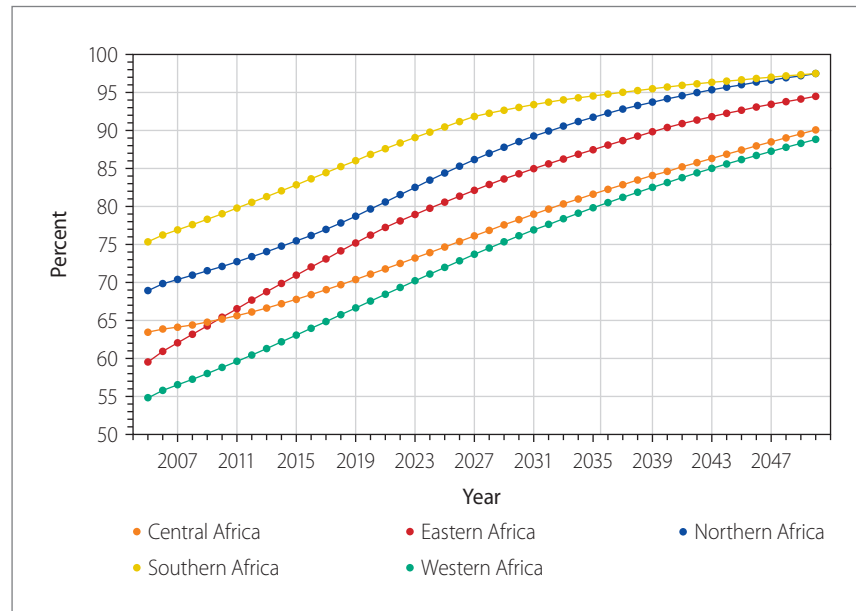
With respect to literacy, often roughly associated with a completed primary education, Figure 2.7 shows that Africa is currently very close to the same level as India and is likely to track the advance of that country fairly closely. More generally, as indicated earlier, Indian development patterns offer an analogue for those of Africa in many ways, including human development.

Figure 2.7 Literacy, Africa in a global context



Source IFs base case version 6.37.

Figure 2.8 African literacy



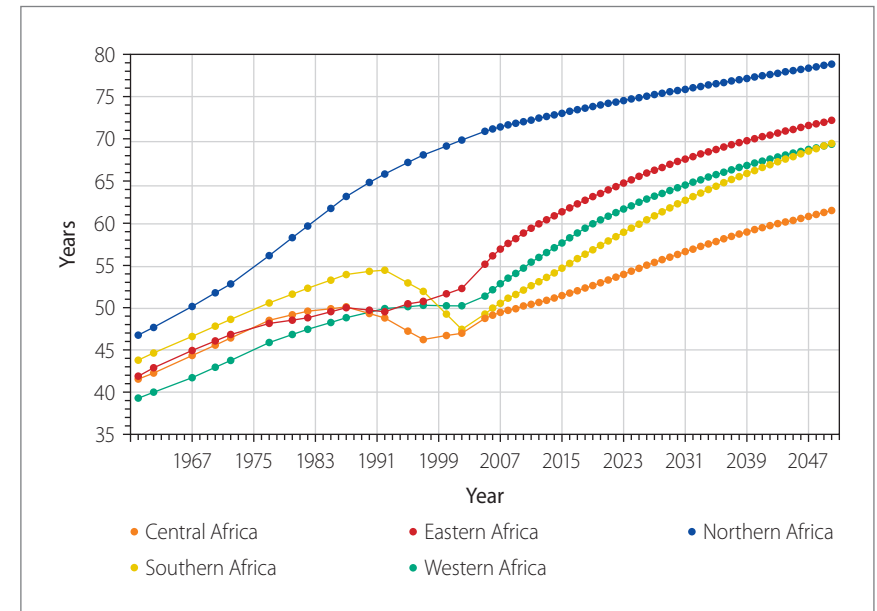
Source IFs base case version 6.37.

The patterns of literacy within Africa are different from those for the HDI overall, in which Northern Africa stands as the clear regional leader. In the case of literacy (see Figure 2.8), it is Southern Africa that leads, with rates of almost 80 per cent. All regions are likely to advance steadily through mid-century, although Central Africa may well have the slowest rate (related in part to the exceptionally high fertility and population growth rates seen above).

Health

It is the dramatic loss of life expectancy due to HIV/AIDS that cut back the upward movement of human development overall in Southern and Central Africa, especially, and to lesser but still significant degrees in East Africa and West Africa. The AIDS plague has definitively characterised perceptions around the world of African development. Although there is increasingly clear evidence that the corner has been turned, it is also the future course of the scourge that creates the greatest uncertainty around human development across much of the continent.

Figure 2.9 African life expectancy



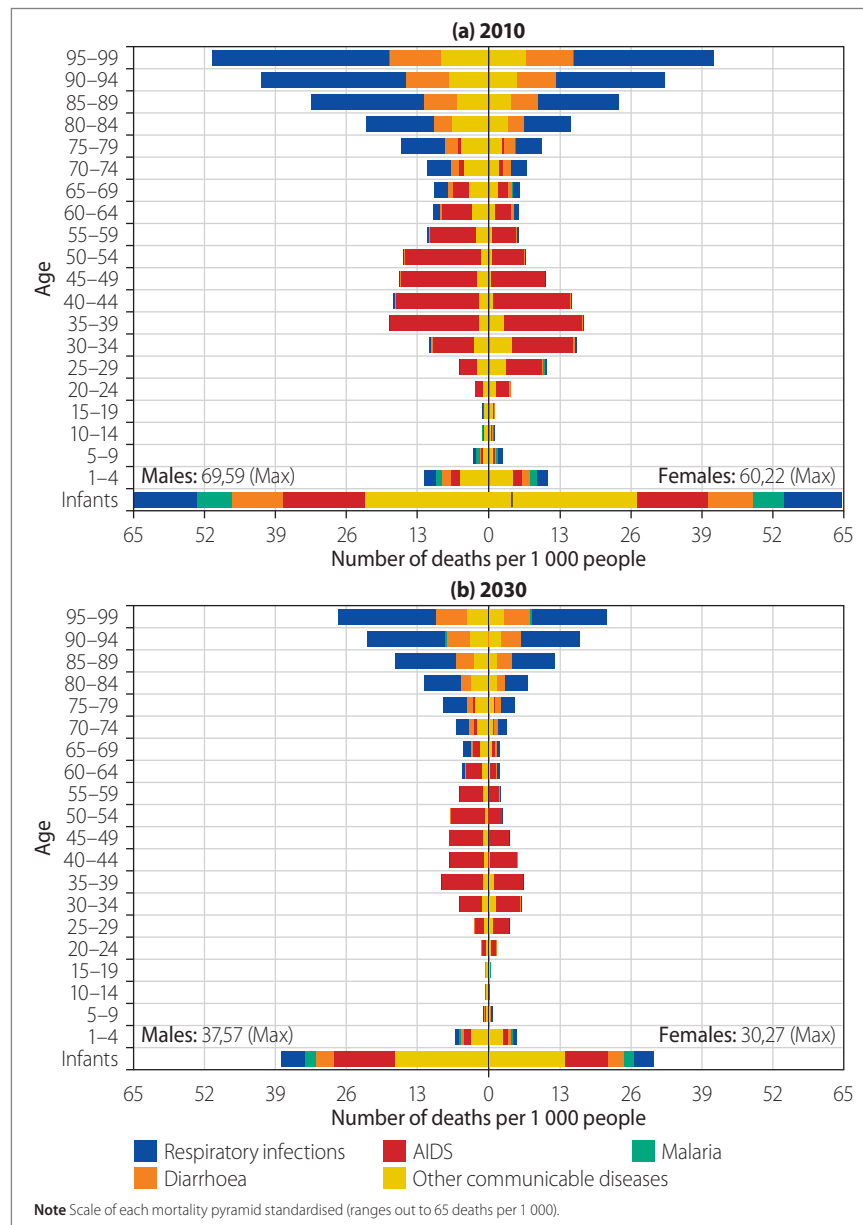
Source IFs base case version 6.37.

Communicable diseases have long been the focus of development assistance in Africa, and much progress is expected in these areas. Figures 2.10 and 2.11 shows four mortality pyramids for communicable disease subtypes for Eastern Africa and Southern Africa in the years 2010 and 2030.

The burden of AIDS-related deaths in Eastern and Southern Africa is noticeable (the red bulges in the middle of the graphs), with much greater impact in Southern Africa. Both of these regions show decreasing rates of mortality as forecasts approach 2030. The forecasts also anticipate declines in rates of infant mortality, currently very high for both regions, with about 60 out of every 1 000 babies dying in the first year of life. Declines may be anticipated in these rates partly through improvements in incomes and in access to water and sanitation.

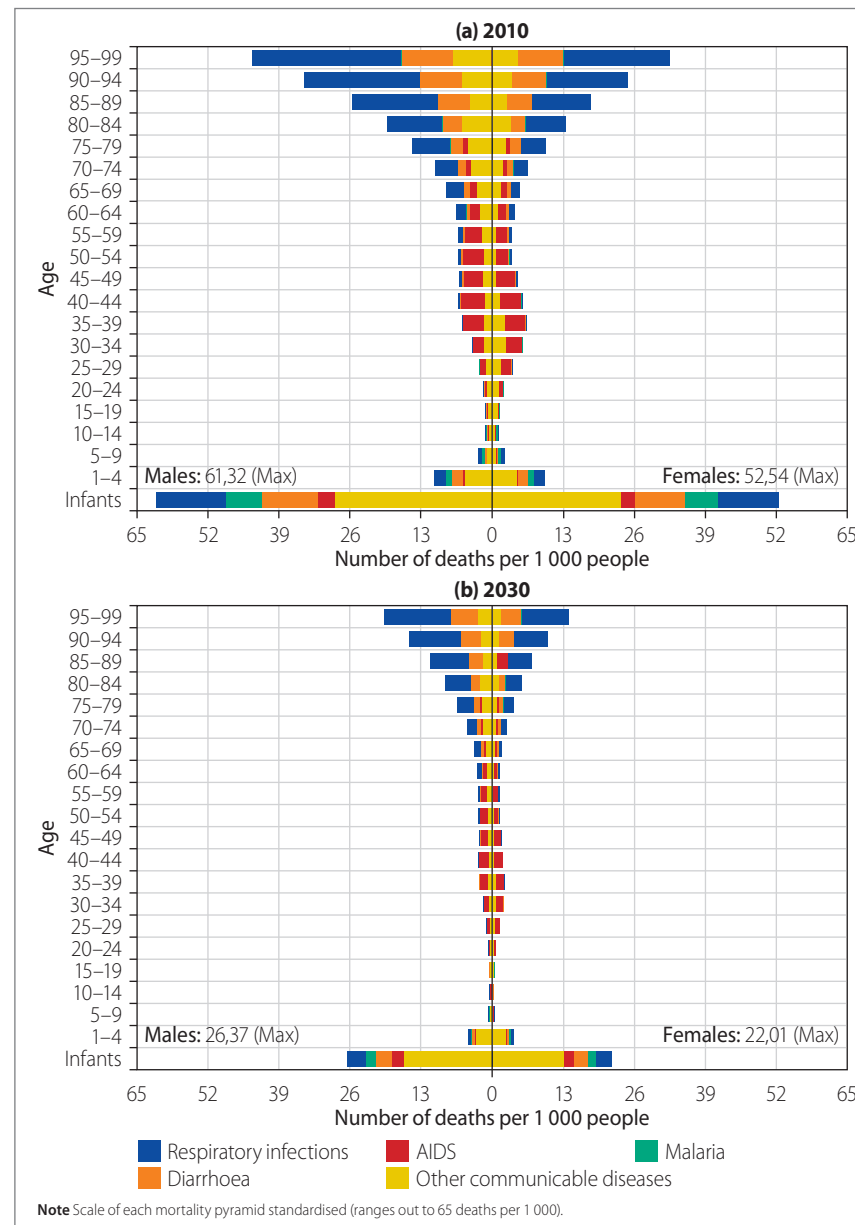
More generally, the patterns of deaths from communicable diseases vary widely across the continent and some countries and regions will benefit greatly from reduced burdens. In the case of malaria, the DRC, Ethiopia, Kenya, Nigeria, Southern Sudan, Tanzania and Uganda account for two-thirds of all cases, and in the case of AIDS, Southern and Central Africa account for about one-third.

Figure 2.10 Communicable disease mortality by subtype for Southern Africa: 2010 and 2030

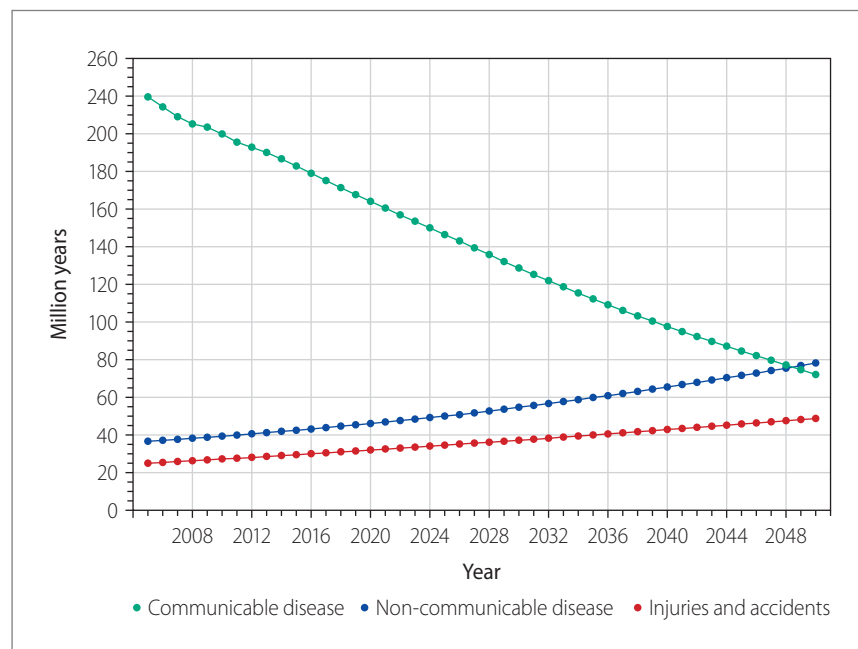


Source IFs base case version 6.37.

Figure 2.11 Communicable disease mortality by subtype for Eastern Africa: 2010 and 2030



Source IFs base case version 6.37.

Figure 2.12 Years of life lost in Africa through major death cause groupings

Source: IFs base case version 6.37.

In the face of (appropriately) significant attention to the problems of communicable diseases in Africa, including HIV/AIDS and malaria, a major transition will probably occur before 2050. By mid-century, the annual years of life lost to communicable disease (that is, the continent-wide sum of all years lost to individuals who die prior to the world's longest life expectancies⁶⁰) will fall below the rising trend in the years of life lost to chronic or non-communicable disease (see figures 2.10 and 2.11).

These patterns reflect the decreasing rates of death from communicable disease, although the forecasts from IFs still anticipate more than 500 000 annual deaths from malaria in 2050 and 150 000 from AIDS (hopefully and quite possibly far less will be actually recorded).⁶¹

Those who die of communicable diseases tend to do so young, often as infants or children, while those who die of non-communicable diseases more often die older. Thus the actual current difference in annual deaths from the two cause groups is much smaller than the difference in years of life lost as shown in

Figure 2.12. Specifically, in 2010, 7,2 million died in Africa from communicable diseases and 3,5 million died from chronic diseases. The trends in deaths from the two cause categories will cross in about 2025, much earlier than the trends in years of life lost. Soon, increasing attention will be paid to chronic diseases across the continent.

Obviously, such forecasts should in no way suggest that the rate of growth in health efforts devoted to communicable disease should slow, but they do point to the increasing 'double burden' of disease that the continent will face as progress in combating communicable diseases is made and African populations age. And they suggest the changing pattern of health risk factors. By 2050, the obesity rate in Africa (forecast at about 10 per cent) will be only 2-3 percentage points lower than the under-nutrition rate and both could be well below the smoking rate (at more than 20 per cent).

CONCLUSION

On the whole, and in spite of the HIV/AIDS epidemic, the human condition in Africa is improving quite steadily. There are major, broad-sweeping transformations well underway. Fertility rates and population growth rates are declining, although they remain high in East, West and Central Africa and the populations of East and West Africa in particular will grow dramatically by 2050. Education is advancing steadily, with the big pushes made towards the MDG of universal primary completion – while the goal is effectively unattainable at this point – accelerating progress. Deaths from communicable diseases remain far too high, but the rates of mortality are decreasing, and the burden of disease is shifting inexorably towards chronic ones.

The forecasts are mostly positive in terms of human development. One clear exception is that numbers in extreme poverty (which the next chapter discusses) will remain high even as rates continue to decline. Overall, the advances in human development will spill over in important ways to accelerated economic advance.

3 Economic growth and transformation⁶²

The African economy is beginning to take off. Strong growth in working-age populations and the movement of those peoples to cities are helping to fuel a drive to diversify economies away from subsistence agriculture and eventually towards manufacturing and service sectors. These thriving, churning urban areas will be the source of the emergence of African economic might.

While there is great potential in the African landscape, growth is not uniform across regions or within countries. The history of colonialism and conflict has left an indelible stain. Many countries are landlocked and, due to inadequate infrastructure, effectively isolated from both regional and global potential trade and investment partners.

Great uncertainties exist around Africa's economic future. The massive expanse of underused arable land, though less nutrient-rich than in countries such as Brazil, holds the potential to unleash an African green revolution. Water resources will remain abundant in certain regions (especially in the middle of the continent), but will become increasingly strained in the north and south due, in part, to climate change. Energy and other resources have been underexplored and if there are new large oil and gas discoveries, as appears likely, this could help greatly to alter the future development of the continent.

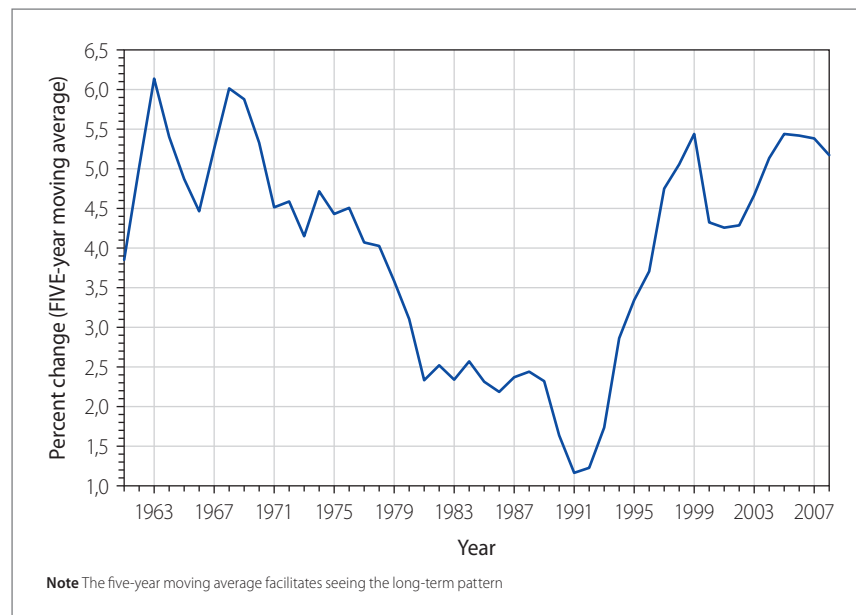
There remain very critical investment needs for Africa to ensure a future of strong and sustained growth. Beyond the obvious requirement for investment in education and health, Africa's inadequate infrastructure demands massive investment across almost all sectors: transport, energy, water and sanitation, information and communications technology (ICT) and innovation systems. In part by taking advantage of growing south-south trade, the continent needs to export for growth, both regionally and globally.

AFRICAN ECONOMIC GROWTH

Between 1960 and 2010, GDP per capita for the continent grew from just under \$500 per capita to about \$900 (based on constant \$ in the year 2000). Growth was reasonably strong in the 1960s and 1970s. Then the continent lost nearly \$150 per capita through the mid-1990s, before growth resumed.

Recent years have given reason for hope that African growth has accelerated and may continue at the historically high rates event during more recent years.

Figure 3.1 Africa's economic growth, 1961–2008



Source: IFs base case version 6.37.

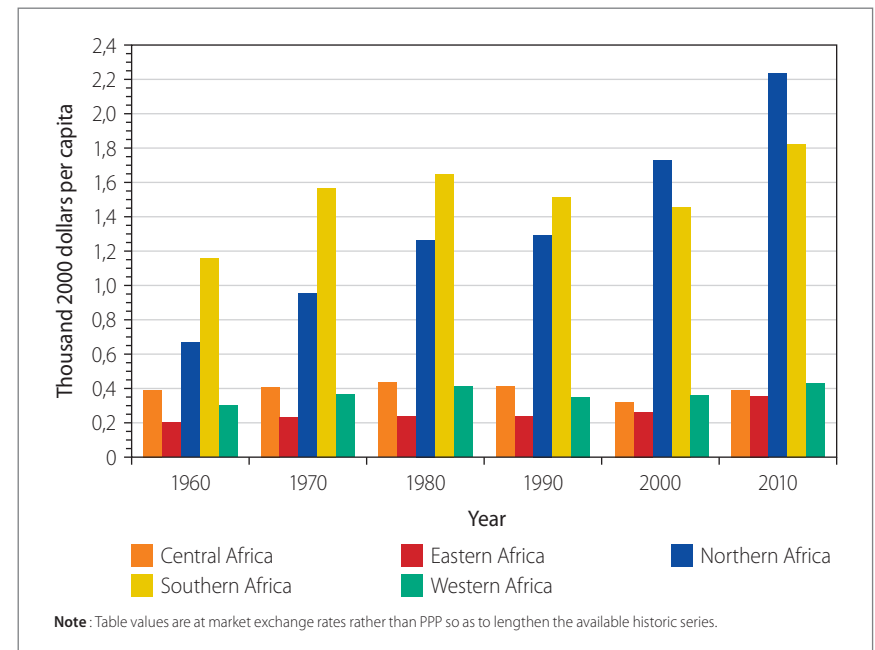
Figure 3.1 shows the quickening pace, even into the first years of the global financial recession that began in 2007.

In its 2010 annual report, the UNECA noted that Africa was recovering from the global crisis faster than expected. It anticipated that African economies would rebound in 2010 and grow overall by 4,3 per cent, up from 1,6 per cent in 2009.⁶³ The projected regional growth rates were 4,2 per cent for North Africa, 5,1 per cent for oil-exporting sub-Saharan Africa and 4,9 per cent for oil-importing sub-Saharan Africa. These projected economic growth rates still fall short of the 7 per cent pace required for achieving the MDGs.⁶⁴ More recently, the IMF forecast growth rates of 5 per cent for 2010 and 5,5 per cent for 2011.⁶⁵

Regional disparities past and future

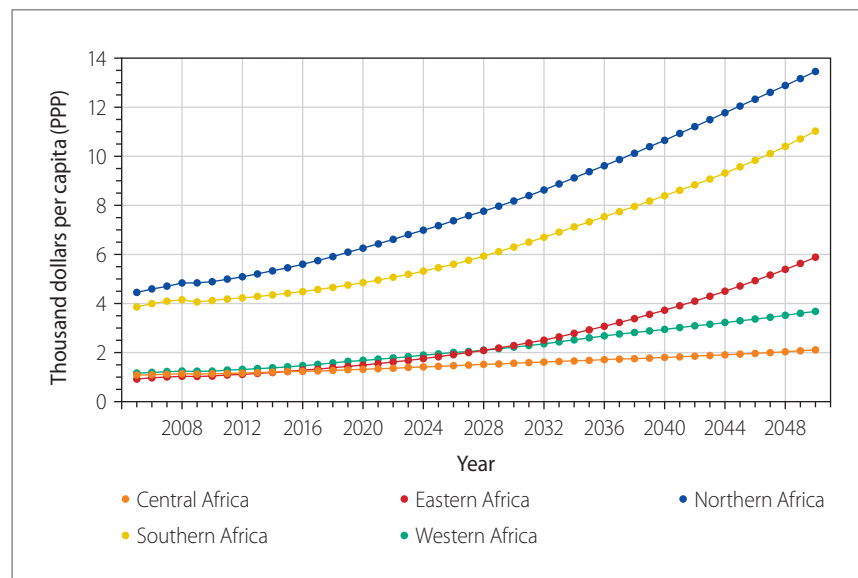
Summary portrayals of continent-wide economic growth, however, conceal far too much of the continent's diversity in condition and performance. Figure 3.2

Figure 3.2 GDP per capita (MER) in African regions



Source: IFs base case version 6.37.

Figure 3.3 GDP per capita (PPP) in African regions



Source IFs base case version 6.37

shows more. The bulk of economic growth since 1960 has been in Northern Africa, with its many energy-based economies, and, to a lesser degree, in Southern Africa, dominated by the diversified South African economy. Over the entire half-century, Eastern Africa gained only about \$150 per capita and Western Africa about \$130 per capita, while GDP per capita in Central Africa has remained almost unchanged since 1960. The economic gap between the northern and southern regions on one hand, and the eastern, western and central regions on the other, is close to \$1 500 per capita.

Looking forward, there is a good chance that the total economies of Africa will collectively exceed \$13 trillion in size by 2050 (at purchasing power)⁶⁶, making it larger than even the US or EU economies in 2010. The compound annual growth rate required for that result is 5,1 per cent, comparable to that of the last few years. Sustained growth at that average rate is far from assured, but also not at all outside reasonable expectations – some might consider it pessimistic.

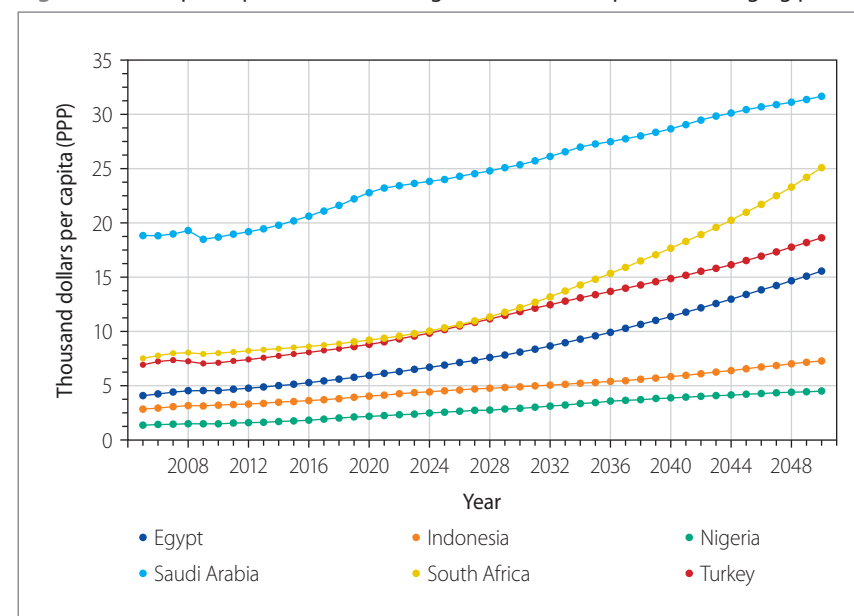
Turning to regional GDP per capita at PPP for greater comparability, Figure 3.3 suggests that the diversity or inequality across the continent is likely to

continue and even increase. A common threshold for middle-class status is \$7 500 annual income per person. On average (and domestic inequality is likely to remain very high so the average is somewhat misleading), the citizens of Northern and Southern Africa should pass that threshold before 2040. In contrast, Central Africa may attain an average of only about \$2 000.

African economies in emerging country context

There is much reason to believe that leading African countries will keep pace with and even overtake other emerging countries around the world. The three largest economies of sub-Saharan Africa are now South Africa, Egypt and Nigeria in that order (Algeria is about the same size as Nigeria). Figure 3.4 compares those three with three non-African countries of somewhat comparable size in total and at roughly similar GDP per capita. It shows that by 2050, South Africa is likely to overtake Turkey in GDP per capita and largely eliminate the gap with Saudi Arabia. Similarly, Egypt will largely eliminate the gap with

Figure 3.4 GDP per capita (PPP) of leading African and comparable emerging powers



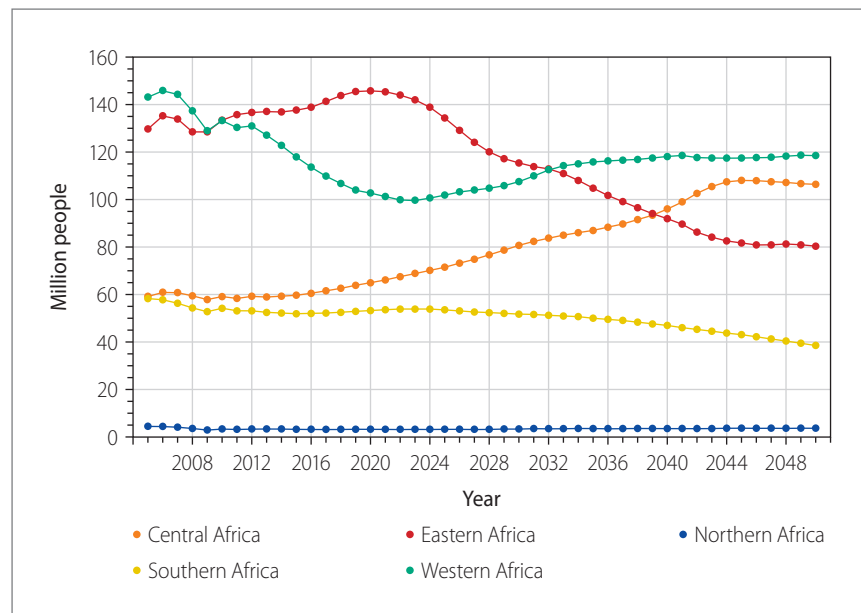
Source IFs base case version 6.37

Turkey. Nigeria will not overtake Indonesia, but will substantially narrow the ratio of the GDP per capita between these countries. Given their faster population growth rates, these African countries will gain even more in total GDP terms relative to many fellow emerging states around the world.

The persistence of poverty

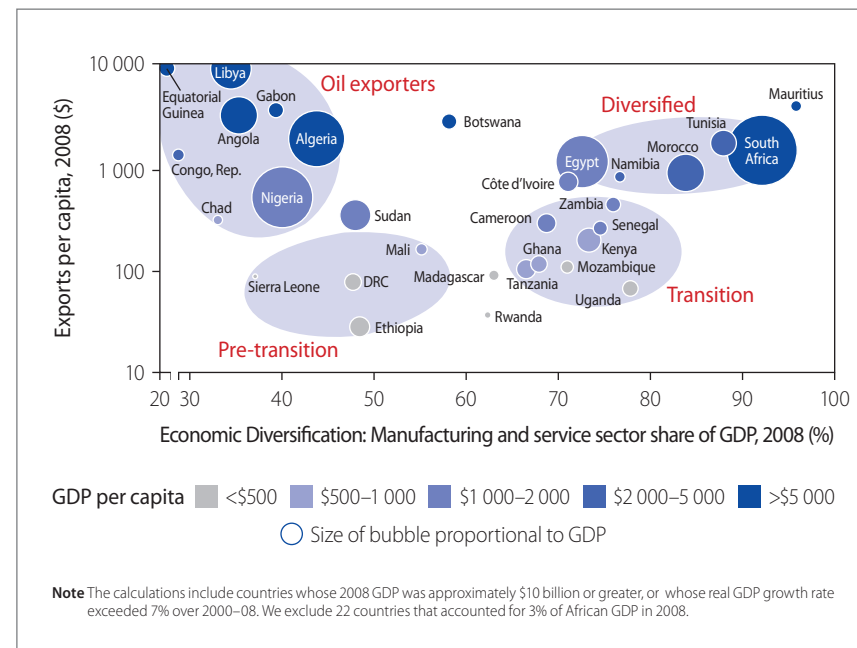
These economic forecasts for Africa, while fairly strong, are still far from rosy. Given mid-century expectations in Figure 3.2 for still-low levels of GDP per capita in three of the African regions (even with average GDP growth rates from just over 4 per cent in Central Africa to about 7,5 per cent in Eastern Africa), extreme poverty levels will remain high through mid-century. Rates decline, but the numbers living on less than \$1,25 a day remain near 300 million people for the continent as a whole (Figure 3.5 shows that the number of people living in extreme poverty actually increases considerably in Central Africa).

Figure 3.5 Extreme poverty in African regions (millions below \$1,25 per person per day)



Source: IFs base case version 6.37.

Figure 3.6 Diversity in African economies and growth prospects



Source McKinsey Global Institute, Lions on the move, 5.

ECONOMIC TRANSFORMATION: GROWTH AND DIVERSITY

Economic growth of the magnitude forecast above will not materialise without considerable transformation of African economies that will build on a very heterogeneous current pattern. The McKinsey report on African futures used two criteria, exports per capita and economic diversification, to group the majority of countries into four broad clusters: diversified economies, oil exporters, transition economies and pre-transition economies (see Figure 3.6).

Countries with the most diversified economies – South Africa, Egypt, Morocco and Tunisia – have the least volatile GDP growth rates and stand to benefit greatly from increased ties to the global economy, despite their high unit labour costs and lagging export growth. Although the oil-exporting countries such as Nigeria, Algeria, Libya, Angola and Equatorial Guinea have

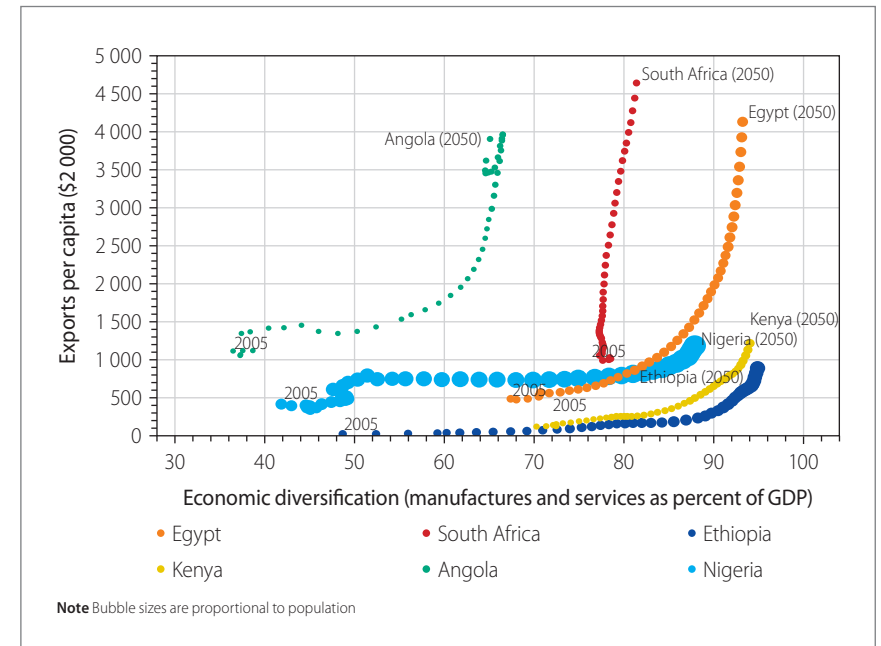
the highest GDP per capita, their future success depends upon their ability to use their petroleum wealth to finance diversification and broader spread of wealth.⁶⁷ Interestingly, the bulk of recent improvements in economic governance appear to emanate from resource-intensive countries – possibly because it is here that improvements are so easily made coming from a very low base.⁶⁸

Africa's transition economies, including Ghana, Kenya and Senegal, are growing rapidly, largely through increases in agriculture and resource sectors, but facing the challenge of a weak manufacturing and services sector. Some, like Ghana, Uganda and Tanzania, will benefit from recent oil finds that could, if invested wisely, spur diversification. The remaining group, the so-called pre-transition countries that include the DRC, Ethiopia, Sierra Leone and Mali, have recorded rapid growth rates in recent years, but with a great degree of volatility and weak institutions. They obtain their hard currency through agricultural exports, mineral exports and foreign aid.

South Africa is Africa's prime manufacturing base. It accounts for 18 per cent of Africa's GDP and 27 per cent of that of sub-Saharan Africa and is a powerful player on the continent. In 2008, South Africa became the first African country to be included in the top 25 most attractive destinations for global foreign direct investment. With total trade of \$20 billion linking it to the rest of Africa, South Africa is also far more integrated into Africa than any other country, although the growth of its trade has been less robust than that of the BRICs. In both absolute and relative terms, African markets matter increasingly to South Africa, with 70 per cent of its African exports going to Zambia, Zimbabwe, Mozambique, the DRC, Nigeria, Angola, Kenya and Tanzania. Although unable to compete with China, which is the world's most competitive and largest manufacturing country, South African trade and investment links with the rest of the continent are expanding at a healthy and rapid rate.⁶⁹ If it can manage the stifling impact of its overwhelming one-party dominance, South Africa has much to offer the continent.

These McKinsey groupings provide a good basis for thinking about the transformations to come. Figure 3.7 (using the same dimensions as Figure 3.6) indicates the extent of diversification possible, even likely, through mid-century. Nigeria and Ethiopia illustrate particularly well the potential for very rapid expansion of manufacturing and service economies. Over the coming decades, Nigeria will be forced to make the transition in substantial part because of

Figure 3.7 Economic transformations of African countries

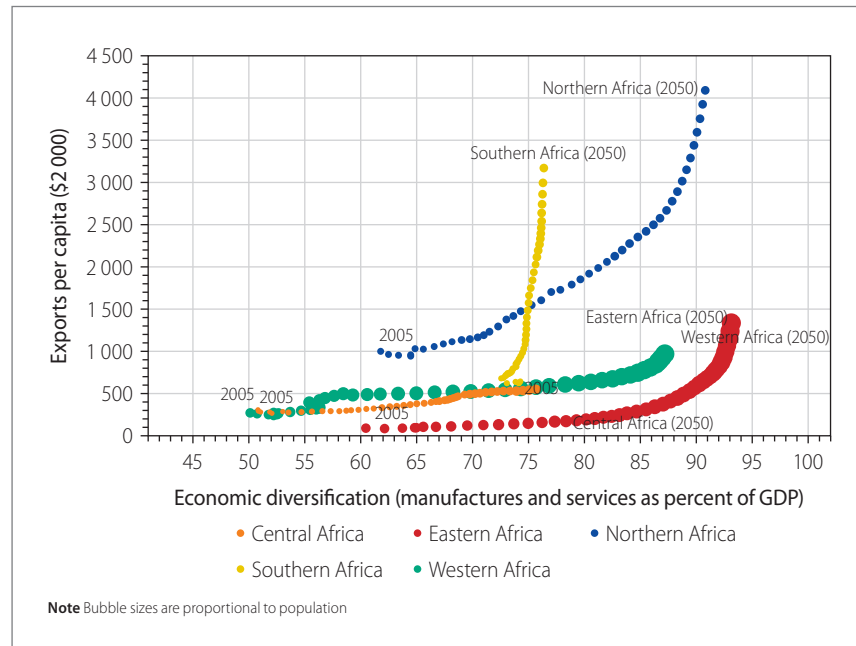


Source: IFs base case version 6.37.

peaking and declining energy production. South Africa and Morocco may face less pressure for such continued diversification, but, with Egypt, are likely to see some of the highest growth rates in exports per capita.

It is quite possible (see Figure 3.8) that by 2050 all regions will depend on manufacturing and services for 75 per cent or more of GDP, although largely because of slower growth, Central Africa is likely to be in the transition phase of the McKinsey categorisation. As China moves up the production value chain it will leave room for other entrants lower down in the chain such as Vietnam, Indonesia and India, and eventually also for Africa.

None of this means that the primary sectors will become small or unimportant portions of African production and exports. In fact, continued rapid growth of commodity demand from China, India and other emerging economies, Africa's increased access to international capital, and the continent's ability to forge new types of economic partnerships with foreign investors are likely to continue to strengthen primary sectors. Currently, Africa boasts

Figure 3.8 Economic transformations of African regions

Source IFS base case version 6.37.

10 per cent of the world's oil reserves, 40 per cent of its gold, and 80 to 90 per cent of the chromium and platinum group metals, with massive future discoveries inevitable.⁷⁰ Paul Collier calculates that the average mineral and energy deposits in Africa amount to just \$23 000 per km², compared with \$114 000 for the well-explored countries of the OECD.⁷¹ By implication, the continent could have a wealth of mineral and energy deposits yet to be discovered.

Perhaps most impressively, Africa has 60 per cent of the world's total amount of uncultivated, arable land (around 600 million hectares).⁷² This at a time when the International Institute for Applied Systems Analysis in Switzerland projects that new global demand for land could amount to more than 500 million hectares by 2030 – about the size of the Indian subcontinent. While this 'excess' land is likely to suffer negative impacts from climate change,⁷³ its use could influence the balance of payments related to food because, despite its millions of hectares of unused land, Africa spends \$20 billion each year buying food. Currently most countries are net food importers.⁷⁴

Agriculture

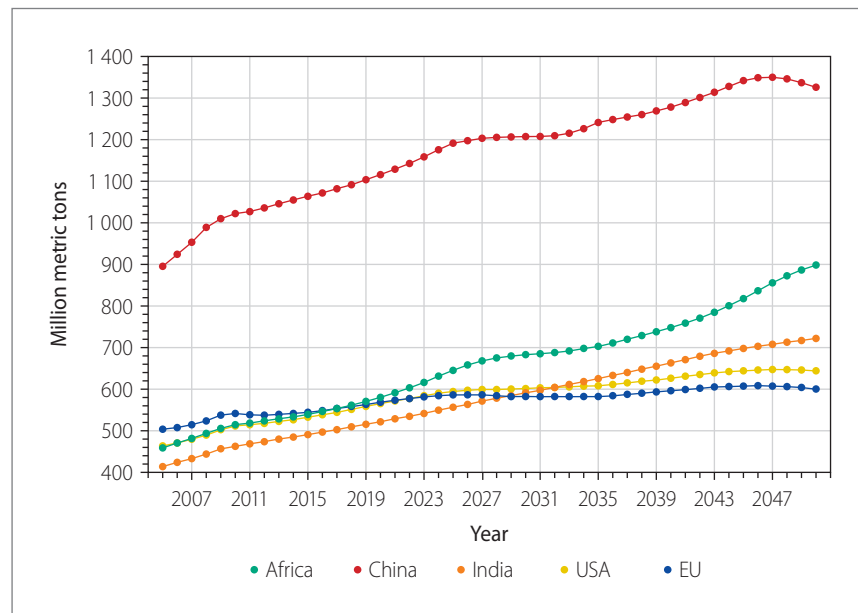
In 2003, the New Partnership for Africa's Development (NEPAD) and the African Union (AU) conceived the Comprehensive Africa Agriculture Development Programme (CAADP) – recognition that agriculture is central to the alleviation of poverty and hunger in Africa. Both official development assistance (ODA) and private investment had fallen dramatically in preceding years and there was a need for Africa itself to commit to funding agriculture as well as for external partners to increase support. The total investment needed to 2015 was estimated at \$251.3 billion. Of this, around \$141 billion would be capital investment, almost \$69 billion for operation and maintenance, and \$42 billion for safety nets, food and emergency relief. It was anticipated that Africa would finance no less than 55 per cent of the total (\$104 billion) and that the private sector would provide \$44 billion from domestic sources (\$27 billion) and foreign direct investment (FDI) (\$17 billion).⁷⁵

Subsequent years saw a number of initiatives such as the special summit in Abuja in June 2006 that launched an African green revolution. Fertiliser was declared a strategic commodity and steps were to be taken to increase its use, reduce costs and enhance farmers' access to it. Accelerated investment in infrastructure, targeted subsidies, national financing facilities, and regional procurement and distribution facilities were to be put in place, and an African fertiliser development financing mechanism established.⁷⁶ A 2010 review of progress found, however, that rollout was disappointing. By CAADP's own admission, planning and implementation was slow and ineffective and its contribution to the sector minimal.⁷⁷ The AU and the NEPAD agency have sought to re-energise this key initiative and the success of a country such as Malawi, which has moved from net food importer to exporter in a few years, has reenergized agricultural renewal as has developments in Rwanda, where agricultural production has grown by 13 and 17 per cent per year over the last two years.⁷⁸

Brazil has shown how dramatically an integrated systems approach and help from active government-sponsored, research organisations can transform tropical agriculture.⁷⁹ In Africa, the agricultural sector employs 70 per cent of the labour force, and provides 50 per cent of exports and 30 per cent of GDP.⁸⁰ Transformation in the sector will have massive consequences for the continent.

Although much potential agricultural land in Africa receives less rain than that in Brazil, there are many similarities with the nutrient-poor and, until

Figure 3.9 African food production in global context



Source IFs base case version 6.37.

recently, not extensively cultivated regions of that country. With technology transfer, interest from China and the Middle East, among others, in African production potential, high current food prices and growing domestic capabilities (and currently low yields and land use), the time may be ripe for considerable expansion of crop production. The potential is evident from basic statistics – Africa uses 8 kg of fertiliser per hectare compared to 150 kg elsewhere; moreover, only 3,5 per cent of its arable land is irrigated.⁸¹

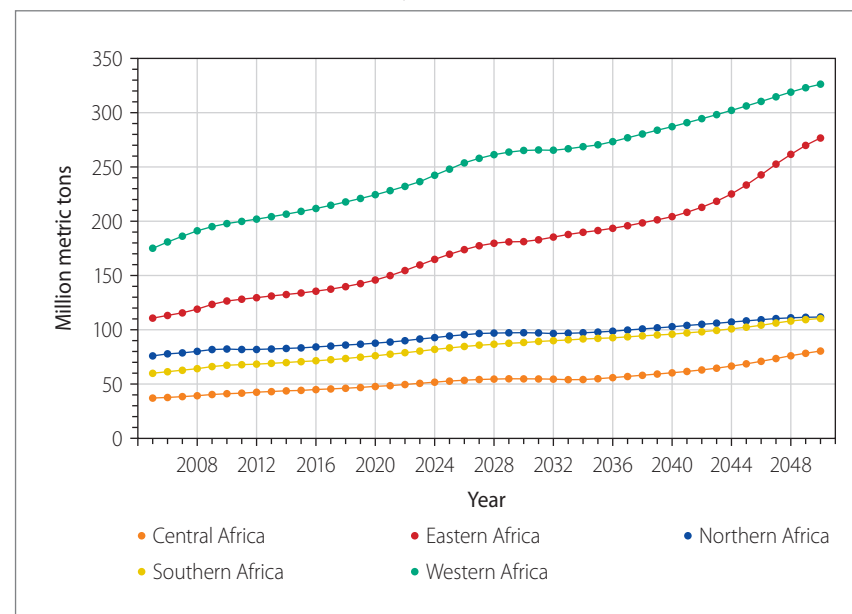
In contrast to experience in the rest of the world, the very moderate improvements in agricultural production on the continent in recent years appear to be based on area expansion, not greater productivity. As a result, African farm yields are among the lowest in the world. According to the World Bank, the average African farmer in sub-Saharan Africa produces only one ton of cereal per hectare, less than half of what an Indian farmer produces, less than a fourth of a Chinese farmer’s production and less than a fifth of an American farmer’s production.⁸² Relative to most other regions, cereals are less important, and millet, sorghum, maize and cassava much more widely cultivated.

Figure 3.9 suggests some of Africa’s growing potential in crop production. Because of the intensity of its farming, China now produces considerably more than other countries and regions. But the greatest agricultural growth in the world through mid-century is very likely to be in Africa, where total output should outstrip that of the EU and the US in the coming decades.

In Africa, the greatest potential for growth of food production is in the eastern, western and central regions. Building on the considerably underdeveloped potential of countries like Nigeria, the first two regions are most likely to manifest that potential (see Figure 3.10), but given the huge potential of the DRC, Central Africa could surprise us and grow very rapidly.

Two counterintuitive findings in the literatures on African agriculture are important in understanding its vast untapped potential. First, contrary to most expectations, agricultural production in Africa is generally not limited primarily by absence of water/drought, but by poor soil fertility. Second, inadequate access to labour, markets, credit and technology also means that in many cases, smallholder farms are more productive than larger units that should

Figure 3.10 African food production by region



Source IFs base case version 6.37.

have great potential.⁸³ Both factors are amenable to relatively cheap corrective interventions.

Critical uncertainties around food security from climate change

Agriculture will be affected particularly by changing and increasingly variable climate (including increasing temperatures and more irregular rainfall). Of these factors, rising temperatures are likely to have the most significant negative effect on agricultural production. Many crops are already at their tolerance limits for high temperatures, a problem that will be exacerbated by the increasing (already observed) variability of rainfall. Uncertainties regarding the future status of agriculture include the utilisation of the water endowment for irrigation (likely, but which will evolve slowly) and the effect of carbon fertilisation on crop growth, as well as the possibility of new cultivars and genetically modified organisms (GMOs) that are temperature tolerant (likely, but with long development lead times).

At one level, Africa does not have a shortage of water since the amount of water available to the continent is comparable to that in other regions of the world. As discussed elsewhere, Africa's share of global population is, however, set to increase dramatically in the years ahead, and together with the impact of climate change and current lack of infrastructure, the continent will face severe water shortages in future decades. Furthermore, Africa's water endowment conceals the fact that rainfall across much of the continent is highly variable and unpredictable, both between and within years. This is most pronounced in Eastern and Southern Africa. These regions experience year-to-year variations exceeding 30 per cent around the mean, a rate much greater than the temperate climates in Europe and North America. High seasonal variability compounds these effects, causing droughts and floods.⁸⁴ High inter- and intra-annual rainfall variability explains the unpredictable, and relatively low, seasonal and annual flows in many African rivers.

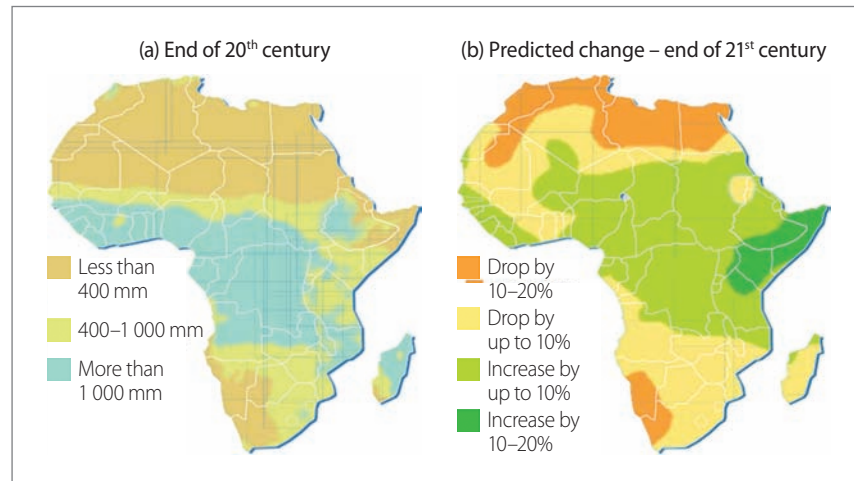
Climate change will affect Africa more significantly than most other regions due to its already warm climate, inconsistent rains, generally poor soil, extensive floodplains, predominantly rain-fed agriculture and poor governance with limited coping capacity. Warming will occur across the continent (and the extent of warming in Africa is expected to exceed global averages substantially),⁸⁵ with

the sub-tropical zones becoming more arid, and desertification continuing in the Sahel. Precipitation decline will thus be especially great in Northern and Southern Africa. Northern Africa already faces severe water stress, typically defined as using more than 40 per cent of annual renewable supplies; in fact, it uses more than 80 per cent, drawing heavily on fossil water supplies (underground aquifers with little recharge), particularly in Libya where the country initiated the Great Man-Made River Project in the 1980s, an epic system of pipes, reservoirs, and engineering infrastructure that will eventually move 6.5 million cubic meters of water every day.⁸⁶

Around 200 million people in Africa currently suffer from water stress and 13 per cent of the continent's population experiences drought-related stress once every generation. During 2010, 17 African countries were considered to be in a protracted food crisis due to recurrent natural disasters and/or conflict, several years of food crises, breakdown of livelihoods and insufficient institutional capacity to react to the crisis. Of these, almost two thirds of the total undernourished population can be found in Chad, Côte d'Ivoire, Ethiopia, DRC and Zimbabwe. Droughts have increased from once a decade to one every two or three years.⁸⁷

The recent comprehensive assessment of Africa on climate change and security by the Africa, Climate Change, Environment and Security Dialogue Forum (ACCES) found, in summary, that Burundi, Chad, the DRC, Republic of Congo, Kenya, Ethiopia, Niger, Nigeria and Sudan are the most vulnerable countries in Africa in the context of climate change and security, and that the Sahel region (stretching from Dakar in the west to Mogadishu in the east) is the most threatened region in the continent. These findings are the result of individual country analyses that relate to climate-induced water, food and energy shortages. Most environmental migration and displacement threats related to climate change are expected to occur in Eastern Africa, and the region in Africa most at risk of natural disasters from floods and drought is the Sahelian countries. Chad and Niger could potentially lose their entire rain-fed agriculture by 2100 due to changing rainfall patterns and degraded land, with severe reductions in cereal crops in Mali.⁸⁸

Clearly vulnerability to the impact of climate change varies from country to country and from village to village and it is important to bear in mind that Africa is a relatively water-rich continent by comparison with others. In fact, in one scenario, the continent could triple the irrigated area by 2050, greatly

Figure 3.11 Precipitation change comparing end of 20th century with end of 21st century

Source Oli Brown and Alec Crawford, From climate change and security in Africa, a study for the Nordic-African Foreign Ministers Meeting, March 2009, 15, available at <http://www.iisd.org/publications/pub.aspx?pno=1093> (accessed 14 September 2010)

increasing food production and decreasing imports.⁸⁹ Today, only 3,5 per cent of Africa's agricultural land is equipped for irrigation, some 7 million hectares concentrated in a handful of countries.⁹⁰ Africa lacks the means to manage and distribute its resources, more resilient and productive agricultural practices, information production and dissemination, and the ability to link production with markets – challenges that developmental initiatives can alleviate. Figure 3.11 highlights the diversity of water endowments and possible changes over the next 100 years. Northern and Southern Africa are likely to experience an increase in their levels of water stress.

Changes in the availability of water will not affect just African agricultural systems, but also its migration patterns and sociopolitical stability. By 2100, shifting sands could be blowing across huge tracts of land in Botswana, Angola, Zimbabwe and western Zambia. For pastoralist communities, forced migrations in search of water and pasture have already exacerbated resource-based conflicts. According to a recent report by the United Nations High Commissioner for Refugees (UNHCR), climate change is now one of the leading causes of the global rise in refugees, whose numbers grew to 11,4 million in 2008. According to the International Red Cross, climate change disasters are now a bigger cause of population displacement than war.⁹¹

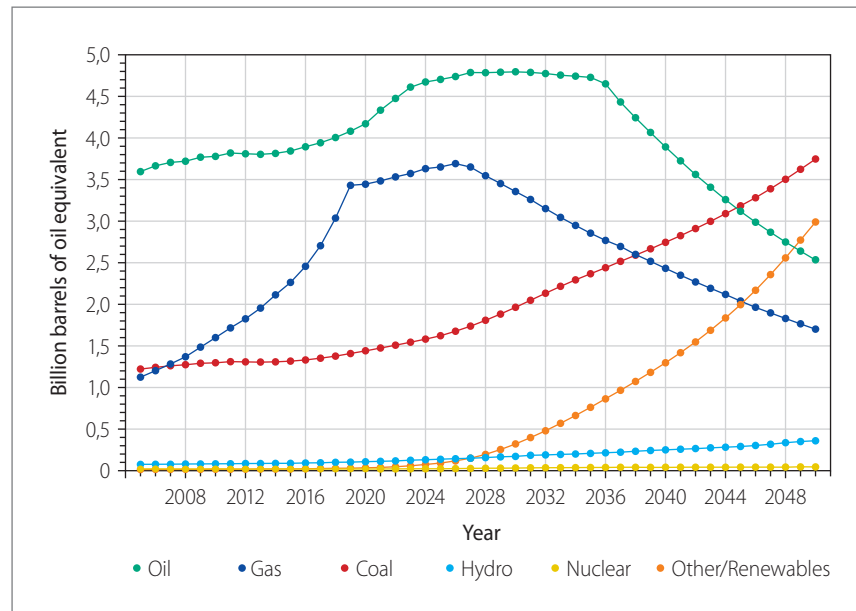
Energy

Africa consumes only 3 per cent of global commercial energy, the lowest continental contribution in the world, and it contributes a similarly measly 3,8 per cent of global greenhouse emissions – much of this coming from South Africa and its reliance upon coal for electricity. Approximately 90 per cent of African households use biomass fuels (ie wood and vegetation) for cooking and heating of water. But as with its relatively abundant water, Africa is not energy poor – it simply exports the vast bulk of the sub-soil natural resources that it extracts. It does so while 500 million people in sub-Saharan Africa live without electricity, and while Africa uses a fraction of its full hydropower potential and even less of its huge solar, wind and geothermal resources.⁹²

More than 90 per cent of African oil reserves (and production) are located in Libya, Nigeria, Algeria, Angola and Sudan. According to BP 2009 statistics, Africa's proven oil reserves rose from 59,1 billion barrels in 1989 to 127,7 billion barrels in 2009, a 9,6 per cent share of total world reserves.⁹³ In 2008, Exxon Mobil sourced 30 per cent of all its liquids production from Africa; Shell sourced 12 per cent of its global oil and gas production from Nigeria alone and Eni produced more than half of its 1,8 million barrels a day of oil from Africa.⁹⁴

The US Energy Information Administration (EIA) suggests that West Africa may become an important non-OPEC oil-producing region within a decade. Substantial growth in natural gas production is also projected for Africa. In 2007, 77 per cent of Africa's natural gas was produced in North Africa, mainly in Algeria, Egypt and Libya. West Africa accounted for another 20 per cent of the 2007 total, although future production potential appeared higher in West than in North Africa. On the other hand, the most recent assessments of world coal reserves includes a substantial downward adjustment for Africa based on a new estimate for recoverable reserves in South Africa.⁹⁵

Given the many uncertainties created by uncertain fossil fuel endowments, volatile global prices and high investment costs, it is always risky to forecast long-term energy futures. According to the EIA, by 2035, '...fossil fuels are expected to continue supplying much of the energy used worldwide. Although liquid fuels remain the largest source of energy, the liquids' share of world marketed energy consumption falls from 35 per cent in 2007 to 30 per cent in 2035, as projected high world oil prices lead many energy users to switch away from

Figure 3.12 African energy production by type

Source: IFS base case version 6.37.

liquid fuels when feasible.⁹⁶ Based on an annual rate of 3,6 per cent economic growth the EIA estimates that energy consumption will increase by 63 per cent in Africa from 2007 to 2035.⁹⁷

The IFS model, in Figure 3.12, shows one general possibility for future production levels by energy type across the continent to 2050. It shows the peaking of both oil and natural gas production sometime around 2030 (different ultimate fossil resource estimates would change the magnitude and timing of the peak, but not its occurrence). Nigeria and Libya are likely to have the highest and latest peaks, probably near 2040. For the continent as a whole (and barring significant and prolonged oil price rises), the value of energy exports as a portion of GDP is likely to decline steadily, from about 15 per cent currently to about 6 per cent by 2050.

Very significant energy discoveries in recent years have greatly increased the oil and gas reserve base and production level of many countries in the continent, although vast swathes of the continent remain, literally, in the dark. In brief, the potential domestic African energy market is huge and untapped, and extended

access to electricity must be a high priority. This can happen quite rapidly with strong economic growth and targeted government programmes. In Vietnam, for example, the government's rural electrification programme increased access to power from 51 per cent of rural households in 1996 to 95 per cent by the end of 2008.⁹⁸

While alternative sources of energy including renewable energy sources contribute an insignificant amount (currently less than 2 per cent of Africa's current energy supply), the projected peaking and gradual decline of fossil fuel based energy sources means that Africa will need to diversify its sources of energy to other, cleaner energy options. South Africa and Kenya are considering nuclear energy as well as wind and solar, Sahelian countries have wind and solar energy options, and several countries have important geothermal potential. By one estimate, only 7 per cent of potential hydropower resources are now being used; the DRC alone has huge potential, including the Grand Inga Dam project, which could generate twice as much power as China's Three Gorges Dam.⁹⁹

Is diversification underway and economic growth sustainable?

In spite of the continuing importance of agriculture, energy and other raw materials, Africa's growth acceleration has resulted from more than simply the resource boom. It reflects structural improvements in the management and composition of African economies. The McKinsey authors argue that telecom, banking and retail are flourishing, construction is booming and foreign investment is surging.

Natural resources, they note, have accounted for just 24 per cent of Africa's GDP growth since 2000. Arguably more important were government actions to end political conflicts (reflected in the greater activism by African institutions such as the AU and the associated reductions in open armed conflict), improved macroeconomic management and efforts to create better business climates (according to the World Bank, in 2009 Rwanda was the most improved country in which to do business). These developments enabled growth to accelerate broadly across countries and sectors as African inflation has been reduced from an average of 22 per cent during the 1990s to 8 per cent in the 2000s, government debt reduced by 28 per cent in the same period and budget deficits been

brought under control.¹⁰⁰ In fact, for all the demonisation of structural adjustment programmes, Africa may be reaping the benefits of the pain so brutally inflicted in past decades.

The downside of this positive news is that, despite its admirable headway, Africa mostly exports raw materials as opposed to processing them internally before either exporting or consuming the end product. The continent's over-reliance on raw material exports reflects Africa's underdeveloped manufacturing sector (with the exception of South Africa), which is significantly smaller (about 20 per cent in IFs analysis) than the collective contribution from agriculture and services,¹⁰¹ and about half the share of the sector in China. There is still much work to be done to enable economic transformation that will enable sustainable growth.

ECONOMIC TRANSFORMATION: CRITICAL FOUNDATIONS

Just as economic growth of the magnitude forecast earlier cannot occur without economic transformations, critical investments are required for these transformations. Among them are the human capital developments discussed earlier – considerable advances in primary education, literacy and higher education, and substantial progress in eradicating communicable diseases, with increased attention on the growing chronic disease burden. Yet there are additional foundations considered key to Africa's future: infrastructure development and the continued integration of African economies on the continent and with the wider world.

Infrastructure¹⁰²

Africa's infrastructure needs are broad-based and current investment levels are far below those required. During 2010, the World Bank, on behalf of the Africa Infrastructure Country Diagnostic project, published its first comprehensive report on the situation in 24 African countries that together account for 85 per cent of the GDP, population and infrastructure aid flows of sub-Saharan Africa. Based on extensive fieldwork across Africa, the report found that:

- Infrastructure has been responsible for more than half of Africa's recent improved growth performance and has the potential to contribute even

more in the future. Most of this growth, in turn, came from advances in the penetration of telecommunication services as discussed below. For most countries, the negative effect of deficient infrastructure is at least as large as that of crime, red tape, corruption and financial market constraints.

- Africa's infrastructure networks increasingly lag behind those of other developing countries and are characterised by missing regional links and stagnant household access.
- Africa's difficult economic geography (low overall population density, rapid urbanisation, large number of landlocked countries and numerous small economies) presents a particular challenge for the region's infrastructure development.
- Africa's infrastructure services are twice as expensive as elsewhere, reflecting both diseconomies of scale in production and high profit margins caused by lack of competition.
- Power is by far Africa's largest infrastructure challenge, with 30 countries facing regular power shortages and many paying high premiums for emergency power. After power, water supply and sanitation, and then transport are the most significant items.
- The cost of addressing Africa's infrastructure needs is around \$93 billion a year, about one-third of which is for maintenance (see Figure 3.13). This is significantly higher than previously estimated and around 15 per cent of the region's GDP.
- The infrastructure challenge varies greatly by country type – fragile states face an impossible burden and resource-rich countries lag despite their wealth. Meeting the needs of middle-income countries appears more manageable and the World Bank estimates that these countries should be able to do so with about 10 per cent of GDP.
- Domestic spending on infrastructure in Africa is higher than previously thought (at around \$45 billion per year) and comprises the larger share with the central government budget, which is the main driver of infrastructure investment.
- Even if major potential efficiency gains are captured, Africa would still face an infrastructure funding gap of \$31 billion a year, mainly in power.
- Africa's institutional, regulatory and administrative reforms have made considerable progress and, although they are only halfway along, are demonstrating their effect on operational efficiency.¹⁰³

Clearly, landlocked states need access to the sea to expand their choice of trade partners; large but sprawling populations require transportation networks that expand individuals' choices of where to live, work, shop and play; energy-starved populations, as discussed above, need access to electricity and fuels; rapidly urbanising peoples (as well as their rural cousins) need clean water and improved sanitation, and even poorer populations now demand access to modern telecommunications.

The World Bank report presents a picture of a continent in need of massive infrastructure investment, with associated opportunities (Figure 3.13).

Growth in income will almost certainly lead to growth in vehicle ownership and eventually to expansion of road systems. Modern transport in Africa is dominated by road transport, which accounts for more than 90 per cent of freight and passenger transport. Yet Africa has the lowest road density in the world. Only about 20 per cent of the highway network is paved, with few inter-connecting links between adjacent regions. The feeder-road network system is grossly insufficient. As a result, large parts of the population depend entirely on pack animals or human carriers for transport.

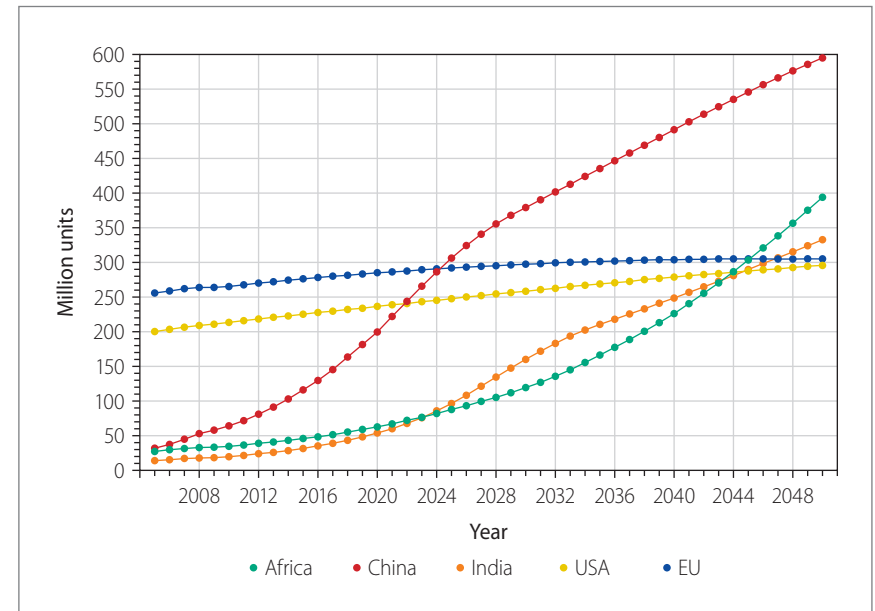
Historically individual vehicle ownership expands exponentially as incomes rise from \$5 000 to \$10 000 per capita (see Figure 3.14). China is now undergoing the most rapid expansion of vehicle numbers and will probably pass both the US and the EU in total numbers before 2030. Before long, vehicle numbers in South Asia and Africa will begin an almost inexorable rise, with numbers in Africa climbing to about 400 million by mid-century.

Figure 3.13 Required annual investment in African infrastructure in \$ billion

Sector	Capital expenditure	Maintenance	Total
ICT	7,0	2,0	9,0
Irrigation	2,9	0,6	3,4
Power	26,7	14,1	40,8
Transport	8,8	9,4	18,2
Water	14,9	7,0	21,9
Total	60,4	33,0	93,3

Source Vivien Foster and Cecilia Briceño-Garmendia (eds) Africa's infrastructure: A time for transformation, Africa Development Forum Series, Agence Française de Développement and the World Bank, Washington DC, 2010, 7, available at <http://www.infrastructureafrica.org/aicd/library/doc/552/africa%E2%80%99s-infrastructure-time-transformation> (accessed on 3 December 2010).

Figure 3.14 African vehicle ownership in global context

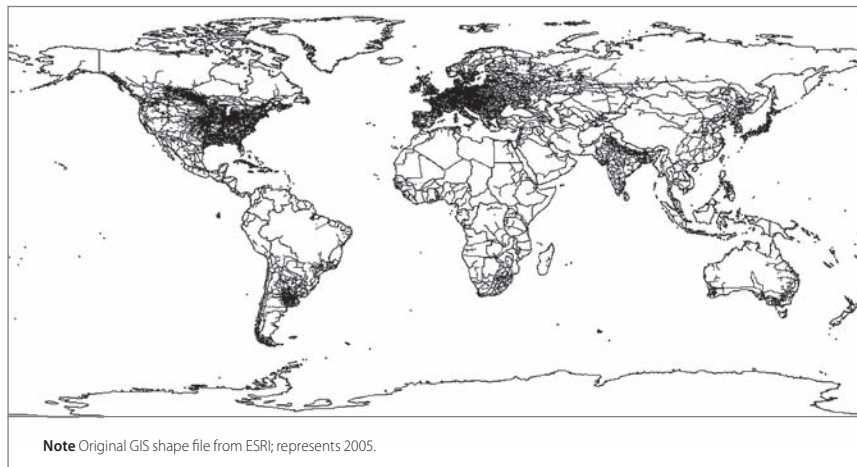


Source IFs base case version 6.37.

By definition, a transport chain is no stronger than its weakest link, often consisting of the transition points from port to rail or road. Steady progress has been made to improve the low density and poor condition of Africa's roads as well as linkages by air, although the latter remains expensive. According to the World Bank: 'Africa's national road density is substantially lower than that in other developing regions: only 204 km of road per 1 000 km² of land area, with less than one-quarter paved, compared with a world average of 944 km per 1 000 km², with more than half paved. That density is less than 30 per cent of the next-lowest region, South Asia. However, sub-Saharan African road density in relation to population is slightly higher than South Asia's and only slightly lower than the Middle East's and North Africa's.'¹⁰⁴

Port-rail links need to connect efficient ports with effective rail systems and roads. Africa's rail systems are significantly underdeveloped compared to those in South Asia, much less the US or Europe (see Figure 3.15). Moreover, 'Rail networks in Africa are disconnected, and many are in poor condition. ... Few railways are able to generate significant funds for investment.'¹⁰⁵

Figure 3.15 Current global rail systems



Source IFs base case version 6.37.

Economic development, particularly that of landlocked states in Africa, could be quickly accelerated by the provision of well-planned rail links. Mkoko¹⁰⁶ has also made the point that, ‘intra-African trade is an opportunity, because increased trade between countries creates a demand for better roads and railways and provides the wealth to build and maintain them’. Fortunately, African states and the AU are beginning to consider seriously the advantages of an African rail network.¹⁰⁷

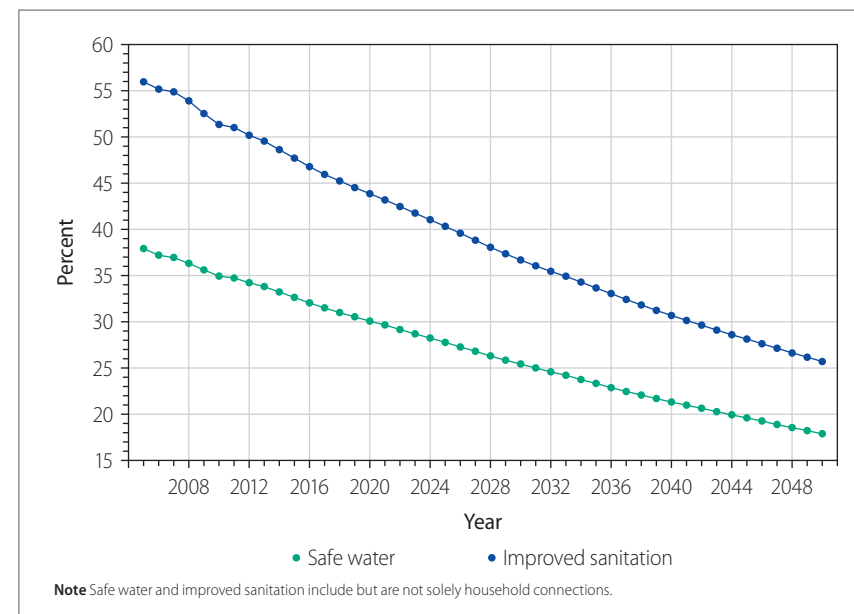
Water and sanitation are other forms of infrastructure that Africa needs to push forward aggressively, for both health and economic reasons. They are fundamentally important in efforts to lower under-nutrition, because episodes of diarrheal disease contribute greatly to that condition even when food supplies are adequate. Unfortunately, in 2050, it is likely that nearly 20 per cent of Africans will still lack safe water and more than 25 per cent will have no access to improved sanitation (see Figure 3.16). In general, water is the higher of the two priorities.

Electricity access rates and usage levels (see Figure 3.17) vary greatly in Africa now and will through mid-century. Contrast usage rates currently that vary from under 100 in Eastern Africa to about 2 000 kilowatt-hours per year in Southern Africa with a rate of about 14 000 in the US – in fact, South Africa alone accounts for about 70 per cent of sub-Saharan Africa’s total electricity use.¹⁰⁸

The current average usage rate in Africa as a whole (about 600 kilowatt-hours) is comparable to that in India, but in 2050, Africa on average is likely to be at about 2 000 kilowatt-hours per capita, compared to 4 000 in India. Reflected in the earlier section on energy, the sources of electricity production are difficult to forecast. Although there is considerable discussion and enthusiasm in Europe about the potential of solar energy, such as the Desertec Industrial Initiative to exploit solar and wind energy potentials in North Africa and the Middle East, the chances appear more likely that the continent will first exploit other, cheaper sources of energy.

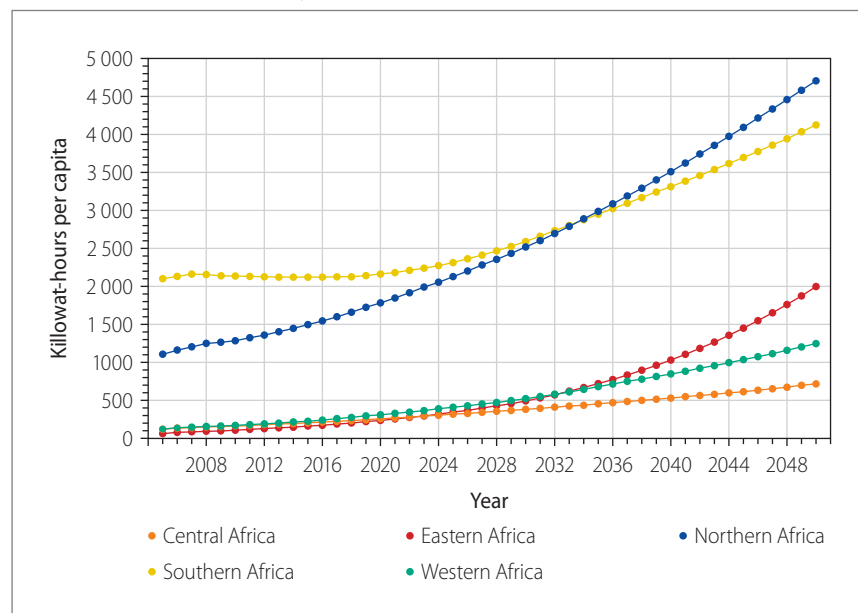
The EIA projects that electricity demand in Africa will grow at an average annual rate of 2,6 per cent to 2035. Of this the majority will continue to be provided by fossil-fuel-fired generation (which supplied 81 per cent of the region’s total electricity in 2007). Coal and gas-fired power plants will, by 2035, each provide 39 per cent of total electricity generated.¹⁰⁹ Against this background, off-grid and local electricity production have vast potential.

Figure 3.16 Percentage of people in Africa without access to safe water or improved sanitation



Source IFs base case version 6.37.

Figure 3.17 Annual electricity consumption in African regions



Source IFs base case version 6.37.

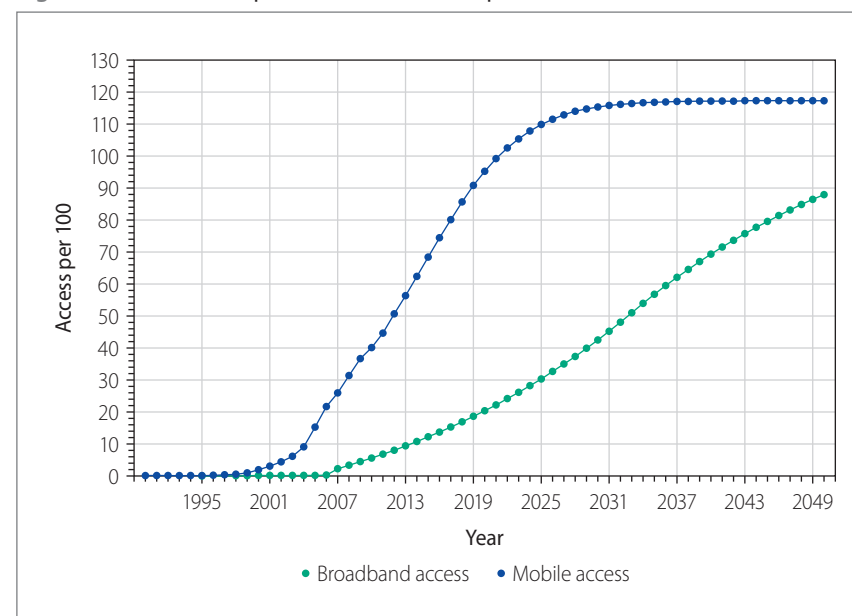
Historically, access to electricity was a constraint upon access to telephony and certainly to computer usage. Mobile telephones, including new generations that provide broadband access speeds to the internet through smart phones, are rapidly relaxing this constraint (but not completely eliminating it) as costs of handsets continue to fall. Moreover, the development of prepaid mobile services changed mobile phone usage from a niche product for businesspeople unaffordable for ordinary people to a mass product available to everyone – particularly in cash-based societies such as those of much of Africa. In fact, mobile telephony has become the standard example of how technology enables communities and even countries to leapfrog development in specific circumstances, particularly if accompanied by the liberalisation of telecoms markets and the issuing of licences to rival operators. The Middle East and Africa are expected to have the highest regional mobile data traffic growth rate in the world for several years to come.¹¹⁰ Already by 2009, Africa had more than 300 million mobile units and the next frontier has become the internet and broadband.¹¹¹

Beyond the potential impact of information technology (IT) on pressure for democracy and improved governance, fixed and mobile phone penetration rates

also have specific and increasingly well-documented economic advantages. On average, GDP grows between 0,7 per cent and 1,4 per cent for every 10 per cent increase in fixed lines, and an extra 10 per cent penetration of mobile phones increases GDP by around 0,8 per cent per annum.¹¹² Or, put differently in a special report by the *Economist* in September 2009, ‘adding an extra ten mobile phones per 100 people in a typical developing country boosts growth in GDP per person by 0,8 percentage points.’¹¹³ Thus, the rapid IT growth reflected in the forecasts of Figure 3.18 has a very positive impact in Africa in economic forecasts. Indeed, the World Bank report on infrastructure referred to earlier found that ‘Across Africa, infrastructure contributed 99 basis points to per capita economic growth from 1990 to 2005, compared with 68 basis points for other structural policies....That contribution is almost entirely attributable to advances in the penetration of telecommunication services.’¹¹⁴

Beyond their direct impact on economic growth and prosperity, internet and mobile phones have become tools for social transformation. Small-scale farmers link up with markets, citizens can report (and video) instances of

Figure 3.18 Mobile telephone and broadband penetration in Africa



Source IFs base case version 6.37.

abuse; election officials can report results instantaneously (also, observers can document and submit instances of electoral abuse) and citizens can identify instances of crime. Shoppers in Dubai have been able to post photographs on the internet of the latest luxury purchases by African leaders (such as happened regularly with the wife of President Robert Mugabe of Zimbabwe) as well as the alleged money-laundering perpetrated by family relatives and other close associates of Equatorial Guinea's President Teodoro Obiang Nguema Mbasogo to a wide audience.¹¹⁵ Simply, it has become more difficult to hide and conceal, reflected most dramatically in 2010 by the release of thousands of confidential US government and private sector correspondence by the website Wikileaks.

The impact on elections, government accountability and potentially on the spread of democracy has been profound. For example, after no candidate received the required 50 per cent in the first round of presidential elections in Ghana on 7 December 2008, the runoff between former Foreign Minister Nana Akufo-Addo and former Vice-President John Atta Mills on 28 December saw 9 million votes cast, and resulted in fewer than 31 000 votes separating the winner from the loser (a margin of less than 0,4 per cent, with 73 per cent of registered voters voting). Despite a history of coups and social turbulence, the country and the region accepted the win by John Atta Mills. The reason for this unprecedented transition was that civil society had been able to harness new technology and digital media to place 4 000 trained election monitors armed with mobile phones and an SMS (short-messaging service) based coding system to check, report and tabulate results. In addition, a parallel civil society system during the campaign involving citizen blogging and interactive online resources, was able to verify official tallies and deliver a highly credible result.¹¹⁶ This pattern has been emulated in various forms across the continent, reducing the ability of incumbents (and others) to manipulate and distort results to their own advantage.

Africa is getting connected at a rapid pace and in some areas (such as pre-paid mobile phones) its ICT sector pioneered developments in the rest of the world. According to a comprehensive study on the *Futures of Technology in Africa* by the Netherlands Study Centre for Technology Trends, 'two megatrends are already emerging that will change the face of Africa for ever. First, mobile money will change the economy. Second, geo-location applications will revolutionize navigation, tracking and tracing.'¹¹⁷

Regional economic integration¹¹⁸

Much rhetorical attention is paid to pan-Africanism and the requirement for African unity. Largely a political concept, key leaders have pursued the economic integration of the continent in various ways, often confusing political solidarity with economic reality. The OAU Charter of 1963 and the Constitutive Act establishing the AU of 2000 define regional integration as one of the foundations of African unity. The Lagos Plan of Action and the Abuja Treaty elaborate the specific economic, political and institutional mechanisms for attaining this goal. The adoption of the more recent NEPAD provides an overall development framework for the continent, which assumes regional integration as one of its core objectives. But while it may appear as if African leaders are committed to continental integration, important blocks, SADC in particular, have resisted each effort at continental integration and the continent is sharply divided between those who favour an approach based on subregional integration during a first phase and those who argue in favour of a top-down, continental approach. Stripped of rhetoric, these are actually debates about economic versus political approaches to African integration.

Regionalism has become an important trend in the modern world – a trend generally following the precedent set by the six nations that established the Treaty of Rome, which became the European Economic Community in 1957 and, through the 1993 Treaty of Maastricht and the subsequent Lisbon Treaty, the EU. Today the EU combines 27 countries, with others, most notably Turkey with its 72 million people, knocking on the door. The debate about European partnership arrangements (EPAs) is whether sustainable growth for Africa comes through exports to the world market, or by building up subregional markets. Africa needs to decide which model to pursue in the immediate future, but will eventually have to do both.

There can be little doubt that globalisation has given particular impetus to regionalisation and that Asian regionalisation will quite probably be a reality by 2025. In the absence of a global free trade regime, the development of three trade and financial clusters – North America, Europe and East Asia – will have global implications. Regional clusters could compete in the setting of trans-regional product standards for IT, biotechnology, nanotechnology, intellectual property rights and other aspects of the 'new economy'. Africa will have to decide how and where it intends to pursue its future relative to these three clusters.

Recent African political history has often pursued the political vision of a pan-African identity, institutionally embodied in the OAU established in 1963 (and today in the AU). Continental African unity, has, however, always been more a reaction ‘against’ rather than an initiative ‘towards’. Economics and not politics are driving global agendas in a post-Cold War world where romantic visions hold little sway if they do not translate into greater efficiencies and economic benefits.

The advantages of regional integration in Africa were recognised even before the creation of the OAU. The Southern African Customs Union (SACU) is the oldest customs union in the world, having recently celebrated its centenary, but has little to show for its longevity. The Southern Rhodesia Customs Union was established in 1949 and the East African Community (EAC) in 1967. Both failed, although a new effort is being made with the latter. But while the intentions behind these early efforts to promote regional integration may have been genuine, the impact of Africa’s first regional economic communities was limited and halting at best.

Creating larger regional markets could consolidate the many small markets that exist today, and increase competition and specialisation, enabling a more efficient allocation of goods, capital and resources. Greater regional integration of some sort is a prerequisite for African growth and development. Economic integration in the form of regional markets for goods, services, capital and labour, including common standards and lower reciprocal customs barriers, will create larger and more interesting markets for both African and international investors and manufacturers. Deeper economic integration should also include physical and economic infrastructure (as discussed above) and the free movement of labour.

Individually, African economies are too small and nations have to integrate with their neighbours, particularly in West Africa. The economically smallest 79 countries in the world in 2010 all had a GDP of less than \$10 billion – 36 of those countries are in Africa. In Africa, only nine countries had a GDP of more than \$20 billion.

According to the McKinsey Institute:

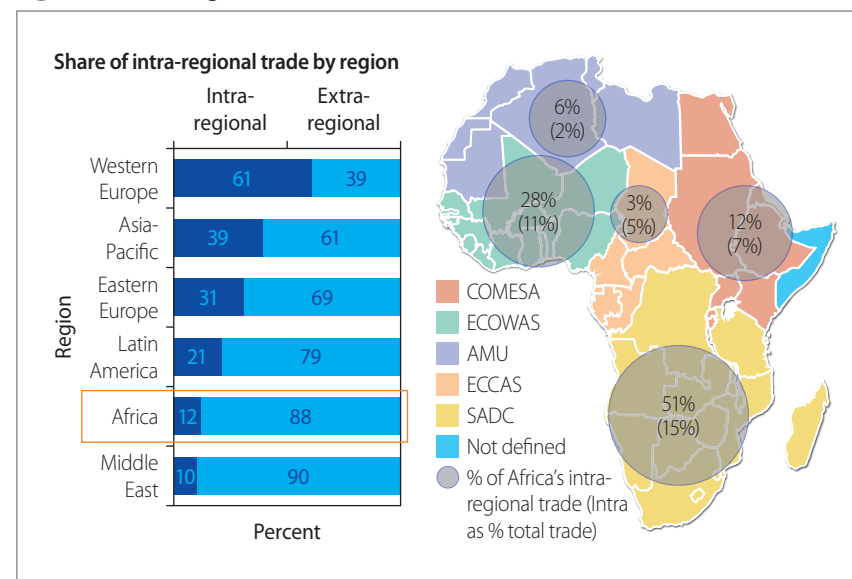
One reason for Africa’s low level of regional trade is that many countries export resources and import manufactured goods. Also, costly trade policies, including tariffs, product standards, custom duties and trading rules inhibit intraregional trade. African trade tariffs, for example, are among the highest in the world ... Poor infrastructure combined with cumbersome bureaucratic procedures also result in significant delays, adding to the costs.

... Moreover, 40 per cent of the sub-Saharan African population lives in landlocked countries with the lowest road densities in the world. As a result of all these factors, Africa’s costs of trade are double those of comparable emerging markets and act as a major obstacle to intraregional trade.¹¹⁹

Intra-African trade has remained low. Considering merchandise exports, total intra-African trade is still below 10 per cent, although this figure rises to about 22 per cent if oil is excluded. Figure 3.19 indicates that intra-African trade remains low compared to that of other regions, with only the Middle East having a lower share of intraregional trade.¹²⁰ However, intra-African trade in agriculture and manufacture has reached twice the level of overall trade. Therefore, a solid basis exists upon which intra-African trade could be deepened, especially through development of regional value chains.¹²¹

Politically, the AU recognises eight regional economic groupings, although it is possible to count up to 14 overlapping economic communities on the continent, ranging from the 19-member Common Market for Eastern and Southern Africa (COMESA) to the three members of the Manu River Union. Some regions, notably

Figure 3.19 Intraregional trade flows



Source McKinsey Global Institute, Lions on the move, 25.

Southern, West and East Africa, are now moving steadily towards integration. The most promising vehicles for such integration are ECOWAS on the one hand and SADC, COMESA and the EAC on the other. Thus the launch of a SADC free trade area in 2008 was an important stepping stone towards the SADC common market envisaged by 2015 and a common currency by 2018. ECOWAS has similar ambitions. Trade between EAC countries has jumped by nearly 50 per cent since 2005¹²² and, in 2010, the EAC established itself as a common market.

Beyond trade advantage, other considerations increase the demand for new, integrated regional approaches. One is the need for the management of shared resources, particularly water. Africa has more than 60 transboundary rivers, with many countries sharing the same basin. International river basins cover more than 60 per cent of the continent, and virtually all the region's rivers cross several borders: the Nile crosses ten, the Niger nine, the Senegal four, and the Zambezi eight. Shared water resources require investment in transboundary water management capacity and institutions, even if they also offer opportunities for joint action and cooperation. Crossborder rivers also have implications for regional security and development, as the continent tries to develop and manage its water resources for economic development. This is most obvious in the concerns related to the management of the Nile and the dispute between Egypt, Sudan, Ethiopia and others.¹²³

Expanded global connections

Even with expanded regional connections and continent-wide connections (specifically those of infrastructure, trade, finance, people and institutions), African development requires enhanced and diversified global integration. Such development and integration will inevitably be led by the private sector (with more and more involving south-south trade). As the World Bank noted recently, when releasing its draft strategy for Africa:

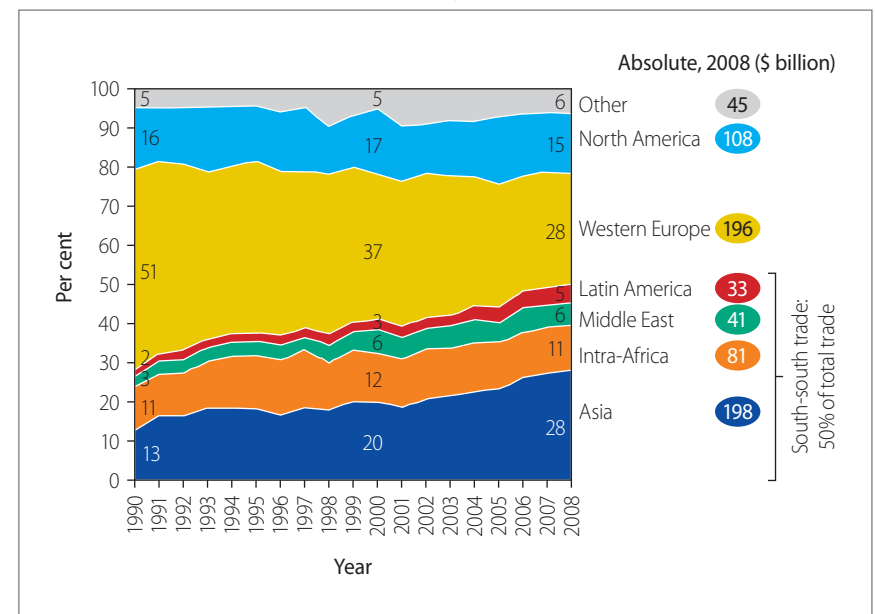
...Africa's private sector is increasingly attracting investment, with much of the funding coming from domestic banks and investors. Returns on investment in Africa are among the highest in the world. Success of ICT, especially mobile phone penetration, shows how rapidly a sector can grow. Private capital flows are higher than official development assistance (and foreign direct investment [FDI] is higher than in India). China, India and others are investing large sums in Africa.¹²⁴

Trade among developing nations has accelerated by 23 per cent per annum since 1999, compared to a global average of 12 per cent. That among the BRIC countries is even higher.¹²⁵ South-south ties are strengthening and today a quarter of China's exports to developing countries are destined for Africa.¹²⁶ As the BRICs rise, they are dragging Africa along with them, for the continent has been able to maintain its relative trade position with all four.¹²⁷ Indeed, BRIC-Africa trade has increased eightfold, from \$22,3 billion in 2000 to \$166 billion in 2008, and BRIC's share of Africa trade increased from 4,6 per cent in 1993 to 19 per cent in 2008.¹²⁸

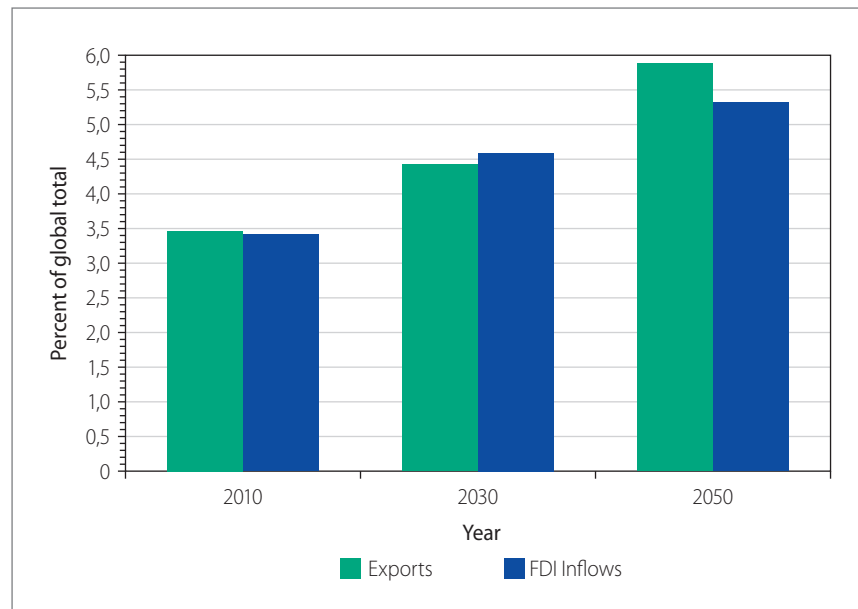
Promisingly, the narrative of the BRICs has only just begun. According to Freemantle and Stevens writing on behalf of Standard Bank: 'Africa's trade with China and India is likely to reach \$500 billion by 2013 and BRIC-Africa trade will reach several trillion by 2030, accounting for 45 per cent of Africa's total trade in 20 years.'¹²⁹

Figure 3.20 indicates the extent to which south-south trade is increasing as a component of Africa's total trade relations and the relative component of African trade with Western Europe declining.¹³⁰

Figure 3.20 Composition of African trade by trading partners, 1990–2008



Source McKinsey Global Institute, *Lions on the move*, 15

Figure 3.21 African share of global exports and FDI inflows

Source IFS base case version 6.37.

It is not just south-south trade that is flourishing and will further expand Africa's global connections. While in 2008, Africa's total external trade of \$1 trillion accounted for only 3,1 per cent of world trade, it has doubled since 2002. The McKinsey report also notes that total capital flows to the continent increased from just \$15 billion in 2000 to a peak of \$87 billion in 2007, surpassing both aid and remittances in scale. FDI, one component of the total, increased from \$9 billion in 2000 to \$62 billion in 2008 – almost as large as the flow into China, when measured against GDP. Most important, the rate of return on foreign investment in Africa is higher than in any other developing region.¹³¹

Since 2000, Africa's relative and absolute share of global FDI has increased, peaking at \$514 billion in 2009. In other words, much like international trade, Africa's global integration has accelerated in recent years – and given the low levels of savings on the continent, this is crucial in generating economic activity.¹³²

Not surprisingly, Africa's role in the world economy, with respect to both trade and financial flows, will also continue to increase quite steadily in the

coming decades. Figure 3.21 suggests that its share of global trade and global foreign direct investment inflows will roughly double by 2050.

CONCLUSION

African economic growth, although highly variable by region and country, is mostly accelerating. Moreover, economic transformations, including diversification of economies away from raw materials, are slowly underway. However, Africa desperately needs to – and can – reform its agriculture models and expand its yields.

Among Africa's greatest needs are significantly expanded and improved infrastructure, attention to regional integration and increased linkages with the global economy. Connections with others are a common theme of these needs.

4 Sociopolitical change¹³³

Focus on the quality of African governance has become intense in recent years, with analysts routinely arguing that it must improve as a precondition to successful broader development. But what is governance and what are the relationships between it and development? Some view governance broadly in terms of democratisation (including participation in and competitiveness of elections) and the protection of the rights of all, regardless of ethnicity, religion or sex (Scandinavian countries are good exemplars). Others look to indicators such as the rule of law and the absence of corruption (e.g. Singapore). Certain analysts focus heavily on the efficiency and quality of policies, including the ability of governments to limit violent domestic conflict and to improve rapidly the broader wellbeing of citizens (many now look to China, as in the 1980s they looked to Japan).¹³⁴ Each of these perspectives can be useful when considering the recent trajectories and future prospects in Africa.

Across the continent, polling data indicate wide support for democracy. While this support has not driven dramatic and consistent moves to democracy, it does indicate that shifts to more representative leadership are likely in the future. Democratic advance should increasingly help protect human rights and somewhat limit socioeconomic inequities across the diverse ethnic and religious

communities that make up the complex social fabric of African countries. So, too, will the related advance of non-governmental organisations (NGOs).

Empirical analysis typically does not, however, find that greater democracy increases economic growth. Instead, other aspects of better governance, including reduction of corruption and improvement in the rule of law, correlate more clearly with higher growth (although the direction of that relationship, normally understood to be from improved governance to growth, is also subject to challenge¹³⁵). Advance in quality of governance is apparent in recent years and will probably continue across the continent over the next 40 years.

Physical human security is fundamentally important to good governance and development, and the news and prospects are unfortunately mixed. Since 1990, militarised domestic violence has decreased noticeably. Multilateral institutions such as the AU and the UN have mitigated the outbreak and intensification of conflict through the use of peacekeeping forces. On the other hand, there are disruptive forces in store for the continent through 2050. Movements to urban areas may bring improvements in economic activity, but also can be destabilising. While militarised violence has decreased, crime has increased. The impact of the drug trade through West Africa will also have increasingly disruptive impacts. And again, climate change may give rise to increased migration and conflict.¹³⁶

DEMOCRATISATION

Public support and perceptions

Survey research shows that popular demands and support for democracy are widespread among the general public, particularly in African countries where governments have attempted political reforms.¹³⁷ Africans value democracy both as an end and as a means to improved government policies, performance and social wellbeing.¹³⁸ According to the recent World Bank strategy on Africa:

Although the payoffs to economic reforms fell during the global crisis, policymakers continued with prudent economic policies, even in the face of contradictory policies elsewhere – because the public demanded them. The voice of civil society is increasing, as evidenced by Uwezo on education in Kenya, citizen report cards in Ghana and the various groups demanding accountability for resource revenues.¹³⁹

Moreover, respondents to surveys see democracy in procedural as well as substantive terms. Popular understandings of democracy are based on liberal notions and include the protection of civil rights and liberties, participation in decision-making, rules for elections and electoral participation.¹⁴⁰ Africans, therefore, believe civil liberties are essential, central to their overall quality of life.

When asked to choose between different systems of government, most Africans support democracy and reject authoritarian regimes, particularly those characterised by one-party rule, military rule and strongmen.¹⁴¹ This appears to be a wholesale rejection of the failed political systems of the past.

Electoral behaviour shows encouraging signs of democrats at work. Relatively impressive turnout figures at elections across Africa indicate that citizens place a high value on political participation, despite often poor delivery. However, as can be expected, popular participation in flawed elections is slower to come. Yet popular and elite participation are increasing. Party elites, especially among opposition parties, are increasingly participating in elections as strategic boycotting wanes.¹⁴²

In spite of all the challenges, elections have become the norm, not the exception in Africa. In the 1960s and the 1970s, Africa averaged only 28 elections per decade. By the 1990s, this had increased to 65 per decade. Between 2000 and 2005 alone, African countries held 41 elections.¹⁴³ The importance of elections as means for power alternation was illustrated by Berouk Mesfin when he indicated that ‘the founding pillars of any democratic political system, whether considered fragile or established, remain undoubtedly elections, which can simply be taken as the most critical and visible means through which all citizens can peacefully choose or remove leaders’.¹⁴⁴

Moreover, the positive development of increased election numbers has been accompanied by a rise in free and fair elections. More elections achieve a minimum standard of democratic fairness, indicating that as countries in Africa hold more elections, the quality of the electoral process improves.¹⁴⁵ So while electoral legitimacy is still low, it is advancing; losers are more willing to accept outcomes of elections, and peaceful electoral events are more frequent.¹⁴⁶ This phenomenon more globally has led prominent scholars to ask whether a new mode of democratic transition is underway – democratisation by elections?¹⁴⁷ Some now argue that electoral processes are emerging as an important causal factor in the development of democracy.

Despite this widespread support for democracy, caution is advised about the depth of democratic attachments in sub-Saharan Africa.¹⁴⁸ Preferences for democracy coexist with pockets of authoritarianism. And total popular rejection of authoritarian rule is often incomplete or superficial. Thus, support for democracy is somewhat contradictory.¹⁴⁹ For instance, fewer than half the respondents (48 per cent) interviewed across 12 African countries can be described as ‘committed democrats’ in that they reject all three authoritarian alternatives (military, one-man and one-party rule) *and* support democracy.¹⁵⁰

Respondents’ perceptions about the actual supply of democracy in their countries also offer a more sober picture. Although most say democracy is the best form of government, relatively few are satisfied with the way it actually works.¹⁵¹ Citizens demonstrate disappointment with the supply of democracy and policy outputs by their governments, and disappointment with the performances of elected representatives.

In the short term, three key problems will continue to undermine the positive impact of elections on the democratisation process. An increasing number of elections – at least 25 per cent since 2000¹⁵² – have been affected by violence. Worse, some governments manipulate the terrorism argument as a justification for auto-legitimation through rigged elections, as in Mauritania after the 2008 military coup. Finally, although the number of elections may be increasing, the instances of political transitions from ruling to opposition parties remains limited, with a number of elections ending in stalemate and a negotiated government of national unity.

Democracy, past and future

According to Freedom House, Africa has seen notable increases in freedom over the past two decades, even though it has experienced some setbacks in recent years.¹⁵³ The average rating for Africa has improved from 5,7 to 4,5 from the early 1970s through 2009 (lower numbers are more democratic on the Freedom House scale).

In 1972, the first year for which Freedom House data are available, the measure identified three African countries as free and 31 as not free. The remainder were partially free. In 2010, the Freedom House evaluation of 53 African countries (based on the 2009 calendar year) categorised 9 as free and 19 as not free.¹⁵⁴ Table 4.1 summarises these results.

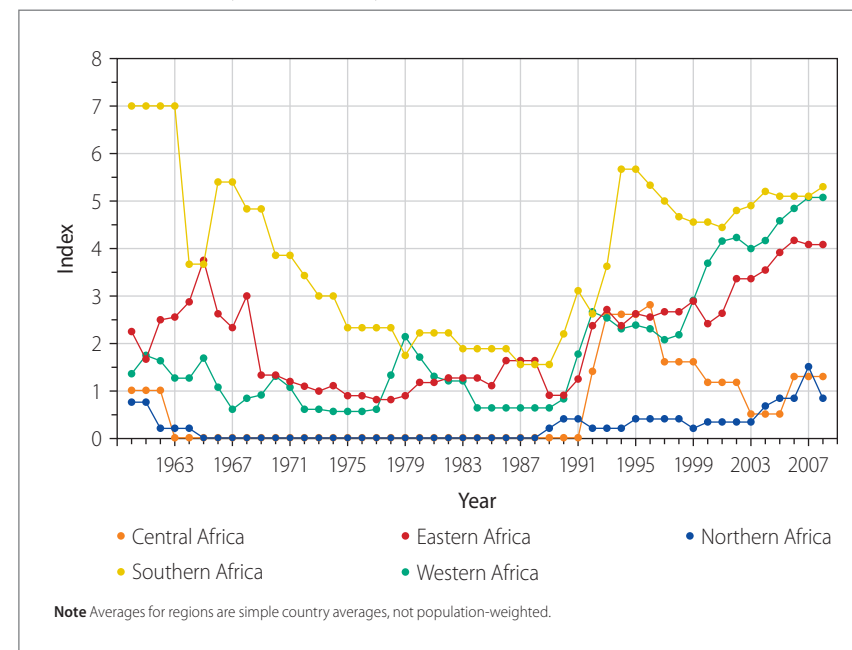
Table 4.1 Freedom in Africa 2009

Free	Benin, Botswana, Cape Verde, Ghana, Mali, Mauritius, Namibia, São Tomé & Príncipe, South Africa
Partly Free	Burkina Faso, Burundi, Central African Republic, Comoros, Djibouti, Ethiopia, The Gambia, Guinea-Bissau, Lesotho, Kenya, Liberia, Madagascar, Malawi, Morocco, Mozambique, Niger, Nigeria, Senegal, Seychelles, Sierra Leone, Tanzania, Togo, Uganda, Zambia
Not Free	Algeria, Angola, Cameroon, Chad, Republic of Congo, DR Congo, Côte d'Ivoire, Egypt, Equatorial Guinea, Eritrea, Gabon, Guinea, Libya, Mauritania, Rwanda, Somalia, Sudan, Swaziland, Tunisia, Zimbabwe

Source: Freedom House, 2010, <http://www.freedomhouse.org/template.cfm?page=25&year=2010> (accessed 13 September 2010)

With the exception of South Africa, free countries are limited to smaller states, with the more populous countries such as Nigeria, Ethiopia and the DRC in the partly free category. As a result, the percentage of Africans living in freedom is considerably lower than the country numbers would suggest.¹⁵⁵

Figure 4.1 The history of democracy in African regions

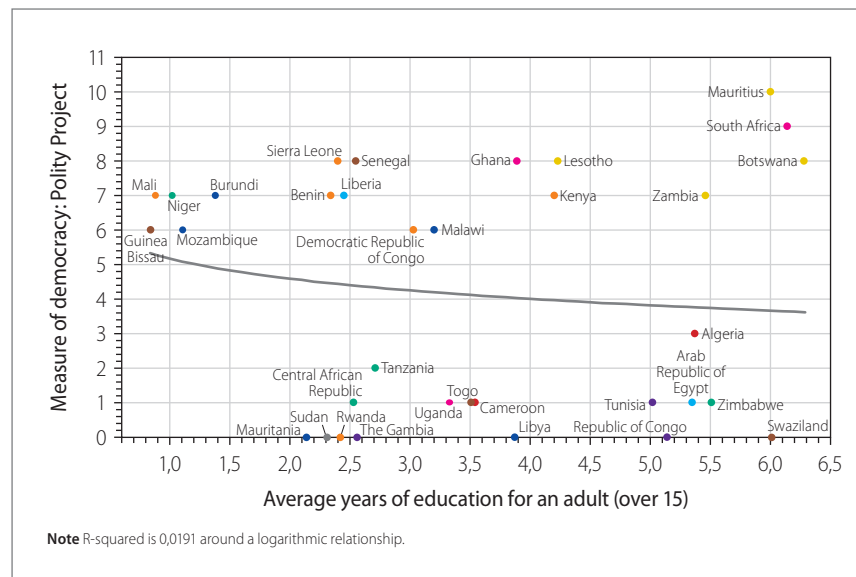


Source: IFS base case version 6.37, using data from the Polity project.

The Polity project data¹⁵⁶ go back further than those of Freedom House. Figure 4.1 shows that project's rating since 1960 of countries by African region, using a ten-point scale on which higher values are more democratic. There was a retreat from democracy in all regions after the early years of post-colonial rule. The apartheid period is especially obvious for Southern Africa. About 1990 (and not solely by coincidence after the winding down of the Cold War), all regions showed some advance. Central and Northern Africa have made the least progress towards democracy.

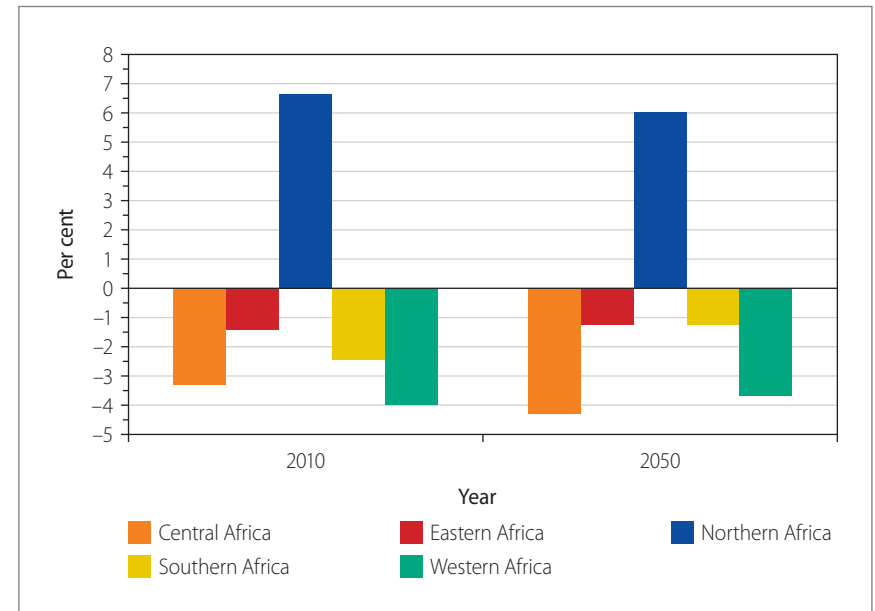
Forecasting of democracy and of other governance variables is much more difficult than forecasting demographic or economic change. As Figure 4.1 shows, changes in governance tend to be rather irregular and dramatic. There is much evidence that the longer-term process of improvements in the quality of governance, on average, is related to underlying social forces such as income and education levels (some evidence also suggests that the advance of IT may also support democracy).¹⁵⁷ Globally, there is a modest cross-sectional relationship between GDP per capita and the Polity scale¹⁵⁸ and a somewhat stronger one between education levels of people aged 15 or older and democracy.¹⁵⁹ In

Figure 4.2 The relationship between democracy and education in Africa



Source IFs base case version 6.37, using most recent data from the Polity project and from Barro and Lee.¹⁶⁰

Figure 4.3 Democratic deficit in African regions



Source IFs base case version 6.37.

Africa, however, there is, as yet, no clear evidence of such relationships (see Figure 4.2); although the figure has a slightly downward sloping relationship of democracy with education, the correlation is not significant.

Nonetheless, it is likely that income and education will be important in determining democracy levels for Africa going forward. If so, the anticipated general pattern will see democracy levels (using an extended, 20-point Polity scale) advance across all regions. A relative wild card is Northern Africa. Based on its current levels of income and education, that region should have a much higher level of democracy than it does. Figure 4.3 shows the extent of the democratic deficit in Northern Africa, which might reflect high-energy revenues – the energy curse (or Dutch disease) tends to result in higher exchange rates, higher levels of corruption and lower levels of democracy. Whereas Northern Africa is nearly seven points below the democracy level expected of it, most of the rest of Africa, especially central and western regions, are more democratic than global cross-sectional patterns would suggest. Both extensive democratic deficits and ‘surpluses’ may give rise to episodes of sociopolitical disruption and change.

Although it has been widely established that higher levels of GDP per capita relate globally in the long run to greater democracy, the same is not true of the shorter-term relationship from democracy to economic growth. No clear linkage has been established; Adam Przeworski and others strongly contest its existence and some even argue that democracy may, at early stages of economic development, retard rather than advance growth.¹⁶¹ Partly because democracy is not obviously a means to economic growth, there are veins of understandable unhappiness among many Africans about being lectured by the West to adopt policies that are seemingly at odds with Western experience and history. In addition, practically all of today's rich countries used subsidies, protection and regulation to develop their economies, yet today preach open markets and liberalisation to others that are at a very different stage of their development.¹⁶² These philosophies have generally been adopted as a result of economic growth and development and only once countries have achieved considerable levels of economic progress. Furthermore, many find the Western emphasis on democracy and individualism, as two sides of the same coin, problematic in societies that may value community as a greater good.¹⁶³

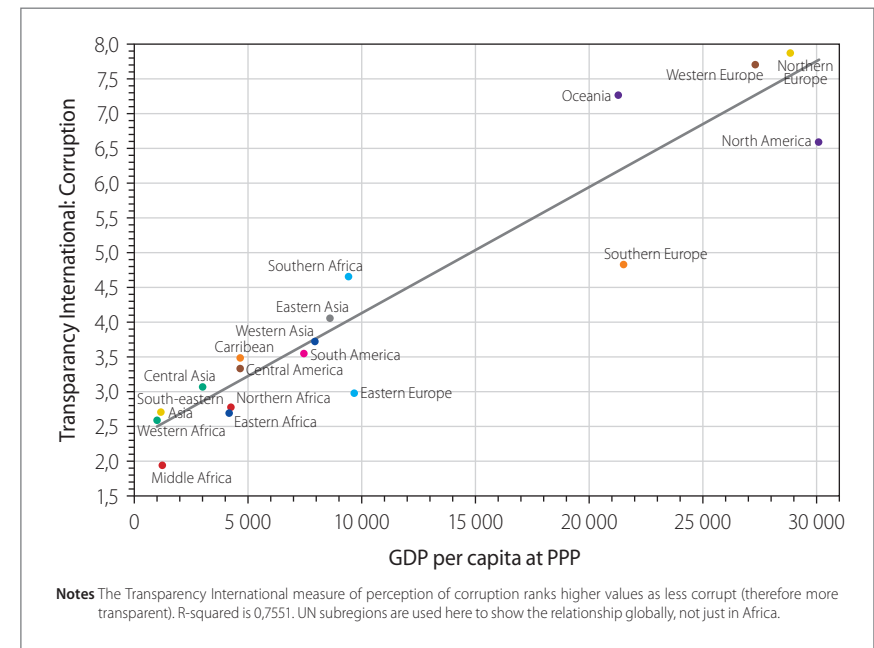
THE RULE OF LAW AND ABSENCE OF CORRUPTION

While the direct link from democracy to development outcomes is historically ambiguous, it is more widely accepted that, at least over considerable time, democratic institutions considerably improve 'developmental governance', including economic policy coherence, effectiveness of the public service and reduced corruption.¹⁶⁴ Moreover, there is evidence that governments that are accountable to their people are better at reconfiguring and adapting themselves in response to systemic breakdowns and emerging threats. They are better at dealing with challenges such as recurring drought, responses to conflict and other emergencies such as the HIV/AIDS pandemic and the impact of climate change. They are more adept and responsive in the allocation of scarce resources such as education and social services. And while the relationship between democracy and economic growth may be poor in the short term, over time democracy generates electoral incentives for politicians to compete by advocating redistribution and expanded welfare commitments.

In contrast to the less clear-cut relationship of democracy to development, there is a widely recognised relationship from governance in terms of the rule

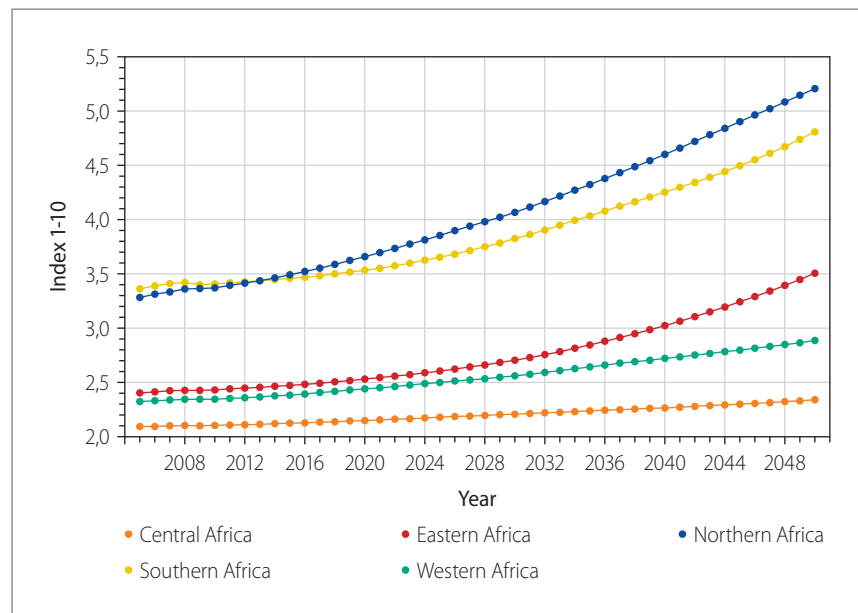
of law and absence of corruption to economic growth. With respect to measurement of governance, the World Bank's World Governance Indicators (WGI) project, also known because of the names of its publications as 'Governance Matters', consolidates many governance indicators from a very broad set of sources into six high-level dimensions.¹⁶⁵ The first two (voice and accountability; political stability and the absence of violence) capture 'the process by which governments are selected, monitored and replaced'.¹⁶⁶ The voice and accountability dimension clearly relates to the elements of electoral competition and especially of participation that the Freedom House and Polity measures capture. The third and fourth dimensions (government effectiveness; regulatory quality) represent 'the capacity of the government to effectively formulate and implement sound policies'. These dimensions connect strongly to the functioning and output of governments, especially the provision of broader human wellbeing. The WGI project intends that the fifth and sixth dimensions (rule of law; control of corruption) indicate 'the respect of citizens and the state for the institutions that

Figure 4.4 GDP per capita and transparency globally (UN subregions)



Source: IFs base case version 6.37 using most recent data from Transparency International and World Development Indicators

Figure 4.5 Transparency (reduced corruption) in African regions



Source IFS base case version 6.37.

govern economic and social interactions among them’. In short, these variables reflect not only how government functions day to day, but also how legitimate citizens experience it to be.

Another project that routinely assesses corruption levels is Transparency International, and this monograph uses its better-known measurement of perceptions of corruption. Even stronger than the long-term relationship between GDP per capita and democracy is a very powerful relationship globally between GDP per capita and the level of corruption. Figure 4.4 shows that strength and the degree to which African regions fall on the upward sloping line – linking advance in GDP per capita to increased transparency. Reflected in the writings of Ha-Joon Chang and others, the relationship is bidirectional and corruption generally declines in the longer run as a result of development.¹⁶⁷

Obviously, this relationship does not ‘excuse’ high levels of corruption at low-income levels; nor should it detract from efforts to reduce them. However, it gives us reason to believe that corruption will decrease in Africa as income

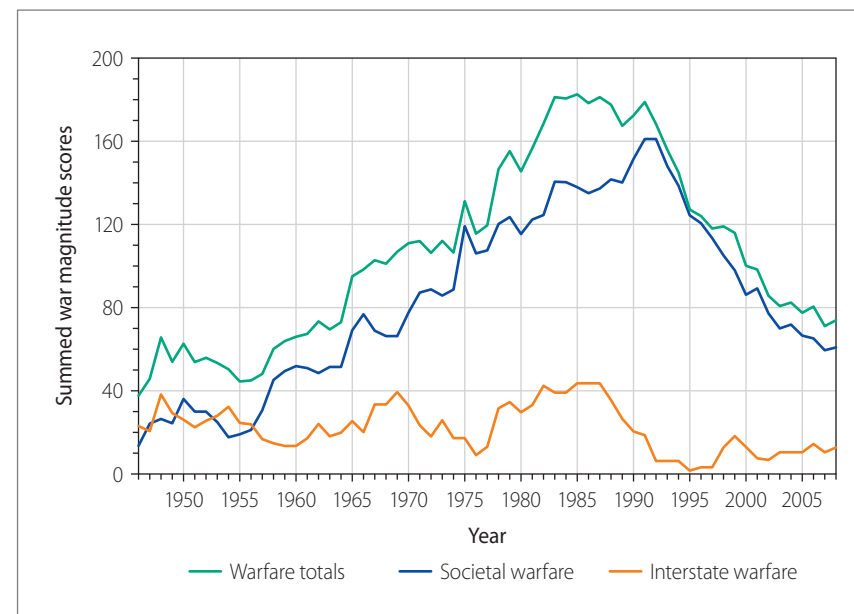
increases, as well as the reverse. Figure 4.5 sketches these base-case expectations. Consistent with the global relationship, Northern and Southern Africa exhibit the lowest levels of corruption (highest levels of transparency).

DOMESTIC STABILITY AND VIOLENT CONFLICT

Trends in militarised violence and fragility

Globally both interstate and societal warfare declined significantly in the 1990s and the first decade of the new century (see Figure 4.6). This followed the end of the Cold War, and the longstanding pattern of direct and covert interventions by the former Soviet Union, the USA and their allies. Obviously, the world has not ceased to have security and other interests in developing countries, but those have taken new and still evolving forms. Already the volume of international transfers of major conventional weapons from 2005 to 2009 was 22 per cent higher than between 2000 and 2004.¹⁶⁸

Figure 4.6 Global trends in armed conflict, 1946–2008

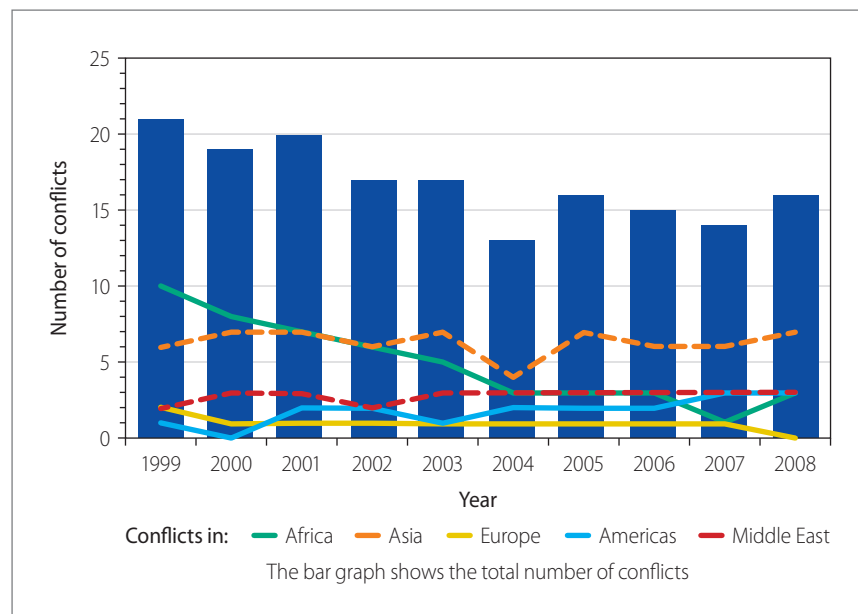


Source Monty G Marshall and Benjamin Cole, 2009.¹⁶⁹

The decline in the number of violent conflicts in Africa since 1999 has been dramatic, larger than that of other developing regions. In fact, reduction in intrastate violence in Africa accounts for most of the global decline (see Figure 4.7).

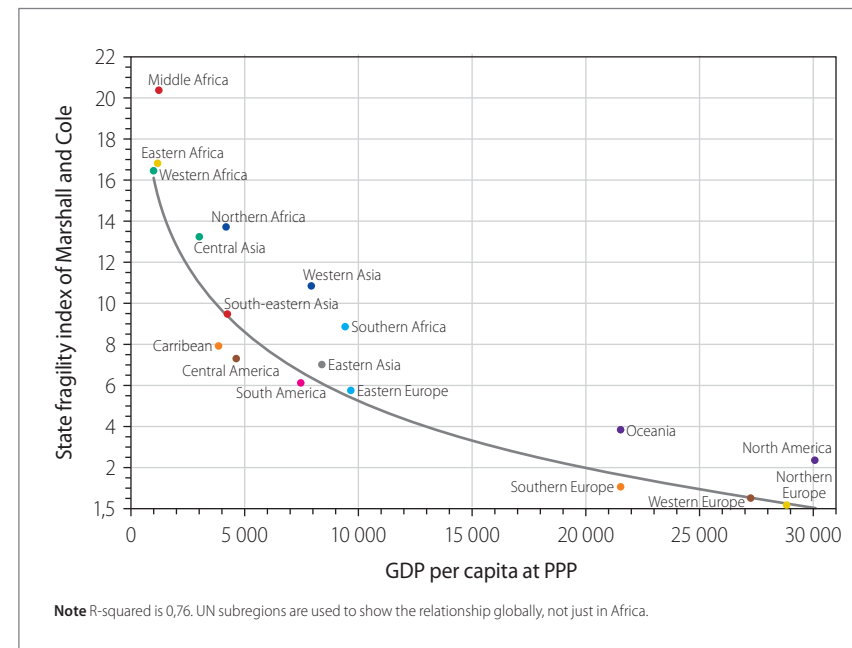
Despite the decrease in overt African conflict, the 2009 analysis of Marshall and Cole¹⁷⁰ found that the countries of sub-Saharan Africa (33 countries that comprise the non-Muslim Africa region) had the world's highest mean state fragility index (SFI) score in 2008 (15,09) and showed the least net improvement in fragility ratings since 1995 (1,85).¹⁷¹ Fragility scores in sub-Saharan Africa range from four (Botswana) to twenty-three (DRC).¹⁷² Despite the general stagnation in fragility ratings for the region, some African countries reduced their ratings substantially across the study period: Madagascar improved seven points before a governance crisis in early 2009; Equatorial Guinea and Togo improved by six points, and Liberia and Angola each improved by five points.¹⁷³ Yet, the region also had the most states that increased their fragility rating over this period: fragility in the CAR worsened by five points and Burkina Faso, Republic of Congo, Côte d'Ivoire, Lesotho and Namibia suffered one-point increases.¹⁷⁴

Figure 4.7 Global conflict trends 1999–2008



Source SIPRI, <http://www.sipri.org/yearbook/2010/02/02A> (accessed on 13 September 2010)

Figure 4.8 GDP per capita and state fragility globally (UN subregions)



Note R-squared is 0,76. UN subregions are used to show the relationship globally, not just in Africa.

Source: IFs base case version 6.37 using 2009 state fragility data from Marshall and Cole.

As with GDP per capita and armed violence, there is globally a very strong inverse relationship between GDP per capita and state fragility (see Figure 4.8). Therefore, decreasing levels of both armed conflict and state fragility in Africa may be expected through the forecast horizon. Yet, they are unlikely to disappear. Key drivers of such instability will be inequalities and the resort to violence in conflicts over access to resources.

Broader trends in violence

There are two further key peace and security trends of great importance to Africa. The first is the shift from militarised violence to criminalised violence (including that involving drug trafficking). According to the Stockholm International Peace Research Institute (SIPRI), violence committed by, between and against organised criminal groups may become comparable to that of a more traditional armed conflict in terms of scale and intensity.¹⁷⁵

Criminal violence in countries such as Brazil, Mexico, Nigeria, Kenya and South Africa has acquired a chronic systemic character that threatens to undermine social order and the governance system.¹⁷⁶ There is thus a shift from state-centric to population-centric conflict (sometimes also involving religious differences).

Increasing urbanisation and the governance of complex urban spaces will present significant security challenges across the forecast horizon. Urban pressures, youth unemployment and service delivery deficits will drive crime in urban centres and will produce large urban slums such as Kibera in Nairobi and Ijora Badia in Lagos. Urban slums provide potential breeding grounds for domestic instability, gangsterism and organised crime. Furthermore, urban slums are security and justice service delivery challenges and are often neglected spaces, which can breed discontent. As vulnerable populations, slum dwellers are susceptible to insecurities including land tenure, access to formal and informal employment, victimisation at the hands of local government officials and police, bribery, corruption, and urban crime and violence.

Climate change is also a potential long-term accelerator of violent resource competition, both organised or militarised and sporadic. As demonstrated earlier in this monograph, shifts in precipitation patterns are likely to have negative impacts on regions that are already water stressed. This will lead to decreases in agricultural yields (a driver of malnutrition and infant mortality) that may impact on both human development and governmental legitimacy. Increases in carbon in the atmosphere have the potential to drive more intense weather patterns, which could lead to more and greater threats from famines, droughts and plagues. These disruptive climate and weather patterns will change migration patterns with possibly significant impacts.

The second key trend that will continue to shape African peace and security until 2050 is the shift to multinationalism, including African states collectively taking responsibility for African insecurity. External actors from or outside the continent take an interest in at least two types of African societal violence. First, the wealth generated by African resources generates the potential of international engagement to fuel or moderate conflict over it. Second, some domestic instability in Africa directly threatens external actors, e.g. piracy off the coast of Somalia and the growth of internationally linked terrorism. Costs of intervention are already high when conflict is intrastate, asymmetrical, civilianised and geographically fluid; as domestic actors become more sophisticated, costs are

likely to escalate. Coordination within and between governments is becoming more important as is being able to determine when and how to intervene in conflict situations.

Drug crime and violence

While there has been a noticeable decline in the frequency and intensity of organised political violence, Ekaterina Stepanova noted this has not been matched by a reduction in criminal violence, specifically homicide.¹⁷⁷ Likewise, the Global Peace Index 2010 pointed to general increases in the likelihood of violent demonstrations and perceptions of criminality.¹⁷⁸

Drugs are a major source of criminal violence. Similar to the way in which US drug addiction has destabilised Central America, Europe's addiction to cocaine is set to present West Africa (and other regions, including South Africa) with grave challenges. Cocaine is almost exclusively produced in the Andean-Amazonian region of South America (Columbia, Peru and Bolivia are the three largest producers) and significant output is now destined for Europe, where the number of the seizures has tripled over the last decade. Estimates of recent annual cocaine transshipments through West Africa range from 60 to 250 tons, and those shipments yield wholesale revenues between \$3 and \$14 billion. In November 2009, investigators found on a dry lakebed in northern Mali the remains of a Boeing 727 with traces of cocaine still evident as its ten-ton payload.¹⁷⁹

In 2009, an estimated \$1 billion worth of drugs was trafficked through Guinea-Bissau alone from Latin America – an amount larger than that country's total GDP. Guinea-Bissau is still reeling from a civil war (1998–1999), actual or attempted military coups and the assassination of its army chief of staff and its head of state; it is rapidly becoming a narcostate. One of the six poorest countries on earth, Guinea-Bissau depends largely on fish and cashew nuts to survive. More than two-thirds of the population live below the poverty line. In this environment, drugs prove irresistible to the destitute, despite the fact that only a very small group will make money from them. The most worrying sign is the alleged involvement of some military officers in the trafficking, as denounced by the country's president in a speech in July 2010.¹⁸⁰ Demonstrated in Columbia and Mexico, once established as a source of political power in a country, the influence of druglords will be extremely difficult to displace.

The war on terror

But there is a bigger danger. As this monograph demonstrates, Africa's global relevance is on the rise and will increase in tandem with its importance as a source of commodities and as a market. During the Cold War, the continent served as a proxy battlefield for the West versus the East, particularly in the Horn and in Southern Africa. This could happen again, but with important changes, dependent on how Africans are drawn into the US war against terror and the extent to which radical Islam shapes domestic political agendas across a large swathe of the continent.

There are many examples of religion being used as a resource that enables leaders to mobilise poor people against governments, ranging from *Boko Haram* in northern Nigeria to the Allied Democratic Forces/National Army for the Liberation of Uganda.¹⁸¹ A danger in Africa is that religion will be used to mobilise populations against globalisation and Westernisation – often seen as one and the same.

Africa does not have a single dominant culture, but, in sharp contrast with Europe, very few people are religiously unaffiliated and, according to a global Pew Forum study, religion is *very important* for roughly nine in ten Africans. Africa is simply more religious than any other continent.¹⁸² How religion shapes African politics and how Africans allow the global superpower to fight its war on international terrorism in Africa could have wide-ranging implications for the future stability of the continent.

Multilateral security responding to future threats

The decline in the number of major armed conflicts in Africa from 1999 to 2009 was accompanied by a proliferation of peace support operations.¹⁸³ In 2000, the UN deployed fewer than 25 000 peacekeepers, a number that multiplied five times in ten subsequent years. In July 2010, 8 of the 16 peace support operations directed and supported by the UN Department of Peacekeeping Operations (UNDPKO), and 103 049 of the 121 847 personnel deployed, were on the African continent.¹⁸⁴ In 2010, approximately \$5,7 billion was spent on peace support operations in Africa, two-thirds of the total spent by the UN.

African peacekeepers currently make up more than 40 per cent of those deployed on the continent.¹⁸⁵ However, force generation for peace support

operations in Africa remains a challenge; deployments in Africa were 21 per cent short of authorised strengths in 2009.¹⁸⁶

Partly in reaction to changes in the peacekeeping environment, AU member states have established the African Standby Force (ASF). The demand for peace support operations in Africa will continue to rise in the short- to medium-term and the ability of military as well as policing and civilian components to be meaningfully deployed will depend on national commitments and on improvements in training, skills and equipment. The real challenge, however, is that modern peace support operations are not only about putting uniformed personnel on the ground, but are fundamentally political operations supporting transitions to peace in highly unequal and divided societies.

There is a serious gap developing between the military capacities that exist on the continent and the tasks they are required to undertake. For example, border management and security remain a challenge, not because of the threat of invasion by a neighbouring state, but increasingly because of crossborder crime and transnational security threats such as militia, terrorism and criminal networks. The illegal transfer of weapons remains a great challenge for most states and requires integrated and collaborative approaches to border management and homeland security. However, at current capacity, African security forces are unable to patrol their border areas.

It is impossible to forecast whether armed violence will decrease. Ultimately, however, security in Africa will depend not only on states, but on the resilience of societies to change at global, regional, national and community levels. The good news is that key foundations of such resilience, including human development, economic growth and better governance, appear likely to strengthen across the continent.

CONCLUSION

Sociopolitical change builds on a foundation of human development. Educated, healthy and well-fed citizens, individually and through civil society, demand improved governance in all of its aspects: democratisation, reduced corruption, and more efficient, effective public policies. However, without fundamentally sound governance, especially that to protect the physical security of citizens, human development is problematic. Thus, vicious and virtuous cycles (the former sometimes referred to as poverty or low-growth equilibrium traps) are

both common across these elements of broad and sustainable development. It is not possible to direct efforts at only one or selected elements of the development process; simultaneous attention to all is required.

Just as there have been clear improvements in individual human conditions across most of Africa and just as one sees increasing evidence of accelerated economic growth, Africa has begun to show improvements in governance. Democracy advanced after the disruption of post-independence reversals, and public support for improvements and extensions is widespread. Transparency and attention to the rule of law have improved, albeit sporadically and inadequately.

The ongoing development process itself is reinforcing old challenges, including conflict over the wealth that commodity production generates, and it is giving rise to new challenges, including those associated with rapidly expanding urban slums. Yet domestic, regional, pan-African and global forces are all at work to see the continent through its sociopolitical transitions. There is good reason to be cautiously optimistic that this critical element of the development process will mostly continue to change positively.

5 Alternative African futures

Crafting its most recent strategy for Africa, the World Bank concluded in November 2010 that ‘...Africa could be on the brink of an economic takeoff, much like China was 30 years ago, and India 20 years ago’.¹⁸⁷ The projections presented in this monograph, and the work done by organisations such as the ADB, UNECA, the AU and the NEPAD Planning and Coordination Agency provide additional substance to this view. Not only are the internal dynamics changing, but so too is Africa’s relevance globally. Already China and the US import respectively 30 and 22 per cent of their oil from Africa and the continent is emerging as a strategic player on the world stage. In a world where global governance reform requires the support or at least acquiescence of the majority of the 192 members of the UN, the African block of 53 members is a coalition large enough to determine the fate of any initiative.

By 2050, the world will be an entirely different place. Key economic and political relations will be driven by China, India and the US, and it is virtually impossible to speculate with any certainty on how technology and the massive carbon footprint of humanity will have changed nature and societies. In this emerging world, Africa’s relative importance will not match that of any of these global giants. Although Africa will be significantly more important than it was

40 years earlier, its collective influence upon world affairs will still be relatively small although rapidly gaining impact.

China will remain the fastest-growing economy for the next few years and overtake the US to become the largest economy in the world (at PPP) by around 2024, but its rapidly ageing population will gradually allow others, such as India, to overtake it in growth rate (although not GDP level within our forecast horizon). India will have grown to almost 85 per cent of the size of the US economy by 2050. Still, individual Chinese and Indians will be much, much poorer than the average American.

Our forecasts are that, by 2050, Africa will have a GDP at a market exchange rate of around \$8,5 trillion, or \$13,4 trillion if measured by PPP. By comparison, at that point the GDP of China is expected to be \$52 trillion, the US \$27,2 trillion, India \$22,8 trillion and the EU \$20,2 trillion (all at PPP). Africa will, by 2050, have the GDP that China will achieve around 2022.

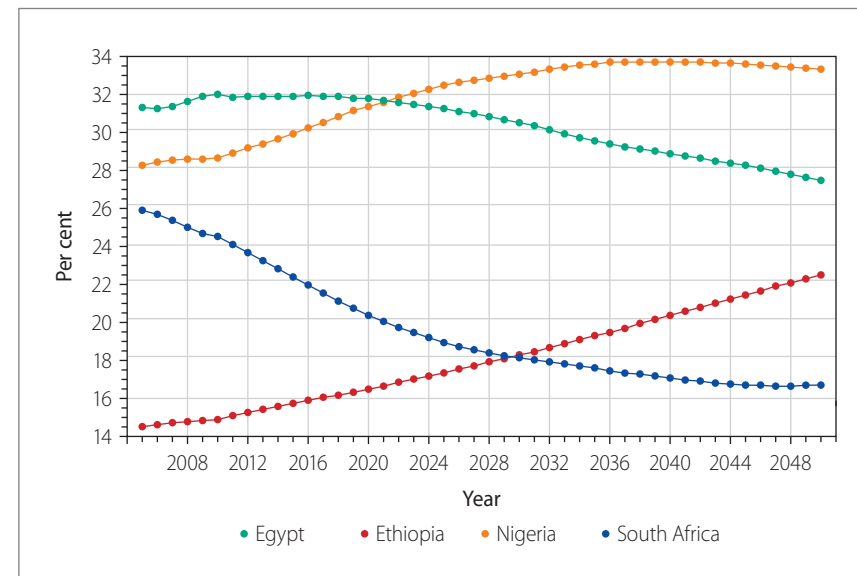
Turning to variation within Africa, according to PricewaterhouseCoopers:

Nigeria...stands out as having considerable growth potential, not far behind India in terms of projected annual growth, close to Turkey in terms of projected size by 2050 and overtaking Egypt...and South Africa to become the largest African economy...Nigeria is of course starting from a very low base in terms of GDP per capita, however, and would still be a relatively low income country even by 2050, with GDP per capita of around \$11 700 at constant 2006 prices.¹⁸⁸

Our analysis presents a different picture, with Nigeria a substantially smaller economy than Turkey, even by 2050. Egypt will overtake South Africa in 2014 as the largest African economy (it already has a larger economy than South Africa in terms of GDP at PPP) and Nigeria will overtake South Africa in 2026. Measured on GDP per capita at PPP, South Africans will, however, enjoy a much higher standard of living at around \$25 120 per capita by 2050, more than five times that of the average Nigerian and almost \$6 000 more per annum than people in Turkey (and around \$10 000 more per annum than Egyptians).¹⁸⁹

Over the longer term the African countries with the largest growth potential on multiple dimensions and therefore most aggregate 'material power'¹⁹⁰ are (in declining order by 2050) Nigeria, Egypt, Ethiopia and South Africa. These African Four or A4 have the greatest material potential to guide African

Figure 5.1 The relative material power of the top four African (A4) countries



Source: IFs base case version 6.37.

development in the decades to come – although Egypt is understandably more focussed on the Middle East than on Africa. Two countries from East Africa (Uganda and Tanzania) and one country in Central Africa (the DRC) will also have increased their relative material power (largely on the back of the massive population growth that both will experience), but will not be in the league of the A4. Others, such as Libya, Morocco and Algeria, will either lose relative power or retain their current position.

Material or 'hard' power does not reflect the willingness of a country to provide global or regional leadership, nor the quality of that leadership and the attraction of its culture or lifestyle. The ability of a country to wield soft power through diplomacy and multilateral engagement is difficult to quantify and can compensate for deficiencies elsewhere. Thus, the political transition in South Africa, its iconic first president, Nelson Mandela and the strength of its civil society allowed South Africa to 'transcend' its peers, gain a position at the G20 and position itself as a leading contender for a seat at a reformed UN Security Council – this despite the fact that Africa will remain largely multipolar for decades to come and that South Africa will shortly lose its status as the largest economy. No single country

will emerge as undisputed heavyweight in Africa, able to command continental leadership. Nigeria will grow in influence based on its massive population and size, but its GDP per capita will improve only slowly. Generally, Northern and Southern African smaller populations will live longer and be materially much better off. Throughout this period, the influence of West and East Africa will grow due to their larger populations and growing economies.

The world and Africa will, therefore, be very different by 2050. In the same way that the technology revolution-based companies such as YouTube and Google morphed from being upstarts to members of the corporate establishment, the BRIC countries will encounter and partly succumb to the allure of the establishment. This does not imply the Westernisation of China, Russia, Brazil or India, but the development of a 'new' common global future in which the BRICs change the world and the world changes the BRICs.¹⁹¹

Urban politics will predominate in Africa and the massive youth bulge (proportion of persons aged 15 to 29 years) presents huge challenges to the management of Africa's urban spaces. Only North Africa has less than 50 per cent of its population in this age group. The demands on urban management will, therefore, be very high and the potential for social instability similar.

This monograph has made much of the rise of south-south economic relations, arguing that, as BRIC (especially China) and other emerging countries rise, they pull Africa along with them. Yet this is not predetermined. For example, despite China's seemingly successful navigation of the recent global recession, its economic growth lacks 'balance, coordination and sustainability' over the longer term.¹⁹² With its high dependence on investment as a source of demand and its ageing population, China is in many ways a souped-up and scaled-up version of the Asian growth model (à la Japan, South Korea etc). It will probably run into the same challenge of massive over-investment and misallocated capital in years to come, and its difficulties could threaten Africa's current growth patterns.¹⁹³

Human development, like human security, defies uniform policy prescriptions that can be applied across the majority of countries. The shortcomings of externally imposed, one-size-fits-all models of development, democracy and stability are now evident and widely accepted.¹⁹⁴ So, national divergence and specificity are important to acknowledge. Africa is not one country, but a complex tapestry of communities with current per capita incomes ranging from \$200 (Burundi) to \$20 000 (Equatorial Guinea). The comparisons presented

in this monograph of Africa, India, China and the EU can, therefore, be very misleading, hiding the huge disparities among countries and regions of Africa. The diversity of the continent means that different regions and countries face very different growth challenges and opportunities, a reality that will also help significant portions of the continent move ahead, even while others have less or no success in addressing the inevitable rolling sets of problems that the future throws at them.

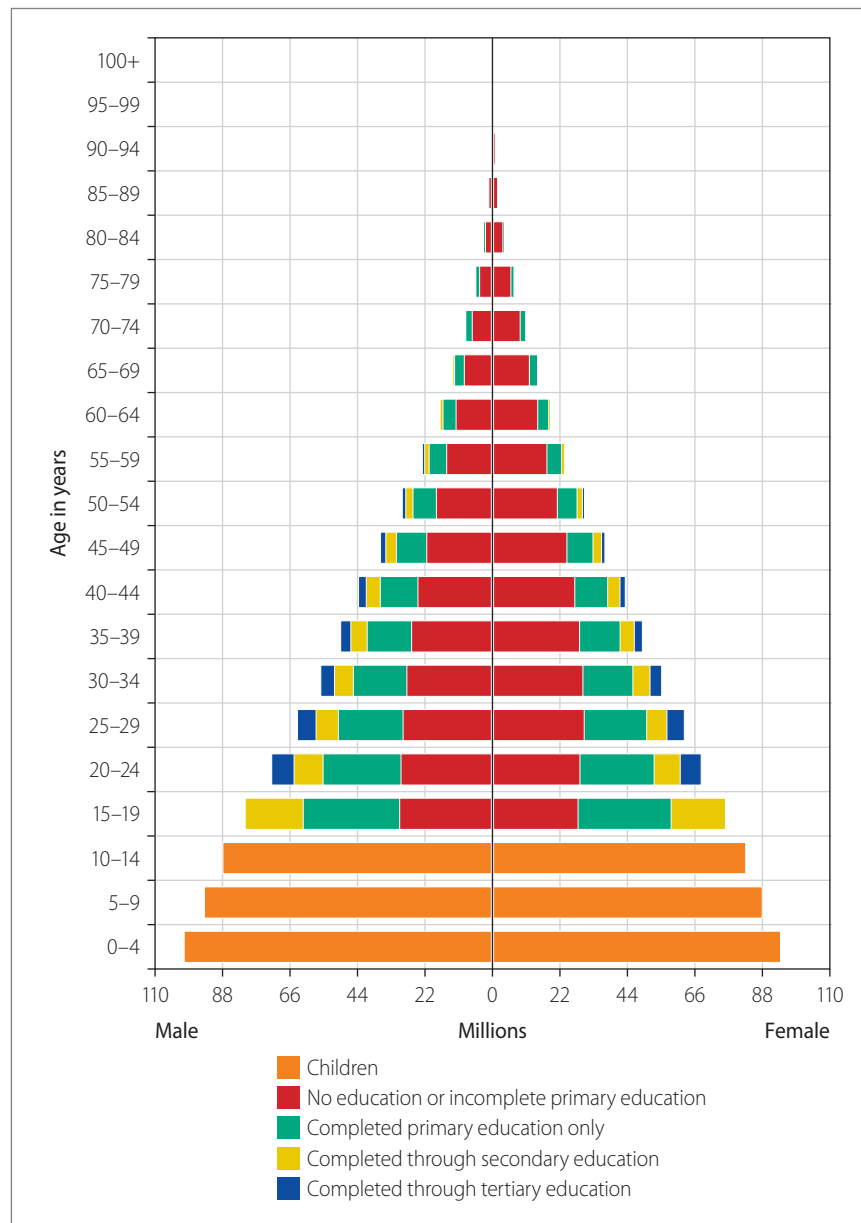
THE CHALLENGES OF AFRICAN DEVELOPMENT

Despite these differences, there are some common challenges for the continent. The World Bank strategy lists the following:¹⁹⁵

- Growth has not been accompanied by sufficient increase in productive employment, especially for the 7-10 million young Africans who enter the labour force every year.
- Even redistributed growth and productive employment may not be enough for the chronically poor, who suffer from food insecurity and undernourishment.
- African women – who are both contributors to and beneficiaries of development – still lack legal and property rights, and access to finance and modern business practices. Rates of death during childbirth are alarming.
- Climate change, through its effects on water, will threaten Africa's agriculture.
- The large number and persistence of fragile states indicate that these countries may be stuck in a low-level equilibrium 'trap', for which non-traditional solutions must be found.
- The coexistence of a massive infrastructure deficit and the large number of small countries in Africa signals the need for regional solutions.
- Fiscal austerity in developed countries, as well as criticism and political backlash against foreign aid, mean that official development assistance may be constrained.

It is also evident that most African countries need to confront undiversified production structures, low levels of human capital, poor service delivery and weak governance, including corruption. Once again using the base case of IFs, Figure 5.2 shows visually some of the challenges that Africa faces. Even in 2030, the

Figure 5.2 Africa’s population and education pyramid, 2030



Source: IFs base case version 6.37.

continent’s population distribution will have the ‘pyramid’ shape of countries with rapidly growing and relatively youthful populations, and that momentum will remain until the end of the century. Moreover, in spite of rapidly growing educational attainment by younger generations, large numbers of young adults will not have completed primary education.

ALTERNATIVE PATHS OF AFRICAN DEVELOPMENT

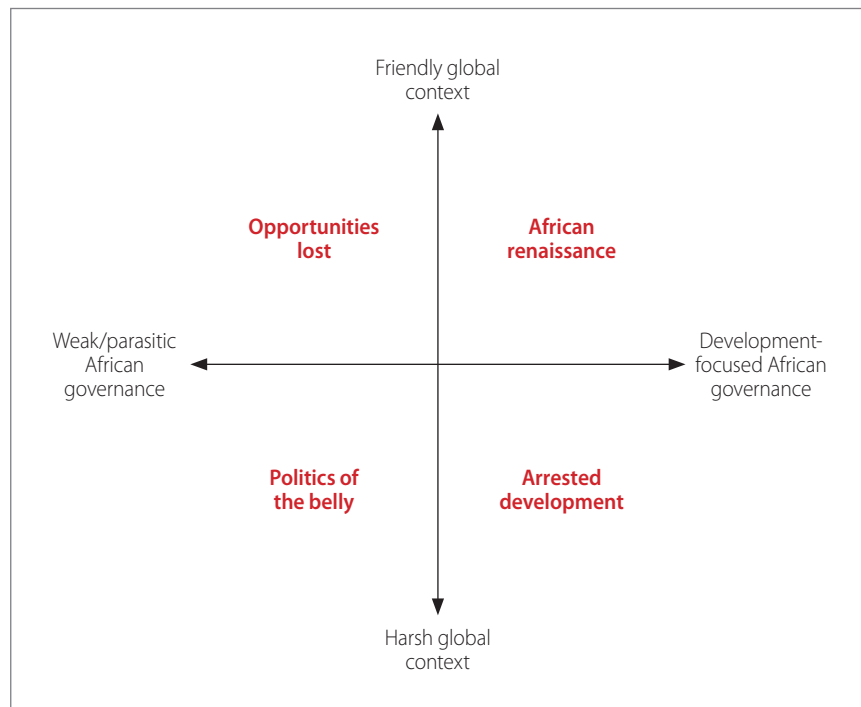
Can Africa as a whole, or at least a large majority of its countries, meet the serious challenges it faces and break free of development traps? Can it perhaps do better than the already relatively optimistic base-case scenario presented in this monograph? Is the continent at serious threat of doing less well? There is obviously huge uncertainty around these questions, and many choices will help shape the path that Africa follows.

Policy choices matter. Take Morocco and Côte d’Ivoire. Measured by the variables that go into the HDI, they had similar levels of development in 1970 and so might be expected to have followed similar development paths. However, their human development trajectories diverged widely. Over the 40 years to 2010, life expectancy rose 20 years in Morocco, but just 11 years in Côte d’Ivoire. Today, 61 per cent of Moroccan children are enrolled in schools, compared to 38 per cent in Côte d’Ivoire, and Morocco’s per capita income is 2.7 times Côte d’Ivoire’s.¹⁹⁶ The reasons for some of these different outcomes include poor leadership and bad policy – epitomised by the rejection, at the end of 2010, of the election results by the incumbent president Laurent Gbagbo.

To explore alternative futures, the AFP has taken the initial step of identifying some of the most important uncertainties and choices that might put Africa on different development paths through 2050. These can create a scenario space that the AFP ultimately seeks to analyse in future studies and publications.

Figure 5.3 highlights a two-by-two schematic of alternative scenarios. This monograph has emphasised the degree to which the external environment and African governance will, in interaction, help shape alternative African futures, and the figure uses the two key dimensions of uncertainty and choice to frame a scenario space. Within that space may develop, for instance, ‘Opportunities lost’, a world in which a benign global context offers a better future, but that is squandered by poor governance. Or ‘Arrested development’,

Figure 5.3 Alternative African futures



in which, despite the best efforts on the continent, the global environment overwhelms it.

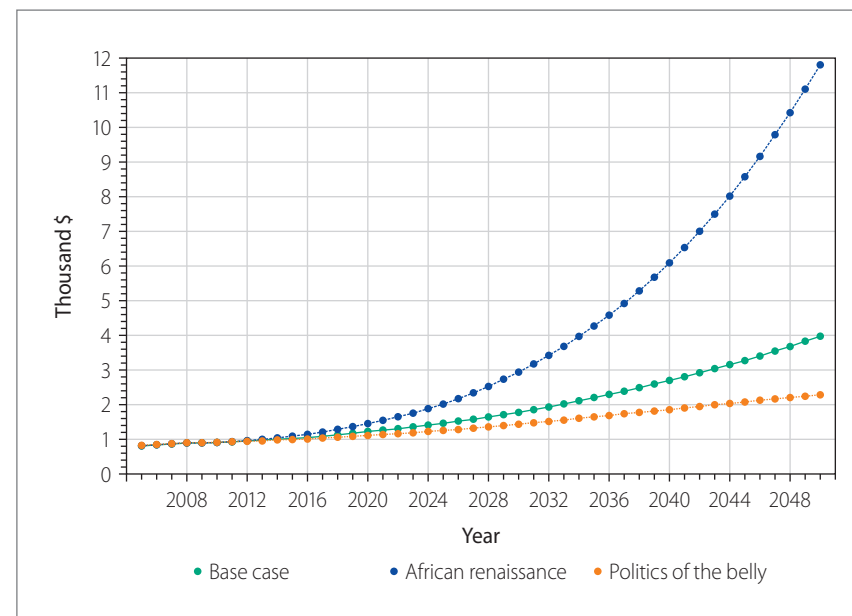
At the extremes, things may go relatively smoothly both domestically and internationally and give rise to an ‘African renaissance’, the dawn of a new era of opportunity, or all might go badly wrong in a perfect storm and lead to the ‘Politics of the belly’. Preliminary analysis of these scenarios suggests dramatic variations in continental GDP per capita as wide as those shown in Figure 5.4. The short-term political challenge should be obvious – Africa needs strong and competent, development-focused governance. The impact of decisions taken now may have dramatic, long-term impact, but it may take many years before the results of such leadership become evident.

To put the variation across scenarios in Figure 5.4 in context, over the 50 years after 1960, African GDP per capita (at market exchange rates) did not quite double. The preliminary ‘Politics of the belly’ scenario anticipates slightly more than a

doubling over the coming 40 years, and in the base case the increase is more than a factor of four. Hence, even the forecasts of the base case in this monograph require a continuation of the relatively more positive patterns of the last 15 years (but they require no policy interventions significantly different from those already underway or anticipated). Expecting that Africa could reach economic and broader development levels closer to those of the ‘African renaissance’ may appear fanciful, but, if so, the fantasy is shared by an increasingly vocal policy community. By 2020, the World Bank argues for a vision including the following elements:

...per capita income that is 60 per cent higher than today, a production mix that is considerably more diversified, with manufacturing and services growing rapidly and absorbing labour at a rapid clip, with the continent’s share in world trade doubling (to 8 per cent), regionally integrated infrastructure providing services at globally competitive costs, and human development indicators going beyond the MDGs to achieve quality goals in health and education.¹⁹⁷

Figure 5.4 African GDP per capita (at market exchange rates) in alternative scenarios



Source: IFs base case version 6.37.

It is far too presumptuous to say that the future is ours to envision and create. Still, it does remain ours to help shape, and in 2050 the life conditions of more than 2 billion people depend significantly on how we collectively approach choices in the face of uncertainty. We hope that the AFP will help shape action to move reality towards vision.

Notes

- 1 Jakkie Cilliers, *Africa in the New World – how global and domestic developments will impact by 2025*, ISS monograph 151, Pretoria: ISS, 2008, <http://www.issafrica.org/publications>.
- 2 International Monetary Fund (IMF), *World Economic Outlook: Recovery, Risk and Rebalancing*, Washington DC: IMF, October 2010. 2. UNECA Economic Report on Africa 2010: *Promoting High-Level Sustainable Growth to Reduce Unemployment in Africa*, 2010. Addis Ababa, Ethiopia.
- 3 UNECA African Youth Report, *Expanding Opportunities for and with Young People in Africa*, 2009. Addis Ababa, Ethiopia. UNECA, African Union and African Development Bank, *Assessing Progress in Africa toward the Millennium Development Goals*, MDG report 2009, Addis Ababa, Ethiopia.
- 4 For example, having posted double-digit growth rates for six years in a row, Ethiopia, one of Africa's largest potential consumer markets, revealed its new five-year plan in August 2010 that includes a base-case scenario of 11 per cent average annual growth and a high case scenario of 14,9 per cent. Staff writer, Meles eyes Chinese, Indian investment boost, in *The Ethiopian Herald*, Addis Ababa, 25 November 2010, 1.
- 5 World Bank, *Africa's Future and the World Bank's Role in it*: 1. <http://go.worldbank.org/X90O7727J0?cid=EXTAFR1>, 1 (accessed 22 November 2010).
- 6 Augustin Fosu and Germano Mwabu, *Human Development in Africa*, Human Development, Research Paper 2010/08, UNDP, June 2010, 19. http://hdr.undp.org/en/reports/global/hdr2010/papers/HDRP_2010_08.pdf (accessed 19 July 2010).
- 7 Ibid.
- 8 UNDP, *The Real Wealth of Nations: Pathways to Human Development*, UN Development Report 2010, New York, 1
- 9 SIPRI, <http://www.sipri.org/yearbook/2010/02/02A> (accessed 4 July 2010).
- 10 UNDP, *The Real Wealth of Nations*, 3.
- 11 According to the National Oceanic and Atmospheric Administration (NOAA), <http://www.climatewatch.noaa.gov/2009/articles/climate-change-global-temperature>, (accessed 7 August 2010). The global increase of 4 °C is from the IPCC 2007 report.

- 12 Africa, Climate Change, Environment and Security dialogue forum (ACCES), *Climate Change and Security in Africa*, 11.
- 13 http://en.wikipedia.org/wiki/1970#Events_of_1970 (accessed 23 October 2010).
- 14 The core project of the Pardee IFs Center is its annual volume series on the *Patterns of Potential Human Progress*. Those volumes (with country and region forecast tables) have treated globally or will in the near future address many of the key issues of this monograph on African futures, namely poverty, education, health, infrastructure and governance. See Barry B Hughes, Mohammad T Irfan, Haider Khan, Krisha B Kumar, Dale S Rothman and José R Solórzano, *Reducing Global Poverty*, Boulder, CO, Paradigm Publishers and New Delhi, Oxford University Press, 2009; Janet R Dickson, Barry B Hughes and Mohammad T Irfan, *Advancing Global Education*, Boulder, CO, Paradigm Publishers and New Delhi, Oxford University Press, 2010; Barry B Hughes, Randall Kuhn, Cecilia M Peterson, Dale S Rothman and José R Solórzano, *Improving Global Health*, Boulder, CO, Paradigm Publishers and New Delhi, Oxford University Press, 2011. All published volumes are available on the Pardee IFs website.
- 15 See also the report on Africa from the Pardee Center at Boston University, Cynthia Barakatt, Alfredo Burlando, Julius Gatune Kariuki, Adil Najam and Heran Sereke-Brhan, *Africa 2060: Good News from Africa*, Boston, Massachusetts, Boston University Frederick S Pardee Center for the Study of the Longer-Range Future, April 2010.
- 16 Ali Mazrui elaborated the story of three key cultural identities (from the West through colonialism, from Islam, and from the indigenous African heritage). See *The Africans: a triple heritage*, London: BBC Publications 1986.
- 17 This chapter has benefited substantially from the input by Andrews Atta-Asamoah.
- 18 Fareed Zakaria, *The Post-American World*, 1st ed, New York: W W Norton & Co, 2008.
- 19 Data and forecasts from IFs version 6.37.
- 20 After Giovanni Grevi, *The inter-polar world: a new scenario*, European Union Institute for Security Studies, Occasional Paper 79, June 2009.
- 21 The term was coined by Thomas Friedman, who later wrote a book with the title, *Hot, Flat and Crowded* published in 2008 by Farrar Straus Giroux.
- 22 There is always the possibility that the struggle to redress the current global imbalances will lead to a substantial regression in global trade and financial flows. Even so, information and technology flows are almost certain to continue to grow, with ultimate rebounding of trade and finance.
- 23 Simon Freemantle and Jeremy Stevens, *Placing the BRIC and Africa commercial partnership in a global perspective*, Standard Bank, 19 May 2010, 1.
- 24 At market exchange rates, the African GDP would be \$8,5 trillion, about 75 per cent of that in the US in 2010.
- 25 Data and forecast from IFs version 6.37.
- 26 Freemantle and Stevens, *Placing the BRIC and Africa commercial partnership in a global perspective*, 6–7.
- 27 \$50,8 billion exports to Africa and \$56 billion imports from Africa.
- 28 From \$106,8 to \$90,5 billion.
- 29 Freemantle and Stevens, *Confronting some of the major criticisms of Sino-Africa ties, Economics: BRIC and Africa*, Standard Bank, 5 March 2010.
- 30 Ibid.
- 31 Freemantle and Stevens, *Placing the BRIC and Africa commercial partnership in a global perspective*, 5.
- 32 Freemantle and Stevens, *Lessons for Africa inherent in India's meteoric economic ascent, Economics: BRIC and Africa*, Standard Bank, 9 June 2010, 5.
- 33 Cilliers, *Africa in the New World*.
- 34 Freemantle and Stevens, *Lessons for Africa inherent in India's meteoric economic ascent*.
- 35 Ibid, 6.
- 36 Ibid, 5.
- 37 Freemantle and Stevens, *Lessons for Africa inherent in India's meteoric economic ascent*, 3.
- 38 Ibid, 6.
- 39 McKinsey Global Institute, *Lions on the Move: the Progress and Potential of African Economies*, June 2010, 15.
- 40 Jeremy Stevens and Simon Freemantle, *New sources of foreign capital mobilising for Africa complementing and competing with traditional investors, Economics: BRIC and Africa*, Standard Bank, 4 August 2010, 1.
- 41 European Commission, *Energy infrastructure priorities for 2020 and beyond – a Blueprint for an integrated European energy network*, Brussels, COM (2010) 677 final, 17 November 2010, 28, http://ec.europa.eu/energy/infrastructure/strategy/2020_en.htm (accessed 21 November 2010).
- 42 See, for example, the paper by Lahcen Achy, *Assessing Regional Integration Potential in North Africa*, ECA office for North Africa, ECA-NA/RABAT/ICE/XXI/3/1, April 2006, <http://www.uneca.org/sros/na/documents/Trade.pdf> (accessed 12 December 2010).
- 43 The Euro-Mediterranean Partnership (previously the Barcelona Process) was relaunched in 2008 as the Union for the Mediterranean and intends to establish a Euro-Mediterranean free trade area. EU exports to the Mediterranean countries have grown at an annual average of 8 per cent since the mid-1990s, an increase in export value of about 250 per cent between 1995 and 2007. The largest average annual growth rates are recorded for the West Bank and Gaza, albeit from a low level, followed by Turkey, Morocco, Jordan and Algeria. EU exports to the southern Mediterranean region in 2009 were €119 billion and EU imports in 2009 were €105

- billion. EU total trade with the southern Mediterranean countries was €224 billion in 2009 – some 10 per cent of total EU external trade, http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/regions/euromed/index_en.htm (accessed 21 November 2010).
- 44 In 2009, the EU spent 9 per cent (€12 billion) of the total EU budget (€143 billion) on external aid, of which €618 million was for North Africa and €3,9 billion for sub-Saharan Africa. EU press release on the release of its Annual Report 2010, <http://europa.eu/rapid/pressReleases-Action.do?reference=IP/10/845&format=HTML&aged=0&langua> (accessed 16 July 2010).
- 45 See, for example, the study on improvements in economic governance, Augustin Fosu and Germano Mwabu, Human Development in Africa, *Human Development Research Paper 2010/08*, UNDP, June 2010, 25-31, http://hdr.undp.org/en/reports/global/hdr2010/papers/HDRP_2010_08.pdf (accessed 19 July 2010).
- 46 McKinsey, *Lions on the Move*, 22.
- 47 The UN-Habitat's *State of African Cities 2010* report forecasts that 60 per cent of Africans will live in cities by 2050, <http://www.bbc.co.uk/news/world-africa-11823146>, accessed 30 November 2010; the IFs forecast for 2050 is 55 per cent.
- 48 McKinsey, *Lions on the Move*, 19.
- 49 Ibid, 3–4.
- 50 Ibid.
- 51 UNDP, *The Real Wealth of Nations*, 1.
- 52 Ibid, 3.
- 53 Ibid.
- 54 Historic HDI values are not strictly compatible over time, but are indicative of past trends.
- 55 UNDP, *The Real Wealth of Nations*, 8.
- 56 Ibid, 3 and 29.
- 57 Ibid, 30.
- 58 Ibid, 7.
- 59 Koji Miyamoto OECD Development Centre, Human capital formation and foreign direct investment in developing countries, *Working Paper 211*.
- 60 Death at age 5 relative to a life expectancy of 80 would be 75 years of life lost.
- 61 The most recent campaign to eradicate malaria (launched in 2007) is bearing fruit. The target is no more malaria deaths by the end of 2015 and no malaria at all a decade or two after that. Malaria killed 863 000 people in 2008, 89 per cent of them African – and 88 per cent of those people were children under 5 – and infected 243 million more. Malaria currently costs Africa \$12 billion a year – 1,3 per cent of its economic growth. Alex Perry, *Battling a scourge*, in time, 28 June 2010, 35. AIDS deaths in Africa have been trending down since 2004–2005.
- 62 The authors would like to express their appreciation for the assistance of Debay Tadesse and Donald Mwiturubani for input into this chapter.
- 63 See *UNECA Annual Report 2010*, E/ECA/COE/29/7 of 10 March 2010, 1, www.uneca.org/cfm/2010/documents/English/AnnualReport_2010.pdf (accessed 3 December 2010).
- 64 See UNECA, *Economic Report on Africa 2010: Promoting high-level sustainable growth to reduce unemployment in Africa*, UNECA Publications and Conference Management Section, Addis Ababa, 6.
- 65 IMF, *World Economic Outlook – Recover, Risk and Rebalancing*, October 2010, <http://www.imf.org/external/pubs/ft/weo/2010/02/index.htm> (accessed 3 December 2010).
- 66 Forecast with IFs version 6.37. At market exchange rates, the African GDP would be \$8,5 trillion, about 75 per cent of that in the US in 2010.
- 67 McKinsey, *Lions on the Move*, 3–4.
- 68 Fosu and Mwabu, *Human development in Africa*.
- 69 Stevens and Freemantle, *South Africa: leading or lagging the BRICs' thrust in Africa?*, 6 July 2010, 3. Jeremy Stevens and Simon Freemantle, *New sources of foreign capital mobilising for Africa complementing and competing with traditional investors*, Standard Bank, 4 August 2010, 5.
- 70 McKinsey, *Lions on the Move*, 15.
- 71 Paul Collier, *The Plundered Planet: Why we Must – and How We Can – Manage Nature for Global Prosperity*, New York: Oxford University Press, April 2010.
- 72 McKinsey, *Lions on the Move*, 22.
- 73 Ruben de Koning, *Climate Change, Land and Security*, SIPRI, December 2009, <http://www.sipri.org/media/newsletter/essay/dec09> (accessed 13 January 2010).
- 74 ACCES, *Climate Change and Security in Africa*, 18.
- 75 NEPAD Planning and Coordination Agency, *CAADP Review: Renewing the commitment to African agriculture*, March 2010, 1–2, <http://www.nepad-caadp.net/pdf/CAADP%20Report%20for%20the%20AU%20July%202010%20Summit.pdf> (accessed 3 December 2010).
- 76 Ibid, 3.
- 77 Ibid, 9 and 12-19.
- 78 IRIN, *Subsidising agriculture is not enough*, 5 February 2008, <http://www.irinnews.org/report.aspx?ReportID=76591> (accessed 3 December 2010). *Implementing CAADP for Africa's food security needs: A progress report on selected activities*, July 2010, available at <http://www.nepad-caadp.net/library-reports.php> (accessed 3 December 2010).

- 79 The miracle of the cerrado, *The Economist*, 26 August 2010, <http://www.economist.com/node/16886442> (accessed 29 November 2010).
- 80 *Climate Change and Agriculture in Africa*, http://www.ceepa.co.za/Climate_Change/index.html (accessed 3 December 2010).
- 81 See for example, the results of the Africa Fertilizer Summit held in Abuja, Nigeria from 9 to 13 June 2006. The summit was organized by the African Union (AU), the New Partnership for Africa's Development (NEPAD), and the Government of the Federal Republic of Nigeria, and implemented by the International Center for Soil Fertility and Agricultural Development (IFDC). Its purpose was to boost fertilizer use across the continent and trigger a green revolution in Africa. <http://www.ifad.org/events/fertilizer/index.htm> (accessed 23 October 2010).
- 82 World Bank, *World Development Indicators*, 2010. <http://www.data.worldbank.org> (accessed 5 October 2010).
- 83 Eric Firnhaber, Agricultural productivity in Sub-Saharan Africa, *Development Forecasting*, Autumn 2010, 6–7, Pardee IFs Center paper available on the IFs website.
- 84 Vivien Foster and Cecilia Briceño-Garmendia (eds) *Africa's Infrastructure: a Time for Transformation*, Africa Development Forum Series, Agence Française de Développement and the World Bank, Washington DC, 2010, 1–14 and 272, <http://www.infrastructureafrica.org/aicd/library/doc/552/africa%E2%80%99s-infrastructure-time-transformation> (accessed 3 December 2010).
- 85 According to Intergovernmental Panel on Climate Change (IPCC), 2°C global warming will translate into 3,5 °C warming for Africa.
- 86 Brian Handwerk, Underground “Fossil Water” Running Out , for *National Geographic News*, Published May 6, 2010. <http://news.nationalgeographic.com/news/2010/05/100505-fossil-water-radioactive-science-environment/> (accessed 19 December 2010).
- 87 ACCES, *Climate Change and Security in Africa*. 19. In 2009, a severe, persistent five-year drought stretched across East Africa, exerting a heavy human toll, made worse by violent conflict. The worst affected countries were Kenya, Ethiopia, Somalia and Uganda. Other countries affected included Sudan, Djibouti and Tanzania. Almost 20 million people in East Africa became dependent on food assistance. Some years earlier, south-eastern Africa was devastated by heavy rains, cyclones and flooding that, by March 2000, left more than 800 people dead and disrupted the lives of over 2,5 million more in Botswana, Namibia, Madagascar, Malawi, Mozambique, South Africa, Swaziland, Zambia and Zimbabwe. Mozambique was hardest hit with almost 1 million losing their homes. In 2007, West Africa experienced some of its worst floods in ten years. According to UN's Office for the Coordination of Humanitarian Affairs, 500 000 people were affected by heavy rains and floods in 18 countries. Togo, Ghana, Mauritania, Niger and Mali were hardest hit, with floods devastating East- and Central Africa around the same time.
- 88 ACCES, *Climate Change and Security in Africa*, 5–8 and 30. See also IPCC, *Climate Change 2007: impacts, adaptation and vulnerability*, Working Group II contribution to the IPCC Fourth Assessment Report (summary for policymakers), <http://www.ipcc.cn/SPM13apr07.pdf> (accessed 30 July 2007).
- 89 Jasper Grosskurth, *Futures of Technology in Africa*, STT 75, Netherlands Study Centre for Technology Trends, The Hague, 93, <http://www.stt.nl>, 2010 (accessed 25 October 2010).
- 90 Foster and Briceño-Garmendia, *Africa's Infrastructure*, 1-14 and 287.
- 91 United Nations General Assembly (UNGA), *Climate change and its possible security implications: report of the Secretary-General*, 11 September 2009, A/64/350, 117, <http://www.unhcr.org/refworld/docid/4ad5e6380.html>, accessed 17 October 2010. International Federation of Red Cross and Red Crescent Societies (2009) *Hunger, disaster, hope: rethinking humanitarian action, Advocacy Report*, International Federation of Red Cross and Red Crescent Societies, Geneva, Switzerland, <http://www.ifrc.org> (accessed 23 November 2009).
- 92 ACCES, *Climate Change and Security in Africa*, 23.
- 93 EBR staff writer, Africa – the Energy Continent, *Energy Business Review*, published 9 November 2010, http://drillingandproduction.energy-business-review.com/news/africa---the-energy-continent_091110 (accessed 23 November 2010).
- 94 Ibid.
- 95 US Energy Information Administration (EIA), *International Energy Outlook 2010*, July 2010, 28, 49 and 71, <http://www.eia.doe.gov/oiaf/ieo/index.html> (accessed 20 December 2010)
- 96 Ibid, 1.
- 97 Ibid, 10 and 19.
- 98 Ibid, 77
- 99 Grosskurth, *Futures of Technology in Africa*. 67 and 69 (reporting on work of the Africa Infrastructure Country Diagnostic).
- 100 McKinsey, *Lions on the Move*, 12.
- 101 Stevens and Freemantle, *South Africa: leading or lagging the BRICs' thrust in Africa?*, Standard Bank, 6 July 2010, 2.
- 102 The authors would like to express their appreciation for the input from Duke Kent-Brown.
- 103 Foster and Briceño-Garmendia, *Africa's infrastructure*: 1–14.
- 104 Ibid, 211.
- 105 Ibid, 229.
- 106 Stanley Mkojo, op cit APJ. And as Kalam noted in regard to rail development in India, low rail connectivity is one of the main reasons for the slow pace of development of the north-eastern

- region. Abdul Kalam, Address at the Conference on Railways, Vision 2030, New Delhi, 1 March 2008, *Connectivity leads to economic prosperity*.
- 107 *The Tripoli Post*, 15 September 2010, African Railway Union Meeting Agrees on Operating Budget, Vows for Cooperation, <http://www.tripolipost.com/articledetail.asp?c=2&i=4758>, (accessed 4 September 2010).
- 108 Grosskurth, *Futures of Technology in Africa*, 62 (reporting on work of the Africa Infrastructure Country Diagnostic).
- 109 EIA, *International Energy Outlook 2010*, 90.
- 110 Cisco Visual Networking Index: Forecast and Methodology, 2009-2014, 2 June 2010, http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html (accessed 3 December 2010).
- 111 Grosskurth, *Futures of Technology in Africa*, 40–41. As Grosskurth points out, forecasts in this area are, at best, informed guesses.
- 112 Eureka moments – how a luxury item became a tool of global development, *Economist Special Report*, 24 September 2009, available at <http://www.economist.com/node/14483872>, (accessed 3 December 2010).
- 113 Mobile marvels, special report on telecoms in emerging markets, *The Economist*, 29 September 2009, <http://www.economist.com/node/14483896>, accessed 3 December 2010. This figure is originally from a report done by Christine Zhen-Wei Qiang, an economist at the World Bank.
- 114 Foster and Briceño-Garmendia, *Africa's Infrastructure*, 2.
- 115 See, for example the report by the Open Society Justice Initiative, Corruption and Its Consequences in *Equatorial Guinea A Briefing Paper*, Updated March 2010 <http://www.soros.org/initiatives/justice/.../equatorial-guinea-20100317.pdf> (accessed 20 December 2010). For reports on Mrs Grace Mugabe in 2003 and 2009 see those from the Sunday Times at <http://www.timesonline.co.uk/tol/news/world/africa/article5537251.ece> and <http://www.timesonline.co.uk/tol/news/world/article111255.ece> (accessed 20 December 2010).
- 116 Harry Dugmore, *The impact of new media on recent sub-Saharan Africa elections (and African democracy in general)*, Dugmore is MTN chair of media and mobile communications, School of Journalism and Media Studies, Rhodes University, South Africa, powerpoint presentation shared with Jakkie Cilliers on 26 November 2010.
- 117 Grosskurth, *Futures of Technology in Africa*, 52
- 118 This section draws upon Cilliers, *Africa in the New World Order*, 112-113.
- 119 McKinsey, *Lions on the Move*, 35.
- 120 Ibid, 34.
- 121 UNECA, 2009. *Economic Report on Africa 2009: Developing African Agriculture through Regional Value Chains*, Addis Ababa.
- 122 McKinsey, *Lions on the Move*, 35.
- 123 Foster and Briceño-Garmendia, *Africa's Infrastructure*, 272.
- 124 World Bank, *Africa's Future and the World Bank's Role in it*, 1.
- 125 Freemantle and Stevens, *Placing the BRIC and Africa commercial partnership in a global perspective*, 19 May 2010, 2
- 126 Ibid, 6.
- 127 Ibid, 7.
- 128 Ibid, 6-7.
- 129 While China's exports to Africa have been increasing at an annual rate of 39,1 per cent since 2000 (to \$55,9 billion in 2008), those of India have increased by an average rate of 21,2 per cent each year (to \$23,2 billion in 2008). Exports from Brazil have increased by an average of 19,4 per cent per year (to \$16,6 billion in 2008) and Russia from a very low base by an average of 25,8 per cent per year (to \$6,3 billion in 2008). Stevens and Freemantle, South Africa: leading or lagging the BRICs' thrust in Africa, 6 July 2010, 2 and Freemantle and Stevens, *Placing the BRIC and Africa commercial partnership in a global perspective*, 7–8.
- 130 McKinsey, *Lions on the Move*, 15.
- 131 Ibid, 16.
- 132 Stevens and Freemantle, *New sources of foreign capital mobilising for Africa complementing and competing with traditional investors*, Standard Bank, 4 August 2010, 4.
- 133 The authors would like to express their appreciation for the contribution of Collette Schulz-Herzenberg and Lauren Hutton to this chapter.
- 134 The World Bank's World Governance Indicators project groups its six indicators into roughly these three categories.
- 135 Ha-Joon Chang, *Bad Samaritans – the guilty secrets of rich nations and the threat to global prosperity*, Business Books, London, 2007, 160-181. In his perspective, spectacular levels of corruption often accompanied the industrialisation of rich countries and the issue is not so much the level of corruption at any specific stage of development, but what happens with the proceeds of corruption. If the proceeds of corruption stay within the country (as was the case with Indonesia), it can lubricate development. If the proceeds of corruption leave (as with the former Zaïre, now Democratic Republic of Congo), it retards development.
- 136 ACCES, *Climate Change, Environment and Security in Africa*.
- 137 Bratton, Mattes and Gyimah-Boadi, *Public opinion, democracy and market reform in Africa*, Cambridge University Press, 2005, 65. Based on public opinion in 12 African countries from Round 1 of Afrobarometer. These are all countries that have opened up politically and economically over the last few decades.
- 138 Bratton, Mattes and Gyimah-Boadi, *Public opinion, democracy and market reform in Africa*, 66.

- 139 World Bank, *Africa's future and the World Bank's Role in it*, op cit. 1
- 140 Bratton, Mattes and Gyimah-Boadi, *Public opinion, democracy and market reform in Africa*, 69.
- 141 Ibid, 81.
- 142 Staffan Lindberg, *Democratisation by elections – a new mode of transition?* University of Florida, Paper presented at Duke University, 27 October 2008, 13.
- 143 Tony Leon, *The State of Liberal Democracy in Africa: Resurgence or Retreat?*, Centre for Global Liberty and Prosperity Development Policy Analysis 12, April 2010.
- 144 Berouk Mesfin, Democracy, elections and political parties: A conceptual overview with special emphasis on Africa, *ISS Paper 166*, July 2008.
- 145 Ibid, 11–12.
- 146 Ibid, 15.
- 147 Ibid.
- 148 Bratton, Mattes and Gyimah-Boadi, *Public opinion, democracy and market reform in Africa*, 69.
- 149 Ibid, 344–5.
- 150 Ibid, 91.
- 151 Ibid, 345.
- 152 Dorina Bekoe, Trends in Electoral Violence in Sub-Saharan Africa, *Peace Brief 13*, 10 March 2010, United States Institute for Peace.
- 153 *Freedom in sub-Saharan Africa 2009 report*, 2. Freedom House uses a seven-point scale where one is a perfect democracy with full political and civil liberties, and seven, the opposite.
- 154 Lesotho moved from free to partly free in 2009 and Gabon from partly to not free.
- 155 Some argue that smaller size lends itself more easily to political liberalisation. See Jeffrey Herbst in Prospects for Democratisation in Africa, in Abdoulaye Saine (ed), *Democratisation and Liberalisation in West Africa*, Trenton, New York, Africa World Press, forthcoming.
- 156 <http://www.systemicpeace.org/polity/polity4.htm> (accessed 10 December 2010).
- 157 According to Grosskurth, Mo Ibrahim has said it is 'impossible to keep a dictatorship in place in a country where mobile penetration had reached a certain threshold'. See Grosskurth, *Futures of technology in Africa*, 47.
- 158 An r-squared of 0,2 in a logarithmic relationship.
- 159 An r-squared of 0,29 in a linear relationship.
- 160 Robert J Barro and Jong-Wha Lee, 2000, International Data on Educational Attainment: Updates and Implications, *National Bureau of Economic Research (NBER) Working Paper 7911*, Cambridge, MA.

- 161 See, for example, Adam Przeworski, Neto Limongi and Papaterra Fernando, Modernisation: Theories and Facts, in *World Politics*, The John Hopkins University Press, Volume 49, Number 2, January 1997, 155–183.
- 162 This view is central to the arguments of Chang, *Bad Samaritans*.
- 163 While the West is obsessed with the state of democracy within countries, others may be more exercised by the absence of equality between countries as evidenced by the composition of the UN Security Council, the rules and practices that govern trade and the like.
- 164 Augustin Fosu and Germano Mwabu, Human development in Africa, *Human Development Research Paper 2010/08*, UNDP, June 2010, 27–28, http://hdr.undp.org/en/reports/global/hdr2010/papers/HDRP_2010_08.pdf (accessed 19 July 2010).
- 165 Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi, 29 June 2009, Governance matters VIII: aggregate and individual governance indicators, 1996–2008, *World Bank Policy Research Working Paper 4978*, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1424591# (accessed 8 September 2010).
- 166 Ibid, 5.
- 167 Chang, *Bad Samaritans*, 168–170
- 168 Paul Holtom, Mark Bromley, Pieter D Wezeman and Siemont T Wezeman, Trends in international arms transfers, 2009, *SIPRI Fact Sheet*, March 2010, 1.
- 169 *Global Report 2009: Conflict, governance, and state fragility*, George Mason University: Center for Systemic Peace, Executive Summary, 1. <http://www.systemicpeace.org/Global%20Report%202009%20Executive%20Summary.pdf>.
- 170 Monty G Marshall and Benjamin R Cole, *Global Report 2009: Conflict, governance and state fragility*, 7 December 2009 published by Center for Systemic Peace and the Center for Global Policy, <http://www.systemicpeace.org/Global%20Report%202009.pdf> (accessed 2 December 2010).
- 171 Ibid.
- 172 Ibid.
- 173 Ibid.
- 174 Ibid.
- 175 Stockholm International Peace Research Institute, *SIPRI Yearbook 2010: Armaments, Disarmament and International Security*, online version <http://www.sipri.org/yearbook/2010> (accessed 8 November 2010).
- 176 Ibid.
- 177 Ekaterina Stepanova, *Armed conflict, crime and criminal violence*, <http://www.sipri.org/yearbook/2010/02> (accessed 4 November 2010).

- 178 Institute for Economics and Peace, *Global Peace Index 2010*. <http://www.visionofhumanity.org/> (accessed 3 November 2010).
- 179 David O'Regan, *Cocaine and Instability in Africa: Lessons from Latin America and the Caribbean*, Africa Security Brief 5, July 2010, Africa Centre for Strategic Studies, 1.
- 180 See, for example, Issaka K Soaure, A Critical Assessment of Security Challenges in West Africa, *ISS Situation Report*, ISS, 18 October 2010, <http://www.issafrica.org/pgcontent.php?UID=3148> (accessed 8 November 2010).
- 181 Literally, Boko Haram means Western education is bad, while the ADF/NALU are fighting for equal rights for Ugandan Muslims from their bases in neighbouring Democratic Republic of Congo.
- 182 Pew research, *Tolerance and tension: Islam and Christianity in Sub-Saharan Africa*, 15 April 2010, 2, <http://www.pewresearch.org/pubs> (accessed 14 July 2010).
- 183 Kristen Soder, *Multilateral Peace Operations: Africa 2008*, http://books.sipri.org/product_info?c_product_id=384 (accessed 15 November 2010).
- 184 *UN Peacekeeping 2009 Annual Report of the Secretary General*. <http://www.un.org/en/peace-keeping/overview.shtml> (accessed 22 September 2010).
- 185 Soder, *Multilateral Peace Operations: Africa*, 20.
- 186 Ibid.
- 187 World Bank, *Africa's Future and the World Bank's Role in it*, 1.
- 188 Ibid, 19.
- 189 All figures are GDP at PPP.
- 190 In calculating material power, IFs looks to population size (weight of 0,8), GDP per capita at PPP (weight of 1,1), a technology proxy involving GDP per capita and population (weight 0,3) and military spending (weight of 0,9). The current determination of these elements and weights is rooted in unpublished analysis by Evan Hillebrand and Paul Herman, but the general approach has roots in the Correlates of War project and it is possible to alter it within IFs.
- 191 Cilliers, *Africa in the New World Order*, 121
- 192 According to Premier Wen Jibao speaking in Tianjin, 5 September 2010.
- 193 Martin Wolf, Wen is right to worry about China's growth, podcast by the *Financial Times*, 23 September 2010.
- 194 UNDP, *The Real Wealth of Nations*, 9.
- 195 World Bank, *Africa's Future and the World Bank's Role in it*, 2.
- 196 UNPD, *Human Development Report 2010*, 31.
- 197 Ibid, 4.