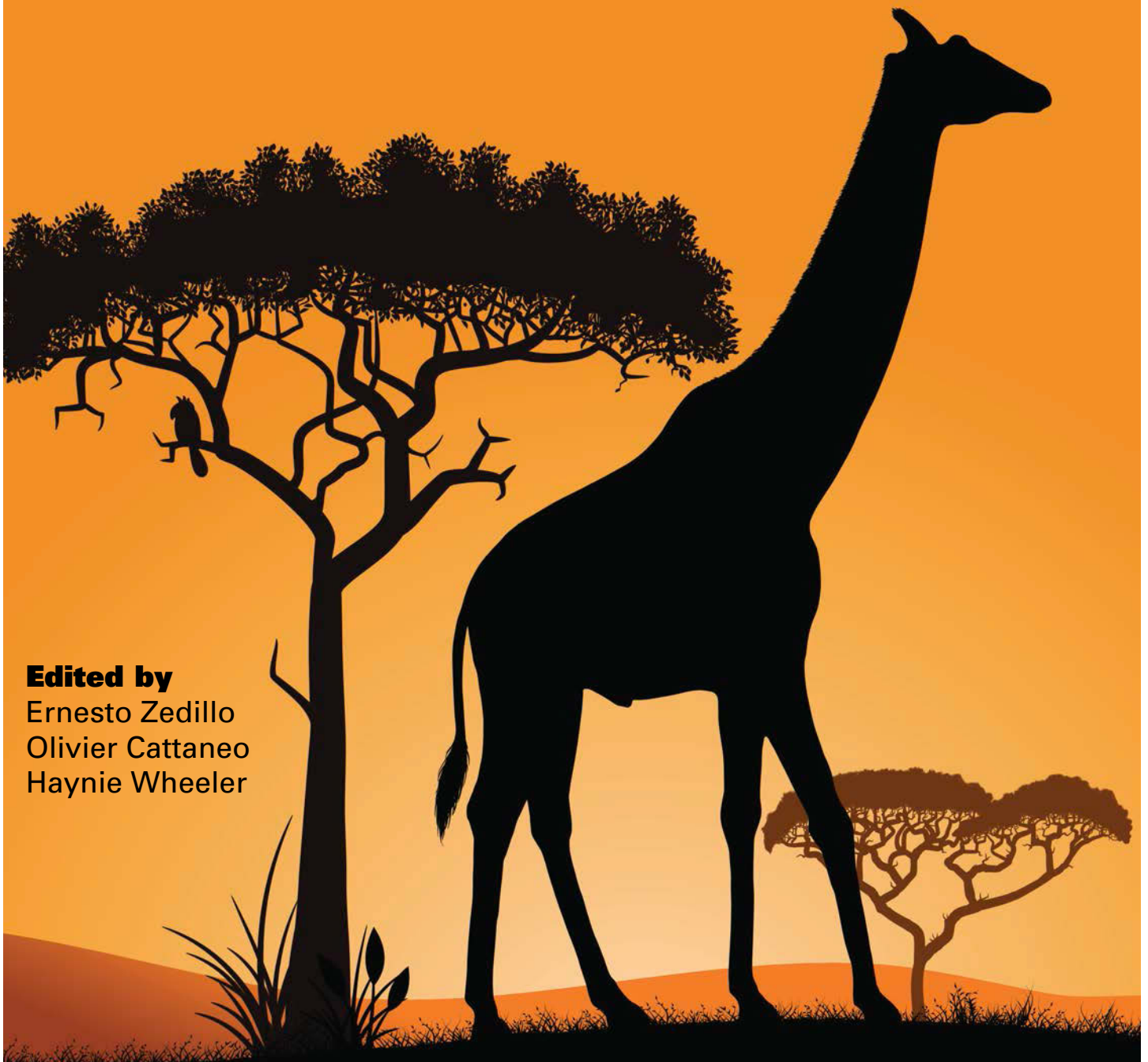


AFRICA at a Fork in the Road

TAKING OFF OR DISAPPOINTMENT ONCE AGAIN?



Edited by
Ernesto Zedillo
Olivier Cattaneo
Haynie Wheeler

Yale Center for the Study of Globalization

Africa at a Fork in the Road: Taking Off or Disappointment Once Again?

A Yale Center for the Study of Globalization eBook

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ISBN 978-0-9779922-1-8

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The papers contained in this book are based on presentations from the conference *Africa at a Fork in the Road: Taking Off or Disappointment Once Again?*, organized by the Yale Center for the Study of Globalization at Yale University in New Haven, Connecticut on April 14 and 15, 2014. The book was made possible by generous support from the Rockefeller Foundation.

Yale Center for the Study of Globalization

The Yale Center for the Study of Globalization (YCSG) was established in 2001 to enhance understanding of this fundamental process and to promote exchanges of information and ideas about globalization between Yale and the policy world.

The Center is devoted to examining the impact of our increasingly integrated world on individuals, communities, and nations. Globalization presents challenges and opportunities. The Center's purpose is to support the creation and dissemination of ideas for seizing the opportunities and overcoming the challenges. It is particularly focused on practical policies to enable the world's poorest and weakest citizens to share in the benefits brought by globalization. It also explores solutions to problems that, even if they do not result directly from integration, are global in nature, and can therefore be effectively addressed only through international cooperation. In addition to drawing on the intellectual resources within the Yale community, the Center actively collaborates with institutions and individuals across the globe.

Contents

Acknowledgements 9

Preamble: Africa in Global Context: Change and Challenges 13

James Wolfensohn

1. Overview 19

Ernesto Zedillo

Part I: Interpreting Africa's Recent Record 37

2. Africa's Policy Choices in an Era of Rapid Growth 39

Donald Kaberuka

3. Industrialization: The Good Road Ahead 45

Carlos Lopes

4. Reconciling Two Views of Africa's Economic Boom 53

Shantayanan Devarajan

Part II: Why Performance Matters: The Challenge of Inclusive Growth 61

5. How Inclusive is the Present Growth Pattern in Sub-Saharan Africa? 63

Erik Thorbecke

6. Inclusive Growth in Africa: Current Performance and Prospects 87

Mthuli Ncube

7. Productivity, Jobs, and Growth in Africa: Six Pieces of the Puzzle 121

Vijaya Ramachandran

8. Avoiding an African Spring: Confronting Africa's "Employment Problem" 133

John Page

9. Africa's Jobs Challenge 145

Haroon Borat and Karmen Naidoo

**10. The Informal Sector, Employment, and Economic Growth:
Recommendations for Effective Policies 163**

Nancy Benjamin, Stephen Golub, and Ahmadou Aly Mbaye

Part III: The Governance Factor 179

**11. Democratic Governance in Africa: Misconceptions and
Opportunities 181**

Leonard Wantchekon

12. The Political Origins of Africa's Economic Revival 189

Robert H. Bates and Steven Block

**13. Evidence-based Reflections on Natural Resource Governance
and Corruption in Africa 239**

Daniel Kaufmann

**14. Reflections on Corruption in Africa: Shifting Standards and
Challenges 261**

Ian Shapiro and Adira Levine

**15. To Maintain its Forward Momentum, Africa Needs Bold
Leadership 271**

Ernest Aryeetey

Part IV: New Norms, New Opportunities: Africa in a Changing World 277

16. Global Value Chains and "Servicification" in Africa 279

Olivier Cattaneo

**17. Better Global Governance for a Stronger Africa: A New Era, A New
Strategy 315**

Léonce Ndikumana

**18. China-Africa Economic Cooperation: Dimensions, Changes,
Expectations 331**

Deborah Brautigam

19. The Role of Aid in a Changing Africa 341

Stefan Dercon and Nick Lea

Part V: Shaping Africa's Future	353
20. Actors of Change in Africa: Human Capital and Markets	355
<i>Yaw Nyarko</i>	
21. Past the Resource Curse: The "New Normal" of African Economics and Politics	365
<i>Paul Acquah</i>	
22. Can Africa Move from Resource Dependence to Structural Transformation?	373
<i>Adam El Hiraika and John Robert Sloan</i>	
23. Foreign Direct Investment, Natural Resources, and Employment in Sub-Saharan Africa	395
<i>Elizabeth Asiedu, Komla Dzigbede, and Akwasi Nti-Addae</i>	
24. Tanzania: Turning Natural Gas into Sustained Growth	
<i>Christopher Adam</i>	415
25. Feeding Africa's Growing Population	435
<i>John M. Omiti and Nancy M. Laibuni</i>	
26. Taking Stock of Africa's Green (Shoot) Revolution	449
<i>John W. McArthur</i>	
27. Smallholders Hold the Keys to Africa's Food and Nutrition Security	473
<i>Sam Dryden</i>	
28. Financial Markets, Investment, and Productivity in African Agriculture	485
<i>Christopher Udry</i>	
29. Towards Sustainability: Predictors of Growth Reversals in Africa	495
<i>Jacob Oduor and Hodkinson Brennan</i>	
Conference-Participant Contributors' Biographical Information	519

Acknowledgements

This volume is the product of a conference hosted by the Yale Center for the Study of Globalization in April of 2014 to assess the key development opportunities and challenges of Africa.

The conference brought together an extremely talented and knowledgeable group of academics, practitioners, and policymakers from Africa, the U.S. and Europe, with the objective of analyzing the sustainability of Africa's current trajectory, exploring which policies and practices have proven most effective throughout the region, and discussing what needs to be done to keep Africa growing and address more effectively the acute poverty and human development problems that persist in some countries on that continent. Hence the importance of convening a group as distinguished as the one we were able to bring together to debate the challenges, opportunities and predicaments of Africa's development over the course of two days at Yale.

Our forum to focus on Africa's development was not our first such gathering. It was the third in a series of international forums, or colloquia, to discuss in depth key aspects of the economic evolution of some of the emerging players in the global economy. Having held two colloquia on Latin America's future growth and development, the most recent in the spring of 2013, we turned our attention to Africa and plans proceeded apace to undertake a serious discussion of that continent's economic growth and development for, among other topics, its prospective contribution to the size of the global economy, and more importantly for its consequences in addressing what is a significant part of the global poverty problem.

In the meantime, a serendipitous occurrence took place at Yale when our university's new president, Peter Salovey, was inaugurated in the fall of 2013. One of

the key points of the inaugural address was when President Salovey announced that “With the growing influence of the African continent on the world economy, as well as increased migration to, from, and within Africa, this is the moment to bring scholarship and teaching about Africa at Yale into sharper focus.” With these well-received comments, we knew that our conference was coming at a propitious time in the life of our University.

This volume contains 30 papers submitted by the participants in follow-up to their presentations at the conference. The papers, for the purposes of this e-volume, have not been peer reviewed, nor did the editors require that the papers be of similar length, as is sometimes done in such volumes. The papers are the product of our conference proceedings. The scholars and practitioners who produced the chapters that follow are some of the most thoughtful, skillful, and effective voices commenting today on African development in all its many aspects. We wish to express extensive gratitude to all of them for the time and effort they have given to prepare their papers for this publication. They have kindly and patiently put up with our many communications and have produced what we are certain will be an extremely useful volume.

All of us at the Yale Center for the Study of Globalization are indebted to Olivier Cattaneo, also a participant and paper contributor, for helping us to develop the structure, organizing the content of the conference, and doing the initial editing of the submitted papers. We would also like to thank Rachel Weaving whose editing skills and talent for turning a set of papers into a book are remarkable. It is always a pleasure to work with such a professional.

Our Center’s Deputy Director, Haynie Wheeler, who began working on this project at the initial idea stage, was in charge of organizing the conference and galvanizing authors to produce their submissions in a timely fashion, and she helped throughout the editing process. She performed all these tasks with her usual grace and efficiency.

The Rockefeller Foundation provided the primary financial support for the conference, and for that we extend our most sincere appreciation to President Judith Rodin and her colleagues. We also warmly and sincerely thank Mr. Mamadou Biteye, the

foundation's Managing Director for Africa, who was enthusiastic, extremely encouraging, and helpful to the overall enterprise every step of the way. The Center's other generous supporters of this conference, to whom we owe very special thanks, are the William and Flora Hewlett Foundation, Banco Santander, and the Edward J. and Dorothy Clarke Kempf Fund.

Ernesto Zedillo

Director, Yale Center for the Study of Globalization

Preamble

The first thing to understand about Africa is that Africa is not monolithic. Africa is many Africas—in terms of language, of country size and stage of development. Of the 53 countries on the continent (49 in Sub-Saharan Africa), some are rich and some poor. Some are rich in minerals; others not. Some are coastal; others landlocked. Some are at peace; others racked by conflict. Some are beginning to pursue long-term transformation plans, while others still struggle with daily exigencies. Some have rapidly growing pools of talented businesspeople and dedicated technocrats, while others work to develop basic skills. Some have world-class logistics; others have budding express shippers and freight handlers.

That is why I ask you to keep in mind the assets and liabilities of individual countries when you are trying to form judgments about Africa. You first have to decide what is your definition of Africa, and whether you can speak about Africa as a single unit.

Most people would nonetheless agree that African countries have some common features and face some common challenges. Africa has already come a long way. We have seen exports carry the continent forward, even though only about 10 percent of those exports are of manufactured products. Africa's medium and high-tech industries have grown—although recently at less of a pace—but commodities and natural resources have up to now been of overwhelming importance.

Of the common challenges, one that I confronted very rapidly when I was at the World Bank was the strength of governance and in particular the issue of corruption. One cannot judge Africa as monolithic, but how much of a problem do you need in two, or three, or four countries to damage the impression of the whole of Africa? I put corruption first on the list of Africa's challenges because in the many

travels I did in Africa, it jumped out at me as a hugely significant issue. Corruption is rife in a number of countries elsewhere in the world, but the global rankings show a heavy prevalence of African countries that are deemed to be corrupt in the context of comparators. My first trip to Africa was to Nigeria in 1961, when I was working for an American firm. Six months earlier, in October 1956, Nigeria had become Independent, and I thought it was appropriate for us to go there and make an investment. A lot of interesting things were happening there at that time, including a huge amount of corruption. I had to see the Minister of Health about the project, because he was the one in line to give me some land, which would be at a substantial price, over its true value. Sadly the pattern of corruption and concentration of power became prevalent in the vast majority of the emerging African countries. They had learned from the colonial masters.

There are exceptions, but regrettably Africa has been characterized by corrupt practices in one form or another since that time. In 1995, for the World Bank, I went to Mali and visited the president there who was a remarkable, very interesting man—a poet, living modestly—but my next stop was Côte d’Ivoire, where Bedié was then president, and I went with my wife to stay with him. He had liveried footmen in uniforms with tails and white gloves. He told us, “I hope you all enjoy tonight because I’ve stolen the chef from the Elysée, and we have a 59 Chateau Lafite for you, and I think you’ll find it a very good meal.” His cabinet officers joined us for the dinner dressed to the nines, with their bejeweled wives in the latest French fashions. I just felt sick to discover that in a country at Côte d’Ivoire’s stage of development the things that we had hoped for were not occurring, and that resources were being misappropriated to a very privileged group that certainly was not the group we were hoping to see in power. Much of the fault lay at the feet of the former colonial powers, who had done little or nothing to prepare the country for self-governance and independence.

At the World Bank, I found it very difficult to be making loans that would deal with human problems while also understanding that whatever was lent would substantially go to places other than where it was intended to go. You may be interested to know that I was the first president of the Bank ever to mention the word “corruption” in a speech. When my speech was shown in 1996 in draft form to the Bank’s General

Counsel before I made it, he insisted that I go outside my office to meet him in a quiet area in the corner. Instead of calling me Jim, he called me Mr. President, so I knew there was something wrong. And he said, “Mr. President, you cannot use the ‘c’ word in a speech.” I said, “What the hell is the ‘c’ word?” He then whispered, “Corruption.” I said, “Why can’t I use the word ‘corruption’?” He said, “Because half of the people on your board represent countries that have very strong corrupt elements, and we don’t get into those moral issues at the Bank.” Well, that didn’t stop me, and I talked about corruption, and since then a global anti-corruption effort has arisen, within civil society and at the national and international government level, with the Bank and all multilateral and national institutions undertaking an ever-increasing spectrum of activities on the corruption front.

Other problematic issues that I see facing African countries are the role and education of women—who constitute an enormous and underutilized resource—and youth education and employment. In Africa as a whole, between 15 and 20 million young people are being added to the workforce every year. Africa will be the youngest continent in terms of the workforce, and so you have to think about how those people will be engaged. And, if they are not engaged, will they be peaceful where other young people in other parts of the world have found it necessary not to be so peaceful? In addition there is a range of development issues starting with governance and the judicial system, healthcare and the confrontation of AIDS and other diseases, industrial development, and very importantly, the natural environment that the continent will face

All this said, I am not pessimistic about Africa. The context for African development is changing rapidly, and so are African countries themselves. At the turn of the 21st century the 30+ OECD countries, with one billion people, had 80 percent of the global gross domestic product (GDP), or about 26 trillion US dollars, and the developing countries, with 5 billion people, which included African countries as well as China and India, had the other 20 percent, or about US\$7 trillion. Indeed, for nearly 30 years before the year 2000, that 80/20 relationship had been maintained, with the vast amount of global GDP going to the so-called rich countries, and the other 20 percent going to the developing countries.

But since 1995 we have started to see an important change. The expectations are that by 2050, when we shall have 9 – 9.5 billion people on the planet, the wealthier countries' population will grow by 250 million to 1.25 billion and the developing countries' population will grow from 5 billion to more than 8 billion. And the ratio of the two shares of world income will be not 80/20 but 35/65. That is a dramatic change. By most estimates, China and India together will have close to half of world GDP by 2050, and by 2035 or 2040 China will have the largest GDP of any single country in the world including the United States. In only 20 years from now, the world's largest economies will be China, the United States, and India, and out of the top 30 countries 21 will be countries that we now call developing countries. Even if my estimates are wrong by two countries, or by five years, or by a few billion dollars—because no one ever really knows when projecting that far ahead—the truth is that we are entering now a massive change in the global economic balance and a massive change in the way in which we look at our world.

Africa itself is changing dramatically, too. Today the continent has about a billion people, but it is very quickly becoming more populous. By 2050, most estimates would say, it will have close to 2 billion, or one in five of the world's people.

Sources of funding have changed, and there is a different atmosphere in Africa now. We have seen new support for exports and for infrastructure development from people including the Chinese and the Indians who previously were not on Africa's list of largest supporters. I was recently in an African country to see a construction project and was fascinated to find that there was only a group of Chinese—including the designers and engineers—who were operating with our African friends to do the construction. That is not unusual in Africa at the moment, and when my fellow Americans or those of you who are European think of the continent, we have always felt a strong affinity with Africans, but to be quite honest we haven't done very much for them. Total aid to Africa has been in the order of US\$40+ billion a year, but now when you look at the individual investments being made there, and when you look at remittances, you see a total cash flow going to Africa of US\$90 – 100 billion a year: multiple times the amount of aid. Twenty years ago the ratio was nothing like that. And whereas 20 years ago most of the funding came from the World Bank and the African Development Bank, Africans

today have a very different attitude to where funding can be obtained: sometimes on the public market, sometimes from commercial entities, and sometimes from individuals.

Part of the reason for this new dynamism in Africa is that debt relief has made new borrowing possible. When I arrived at the World Bank, I noticed that we were lending Africa US\$5, 6, 8 billion a year, sometimes US\$10 billion a year, but that the Bank's balance sheet was barely increasing. I discovered that the monies we were lending were being used to repay ourselves for past loans: there were no net new funds. That is what led me and Michel Camdessus of the International Monetary Fund to come up with the Heavily Indebted Poor Countries Debt Relief Initiative (HIPC), to forgive more than US\$40 billion of debt over a period of time, provided that the indebted countries ceased certain activities and that they developed national poverty reduction strategies that would govern the way the funds would be spent.

HIPC marked the beginning of a new era for Africa because it allowed money coming in to be used for the sorts of things that it was intended for, and not used just to pay old debts back. So as you consider the future of Africa, you can again look at funding sources as being of material help.

The question then is, What *is* the Africa that is being supported by these sources of funds? Is it just Nigeria and five or six other countries? Is it the 49 countries of Sub-Saharan Africa? What about the three or four places that are currently engaged in conflict? What about the youth?

The last thing I would say about the big changes taking place in Africa concerns the blurring of national boundaries. The traditional view of Africa as 53 nation states is now challenged by technology, with young people connecting by cellular telephone and the Internet to other young people in a way that was never possible before. Just as we have seen in Asia and in Europe, the arrival of the cell phone and communications between young people is overcoming national boundaries. Young people make up half of Africa's population. Many of them don't care what their nationality is. They want jobs and they see the jobs challenge as

a continental challenge. This will bring about an Africa that is different than the one that I grew up with.

To sum up, African countries face huge challenges but this does not mean that they cannot make progress or that we cannot have a positive view about Africa generally. With increased education, improved governance, a greater role for women, and a unifying technology, the people on the continent will learn to benefit from their natural resources and become a stronger force on the world scene. As never before, the opportunity exists. African leaders must have the maturity and the foresight to broaden their economic base and make corruption a thing of the past. Let us hope that the challenge is accepted and that a unified Africa will take the important place in the world that its anticipated 20 percent of global population deserves.

In April of 2014 the Yale Center for the Study of Globalization brought together a select group of academics, practitioners, and policymakers to examine in detail precisely these and other pressing issues. The conference participants who convened at Yale University explored the sustainability of Africa's current trajectory, analyzed which policies and practices have proven most effective throughout the region, and inquired what needs to be done to keep Africa growing and address more effectively the acute poverty and human development problems that persist in some countries. I commend the YCSG for organizing this conference and initiating an excellent opportunity for members of the international scholarly community as well as specialists from multilateral institutions from Africa, the US, and Europe together to look in-depth at Africa's struggles and its accomplishments. The papers in this volume contain research and analysis on a range of issues that pertain to the political, economic, and social aspects of Africa's past growth and what forces are shaping its path into the future.

James D. Wolfensohn
Former President, The World Bank

Overview

Ernesto Zedillo

Yale Center for the Study of Globalization

Not too long ago, some observers of global development were calling the growth performance of the African nations the worst economic disaster of the 20th century. This judgment could be disputed, given the destruction caused by other human tragedies like the first and the second world wars. Yet, by any measure, the African countries' economic record during most of their independent life in the past century was undoubtedly no better than dismal.

As reported by the authors of this scathing judgment (Artadi and Sala-i-Martin, 2003), the early gains in per capita GDP that most African countries attained in the decade or so after Independence (around 1960) started to vanish around the time of the 1973 oil shock. The fall in income was particularly marked for the Sub-Saharan countries (SSA), whose GDP per capita started to contract in 1974. This contraction occurred at an annual average rate of 0.5 percent in the second half of that decade, at 0.6 percent during the next ten years, and at an even worse negative rate of 1.2 percent during the first half of the 1990s. North Africa fared better, but not by much.

Shockingly, by 1995 the average per capita GDP of Sub-Saharan countries was lower than it had been a quarter century earlier. This implies that the income gap between Africa and the rest of the world—the biggest of any region to begin with—widened even further during that period.

Along with the economic contraction came a significant deterioration in the continent's poverty rate, from 42 percent in 1970 to 50 percent in 1995. In Sub-Saharan Africa the poverty rate worsened from 48 percent in 1970 to 60 percent in 1995. Since

the relatively richer Africans did not suffer much during the times of contraction or stagnation while the poor grew in large numbers and became even poorer, income distribution further deteriorated during that period of African impoverishment. It is fair of Thorbecke to assert, in his contribution to this volume, that the few growth spells that occurred in SSA in the four decades before the turn of the 21st century tended to be of an enclave type, benefitting only a small segment of society and generally unsustainable.

All this said, it is now clear that what for too long looked like a secular malaise of the African economy somehow began to abate around the mid-1990s. The shift went almost unnoticed for a few years but had become a new trend of growth revival by the early years of the present century.

By some indicators, the consequences of the African economic shift are quite impressive. Since 2000, Africa's annual GDP growth has been averaging almost 5 percent, permitting per capita GDP to grow 2.5 percent annually on average. Remarkably, the Sub-Saharan economies, after their long period of contraction or stagnation, have seen their average per capita GDP grow by close to 3 percent since 2000. Productivity has increased in tandem with economic growth, as reported by Elhiraika and his co-author. Over the decade and a half, GDP per worker has increased at an average of 1.6 percent—a figure made up of improvements in human capital (0.5 percent), accumulation of physical capital per worker (1 percent), and growth in total factor productivity (0.1 percent).

Rapid growth has allowed for a significant reduction in the poverty rate. In the Sub-Saharan region, the proportion of people living in extreme poverty fell from 58 percent in 1999 to 48.5 percent in 2010. Yet the absolute number of poor still rose from 377 to 414 million over the same period and inequality remains extremely high, as Thorbecke and others report in this volume.

Economic growth has nevertheless fueled some meaningful progress in tackling a number of the continent's other key social challenges. For example, under-five and maternal mortality rates have dropped by around 40 percent since 2000. Life expectancy in Sub-Saharan Africa, which had risen only 3 percent between 1980 and 2000, has improved by ten percent since the latter year.

Most countries on the continent have achieved near-universal primary school enrollment and half of them now have achieved gender parity among the enrolled. In the Sub-Saharan countries, adult literacy rates have been rising faster than in the past—by 9 percent since 2000 to reach 62 percent—though admittedly this rate is still quite low.

These and other significant improvements in Africa's economic and social conditions during the last 15 years are described in greater detail by several authors in this volume.

Granting that an inflection point in Africa's performance did take place sometime in the second half of the 1990s, what triggered and further fueled that shift? And—perhaps more importantly—is it sustainable or, alternatively, what conditions would need to be met for a real take-off of Africa's development?

1.1 Reasons for Africa's growth revival

Kaberuka confidently suggests that by now the answer to the first question should be clear. He points to improved macroeconomic management; pro-private sector growth policies; population growth and urbanization; policies that opened up to foreign trade and investment, thereby stimulating trade within the region and the rest of the world and significantly improving inflows of direct foreign investment; booming global markets for natural resources; strengthening of governance and the rule of law; and a drastic reduction in conflicts and political instability.

Interestingly, some of the volume's authors give special weight to political and even geopolitical factors in explaining the recent African awakening. In particular, Devarajan, Bates and Block, and Elhiraika and his co-author trace the African inflection back to the end of the Cold War. In their view, once Africa's authoritarian regimes (which were more the rule than the exception until that time) lost their unconditional support from either of the previously adversarial Cold War powers, and once they felt pressed by the wave of political liberalization that radiated from Eastern Europe, they started to surrender their grip on power. The movement towards more open and competitive political participation in several countries led to the emergence of more competent leaders, and the use of better policies that not only boosted macroeco-

conomic management but also began to take into account the voices and interests of previously marginalized groups. In fact, Devarajan goes so far as to suggest a causal link between the introduction of competitive elections, more competitive exchange rates, higher agricultural prices, and enhanced agricultural productivity and output.

Aryeetey believes that an environment more propitious to growth has been determined crucially by the rise of a new civil society that has relentlessly applied pressure for better governance in a number of African countries.

Most authors consider improved governance (evidence of which is provided in several contributions), to be a fact of the new African reality, seeing it as both a result of freer political participation and a chief cause of better economic performance. Bates and Block, in their contribution, research rigorously this explanation for the African recovery and find that indeed political liberalization caused changes in policies, not least in agriculture, that boosted productivity and economic growth in many African countries. For good reason, they allude to the relationship between political reform and Africa's economic revival as a robust finding, although they also warn that their analysis does not explain all of Africa's recent growth.

That unexplained residual makes it imperative to give proper attention to other factors at play in the African shift, as stressed in various chapters of this volume. A few of the authors are not shy about claiming that political changes in Africa—with the concomitant improvement in economic policies—also gave rise to more flexible attitudes on the part of foreign donors that then created more latitude for homegrown reform efforts. The Heavily Indebted Poor Countries Initiative (HIPC), which has provided debt relief to a number of African countries, may be seen as an example of more accommodating donor policies responding to domestic political and economic reforms. Wolfensohn is on target when he claims in his Preamble that HIPC—by making resources available for better policies and not just to settle old debts—really marked the beginning of a new era for Africa.

Lopes, Devarajan, and several others emphasize the impact that population growth, urbanization, and a growing middle class have had on African demand for consumer goods. Ncube argues that Africa's demographic transition, by being delayed when compared with other parts of the developing world, is now – and will be more so in

the future -- a stronger source of economic growth for the continent than in those other developing regions.

Thorbecke submits that two important features of Africa's recent spell of structural transformation and growth are a more orderly process of rural-to-urban migration, whereby workers leaving agriculture have been attracted to more productive urban jobs, and a gradual improvement in agricultural productivity itself. He concludes, at least tentatively, that because of these two trends the continent's ongoing transformation is a more inclusive social and economic process than in the past.

Of course, all authors in the volume recognize that external factors have played a favorable role in Africa's good economic performance. As the figures reported in various chapters clearly indicate, by far the most important among those factors are the spike in commodity prices, which actually extended into a rather long cycle, and the quantum leap in foreign direct investment. Commodity prices that doubled, indeed tripled for some products, from their late 1990s levels, were bound to relax the growth constraints faced by those African countries that happen to be resource-rich. Not surprisingly, booming commodity markets in turn stimulated international investment into those countries with natural resources. Thus, for a number of African economies, the direct gain stemming from improved terms of trade has been compounded by the benefit of much bigger flows of direct foreign investment. It is suggestive that the stock of foreign direct investment in Sub-Saharan Africa has grown almost tenfold since 2000.¹ Asiedu and her co-authors provide an illuminating analysis of the key determinants and impacts of FDI in Sub-Saharan Africa.

Once it is acknowledged that commodity prices and foreign direct investment have indeed played a role in Africa's recent economic expansion, it is essential to point to China's impressive economic growth as one of the explanatory variables of such expansion, as Kaberuka and others highlight in their respective chapters.

It would be impossible to explain the long commodity cycle from which many African economies benefitted without also noting China's demand for those commodities, which has been spurred by that country's own impressive economic growth. The expansionary phase of the commodity cycle has been unusually vigorous thanks to Chinese demand and this is clearly reflected in the trade figures between the

Asian giant and its African partners. Brautigam's contribution specifically deals with China's economic engagement with Africa. She reports that Chinese trade with the continent multiplied more than tenfold between 2003 and 2013, reaching US\$210 billion in the latter year. China's FDI in Africa is still modest in size—altogether US\$25 billion at the end of 2013—but it has grown consistently at annual rates of 15 percent or more for several years. Were this pace to continue, the stock of Chinese FDI in Africa would quadruple to US\$100 billion by 2020. Brautigam comments that Chinese officials consider that goal of FDI in Africa to be realistic, along with a level of China-Africa trade worth US\$400 billion by the same year.

Brautigam also reports that, in absolute terms, Chinese official development assistance (ODA) to Africa is relatively small. However, the fact that more than one half of China's total ODA gets allocated to Africa is suggestive of the high priority that Chinese diplomacy assigns to that continent, with a view to keeping it as an important trading partner and investment destination.

1.2 How sustainable is the upturn in performance?

As the role that China's explosive growth has played in Africa's good economic performance is brought into the picture, it is also fitting to start tackling the question of how sustainable that performance is likely to be, in light of what is proving to be a permanent slowing down of the Chinese economic dynamism. The double-digit GDP growth rates that China sustained until the Great Crisis are now a thing of the past as the country's leaders not only admit to the slowdown, but also claim to be planning assiduously for it. GDP growth of around 7 percent per year—still remarkable—is the targeted new normal for the Chinese economy.

Slower GDP growth in China and in other large economies—some of which, including those in the European Union, are still affected by the sequel to the Great Crisis—was bound to have a significant impact on the international commodity markets, whose super cycle most likely peaked in 2014. Almost certainly, it will be a while before the resource-rich countries of Africa and of other continents again enjoy the ample demand and high prices for their commodities with which they were favored during most of the last 15 years.

Just like other developing countries—not a few of them in Latin America—that did well while the super cycle lasted, the African economies are about to be tested to an extent not experienced in more than 30 years. If reduced demand and lower prices for African commodities are followed by slower African growth, then it will be evident that the recent growth has been riding mostly on the shoulders of other economies' successes. If this proves to be the case, then most African nations will have only two roads ahead: either to sink back into mediocre economic performance, with all its negative social and political consequences, or to embark upon more profound processes of reform to provide for other engines of economic growth that would allow them to continue making progress on the social front.

Taking the bad road would be most unfortunate, considering that even the rapid growth of the last 15 years has failed to create the jobs needed by the vast numbers of unemployed in Africa. This problem would get much worse in a slower economy considering, as Page does, that many millions of young people will be entering the labor market each year in the immediate future. It is also unfortunate because the continent still confronts extremely high poverty rates. As Ndikumana reminds us, Sub-Saharan Africa is the only part of the world where the number of poor people has continued to rise despite its GDP growth, and where income, gender, and regional inequalities are not only stubbornly high but generally rising. As Thorbecke points out, next to Latin America, Africa has the worst income distribution in the world. To these unfortunate facts, Ncube adds that Africa's record in pursuing the Millennium Development Goals is mixed and that several of the key 2015 targets are likely to be missed.

Frankly, despite the growth momentum gained in recent years, one cannot discount a scenario of renewed disappointment about Africa's development. As the international conditions turn less propitious, the structural weaknesses that persist in most African economies become more restrictive of their capacity to grow. As a number of authors highlight and document forcefully in this volume, some of those weaknesses, far from being solved, have become more acute over the recent period of fast growth.

The clearest, and most worrisome, expression of the continent's structural weakness is, as Mbaye and his co-authors stress in their contribution, the dualistic (formal and

informal) nature of most African economies. The informal sector comprises economic activities outside the fiscal system and other legal regulations.

According to Mbaye and his co-authors, in the low-income countries of Africa the informal sector generates half of national output, 80 percent of total employment, and 90 percent of new jobs. The problem with these large shares is what they imply for those economies' growth potential, productivity, quality of employment, income distribution, and fiscal revenues.

People working in the informal sector are either self-employed or working in business units employing very few people. Although some informal economic activities and units may be part of a vast informal commercial network—in some cases even an international network—they must keep themselves small to remain “outside the radar” of taxation and regulation. When marginalization from the legal system is put together with small size, the results, practically automatic for each informal business unit involved, are lack of legal identity, little or no capital, isolation from formal sources of credit and technology, and very limited markets, all of which lead structurally to very low productivity per worker employed.

Ramachandran reports that, compared with other regions, Africa has a larger share of firms at low levels of employment—reflecting the prevalence of informality. Furthermore, the employment numbers in larger firms tend to be smaller in Africa than elsewhere. The dynamics of employment duality are also of great concern. There is evidence that, at least until 2005, labor in African countries shifted from high- to low-productivity activities. The share of employment in agriculture and services, where informality is dominant, has risen while that of industry has fallen, so much so that the share of manufacturing in GDP declined across Africa from 16 percent in 1980 to just above 10 percent in 2010.

When jobs are created mostly in the informal sector where, as explained, productivity is structurally the lowest, the impact on GDP growth from the incremental use of the labor force is much lower than it could be. Lower value added also means lower incomes for workers absorbed into informal activities. And, if these workers make up the overwhelming majority of the labor force, their constant or increasing share in employment may also become a driving force for worsening income inequality.

The fiscal implications of economic duality are significant because, as Mbaye and his co-authors explain, the formal sector shoulders a disproportionate tax burden. In Africa it is not uncommon to find that large formal enterprises provide more than 95 percent of tax revenue, while firms in the informal sector contribute even less than 3 percent, a figure totally inconsistent with their 50 percent share of GDP. Those authors describe a vicious cycle in which increasing taxes and fees are charged to a dwindling formal sector, leading some of its constituent firms to either close or become informal, thus making public finances even more dependent on a narrowing revenue base.

Since formal enterprises, for practical purposes, are the only source of fiscal revenues in many African countries, they obviously carry a burden that makes them less likely to be internationally competitive. This circumstance is aggravated by the rather paradoxical fact—considering that African per capita incomes are among the lowest in the world—that wages and unit labor costs are relatively high for African firms operating in the formal sector. In this respect, the figures reported by Ramachandran are striking: after controlling for firm characteristics and country effects, African firms pay a wage premium of 50 percent. Even small firms (fewer than 20 workers) in Africa pay higher labor costs relative to GDP than do large firms located in comparable developing countries. Unlike in other countries, where firms with lower capital-labor ratios pay less than firms with higher capital intensity, in Africa the cost of labor seems to be almost invariant to the capital intensity of each formal firm. This inelasticity of labor cost to each firm's size and capital intensity strongly suggests that significant regulatory rigidities exist in the formal labor markets.

In many African countries the bias against employment in the formal sector is reinforced by trade policy. As also explained by Mbaye and his co-authors, large disparities in import tariffs and other trade restrictions between neighboring countries, which persist despite many regional integration attempts, give rise to massive merchandise smuggling, an activity that, being illegal, obviously relies—at least at the retail level—on informal businesses that crowd out formal ones from the market place.

Of course there are many other factors underlying the sharp duality of the African economies. Some of our authors list factors such as overvalued exchange rates

that raise the cost of wages; poor infrastructure that, among other consequences, causes the highest transport prices in the world and an insufficient supply of electricity, posing one more obstacle to formal firms' ability to flourish; barriers to competition that exacerbate the high cost of transport and other important services like banking and telecommunications, discouraging the creation of new formal businesses; and an insufficient and inefficient investment in human capital, that partly explains its relatively high cost.

1.3 Governance

There are other structural weaknesses in Africa's evolution, but perhaps the one that offers the greatest challenge may be the political one. Despite the amazing strides towards democracy achieved in many parts of the continent since the 1990s, it is also true that the healthier political conditions realized in no small number of African countries are still somewhat fragile. Bates and Block submit that powerful forces are at play in Africa that seek to reverse the political reforms that allowed an improvement in government policies and the recent good economic performance. In support of this claim, they report that in a large number of countries where term limits for the chief executive were adopted during the time of political reform 20 or 25 years ago, those limits have been removed, or at least there has been pressure to have them abolished or extended. They also point out that according to reputable sources, a number of African states have regressed recently to lower levels of political and civil liberties.

Kaberuka warns that overemphasis on the power of the ballot, without mechanisms to effectively distribute power to the people, is at the root of the political volatility observed recently in Africa. He questions the value of having countries unthinkingly adopt Western multiparty democracy, if this encourages corruption and perpetuates politically fragmented and unequal societies and does not deliver clean and accountable governments. He is not prescriptive about the alternative modalities of government that may be warranted, stating only that Africans must decide for themselves what kind of democracy they need to sustain economic growth, but his essential concern about the fragility of Africa's polity and governance is to be taken seriously. In that respect, experiments to find better ways to increase citizens'

participation in the electoral processes of the kind undertaken – and reported in this volume – by Wantchekon are potentially of significant value.

Equally, Oduor and his co-author's econometric analysis of African growth reversals is pertinent. He finds that improved democracy reduces the probability of growth reversals and that it also cushions an economy from reversals during episodes of economic instability. Perhaps not surprisingly, he also finds that civil war is the factor contributing the most to growth reversals.

African leaders and other political actors should be constantly reminded—as Wolfensohn's Preamble does for us—of how crucial preserving and strengthening governance continues to be for Africa, particularly as it pertains to the issue of corruption. Shapiro and his co-author extend this point forcibly. They argue persuasively that any discussion of African development would be incomplete without the proper attention to corruption, for corruption continues to impede the rule of law, good governance, and state building. They make the strong point that political alternation is vital to combating corruption. That is why, among other negative consequences, any democratic reversal that reduces the chance of alternation would make the pursuit of development more difficult.

Kaufmann tackles, also with serious concern, another aspect of governance that is crucial for the development of not a few African countries: that of natural resource governance. He documents that most resource-rich countries, certainly those in Africa, have substantial deficits in governance that cause poor management of those resources, with the consequence of excluding the poor from the benefits of that wealth. He predicts that on present trends the proportion of poor people living in resource-rich countries will have increased from 20 percent in 1990 to 50 percent by 2030. He perceives corruption to be at the root of this worrisome trend but warns that corruption is itself the symptom of a broader institutional weakness and governance failure. This circumstance, afflicting many resource-rich countries, must be tackled and a good place to do so is in the management of those resources for true development purposes.

The fact that a significant proportion of natural resources are not properly used in many African countries should be very worrisome, but it must also be seen as

an opportunity for the continent's future development as Acquah submits, even suggesting – perhaps too optimistically – that revenues from natural resources properly managed could reach 400 billion US dollars a year, an amount which is eight times Africa's development aid receipts. Better governance and management of those resources, not an impossible task, can be the lever toward new economic activities—not only in the processing and refining of those commodities but also in downstream industries, thus rendering higher GDP growth and enhanced generation of better quality jobs, along with the enlarged fiscal revenues that are so greatly needed to finance the necessary physical and human infrastructure.

Adam's contribution, on Tanzania's opportunities and challenges stemming from its potential natural gas reserves, proves very effectively that a judicious conjunction of insights from the development and optimal exploitation of natural resources literature can be used to provide a set of concrete principles of unquestionable value for policy makers.

1.4 Agriculture

Africa does not only have hydrocarbons and minerals as natural resources. As Elhiraika and his co-author stress, the continent is also home to 60 percent of the world's uncultivated arable land. This fact, together with the circumstance that agricultural productivity is still lagging in most African countries, strongly suggests that in this sector another huge reserve for development still resides. A number of our authors emphasize the role of agriculture as one of the renewed sources of growth that will be needed if Africa is to sustain its good overall performance of the last 15 years. As several authors explain in their respective chapters, agriculture is crucial considering that a large proportion of the population (around half a billion Africans) and around 70 percent of the poor are still rural. Leaving agriculture for other economic activities and urbanization alone will not solve the still growing problem of poverty. This huge challenge must also be tackled within the agricultural sector itself.

Given that Africa's agricultural value added per worker still lags behind that in other regions of the world, McArthur rightly observes that most African countries will need to raise agricultural productivity significantly if they are to be able to achieve widely distributed economic gains. He explains that in order to achieve the desired rise in

productivity it will not be enough to increase yields per hectare through modern seeds cultivated with sufficient fertilizer. Rather, a multiplicity of other policy interventions would have to be implemented, ranging from lowering transport costs—through deregulation and better infrastructure—to expanding credit in rural areas and making reliable and low-cost energy available to agricultural producers.

Dryden agrees that the goal must be to have sustainable and substantial productivity gains in African agriculture, as an indispensable condition to keep high rates of economic growth, achieve an inclusive economic transformation, create jobs for the youth, and enable dramatic poverty reduction. Based on the work done by the remarkable Bill and Melinda Gates Foundation, he submits that the right strategy to pursue that goal must focus on smallholder farmers; key geographies; key staple crops and livestock; identification, diffusion, and adoption of key technologies and practices; and the development of comprehensive regional food systems comprising both the demand and supply sides of the agricultural supply chain.

Omiti and his co-author, too, believe in the importance of looking at entire agri-food systems rather than paying attention only to the supply aspects of food production. A holistic approach requires actions comprising natural resources, social networks, and maintenance of diversity in genetic resources and farming techniques, as well as policies that create conditions for effective governance. Furthermore, in their view, special attention should be dedicated to policies aimed to reduce drastically food losses and food waste. Globally around one third of the food produced in the world is lost or wasted.

Quite pertinently, Udry warns analysts and policymakers about the pitfalls of following rigidly general prescriptions when pursuing higher yields and productivity in the African agricultural sector. Reporting on several randomized controlled experiments to provide support to small African farmers, he concludes that interventions, to be successful, must take into account heterogeneity on the ground—and also that proposed interventions must be tested before being widely applied. A corollary of that conclusion is that large-scale programs that are introduced from above and purely state-led are likely to fail. The experiments reported by Udry do provide however strong support for the validity of a general proposition: that markets with prices, and

the returns that small farmers may expect to earn from them, do count in determining yields and productivity. Nyarko arrives basically at the same conclusion. Relying on multiple interviews of African farmers he asserts that market opportunities are seized whenever they are available. He claims categorically that if farmers can find markets for their products, they will figure out the rest.

1.5 Participating in global supply chains

Although all authors would agree that increasing both output and productivity in agriculture would go a long way toward keeping the African economies moving forward, and allow them to abate poverty more significantly, some would also argue strongly that developing a dynamic manufacturing sector is also a must to achieve the necessary sustained growth.

One reason for this position is that, as Thorbecke and others point out, until now workers leaving the rural sector have been moving into informal sector jobs in services instead of into the formal manufacturing sector, where higher productivity and incomes are to be expected. And, of course, there is also the demographic factor already mentioned. Looking forward, Ncube and Bhorat insist that Africa will be a chief driver of growth for the global population and consequently for the global working-age population. Bhorat reports estimates according to which Africa's working age population will increase by 70 percent over the next 15 years—posing a huge challenge that can hardly be overcome without fast growth in manufacturing activities. These and other considerations make a number of our contributors advocate active policies to foster African industrialization. Lopes goes so far as to suggest the adoption of “smart” protectionism, but he rejects “crude” protectionism and states that the import-substitution industrialization model used in Latin America or the export-oriented one used in South East Asia are no longer options for Africa. Fortunately, in the view of Lopes and other contributors, the fact that those options are no longer available should not be an insurmountable obstacle for Africa's industrial development given the fundamental change that has been taking place in the pattern of production and trade across the world and consequently in the international division of labor.

Lopes, Cattaneo, and Page, in their separate contributions, adhere strongly to a relatively new view, best articulated by Richard Baldwin (2013), on the development implications of an essential feature of contemporary globalization: the economic feasibility of unbundling complex production processes. As computing and telecommunication capabilities became cheaper and enormously potent—a phenomenon known as the Information Technology (IT) Revolution—it became economically attractive, in the presence of already inexpensive transport costs and lower impediments to cross-border trade, to separate previously integrated and concentrated production processes, making international supply chains feasible and profitable. Production dispersion in internationalized supply chains has become cost effective and, in many cases, the only way to be competitive.

Before the unbundling of production, industrialization was about economies of scale as well as vertical integration and clustering of production processes. Consequently, building a competitive industry required a deep industrial base, a condition historically achieved by only a small number of countries.

Nowadays, by assimilating off-shored links of the supply chain, developing countries can industrialize more rapidly without waiting to build the deep industrial base formerly required. Thanks to the unbundling and to off-shoring complex production processes, nations can industrialize not by building an industry in its entirety but by joining a supply chain, making industrialization, in principle, faster and easier.

Our contributors believe that this circumstance is what gives Africa a real opportunity to industrialize despite being such a conspicuous latecomer to that process. But they are not naïve about the preconditions for the insertion of African economies into global supply chains. Fulfilling a set of conditions is indispensable if the objective is to enhance the income and employment stemming from agricultural activities by moving up the global and regional value chains in the agro-food sector.

As Cattaneo explains, achieving that movement is not only about capacities in the agricultural sector, but also about the availability of efficient ancillary services, including transport and logistics. In fact, Cattaneo believes that the new industrial model,

by virtue of decomposing production into a multitude of tasks—many of which are pure services not physical inputs—offers Africa the potential to develop a formal service economy, linked to modern manufacturing, that would provide many more and much better jobs for the young labor force.

For this opportunity to materialize, much more must be done to improve the continent's human capital. Devarajan opines that despite the sizable resources spent by African taxpayers and donors alike on health and education, they have little to show for it. This opinion may be too harsh, but it reflects a valid concern about whether the human capital deficiencies in Africa are a chief obstacle for further development if not addressed properly and more effectively.

There is also, of course, the challenge of not having the essential physical infrastructure—which is much needed under any circumstances. Despite the progress of recent years, it is hard to see how the African economies can insert themselves or move up in the global value chains without better provision of electricity, telecommunication capabilities, and infrastructure for transport—roads, railroads, airports, and ports. As Devarajan also reports, exporters from Africa pay some of the highest transport prices in the world. He argues that the poor state of Africa's infrastructure would not be remedied by simply building new infrastructure, but will also require dismantling the entry and other competition barriers and regulations that have provided huge rents to a few at the expense of the many.

For African firms to have a serious chance to be part of global value chains, it is also imperative that their governments move decisively to lower trade barriers, both among their economies and with respect to the rest of the world, and deliver at last the long-promised African economic integration.

1.6 Conclusion

The contributors to this volume provide reasons to be both optimistic and troubled about Africa's development prospects.

There are reasons for optimism because most African economies have come a long way from the rather disastrous situation that afflicted them for a long time. Although none of the authors would dismiss the role that key favorable external

conditions have played in Africa's recent fast growth story, their analyses reveal that much credit should also be given to homegrown domestic conditions and to decisions taken by Africans themselves to overcome the economic, social, and political stagnation they endured from the second half of the 1970s well into the 1990s. The fact that the economic and political fundamentals that lie at the root of recent successes are essentially an African construction should make us believe that the newly acquired resilience is likely to be sufficient when tested by a less propitious international environment.

That sufficiency in resilience is likely but not certain. Recent setbacks in countries like South Africa, Ghana, and Nigeria, not to speak of those that have suffered the Ebola outbreak and many other disappointing examples, illustrate how uncertain the African take-off still is. Alongside their reassurances, our contributors provide a host of reasons to be concerned about the solidity of some aspects of the recent African progress. They all seem to agree that now that the external environment brings significant headwinds to African growth, like declining commodity prices and slower growth in key trading partners, most countries in the region will need to reinforce or even redesign a number of their strategies and policies with a view to fostering employment and productivity across their economies while reducing their economic duality. The challenge is not only to make sure that some of the basic macroeconomic fundamentals are restored to the condition they were in before the global economic turbulence of recent years, but also to embark on a structural transformation that goes well beyond the efforts applied over the last 20 years.

The most significant transformation needed in Africa consists of strengthening, and in some cases building, the institutions without which no lasting development will be possible. This view is clearly voiced by Dercon and his co-author who also suggest that foreign aid must be used actively to promote such institution building. One could add that among all the necessary institutional reforms, the most urgent and important are those pertaining to the rule of law. To make African growth inclusive and thus give it additional sources of dynamism, the playing field must be leveled for all Africans and this task starts with a system that provides justice and security for all, not just a few, of the African people. This ambitious but necessary step would

lead to more accountable and responsible governments and would help a lot to further unleash the immense potential of the African people towards the development of their nations.

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Endnotes

¹ According to various sources, it was US\$34 billion in 2000, had grown to US\$246 billion in 2012, and probably kept growing at a pace of US\$50 billion per year in 2013-14.

PART I

Interpreting Africa's Recent Record

2. Africa's Policy Choices in an Era of Rapid Growth

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Africa is undoubtedly the most discussed continent currently. The discussions mainly center on her impressive economic performance and whether the growth can be sustained. There are three main views on Africa's growth sustainability. First, there are people who think that Africa is rising because the factors driving today's growth are different from those that drove growth in the previous decades. The second view is that "There is no country called Africa": that African countries are heterogeneous, with different economic structures and human and physical endowments, so that we cannot expect Africa to behave like a single country. The third view is that "We have seen this over-optimism about Africa before" and it is only a matter of time before the bubble bursts.

2.1 Rapid growth with no structural transformation

Among these contestations are facts that are known and incontestable. First, it is a fact that Africa has recorded very impressive growth in the past decade. Sub-Saharan Africa's average growth rate stood at an impressive 5.2 percent between 2000 and 2013. Growth has however varied by region and production structure. The West African region led the pack at 6.84 percent over this period, followed by East Africa at 6.40 percent and Central Africa at 5.41 percent. Southern Africa grew at 4.49 percent and North Africa at 4.47 percent, mainly because of the effects on South Africa of the global financial crisis and the effects on North Africa of the Arab Spring. Net oil exporting countries grew by 5.77 percent while net oil importers grew at 4.55

percent. Real income per person has also increased—by more than 30 percent in the last decade. Post-conflict countries posted growth of 6.6 percent while fragile states grew by 3.6 percent over the same period. There has been improvement in key welfare indicators as well. Poverty rates are falling, though still high. Between 1999 and 2012, Africa’s average poverty rate fell from 58 percent to 43 percent.

Second, it is incontestable that Africa’s growth is happening with no meaningful structural transformation. There is no reallocation of resources from low productivity areas to high productivity areas.

Third, the factors that are driving African growth are well known. Some of these include increased population growth with attendant increased aggregate demand, and macroeconomic management that has tremendously improved, compared to a decade ago, and has largely come with supportive policies for private sector growth. Instances of political instability have been drastically reduced in the continent. Political governance and the rule of law have been strengthened and this has increased economic accountability. Africa has been opening up to international trade and investment. Natural resources are booming, notably as the result of the demand for minerals and oil from Asian countries, including China. We also see greater regional economic integration and improved inflows including of foreign direct investment and remittances.

2.2 Constraints on growth

But masked in the growth story are what one could call Schumpeterian forces working behind the scenes and affecting Africa’s growth. First, Africa is starting from a disadvantaged position on several fronts due to the effects of colonial rule. One of these is ethnic fragmentation, which started with the colonialists. Recruitment into the military and civil service by the colonial masters largely followed ethnic leanings, with those groups who were considered allied to the colonialists given privileged access to education and administration. This was the case with the Kamba in Kenya, Tiv in Nigeria, and Acholi in Uganda. Those who were considered less cooperative were neglected and punished for being unruly and generally left out of government (Young, 1994). Ethnic fragmentation has continued to haunt Africa to date.

In addition, many observers characterize colonial rule in Africa and indeed other parts of the world as an era of “wealth drain” and substantial outflow of financial resources. For instance, the so-called “home charges” levied by the British constituted an official transfer of funds from the colonized to Britain in the form of debt service, pensions, and purchase of military equipment, etc. Government procurement of civilian goods and armaments was mainly done from the colonists without any effort to develop industrial capacity in the colonized countries to produce them locally. Most of the colonial surpluses were repatriated by the metropolitan countries in the form of interest repayments, salaries, and pensions, and this limited indigenous capital accumulation and prospects for growth (Bertocchi and Canova, 2002). The colonialists in most cases left no meaningful industrial and infrastructure base in place to help Africa jump-start her growth.

Second, we have heard many times about the prevalence of conflict in Africa without going back to history to try and understand the dynamics. The Cold War in the 1960s and the resulting global competition between the superpowers and the consequent search for allies/proxies in the developing world could be cited as the main seed of conflict in Africa. Angola for instance became a battleground for the superpowers during the Cold War. On the one hand the USSR and Cuba were supporting and arming the Angolan government while on the other hand the USA and South Africa supported the UNITA rebels. In many other cases, the superpowers’ economic and military support to various governments and rebels in Africa exacerbated the civil wars that engulfed the continent (McWilliams and Piotrowski, 2005). This trend was to continue long after the Cold War ended. Before the Cold War, Latin America was more synonymous with conflict than Africa but this changed with and after the Cold War. The effects were long term and Africa is still trying to get out of the circle of civil strife.

Third, Africa has lost her policy space as a result of conditionalities and rules imposed supposedly to increase free-market forces. Gallagher (2006), for instance, estimates that of those World Trade Organization rules introduced between 1995 and 2005 that included requirements for tariff reductions, more than 25 percent shrank developing

countries' policy space, leaving these countries limited capacity to generate domestic revenues. In Uganda, for instance, tariff revenues are estimated to constitute up to 40 percent of tax revenues, and slashing them not only limits the ability to foster new industries but also eliminates an important source of funds for financing social programs. At the end, Africa has lost her capacity to export anything meaningful and compete in the world stage.

Fourth, western style democracy has been a pre-condition for African countries seeking foreign aid and loans—with the presumption that democratic values are alien to Africans. What is not told normally is that democratic values have long been indigenous to Africans. The prescriptive nature of the democratic values required of Africans by donors can be compared to what Rudyard Kipling characterizes in his poem the “White Man’s Burden,” as helping a degenerate race, incapable of development and civilized behavior. But, looking back, Western multiparty democracy does not seem to work for Africa. Some African heads of state formed more than 100 parties in their countries to satisfy donors. But there was overemphasis on the power of the ballot without a mechanism to distribute power to the people. This situation has created a constituency of serial losers. It has increased political volatility because the losers feel the system is rigged against them. Other than encouraging low participation in the electoral process, such a system also lowers the threshold for violence from a constituency that has very little to lose. It encourages corruption and perpetuates a politically fragmented and unequal society. What we must learn from this is that there is no standard form of democracy. Africans must be able to decide for themselves what kind of democracy they need to boost economic growth. What Africa needs is *clean* government that delivers services and is accountable to the people—even if it does not necessarily resemble Western democracy.

Looking ahead, for Africa to sustain its economic growth momentum it needs to confront important challenges. With a birth rate of about 3.9 percent per year, Africa needs to grow by more than 7 percent to sustain the increase in population. Massive infrastructure deficits in the continent need to be filled. The private sector is still poorly developed and largely underfinanced, with few projects embodying public-private partnerships (PPPs). There is too much dependence on the natural resources boom, and a failure to consider a future without natural resource rents.

Political instability still stalks the continent, with the return of autocratic governance in several states. The absence of inclusive growth—in the face of increasing prosperity for some groups and regions—is leading to dissatisfaction in many countries. And corruption remains one of the main impediments to investments into Africa.

Yet, there are also tremendous opportunities that Africa can take advantage of. African economies rank among the most resilient in the world, due in part to their low level of integration with global financial markets. Africa boasts a large and youthful consumption base and high domestic demand, providing a huge market for goods and services. African financial assets also offer high risk-adjusted returns and other forms of investments. Lastly, for investors the financial crisis exposed the potential of making Africa the destination of choice, because it can provide assets whose values have low correlation with the volatile traditional investment markets in developed countries.

2.3 Three essentials for transformation

To achieve transformation, Africa must focus on three main things. First there is an urgent need for Africa to develop her infrastructure. This is not a new message for us at the African Development Bank. Second, Africa must focus more on *economic* integration, going beyond political integration. Trade among the East African countries, for instance, constitutes 25 percent of their total trade. Africans can and should take advantage of the large markets that economic integration offers. Third, Africa must move up the value chains. For example, the minibus is commonly used in most African countries and has different names in each country: *dala dala* in Tanzania, *matatu* in Kenya, etc. Why can't Africa start producing this good that is in demand in most African countries, with each country producing a part of the whole?

The African Development Bank is already leading innovative ways of funding Africa's infrastructure gap. Already, 60 percent of the Bank's portfolio is in infrastructure with energy development taking the lion's share. We have also recently launched [Africa50](#), a dedicated infrastructure fund. African governments must put in place deliberate policies to improve infrastructure. The Bank has emphasized in its ten-year strategy the need to focus on governance and accountability, with a particular attention to fragile states. All efforts must be put in place to make Africa peaceful

and accountable. On private sector development, the Bank has over the last few years enhanced and ramped up its financing for Africa's private sector tenfold. We have decided to go where others fear to tread, in order to open the doors. We are encouraging PPPs in a number of our projects. The Bank is providing robust risk-mitigation instruments, including partial risk guarantees which reassure the sponsors and unlock financing for complex projects. We are leading the way in deepening capital markets to mobilize Africa's own savings. The Bank is leading discussions and efforts to have Africa enter global value chains, especially in the field of natural resources. This is in fact the theme of our annual meeting this year in Kigali, Rwanda. To deal with inequality, we are aggressively embedding inclusive growth in our projects and have made inclusive growth (along the gender, age, and geography dimensions) one of the five pillars of the Bank's ten-year strategy. Africa must embrace inclusiveness to sustain growth.

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3. Industrialization: The Good Road Ahead

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3.1 Introduction

The title of this colloquium, “Africa at a Fork in the Road,” echoes the expression used by Secretary-General Kofi Annan, just over ten years ago when he proclaimed to the UN General Assembly (September 23, 2003): “Excellencies, we have come to a fork in the road. This may be a moment no less decisive than 1945 itself, when the United Nations was founded.” Annan was conscious that deep divisions among UN member states, coupled with a multitude of new and more complex challenges, called for a review of common rules of engagement. Although he used the word decisive he obviously was worried about the *indecisiveness* that could result from prevailing polarizing views and interpretations.

But today there are no reasons to think that Africa or its leaders are indecisive about the road ahead.

Africa is making the right choices for itself, even though some of these may not be well strategized or well planned. At the African Union Summit of 2013, which celebrated the 50th anniversary of pan-African institutional history, the tone was about the need to avoid repeating mistakes, and to prepare for the next 50 years with a vision and agenda that will make sure Africans claim their share of the global fortunes by 2063. The same boldness is perceived in the elaboration of Africa-specific goals, or in the negotiation of some key partnerships. A flurry of intra-African initiatives is

keeping policymakers busier than ever before. Thirty two countries are engaged in prospective studies. The vast majority of peacekeepers in Africa are from within the continent. Most of the economic debates center on domestic resource mobilization, arresting illicit financial flows, or better use of investment streams.

The macroeconomic indicators are the best since Independence. At the turn of the Millennium, Africa's GDP was US\$600 billion; in 2013 it had jumped to US\$2.2 trillion, in one of the fastest growth trajectories in history. In comparison, China took twelve years to double its GDP per capita, India seventeen years, and the US and Germany between thirty and sixty years.

Structural transformation now dominates the continental discourse of African leaders. That means a clear realization of what has *not* happened—as reflected in low agricultural productivity, a contraction of value added in manufacturing, limited poverty reduction, and lack of jobs and inclusive policies.

Today, then, the fork in the road for Africa points to one direction and one choice: the need to use the favorable winds to achieve economic transformation, and to accomplish this through industrialization.

3.2 Learning from others

In order for Africa to grow and transform there is need to have a clear understanding of the times. Africa is not new to the business of transformation. But Africa must nevertheless innovate in the business of transformation. Lessons from many parts of the world will help Africa avoid mistakes and become sophisticated.

Prato, a small town in Italy, was once hailed as that country's textile capital. In the last 20 years a surge of Chinese investment brought to the heart of this European town 50,000 Chinese workers churning out "made in Italy" fashion items with labels ranging from Fendi or Salvatore Ferragamo all the way to low-cost Zara or Topshop. Their speed, efficiency, and high productivity are a force to be reckoned with. This growing community has turned around all the rules of once-quiet Prato, with some observers accusing China of exporting a sweatshop.

Mexico's *maquiladoras* are another phenomenon of contemporary economic patterns. A *maquiladora* is typically defined as a free-trade-zone manufacturing opera-

tion in which factories import material and equipment, on a duty-free and tariff-free basis, for assembly, processing, or manufacturing, and then export the assembled, processed, or manufactured products back to the country where the raw materials originated. In Tijuana, Mexican workers know all about their dependence on the investment and exports taking place across the border to the US. During the years of receding demand from the big neighbor, 300,000 jobs were lost to competitors far away in Asia. However, recent rising labor costs in Asia have made Mexican workers competitive again. Exports from Mexico grew 50 percent between 2009 and 2012, to US\$196 billion. By comparison, Africa's total manufacturing exports are just US\$91 billion, the same as Thailand's. What is new in Mexico is that Chinese investors supplied part of the surge of US\$7.4 billion investment in the *maquiladoras* in 2012. They are encouraging the *maquiladoras* to pursue a shift to the more lucrative automotive industry. One state to benefit from this investment is Guanajuato, whose growth is set to accelerate considerably. There have been announcements of sourcing expansion by firms such as General Motors, Ford, Chrysler, Honda, Mazda, Nissan, Audi, and Volkswagen.

In China itself the manufacturing of electronic goods has captured the world's imagination. Most of the devices and gadgets we use are assembled by Foxconn, the largest operator in the field, employing more than half a million workers. Foxconn is the world's biggest contract electronics manufacturer with clients such as Apple, Dell, HP, Microsoft, and Sony. It has decided to build a plant in Itú, near São Paulo, that will eventually employ 10,000 workers in a half billion dollar investment.

What are the lessons for Africa from these stories?

The changing landscape of international trade and investment has completely overhauled our understanding of global value chains. Since the 1980s there is a growing trend for enterprises to spread across several countries for the different stages and activities of the production process. There is no longer any single firm that produces any product from A to Z. Production is certainly no longer limited by physical borders. The value of patents and intellectual property is more substantial than the value of physical goods anyway. Complex and innovative financial systems, capital and venture arrangements, and global standards and dispute-settlement mechanisms have all contributed to a world where crude protectionism does not

work. However, everybody seems to practice smart protectionism, better defined as the ability to make the rules work for you and outsmart the systems in order to attract investment, equity, and markets.

Previously countries had to develop strong industrial bases before they could trade and compete globally. They can now insert themselves into specific segments and sub-sectors of global production processes. The rise and expansion of global value chains is not primarily due to increasing trade in goods—rather it is focused on technology, finance, investment, and other modern services. For example, this can be seen in the comparative advantage exercised by China in Prato, not only because of cheap labor, but also because the Chinese have the ability to quickly produce and alter production patterns overnight. The main focus of industrialization in the 21st century is innovation and flexibility.

This leads to a second lesson. The requirements for industrial policy development are different today than in the 1970s. Key changes include the fact that economic policy has become open and comparable across regions and countries like never before. Interested groups want to be part of and contribute to the design of innovative multi-sector strategies. Instruments of economic policy have also changed significantly, from an overwhelming reliance on administrative direction to a greater emphasis on modifying market processes through taxation, subsidies, and public expenditure measures, in order to correct market imbalances. In addition, industrial policy development has become more polycentric and eclectic, simultaneously pursuing a variety of objectives rather than just promoting rapid growth.

The industrialization models of import substitution used in Latin America, or the Southeast Asian export-driven model, are no longer an option for Africa. The Asian model, in particular, was based on the premise of mass production with cheap labor and great absorptive capacity and significant resource savings. Africa as a latecomer will find that this niche is occupied and mostly gone, even if its attractiveness could be taken into account.

Indeed the third lesson is that Africa has to fight for a level playing field, under adverse weather. The current trade and climate-change negotiations are not in its favor. Take

the example of agriculture. Some of our cotton farmers, like the Burkinabe for lint or the Egyptian for processed cotton, have achieved high productivity but cannot compete against the subsidies on developed countries' farming. The subsidies are officially gone in the categorizations of the WTO, but they are replaced by equal or higher amounts, through a battery of environmental and insurance premiums that blurs the frame. If agriculture must play a fundamental role in Africa's structural transformation, given that 60 percent of the labor force is employed in that sector, a mammoth internal effort is needed to increase productivity and take advantage of our enormous reservoir of unused arable land.

3.3 Strategies for moving forward

External factors are equally pertinent. The international trading system is not helping Africa industrialize, but that is not going to change easily. Africa needs to strategize to confront the reality head on.

First, Africa must use its bargaining position by maximizing the demands for value addition in the commodities in which it has a dominant position. Africa is home to 12 percent of the world's oil reserves; the world's largest renewable energy potential; 40 percent of the world's gold; 80 - 90 percent of the world's chromium and platinum and 70 percent of its coltan; 60 percent of the world's unused arable land; 17 percent of the world's forests; and 53 percent of the world's cocoa, produced by two countries—Côte d'Ivoire and Ghana—alone. Resources such as these should be leveraged.

Second, as a latecomer, Africa is not locked into any technology preferences; it can follow a green and clean energy pathway and leapfrog over old carbon-intensive industrial models. The growing awareness of environmental degradation and climate change is giving rise to new research and development priorities, like clean energy technologies, that could be scaled up rapidly. The continent is well positioned to absorb, adapt, and build on the vast quantities of scientific and technical knowledge already available. Its vast hydropower, geothermal, biomass, wind, and solar power potential is an amazing asset. For example, only 5 percent of Africa's hydropower potential has been exploited.

Third, Africa should focus on its domestic consumption. Africa's rising population growth, growing middle class, and rapid urbanization trends will continue to raise demand for consumer goods. Agribusiness, particularly processed food, holds the key to meeting this demand. The shift from primary production towards modern, integrated agribusiness provides a lucrative opportunity for a large number of small-holder farmers, the majority of whom are women, as well as for generating modern jobs for the continent's youth. Africa cannot continue to import yoghurt or toothpaste.

Fourth, industrialization can and should be inclusive. It should avoid having buildings collapsing with sweatshop workers trapped inside, or migrants dying in the desert or sea. That means paying huge attention to the drivers of an integrated model—mostly the small and medium-scale enterprises.

Fifth, promoting greater regional integration across Africa is an imperative. The scope for regional integration is still largely untapped due to both tariff and non-tariff barriers to intra-African trade. Africa's transformation will require renewed and bolder efforts.

So what are Africa's chances going forward?

Key drivers for Africa's transformation arise from the continent's formidable growth record, improved economic governance, an export boom, and rising commodity prices. A growing class of new consumers has brought about a rise in domestic demand, spurring increased public spending and private investment.

In addition, steady progress is being made in tackling some key social challenges. Most countries have achieved universal primary enrolment, with rates above 90 percent, and half of African countries have achieved gender parity in primary school enrolment. Health has also seen major gains, with a 38 percent decrease in under-five mortality. Similarly, the maternal mortality rate declined 42 percent over the period covered by the Millennium Development Goals, and adult HIV/AIDS prevalence rates declined from 5.9 percent in 2001 to 4.9 percent in 2011.

A new brand of Africa is emerging; one that exudes confidence and attractiveness for investments, and has considerably lowered risk, with investment reaching US\$50 billion in 2012.

But, there is a but...Africa still needs to move from 5 to 6 percent average annual growth to the magic 7 percent, which is the minimum required to double average incomes in a decade. There is still a long way to go as poverty remains high, access to social services weak, and pervasive conflict undermines gains.

Africa therefore needs policy tools and economic enablers. The commonality between the investments in Prato, Guanajuato, and Itú-São Paulo is that they have attracted the attention of Africa's number one trading partner: China. The lesson for Africa is that industrialization is a competitive business. The continent needs to find its own recipe, its own miracle recipe, if it wants to become one of the factory floors of the world. Africa's attractiveness will most likely not be found in producing a Prada outfit or a spare part for Ford, or in adjusting Apple's iPhone to the Brazilian market. Africa's attractiveness will be to challenge that its coffee has to be Starbucks, its cocoa Toblerone, or its coltan Samsung, without any slice of the industrial chain that can also be proudly African.

Late President Nelson Mandela captured the spirit of what Africa's attitude should be, in case a fork in the road is evoked: "There is no passion to be found in playing small and settling for a life that is less than the one you are capable of living...I could not imagine that the future I was walking towards could compare in any way to the past that I was leaving behind."

4. Reconciling Two Views of Africa's Economic Boom

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4.1 Introduction

There are two distinct narratives about Africa's recent economic growth. On one hand, African GDP has grown relatively rapidly—averaging almost 5 percent a year since 2000, and is expected to rise even faster in the years ahead. Moreover, the continent has begun attracting serious amounts of private capital; at US\$50 billion a year, such flows now exceed foreign aid. Poverty is declining. The region has also made great strides in education and healthcare, with primary school enrollment rates approaching 90 percent.

On the other hand, Africa's recent growth has largely followed commodity prices, and commodities make up the overwhelming share of African exports. Despite the overall decline in poverty, some rapidly growing countries, such as Burkina Faso, Mozambique, and Tanzania, have barely managed to reduce their poverty rates. Much of Africa suffers from rampant corruption, and most of its infrastructure is in poor condition. Many governments struggle to provide basic services: teachers in Tanzania's public primary schools are absent 23 percent of the time, while government-employed doctors in Senegal spend an average total of only 39 minutes a day seeing patients. Such deficiencies will only become more pronounced as Africa's population booms.

* The text draws heavily from my paper with Wolfgang Fengler, "Africa's Economic Boom: Why the Pessimists and the Optimists Are Both Right," *Foreign Affairs*, May/June 2013.

At first glance, these two narratives about Africa seem irreconcilable. It turns out, however, that they are two sides of the same coin. The reasons for Africa's recent growth, and the shortcomings in terms of infrastructure, structural transformation, and service delivery, have to do with the political economy of reform. This perspective leads to the following conclusion: The success of recent reforms and the increased openness of African societies, fueled in part by new information and communications technologies, give Africa a good chance of enjoying sustained growth and poverty reduction in the decades to come.

4.2 Causes of Africa's rebound

Africa's rebound has had many causes, including an increase in external assistance (partly from debt relief), a buoyant global economy until 2008, and high commodity prices. But the most significant has been an improvement in macroeconomic policies across Sub-Saharan Africa, which has inspired confidence among investors and consumers. During the crisis, most countries continued with prudent economic policies and some even accelerated reforms. Partly as a result of such efforts, African economies kept expanding throughout the global recession, and Sub-Saharan Africa has maintained an average annual growth rate of nearly 5 percent since then, despite continued volatility in the global economy.

In large part, the vast improvement in macroeconomic policy that began in the late 1990s can be traced to two factors: first, with the end of the Cold War, politics in Africa became freer, more vibrant, and more open to previously marginalized groups. Autocratic regimes began to lose their monopolistic grip on power, and countries throughout the region held competitive elections. Although these openings were limited, they provided a voice to many segments of African societies that had previously been marginalized, such as poor farmers in rural areas. Media have become freer, and communications technology has rapidly spread, especially since 2000. In several countries, including Ghana, Nigeria, Tanzania, and Uganda, these political changes brought to power more competent leaders, willing to place technocrats trained in modern economics in senior positions in government.

Political liberalization also had a less direct but still profound effect on macroeconomic policy. With the introduction of competitive elections, governments realized

that they needed the support of the rural poor, who constitute a majority in most African countries, so they allowed exchange rates to become more competitive. As a result, agricultural productivity and output rose as farmers received higher prices for their produce.

The second important factor that contributed to the improvement of African macro-economic policy in the 1990s also involved the democratization of policymaking—spurred, in this case by external intervention. Beginning in 1999, potential donors began to require African governments seeking debt relief to also consult with their own citizens as they crafted policies to help the poor. This new process increased the chances that local citizens would buy into the policies.

Economic reforms are not the only cause of Africa's growth surge. Three other factors have started to play a major role.

The first is demographic changes: since 1960, the population of Sub-Saharan Africa has grown from fewer than 250 million people to 900 million today. Around 2000, fertility rates began to decline, and so did child mortality rates. The result is that working-age adults have come to constitute the fastest-growing segment of the region's societies. The second factor is urbanization: African populations have traditionally been mostly rural, but the cities of Sub-Saharan Africa are growing at astonishing rates. The trend is such that by 2033 most Africans will live in cities. Technological advances constitute the third and perhaps the most visible sign of Africa's economic re-emergence. Cell phones are found even in the poorest places on the continent. Technological breakthroughs have made low-cost cell phones affordable to a large number of Africans. Calling rates are among the lowest in the world. The explosion in mobile technology has spurred innovations such as M-PESA, the mobile-money system widely embraced in Kenya and Tanzania, which allows users to make purchases and send cash transfers using their cell phones. In some countries, the spread of mobile devices has also allowed the information and communication sectors to become important parts of the economy.

4.3 A lack of structural transformation

As mentioned earlier, even in countries that have achieved both rapid growth and

poverty reduction, such as Ethiopia, Ghana, and Rwanda, there has been remarkably little structural transformation. The share of GDP represented by manufacturing, for example, is scarcely larger than it was before these countries started enjoying serious growth. There are many reasons why competitive manufacturing has not taken off in Africa, but most of them revolve around the high costs of production on the continent. Even though per capita incomes are among the lowest in the world, wages are relatively high and unit labor costs even higher.

A major explanation for these high costs is the poor state of Africa's infrastructure. Behind each of the infrastructure problems is a government failure that, although harmful to the economy, reflects a political equilibrium that will be difficult to undo simply by building new infrastructure. Road transport offers a good illustration. Exporters in the region face some of the highest transport prices in the world. In 2009, a study published by the World Bank showed that vehicle operating costs along the four main transport corridors in Sub-Saharan Africa are no higher than those in France. The difference between prices and vehicle operating costs is explained by the massive profit margins enjoyed by trucking companies in Sub-Saharan Africa, some of which are close to 100 percent. These companies are able to charge a hefty premium thanks to regulations in most African countries that prohibit would-be competitors from entering the trucking industry. These regulations were introduced 40 years ago, when African governments, reflecting economic thinking at the time, viewed trucking as a natural monopoly because a single company could more easily ensure that trucks rode at full capacity. Not surprisingly, the outdated rules are now difficult to revoke because decades of high profits have provided the trucking industry with plenty of funds to pay for lobbying to maintain the status quo. This problem is especially acute in places where the trucking business is controlled by politically connected families.

The problem with industrial policy—the lack of which some people blame for the absence of structural transformation—is similar to that of infrastructure. Tunisia provides a good example. Tunisia has a highly educated population, located right next to Europe, and yet has very few manufactured exports even to Europe. Why? Now that former President Ben Ali is out of power, we are able to look into what

happened. It turns out that the firms connected to the Ben Ali family were able to capture most of the industrial base. To take one factoid, the Ben Ali firms, defined as those whose yachts have been seized and bank accounts frozen, accounted for about 1 percent of output but 21 percent of profits. When Ben Ali was in power, Tunisia introduced regulations prohibiting entry into those sectors where the Ben Ali firms were prominent. These were sectors like banking, telecommunication, and railroads, all of which are important if you want to have a competitive export industry. For instance, Tunisia has the third highest telecom prices in the world, next to Myanmar and Congo Brazzaville, for no good reason except that the family owned the major telecoms firm.

Finally, despite some catch-up over the last decade, the countries of Sub-Saharan Africa still have the lowest levels of human capital in the world. Africa also has been buffeted by an onslaught of public health crises, including the world's worst cases of the HIV/AIDS pandemic.

The lack of sufficiently educated, skilled, healthy workers is even more distressing because, for decades, donors and African taxpayers alike have spent considerable resources on health and education; yet they have little to show for it. Post-apartheid South Africa, for instance, has increased its public spending on schools to redress the inequitable allocations of the past. Enrollment rates have risen dramatically, but learning outcomes have hardly changed, and only two in five young adults complete secondary school.

At least three factors explain this phenomenon. First, resources allocated to addressing the problems of poor people do not always reach their intended recipients. A landmark 2001 World Bank study on public spending showed that in Uganda, only 13 percent of the nonwage resources allocated to public primary education actually found their way to schools. Similarly, a 2009 study on health spending in Chad showed that less than one percent of nonwage spending ever arrived at primary clinics. Second, even when resources do reach schools or clinics, there are often no teachers or doctors there to use them. A recent report by the African Economic Research Consortium found that health workers in Senegal and Tanzania were absent 20 and 21 percent of the time, respectively. Finally, even when providers

are present, the quality of their services is exceedingly poor. According to a 2009 World Bank review of public expenditures, teachers in Uganda spend less than 20 percent of class time teaching. Teachers in Tanzania spend slightly more time on instruction, but only 11 percent of them have what education experts consider to be the minimum level of language skills required for the job. The situation in the health sector is worse: in Tanzania, the average total amount of time doctors spend seeing patients is only 29 minutes per day.

These failures to deliver services are not simply the result of unprofessional conduct; underlying them is the fact that basic public services have been stolen by or diverted to political elites. The leakage of public funds intended for education and healthcare is the most straightforward example. Since these are expenditures for things other than salaries, officials are easily able to alter the amount of funding that is actually distributed. As the economists Ritva Reinikka and Jakob Svensson showed in a 2004 study, the amount of funding that an African school receives probably depends on the principal's ties to a government bureaucrat or a local politician. The poor performance of service providers is similarly bound up in this form of patronage. Many teachers, for example, also serve as political operatives: relatively well educated people who run election campaigns for local politicians and are then rewarded with teaching jobs—positions for which they are not necessarily qualified and that they do not always take very seriously.

4.4 Reasons for optimism

It can be hard to stay optimistic about Africa's future when one considers the political pathologies that stand in the way of improving African infrastructure, competitiveness, and human capital. But it is crucial to recall that the recent growth in Sub-Saharan African economies resulted from fixing distorted macroeconomic policies that seemed irredeemable only 15 years ago. Triggered by reactions to the debt crises of the 1980s, the collapse of the Soviet Union, and the political liberalization of the 1990s, a regional consensus in favor of prudent macroeconomic policies emerged. Those policies delivered growth, which created political support for further reforms, even during the global economic crisis of recent years.

The region now finds itself at another inflection point. Luckily, today, the combination of democratization, demographic change, rapid urbanization, and increasing levels of education has substantially altered policymaking processes, mostly for the better. There is now more political space to voice alternative views and challenge government policies. Even those who are opposed to reforms are less likely to resist if they feel they have been consulted. Moreover, thanks to better economic policies, foreign donors are less compelled to impose reforms from the outside—which creates even more space for homegrown reform efforts.

The almost complete connectedness of the continent through cell phones will also aid reforms and structural transformation. Cell phones enable poor people to learn about the regressive nature of government subsidies or the anti-poor bias of infrastructure spending. They also allow people to find out what their peers are thinking, greatly lowering the costs of mobilizing collective action. The spread of communications technology has also made it easier for politicians to discover what citizens are thinking—whether or not they want to know—meaning that the voice of people living in marginalized areas will be heard more clearly in national capitals.

Whether one sees Africa's glass as half-full or half-empty depends on one's belief in the possibility of political change. The obstacles to durable growth on the continent are primarily political. That hardly means they will be easy to solve, as even a cursory glance at the troubled record of governance in post-independence Africa makes clear. But it does mean that they are not intractable. Africa's recent history of political change and reform leading to growth justifies a positive outlook. Believing in a more prosperous African future requires a healthy dose of optimism, but not a leap of faith.

Reference

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PART II

Why Performance Matters: The Challenge of Inclusive Growth

5. How Inclusive is the Present Growth Pattern in Sub-Saharan Africa?

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5.1 Introduction

Until recently, the development community despaired about the economic and social stagnation ruling in most of Sub-Saharan Africa (SSA). In the four decades prior to the new millennium, the per capita GDP of SSA, as a whole, was essentially the same as in 1960 (Ndulu and others, 2007). A combination of extractive economic and political institutions and policies, geographical obstacles, and artificial state boundaries that joined together different and often warring ethnic groups created an anti-growth environment. The few growth spells that occurred before the turn of the 21st century tended to be of an enclave type, benefitting only a small segment of society and generally unsustainable. As Acemoglu and Robinson (2012: 83) clearly demonstrated, “Nations fail when they have extractive economic institutions, supported by extractive political institutions that impede and even block economic growth.”¹ As a consequence, the African subcontinent suffered from endemic poverty and high inequality. At the beginning of the new millennium, more than half the population was in a state of extreme poverty, subsisting on incomes below the poverty line of US\$1.25 a day.

* I would like to dedicate this paper to the memory of Gustav Ranis whose untimely death robbed us of his presence and guidance at this conference. The theme of this paper owes much to the concept of dual economies that he developed early in his career.

Sometime around 2000, the pace of growth accelerated, and for the last 14 years or so the annual growth rate of per capita GDP in SSA has been close to 3 percent. This quantum jump in the pace of growth appears to have been accompanied by a change in the pattern (structure) of growth.

The main objective of this paper is to explore whether, and the extent to which, the growth pattern has changed from being extractive and exclusive to becoming more widely shared among the population.

5.2 What is inclusive growth?

Inclusive growth is the new paradigm and strategic recipe embraced by the development community. It recognizes, first, that wellbeing consists of multiple dimensions including income, assets, education, health, relative freedom from oppression, and some fundamental human rights such as the right to vote. True development requires progress in these various dimensions. Second, inclusive growth calls for the fruits of economic growth to be spread relatively widely among the different segments of the population. The poor, the middle class, and the rich should reap the benefits of growth in all of its many dimensions. In this sense the concept of inclusive growth emphasizes that the human development of all individuals and households should be the primary objective.

There are many definitions of inclusive growth. A comprehensive one, capturing well the essence of the concept, is that of the Indian Planning Commission: "...growth that reduces poverty and creates employment opportunities, access to essential services in health and education, especially for the poor, equality of opportunity, empowerment through education and skill development, environmental sustainability, recognition of women's agency, and good governance" (IPC, 2011: 2).

Since the initial conditions differ in different regions of the developing world, it follows that the appropriate form and content of inclusive growth should match, as much as possible, the prevailing initial conditions. Thus, focusing on the context of SSA, the African Development Bank (AfDB, 2012: 2) defines inclusive growth as "economic growth that results in a wider access to sustainable socio-economic opportunities for

a broader number of people, regions, or countries, while protecting the vulnerable, all being done in an environment of fairness, equal justice, and political plurality.”

The AfDB’s (2012) vision is generally consistent with that of the World Bank, particularly as expressed in Ianchovichina and Lundstrom (2009a and 2009b), but with one major exception relating to the treatment of inequality. AfDB (2012) emphasizes the following features of inclusive growth: (a) rapid and sustained poverty reduction allowing all segments of society to contribute and benefit from growth; (b) both the pace and pattern of growth are important, as is the way they are interlinked; (c) a long-term perspective should be adopted, with productive employment, rather than redistribution, as the main instrument of growth. Regarding the treatment of inequality, the World Bank essentially adopts the view that there is no need to advocate the reduction of inequality as long as the poor receive some benefits from the ongoing growth process.² The AfDB vision is that within the context of a setting characterized by very high and persistent income inequality, a reduction in inequality should be part and parcel of inclusive growth.³

The case for reducing inequality can be strengthened if it can be shown that there is a negative link between high inequality and the pace and pattern of subsequent growth, as argued by proponents of the New Political Economy of Development. These authors presume that high inequality dampens future growth through a variety of channels, such as the diffusion of political and social instability, unproductive rent-seeking activities, and reduced security of property rights (Perotti, 1993; Thorbecke and Charumilind, 2002; and Devereux and Sabates-Wheeler, 2007). Furthermore, within the context of SSA, inequality in access to oil, mining, and other resources can exacerbate regional, ethnic, and tribal conflicts.⁴

5.3 Socio-economic performance during the present growth spell in Sub-Saharan Africa: How inclusive has it been?

In this section we review the evidence relating to the present growth spell in SSA. First, we use a macro lens to scrutinize the macroeconomic performance and current trends, focusing specifically on growth, poverty, inequality, and human development; then we use an inter-sectoral and sectoral lens to evaluate how inclusive the present structural transformation is.⁵

5.3.1 Macroeconomic performance

Since the beginning of this millennium economic growth in SSA has been nothing short of spectacular. Per capita GDP growth in SSA underwent a quantum jump from long-term stagnation (0.14 percent annual growth between 1960 and 2000) to around 3 percent between 2000 and 2010. Out of the sample of 37 countries for which continuous time series were available in the World Bank's World Development Indicators, 32 countries reported higher growth rates⁶ in the most recent period (2000-12) than in the preceding decade (1990-2000); 3 countries showed essentially no change;⁷ and only 2 countries showed a worsening growth performance (Benin and Togo). Examples of spectacular improvements in per capita GDP annual growth at the country level between 1990-2000 and 2000-12 are provided by Angola, where growth improved from -2 percent to 10.4 percent; Ethiopia, from -0.5 percent to 7 percent; and Nigeria, from 0.2 percent to 4.3 percent.

The spell of rapid growth described above fueled a significant reduction in the incidence of poverty. For the whole SSA region, the poverty headcount ratio at the US\$1.25/day poverty line (i.e. the proportion of the population below that poverty line) fell from 58 percent in 1999 to 48.5 percent in 2010. Yet, on the downside, and pushed by still strong demographic trends, the estimated absolute number of poor continued to rise from 377 million to 414 million over the same period.⁸

Next to Latin America, the African subcontinent has the highest level of income inequality in the world. AfDB (2012) reports that the Gini coefficient of income inequality in SSA rose from 0.43 in 2000-04 to 0.46 in 2006-09. There is little evidence to suggest that inequality is falling. If anything it remains persistently high. Out of the 26 countries for which the World Bank's Povcalnet dataset reports at least two observations between the early 2000s and around 2010, approximately as many countries recorded rising as falling Gini coefficients (Thorbecke, 2014). South Africa may well have the dubious distinction of possessing the highest income inequality in the world.

Thus far the evidence presented on socioeconomic performance in SSA during the current growth spell has focused on macroeconomic income-based and monetary

measures. Clearly, for growth to be inclusive non-monetary dimensions of wellbeing must improve as well. The UNDP's Human Development Index (HDI) is a composite index measuring average achievement in three basic dimensions of human development: a long and healthy life, knowledge, and a decent standard of living. The recent *Human Development Report* (UNDP, 2013) indicates that out of the world's 14 best performers as measured by the annual growth rate of HDI between 2000 and 2013, 11 were in SSA. Starting from a very low baseline, many African countries have enjoyed significant improvements in infant mortality and school enrollment.

In summary, the main conclusions that can be drawn from an evaluation of macro-economic performance in SSA since 2000 are: (a) economic growth, as measured by GDP per capita, has accelerated to the extent that one can characterize it as a quantum jump compared to the dismal pre-2000 performance; (b) extreme poverty remains high but has significantly declined; (c) income inequality remains relatively very high and persistent; (d) in many SSA countries there is evidence that human development in terms of health and education has improved.

The tentative inference that can be drawn from the above trends is that the ongoing growth spell is contributing to a more inclusive growth pattern.

5.3.2 Inter-sectoral, sectoral, and productivity performance

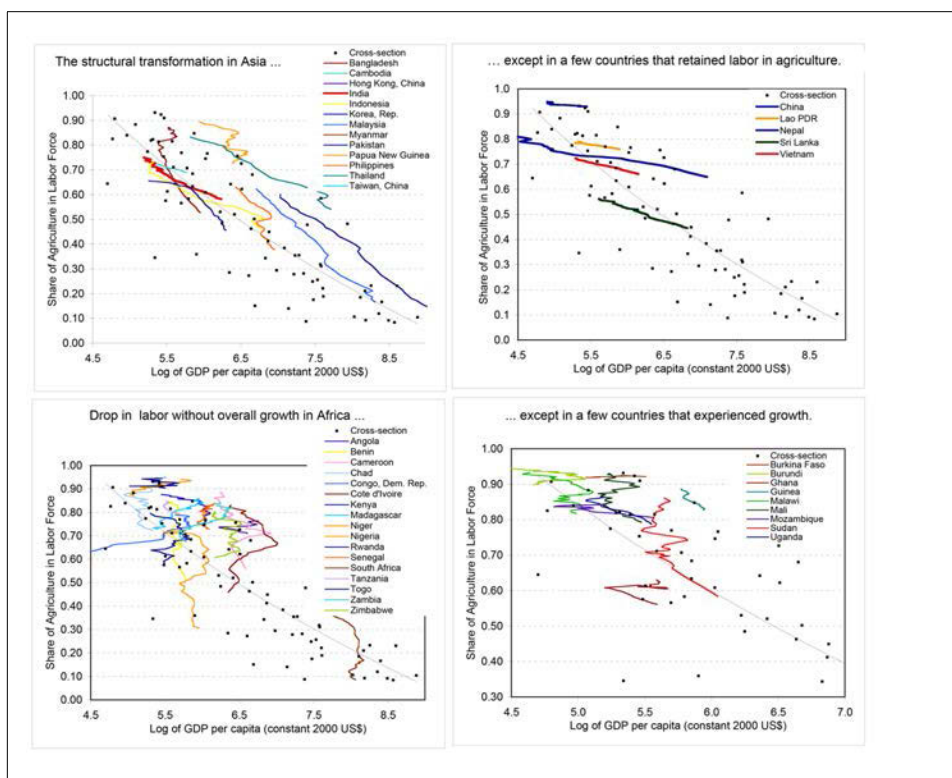
An increase in labor productivity is necessary for economic growth to occur. In addition, for the structure of growth to be inclusive, the rise in productivity must be spread widely among the labor force. Within the context of SSA, it is particularly important that the labor productivity of the great majority of unskilled workers—poorly endowed in human capital—rise to levels above subsistence.

Within an economy overall, labor productivity can increase in two ways. First, workers can move from low-productivity jobs in sectors such as agriculture to more productive jobs in other sectors such as manufacturing and services through the structural transformation. Second, overall productivity can rise if within-sector productivity rises, for example through capital investment and technical progress.

Next we review the evidence relating to how the nature of structural transformation and the growth of within-sector productivity appear to have become more inclusive

over time. The structural transformation is one of the best-known dynamic regularities in economic development, affecting the composition of output and employment over time. Throughout the structural transformation, both the share of agriculture in GDP and the share of agriculture in the labor force decline (the GDP share typically falling faster than the employment share). Figure 5.1 shows the time paths of the structural transformation for large samples of Asian and African countries spanning an extended period from the 1960s to around the year 2000, and the deviations from the normal pattern. The regularity underlying the structural transformation appears very robust cross-sectionally, as reflected by the international cross-sectional regression line derived from a sample of about 100 developing and developed countries. (This line appears in each of the four panels of Figure 5.1 extending from the northwest corner to the southeast corner.)

Figure 5.1: Structural Transformation: Deviations from the Normal Pattern for the Share of Agriculture in the Labor Force in Asia and Africa



Source: de Janvry and Sadoulet (2010).

In Asia, as de Janvry and Sadoulet (2010) showed, the structural transformation's development paths of most countries followed closely the "normal" pattern represented by the international cross-sectional regression line in the upper left panel of the Figure.⁹ A fall in the agricultural employment share was accompanied by a rise in average per capita income (the arrows representing the various countries' time paths tend to be parallel to the "normal pattern"). Workers leaving agriculture were moving into more productive jobs.

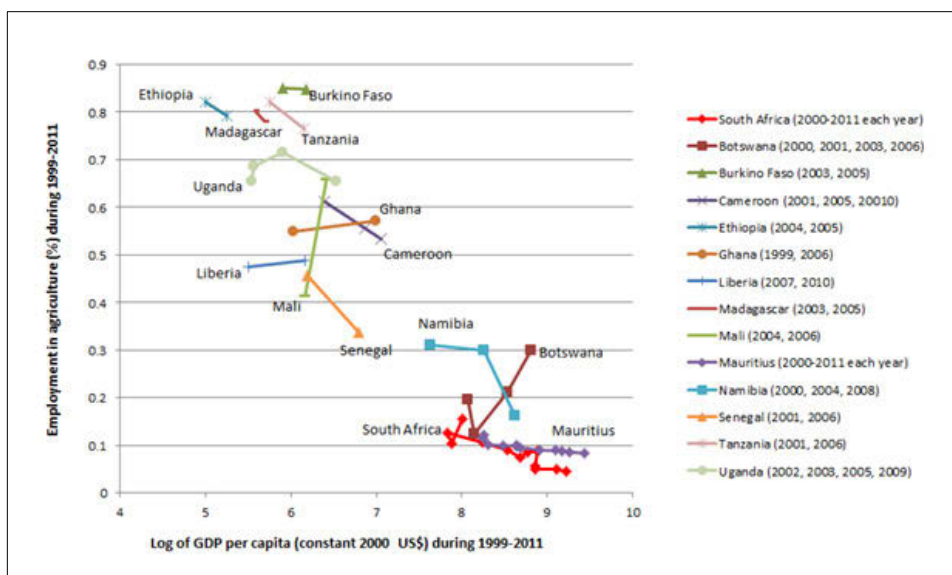
In Sub-Saharan Africa, by contrast, a majority of countries stagnated between 1960 and 2000 but one nonetheless observes in these countries a dramatic fall in the share of agriculture in the labor force (lower left panel of Figure 5.1). The countries' time paths tend to be vertical, reflecting the fact that the movement out of agriculture occurred with no increase in average per capita GDP. What this means is that agricultural workers were not pulled into more productive jobs outside agriculture but rather pushed out of agriculture by lack of income opportunities. The resulting rural-to-urban migration process in much of SSA, prior to the early 2000s, was accurately described by Lipton (2004) as a "migration of despair."¹⁰ The contrast between the generally successful structural transformation and migration process in Asia and the flawed structural transformation and migration process in SSA, before the turn of the century, is quite dramatic. The former contributed to shared growth while the latter was both a symptom and a cause of stagnation.

Is there any evidence of a more "normal," less flawed, structural transformation in SSA during the present growth spell? If observed, this phenomenon could be highlighted as an element consistent with inclusive growth. In order to determine whether such tendency indeed occurred, I gathered the most recent observations on the share of employment in agriculture and constant per capita GDP available for any sub-period from 2000 on.¹¹

I was able to identify 14 SSA countries for which at least two annual observations were available between 2000 and around 2010. Figure 5.2 presents the time paths (in the form of arrows) of the structural transformation undergone by each of these countries. As can be seen, the number of observations and time spans varies, and therefore the impressions given by the Figure must be carefully interpreted. However,

as I concluded in Thorbecke (2014a: 9), the Figure “suggests that, for the sample of countries included, the structural transformation during the present growth spell appears to be closer to “normal” with a few exceptions. Mali is the only country in this sample that appears to suffer from a flawed transformation with a large (and unexplainable) fall in the agricultural share of employment combined with a fall in GDP per capita.”¹² In turn, Botswana, Ghana, and Liberia report *rising* shares of agricultural employment together with significant GDP growth, which could reflect increasing productivity in agriculture *attracting* workers back from other occupations. Based on this limited information, my tentative conclusion “is that the structural transformation in the present growth spell has generally been inclusive in so far as it reflects a more orderly rural-to-urban migration process and workers being pulled out of agriculture into more productive non-agricultural jobs rather than pushed out” (Thorbecke, 2014a: 12).

Figure 5.2: Recent Structural Transformation in Selected SSA Countries



Source: Thorbecke (2014a). This figure is reproduced here with acknowledgement of UNU-WIDER in Helsinki, who commissioned the original research.

The findings above were confirmed by McMillan and Harttgen (2014) who show that, for a sample of 19 African countries in the period 2000-10, (a) the share of the labor force engaged in agriculture fell by an average of 10.6 percentage points; (b) the share of the labor force employed in manufacturing rose by an average of 2.2

percent; and (c) the share of the labor force engaged in services went up by an average of 8.3 percent. Clearly, a source of concern, to which we return subsequently, is the small growth of manufacturing employment.

As indicated at the beginning of this section, an increase in labor productivity is crucial to any improvement in wellbeing. Based on the unweighted average for the same sample of African countries, annual growth in labor productivity during the same post-2000 period was 2.2 percent, of which 1.3 percent was contributed by growth within sectors and 0.9 percent by structural growth (workers moving from low-productivity sectors to higher productivity sectors through the structural transformation). The performance is even more impressive when the growth in labor productivity is expressed as a weighted average, i.e. 2.9 percent, of which the “within-sector” component is 2.1 percent and the structural component 0.8 percent (McMillan and Harttgen, 2014).¹³

Hence, while the flawed structural transformation before the turn of the century acted as a drag on the economy-wide productivity of much of the African subcontinent, the more successful transformation since 2000 appears to have contributed at least a third of the improvement in the economy-wide labor productivity.

Because agriculture is still by far the largest provider of jobs, and of income for poor households, in Africa, a key issue relates to the growth of productivity within this sector. For decades, agriculture was the Achilles’ heel of African development. Made up predominantly of small subsistence farms and plagued by poor agronomic and geographic conditions and exploitation by extractive leaders, much of agriculture stagnated prior to the mid-1980s. Yields remained stubbornly low and there was little evidence of significant growth in agricultural land or labor productivity. More recent evidence suggests that a changing policy environment and increased attention to agriculture have had a significant effect on overall productivity growth, based on technical efficiency gains (Diao and others, 2013). From the mid-1980s onwards, agricultural productivity has shown gradual improvements. The productivity-based growth raised average farm output per unit of input by a percentage point, resulting in average growth of about 3 percent per year between 1986 and 2011. Yet, in spite of recent progress, agricultural productivity in SSA still lags far behind other regions of the world (Fuglie and Rada, 2013).

On the positive side, a number of SSA countries are starting to diversify their agricultural exports towards higher value-added products. Significant improvements have been recorded in non-traditional agricultural exports (for example Blue Skies¹⁴ products such as fruit juices in Ghana and South Africa, cut flowers in Ethiopia, and fresh vegetables in Madagascar). In summary, notwithstanding some progress, no strong case can yet be made that the present pattern of agricultural growth in SSA has made a major contribution to inclusive growth but the present trends are encouraging.

Further research on structural and occupational change in Africa, based partly on a sample of more than 90 demographic and health surveys covering 24 African countries between 1993 and 2011, yielded the following additional findings: (a) the recent pattern of structural transformation in Africa fits the stylized facts of other successful regions and, in particular Asia; (b) countries with larger shares of employment in agriculture experienced more rapid declines in those shares and more rapid increases in the shares of employment in manufacturing (typically requiring unskilled labor) and services—trends that were even more pronounced for women; (c) over the last decade, young rural males were significantly more likely to report that they worked in agriculture and to report that they were attending school; these trends suggest a reduction in un- and under-employment in agriculture and a rise in school attendance (McMillan and Harttgen, 2014; de Vries and others, 2013).

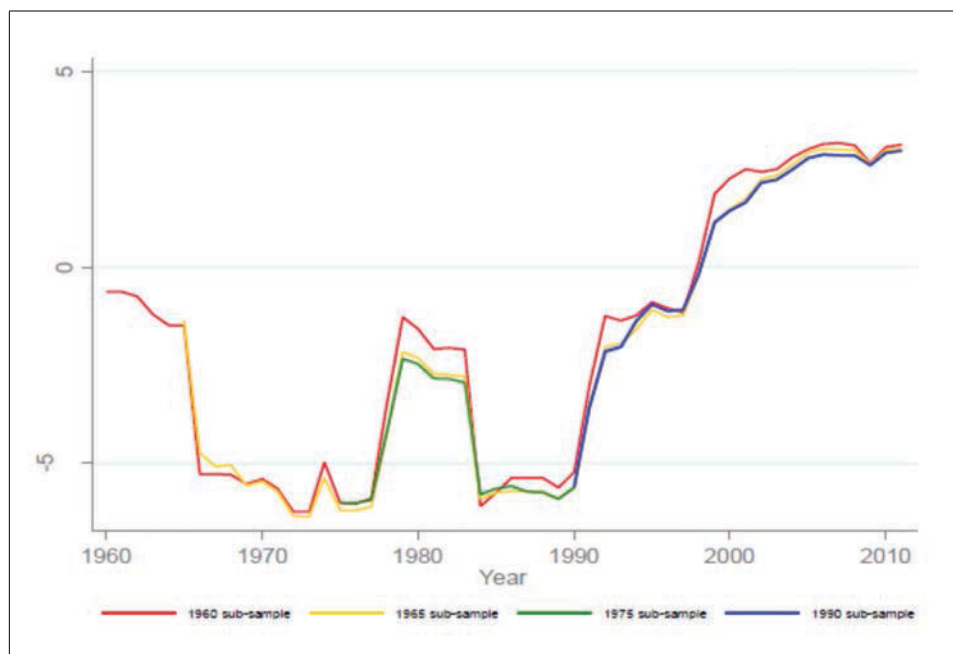
The main tentative conclusions that can be drawn from the above evidence are, first, that the ongoing structural transformation, rather than being a drag on overall economic growth as in the pre-2000 period, appears to be making a positive contribution to growth. A remaining source of concern is that workers moving out of agriculture still typically move to jobs in services instead of the more productive manufacturing sector. Second, while productivity growth in most of African agriculture has accelerated somewhat, average yields and labor productivity in small-scale agriculture remain dismally low. A welcome diversification towards higher valued products in commercial agriculture is occurring in a number of countries. Third, the fact that the inter-sectoral transformation is faster in those countries where the share of agricultural employment is larger (and where presumably the incidence of

poverty is also higher) suggests that the poorer countries in the region are benefiting relatively more than other countries from the present structural transformation. For all the above reasons, a case can be made that the ongoing growth pattern is more inclusive than in the past.

5.4 Factors that are likely to have contributed to a more inclusive growth pattern

A set of highly interrelated factors appears to have helped to speed the pace of growth and to engender a more inclusive pattern of growth in SSA since around 2000. Some of these factors are clearly outside the control of African policymakers while others are at least under their limited control. It is extremely difficult to determine whether these factors affected growth in a causal sense but it is clear that they were associated and correlated with the present growth spell. This is why some researchers refer to those factors as correlates of growth (McMillan and Harttgen, 2014).¹⁵ Starting with factors over which African policymakers had some degree of control, governments have become more conscious of the essential role that agriculture needs to play at an early stage of development where it is often the only game in town. Instead of exploiting and taxing that sector, as was typical before the turn of the century, many governments have started to nurture it. Perhaps the best example of the changing concern for and treatment of agriculture is the pan-African Comprehensive African Agriculture Development Program (CAADP). One of the CAADP's recommendations is that SSA countries allocate at least ten percent of their national budget to agriculture and mandate a six percent annual growth rate of output (an almost unrealistically high target).

A second plausible factor that overlaps with the preceding one is improved governance. Figure 5.3, which was computed by McMillan and Harttgen (2014), shows the population-weighted average Polity2 score for groups of SSA countries. This score reflects how democratic or autocratic a regime is and ranges from -10 (strongly autocratic) to +10 (strongly democratic). The Figure reveals clearly that from 1990 onwards SSA regimes became more democratic and less autocratic.

Figure 5.3: Average Polity2 Score for Sub-Saharan Africa

Source: McMillan and Harttgen (2014): Author's calculations using data from the Polity IV Project and the World Bank's WDI dataset for different Sub-Samples of African countries, depending on the initial year the dataset started for countries in each set.

Notes: The graph shows a weighted average of the Polity2 score (weighted by population) in the Polity IV dataset. The Polity2 score is the revised combined polity score, which is the result of subtracting the "autoc" score from the "democ" score.

Solid bright lines are population-weighted averages of the individual country scores for each cohort: the 1960 cohort (red), 1965 cohort (yellow), 1975 cohort (green), and the 1990 cohort (blue).

Countries included are: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Brazzaville, Congo Kinshasa, Cote d'Ivoire, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, South Sudan, Swaziland, Sudan, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

A third relatively endogenous factor has been the emergence of an African middle class. According to the AfDB, the size of the middle class has grown from around 220 million to 350 million in 2010. A recent analysis of the emerging African middle class concludes that "this new middle class has strong positive potential for the region. It has the capacity to increase domestic consumption; contribute to private sector growth and entrepreneurialism; boost demand for better governance and public services; improve gender equality; and raise standards of living, allowing many people to exit from poverty" (Ncube and Lufumba, 2014). Historically, there has been a close interrelationship between the rise of a middle class and improved

governance and the appearance of democratic institutions. While many obstacles still need to be overcome before a strong and sustainable middle class dominates the social fabric in Africa, a continuation of this trend is essential to the building of inclusive institutions.

Two somewhat more exogenous factors that are likely to have contributed to the present growth spell are the spike in commodity prices and the quantum jump in foreign direct investment in Africa. Commodity price indices faced by many SSA countries doubled or even tripled between 2000 and 2010. High and rising export prices turned the terms of trade favorably for many resource-rich African countries and helped fuel economic growth.

This commodity boom, in turn, was influenced by and attracted an enormous flow of foreign investment. Since 2000, the stock of global foreign direct investment (FDI) in Sub-Saharan Africa has increased dramatically, from more than US\$34 billion to US\$246 billion in 2012. The European Union, China, Japan, and the U.S. accounted for slightly more than half of the stock of FDI in the region in 2012. This seven-fold increase in investment was predominantly directed to resource-rich countries, with South Africa with its precious metals and minerals and Nigeria with its oil reserves receiving a majority of the FDI (Brookings Institution, 2014). Such investment, while fueling the pace of growth, can exacerbate inequality, as it tends to be directed to highly capital-intensive projects creating few new jobs. Yet, if part of the royalties accruing to governments from this type of investment is used to promote human development through productive social protection schemes benefitting the poor and unskilled, then it can also be consistent with inclusive growth.

5.5 Some desirable elements of an inclusive growth strategy for SSA

While the evidence thus far presented suggests that the current growth spell in SSA tends to be more inclusive than in the past, it is clear that the subcontinent still has far to go in implementing policies and institutions conducive to a more pronounced and sustainable inclusive growth process.

To identify some key elements of a pro-inclusive growth strategy, the anatomy of the growth process needs to be clarified. More specifically, the interrelationship

among growth, inequality, and poverty has to be analyzed and understood. The growth-inequality-poverty nexus is at the heart of the anatomy of growth. This inter-relationship was formalized by Bourguignon (2004) into a triangle linking the three concepts Growth, Inequality, and Poverty (G-I-P). Each link of this triangle needs to be scrutinized to understand the impact of growth on inequality and poverty. GDP growth contributes positively to poverty reduction but, depending on its pattern, it can reduce or worsen inequality. In turn, inequality operates as a filter between growth and poverty reduction. A major feature of the pattern of growth in Africa has been and remains the very low elasticity of poverty reduction with respect to growth as compared particularly to Asian developing countries. Growth that generates high inequality will only have a minor effect on poverty.¹⁶

An important link in the G-I-P triangle is the reverse link between poverty and subsequent (future) growth. Ravallion (2012) found, based on a sample of almost 100 countries covering the period from 1980 to the present, that high initial poverty rates have sizeable negative impacts on the subsequent growth rate. Hence the high initial incidence of poverty in a given country will act to dampen or retard future growth. Fosu (2012), in a study of the G-I-P interrelationship within the context of SSA, echoes this finding in concluding that "... the relatively low levels of income appear to be a major culprit for retarding the effectiveness of income and inequality improvements for poverty reduction in SSA countries generally."

On the basis of those studies and much additional information, I have argued in favor of a pro-growth poverty reduction strategy to complement the more conventional pro-poor growth strategy. The underlying logic of pro-growth poverty reduction "is that by attacking poverty *directly* and reducing it, some major constraints on the behavior of the poor will be removed, making it possible for the poor to contribute to growth. They will be better able to acquire more education and skills, invest in their farms and informal activities, and adopt riskier but more productive technologies (such as high-yielding seed varieties in small-scale agriculture)" (Thorbecke, 2014a: 16).

Appropriate policy and institutional interventions alleviating poverty directly (such as labor-intensive infrastructure projects and social protection schemes that contribute

to the human capital of the poor) can engender a virtuous spiral generating a more rapid and more inclusive growth structure which, in turn, could lead to a less unequal income distribution and still further reduction in poverty, and so on.

Next we identify three of the most fundamental elements of a sustainable inclusive growth strategy. First, the creation of new productive jobs should be given the highest priority within the context of SSA, where under-employment and low-productivity employment in informal activities are rampant and where demographic pressures keep on adding masses of new workers to the labor force. The highly comprehensive and influential McKinsey report on *Africa at Work: Job Creation and Inclusive Growth* (2012) concluded that “For growth to be inclusive, African workers need to be employed. Employment income is the only sustainable mechanism for most of the population to share in the proceeds of growth” (McKinsey, 2012: 11). The traditional distinction between formal and informal jobs dear to development economists has been replaced in that report by a more operational distinction between stable and vulnerable jobs. Most of the labor force in Africa is employed in vulnerable jobs (a little under two-thirds in 2010), with only about a quarter enjoying stable jobs and roughly one-tenth unemployed.

While Africa has been reasonably successful in creating new stable jobs in the first decade of this century, this trend needs to be accelerated. A particular source of concern is the relatively slow growth of manufacturing employment. As mentioned previously, the majority of the workers who moved out of agriculture found jobs in the urban services sector (still largely informal) rather than in manufacturing. Rodrik (2014) deplors this trend and outlines four possible scenarios for sustained, rapid growth into the future: (a) the revival of manufacturing and industrialization, which was the traditional route to convergence among the early developers; (b) agriculture-led growth with diversification into higher-valued products; (c) the generation of rapid growth in services; and (d) growth based on natural resources. Rodrik sees major obstacles to the fulfillment of each of these scenarios and concludes that if African countries are able to continue to grow fast “...they will do so pursuing a growth model that is different from earlier miracles based on industrialization” (Rodrik, 2014: 15).

Given the diversity of initial conditions and stages of development in SSA, the appropriate strategy for development and employment will need to match the prevailing structure of the economy. One possible classification was proposed by Thorbecke (2014b), based on four hierarchical criteria: the quality of the country's institutions and governance, the relative importance and potential of the agricultural sector, the endowment of natural resources, and the geographical considerations, i.e. whether the country is coastal or land-locked. Based on these criteria, six distinct groups of SSA countries were identified and an appropriate development strategy outlined.

A second key element of a more inclusive growth structure is infrastructure investment in such social capital overhead as rural (farm to market) roads, road networks linking rural and urban areas, schools, clinics, and dispensaries. An improved road network would go a long way in facilitating the structural transformation by reducing the transaction costs that potential migrants have to incur. In that sense such an investment would act as a lubricant for rural to urban migration as well as making it easier for workers leaving agriculture to move into more productive rural off-farm activities. Another advantage of improved rural roads is that they would encourage the commercialization of agriculture. Small-scale subsistence farmers would benefit from lower transport costs in bringing their products to the market and gain valuable time in the process. In addition, more efficient roads would lower the costs of farmers' inputs and other goods they import from urban areas. In a more general sense, markets would operate more efficiently.

Investment in schools and health facilities would contribute to human capital. Appropriate conventional and vocational education would increase labor productivity and help provide the children of farm households with the skills they may need to be productive in non-agricultural activities. Clinics and dispensaries contribute to building up the health capital of the beneficiaries with a direct positive effect on their productivity. An overarching advantage of all the above examples of infrastructure investment is that they require much unskilled labor during their construction phase. Thereby some of the un- or under-employed individuals in the labor force can find jobs, which will reduce the incidence of poverty. While most of these infrastructure jobs will tend to be vulnerable, they can contribute to some learning by doing and better prepare those unskilled workers to compete for more stable jobs.

Inclusive economic and political institutions form the third element of an inclusive development strategy. As Acemoglu and Robinson (2012: 309) emphasize, the virtuous circle of growth and development arises “...not only from the inherent logic of pluralism and the rule of law, but also because inclusive political institutions tend to support inclusive economic institutions. This then leads to a more equal distribution of income, empowering a broad segment of society and making the political field even more level...and reduces the incentives to re-create extractive political institutions.” The key question is whether in the SSA context there is scope for identifying and creating sustainable institutions that, by reducing poverty directly, are also productive—consistent with the pro-growth poverty reduction strategy. Based on a comprehensive review of literature on social protection and labor institutions (SPLs), including many in Africa, Alderman and Yemtsov (2013: 29) conclude that “there is a strong theoretical case for productive role of SPLs, and much is known about exactly how social protection can contribute to economic growth.” These authors argue, further, that “...experience has taught that when well designed, social protection can both redistribute the gains from growth and, at the same time, contribute to higher growth.”

In a study of what Africa can learn from successful SPLs in Asia and other developing regions as well as from successful institutions already operating in SSA, Thorbecke (2013b) identifies a number of such institutions grouped in four categories: (a) small-scale agriculture; (b) social security and human capital; (c) entrepreneurship and micro-credit; and (d) employment, infrastructure, and public works.¹⁷ Specific examples of appropriate SPLs in each category were reviewed critically and a case made that the present environment in SSA is ripe for adopting new institutions and that a number of SPL programs from Asia and Latin America and even from other parts of Africa could be successfully transferred. The initiation of institutional change is easier during a growth period, such as Africa is currently enjoying, than during a period of stagnation or low growth.

5.6 Conclusions

What main conclusions can be drawn from the analysis in this paper? Does the empirical evidence reviewed here allow one to characterize the current growth

spell as inclusive? While it is too early to feel confident that the present pattern of growth and development is both inclusive and sustainable, the above analysis has highlighted a number of socioeconomic changes that are consistent with a diagnosis of greater inclusiveness.

First, the quantum jump in the pace of African growth since the beginning of this millennium has been associated with, and is likely to have contributed to, a large fall in poverty. Second, some indicators of human development in SSA suggest that many African countries have made progress in terms of education and health benefitting both the poor and the non-poor. Third, the ongoing structural transformation in Africa—rather than acting as a drag on overall economic growth, as in the pre-2000 period—appears to be making a positive contribution to more inclusive development. The share of the labor force in agriculture is falling more rapidly than in the past and workers leaving agriculture appear to be moving into more productive jobs, mainly in the services sector.

There are some clouds on the horizon that may interfere with the rays of sunshine outlined above. Income and wealth inequality remains stubbornly high and could dampen future growth. Agricultural productivity and yields of conventional crops are still dismally low in SSA compared to other regions of the developing world. The slow pace of industrialization is of concern. Notwithstanding the apparently successful structural transformation, relatively few workers leaving agriculture move into manufacturing jobs.

A set of interrelated factors appears to have contributed to a more rapid and inclusive pattern of growth since 2000. The most important are: (a) African policymakers' changing concern for and more benevolent treatment of agriculture; (b) improved overall governance; (c) the emergence of an African middle class; (d) a spike in commodity prices; and (e) a quantum jump in foreign direct investment. The first three factors are under the relative control of, or can be influenced by, African governments, while the last two factors are largely exogenous.

An attempt was made to identify some of the more crucial elements of a robust and sustainable inclusive growth and development strategy adapted to the initial conditions prevailing in SSA. A case was made in favor of a pro-growth poverty

reduction strategy to complement the more conventional pro-poor growth strategy. The former strategy differs from the latter in that the policy or institutional intervention operates directly on reducing poverty and that this in turn helps remove some of the constraints affecting the behavior of the poor, thus making it possible for the poor to become more productive.

The three most fundamental elements of a desirable and sustainable inclusive development strategy, within the context of SSA, appear to be: (a) the creation of new stable jobs; (b) infrastructure investment in such social overhead capital projects as rural (farm to market) roads, a road network linking better rural and urban areas, schools, clinics, and dispensaries; and (c) the adoption of inclusive social protection and labor institutions that are adapted to the prevailing conditions in SSA and conducive to both poverty reduction *and* growth in production and productivity.

Africa is at a crossroads. Will the “African Renaissance” and “African Growth Miracle” turn into robust and permanent features, or will the present growth spell collapse under the resumption of extractive economic and political institutions and civil conflicts? So far, albeit based on a relatively short period, there is some evidence that the structure of growth has become more inclusive. Could these changes help trigger an endogenous virtuous spiral? My guarded guess is in the affirmative but only if African countries adopt appropriate development strategies including the three elements mentioned above.

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Endnotes

- ¹ There are almost always exceptions to such generalizations. For example, Botswana for many decades has been one of the best-performing developing countries. While an exception, Botswana's example could have provided a model to be followed by resource-rich SSA countries though probably not by most other resource-poor SSA countries.
- ² For example, at the limit, this implies that growth would be pro-poor when the income of the poor rose by 1 percent while that of the non-poor rose by 8 percent, resulting in a sharp increase in income inequality.
- ³ As pointed out by Ianchovichina and Lundstrom (2009b), an argument against imposing a reduction in inequality as a condition for inclusive growth is that such a requirement would favor an outcome characterized by average income growth of 2 percent where the income of the poor grew by 3 percent, over an outcome where average growth was 6 percent but the income of the poor grew by only 4 percent. Clearly, the second alternative would be more beneficial to the poor even though inequality worsened.
- ⁴ We return to a discussion of the reverse link between inequality and subsequent growth in Section 5.5.
- ⁵ Much of the evidence presented in this section is based on Thorbecke (2014a and b), which can be consulted for more detailed evidence and analysis.
- ⁶ Or lower negative growth rates.
- ⁷ Changes in growth rates of 5 percent above or below the prevailing level in the first period were considered as no change.
- ⁸ As I warned in Thorbecke (2013a): "In the process of scrutinizing and analyzing poverty and inequality trends, it is essential to confront the data problem. The World Bank's "PovCalNet" data set used here is based on official statistics provided by the statistical offices of the member countries. Even though this is the most comprehensive and internally consistent data set available on poverty and inequality at the country level, it is particularly incomplete in its coverage of SSA and the World Bank apparently undertakes only a minimum of quality control." It could be argued even more strongly that, given the state of national income accounts in most SSA countries, GDP statistics are subject to high measurement errors. Furthermore, changes in national income account and survey methodologies (which occur relatively often in SSA) affect the accuracy of comparisons over time. Shanta Devarajan, who for a long time was the chief economist for the African region at the World Bank, referred to the poor quality of African statistics as "Africa's statistical tragedy." The tragedy is

that while there is a strong presumption that the trends that we report are real, we cannot be sure that they are.

- ⁹ The international cross sectional regression line, derived from a sample of about 100 developing and developed countries is the black line extending from the northwest corner to the southeast corner in each of the four panels of figure 5.1.
- ¹⁰ In this case, migration “depresses wage rates, denudes rural areas of innovators and hence, while it may briefly relieve extreme need, seldom cuts chronic poverty” (as quoted in Diao and others, 2008).
- ¹¹ The dataset used by de Janvry and Sadoulet (2010) to derive Figure 5.1 has not been kept up in recent years. Instead of using data on the share of agriculture in the labor force, which are apparently no longer available, I relied on data on the share of agriculture in total employment. Although these two concepts are not analogous, their movements over time tend to coincide.
- ¹² Given the very short time span (2004-06), measurement error cannot be ruled out.
- ¹³ The most impressive annual rates of labor productivity growth at the country level in the first decade of this century were reported by Angola (5.7 percent); Mozambique (4.9 percent); Rwanda (4 percent); Nigeria (4.8 percent); and Ghana (3.6 percent).
- ¹⁴ See <http://www.blueskies.com>.
- ¹⁵ This source contains an excellent analysis of many plausible correlates.
- ¹⁶ See Thorbecke (2013a) for a comprehensive and detailed discussion of the interrelationship among growth, inequality, and poverty.
- ¹⁷ Thorbecke (2013b) provides specific examples of social protection and labor institutions already successfully implemented in SSA or potentially transferable.

6. Inclusive Growth in Africa: Current Performance and Prospects

Mthuli Ncube*

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6.1 Introduction

Africa has enjoyed a significant increase in economic growth over the past decade—growth that is spread across countries and sectors. This is certainly a welcome improvement over the previous two decades’ experience, yet many policymakers and analysts remain concerned that economic growth in and of itself is not sufficient.

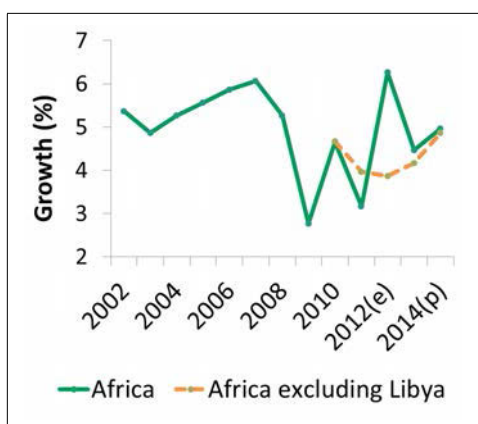
While satisfaction with the growth acceleration is nearly universal, the concerns over its limits are quite varied. Some analysts simply feel that economic growth, while better, remains inadequate to generate rapid development, especially given Africa’s still high population growth rate. Others are more concerned about the unequal distribution of the benefits of growth, noting that increased inequality has limited the power of growth to reduce poverty. Still others worry that the growth has not brought with it the structural transformations that are the hallmark of economic development, including growth in employment-generating activities like labor-intensive manufacturing and services. And some argue that wellbeing, broadly conceived to include non-income dimensions like health and education, has not improved as

* The contents of this paper reflect the views of the author and not those of the senior management and Board of the African Development Bank.

much as incomes. Most recently, there is concern that growth is excluding important disadvantaged groups in society.

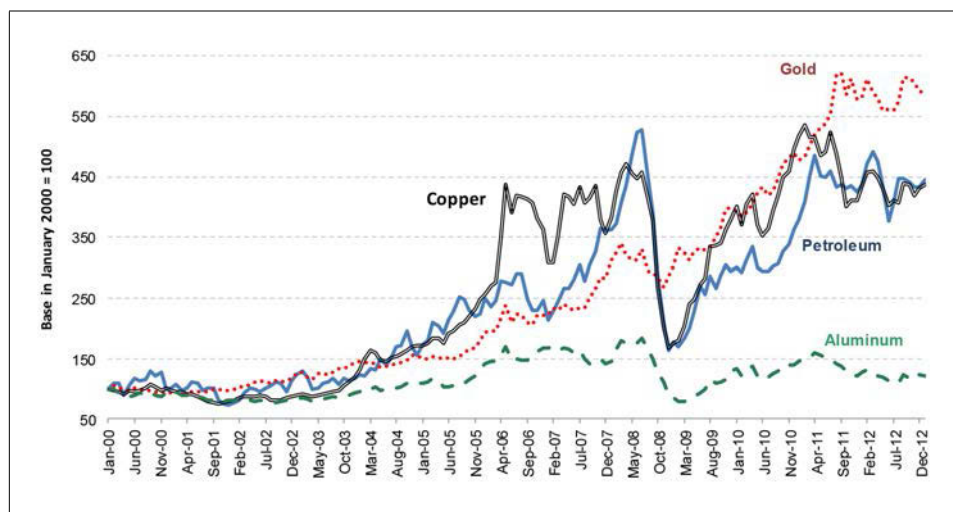
Rapid economic growth in Africa (Figure 6.1) has failed to create enough quality jobs for the estimated 36.3 million unemployed Africans. It has been largely attributable to strong commodity price trends, especially for metals and minerals (Figure 6.2). Domestic demand factors have been relatively less strong. Poverty reduction has fallen short of expectations, with the proportion of people living on less than US\$1.25 a day decreasing from 56.5 percent in 1990 only to 47.5 percent in 2008. Africa’s record on achieving the Millennium Development Goals is mixed, and several key targets set for 2015 are likely to be missed, including reducing child mortality, improving maternal health, and achieving full and productive employment.

Figure 6.1: Africa’s GDP Growth, 2000-14



Source: African Development Bank Group.

The weak inclusion character of growth is of serious concern to many African governments. Non-inclusive growth is likely to result in rising and persistent inequalities, not only in income and wealth but also in other domains of wellbeing including health, education, and participation in the political process. Leaving large sections of the population behind is also likely to have repercussions on the sustainability of future economic growth, leaving human capital untapped and therefore stifling the full potential of aggregate demand and economic dynamism.

Figure 6.2: Commodity Prices Driving Some of the Growth in Africa

Source: African Development Bank Group.

6.1.1 Growth, employment, and income distribution

Rapid growth is a prerequisite for enabling the majority of the poor to lift themselves out of poverty. But for growth to be sustainable and inclusive, it must affect critical sectors that create employment for the country's labor force. Inclusive growth also recognizes implicitly the linkages between the macro and the micro level and the critical importance of structural transformation for job creation and eventual inclusive growth. Several African countries in the last ten years have achieved high growth rates and improved living conditions, yet the long economic upswing has been accompanied by growing inequality within and among countries. Jobless growth is a reality that has plagued many African countries' recent history.

In the coming four decades, the largest wave of young people ever will enter the labor market, most of them in Africa. With one half of Africa's population under the age of 20 and a median age of 18, the continent is facing a youth bulge. Of the 2.4 billion people who are projected to be added to the world by 2050, 46 percent will be born in Sub-Saharan Africa. The region will contribute 77 percent of the total increase in global population by 2100. Of the region's 54 countries, 31 are projected to at least double their population by 2050.

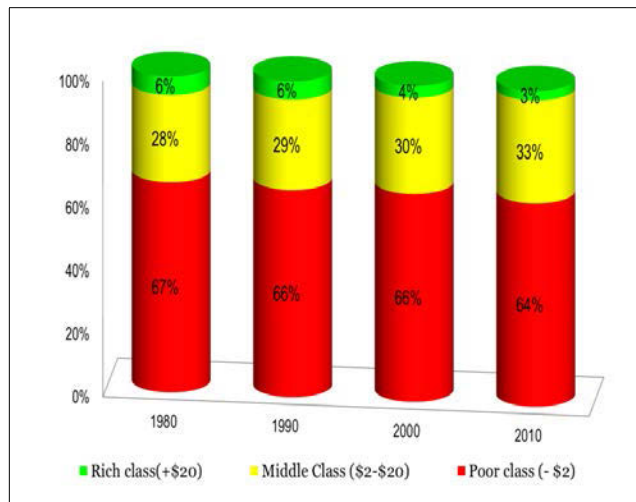
Economic opportunities for the young are scarce and although the young constitute around two-fifths of the continent's working age population, they make up three-fifths of the total unemployed. Youth unemployment rates exceed those of adults, often by a ratio of two to one. In some countries including South Africa, one in every two young people is unemployed. However, this youth bulge is a potential gold mine to be exploited. Some analysts have argued that the "economic miracle" of the East Asian Tigers can to a large extent be attributed to a demographic dividend that these countries were able to reap thanks to effective policies, and led to the expansion of employment and labor force participation.

Productive employment is a key dimension of inclusive growth, as highlighted in the African Development Bank's *African Economic Outlook, 2012*. More work needs to be done to operationalize the lessons learnt in providing sound country-specific and evidence-based policy advice that will enable countries to unlock their potential, and break their binding constraints not just on growth but on inclusive growth.

6.1.2 Middle class growth and demographic dividend

Africa's emerging middle class has been growing and will continue to grow from 355 million (33 percent of Africa's population) in 2010 to 1.1 billion (42 percent of the population) in 2060 (Figure 6.3). It is strongest in countries that have robust and growing private sectors, and is crucial not only for economic growth but also for the growth of democracy. The middle class will assume the role traditionally played by the middle classes in the US and Europe as major consumers, which will be key to rebalancing the African economy. Consumer spending in Africa, primarily by the middle class, reached an estimated US\$680 billion in 2008 (based on per capita consumption of more than US\$2), or nearly a quarter of Africa's GDP based on 2008 purchasing power parity. By 2030 Africa will likely reach US\$2.2 trillion in annual consumer expenditures, representing about 3 percent of worldwide consumption.

Figure 6.3: Africa’s “Middle of the Pyramid”: Distribution of the African Population by Classes



Source: African Development Bank Group.

Compared with other parts of the developing world, Africa’s demographic transition is delayed. A positive aspect of this delay is that the share of youth (aged 15-24) in Africa both north and south of the Sahara has been rising over time and is now larger than in any other part of the world. This demographic dividend will also show itself in the increased importance and role of Africa’s middle class in socioeconomic development. These trends may lead to higher productivity and more rapid economic growth.

Africa’s population is young and growing, and a rapidly expanding number of job-seekers must be incorporated into labor markets. The number of graduate students tripled in Sub-Saharan Africa between 1999 and 2009, yet young people account for about 60 percent of the region’s unemployed. The demographic bulge offers the possibility of a growth dividend if, as in East Asia, a rapidly growing work force can be combined with capital and technology. But it can also represent a major threat. Africa is not creating the number of jobs needed to absorb the 10-12 million young people entering its labor markets each year, and, as recent events in North Africa have shown, lack of jobs for a rapidly growing young labor force can undermine social cohesion and political stability.

6.1.3 *The need for a measure of inclusive growth*

Each of these concerns suggests that policymakers should pay attention to other measures in addition to, or perhaps instead of, economic growth. Some such measures already exist. For policymakers concerned about rising inequality there are pro-poor growth measures and Datt-Ravallion decompositions.¹ For those interested in non-income dimensions of wellbeing there are a host of multidimensional measures of wellbeing, with the UNDP's Human Development Index being the best known.² For those concerned about structural transformation, there are labor market data on sector of employment.

To date, however, there is no generally accepted measure of inclusive growth. The aim of this paper is to lay out a framework for thinking about and choosing such an index. As we shall see, this choice involves many decisions about what to measure and how to measure it, and each choice has advantages and disadvantages. It is important for policymakers to have a clear understanding of these choices before settling on a particular index. Indeed, it may be that no single index is adequate to address the concerns expressed above and that any attempt to force these many factors into one number would yield an index with little meaning. On the other hand, the main argument in favor of a single number is that it helps to focus attention on a measure that reflects economic development more accurately than does GDP per capita. GDP per capita is the default measure partly because it is useful—how much an economy produces per person matters—but also because the data to calculate it are readily available in most countries. If an alternative and more appropriate measure of inclusive development were available, policymakers could focus on it instead of, or in addition to, GDP, to the benefit of development in their countries.

6.2 Approaches to inclusive growth

Inclusive growth, shared growth, broad-based growth, and pro-poor growth are all conceptual responses to the concern that economic growth alone is not sufficient to generate economic development. As such, they are sometimes used interchangeably, though researchers try to distinguish them from each other (see Rauniyar and Kanbur, 2010; Klasen, 2010; Ianchovichina and Lundstrom, 2009; and AfDB,

2013a, among others). Not all authors' definitions are the same for these concepts, and the definitions sometimes overlap.

The definition of inclusive growth will affect judgments about, for example, What sub-groups matter in a population? What dimensions of wellbeing matter? Do opportunities or outcomes matter? And, does relative or absolute progress matter? These issues are discussed in Ncube and others (2013).

6.2.1 Defining inclusive growth

GDP per capita is not a sufficient measure of progress on inclusive growth. There is a need to subdivide the population in such a way that the poor are targeted. A key difference between inclusive growth and pro-poor growth is that the latter focuses only on the poorer groups, while at least some definitions of inclusive growth insist that *all* groups' incomes grow.

Targeting the poor results in pro-poor growth and shared growth. For this purpose we can group the population into "poor" and "non-poor" or by income/consumption quantile.³ The key for pro-poor or shared growth, then, is not whether the entire economy grows but whether the incomes or consumption of key sub-populations—the poor, or the lower quantiles—grows.

Inclusive growth is concerned with opportunities for the labor force in the poor and middle class alike, unlike the pro-poor growth agenda, which focuses mainly on the welfare of the poor. To qualify as "broad-based," growth must occur in most or all sectors of the economy; proponents of this approach note that countries tend to diversify as they grow, at least up to relatively high income levels (Imbs and Wacziarg, 2003).

Measures of growth in per capita incomes, pro-poor growth, and broad-based growth all take income or consumption as the measure of wellbeing. Inclusive growth should include a consideration of non-income dimensions of wellbeing, especially access to infrastructure and basic social services. Rauniyar and Kanbur (2010) argue that both income and non-income dimensions should be considered as "inclusive development," with "inclusive growth" only applying to the income component. For the non-income dimension, we can classify people by education status.

Various definitions of inclusive growth all express the need for new approaches to address social inequalities, especially in the developing world. These include inequalities in income, assets both financial and human, education and health, economic opportunities, and indeed all spheres of life.

The African Development Bank (AfDB) defines inclusive growth (IG) as “economic growth that results in wider access to sustainable socioeconomic opportunities for a broader number of people, regions, or countries, while protecting the vulnerable, all being done in an environment of fairness, equal justice, and political plurality” (AfDB, 2012: 2). The latter part of that definition seems to favor the development of capabilities that go well beyond economic opportunities or income growth. One dimension of wellbeing that receives considerable attention regarding inclusive growth, is access to good quality employment for all. This echoes the writings of the World Bank (Ianchovichina and Lundstrom, 2009), the Asian Development Bank (Klasen, 2010), and UNDP (2010). Of course, employment and income/consumption are very closely related, but other characteristics of a job—security, dignity, voice—matter as well.

Some authors have argued that opportunities, not outcomes, matter in considerations of inclusive growth. Some view capability as more important than functioning. However, it is difficult to measure opportunities/capabilities, and much easier to measure outcomes/functioning. For example, it is easy to observe a person’s income and consumption but much more difficult to measure what they are capable of earning. Some of the literature distinguishes inequality in opportunities and inequality in outcomes in the income dimensions (see Roemer, 1998, and Ramos and van de Gaer, 2012 for good reviews; Ferreira and others, 2011 pursue this distinction empirically). Ianchovichina and Lundstrom (2009) and Klasen (2010) argue that a measure of inclusive growth should include both outcomes (especially income) and opportunities (especially regarding employment, but also access to basic social services).

6.2.2 Inclusive growth components

Many authors have criticized the weights that are used to calculate the UNDP’s Human Development Index. A particular concern has been the implied marginal rate of substitution between the various components of the index (see, for example,

Ravallion, 2010). Reasonable people can and do disagree, and disagreements are sure to plague any choice of weights for an inclusive growth index.

One way to avoid this problem is to use a “dashboard” of indicators rather than a single index (Stiglitz and others, 2009; Ravallion, 2010). A car’s dashboard has multiple indicators for key variables—oil pressure, engine temperature, fuel level—that help you or your mechanic to assess the car’s status. Combining all of these indicators into a single index of your car’s wellbeing probably would not be helpful, except perhaps to tell you whether you should be driving it or not.⁴

Ravallion (2010) argues that rather than “mashing up” many disparate indicators into a single index, policymakers are better off seeing a dashboard that includes all of the indicators that go into the index. His argument has two main points. First, the weights used in building the index are rarely rooted in any sort of economic or ethical theory.⁵ They are chosen arbitrarily by the indices’ creators and can lead to unattractive marginal rates of substitution between the components (Ravallion, 2010 lists examples.) Second, the trade-offs that the weights imply between the various dimensions of the index are often opaque, and it is difficult for policymakers to understand exactly how much the index will change if the value of an included variable changes, and what the trade-offs might be between improvements in the different variables. Thus, even though the main motivation of most such indices, including a presumed inclusive growth index, is to focus policymakers’ attention on something that matters, this focus will not do much good if policymakers do not understand how their actions affect the value of the index. In fact, for most policy purposes, Ravallion argues that the individual components of any purported index are more useful. If we see the infant mortality rate go down, say, we have a pretty clear sense of what that means and what policies might be responsible. That same clarity is lacking in a “mash-up” index.

But the dashboard approach also has limitations. As a technical matter, it is a “columns first” approach that does not take the second step of aggregating across the rows of the matrix. As a consequence, the dashboard does not take into account the correlation of deprivations (for example when poor health and nutrition are correlated with lack of physical infrastructure and lack of schooling). And even though

the dashboard avoids the arbitrary weights that are needed to aggregate across the rows, it still must choose weights to aggregate down each column. By refusing to weight across the columns, the dashboard approach leaves open the possibility of finding, say, that GDP per capita has grown by 10 percent while formal sector employment has declined by 1 percent. Is that inclusive growth? What if GDP growth is 5 percent and formal employment growth is 1 percent? It may be that policymakers view such results and apply their own preferred weights to conclude that growth has been inclusive, and vary those weights as they see fit. Insisting on an index with fixed weights removes this “wobble room.”

Practically it may be that, presented with a wide range of indicators—a really comprehensive dashboard—policymakers, the press, and even analysts will focus on only one or a few. The highest-profile dashboard approach is the Millennium Development Goals, which include eight goals and twenty one targets, along with about seventy specific indicators suggested to measure those targets. Since the goals are “mash-ups” of the targets, a proper MDG dashboard should include at least the 21 targets and perhaps the 70 indicators. But even though almost all the MDG targets are readily measured, and some (e.g. reducing the dollar-a-day headcount by 50 percent; eliminating gender disparities in primary and secondary education) are followed closely, others (e.g. reducing biodiversity loss; achieving decent employment for men, women, and young people) are barely noticed. Given the option to evaluate many indicators, we may choose to focus only on some. The dashboard allows one to assign an implicit weight of zero to some of its variables. An index at least forces their inclusion with some positive weight.

6.3 Towards an index of inclusive growth

As noted above, AfDB defines inclusive growth as economic growth that results in wider access to sustainable socioeconomic opportunities for a broader number of people, regions or countries, while protecting the vulnerable, all being done in an environment of fairness, equal justice, and political plurality.

Inclusive growth is important for ethical considerations of fairness. Growth must be shared and should be inclusive across different segments of populations. Growth with persistent inequalities may endanger social peace, force the poor and unemployed

into criminal activities, make women vulnerable to prostitution, and force children into undesirable labor. Continued inequalities in outcome and access to opportunities may result in civil unrest and violent backlash from people who are continually deprived, derailing a sustainable growth process. This may create political unrest and disrupt the social fabric and national integration.

Policies to promote inclusive growth focus on the rate and pattern of growth, which must be addressed together because they are interlinked. Long-term sustainable economic growth rates are necessary to reduce poverty and must be accompanied by expanding productive employment to reduce inequality. Therefore the promotion of inclusive growth is about raising the pace of growth and enlarging the size of the economy, while leveling the playing field for investment and increasing productive employment opportunities as well as ensuring fair access to them. It allows every section of the society to participate in and contribute to the growth process equally, irrespective of their circumstances.

Inclusive growth indicators can be grouped into four categories: economic and financial inclusion, spatial inclusion, social inclusion, and political/institutional inclusion, which are discussed in turn below.

6.3.1 Economic and financial inclusion

Economic growth should create productive employment. As a necessary condition for inclusive growth, it provides the resources for investing in infrastructure, expanding the private sector, providing resources for social protection programs to protect the vulnerable, broadening access to health and education, improving gender equity, and dealing with inequality.

Africa's financial services sector has grown rapidly in response to its changing economic landscape as rapid urbanization, rising incomes, and technological advances have brought more people—many of whom were formerly locked out of the formal financial system—into contact with banks and other similar institutions. The expansion of the financial sector not only creates new jobs and other economic opportunities, but also helps to establish formal identities for millions of market participants and provides greater security than cash-based transactions.

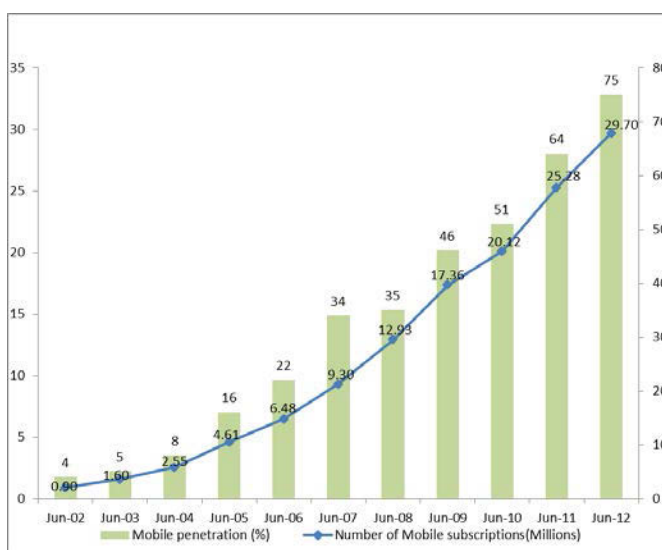
Financial inclusion in Africa is being driven largely by the growth of mobile telephony (Box 6.1).

Box 6.1: Mobile Banking in Kenya

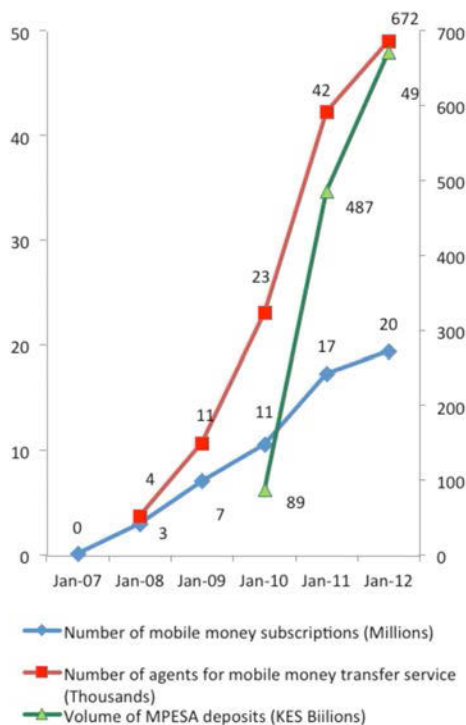
In Kenya the most visible case of the power of mobile telephony in the growth of banking is M-PESA, a mobile-phone based money transfer and microfinancing service launched in 2007 and pioneered by Safaricom, a leading Kenyan operator. Active bank accounts in Kenya have grown fourfold since 2007 aided by some 17 million MPESA mobile money accounts, which move an estimated US\$7 billion annually, an amount equivalent to 20 percent of the country’s GDP (Box Figures 6.A and 6.B below).

The real breakthrough in the Kenyan market has been in people’s ability to send and receive money, with more than two-thirds doing so by phone. East Africa’s biggest success has been M-PESA, whose simple interface works on any phone and has brought financial services to Kenya’s poor majority, enabling the movement of some US\$8.6 billion in the first half of 2012. Safaricom also launched M-KESHO in March 2010, which allows for the movement of funds to and from an interest bearing account with Equity Bank. The success of Safaricom has compelled other M-money operators to enter the Kenyan competitive landscape. Drawing on Kenyan successful experiences, many low-income African countries have followed suit and adopted mobile network operator (MNO)-led models for extending access of the unbanked population, in particular, to payment services through mobile phones and retail agents. The success of the MNO-led model depends on a large reliable network of agents and low risk management of electronic value for a cheaper but secure solution to financial inclusion in low-income African countries.

Box Figure 6.A: Number of mobile phone subscriptions and mobile penetration in Kenya



Source: Ncube and Ondiege (2012)

Box Figure 6.B: Number of mobile money subscriptions, agents for mobile money services, and volume of MPESA deposits (KES) in Kenya

Source: Ncube and Ondiege (2012).

6.3.2. Spatial inclusion

Regional trade and integration will create larger and more attractive markets, turning land-locked countries into land-linked countries and thus helping to integrate Africa into international markets and supporting intra-African trade. Reducing regional inequality will help equalize per capita output, encouraging the spatial flow of capital and labor and the diffusion of innovation across countries and regions, leading to economic convergence.

A key impediment to regional trade and integration is lack of infrastructure. To track progress on spatial inclusion where infrastructure development plays a big part, we can use the Africa Infrastructure Development Index (AIDI) developed by the African Development Bank (AfDB, 2013b). The components of the index include access to transport infrastructure, energy infrastructure, ICT infrastructure, and water and sanitation infrastructure (Table 6.1).

Table 6.1: African Infrastructure Development Index Components and Indicators

Composite index/indicator for each component	Indicator(s)	Subindicators
<p style="text-align: center;">I. Transport Composite Index</p>	<p>Total Paved Roads (km per 10,000 inhabitants): The country's total surface with crushed stone (macadam) and hydrocarbon binder or bituminized agents, with concrete, or with cobblestones. The indicator is measured in km per 10,000 inhabitants as a proxy of access to the road paved network.</p>	
	<p>Total Road Network in Km (per km² of exploitable land area): - The total road surface (both paved and non-paved roads) of a given country. The indicator is measured in km (per km² of exploitable land area). - Exploitable land area is the total surface area of a country minus the surface area of deserts, forest, mountains, and other inaccessible areas.</p>	
<p style="text-align: center;">II. Electricity Index: Net Generation (kWh per inhabitant)</p>	<p>Total Electricity Production of a given country, including the energy imported from abroad. This includes both private and public energy generated. The indicator is measured in millions of kilowatt-hours produced per hour and per inhabitant.</p>	

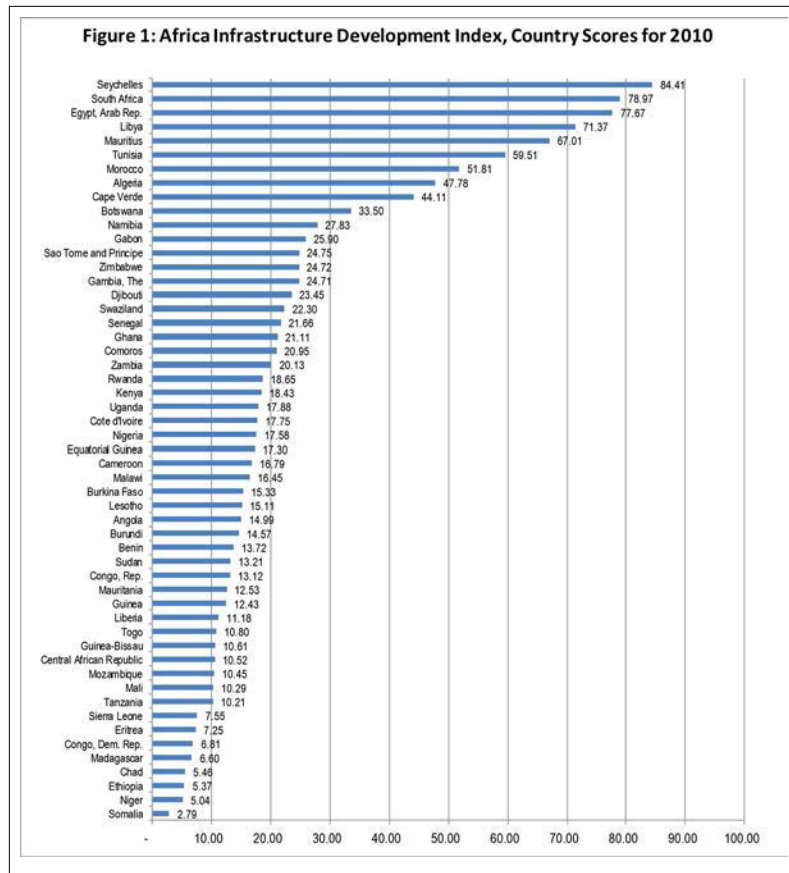
III. ICT Composite Index (ICT)	<p>III.a Total Phone Subscriptions (per 100 inhabitants) :</p> <p>The total number of phone subscriptions in a country, both fixed telephone lines and mobile cellular telephone subscriptions, in a given year. For the purpose of the AIDI, the indicator is per 100 inhabitants.</p>	<p>III.a.1 Fixed-line Telephone Subscriptions (% population): Active line connecting the subscriber's terminal equipment to the Public Switched Telephone Network (PSTN) and which has a dedicated port in the telephone exchange equipment.</p> <p>III.a.2 Mobile-cellular Subscriptions (% population) : Refers to the subscriptions to a public mobile telephone service, which provide access to the Public Switched Telephone Network (PSTN) using cellular technology. This indicator includes the number of pre-paid SIM cards active during the past three months. This indicator includes both analogue and digital cellular systems IMT-2000 (Third Generation. 3G) and 4G subscriptions.</p>
	<p>III.b Number of Internet Users (per 100 inhabitants): The estimated number of Internet users in the total population. This includes those using the Internet from any device (including mobile phones) in the last 12 months. For the purpose of the AIDI, the indicator is per 100 inhabitants.</p>	
	<p>III.c Fixed (wired) Broadband Internet Subscribers (per 100 inhabitants): Total Internet subscriptions using fixed (wired) broadband technologies to access the Internet. Subscriptions that have access to data communications (including the Internet) via mobile cellular networks are excluded. For the purpose of the AIDI, the indicator is reported per 100 inhabitants.</p>	
	<p>III.d. International Internet Bandwidth (Mbps): Total capacity of international Internet bandwidth in megabits per second (Mbps). If capacity is asymmetric (i.e. more incoming than outgoing), the incoming capacity should be provided. This is measured as the sum of capacity of all Internet exchanges offering international bandwidth.</p>	

IV. Water & Sanitation Composite Index (WSS)	IV.a. Improved Water Source (% of population with access): Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 liters a person per day from a source within 1 km of the dwelling	
	IV.b Improved Sanitation Facilities (% of population with access): Access to improved sanitation facilities refers to the percentage of the population with at least adequate access to excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained.	

Source: AfDB (2013b).

Since the components of the AIDI are originally measured in different units, the observations are standardized or normalized to permit averaging, with the average regarded as a composite index.⁶ The AIDI composite index is computed using the sub-indexes of the four components and applying the same method.

As shown in Figure 6.4, the top ten countries ranked by the AIDI in 2010 were Seychelles, South Africa, Egypt, Libya, Mauritius, Tunisia, Morocco, Algeria, Cape Verde, and Botswana. Of these, five are in North Africa. Another three are small island economies in which tourism is an important sector, so they have traditionally focused on improving infrastructure to attract visitors. The bottom ten countries in 2010 were Somalia, Niger, Ethiopia, Chad, Madagascar, Democratic Republic of Congo, Eritrea, Sierra Leone, Tanzania, and Mali. These are mostly fragile states recently involved in some form of conflict.

Figure 6.4: Africa Infrastructure Development Index, 2010

Source: AfDB (2013b).

6.3.3 Social inclusion

Social inclusion ensures that all sections of the population, including people who are disadvantaged due to their individual circumstances, have equal opportunities.

To ensure equal access to opportunities, human capacities should be enhanced to bridge gaps that arise due to circumstances beyond the control of individuals, especially those from marginalized and disadvantaged sections of society, including women. Basic health facilities, access to education, and physical infrastructure that allows access to these services are key components of inclusive growth.

A key to social inclusion is social protection. Social protection includes all initiatives, both formal and informal, that provide:

- Social assistance to extremely poor individuals and households.
- Social services to groups who need special care or who would otherwise be denied access to basic services.
- Social insurance to protect people against the risks and consequences of livelihood shocks.

Social equity to protect people against social risks such as discrimination or abuse (Devereux and Sabates-Wheeler, 2004).

Social protection thus encompasses a wide array of instruments and objectives for reducing, mitigating, and coping with risk, as well as transformative measures. Table 6.2 presents a range of life-cycle and other risks that everyone faces at one time or another.

Table 6.2: Risks Associated with the Stages of Life and Specific Events (Shocks)

Life Cycle	Risks	Risks for All Age Groups
Early childhood	Orphanhood, malnutrition, infectious diseases, poor parents	Disabilities Poor health
Primary school	Low human capital (nutrition and education)	Poor living conditions Conflicts
Secondary school and young adulthood	Low human capital, inactivity, substance abuse, early pregnancy	Natural disasters Environmental degradation Discrimination
Adulthood	Poverty (unemployment or under-employment), chronic illness	Exclusion Famine
Old age	Poverty, Illness, widowhood	Economic downturn

Source: Ncube and Jones (2012).

Social protection has changed significantly in the last decade. Its role in preventing people falling into poverty, and in reducing the duration of poverty, is well known, and for some time social protection has been recognized as instrumental in achieving greater equality. More recently, experience has taught that well designed social protection can simultaneously redistribute the gains from growth and contribute to higher growth. The recent food, fuel, and financial crises have highlighted the importance of effective safety nets for reducing poverty and vulnerability. Growing evidence of the positive impacts of social protection safety net programs in countries as diverse as Brazil, Ethiopia, Mexico, and Rwanda has helped place safety nets

firmly on the development agenda. Social protection programs now support more people than ever before. Global initiatives such as the Social Protection Floor⁷ are providing a far-reaching consensus and momentum behind developing and extending social protection beyond a lucky few.

Evidence shows that social protection is crucial for inclusive development by helping its recipients build assets to withstand shocks. Shocks and crises such as the global food, fuel, and financial crises and more localized shocks from floods, droughts, and hurricanes affect a society as a whole but tend to have a greater impact on the poor, particularly poor women, who have least resilience to cope with income fluctuations and little or no access to insurance and credit markets to help them maintain consumption (particularly food) when income falls or food prices rise. While the immediate effect of a shock on household wellbeing may be visible through losses in income and increases in poverty rates, important long-term effects—some of which are irreversible—arise as households seek to cope.⁸ Social protection can enable greater resilience and early recovery even in the face of recurrent shocks. It can prevent erosion of household assets and human capital and, at the same time, make growth itself more inclusive and socially acceptable by enabling the chronically poor to take advantage of opportunities to escape poverty. Hence social protection can be an important component of a strategy for inclusive growth and reduced inequality and can contribute to achieving a country's human development goals as well as honoring the country's social contract.

Across Africa, social protection has gained in importance and scope. Several African countries have started designing and implementing comprehensive social protection strategies. Social protection has been presented as an agenda that can strengthen the legitimacy of the state by allowing it to re-shoulder responsibilities for ensuring the basic survival of its citizens and so contribute to reducing political fragility and reducing the risk of a lapse into crisis. Social protection has established itself firmly on the policy agenda in most African countries and is increasingly being seen as an appropriate and affordable response to address long-term poverty and vulner-

ability. African governments are signatories to the African Union Social Protection Framework enshrined within the Windhoek Declaration of 2008.⁹ This agreement commits its signatories to providing a minimum package of social protection that combines grants—for children, informal workers, the unemployed, older persons, and the disabled—with broader social policy provision including basic health care, and (implicitly) ongoing contributory pension schemes for civil servants.

Social protection in Sub-Saharan Africa takes several forms. Along with emergency relief, two of the most prevalent are social security and social transfers (Devereux and Cipyryk, 2009).

Social security. Most countries in Africa have formal social security schemes for public sector workers and private sector employees. Social security typically includes unemployment insurance, disability support, and old age pensions. Government workers receive civil service pensions on retirement that are paid either by the state or through employee contributions, while private sector workers have access to contributory private pensions. These schemes have very limited coverage. Formally employed workers in the public and private sectors, mostly living in urban centers, are covered, but this rarely extends beyond 10 percent of the population. The majority of citizens—rural smallholder farmers, informal sector workers, the self-employed—are not covered at all. A major challenge is to extend social security to these uncovered groups, who typically comprise the poorest and most vulnerable sections of the population.

Social transfers. Within the context of a wider package of social protection, social transfers play a role in promoting growth by helping tackle risk and vulnerability. They can help address the high levels of inequality that can limit both growth and the impact that growth has on poverty. They can give poor households with some productive capacity greater confidence to undertake more risky activities, knowing they will have a minimum income to fall back on. (For example, when hit by crises, they have less need to sell their productive assets and thus are better able to delay sales of produce, thereby obtaining a better price.) Evidence is growing that beneficiaries of social transfers use them to invest in small-scale productive activities and assets, thereby setting in motion a potential multiplier effect. In the longer term,

social transfers promote growth by enabling households to invest in their children's education and health. On reaching adulthood, healthier and better educated children can become productive members of society and break the poverty cycle in which their families have been trapped.

Social protection in Africa is dominated by social cash transfers. Financial and administrative capacity constraints make comprehensive social security systems unfeasible at this time, so social transfer pilot projects are being introduced to provide social assistance to poor and vulnerable families. These projects are targeted mostly to poor households with children and provide cash on condition that the children attend school and health clinics. Work programs, in which the state provides cash or food to the unemployed in exchange for work, combine elements of a social transfer with an insurance function, offering a safety net to those in the labor market. The main argument in favor of making social transfers conditional is that they provide strong incentives for families to invest in the health and education of their children. However, they require greater administrative capacity than simple unconditional cash transfers and depend on other services being in place.

There are several positive examples of government-run social transfer programs. These include the "social pensions"—more accurately, unconditional cash transfers targeted at older citizens— that were introduced by South Africa in 1928 and Namibia in 1973 and have more recently been adopted by Botswana (1996), Lesotho (2004), and Swaziland (2005). Other government programs include disability grants (South Africa and Namibia), poverty-targeted social assistance schemes (Destitutes' Support in Botswana, Food Subsidy Program in Mozambique, Public Welfare Assistance Scheme in Zambia), and child-focused schemes (Child Support Grant in South Africa), Ethiopia's productive safety net program, and Rwanda's Vision 2020 Umurenge program (Box 6.2).

Box 6.2: Rwanda's Vision 2020 Umurenge Program

The Government of Rwanda developed a National Social Protection Strategy and began implementing it in January 2011. The foundation of this strategy is Vision 2020 *Umurenge* Program (VUP). (*Umurenge* is a sub-national government tier below the district level in Rwanda.) The VUP, led by the Ministry of Local Government, aims to ensure that growth is shared by the poorest Rwandans by creating economic opportunities using local participatory mechanisms cultivated by the country's decentralization efforts. It has three components. The first component, public works, promotes the design and development of suitable projects in local communities and also provides temporary employment to the poor. The second component, credit packages, provides micro-financing to poor entrepreneurs who pursue promising off-farm income-generating activities. The third component is direct cash benefits to very poor households without a member who is able to work, such as households with a single parent and young children, the elderly, and/or the disabled.

VUP brings together several social protection measures including community asset building, income generation, relevant skills training, and small income support to extremely poor households. VUP started in May 2008 with 30 *umurenge* and steadily expanded, reaching 150 by the end of 2012.

6.3.4 Political/institutional inclusion

Inclusive growth entails supporting the voices and democratic accountability of the poorest and vulnerable groups, and the representation of all strata of the population in all the economic and political spheres. Inclusiveness also means public participation in the control of, and monitoring the management of, public resources, holding governments accountable for their economic and fiduciary responsibilities. To achieve these goals requires strong control, audit, and judicial systems that can enforce the rule of law and the responsible management of public affairs. Good governance, efficient government, and strong institutions can promote inclusive growth. Strengthening institutions of accountability and the rule of law can foster political stability.

The lack of effective and accountable states in some parts of Africa hinders inclusion in growth and development. The quality of institutions—including the quality of political representation and policymaking processes, the competence and integrity of the bureaucracy, and the ability to enforce contracts and property rights—is a major factor in a country's overall economic performance and its ability to tackle poverty. Around the world, countries with better governance also tend to have lower inequality.

Governance remains Africa's Achilles' heel. The region has consistently performed poorly on standard governance indicators, scoring 30 percent lower than the Asian average and 60 percent lower than the average among industrialized countries. Many indicators of governance in Africa are worse now than they were in 2000 (Table 6.3 and Figure 6.5).

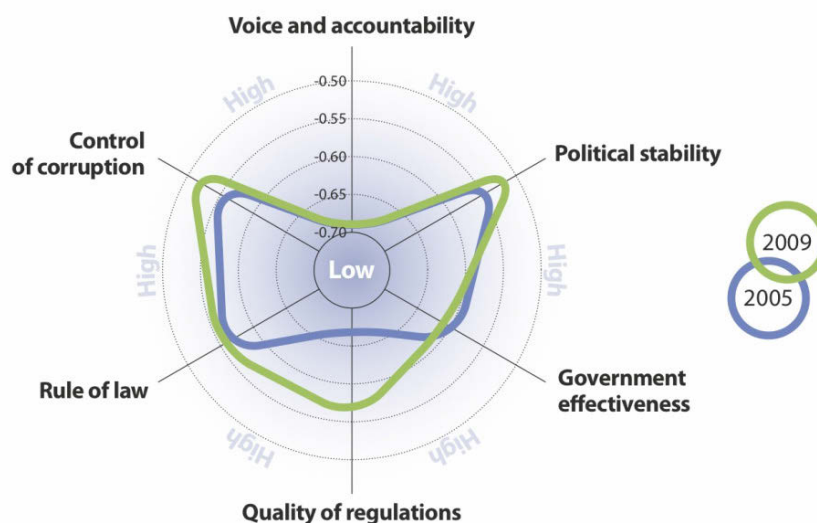
Table 6.3: Governance Indicators: African Average (excluding North Africa)

Governance Indicators	2000	2005	2006	2007	2008	2009	Trend	E.Asia Ave
Voice and Accountability	1.82	1.86	1.92	1.94	1.92	1.88		2.50
Political Stability	1.84	1.93	1.97	1.95	1.92	1.93		2.77
Government Effectiveness	1.77	1.71	1.7	1.72	1.73	1.72		2.37
Regulatory Quality	1.84	1.74	1.76	1.75	1.77	1.79		2.31
Rule of Law	1.78	1.73	1.76	1.76	1.75	1.74		2.57
Control of Corruption	1.91	1.82	1.85	1.87	1.88	1.87		2.32

Source: Kaufmann and others (2010).

Note: The governance measures are rescaled to 0 to 5. Higher values indicate better governance.

Poor governance performance significantly compromises Africa's ability to lift its population out of poverty. Corruption costs Africa a quarter of its GDP every year, with the burden falling heavily on the poorest. It is estimated that, if Africa had the quality of institutions that most Asian countries achieved in the early phase of their industrialization, its collective GDP would be 80 percent higher than it is today.

Figure 6.5: Africa's Governance Progress

Source: Kaufmann and others (2010).

A recent meeting of African parliamentarians, government officials, and civil society representatives in Tunis concluded that building capable states was key to improving development effectiveness (see AfDB, 2011). It called for African countries to exercise clear and decisive leadership in determining and addressing their own capacity development needs.

6.4 Inclusive growth index

The specific variables for the inclusive growth indicators from the discussion above appear in Table 6.4. The indicators encompass economic, spatial, social, and political/institutional inclusion.

Table 6.4: Some Indicators for Inclusive Growth

Economic Inclusion	Spatial Inclusion	Social Inclusion	Political/Institutional Inclusion
<p>Poverty/Inequality 1. poverty headcount 2. Gini coefficient 3. income share of the poorest 60% of the population 4. ratio of income/consumption of top 20% to bottom 20%</p>	<p>32. intra African trade 33. regional labor mobility. 34. openness to trade. 35. spatial inequality. 36. Infrastructure access</p>	<p>Social Infrastructure 23. net primary school enrollment ratio. 24. net secondary school enrollment ratio. 25. govt expenditure on education as % of total govt expenditure. 26. under 5 mortality rate. 27. mortality rate for under age 40. 28. % of under 5 years who are underweight. 29. govt expenditure on health as % of total govt expenditure. 30. % of population with access to safe water. 31. % of population with access to adequate sanitation.</p>	<p>37. voice and accountability. 38. governance 39. the revenue/GDP ratio. 40. public investment/GDP ratio. 41. property rights</p>
<p>Productive Employment 5. share of employed or economically active in industry. 6. share of employed or economically active in manufacturing. 7. share of workers in non-agricultural paid employment. 8. own account and contributing to family workers</p>			

Economic Infrastructure 9. average electric power consumption per capita. 10. proportion of population with access to electricity. 11. percentage of paved roads. 12. no of depositors per 1000 adults.			
13. number of mobile phone subscribers per 100 people. 14. number of internet users per 100 people.			
Agriculture 15.fertilizer consumption 16.stable crop yield index 17.investment in irrigation 18.credit for inputs			
Gender Equity 19. gender parity in labor force. 20. share of women in nonagricultural wage employment. 21. ratio of literate females to literate males. 22. ratio of girls to boys in secondary/tertiary education.			

Using some of these indicators, Ncube and others (2013) have created an Inclusive Growth Index.¹⁰ The results for the period 2006-10 are in Table 6.5.

Table 6.5: Inclusive Growth Index (IGI) for Africa, With and Without Inequality Adjustment, 2006-10

Country	IGI without inequality adjustment	IGI adjusted for inequality	Rank of country on IGI adjusted for inequality
Egypt	0.5528308	1.105662	1
Botswana	0.706965	0.7973578	44
Mauritius	0.7047445	1.05078	5
Tunisia	0.640328	0.9115322	11
Algeria	0.6061221	0.9406515	3
Gabon	0.7014509	1.03896	4
Comoros	0.5243774	0.5455507	42

Zimbabwe	0.5086617	0.6411654	47
Guinea	0.5163358	0.6994971	31
South Africa	0.585966	0.6278517	40
Morocco	0.5328174	0.8174527	6
Madagascar	0.49342	0.6831058	28
Namibia	0.5341125	0.5341125	37
Congo, Rep.	0.5110457	0.6721544	26
Rwanda	0.4712551	0.6824394	24
Senegal	0.4755806	0.6694724	22
Ghana	0.470842	0.7035923	14
Cameroon	0.4671314	0.7251865	12
Gambia	0.4503763	0.5623108	39
Tanzania	0.4446685	0.7264412	10
Kenya	0.4397641	0.5751081	33
Togo	0.4337871	0.7472274	7
Guinea-Bissau	0.435576	0.5657359	35
Benin	0.4329841	0.6990635	8
Angola	0.4796888	0.4829763	38
Liberia	0.4081629	0.6006409	30
Uganda	0.4108735	0.5940161	23
Burundi	0.4000683	0.668413	17
Cape Verde	0.4432636	0.5591035	32
Malawi	0.394871	0.5663665	27
Djibouti	0.4154776	0.6047124	15
Zambia	0.3980763	0.4786304	41
Mozambique	0.3897084	0.5284644	34
Sierra Leone	0.3754105	0.5535063	25
Mauritania	0.3844209	0.5408809	21
Burkina Faso	0.3745221	0.5527594	20
Congo, Dem. Rep.	0.3594285	0.4973195	36
Côte d'Ivoire	0.3642586	0.5446099	13
Ethiopia	0.3372078	0.6336373	2
Nigeria	0.3393672	0.4436503	29
Niger	0.3177463	0.5008432	18
Mali	0.3194507	0.4811938	19
Chad	0.3150117	0.471312	16
Central African Republic	0.3046063	0.349486	43
Sudan	0.3114393	0.4875877	9

Source: Ncube and others (2013).

6.4.1 Adjusting for inequality

Inequality can be accounted for by adjusting GDP per capita using the Dalton-Atkinson framework (Atkinson, 1970), which relies on the estimation of an inequality-aversion parameter. This approach was proposed by Ncube and others (2013).

An inclusive growth index based on the Dalton-Atkinson inequality index allows the possibility of collecting periodically, say annually, subjective measures of a society's aversion to inequality in opportunities such as access to social services, natural and physical resources, or representation in political processes. This allows for a consistent comparison of countries across time and space.

For the illustration in Table 6.6, the inequality-aversion parameter was simulated from quintile distribution data for each African country and applied to per capita GDP. By construction, the inequality-aversion parameter computed for each country is highly correlated with the Gini coefficient but offers an opportunity to operationalize the Dalton-Atkinson method of adjusting per capita GDP for inequality. Demonstrating a strong preference for equity, the results penalize countries hugely for high inequality. In this respect they contrast with a simple transformation of the Human Development Index or of per capita GDP using just the Gini coefficient.

Table 6.6: Africa GDP Per Capita and GDP Per Capita Adjusted for Inequality, 2006-2010

Country	Per capita GDP	Per capita GDP adjusted for inequality	Gini	Inequality aversion
Egypt	5436.793	4.41E+08	31.56	2.283514
Botswana	13440.54	7.050981	57.585	1.0073
Mauritius	12296.86	1053567	38.9	1.5387
Tunisia	7874.435	176235.8	40.60333	1.439971
Algeria	7960.784	1401891	37.76	1.627829
Gabon	14192.92	1111304	41.45	1.524286
Comoros	1171.387	81.1443	64.3	0.8792857
Zimbabwe	missing	missing	50.1	1.201386
Guinea	1029.478	3326.967	42.84	1.339286
South Africa	10007.61	376.1365	60.846	0.9248
Morocco	4334.487	401635.1	39.872	1.601914
Madagascar	990.3096	4936.06	44.68	1.382743

Namibia	6256.833	891.3613	69.115	0.8202
Congo, Rep.	3987.188	10466.02	47.32	1.281514
Rwanda	1071.208	13628.63	46.08	1.475957
Senegal	1792.537	16221.69	43.264	1.416786
Ghana	1468.647	41354.62	38.596	1.543557
Cameroon	2165.558	168795.6	40	1.628571
Gambia	1329.025	673.1029	48.755	1.183886
Tanzania	1224.974	185813.5	35.34333	1.747457
Kenya	1548.279	2638.006	47.43	1.270557
Togo	864.239	286931.7	36.85	1.877543
Guinea-Bissau	1036.866	1328.773	41.68	1.257471
Benin	1471.418	200495	38.62	1.719443
Angola	5297.671	689.8597	50.65	0.8302286
Liberia	384.3406	3896.628	38.16	1.510257
Uganda	1144.933	14571.28	42.83857	1.472457
Burundi	382.8807	35877.86	36.33	1.801714
Cape Verde	3380.736	2871.364	50.52	1.202614
Malawi	754.7202	6726.824	44.41333	1.455729
Djibouti	2082.813	40890.72	39.96	1.486686
Zambia	1369.317	209.845	51.54	1.116314
Mozambique	837.3094	2558.519	45.75333	1.341214
Sierra Leone	761.8589	11523.34	38.935	1.5144
Mauritania	1956.71	18195.23	42.00667	1.415771
Burkina Faso	1167.505	22586.06	44.2375	1.5166
Congo, Dem. Rep.	312.041	947.7646	44.43	1.381586
Côte d'Ivoire	1694.006	52115.13	40.48667	1.544714
Ethiopia	867.8976	1746995	33.162	2.106557
Nigeria	2108.136	3923.782	43.605	1.269857
Niger	681.3209	33851.91	39.0175	1.663414
Mali	1108.58	31196.32	40.645	1.5611
Chad	1341.723	36731.2	39.78	1.546257
Central African Republic	741.8057	7.090085	53.73333	1.0358
Sudan	2079.392	189332.8	35.29	1.647843

Source: Ncube and others (2013).

Adjusting for inequality changes the Inclusive Growth Index value for a country rather dramatically. For example, as can be seen from columns 3 and 4 of Table 6.5, Botswana's rating drops dramatically due to high inequality, as does South Africa's, even though both countries have a high GDP per capita. By contrast, Egypt, due

to the impact of subsidies, and Ethiopia maintain favorable rankings even after the adjustment for inequality.

6.5 Conclusion

This discussion of inclusive growth in Africa has emphasized that Africa's impressive growth of the last decade has not created enough jobs and has not reduced poverty fast enough. The growth has not been inclusive. It has been explained largely by a strong commodity price trend, while domestic demand factors have been relatively less strong.

We have presented the factors that make up inclusive growth: economic, social, spatial, and political/institutional inclusion. Finally, we have presented an inclusive growth index for Africa, which allows us to compare performance across countries, and an approach for dealing with inequality considerations.

The policy implication is that countries and development partners need to broaden their classification of countries beyond the mere income approach, and take into account the other factors discussed above. This also has implications for policies governing allocation of donor resources and general graduation of countries. Resource allocation needs to take the degree of the inclusive nature of the growth into account.

A number of questions remain for further research:

- Relative importance of inclusive growth factors;
- Comparison of indices and measures that are aimed at capturing inclusive growth;
- Policies and strategies for achieving inclusive growth;
- Customizing inclusive growth indicators to country specifics.

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Endnotes

- ¹ See Ravallion (2004) and Kimenyi (2006) on pro-poor growth and Datt and Ravallion (1992) and Kakwani (1997a,b) on growth/inequality decompositions.
- ² See Alkire and Foster (2011), Bourguignon and Chakravarty (2003), Tsui (2002), and Duclos and others (2006).
- ³ These are discrete groupings, though the continuity of the income distribution allows for a continuous representation, the growth incidence curve (Ravallion and Chen, 2003).
- ⁴ Such an "index of car health" would almost certainly not be an *average* of all these variables, but a maximin function: you should not drive if the worst of the indicators is below its acceptable level.
- ⁵ One exception is GDP, which is an index of disparate quantities of apples, oranges, cars, etc produced and with weights equal to the prices of those items. For competitive economies, these price weights have a clear economic and welfare justification.
- ⁶ The normalization procedure used is the min-max formula applied to all observed values of each component during the period 2000-10. This procedure adjusts the normalized component to take values between 0 and 100 over the indicated period.
- ⁷ <http://www.socialprotectionfloor-gateway.org/index.html>

⁸ It is well documented, for example, that families may sell assets that they later struggle to recover (Kinsey and others, 1998), resorting to borrowing food or cash, reducing food intake, going without medical care, or withdrawing children from school and encouraging them to work.

⁹ <http://www.un.org/ageing/documents/SocialPolicyFrameworkforAfrica.pdf>

¹⁰ The indicators selected are:

- GDP per capita adjusted for inequality aversion, following Dalton and Atkinson (1970).
- Governance indicator (political inclusion) based on data provided by International Country Risk Guide (ICRG).
- Diversification (economic opportunity)
- Health indicator: Index combining (a) Infant mortality, (b) Life expectancy, (c) Business impact of malaria, (d) Malaria incidence, (e) Business impact of tuberculosis, (f) Tuberculosis incidence, (g) Business impact of HIV/AIDS, (h) HIV prevalence.
- Education indicator: Index combining (a) Secondary enrollment, (b) Tertiary enrollment, (c) Quality of the educational system, (d) Quality of math and science education, (e) Quality of management schools, (f) Internet access in schools, (g) Local availability of research and training services and (h) Extent of staff training.
- Women's participation in the labor market: Proportion of the women ages 15 and older that is economically active in the period.
- Employment elasticity to growth: Indicator of GDP growth impact on employment.
- Spatial inequality.

7. Productivity, Jobs, and Growth in Africa: Six Pieces of the Puzzle

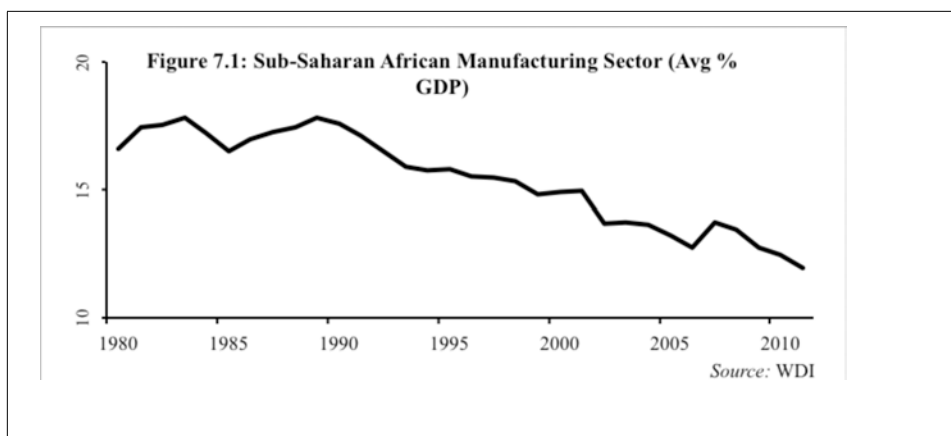
Vijaya Ramachandran

Center for Global Development

African countries have undergone significant macroeconomic reforms since the late 1980s. Why have these reforms not resulted in more jobs in the formal sector? Why have we not seen more growth in the private sector? In this essay, I present six charts that describe the situation with regard to employment and growth in the formal sector, and conclude with some possible explanations for what we observe in Africa. The text accompanying each chart is excerpted from three recent working papers—two of these, on labor costs and productivity, are coauthored with Alan Gelb and Christian Meyer (2013, 2014) and the third, on job creation, is coauthored with Leonardo Iacovone and Martin Schmidt (2013).

7.1 African manufacturing is declining

The share of manufacturing as a percentage of GDP has been declining across Africa, from around 16 percent in 1980 to a little over 10 percent in 2010 (Figure 7.1).



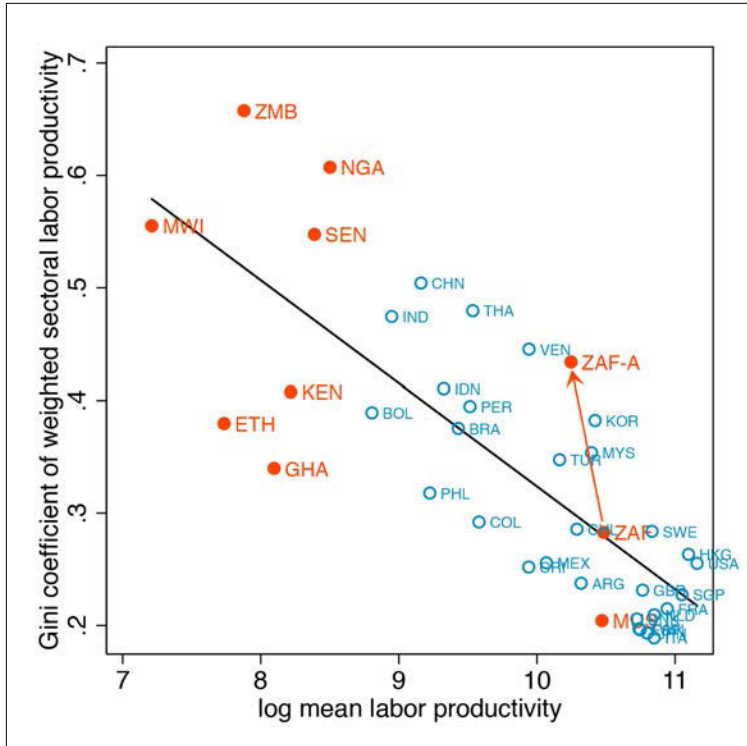
On paper, about 20 percent of Africa's exports are industrial products. However, except for South African auto components and garments, both of which have benefited from special incentives, Africa exports almost no manufactured goods that are not based on the processing of raw materials.

7.2 Inter-sectoral productivity differences are very large

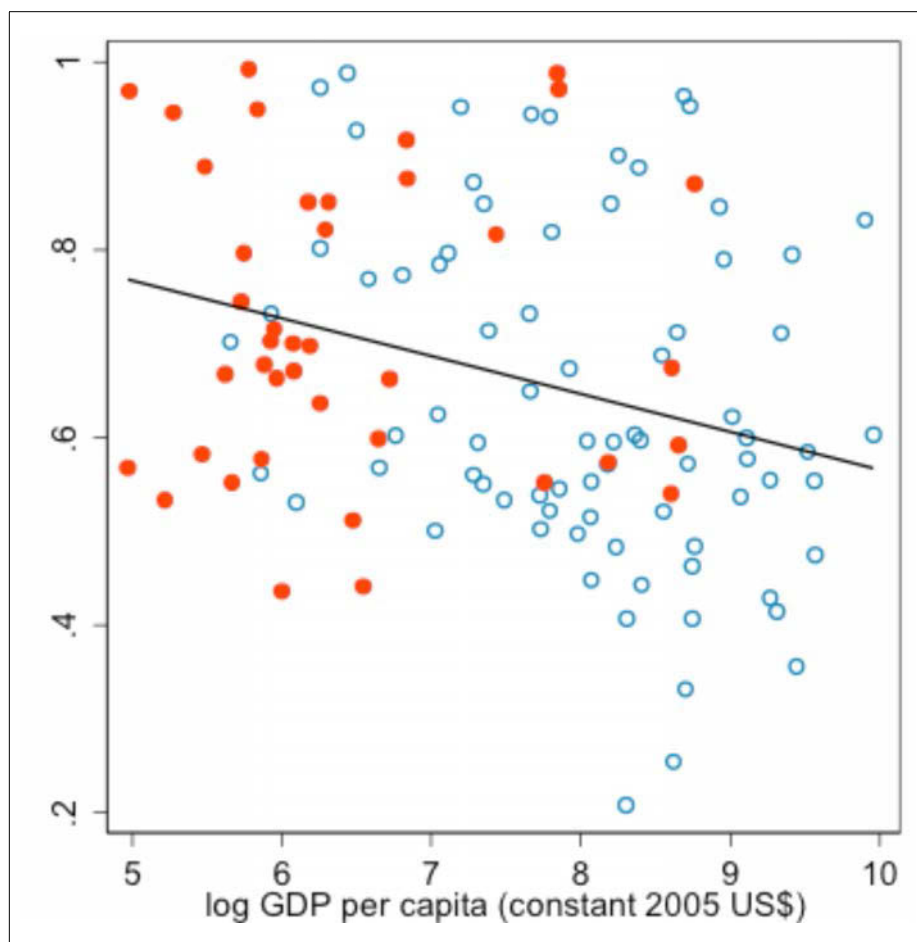
Africa does not lack productive sectors and firms, even in its low-income economies. However, in many countries, firms with apparently high productivity (sometimes more apparent than real because measured productivity may partly reflect monopoly profits) coexist with sectors and subsistence enterprises whose productivity is very low. African countries appear to experience a "convergence failure" and have significantly more variance and levels of inequality in inter-sectoral productivity than other countries.

Figure 7.2: Variance in Labor Productivity in African and Other Countries

(a) Gini coefficient of weighted productivity distribution vs. average productivity based on macro data



(b) Gini coefficient of value added per worker and GDP per capita based on firm survey data



Source: Authors' calculations, based on McMillan and Rodrik (2011), Statistics South Africa, and World Bank Enterprise Surveys.

Note: Point ZAF-A calculated by adjusting South Africa's productivity distribution for unemployment, assuming zero labor productivity for the unemployed.

Figure 7.2 is based on national accounts data from McMillan and Rodrik (2011), weighted by inter-sectoral employment shares. It illustrates the strong negative correlation between economy-wide productivity and inequality of inter-sectoral productivity. For African countries excluding Mauritius, the Gini coefficient averaged about 0.5 in 2005, compared to about 0.35 for countries in other regions.

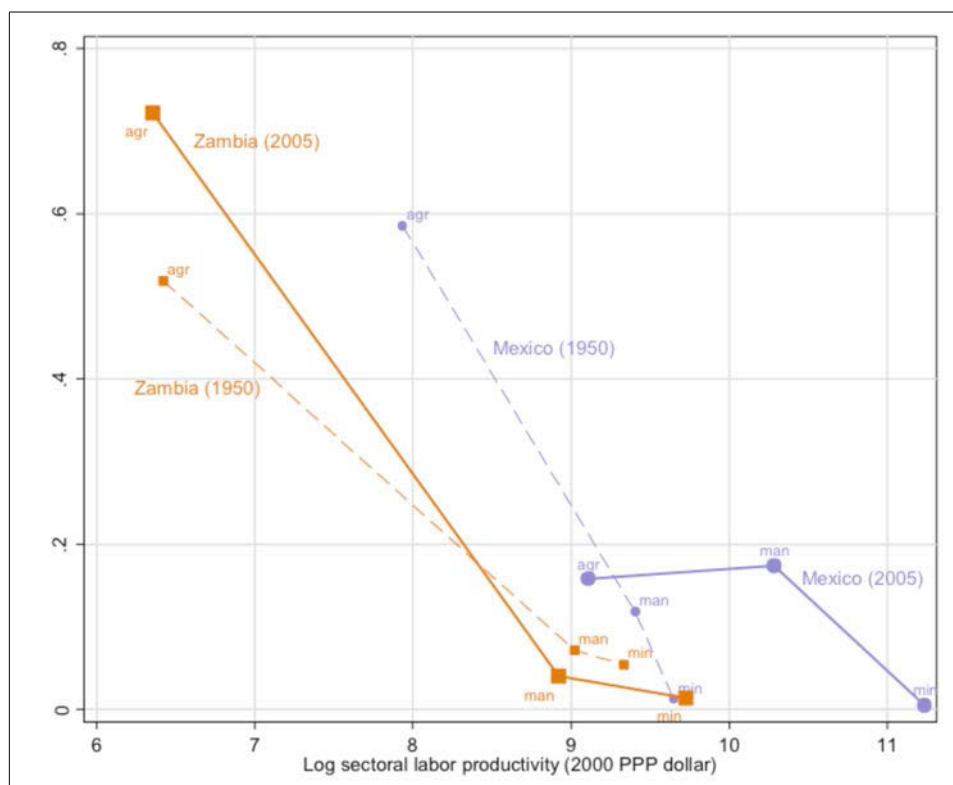
Figure 7.2(a) also shows that Africa's Gini coefficient is even higher if allowance is made for the exceptionally high level of unemployment in South Africa. Including

the unemployed as a zero-productivity sector boosts South Africa's productivity Gini from below 0.3 to above 0.4, a relatively high coefficient for a middle-income country (see Figure 7.2(a), point ZAF-A).

7.3 Structural change has run counter to expected patterns

Despite the reforms that African countries have undergone since the structural adjustment phase of the late 1980s, McMillan and Rodrik (2011) find that between 1990 and 2005 Africa's structural change ran counter to the expected pattern of structural convergence. The share of employment in agriculture as opposed to manufacturing has not followed the traditional pattern we observe in Asia or Latin America. Figure 7.3 illustrates the diverging longer-term trajectories of sectoral productivity and employment shares in Zambia and Mexico.

Figure 7.3: Labor Productivity and Employment Share for Selected Sectors: Zambia and Mexico



Source: Authors' calculations, based on McMillan and Rodrik (2011).

Note: agr = Agriculture; man = Manufacturing; min = Minerals.

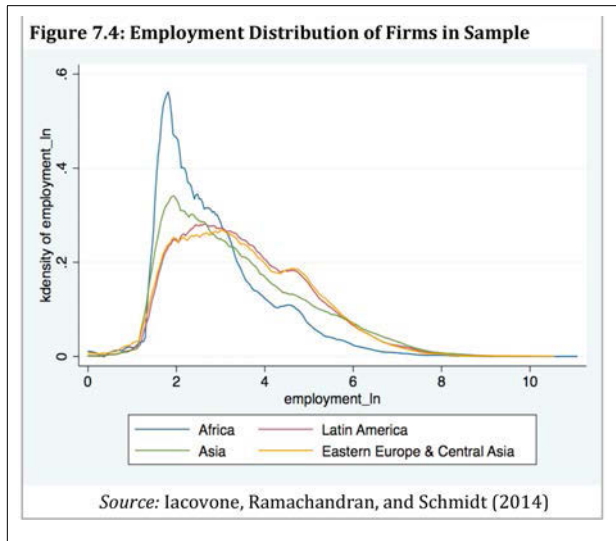
In contrast to the pattern in rapidly growing Asian countries, labor in African countries moved from high- to low-productivity activities.

McMillan and Rodrik (2011) also show that economies with a revealed comparative advantage in extractives are at a disadvantage. The larger the share of natural resources in exports, the smaller is the scope of productivity-enhancing structural change. Even though “enclave” extractive sectors may have high labor productivity, they cannot absorb the surplus workers from agriculture, many of whom have thus moved into low-productivity services.

More recent data (McMillan, 2013) suggest that there may have been a turnaround, with a positive growth contribution from structural change, over 2005–10. Even so, over the long term, globalization appears not to have fostered a desirable pattern of structural change in Africa.

7.4 African firms are smaller, younger, and less likely to export

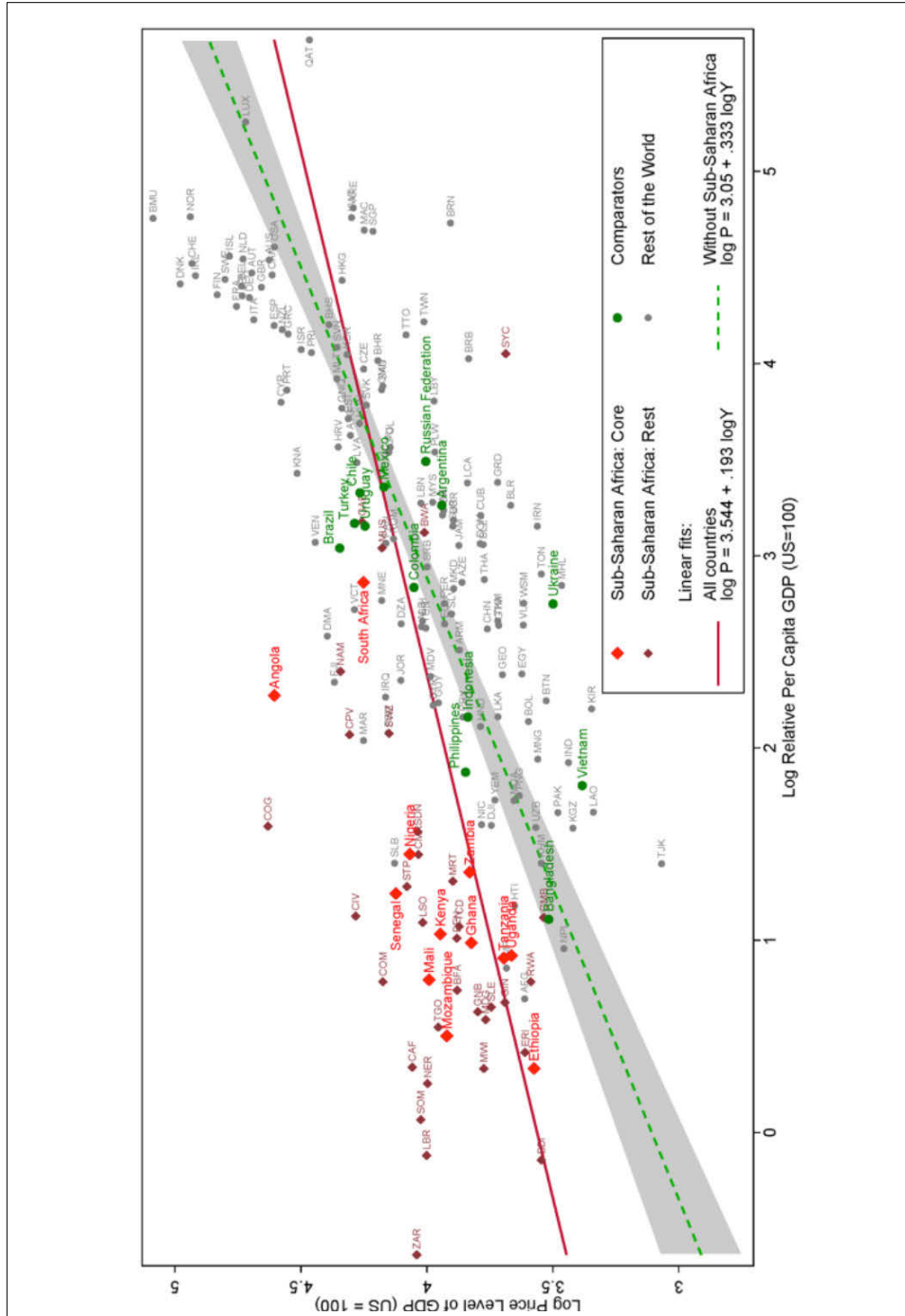
Businesses are smaller in African countries than elsewhere. Figure 7.4, based on data from World Bank Enterprise surveys, describes the kernel density estimation of the size distribution of firms for all firms in the sample, grouped by region. The size distribution of firms in Africa peaks at about seven employees per firm. We see that in Africa there is a larger share of firms at low levels of employment than in other regions, and that the density of larger firms is lower in Africa than elsewhere. African firms are also younger and are less likely to export their products.



7.5 The “Balassa Gap”: African countries are costly

Living costs are high in African countries. Data for 188 countries from the Penn World Tables 7.0 (2011) show that the slope of the relationship between purchasing power parity (PPP) prices and income for African countries differs significantly from that for other countries. Relative to other middle-income countries, those in Africa are only slightly more costly; on average, PPP price indices are around the global average for a country at South Africa’s level of income. But the normal relationship breaks down for low-income Africa: relative to low-income comparators such as Bangladesh, India, and Vietnam, African countries are considerably more costly. Figure 7.5 plots the price level in a country vs. the country’s income per head. It shows that the average “Balassa Gap”—the extent to which PPP price levels deviate from the global Balassa-Samuelson relationship—is 35 percent for the twelve African countries in our sample, but zero for the comparators.

Figure 7.5: Balassa-Samuelsen Relationship of Price Level and GDP per Capita (5-year Average, 2005-09)



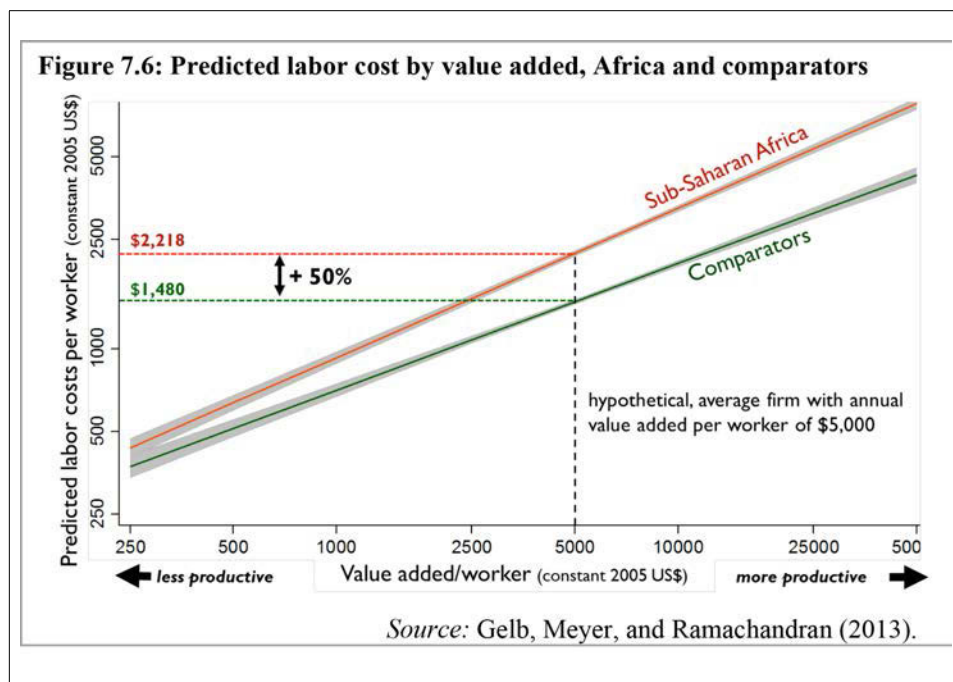
Source: Authors' calculations, based on Penn World Tables 7.0 (May 2011).

Note: Specification replicates Rogoff (1996: 660), 188 observations (Zimbabwe excluded). Grey area shows 95 percent confidence interval.

7.6 Labor costs are high

African labor is not cheap. Analysis of data from the World Bank's Enterprise Surveys shows that predicted labor costs in African countries differ from those in low-income countries in Asia. In Figure 7.6, all variables in the estimation are held at the global means, except for value added per worker which is allowed to vary around the sample midpoint of US\$5,000.

Figure 7.6 shows that, after controlling for firm characteristics and country effects, African firms pay a markup (wage premium) of about 50 percent at the midpoint. It also shows that except at very low levels of value added per worker, there is *no* overlap between firms in Africa and firms elsewhere: even small African firms (with fewer than 20 workers) pay higher labor costs, relative to GDP, than large firms in the comparator countries. The difference in predicted labor cost between African and other firms is greater for higher levels of value added per worker. Labor costs, broken down by capital intensity, indicate that African firms are more costly than their counterparts in other regions. In addition, there is rather little difference in Africa between high and low capital-intensity firms. But outside Africa, all else equal, firms with lower capital/labor ratios are able to pay their workers relatively less than highly capital-intensive firms pay.



7.7 Conclusion

We do not fully understand the reasons behind these patterns. Available evidence indicates that Africa's slow rate of productivity growth and structural transformation partly reflects slow productivity convergence at both the sector and firm levels. A number of factors are responsible, and while every country has its particularities, there are common threads that characterize most experiences. These have roots in Africa's geography and its distinctive history, including the legacy of the colonial period on state formation and market structure, and the highly uneven distribution of human capital among its population. These and other factors have contributed to a political economy that has sustained a poor and high-cost business climate, which in turn has constrained the productivity of individual firms and slowed productivity convergence.

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8. Avoiding an African Spring: Confronting Africa's “Employment Problem”

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8.1 Introduction

Africa has enjoyed almost 20 years of sustained economic growth. During the last decade six of the world's ten fastest-growing economies were in Sub-Saharan Africa, and cheerleaders as diverse as *The Economist* and the International Monetary Fund now routinely hail “emerging Africa.” Yet there are worrying signs that Africa's growth has not resulted in robust growth of “good” jobs—those offering higher wages and better working conditions—especially for the young. Driven by a delayed demographic transition, the population share of youth (aged 15-24) in Africa both north and south of the Sahara has been rising over time and is now larger than in any other part of the world. This demographic bulge offers the possibility of a growth dividend, but it can also represent a major threat. Africa is not creating enough jobs to absorb the 10-12 million young people entering its labor markets each year and, as recent events in North Africa have shown, lack of meaningful employment opportunities in the face of a rapidly growing young labor force can undermine social cohesion and political stability.

This paper addresses the question of how to avoid an “African Spring.” Its central message is that Africa's employment problem is a symptom of its lack of structural change (Arbache and Page, 2009). While many African economies have low

unemployment rates, including for the young, they also have large informal sectors, condemning most of their workers to vulnerable employment and working poverty. Labor market reforms and active labor market policies can make a contribution to solving the employment problem, but the greatest traction is likely to come from policies and public actions designed to accelerate the growth of high productivity jobs: in short from a strategy for industrial development.

8.2 The nature of the “employment problem”

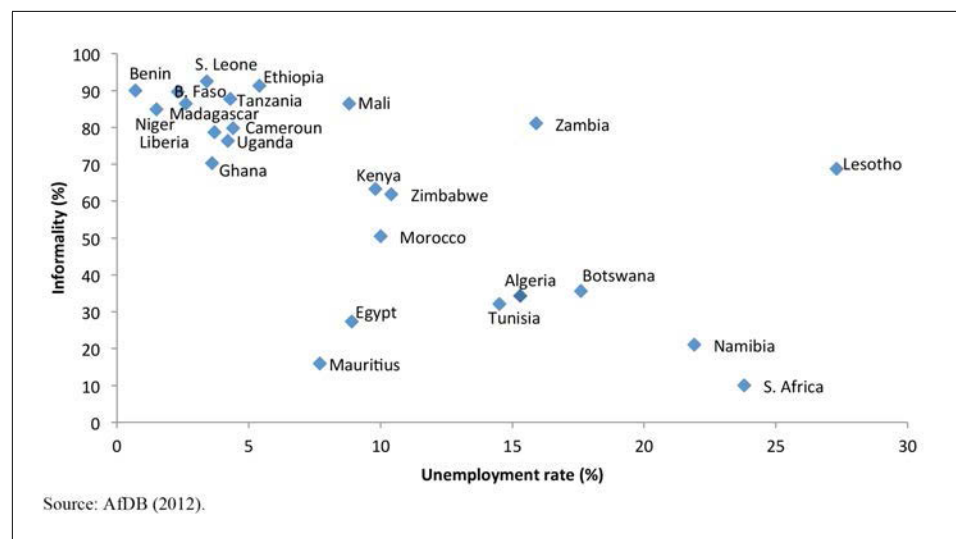
On the face of it Sub-Saharan Africa does not have a severe employment problem. In 2012 the overall unemployment rate was 7.6 percent compared with a global average of 6.0 percent and an average of 8.6 percent in high-income countries (ILO, 2014).¹ Youth unemployment rates in many Sub-Saharan African countries are relatively low compared to world averages. Worldwide there is a fairly regular relationship between the overall rate of unemployment and the unemployment rate of the young. Sub-Saharan Africa’s youth unemployment rate is below that which would be predicted from the region’s overall rate of unemployment (AfDB, 2012).

But the averages are misleading. In middle-income African countries with well-structured labor markets and a large formal sector, unemployment tends to be high. This is particularly true of the southern cone of Africa, where unemployment rates exceed 15 percent in Botswana, Namibia, and South Africa. In Botswana and South Africa the youth unemployment rate is alarmingly high: more than one in three young people are unemployed. Unemployment is also high by international standards in North Africa, especially in Algeria and Tunisia; the regional average unemployment rate for people between the ages of 15 and 24 is about 30 percent.

For the great majority of African workers, however, the employment problem is more about the quality of the job than the absence of a job. Unemployment is low in lower-income countries—falling in the range of one to five percent for countries such as Ethiopia, Ghana, Tanzania, and Uganda—but the informal sector is large (Figure 8.1). In Africa low unemployment most frequently signals poor quality employment. In 2011, 81.5 percent of workers in Africa were classified as working poor, compared to the world average of 39.1 percent (ILO, 2011). The ILO (2011) estimates that

three out of four jobs in Sub-Saharan Africa can be labeled “vulnerable” because the workers are working on their own account or as unpaid family workers.

Figure 8.1: Unemployment and Informality in Africa



Source: AfDB (2012).

When younger African workers find a job it is likely to be of low quality in terms of wages, benefits, and job security. In many African countries, self- and informal employment account for the overwhelming majority of young workers in both rural and urban areas (Table 8.1).

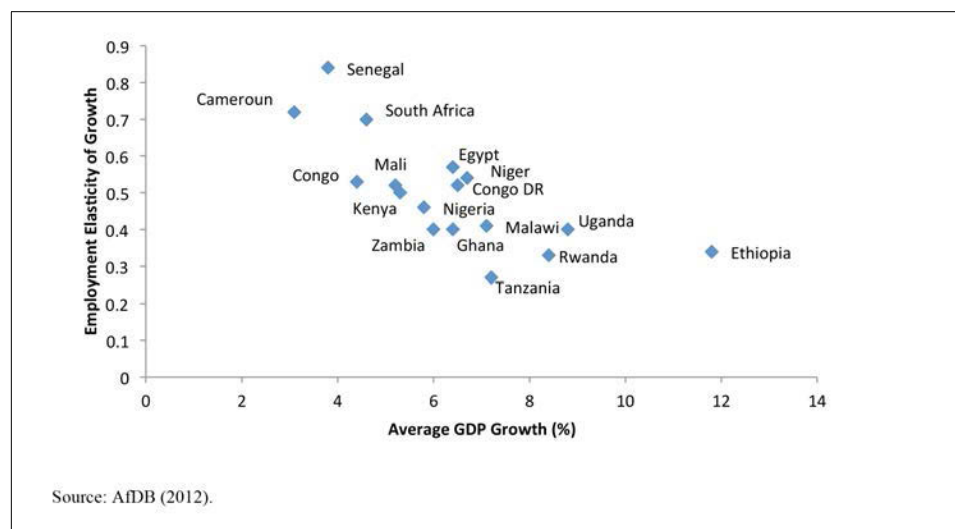
Table 8.1: Youth Employment Status in Selected African Countries

	Employment status				TOTAL
	Wage employment	Self-employment	Contributing to family work	Other	
Botswana	62.8	7.2	29.9	0.1	100
Congo	20.1	55.3	17.2	7.5	100
Congo DR	10.2	49.1	36.3	4.4	100
Egypt	64.9	4.1	31		100
Ethiopia	17.9	24.1	58		100
Ghana	13.3	26.2	50.4	10.2	100
Malawi	14.9	18.9	56	10.3	100
Mali	5.4	41.6	53		100
Nigeria	72.6	17.0	8.5	1.9	100
Rwanda	27.7	16.8	55.5		100
Senegal	12.3	41.7	46.3		100
South Africa	84.8	7.1	5.9	2.1	100
Tanzania	8.0	9.0	20.2	62.8	100
Uganda	14.0	20.9	63.6	1.6	100

Source: AfDB (2012).
Note: Data are from the most recent year since 2000.

More than 70 percent of young workers in Congo, Congo DR, Ethiopia, Ghana, Malawi, Mali, Rwanda, Senegal, and Uganda are either self-employed or contributing to family work (AfDB, 2012). Except in Botswana, Nigeria, and South Africa, all of which have high youth unemployment rates, fewer than 20 percent of Africa's young workers find places in wage employment. Moreover, the region's fastest-growing economies—Ethiopia, Rwanda, Tanzania, and Uganda—have the lowest responsiveness of formal employment to growth (Figure 8.2).

Figure 8.2: Growth elasticity of employment



8.3 Investing in industrialization

The key to reducing unemployment and informality, both among the young and in general, is rapid growth of good jobs. Africa's slow pace of job creation mainly reflects a failure of its economies to industrialize. Globally, manufacturing has been the sector most closely associated with labor-intensive growth. It is a high productivity sector into which labor can flow, and as low-income countries have increasingly become the "world's factory," rapid growth of manufacturing—particularly in Asia—has created millions of good jobs.

Changes in the global economy, however, make the tendency to associate good jobs with manufacturing potentially misleading in both analytical and policy terms. Falling costs of transport and communications have created a class of economic activities in agriculture and services that more closely resemble manufacturing

than the sectors to which they are assigned in economic statistics. Firms in such “industries without smokestacks” have characteristics that differentiate them from producers in traditional agriculture and services, and offer—especially for Africa—a complementary set of activities capable of generating good jobs.

Africa can only industrialize if domestic and foreign private investors find it an attractive industrial location. To date they have failed to do so. In contrast with the rest of the developing world, Africa has deindustrialized. Its share of global manufacturing production (excluding South Africa) fell from 0.4 percent in 1980 to less than 0.3 percent in 2010 (UNIDO, 2013). Sub-Saharan Africa’s share of manufacturing in GDP is less than one half of the average for all developing countries, and, in contrast with the average for all developing countries, it is *declining* (Page, 2012b).

Domestic private investment has remained quite stable in Africa since 1990 at about 11 percent of GDP. This is well below the levels found in East Asia, especially during periods of rapid industrial growth (Table 8.2). Since the 1990s, foreign direct investment (FDI) has moved disproportionately to Asia. The vast majority of global FDI has been in manufacturing and infrastructure (Jacquet and Kline, 2005). Africa has experienced a modest increase in FDI since 2000, but that investment has been almost wholly in mining and minerals (World Bank, 2010). Less than two percent of global FDI has gone to African manufacturing.

Table 8.2: Private Investment as a Share of GDP, 1990-2009

	1990-94	1995-99	2000-04	2005-09
Africa LIC	10.2	11.2	11.1	11.8
Africa MIC	14.6	14.5	13.8	15.8
East Asia	24.9	19.9	12.4	16.8
Low-income Countries	10.0	11.5	12.9	15.4
All Developing Countries	13.7	14.5	14.0	16.6

Sources: World Bank *World Development Indicators*, World Bank national accounts data, and OECD national accounts data files.
Note: Entries are five-year averages in percentages.

8.3.1 Conventional wisdom: fix the investment climate

Africa’s challenge is, therefore, primarily one of increasing both foreign and domestic private investment in industry—with and without smokestacks. Since the late 1990s,

efforts to boost private investment have focused on improving the investment climate: the regulatory, institutional, and physical environment within which firms operate. The high costs of doing business in Africa have been well documented in a decade of comparative research reports sponsored by the World Bank and the World Economic Forum.² Overall, these reports conclude that the cost of doing business is 20–40 percent higher in Africa than in other developing regions.

Clearly, Africa needs to do better at doing business. However, the way in which some donors, notably the World Bank, have focused their policy dialogue with individual countries on the narrow range of regulatory issues embodied in the Bank's *Doing Business* reports has diverted both the international community and African policymakers from deeper diagnosis of the constraints on faster industrial growth (Page, 2012a).

Two major elements of the investment climate deserve greater attention: infrastructure and skills. Efficient African enterprises have factory floor costs comparable to those in Chinese and Indian firms for some product lines, such as garments. They become less competitive because of higher indirect business costs, many of which are attributable to poor infrastructure (Eifert and others, 2005). Sub-Saharan Africa lags at least 20 percentage points behind the average for low-income countries on almost all major infrastructure measures.³ In addition, the quality of service is low, supplies are unreliable, and disruptions are frequent and unpredictable. The skills gap also poses another major threat. There is a severe mismatch between the skills possessed by young workers and those demanded by employers. Employer surveys report that African tertiary graduates are weak in problem solving, business understanding, computer use, and communication skills (World Bank, 2007). The education system needs to be restructured to teach the skills needed for the global marketplace.

8.3.2 The drivers of industrial location

Africa's industrialization challenge is shaped by the way in which the income levels and factor endowments of its economies interact with the global determinants of industrial location. Global industry has undergone major changes over the past

quarter century, driven by three phenomena: trade in tasks, agglomeration, and firm capabilities. Together these largely determine where investors choose to locate.

In some manufacturing activities the production process can be decomposed into a series of steps, or tasks. As costs of transport and coordination have fallen, it has become efficient to locate the production of different tasks in different countries. Task-based production has expanded dramatically in the past 20 years (UNIDO, 2009) and represents a potential lifeline for late industrializers. But success is by no means assured. Task-based exports are footloose. As the experience of Lesotho and Swaziland at the end of the Multi-fiber Agreement demonstrates, investors continuously seek new locations in response to changing costs and incentives.

In most industries productivity and quality depend on a set of interlocking elements of tacit knowledge or working practices possessed by the individuals who comprise the firm. These “firm capabilities” are the know-how or working practices that are used either in the course of production or in developing a new generation of products (Sutton, 2012). Firms in the global industrial marketplace compete in capabilities, and the location of industry therefore depends in part on how well economies acquire and diffuse capabilities.

Manufacturing and service industries tend to concentrate in geographical areas driven by common needs for inputs and access to markets, knowledge flows, and specialized skills (Fujita and others, 1990). Because of the productivity boost that agglomerations provide, countries with existing concentrations of industry have an in-built advantage: a dense industrial landscape serves as a magnet for further investment (UNIDO, 2009). Starting a new industrial location is a form of collective action problem. No single firm has the incentive to locate in a new area in the absence of others.

8.4 A strategy for industrial development

For most African countries, investment climate reforms alone may not be enough to overcome the advantages held by the world’s existing industrial locations. As the experience of East Asia demonstrates, once a critical minimum threshold is crossed, industrial growth can be explosive. But because trade in tasks, firm capabilities, and

agglomerations are interdependent, industrial development is lumpy, and threshold effects are important. Below the threshold, incremental changes in policies and investments—the centerpiece of investment climate reform—may not yield results. A strategy for industrial development will be needed. While appropriate responses to the region’s industrialization challenges will vary across countries, three important strategic initiatives linked to the drivers of industrial location offer some promise. These are: pushing exports, building capabilities, and supporting industrial clusters.

For the vast majority of Africa’s economies the export market represents the only option for rapid industrial growth. Breaking into export markets in a world of task-based production and agglomeration needs an export push: a concerted set of public investments and policy and institutional reforms focused on expanding the share of non-traditional exports in GDP. The distinguishing feature of an export push is that it must be a “whole of government” initiative. Macroeconomic policy plays a key role. Public expenditure programs need to be evaluated and prioritized in terms of their contribution to achieving global competitiveness, and the structure of incentives needs to be tilted to the extent possible in the direction of export promotion, through institutional, regulatory, and trade policy reforms. Improving trade logistics is vital. Trade in tasks has greatly increased the importance of beyond-the-border constraints on trade.

Policies and institutions for attracting FDI are a key tool in building firm capabilities. The work of Ireland’s Industrial Development Authority provides an institutional model for attracting and keeping FDI that has become international best practice. Similar approaches have been central to FDI policy in countries from Jordan to Singapore; they are not yet found in Africa. In some international markets, such as for apparel and agro-industry, exchanges of information between suppliers and buyers with a reputation for high quality are well developed and add to the capabilities of the supplying firms. For this reason an export push contributes to the process of acquiring capabilities. Transmission of capabilities to other firms within an economy most often takes place through vertical supply chain relationships. Removing obstacles to the formation of vertical value chain relationships, particularly between foreign and domestic firms, is therefore a critical task.

Spatial industrial policies offer a third, complementary, area of public action. Governments can foster industrial agglomerations by concentrating investments in high quality institutions, social services, and infrastructure in a limited physical area such as a special economic zone (SEZ). In Latin America and Asia, governments have linked the development of SEZs to an export push by creating export processing zones. Spatial policies can also play a role in the transfer and diffusion of firm capabilities. To date, Africa's experience with spatial industrial policy has been largely unsuccessful. Most African SEZs have failed to reach the critical threshold levels of physical, institutional, and human capital needed to attract global investors (Farole, 2011). Clearly, the first order of business is to upgrade the performance of Africa's SEZs to international standards.

8.5 A new role for aid?

Aid plays an outsized role in Africa. Most low-income African countries receive between 10 and 30 percent of their gross national income in development assistance and, not surprisingly, donor priorities are important. A new approach to aid—one that supports job creation—is urgently needed. A first step is to focus greater attention on Africa's infrastructure and skills constraints. Infrastructure financing as a share of total donor assistance from the OECD countries has declined dramatically since the 1990s (Page, 2012a). Closing Africa's infrastructure gap will require around US\$93 billion a year, equivalent to about 15 percent of the region's GDP (World Bank, 2009). While it is clearly unrealistic in the current fiscal environment to count on aid to fill the financing gap, new approaches and products are needed. For example, guarantee instruments could leverage limited donor financing by reducing the perceived risk of private debt financing for infrastructure.

Financing an expansion of post-primary education presents at least as daunting a challenge as closing the infrastructure gap. The current funding gap for education across Africa has been estimated to be anywhere between US\$6 and US\$29 billion (World Bank, 2007). Donor commitments to all levels of education in Africa only approach US\$4 billion. Confronted with rising unit costs of primary education and limited prospects of external finance, it is time to replace the primary educa-

tion Millennium Development Goal with a broader target that credits countries for achievements in secondary and post-secondary education, including vocational and technical education.

Moving beyond the investment climate, aid can make an important contribution to the industrialization strategy outlined above. International support for an export push should consist of aid to improve trade logistics, policies to increase preferential market access, and support for regional integration. Donors can help build firm capabilities by assisting African governments to develop effective foreign investment promotion agencies. They can also help “import” global best practices by supporting networks of related manufacturing companies to whom advice is provided on how to meet international standards of quality and production (Sutton, 2005). Another promising area for capability building is management training.⁴ Traditional donors have tended to neglect special economic zones. China, on the other hand—building on its own success with spatial industrial policies—has launched a recent initiative to build export-oriented special economic zones in Africa (Brautigam and Tang, 2011). Other donors can learn from the Chinese experience.

8.6 Conclusions

Africa’s employment problem is a deficiency of good jobs. Rapid population growth has resulted in rapid growth of the labor force and increasing pressures on the job market, especially for the young. Job creation in high-productivity sectors such as industry has failed to keep pace. To avoid an African Spring the continent must industrialize in the broad sense of creating many more high-productivity manufacturing and tradable services firms.

Meeting the challenge of industrialization will need new thinking. While investment climate reforms are essential, they need to be reprioritized and refocused. Urgent action is needed to address Africa’s growing infrastructure and skills gap with the rest of the world. In addition, governments will need to focus on three interrelated objectives: creating an export push, building firm capabilities, and supporting agglomerations. Aid can assist, but it must change.

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Endnotes

- ¹ Unemployment rates in Africa are likely to be underestimated because the ILO excludes people who were not working and were not actively looking for work, but say they would take a job if one were offered.
- ² See, for example, the Doing Business surveys of the World Bank or the *World Competitiveness Report* of the World Economic Forum.
- ³ An important exception is the penetration of fixed-line and mobile telephones, where Sub-Saharan Africa leads the average for low-income countries by as much as 13 percentage points. The largest gaps are for rural roads (29 percentage points) and electricity (21 percentage points).
- ⁴ Recent research on the role of management in developing-country industry documents the large variations in productivity and management practices across firms even within narrowly defined industrial sectors. See, for example, Bloom and Van Reenen (2010).

9. Africa's Jobs Challenge

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9.1 Introduction

The global jobs challenge is disproportionately an African one. United Nations demographic projections for the period 2015-30 show that at a regional level, Africa will be a significant driver of future global population growth and, as a consequence, the working-age population. Therefore, it is critical to take heed of such projections and fully understand both the challenges and opportunities of Africa's pending demographic dividend.

Aside from the fast-growing working-age population, Africa's jobs challenge is complicated by its current labor market landscape. The working poor—defined as those earning less than \$2 a day—constitute almost two-thirds of the total employed (defined as individuals involved in wage employment or self-employment). Therefore, the need to pursue a growth and development path that is sufficiently job creating, while also reducing the number of working poor in Africa, remains central to the pursuit of prosperity on the continent.

This paper first analyzes Africa's demographic transition in order to draw out the implications for the size of the continent's future labor force. Section 9.3 then provides an overview of the global labor market, highlighting the unique nature of Africa's labor market segmentation. Section 9.4 positions the role of pursuing a jobs-intensive

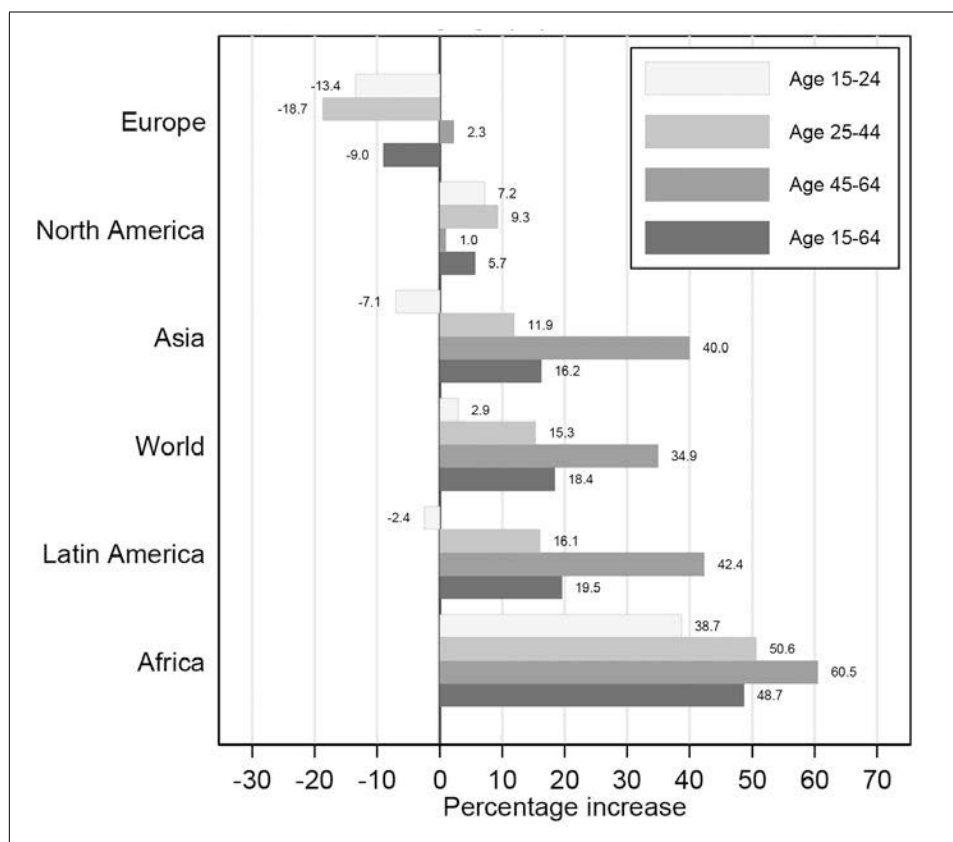
growth strategy within the post-2015 development agenda. The concluding section identifies the growth traps and potential opportunities for Africa's future development, in light of the continent's jobs challenge.

9.2 Africa's demographic transition

In 2011, the world's population reached another milestone of 7 billion people, and by 2030, according to the United Nations (2011), it will have grown by almost 1.4 billion people.¹ In 2010, Sub-Saharan Africa comprised 12 percent of the world's population, and this share is expected to increase to 16 percent by 2030 (UN, 2011), driven up by average annual population growth rates in Africa of above 2 percent for the entire period to 2030 (albeit declining) as well as by considerable declines in infant and child mortality (Lam and Leibbrandt, 2013).

The demographic transition to lower birth and death rates has important implications for the size of Africa's working-age population and thus labor force. Figure 9.1 makes it clear that the working-age population—defined as ages 15-64—is projected to contract in Europe and have single-digit growth rates in North America, so that the growth of the global workforce will be driven by Asia, Latin America, and Africa.

Figure 9.1: Growth of Working-Age Population (Medium Variant), by Age Group, 2010-30^{a/}



Source: United Nations (2011), sourced from Lam and Leibbrandt (2013).

^{a/} The growth rates for Africa include North Africa, hence the discrepancy between the working-age population growth from 2010-30 in Figure 9.1 and Table 9.1. Nonetheless, both Africa and SSA are expected to follow a similar trend in the growth of the working-age population.

Africa is the region projected to have the fastest growing working-age population. This translates into a working-age population of 793 million in 2030, a 70 per cent rise from the current 466 million (Table 9.1). To get there, it is projected that Sub-Saharan Africa (SSA) will add 15.6 million people on average per year to the working-age population in 2015-20, rising to 17.2 million per year in 2020-25, and to 19 million per year in 2025-30. The global jobs challenge then, in regional terms, is predominantly an African challenge.

Table 9.1: Size of Working-Age Population (age 15-64) for World and Subgroups, 2010-30, Millions

	Year			Change (m)	Change (%)	Share in world population	
	2010	2015	2030			2010-2030	2010
A. World	4 524.8	4 804.4	5 438.0	913.2	20.2%		
B. Economic regions							
More Developed	834.9	827.7	795.2	-39.7	-4.8%	18.5%	14.6%
Less Developed							
China	970.5	995.8	960.1	-10.5	-1.1%	21.4%	17.7%
India	789.7	861.1	1 034.3	244.6	31.0%	17.5%	19.0%
Other Less Developed	1 459.7	1 581.1	1 879.6	419.9	28.8%	32.3%	34.6%
Least Developed	470.0	538.7	768.9	298.9	63.6%	10.4%	14.1%
C. Geographic regions							
Asia	2 805.4	2 982.4	3 299.9	494.5	17.6%	62.0%	60.7%
Europe	504.8	496.3	461.2	-43.5	-8.6%	11.2%	8.5%
Latin America	385.0	413.0	468.0	83.0	21.6%	8.5%	8.6%
North America	231.3	236.1	244.8	13.5	5.8%	5.1%	4.5%
Sub-Saharan Africa	465.8	533.8	793.3	327.5	70.3%	10.3%	14.6%
D. Age groups							
Age 15-24	1 213.0	1 201.0	1 249.0	36.0	3.0%	26.8%	23.0%
Age 25-44	2 010.3	2 131.0	2 343.2	333.0	16.6%	44.4%	43.1%
Age 45-64	1 301.6	1 472.4	1 845.8	544.2	41.8%	28.8%	33.9%

Source: United Nations (2011).

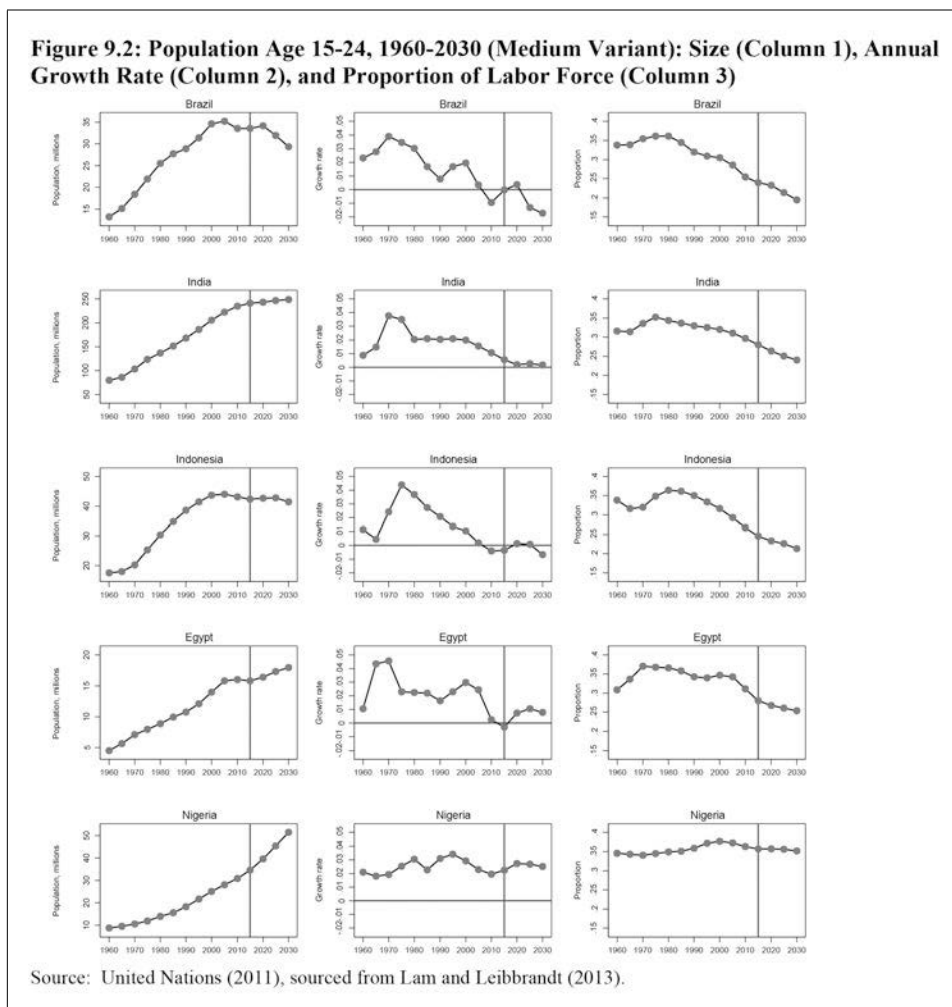
It is important to understand that the greatest pressure on African labor markets will come from the rapid entry of young workers, especially in view of the association of high youth unemployment rates in Africa and the Middle East with recent political unrest in those regions. Figure 9.2 plots three different measures of the youth labor force (age 15-24) for five countries across Latin America, Asia, and SSA. In the four countries outside Africa, the growth rates of the youth labor force are now slower than in the 1970s, and the proportion of youth in the total labor force is falling. Nigeria, the African example and Africa's most populous country, is the only country still showing evidence of a youth bulge. While the growth rate of Nigeria's youth labor force has fallen from its mid-1990s peak, it remains above 2 percent until 2030, resulting in a relatively stable share of the youth in the working age population, compared to the other countries. In Nigeria, youth will continue to represent more than a third of the labor force until 2030, i.e. a significantly greater share than in other countries in this sample.

These trends suggest a job-creation challenge of about 545 million² in the next 20 years for SSA. This is both an opportunity and a huge challenge for all the governments of this continent.

The fact that Africa's working-age population, and particularly the working youth, is expected to grow so rapidly highlights that the demographic transition is less advanced in Africa than in other world regions. This implies a great opportunity for potential growth in the region, but also the increasing challenge of promoting growth that is job-creating.

These statistics highlight some important trends with respect to the future African "jobs challenge." First, most of the growth in the world's working-age population will emanate from Africa. From 10 percent of the global labor force in 2010, Africa's labor force is set to increase to 15 percent. Second, most of this growth will originate from young workers, who are set to swell the labor market at an average annual rate of more than 2 percent³ during 2010-30.

Figure 9.2: Population Age 15-24, 1960-2030 (Medium Variant): Size (Column 1), Annual Growth Rate (Column 2), and Proportion of Labor Force (Column 3)



Source: United Nations (2011), sourced from Lam and Leibbrandt (2013).

9.3 Africa in the global labor market today

A recent analysis of the global labor market shows that only half of the 3 billion individuals in the global labor force are in wage employment (Table 9.2). The share of wage employment is starkly lower than this in SSA, where of the 297 million employed individuals only 21 percent are in wage employment, and the dominant source of employment is self-employment in agriculture. In SSA, 77 percent of the self-employed individuals work in agriculture, compared to 59 percent in non-OECD countries, and a global average of 60 percent. This figure emphasizes the impor-

tance of the agricultural sector when uncovering the complexities of job creation and poverty reduction in most of the developing world. A further complication in addressing the jobs challenge in SSA is that in the urban centers the self-employed are predominantly in non-agricultural sectors.

Table 9.2: Global Labor Market at a Glance, 2010 (millions)

Region	Employ. Wage	SEmpl Agric	SE Non- Agric	SEmpl Total	Total Empl	Unempl.	Labor Force
EAP	401 (0.38)	363 (0.34)	241 (0.23)	604 (0.57)	1 005 (0.95)	48 (0.05)	1 053 (1.00)
ECA	278 (0.82)	13 (0.04)	21 (0.06)	34 (0.10)	312 (0.92)	29 (0.08)	341 (1.00)
LAC	134 (0.55)	28 (0.12)	60 (0.25)	88 (0.36)	223 (0.92)	20 (0.08)	243 (1.00)
MENA	52 (0.35)	25 (0.17)	56 (0.37)	80 (0.54)	133 (0.89)	17 (0.11)	150 (1.00)
SAR	253 (0.47)	155 (0.29)	106 (0.20)	261 (0.49)	514 (0.96)	20 (0.04)	534 (1.00)
SSA	61 (0.19)	181 (0.56)	55 (0.17)	236 (0.74)	297 (0.93)	23 (0.07)	320 (1.00)
non-OECD	1 179 (0.45)	765 (0.29)	539 (0.20)	1 304 (0.49)	2 483 (0.94)	157 (0.06)	2 640 (1.00)
OECD	333 (0.80)	7 (0.02)	43 (0.10)	50 (0.12)	383 (0.92)	32 (0.08)	415 (1.00)
Total	1 512 (0.50)	772 (0.25)	581 (0.19)	1 354 (0.44)	2 866 (0.94)	189 (0.06)	3 055 (1.00)

Source: Borat (2013a), using data from World Bank (2013a).

Notes: The data are based on the World Bank's International Income Distribution Database (I2D2) dataset, which is a harmonized set of household and labor force surveys, drawn from a multitude of countries. See Montenegro and Hirn (2009).

Shares of regional labor force estimates in parentheses.

SSA has a total unemployment rate of 7 percent, compared to non-OECD and global averages of 6 percent, and has 15 percent of the non-OECD's 157 million unemployed individuals. The SSA average hides variations across countries; a notable case is South Africa's, whose persistently high rate of unemployment currently stands at 25 percent, as measured by that country's narrow definition (DPRU, 2013).

Table 9.3 shows that currently almost 80 percent of the world's employed, and almost 92 percent of Sub-Saharan Africa's employed, are either in agriculture or services. Over time, the proportion of employment in agriculture in SSA is being driven down

by the rise in employment in services. Very little increase has been taking place in the manufacturing and industrial sector, which contributes only 8.5 percent of the region's employment. This is a key observation given that wage employment and its growth is an important indicator of economic development. Evidence shows that wage employment as a share of total employment increases rapidly as a country progresses on its development path and, conversely, that the share of agriculture in wage employment peaks at low levels of per capita national income and is almost zero in developed countries (Bhorat, 2013a).

Table 9.3: Employment Shares by Sector and Sex, World, and Regions, 2000-10 (%)

Both sexes	Agriculture				Industry				Services			
	2000	2007	2010	2011*	2000	2007	2010	2011*	2000	2007	2010	2011*
World	40.5	35.5	34.0	34.1	20.4	22.1	22.1	22.1	39.1	42.4	43.9	43.8
Developed Economies and European Union	5.5	3.9	3.7	3.8	27.3	25.0	22.4	22.1	67.3	71.1	73.8	74.1
Central and South-Eastern Europe (non-EU) and CIS	25.8	19.8	20.6	19.9	24.7	25.6	24.4	26.3	49.6	54.6	55.1	53.8
East Asia	47.7	38.9	34.9	35.4	23.4	27.2	28.6	28.2	29.0	33.9	36.4	36.4
South-East Asia and the Pacific	49.7	44.2	42.5	43.1	16.4	18.3	18.2	18.4	33.9	37.5	39.2	38.4
South Asia	59.5	53.1	51.4	51.0	15.6	19.5	20.7	21.0	24.9	27.4	27.9	28.0
Latin America and the Caribbean	20.5	17.1	16.2	16.0	21.6	22.5	22.2	22.0	58.0	60.4	61.6	62.0
Middle East	22.4	19.1	16.9	16.7	24.4	25.8	25.7	25.7	53.2	55.1	57.4	57.6
North Africa	30.5	29.2	28.5	28.4	19.4	21.0	21.8	21.9	50.1	49.8	49.7	49.6
Sub-Saharan Africa	66.3	62.9	62.0	62.0	7.9	8.5	8.5	8.5	25.9	28.6	29.6	29.5

Source: ILO (2012).

Notes: 2011 figures are preliminary estimates.

Since labor in SSA primarily works in activities related to the land in rural areas or in some form of retail-related service, creating more such jobs will not be sufficient to move these individuals and households out of poverty. Improvements are also needed in the quality of jobs. SSA has had a consistently high rate of vulnerable employment over the last decade, ranging between 77 percent and 81 percent and marginally second only to that in South Asia (ILO, 2012).

Africa's numbers of working poor are also very large: workers earning less than \$2 a day—currently 193 million people—constitute almost two-thirds of the total employed and are approximately eight times as numerous as the unemployed in the region (Table 9.4).

Table 9.4: Working Poor Indicators, World and Regions (US\$2 A Day), 2000-11

Both sexes	Numbers of people (millions)				Share in total employment (%)			
	2000	2007	2010*	2011*	2000	2007	2010*	2011*
World	1197.6	978.3	916.6	911.5	45.9	33.1	30.2	29.5
Central and South-Eastern Europe (non-EU) and CIS	19.3	8.8	7.7	7.4	13.0	5.5	4.8	4.5
East Asia	396.0	206.7	157.1	148.9	53.2	25.6	19.1	18.0
South-East Asia and the Pacific	146.5	105.3	96.1	95.7	60.5	38.3	33.0	32.3
South Asia	415.5	425.5	421.1	421.6	81.2	70.8	68.7	67.3
Latin America and the Caribbean	31.3	25.5	23.7	23.3	15.1	10.4	9.1	8.8
Middle East	3.4	4.4	4.1	4.4	8.3	8.0	6.8	7.0
North Africa	15.4	16.7	16.8	17.3	32.7	28.4	26.5	27.2
Sub-Saharan Africa	170.2	185.3	189.9	193.0	75.7	67.0	63.2	62.4

Source: ILO (2012).

Note: 2011 figures are preliminary estimates.

At the global level, changes in the number of the ultra-poor (those earning below US\$1.25 a day) show a distinct redistribution of the working poor from East Asia and Southeast Asia and the Pacific to South Asia and SSA. Today almost a third of the world's working ultra-poor reside in SSA, up from 18 percent in 2000 (Bhorat, 2013a). Thus, though the proportion of the working poor in total employment in SSA has been gradually improving since 2000, the problem of the working poor remains the fundamental jobs challenge problem in the region.

The nature of Africa's jobs challenge implies that:

- First, because agriculture is so central to the average African economy, policies designed to grow this sector and increase its global competitiveness are essential to reduce the incidence of working poverty.
- Second, large swathes of predominantly young people are entering Africa's fast-growing cities in search of employment. The majority end up in urban self-employment. Making the informal sector a more sustainable form of employment, creating linkages to the formal sector, and providing an enabling business environment for the informal sector to thrive is essential to meet the jobs challenge.
- Finally, growing the currently minuscule wage employment base must be a key growth strategy for African governments. Expanding the light manufacturing

sector is only one important job-generating growth strategy, and has worked in the high-success economies of East Asia.

9.4 Pursuing a jobs-intensive growth strategy: a post-2015 remit

The UN Millennium Development Goals (MDGs) have guided international development policies for the past two-and-a-half decades and, with 2015 signaling the conclusion of their time span, the focus has shifted to the post-2015 development agenda. The High-Level Panel of Eminent Persons (HLP) that the UN convened to design this agenda called for five transformative shifts: (1) Leave no one behind; (2) Put sustainable development at the core; (3) Transform economies for jobs and inclusive growth; (4) Build peace and effective, open, and accountable public institutions; and (5) Forge a new global partnership. The central roles of sustainable development and job-generating economic growth in this development agenda stem from a new strand of development thinking that promotes the idea of inclusive growth. The report states that:

There must be a commitment to rapid, equitable growth – not growth at any cost or just short-term spurts in growth, but sustained, long-term, inclusive growth that can overcome the challenges of unemployment (especially youth unemployment), resource scarcity and – perhaps the biggest challenge of all – adaptation to climate change.

(UNHLP, 2013:8)

For Africa to reach its growth potential, it is important to consider both the opportunity and the challenge of the demographic dividend highlighted in Section 9.1 above. The rapid rise of the working-age population will mean a new mass consumer market for goods and services on the continent, particularly in fast growing and populous countries like Nigeria, Kenya, and Ethiopia (Bhorat, 2013b). The challenge then is to enable this new consumer market through a growth and development path that is sufficiently job-creating and job-upgrading.

Finding such a development path requires identifying the key drivers of inclusive growth that are critical to alleviating Africa's jobs challenge. While the pursuit of an inclusive growth agenda could encompass a range of interventions—from bet-

ter industrial policy to productivity-enhancing measures in agriculture—it must be underpinned by fundamental elements such as an adequate supply of skilled workers, support for small and medium enterprises, and investment in research and development and infrastructure (Bhorat, 2013b).

With a young and low-earning African population, saving rates are likely to remain low in most of the countries across the continent—which points to the importance of accessing foreign savings to fund local development. As another of its recommended transformative shifts, the High-Level Panel Report (2013) calls for a new global partnership among governments, civil society, and the private sector to collectively think of innovative ways to end poverty, as well as to continue external aid funding, particularly to low-income countries. However, a growing and more important source of external financing is private capital flows from high- and middle-income countries, as pension and mutual funds, sovereign wealth funds, and private corporations look to fast-growing economies such as Angola, Mozambique, and Ghana in search of higher returns (Bhorat, 2013b). African countries need to further develop the capacity to absorb large foreign capital flows and effectively use them to fund economic development projects as part of an investment-led inclusive growth strategy.

The last of the transformative shifts advocated by the High-Level Panel Report relates to promoting peace and effective, open, and accountable institutions, with the view that peace and good governance are central to wellbeing, and not an optional extra. Transparent and accountable institutions are seen as essential for sustainable development, and all the more important for Africa given its history of failed states. Eight of the fifteen countries considered as “failing” on the Composite Resource Governance Index measure of the Revenue Watch Institute (2013) are in Africa (Bhorat, 2013b). There remains much work to be done in Africa to establish the predictable rule of law and stable institutions. These, in turn, would promote a more stable macroeconomic environment and make African countries more attractive to foreign investors, enhancing their ability to mobilize foreign savings. 9.5

9.5 Identifying the growth traps and potential opportunities in Africa

Much of the evidence above points to the potential of Africa’s rapidly expanding working-age population in spurring economic growth. The demographic dividend

effect was no doubt central to the growth success of many East Asian economies in the latter half of the 20th century, with some observers attributing as much as one-third of East Asia's "economic miracle" to this effect (Bloom and others, 2000).⁴ In Africa too, demographic changes have the potential to fuel economic growth, by providing both a source of labor and an emerging consumer class. Viewing Africa as the world's largest untapped market, some observers estimate that African consumption will reach US\$1 trillion by 2020 (Hatch and others, 2012).

But the East Asian experience has also shown that a demographic dividend is not a sufficient condition for long-term growth. One of the key elements of the East Asian success story was the supply of a highly skilled and well trained labor force: from 1966 to 1991, the proportion of the working-age population with a secondary or higher education doubled in Hong Kong and Taiwan, tripled in Korea, and quadrupled in Singapore (Young, 1995). A large part of the East Asian growth was built around this base of highly skilled workers. For African countries to harness their growth potential, they must identify the skill needs of their economies and develop the capacities to address them. Only then will young workers be more productively employed and contribute to a high-growth economy, instead of being trapped in low-value-adding, low-wage employment.

Since the 2007-08 financial crisis, the growth performance of SSA has been strong, and the growth prediction for 2013 is 5 percent (World Bank, 2013b). In recent years, a number of African countries have been some of the fastest-growing countries in the world, albeit in many cases from a very low base.

Although economic growth is supported by strong domestic demand, the value of commodity exports continues to be an integral component of the region's growth dynamics. Oil, metal, and other minerals exports increased from US\$56 billion in 2002 to US\$288 billion in 2012, and together accounted for more two-thirds of Africa's total export growth during this period (World Bank, 2013b). The commodity boom of the last decade has underpinned much of Africa's impressive growth performance but also leaves the region more vulnerable to commodity price shocks. Economic literature has for a long time cautioned against the developing countries' "resource curse." However, more recent evidence seems to suggest that this curse

may not hold for all economies and that natural resources may actually have large positive effects (Lederman and Maloney, 2008)—and hence that Africa’s resource abundance holds the potential to sustain robust economic growth. To realize this potential, and achieve the kind of inclusive growth that is job-creating, and promotes a diversification of the economy in a way that limits external vulnerability, will require the effective management of these resources and resource revenues, which in turn will require strong governance.

Ultimately, one of the fundamental traps for Africa’s sustained growth is inadequate infrastructure. From transport networks to basic utilities, infrastructure in Africa remains of poor quality, in short supply, and relatively more costly than in other developing regions. For example, road density per 100 square kilometers of arable land is 7.22 kilometers in Africa compared to a non-African developing country average of 127.11 km; electricity production measured in megawatts per million of population is 386 compared to 2,475; and African transport costs are more than twice than those in the BRIC⁵ countries (Beck and others, 2011). Estimates suggest that infrastructure insufficiencies hamper economic growth on the continent by at least 2 percent each year and lower the productivity of the private sector by up to 40 percent (Kaberuka, 2013). Work by the World Bank has noted that infrastructure supply bottlenecks are often a function of a lack of competitiveness in Africa’s markets for various forms of infrastructure provision.

Since domestic budgets along with official development assistance (ODA) are unlikely to be sufficient to close the infrastructure gap at a rapid enough pace, African economies need to tap into private international capital. As investors look to developing regions for better returns, African economies will become increasingly attractive if they can maintain macroeconomic and political stability, enhance domestic institutions and the rule of law, and develop their financial markets in order to be able to absorb foreign capital inflows. African economies that have already issued international sovereign bonds for the purposes of infrastructure investment include Ghana in 2007, Senegal in 2009, and, more recently, both Zambia and Nigeria (IMF, 2012). For most of those economies, debt-to-GDP levels remain moderate and the effect of international issuance has been to change the composition of debt away from multilateral and commercial creditors. However, for all African countries

except South Africa, foreign borrowing remains denominated in foreign currencies, potentially creating currency mismatches on the respective governments' balance sheets. This risk can be alleviated by accumulating sufficient international reserves, which is costly in itself, but it more generally points to the need for effective debt management to reduce external vulnerabilities when borrowing abroad.

To take advantage of these growth opportunities and overcome the potential traps, Africa needs strong governance and effective, transparent, and accountable institutions. A stable macroeconomic environment and good management of public funds are key elements of a successful economy. Improving economic performance depends not only on democratic transition issues but also on resolving issues pertaining to the cost of doing business, which directly impacts the potential for a thriving private sector. For example, data in the World Bank's 2012 *Doing Business* Report suggest that fewer than 40 percent of countries in SSA have made available online the application procedures for obtaining a construction permit, leaving access to this administrative information subject to a physical meeting between the applicant and an official (ICTSD, 2012). Reforms of key areas of business policy and the rule of law could help to unleash further growth potential, through reducing the transaction cost of doing business with and through governments.

The above example also emphasizes the great opportunity that Africa has to leap forward in its development path by embracing available technology, as was experienced with the mobile phone revolution, and less so with the computer and Internet one. According to the World Bank (2013c), only 15 percent of Africans have access to the Internet, compared to a 44 percent average for Latin American and the Caribbean, 37 percent for East-Asia and the Pacific, and 36 percent for the world. Identifying key areas and sectors of the economy where ICT development can catalyze growth represents a critical opportunity for Africa to achieve sustainable inclusive growth.

In conclusion, it is clear that Africa has much potential to achieve the long-term growth that is necessary for reducing inequality and alleviating poverty across the region. In order to do this, key pitfalls need to be addressed—most importantly, through infrastructure development and improvements in governance and the rule of law. Through addressing these fundamental elements, African economies can be

guided towards higher-value adding sectors that create sustainable employment for the millions of young people who will enter the work force in the next two decades.

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Endnotes

- ¹ All quoted projections beyond 2010 use the UN Population Division's Medium Variant projections.
- ² Using SSA's 2010 labor force participation rate of 69 percent (calculated from Table 9.1 and 9.2), which is then multiplied by the projected 2030 working-age population in SSA.
- ³ The total percentage change of young workers in SSA (age 15-24) over the 2010-30 period is 55 percent.
- ⁴ All the East Asian "Tiger" economies experienced a surge in savings and investment during their period of rapid economic growth, with the private savings rate in Taiwan (for which there are good data on household savings) rising from about 5 percent in 1950 to more than 20 percent in the late 1980s and early 1990s (Young, 1995). Since savings rates vary by age group, being highest in the 50-64 age group with the younger cohort driving consumption demand, we would expect the changing age structure in Africa to also lead to increasing private savings and thus investment.
- ⁵ Brazil, the Russian Federation, India, and China.

10. The Informal Sector, Employment, and Economic Growth: Recommendations for Effective Policies

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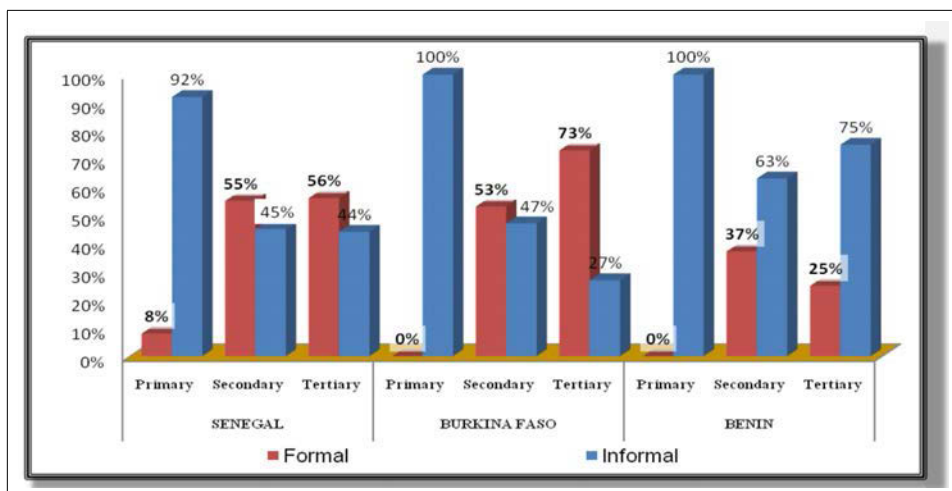
10.1 Introduction

The informal sector matters because of its sheer size—about half of national output, more than 80 percent of total employment, and 90 percent of new jobs in African low-income countries—and because of its implications for economic development—notably through its effects on employment opportunities, productivity, fiscal revenues, and growth. Figure 10.1 shows the share of the informal sector in sectoral value added in three West African countries: Benin, Burkina Faso, and Senegal. The sector contributes all or nearly all of the value added in primary production in all three countries. Its contribution to value added is significant in secondary production (industry) and overwhelming in tertiary production (services). Across a broader range of countries in Africa, the informal sector’s share of employment varies between 79 percent and 96 percent (Table 10.1).

For analysts and policymakers the informal sector poses a formidable knowledge gap since, by definition, some or all aspects of informal economic activity are unreported. A fundamental debate involves the extent to which governments should seek to formalize informal firms through sanctions, versus assisting these firms so as to increase their contributions to employment and income while they remain informal. The informal sector is a major source of employment and incomes, but incomes are typically very low. For example, in Burkina Faso, monetary poverty incidence is twelve times higher among households deriving their income from the informal sector than among those engaging in formal activities (Benjamin and Mbaye, 2012a). Furthermore, informality undermines development prospects through loss of fiscal revenues and unfair competition with formal firms. This creates an apparent tension between boosting the sector and shrinking it. A further important dimension, often overlooked, is that the informal sector is quite heterogeneous and policy should be differentiated accordingly.

This paper seeks to highlight the most appropriate policy responses to address the informal sector in light of recent research. At the end of each subsection we propose actions to be taken for a productive public-private dialogue.

Figure 10.1: Distribution of GDP by Sector



Source: Benjamin and Mbaye (2012a), from national accounts data.

Table 10.1: Distribution of Employment by Sector in Selected African Countries

	Year of Survey	Public sector including state-owned enterprises	Formal private sector	Informal sector
Sub-Saharan Low-Income				
Benin	2005	2.6%	2.1%	95.3%
Burkina Faso	2005	4.3%	1.0%	94.7%
Cameroon	2005	4.9%	4.7%	90.4%
Congo Rep.	2005	6.3%	1.8%	91.9%
Ethiopia	2005	3.9%	6.2%	89.9%
Ghana	2010	6.4%	7.0%	86.6%
Madagascar	2005	NA	NA	86.5%
Malawi	2004	9.0%	11.5%	79.5%
Mali	2007	3.1%	0.4%	96.5%
Nigeria	2004	8.0%	0.3%	91.8%
Rwanda	2006	3.7%	1.2%	95.1%
Senegal	2001	1.8%	6.1%	92.1%
Tanzania	2006	3.0%	1.5%	95.5%
Uganda	2006	2.8%	14.2%	83.0%
Zambia	2005	5.2%	6.8%	88.0%
Sub-Saharan Middle-Income				
Botswana	2006	25.0%	37.0%	38.0%
South Africa	2007	16.0%	45.6%	38.4%
North Africa				
Egypt	2006	30.0%	10.0%	61.0%

Source: Golub and Hayat (2014), from labor market surveys.

10.2 Improvements along a continuum

The informal sector consists of all activities operating outside the official legal and fiscal system. In Africa this definition encompasses considerable diversity and complexity of the informal actors. Many firms outside the reach of official industrial statistics are micro-enterprises, whereas others are very large or part of national or even international networks. Some enterprises straddle the formal and informal sectors, and thus the distinction between formal and informal status can be viewed as a continuum rather than a sharp division (Benjamin and Mbaye 2012a, 2012b; Steel and Snodgrass, 2008; Henley and others, 2006). Many informal enterprises have a taxpayer ID number, and some maintain sub-contractual relations with multinational firms.

In most studies of the informal sector, business registration is used along with size to determine informal status. However, as Fox and Sohnesen (2013) point out, even

among household enterprises the majority are registered with some level of government. Firm size is usually measured by number of employees, which can often be misleading given the large number of unreported informal workers at both formal and informal firms. Benjamin and Mbaye (2012a) examine the securing of a bank loan as an indicator of formality. They find that informal firms show little interest in bank loans and largely satisfy their financing needs from personal, family, or informal sources, which provide a better way for them to manage risks. Similarly, the Investment Climate Assessment (ICA) surveys in Africa¹ find that a large proportion of the firms that qualify for bank loans elect not to borrow from the formal financial sector.

Because informality consists of a variety of characteristics, analysts of the informal sector should classify firms along a spectrum, depending on the extent and number of characteristics of informality that they display. Policies should reflect this heterogeneity: at one extreme the very largest firms that could easily formalize, but choose not to, should be sanctioned, and at the other extreme, microenterprises require assistance in improving productivity. This heterogeneity should be further investigated, and policies should be targeted to differing types of firms, with a view to boosting productivity and employment.

Actions: Governments and the donor community should launch a research agenda and action plan to investigate and implement policies that assist small informal firms to improve their productivity while enforcing fiscal and regulatory obligations for large informal actors.

10.3 Governance and public-private collaboration on mutual reforms

The dualistic nature of most African economies, characterized by a large unregulated and untaxed informal sector alongside an often smaller formal economy, is an obstacle to sustained growth. The formal sector—substantially consisting of foreign investment—must shoulder a disproportionate tax burden, severely hampering its competitiveness. Indeed, the informal sector provides almost no government revenue in Africa even though it accounts for more than half of GDP. For three West African countries, for example, Benjamin and Mbaye (2012a) reveal that large formal enterprises contribute more than 95 percent of tax revenue, while firms in

the informal sector contribute less than three percent—completely out of proportion to the informal sector’s minimum 50 percent share of total value added. This imbalance leads to a vicious circle, increasing taxes and fees on a dwindling formal sector, as formal firms exit or become informal, and reducing foreign direct investment. Moreover, fiscal authorities harass formal-sector firms. In West Africa, many managers of formal-sector firms complain that once they are identified by the fiscal authorities as significant taxpayers, they are subject to repeated audits and upward adjustments in payments. Recent literature emphasizes the role of tax morale as a crucial determinant of tax evasion and informalization more generally (Perry and others, 2007).² In Latin America, countries in which taxpayers are confident that their money has been put to good use have higher voluntary compliance with tax obligations. This conclusion is strongly corroborated by Benjamin and Mbaye (2012a) in West Africa, where the proportion of firm managers who express dissatisfaction with government use of tax revenues is very high, undoubtedly contributing further to tax evasion.

Research on the business climate in developing countries has arrived at mixed conclusions regarding the effects of government interventions. On one hand, government policies that are intended to boost informal firms’ productivity (for example through training or cheaper credit) are considered necessary for private sector development. On the other hand, government is viewed mainly as an impediment due to high tax collection and costs of compliance with regulations.

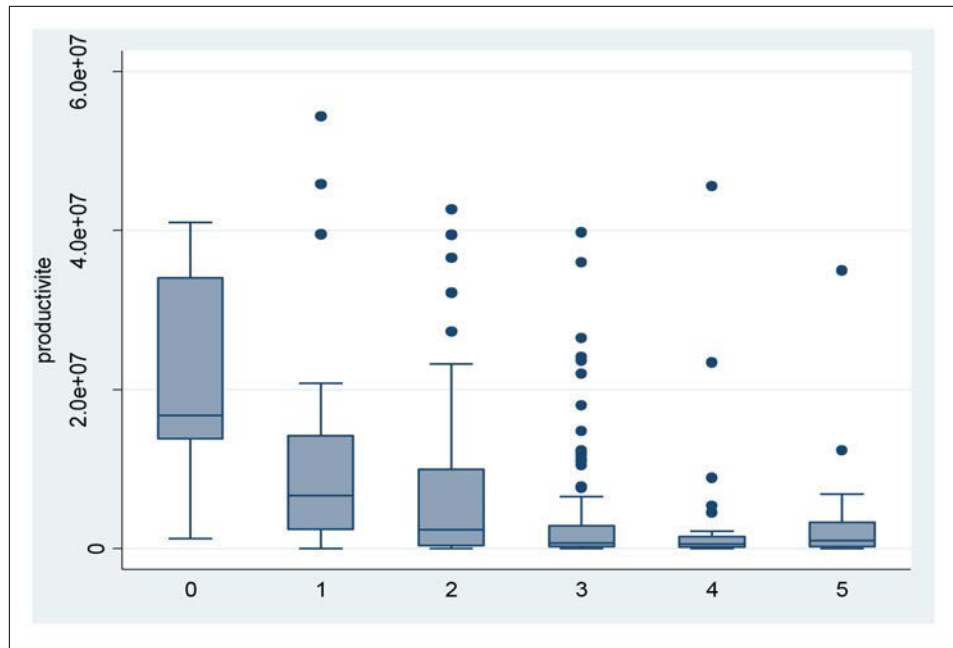
A more sophisticated perspective on government is in order. Rules and enforcement are certainly important but so are the quality of public services, governance, perceptions of a level playing field, state failures, and many other institutional features of “the system.” For example, informal firms often complain as much about lack of transparency and difficulties of compliance with tax and regulatory obligations as they do about the requirements themselves. Thus, governments and formal firms have a common interest in greater tax compliance and better service delivery.

Actions: Governments and organizations representing the private sector and civil society, with assistance from the donor community, should initiate dialogues that reveal elements of a public-private bargain that enhances both public performance

and private contributions to public finances. Such a dialogue toward this mutual need for reform must include actors from the informal economy and not be confined to constituents focused on defending the status quo.

10.4 Skills development and business services

Research finds a strong relation between basic skills and labor outcomes, particularly in the informal sector, despite the sector's lower average returns. Large differences in access to education and to other basic services between formal and informal actors lead to differences in skills, productivity, and earnings. Many studies have found a large productivity and earnings gap between formal and informal firms in Africa, as elsewhere. For example, Roubaud and Torelli (2013) estimate that wages are twice as high in the formal sector as in the informal sector in Cameroon and DRC, three times in Senegal, and 3.6 times in Côte d'Ivoire. In addition, when informality is differentiated along a continuum, the level of formality and productivity are strongly and positively correlated. Figure 10.2 displays box plots of the distribution of productivity levels for the formal and informal sectors, using the continuous definition of informality at firm level, for Burkina Faso. On the x axis, we have levels of informality spanning from 0 (most formal) to 5 (most informal). On the vertical axis, we have labor productivity. Median labor productivity is represented by the horizontal line crossing over the shaded area of each rectangle. Figure 10.2 shows that firm-level labor productivity diminishes as the firm's informality rises. The informal sector relies on practices that hinder productivity growth, including firms' lack of transparency and limited knowledge of their own accounts, long-established traditions based on well entrenched control of territory and rents, and sub-optimal allocation of productive factors (including reliance on family sources for credit). Informality also prevents companies from acquiring modern management skills and training workers—limiting their growth potential and access to the world market. Low productivity may also lead to informal-sector status through self-selection of firms according to their quality of management. Boosting the productivity of small informal firms is therefore a priority.

Figure 10.2: Labor Productivity and Levels of Informality in Burkina Faso

Source: Benjamin and Mbaye (2012a).

Many of the programs that are recommended in the literature to increase the access of small informal firms to public services and business training have been tried in Africa, with limited demonstrable success. Clear lessons from this experience are difficult to draw because few of the programs have been properly evaluated. Possibly, we need a better way to assess these programs: rather than judge whether they are financially sustainable and whether the businesses they support survive, we should assess whether they help reduce poverty and whether they provide training and skills that will improve outcomes for the people served.

Programs to boost productivity are the most useful for small household and micro-enterprises, i.e., those most likely to be employing the poor. Targeted skills-enhancement programs for small informal entrepreneurs and workers are effective means for increasing the contribution of the informal sector to inclusive growth.

Actions: Governments should pursue the development of worker training and business service programs with a view to improving the capacity of vulnerable par-

ticipants and improving the performance of the smallest firms along the continuum (as indicated above), but not necessarily with a view to formalizing or taxing them.

10.5 Informality and trade

In West Africa, recorded intra-regional trade is small but smuggling is pervasive, despite regional integration schemes intended to promote official trade. Cross-border trade must be understood in the larger context of the overwhelming role of the informal sector in this region (Benjamin and Mbaye, 2012a). Cross-border trade is closely connected to domestic wholesale-retail trade, which is dominated by the informal sector. Cross-border trade involves a complex interplay of formal and informal operators and practices. Ethnic and religious networks play a large role in organizing the informal sector, resulting in a set of shadow institutions that in some respects are more effective and powerful than official ones (Golub and Hansen-Lewis, 2012; Benjamin and others, 2014).

The re-export trade straddles the formal and informal sectors in a highly complex and well-organized system that operates quite similarly in different countries. Re-exports typically originate with large formal enterprises that import goods through official channels. A sophisticated distribution chain then transships through informal mechanisms. Differences in national policies are the most important determinants of re-export trade. These policies are reflected in differences in customs duties and other trade taxes; the functioning of ports and customs; border enforcement; and currency convertibility and exchange-rate movements.

Trade policies are particularly important, given large disparities in import taxes between adjoining countries. For example, Senegal has historically had much higher trade barriers than The Gambia, and likewise Nigeria is more protectionist than Benin and Togo. Smuggling tends to be concentrated in a limited number of products that are highly protected and/or subsidized in the two larger countries. In Nigeria, these include cars, cloth, rice, cigarettes, vegetable oil, and poultry. In Senegal, cloth, cigarettes, vegetable oil, and especially sugar are subject to various kinds of overt or covert import protection (Table 10.2).

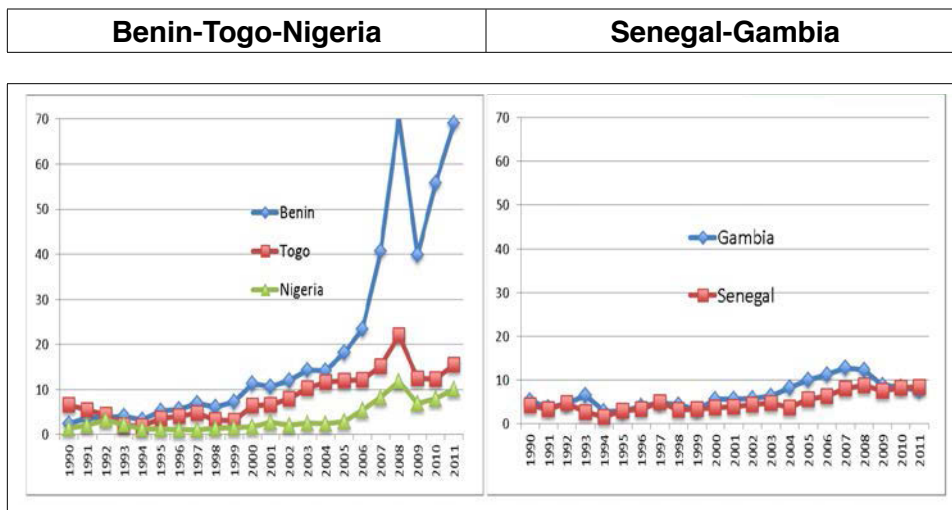
Table 10.2: Import Duties and Differences in Wholesale Prices between Senegal and The Gambia (%)

	Import Taxes			Wholesale Price Difference
	Gambia	Senegal	Difference	Senegal - The Gambia
Bulk Items				
Sugar	22.5	103.8	81.3	90.5
Flour	22.5	56.6	34.1	33.2
Rice	16.8	22.7	5.9	13.1
Other Consumer Goods				
Cigarettes	58.0	97.7	39.7	29.4
Cooking oil	22.5	56.6	34.1	57.9
Tomato paste	28.3	56.6	28.3	62.6
Tea	28.3	37.3	9.0	23.1
Candles	39.8	44.8	5.0	70.4
Canned sardines	39.8	44.8	5.0	19.1
Matches	39.8	44.8	5.0	70.5
Mayonnaise	39.8	44.8	5.0	56.1
Toilet soap	39.8	44.8	5.0	24.9
Milk powder	22.5	27.1	4.6	39.5

Source: Golub and Mbaye (2009).

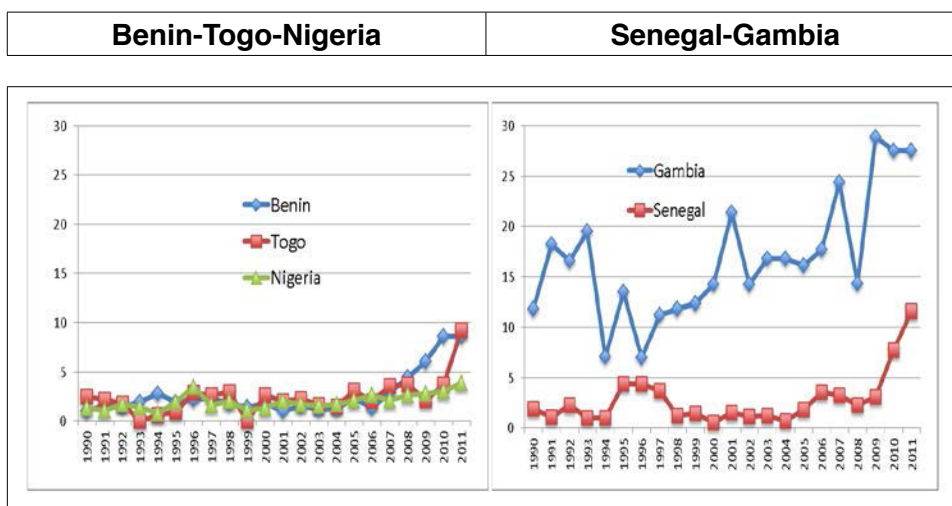
Figures 10.3 and 10.4 show the level of per capita imports of cars and sugar, which are two of the key products in the re-export trade between Benin, Togo, and Nigeria and between Senegal and The Gambia. Unusually high or low levels of imports per capita are suggestive of unrecorded re-exports to or imports from neighbors respectively, particularly when in conjunction with anecdotal evidence from the press or other sources discussing these activities. Togo and especially Benin have developed a car-import value chain largely to supply the Nigerian market. Car imports per capita are very high in Benin relative to Nigeria, reaching about US\$70 per capita since 2007, or seven times the ECOWAS average level of about US\$10 (Figure 10.3). High sugar prices in Senegal have entailed widespread smuggling from The Gambia and Mauritania (Golub and Mbaye, 2009).

Figure 10.3: Car Imports Per Capita (mirror row, exports to) (US dollars)



Source: Benjamin and others (2014).

Figure 10.4: Sugar Imports Per Capita (mirror row, exports to) (US dollars)



Source: Benjamin and others (2014).

Cross-border trade is a major source of income, employment and, paradoxically, government revenues for entrepôt states, given that goods are imported legally before being re-exported unofficially. This trade rests on a fragile foundation, however, and is unlikely to be conducive to long-term development given its dependence on the protectionist trade policies of neighboring countries and its underground character. Informal trade can displace legal trade and otherwise undermine trade policy and

the international competitiveness of developing countries. More research is needed to understand how informal trade affects the relations between developing countries and global supply networks, and also how informal trade affects other informal economic activities, customs enforcement, and border management.

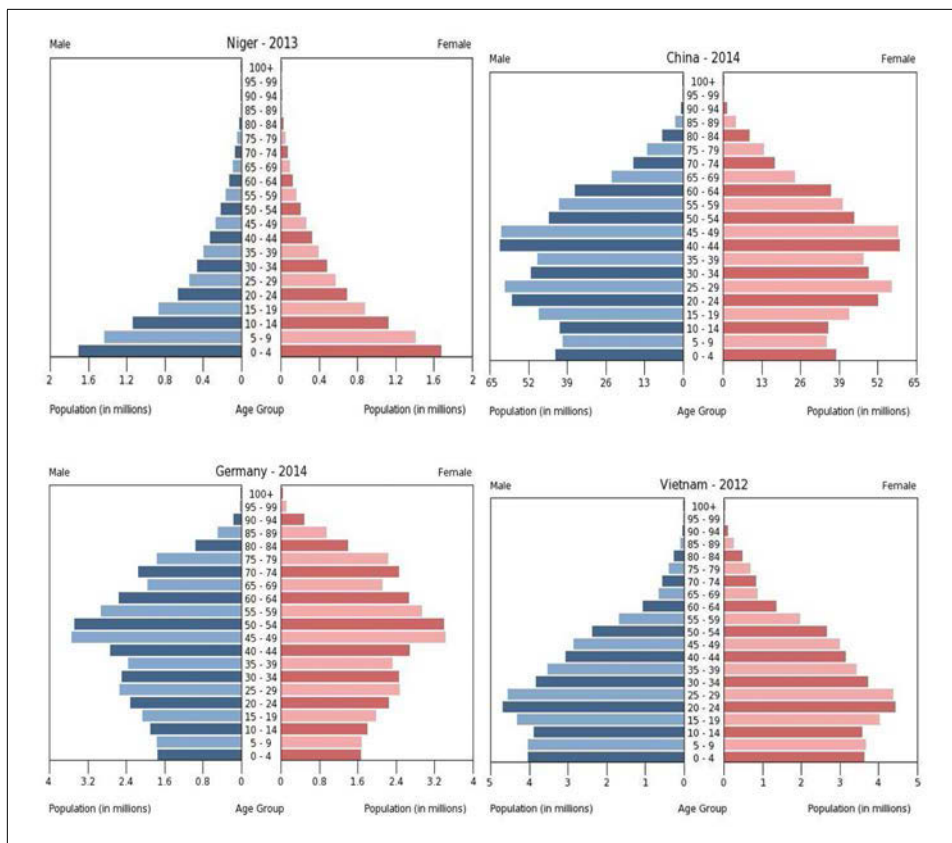
Actions: Governments should examine trade policies for provisions encouraging informal trade and pursue governance reforms, such as cross-checking between customs and fiscal authorities that can render trading networks more transparent while better integrating developing countries with the global economy. At the same time, the impact of informal trade on the incomes of impoverished border regions should be recognized by governments, and alternative income sources should be considered. Governments should be persuaded that high import barriers are ineffective in protecting domestic industries and simply lead to smuggling. Regional integration initiatives should be mobilized to foster more regional policy coordination to avoid the kind of distortions that motivate smuggling between neighboring countries. Policy reforms should aim to diminish the incentives promoting illegal behavior—notably tariff and non-tariff barrier harmonization in the region—along with stronger state institutions—in this case customs administrations—that deter opportunistic behavior.

10.6 Turning the current demographic challenges into opportunity: better targeting of sectors of specialization and setting up a localized improved business environment

Booming urban informal sectors reflect the failure of employment opportunities to keep pace with rapid population growth and rural-urban migration. Creating jobs for young people is now one of the biggest challenges facing African countries. In Niger, for example, annual population growth is about 4 percent, at which rate the population doubles every 17 to 18 years. Figure 10.5 displays population pyramids; the comparison between Niger and China illustrates how young the labor force is in Africa compared to other regions. Youth makes up more than 65 percent of the African labor force and is mostly either unemployed or underemployed, with only 2 to 8 percent of young people finding jobs in the formal public and private sectors (Golub and Hayat, 2014). These demographic trends put very strong pressures

on living standards. Poverty rates are higher in the Sahel countries, with up to 80 percent of the population living on less than US\$2 per day, than they are elsewhere in Africa. Many developing countries have used their abundant labor supplies as the foundation for labor-intensive exports. A critical issue for Africa therefore is to boost labor demand through labor-intensive exports.

Figure 10.5: The Current Demography Challenge



Labor demand in Africa lags due to a combination of lower productivity and higher formal-sector labor costs than in most developing countries elsewhere. One reason is that overvalued exchange rates push up the dollar cost of wages. High labor costs relative to productivity depress African countries' international competitiveness in manufacturing (Golub and Mbaye, 2002, 2009). Africa has a strong potential comparative advantage in labor-intensive light manufacturing and agriculture, including in activities based on traditional primary products such as groundnuts and cotton and non-traditional products such as horticulture and fishing. Unfortunately, the adverse business climate and the weak organization of value chains harm agriculture as

well as industry, discouraging exports and foreign investment (Golub and Mbaye, 2002; Mbaye, 2005; Golub and McManus, 2008). Improving competitiveness in agriculture and manufacturing is thus critical to staunching the ballooning growth of urban informal subsistence activities.

Actions: Governments must reduce obstacles to investment in unskilled-labor-intensive sectors and technologies in agriculture and industry. Donors, government, foreign investors, and local entrepreneurs should work together to identify barriers to competitiveness. Successful examples such as specialty coffee exports in Rwanda and footwear in Ethiopia should be examined (Brenton and others, 2009; Dinh and others, 2012) and efforts made to replicate or adapt them to country-specific circumstances.

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Endnotes

- ¹ See <http://www.wbginvestmentclimate.org/regions/africa.cfm>
- ² Tax morale refers to the perception of fairness and honesty of the tax system and of the government's appropriate use of these revenues.

PART III

The Governance Factor

11. Democratic Governance in Africa: Misconceptions and Opportunities

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Princeton University

Africa has more diversity in regime types than any other continent. Whereas Asia has mostly autocratic governments and South and North America are generally democratic, Africa is in between Asia and Latin America in terms of the level of democracy. Yet why does democracy matter at all, when development is our focus? Because according to Nobel Prize-winning economist Amartya Sen (1999), freedoms are not only the primary ends of development, but also among its primary means. It is thus not surprising that democratic reforms are widely perceived as a critical solution for the problem of government challenge—and accordingly, development—in Africa.

11.1 Myths and misconceptions

Before proceeding, there are a number of misconceptions about democracy in Africa that must be addressed. The first concerns its public support, as there is a myth that public support for democracy is weak in Africa. Simply put, this is not true. In fact, according to the 2011 Afrobarometer conducted in 35 countries¹, nearly 75 percent of Africans are quite supportive of democracy and define democracy in liberal terms.

There is also a myth about an alleged urban/rural divide in support for democracy. This is also not true, as the data show that support for democracy is equally robust

in urban and rural areas. Other observers suggest that poorer people in Africa do not understand what democracy is; that democracy is a foreign, Western concept that is not widely shared, especially among the non-educated. Here again, the data from 2011 Afrobarometer surveys indicate that individuals with university degrees and those with only primary school educations have nearly identical levels of support for democracy.

Still others think of poverty as a threat to democracy in Africa. However, this is also not true, as support for the rule of law and rejection of violence among Africans is consistently strong irrespective of socioeconomic status. These results are consistent with recent research by Acemoglu and others (2008), indicating that modernization theories do not work around the world, and that contrary to popular belief there is no correlation between income and democracy in Africa and elsewhere.

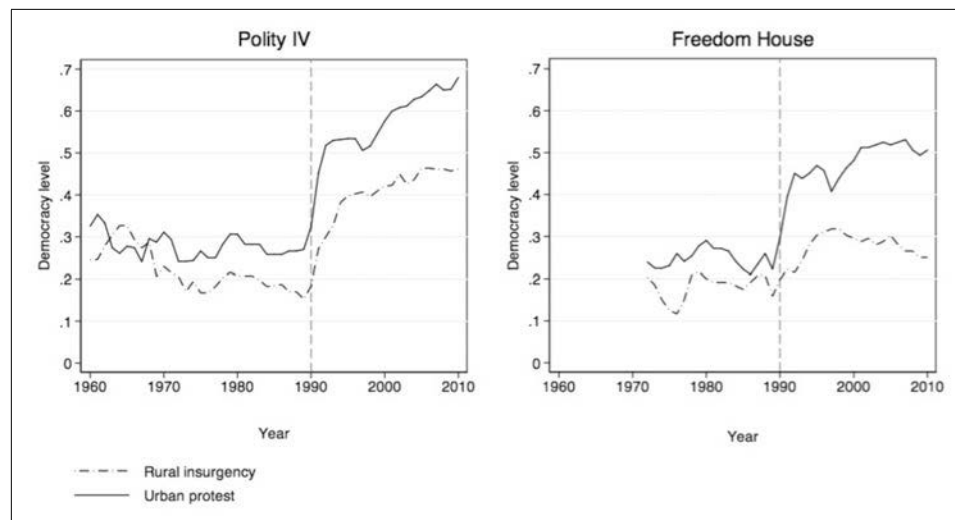
11.2 Origins of democratic values in Africa

Many political scientists have mentioned civil societies and democratic values as key determinants of democracy; however, it is obvious that civil society's strength and democratic values are endogenous. In a paper that I wrote with Omar Garcia Ponce, a graduate student from NYU (Wantchekon and Garcia Ponce, 2014), we show that democratic values in Africa can be traced back to the legacy of different independence movements. Countries that experienced rural social movements, like Cameroon and Zimbabwe, tend to be autocratic or highly unstable democracies. Those that experienced urban social movements, like Ghana, Senegal, and Tanzania, tend to be stable democracies. We checked for causality using instrumental variable techniques, finding that one potential chain of causality is the strength of civil society following the Independence movement. Thus, we see that the big divide in Africa is not between the rich and poor countries, but rather between those that attained Independence through urban protests and those that achieved Independence via rural rebellion.

Figure 11.1 shows that countries that experienced rural insurgency tend to have had lower levels of democracy since Independence, and that this gap has increased drastically since the Cold War. This result holds whether we use the Polity or the Freedom House measure of democracy. This surprising finding indicates

that economic hardships are not shaping the way people value democracy. Thus it is a hopeful indicator for the future of democratic governance on the continent.

Figure 11.1: Independence Movements and Democracy in Africa



How, then, does this all affect the quality of governance? To address this question, we use the Ibrahim Index of African Governance. The Index, which produces an annual assessment of governance quality, has four components: safety and rule of law, participation in human rights, economic opportunities, and human development.² The upshot is that by and large the level of governance in Africa is low but improving. Indeed, the Index has registered major improvements in health and the rule of law, which is unsurprising given that there are fewer civil wars in Africa today than before. However, the main issue—the real challenge to governance in Africa—remains infrastructural provision, which is the lowest in the world. (For example, only 24 percent of the population in Africa has access to electricity, versus 40 percent in low-income countries elsewhere.)

11.3 Harnessing democratic energy for better governance

Returning to the question of democracy, elections matter in Africa and they matter more and more. Encouragingly, politicians are responding to electoral incentives more than before. How, then, can we harness this democratic energy to produce better governance? Three principal solutions stand out: first, decentralization and improving bureaucratic capacity at the local level; second, improving the quality

and transparency of elections through “policy deliberation” and digitized voter registration; and third, implementing state reforms to limit patronage and corruption.

To start, it is clear that policy deliberation—which, in the context of elections, essentially translates to politicians preferring town hall meetings over partisan rallies as a campaign strategy—is an effective engine of good governance. My work for the past ten years has been on clientelism: how to get politicians to run on issues instead of promises of favoritism; how to get voters to respond to policy as opposed to handouts. This matters because clientelism leads politicians to use state resources for short-term electoral gains, and leads voters to make decisions based on immediate material gains—often patronage in the form of targeted spending—rather than on long-term policy.

My frustration with much of the literature on clientelism is that it primarily has focused on showing that clientelism exists; that one can find examples of ethnic favoritism, for instance, or targeted retribution by politicians. Studies have not focused on trying to find ways of convincing politicians to actually run on policy, even though it is clear that politicians could actually make a broad, programmatic appeal to voters to win elections—or at least as many votes as they would win through clientelism. Political scientists have not hitherto produced a real alternative to clientelism practices.

So, during the 2006 and 2011 elections in Benin and then in the 2013 election in the Philippines, we actually called candidates and organized a conference, and at that conference we brought some experts to help formulate specific policy proposals. In Benin, for instance, five experts—one on education, one on healthcare, one on infrastructure, one on corruption, and one on local governance and decentralization—presented the state of the country in those areas and made specific proposals to the candidates. Following this, the candidates at the conference were asked whether they were willing to work with me so that we could organize town hall meetings in randomly selected districts. Such meetings would allow them to communicate the proceedings of the conference to voters in a deliberative setting, as opposed to a large political rally. The candidates agreed to the experiment,

and we determined 90 villages where we would conduct the town hall meetings, described as follows.

In each village, one staff member, a research assistant whom we recruited, and a candidate representative would implement two or three town hall meetings, each with about 40 participants. At the beginning of each meeting, the team coming in would introduce the platform—the key points that came out of the original conference—for about 15 minutes. Following this, there would be 70 to 95 minutes of deliberation over the proposals that each candidate made. At the end, participants took ten minutes to come up with and sign a resolution that would then be transmitted to the political candidate by the team that ran the town hall meeting.

A similar process was used to run town hall meetings in the Philippines. What we found from both experiments is that the town hall meetings had a positive effect on self-reported measures of turnout and electoral support for the candidates and parties who were running the experiment. Crucially, along with the direct effect on the attendees of the town hall, there was an indirect effect of similar magnitude on non-participants; this indicated that people who came to the meetings not only were more likely to vote for the candidate than otherwise, but also actively shared the information they gained from the town hall with people who had not attended. Thus, the town hall meetings not only increased the transparency of the candidates' platforms, but also facilitated information sharing with people who did not attend the meeting—all at a significantly reduced expense compared to traditional political rallies.

Based on these encouraging results, the next step of our project is to run similar experiments with local and regional bureaucrats to see if a similar process might improve local governance. We will run policy deliberation experiments every four months to determine if they help motivate bureaucrats to increase transparency in the provision of local government services, and if this might improve the quality of service delivery at the local level. We will also investigate the effect of these town hall interventions on corruption, including “passive corruption,” wherein bureaucrats are unmotivated and willfully ineffective in their work.

In sum, the principal idea underlying these experiments is that reforms that increase participation during elections in the form of town hall meetings could help improve the quality of elections and decrease the instances of clientelist practices. Moreover, because such meetings are less expensive than traditional campaign rallies—which often reinforce patronage and clientelist systems—such a shift would be preferable for the candidates as well. Finally, I believe this model of town hall-style meetings may be translated to other contexts beyond elections, and could be used to improve the quality of local bureaucracies. By promoting citizen engagement through town hall meetings with local bureaucrats, local officials may become transparent and motivated to do quality work, thus facilitating the provision of public goods, increasing the quality of governance, and promoting development in Africa.

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Endnotes

- ¹ See <http://www.afrobarometer.org>
- ² See <http://www.moibrahimfoundation.org/interact/>

12. The Political Origins of Africa's Economic Revival

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12.1 Introduction

Writing in the 1990s, William Easterly and Ross Levine (1997) famously labeled Africa a “growth tragedy.” Less than 20 years later, Alwyn Young (2012) noted Africa’s “growth miracle,” and Steven Radelet (2010) less effusively pointed to an Africa that was “emerging” and noted the continent’s rising rate of economic growth, improving levels of education and health care, and increasing levels of investment in basic infrastructure: roads, ports, and transport. In this paper we address Africa’s economic revival. In doing so, we also stress the political changes that have taken place on the continent. Once notorious for its tyrants—Jean-Bedel Bokassa, Idi Amin, and Mobutu Sese Seko, to name but three—in the 1990s Africa joined the last wave of democratization; self-appointed heads of state were replaced by rulers chosen in competitive elections. In this paper, we assert that the two sets of changes—the one economic and the other political—go together, and that, indeed, changes in Africa’s political institutions lent significant impetus to its economic revival.

* This paper draws materials from R. H. Bates and S. A. Block (2013), “African Agriculture: Institutional Change and Productivity Growth,” *The Journal of Politics* 75(2): 372-384 and from R. H. Bates (2008), *When Things Fell Apart: State Failure in Late Century Africa*, New York, Cambridge.

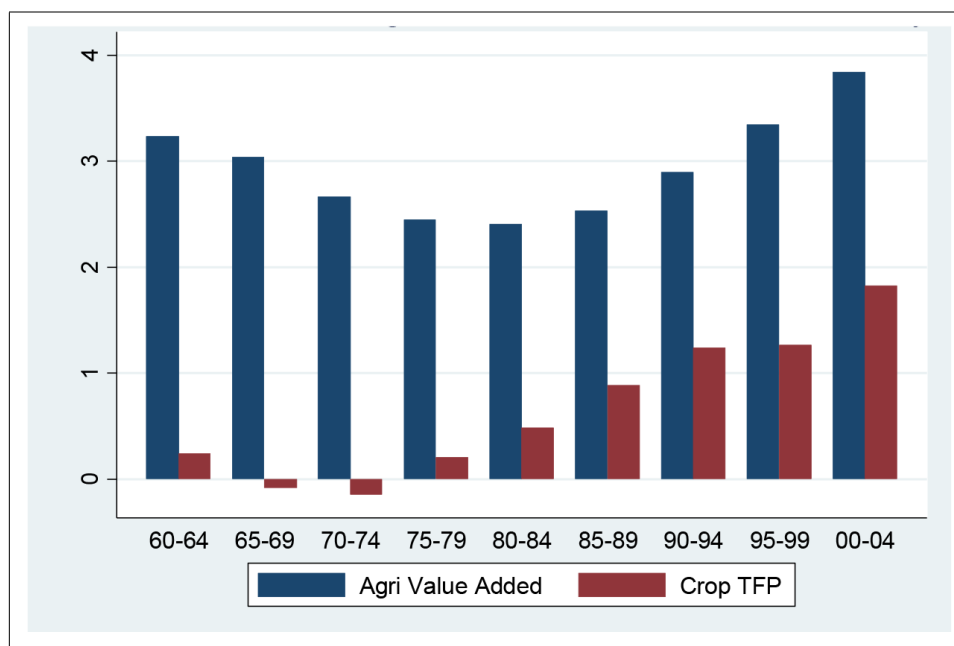
While advancing this argument, we pay particular attention to the rural sector of Africa's economies. Agriculture constitutes the largest single sector in most of Africa's economies (Figure 12.1) and the interaction between the public policy and the economics of agriculture has received great attention (World Bank, 1981; Bates, 1981; Krueger and others, 1992; World Bank, 2007). Our thesis is radical in its simplicity: As a result of changes in political institutions, politicians in search of office in Africa encountered strong incentives to champion new policies and, as a result of the changes in government policies, total factor productivity—in agriculture and in the economy as a whole—rose, rekindling economic growth in the continent.

In Section 12.2, we present data on the changing performance of Africa's economies and document both their decline and resurgence. We also seek the source of these changes and attribute most to changes in the rate of growth of total factor productivity. In Section 12.3, we document changes in the policies pursued by Africa's governments and in the structure of its political institutions. In Section 12.4, we introduce quantitative evidence of these changes. And in Section 12.5 and 12.6, we mount our central argument: that changes in political institutions promoted subsequent changes in public policies and that changes in public policy established the link between institutional reform and economic growth in Africa.

12.2 What is to be explained

In this section, we note the decline and revival of Africa's economies. We turn first to the rural sector and then to national economies.

Figure 12.1: Africa: Growth Rates of Agricultural Value Added and Productivity, 1960-2004

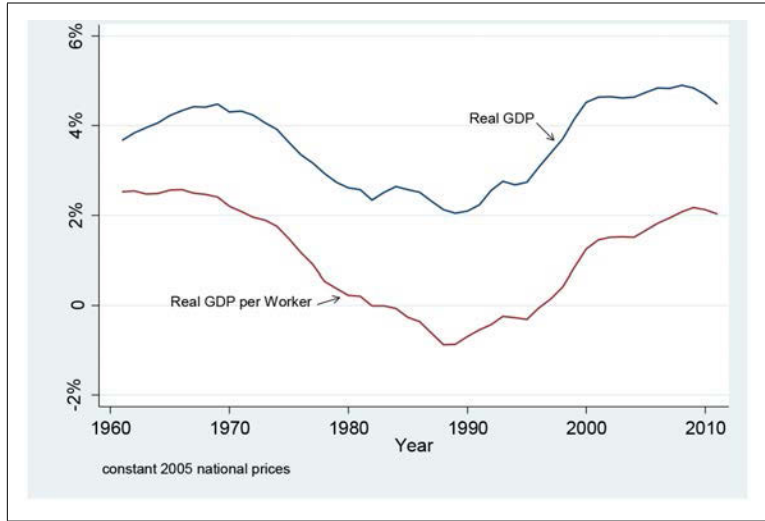


Source: Block (2014a).

As can be seen in Figure 12.1, the growth rate of the value of total output began to decline in the years after Independence,¹ falling dramatically in the 1970s and then reviving in the late 1980s and 1990s. Crop productivity (total factor productivity—TFP) growth followed a similar pattern, falling below zero during the late 1970s and early 1980s.² It is clear from Figure 12.1 that since the mid-1980s, crop TFP growth has played an increasingly important role in driving growth in agricultural value added.³

Figures 12.2 and 12.3 report the results of a similar exercise, but this time using data for Africa's national rather than rural economies. Figure 12.2 depicts changes in the rate of growth of GDP and GDP per worker in 1960-2010. As did the growth rates in agriculture, the rate of growth of Africa's national economies traced a U-shaped path, with growth rates declining from the 1970s to the late 1980s and then turning upwards.

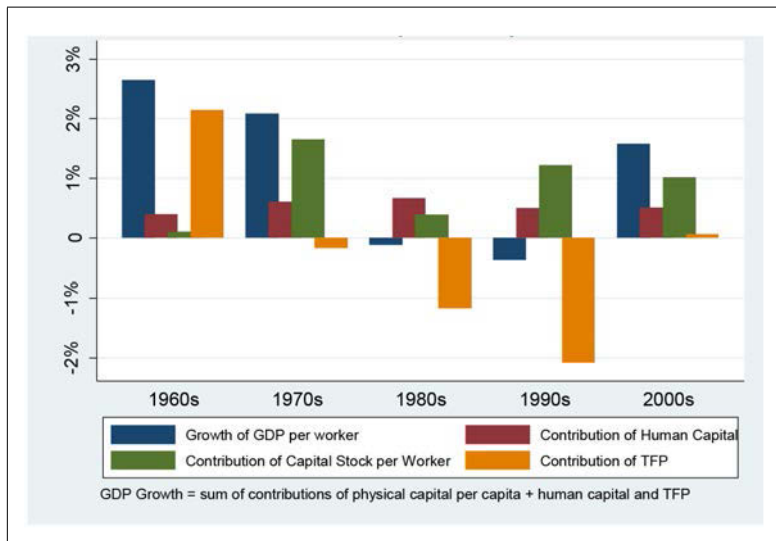
Figure 12.2: Africa: Growth Rate of GDP, 1960-2010



Source: Penn World Tables 8.0.

As captured in Figure 12.3, the contributions made by the stock of capital per worker and human capital to the growth of GDP varied little over time, by comparison with the contribution made by changes in TFP. As was the case with agriculture, changes in the value of production—and the value of production per capita—were the result of changes not in the quantity and quality of labor and capital but rather in the efficiency with which they were employed.⁴

Figure 12.3: Africa: Growth Decomposition by Decade, 1960s-2000s



Sources: Block (2014b) and UNECA (2014).

12.3 Background

In this section, we note the changes in the public policies and political institutions that prevailed in Africa in the decades after Independence.

12.3.1 Policies

In seeking to account for Africa's growth decline—that is, the descending portion of the U-shaped trajectories discussed above—researchers have highlighted the public policies imposed by its governments.

Agricultural policies were “urban biased,” in the phrasing of Michael Lipton (1977; see also World Bank, 1981; Bates, 1981). Governments imposed trade policies that provided protection for manufacturers but not for farmers. They regulated industries and markets in ways that created monopsonies among those who purchased agricultural commodities, and monopolies among producers of goods purchased by farmers, such as clothing, soap, kerosene, and cooking oil. As a result, urban consumers of food or raw materials could purchase agricultural commodities at prices lying below those in international markets, and they could sell the products they manufactured to farmers at prices that lay above global levels.

In Africa's economies in general, government policies tended to be highly interventionist. In the words of Collier and O'Connell (2008), Africa's governments tended to impose “control regimes.” Either by manipulating the structure of markets or by replacing private markets with government bureaucracies, they sought to influence the manner in which land, labor, and capital were allocated, commodities produced, distributed services furnished, and incomes determined.

In the manufacturing sector, governments often created monopolies, often in a manner designed to protect the fortunes of state-owned firms. In the financial sector, many nationalized the insurance industry and regulated banking, lowering interest rates in an effort to cheapen the costs of capital for local businesses. And when addressing the macro-economy, governments extended their reach to include markets for foreign exchange. Compared to others, governments that implemented control regimes tended to overvalue the local currency, seeking thereby, many claimed, to make it possible for local firms to import capital equipment more cheaply (Bates, 2008a).

Government policies undermined the wellbeing of farmers. One result was an exodus from the countryside of the young and able bodied; the contrasting demographic structures of the urban and rural populations testified to the economic disparities between town and country in Africa. Another was the slowing rate of investment, made manifest by the aging tree stock in the coffee and cocoa industries.⁵ A third was the lower output, as producers curtailed the effort they devoted to farming.

For national economies the result was a lowering of the growth rate. As demonstrated by Collier and O'Connell (2008), in countries whose governments imposed control regimes the rate of economic growth was two percentage points lower than that in countries whose governments refrained from large-scale interventions in markets and industries.

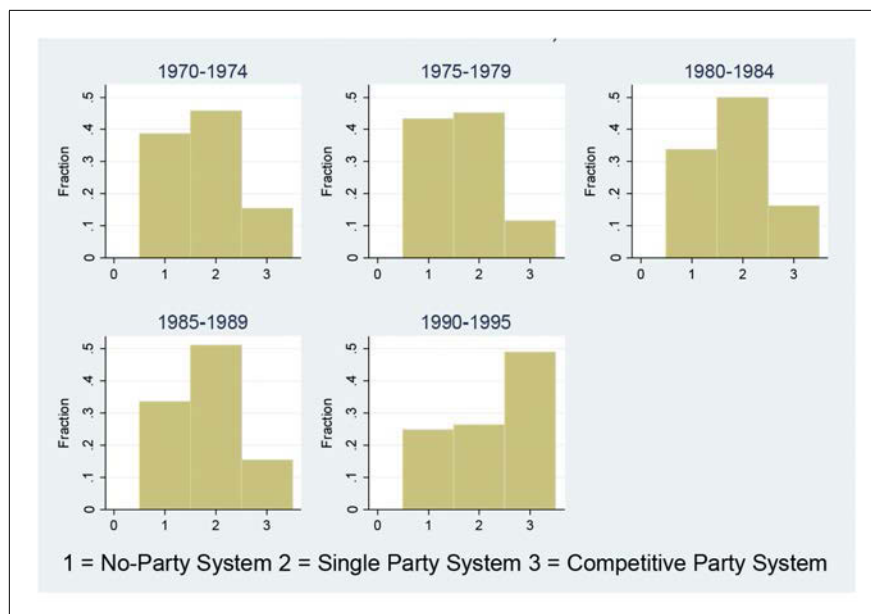
12.3.2 Institutions

Political change in Africa was marked not only by changes in public policies but also by changes in political institutions.

12.3.2.1 The authoritarian period

As stressed by keen-eyed observers (Dumont, 1962; Rodney, 1972; Fanon, 1961), soon after the achievement of self-government, African states put an end to party competition.

In parliaments, members of the opposition crossed the floor to join the ranks of the governing party. Where their opponents proved obdurate, governments often reverted to coercion (Collier, 1982): many made use of the laws of detention to which they themselves had been subject in the colonial era. Shortly after Independence, another trend emerged: the formation of military governments. As captured in Figure 12.4, single party and "no-party" (i.e. civilian dictatorships or military governments) ruled in more than three quarters of the country-years of the 1970s, and continued to do so for the next 20 years.⁶

Figure 12.4: Political Institutions in Africa, 1970-1995

Source: Bates, 2008c.

12.3.2.2 Pressures for change

By the end of the 1970s, the international community was fully aware of Africa's economic plight. Emboldened by the reformist mandate bestowed by its President, Robert McNamara, the World Bank had financed a dazzling array of small-farmer and community-level projects. As recounted in its official history, the World Bank's own evaluations revealed a distressingly low rate of return for its Africa projects (Kapur, 1997). When seeking reasons for the failure of its projects, the Bank found them in "the policy environment." In its famed "Berg Report" (World Bank, 1981), for example, it highlighted the impact of government policies in Africa that distorted markets, weakened incentives, and thereby undermined rural economies.

In addition to being a financier of projects, the World Bank then became an advisor to governments. In pursuit of policy change, it drew upon two sources of strength. The first was expertise. Through publications, seminars, and the training of public servants, the Bank sought to expose the economic costs of prevailing policies and to offer alternatives. The second was capital. In any given country at any given

time, the Bank would normally finance a multitude of projects: so small was each that its cancellation would hardly go noticed. To gain the attention of the beneficiary governments, the Bank therefore began to bundle its projects into sectoral programs (Please, 1984); more would then be at risk were the Bank to suspend its lending. Sectoral programs soon gave way to country programs and to conditionality, as the Bank sought to strengthen its leverage over policymaking in debtor nations and to sharpen the incentives for policy reform.

As Africa's creditors focused on the behavior of Africa's governments, they struggled with the question: Why would these governments adopt policies that undermined economic prosperity? Over time, a consensus emerged: that the behavior of these governments reflected their lack of political accountability. Not being accountable, governments in Africa could adopt policies that conferred concentrated benefits on some while imposing widely distributed costs on others. Increasingly, then, the World Bank focused not only on policy choice but also on institutional reform (World Bank, 1989; World Bank, 1991).

Among the most vocal of those championing political reform was Keith Jaycox, a vice president of the World Bank. In meeting after meeting, conference after conference, and interview after interview, he called for the introduction of political reforms. As reluctant as he may have been to call for the introduction of democratic institutions, he left little doubt that Africa's creditors would welcome the legalization of opposition parties and the holding of competitive elections for political office.

Demands for political reform also arose from within. Benin provides an apt illustration. In 1975, the ruling party had endorsed "Marxist-Leninism" and the government had altered its policies and expanded its bureaucracy accordingly. By the late 1980s, the decline of the private economy had impoverished the government's tax base, even while its expenses grew, and the government lacked the funds to pay its workers. The result was wave after wave of demonstrations by public employees and increased indiscipline within the ranks of the military. While unable to meet the salaries of those it employed, the political elite nonetheless managed to find ways to pay itself: in 1988, the issuance of \$500 million in unsecured loans to the president and his retinue led to the collapse of three state-owned banks. Such acts inspired

further demonstrations, encouraged and cheered on by ambitious challengers to the incumbent regime.

Initially, the forces of reform were stymied. Illustrative is the case of Zaire, where the United States continued to support the president, Joseph Mobutu, even as Mobutu continued to ruin the nation's economy. As recounted by Ndikumana and Boyce (2011: 2):

In 1987, ... under pressure from the US government, [the International Monetary Fund approved a new loan to Zaire] over strong objections by senior staff and a rare dissenting vote by three members of the Fund's twenty-four member executive board. This was among the decisions that prompted the resignation of David Finch, director of the IMF's exchange and trade relations department

During the Cold War, the United States employed development assistance and international financial institutions to stabilize regimes that supported its fight against communist-backed movements in the developing world. Security interests trumped development policy.

12.3.2.3 Political change

But then, in 1989, everything changed. Marked by the collapse of the Berlin Wall, Eastern Europe withdrew from the communist bloc. When Russia subsequently withdrew from the Soviet Union, the Cold War was over. In Africa, international financial institutions were then able to join domestic political forces in backing the forces of political change.

By way of illustration, we return to the case of Benin. Emboldened by the toppling of governments throughout Eastern Europe, the opponents of President Mathieu Kerekou flooded into the streets of the national capital, mounting waves of protest that brought the capital to a standstill. The president was forced to call for a "*Conference Nationale des Forces Vives* at which business, professional, religious, labor, and political groups, together with the government, would be given an opportunity to draw up a new constitutional framework" (Meredith, 2005: 388). The president had expected to dominate the proceedings of the conference, but he failed to do

so. Declaring themselves a sovereign assembly, the conference dissolved the government, appointed a new prime minister, and laid down a schedule for new elections—elections that Kerekou lost to Nicephore Soglo, the assembly’s preferred candidate and a former member of the board of directors of the World Bank.

As shown in Table 12.1, Benin’s national assembly was soon followed by others; in every case but one, an election followed; and in more than half, the incumbent regime was dismissed from office. Whereas before the 1990s in most African states, competition for office took place at the top, as it were—i.e. either within the ranks of the military or the confines of the sole legal party—in the 1990s, open electoral competition became the norm.

Table 12.1: The Diffusion of Political Reform

Country	Date	Duration	Election		Outcome: Incumbent	
			Month	F&F?	Ousted	Retained
Benin	Feb-90	1 week	Feb-91	yes	√	
			Mar-96	yes	√	
Congo	Feb-91	3 months	Aug-92	yes	√	
Gabon	Mar-90	3 weeks	Dec-93	no		√
Mali	Jul-91	2 weeks	Apr-92	yes	√	
Niger	Jul-91	6 weeks	Feb-93	yes	√	
Burkina Faso	Aug-91	2 months	Dec-91	no		√
Ghana	Aug-91	7 months	Dec-92	yes		√
Togo	Aug-91	1 month	Aug-93	no		√
Zaire	Aug-91	1 year	--	--		
CAR	Oct-91	2 months	Aug-92	yes	√	
Chad	Jan-93	3 months	Jun-96	no		√

Source: Bates, 2008b: 112.

In the sections that follow, we argue that these political reforms led to policy reforms, and that policy changes inspired the growth of total factor productivity, thereby leading to the renewal of economic growth in Africa.

12.4 Bivariate evidence

The better to ground our argument, we turn to quantitative data. We first attend to matters of definition and then turn to scrutinizing the (bivariate) relationships between institutions, policies, and economic performance.

12.4.1 Definitions

12.4.1.1 Institutions

For the analysis that follows, we create a dummy variable that takes the value 1 if the head of state is chosen in a competitive election and 0 otherwise. To do so, we make use of a measure⁷ that maps country-years to numbers in the following fashion:

Level 1 – No executive exists.

Level 2 – Executive exists but was not elected.

Level 3 – Executive was elected, but was the sole candidate.

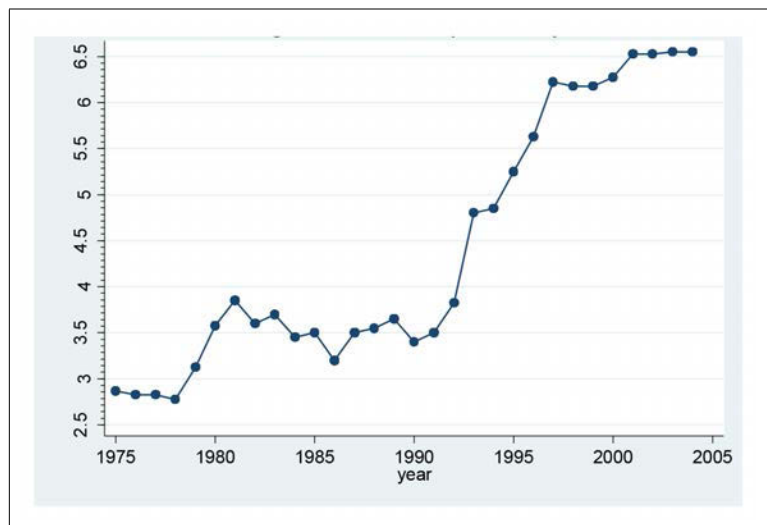
Level 4 – Executive was elected, and multiple candidates competed for the office; opposition parties not allowed.

Level 5 – Executive was elected and multiple parties were legally permitted by law to compete for the office.

Level 6 – Candidates from more than one party actually competed in the election, but the president won more than 75 percent of the vote.

Level 7 – Candidates from more than one party competed in the election, and the president won less than 75 percent of the vote.

Making use of this measure, Figure 12.5 captures the rapid increase in the incidence of competitive electoral systems across Africa during the 1990s.

Figure 12.5: Africa: Average Political Competition by Year, 1975-2005

Source: World Bank, Database of Political Institutions (Beck and Clarke, 2001).

12.4.1.2 Policy choices

When focusing on agriculture, we make use of a measure derived by the World Bank when preparing for the 2008 *World Development Report*, which focused on agriculture (World Bank, 2007). Called the relative rate of assistance, or RRA, the measure reflects the manner in which government intervention in markets shifts relative prices between agricultural and non-agricultural commodities, and is calculated as the ratio of policy interventions across sectors:

$$RRA = \left[\frac{1 + NRA_{ag}^t}{1 + NRA_{nonag}^t} - 1 \right] \quad (12.1)$$

where NRA_{ag} and NRA_{nonag} refer to the nominal rates of assistance to the producers of agricultural and non-agricultural products. The assistance takes the form of policies that alter the level of domestic prices relative to those in global markets. The imposition of an ad valorem tariff on imports of manufactured goods, for example, would generate an increase in the NRA_{nonag} and therefore trigger a decrease in the RRA, thus signaling a shift in relative prices against farmers and in favor of the manufacturing sector. Negative values of RRA indicate that government policies favor consumers of agricultural products, i.e. the presence of urban bias; an increase in the value of RRA indicates a shift in favor of agricultural producers.

When focusing on the national economy, we make use of the black market premium (BMP). Because the premium reflects the overvaluation of the exchange rate (see below), it can be viewed as a measure of the taxation of exports and the undercutting of import-competing products; in Africa, exports include cash crops such as coffee or cocoa, and import-competing products include food crops such as rice. The magnitude of the BMP therefore provides a second measure of the degree of the government's policy bias against agriculture.

Insofar as the exchange rate is one of the basic prices of the macro-economy, the BMP reflects as well the level of disequilibrium in the macro-economy, be it in the balance of fiscal, monetary, or trade accounts.

Our last measure of public policy arises comes from the work of Giuliano and others (2013). Using data from the International Monetary Fund (IMF), the World Bank, central banks, and other sources, these authors constructed a composite index of regulation, noting the degree to which governments imposed restrictions and controls in product markets, agriculture, trade, and finance.

12.4.1.3 Economic performance

Lastly, as our measure of economic performance, we make use of the work of Block, who calculated the rate of growth of total factor productivity in the agriculture sector (Block, 2014a) and the nation economies of Africa (Block, 2014b). Block derived his estimates from the standard Solovian transformations of a Cobb-Douglas production function with constant returns to scale. Dividing human capital and capital stock by the amount of labor renders these variables into per capita measures; taking the log of the production function renders them additive. Differentiating with respect to time and re-arranging terms yields the basic growth-accounting equation:

$$\frac{\dot{A}}{A} = \frac{\dot{y}}{y} - \left[\alpha \frac{\dot{k}}{k} + (1 - \alpha) \frac{\dot{h}}{h} \right] \quad (12.2)$$

The first term is the Solow residual; it is the difference between terms that refer to the growth rate of output per capita, y , and an expression that refers to the growth rate of the quantity of materials—capital and human capital per worker—employed to produce it.⁸ $\frac{\dot{A}}{A}$ does not vary as a result of the quantity of the factors of produc-

tion, then, but rather as a result of the degree to which those factors are productively and efficiently employed. It is a measure of the growth of total factor productivity.⁹

Appendix Table 12.A lists the measures we employ, characterizes them, and notes the sources from which they came.

12.4.2 Bivariate relationships

Employing these measures, we can now turn to the use of quantitative data. Doing so enables us to demonstrate the plausibility of our conjecture—that political change in Africa promoted policy change in Africa, which in turn helped to fuel the continent’s economic revival.

12.4.2.1 Electoral reform and policy choice

Drawing on data from 30 African countries for 1975–2005, in Figure 12.6, Panel A depicts the level of RRA before and after transition to electoral competition. Panel B depicts differences in the level of RRA in countries with and without competitive elections over the same period. In both panels, the data suggest that countries that reformed their institutions changed their policies and did so by reducing the degree of urban bias. Tests suggest that the differences are significant at less than the 0.01 level.

Figure 12.6, Panel A: Relative Rates of Assistance, Before and After Political Reform

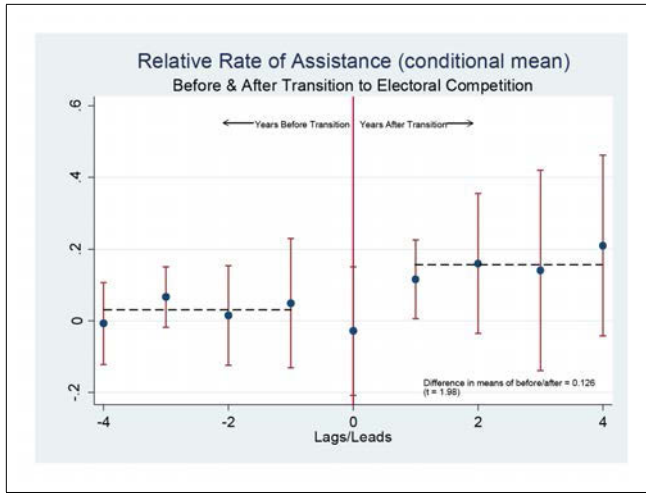
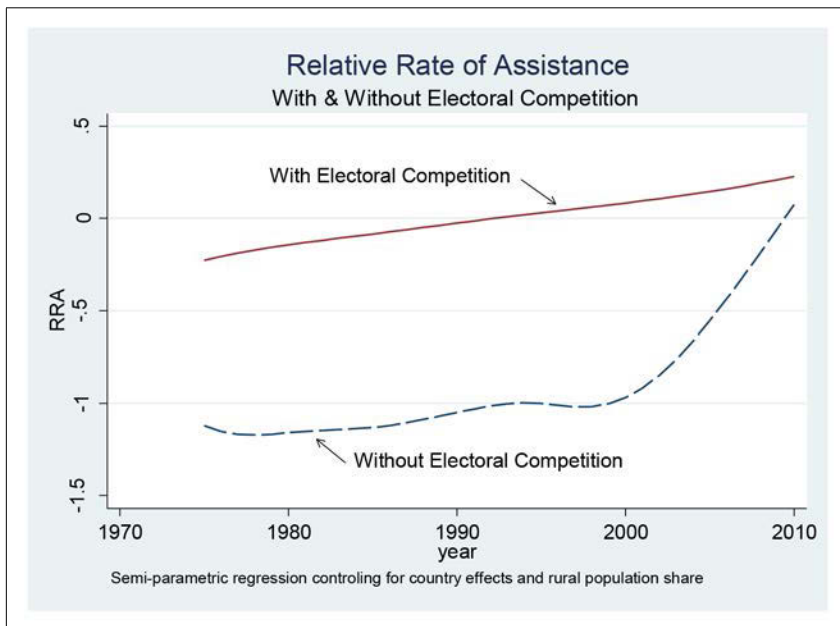


Figure 12.6, Panel B: Relative Rates of Assistance, With and Without Political Reform



In Figure 12.7, Panel A portrays the relationship between the magnitude of the black market premium before and after the transition to electoral competition; Panel B depicts the difference in the level in countries with and without competitive elections for the chief executive¹⁰.

Figure 12.7, Panel A: Black Market Premium, Before and After Institutional Reform

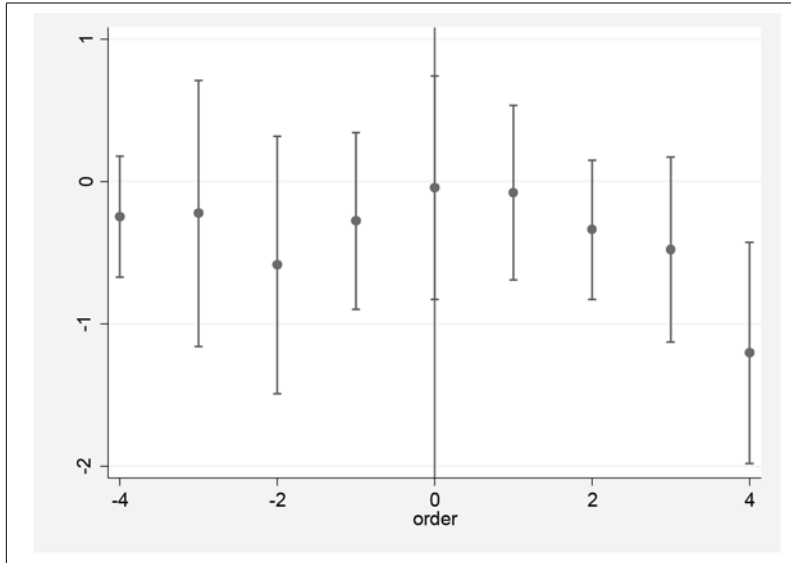


Figure 12.7, Panel B: Black Market Premium, With and Without Electoral Reform

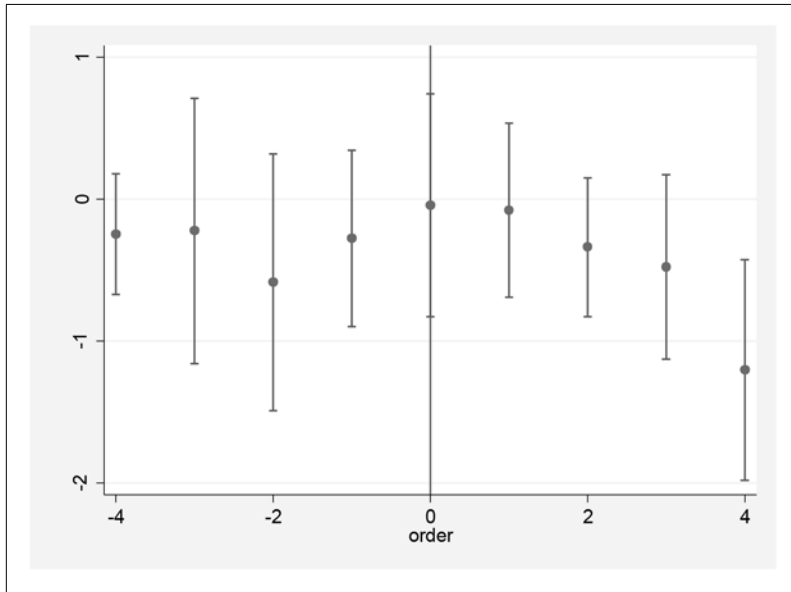


Figure 12.8 contrasts the degree to which governments intervene in markets and industries before and after the introduction of party competition (Panel A) and in countries with and without heads of state who have gained power in competitive elections (Panel B). The patterns are what one would expect were the introduction of party competition to be related to political reform, and the value of the t-statistic suggests that the values in these series differ at less than the 0.01 level. The dif-

ferences in the levels of regulatory reform, however, disappear when controlling for country fixed effects (suggesting the potential for alternative explanations, as explored below).

Figure 12.8, Panel A: Index of Government Intervention, Before and After Institutional Reform

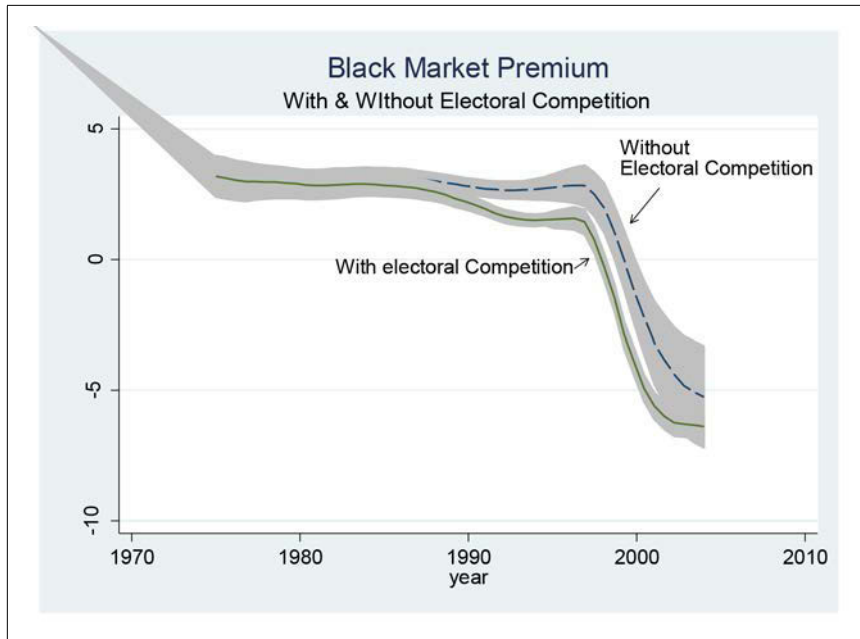
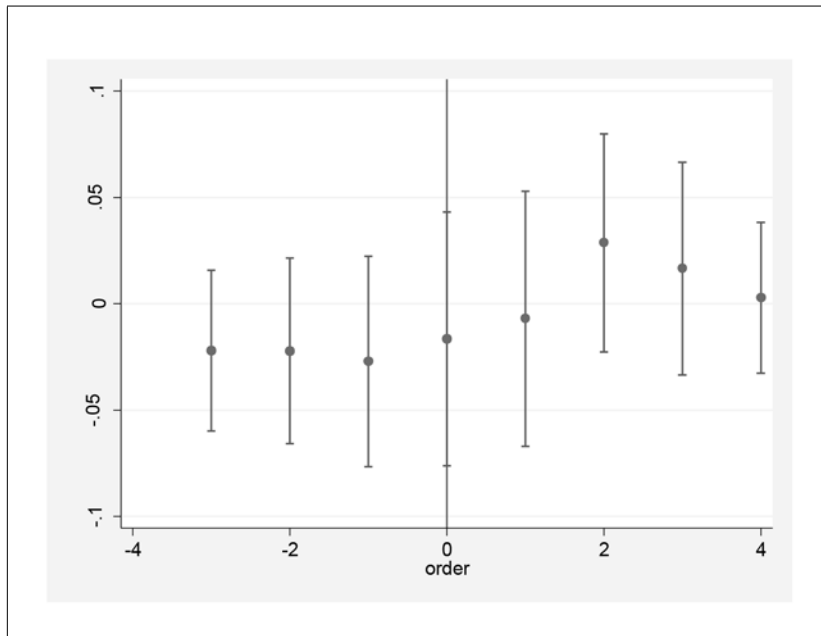


Figure 12.8, Panel B: Index of Government Intervention, With and Without Institutional Reform



Importantly for the work ahead, note that in each instance the data in Panel A suggest that institutional reform *antedated* policy reform—a finding that helps us to identify the causal nature of the relationship between them.

12.4.2.2 Policy choice and economic performance

We hypothesize that these policy choices are the mechanisms through which the reform of Africa’s political institutions contributed to productivity growth. Figure 12.9 repeats the before/after analysis with TFP growth as the dependent variable, while Figure 12.10 repeats the growth decomposition of Figure 12.3, this time distinguishing between settings with and without electoral competition. The contrasts are striking but, being limited to two dimensions, they require, and warrant, further examination.

Figure 12.9: Economy-wide TFP Growth Before/After Transition to Electoral Competition

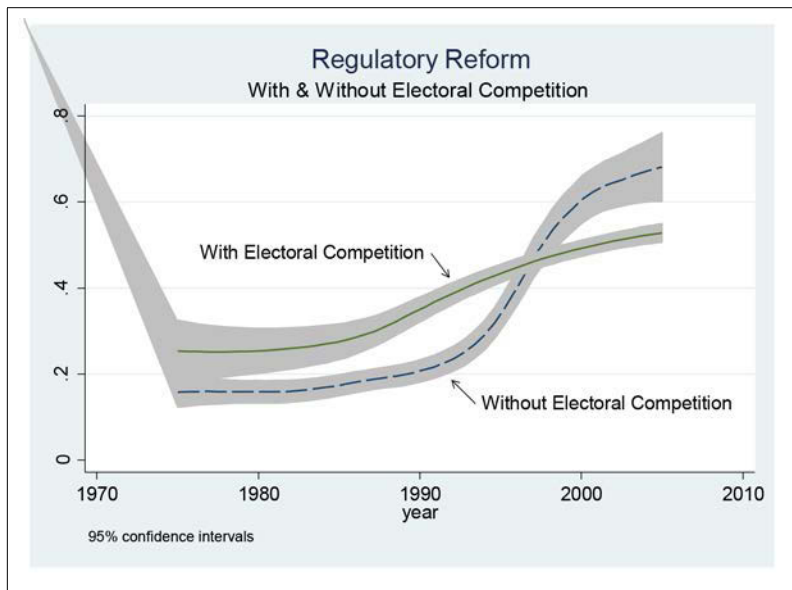
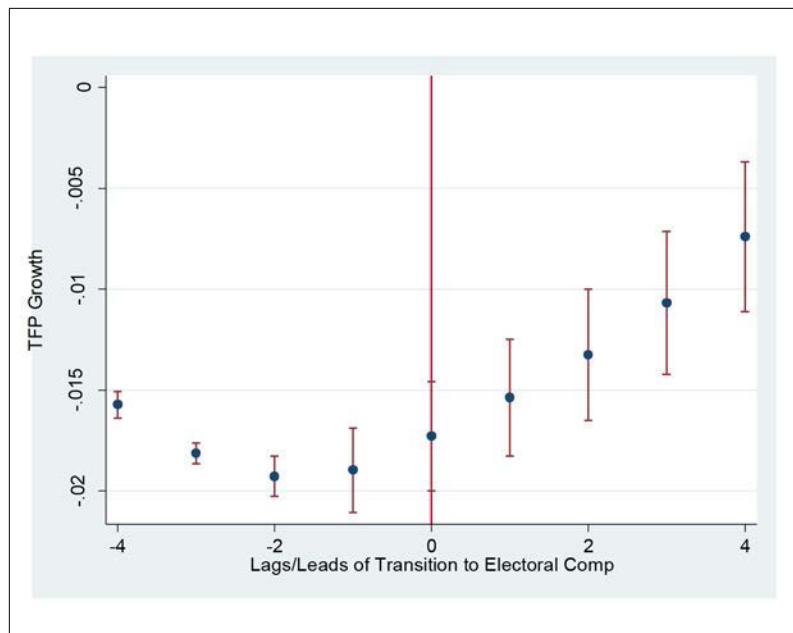


Figure 12.10: Sources of Growth, With/Without Electoral Competition

12.5 A causal chain?

On the basis of the evidence thus far, it appears possible that changes in Africa's political institutions led to changes in policy choices, and that the latter altered incentives, enticing producers in the rural sector and in the economy as a whole to make more efficient use of the factors of production.

Before this argument warrants our credence, however, we must take two additional steps. First, a line of reasoning must be advanced. It is plausible, of course, that policies that impose costs on producers will weaken economic incentives and lower the rate of growth of TFP. But why should changes in political institutions elicit changes in public policies? In this section, we address this question and seek thereby to strengthen the foundations of our argument. In addition, we need to move from the bivariate to multivariate analysis and so gain the ability to identify our causal argument. We take that second step in Section 12.6 below.

12.5.1 In agriculture

Why might the movement from authoritarian government to party competition lead to changes in agricultural policy? In both authoritarian and competitive political systems, private interests influence the government's choice of policies. But the process of

representation differs in the two systems. Under authoritarianism, representation is secured through lobbying; it is undertaken by interest groups. In competitive political systems, however, representation is undertaken by political parties, as they seek to build constituencies of sufficient size to secure a majority of votes in elections. The implications are immediate and bear upon the nature of policies.

The relationship between political reform and policy change in developing derives from well-established insights into the behavior of poor populations and the structure of their economies on the one hand and from the logic of collective action and party competition on the other.

Poor countries exhibit a characteristic political-economic geography.¹¹ The majority of the population works in farming; it lies widely scattered, each member producing but an infinitesimal percentage of the total agricultural output. A small portion of the population—often less than 10 percent—works in manufacturing and service provision and dwells in towns. Because government policies often favor large investments and because of economies of scale in manufacturing, urban firms are often few in number and large in size these firms often dominate their markets; and a significant percentage of the urban dwellers therefore earn their incomes from a small number of employers (Little and others, 1970; Little, 1982; and for an African case, Kaplinsky, 1978). While those who farm are thus dispersed economically and geographically, those who earn their incomes in the urban sector are not. Spatially, they are concentrated in a few settlements and economically they often labor in enterprises sufficiently large to dominate their markets.

The political implications are ironic and follow from the logic of collective action (Olson, 1971, 1985): In countries with large agricultural populations, farmers form a weak political lobby. Being small, individual farmers in poor countries rationally refrain from expending effort in attempts to influence agricultural prices; not so urban interests, which stand large in their markets. Being widely scattered, farmers face high costs of organizing; concentrated in towns, urban interests find it less expensive to do so. Urban interests therefore hold a relative advantage as lobbyists in less developed economies. In so far as government policy is influenced by organized groups, in countries with large agricultural sectors, it tends to be adverse toward the interests of farmers (Olson 1971 and 1985).

The result is a choice of public policies that, taken together, constitute “urban bias,” or measures that privilege the incomes of urban consumers at the expense of rural producers. Under pressure from urban interests, governments adopt trade policies that protect domestic markets for urban manufacturers while leaving the market for agricultural products open to imports from abroad. The overvaluation of currencies cheapens imports of foreign foodstuffs and lowers the earnings of exporters of cash crops. Government regulations limit exports of raw materials, compelling farmers to sell cotton, vegetables, fruits, and other products to local processors at prices below those that they could secure were they to ship them to foreign buyers. In these and other ways, governments intervene so as to shift relative prices in favor of the consumers and against the producers of agricultural products.

Thus the standard account of urban bias. Central to this interpretation is the absence of electoral competition; interests, it assumes, gain representation solely by lobbying. But what if we now introduce competitive elections? Where representation is achieved through electoral channels and where rural dwellers constitute a large segment of the voting population, then politicians have an incentive to cater to the interests of farmers. The very factors that render farmers weak lobbyists—that they are numerous and spatially dispersed—render them attractive to politicians competing for an electoral majority (Varshney, 1995). The search for political majorities should therefore encourage politicians to resist the political pressures emanating from urban consumers and to champion policies that cater to the interests of the countryside.

Many African economies conform to the conditions that underpin the above argument. Their mean income is less than US\$1,000 per year (constant US\$ of 2000) and in most countries agriculture remains the largest single industry, employing nearly a third of the labor force and harboring nearly three quarters of the population. By the logic of the argument, we should therefore expect to see the reintroduction of party competition and majoritarian politics leading to the adoption of policies that strengthen the incentives for farming.

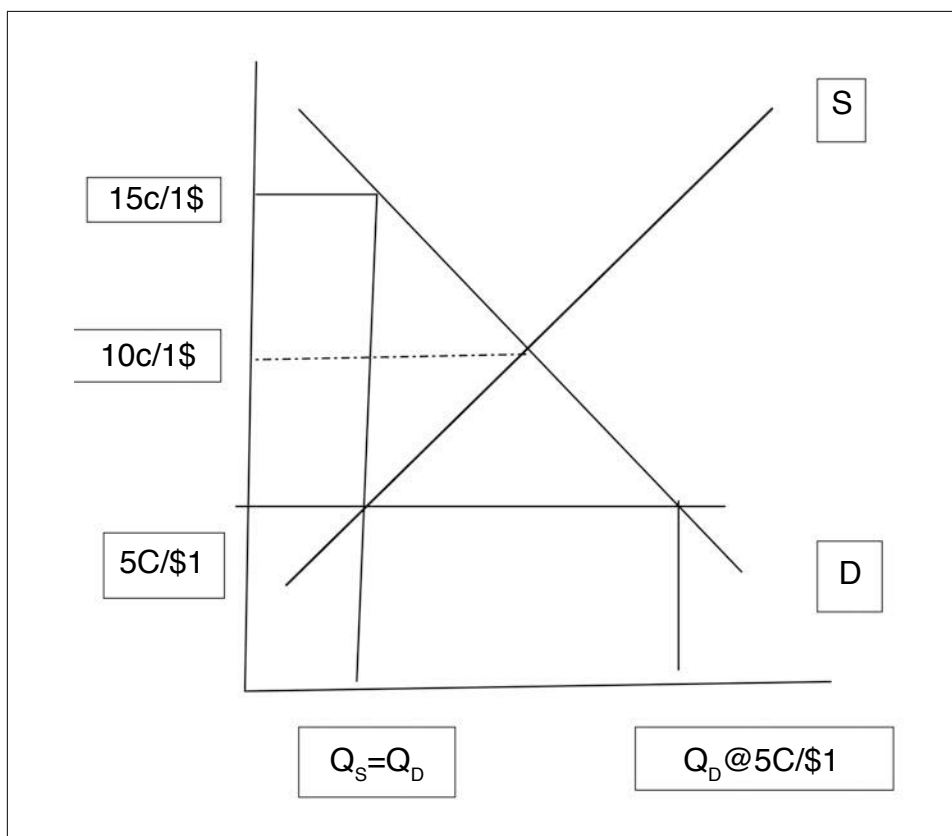
12.5.2 In the larger economy

A second line of reasoning argues that, if authoritarian, governments will seek to transform markets into political organizations, but that when economic agents are

enfranchised, they might instead prefer that markets be left free. To make the point, we focus on the market for foreign exchange, which is important both for agriculture and the larger economy.

Throughout this section, we make use of Figure 12.11, which depicts the market for foreign exchange. The market equilibrates when exporters supply and importers demand equal amounts of “dollars”; they do so when the exchange rate is ten *cedis* to the dollar. Now let the government intervene. Insisting that the *cedi* is stronger than private agents realize, it dictates that an importer need only pay five *cedis* when purchasing a dollar and the central bank purchases dollars for *cedis* accordingly. Now receiving fewer *cedis* for each dollar, exporters now ship fewer goods abroad. At this rate of exchange, those who produce goods that can be imported from abroad now face greater competition; goods that might have cost 100 *cedis* now cost only 50. As a result, they too produce less. The “real economy” therefore declines, along with the incomes of those who labor in it.

Figure 12.11: Government Intervention in the Market for Foreign Exchange



Who benefits from the government's policy? Among the beneficiaries are those who earn their incomes in *cedis* but spend them in dollars; and among those who do so, of course, are governments. They can now purchase a dollar for five *cedis* whereas they previously paid ten. Not only that: given the government's intervention in the market, they can multiply their earnings many fold (given the prices depicted in Figure 12.11). For at five *cedis* per dollar, the market is not in equilibrium: the quantity of dollars demanded exceeds the quantity supplied. Given that exporters lack the incentives to produce more for export, the supply of dollars is quantity-constrained; the market can only equilibrate as a result of changes in price. The price of dollars therefore rises; it rises above its market price. By seeking to lower its price, the government has rendered foreign exchange scarce and therefore more costly. It has created a "black market premium" for foreign exchange.

Returning to the actors in this story, we have already noted that government's management of the exchange rate redistributes purchasing power from those who produce goods to those who, like the government, produce services. Now we can see that these measures have also created an economic resource. If a minister or permanent secretary can secure foreign exchange at the official price—five *cedis* to the dollar—she can then sell them in the black market for fifteen *cedis* to the dollar, tripling her earnings.¹²

When those with power employ it to regulate and restructure markets, such as the market for foreign exchange, the result is the concentration of income in the hands of those with the power to govern. Those in power become more prosperous even while total output is declining in the traded sectors. Such an outcome might be stable under authoritarian regimes, but with the political enfranchisement of economic agents, politicians go in search of votes and would be less inclined to restructure markets in this manner. People victimized by these interventions would be reluctant to vote for those responsible for them.

We have focused on the market for foreign exchange because it is of great relevance both to agriculture and the national economy. Were we to look at governments' intervention in markets for credit or transport or the subsidized provision of fertilizers or pesticides, we would encounter similar incentives at work—incentives that

tie changes in the structure of institutions to changes in the inclination to intervene in markets.

12.6 Multivariate analysis

Emboldened by this reasoning, we return to the use of quantitative data, this time making use of multivariate methods in order to identify the relationships among institutional change, policy choice, and economic performance.

Throughout, we adopt a difference-in-difference specification. Given that the treatment, institutional change, occurred at different times in different countries, our model takes the form of a fixed-effects regression with individual year dummies:

$$Y_{it} = \alpha_{0i} + \alpha_{1i}t + \lambda_t + \delta D_{it} + X'_{it}\beta + \varepsilon_{it} \quad (12.3)$$

where Y_{it} is the growth rate of productivity in country i in year t , α_{0i} are time-invariant unobservable country effects, λ_t are year dummies, X is a vector of observed covariates, and D_{it} is a dummy equal to 1 for each country-year observation in which the government in power is one that had been chosen in competitive elections. δ is the coefficient of interest; it provides a measure of the relationship between the nature of political institutions and—depending on the context—the growth of TFP in agriculture or in the greater economy. α_{1i} is a country-specific trend coefficient multiplying the time trend t ; it provides a test of the identifying assumption of common trends implicit in difference-in-difference specifications.

We also employ a form of mediation analysis to determine whether the relationship between institutional change and changes in the rate of growth of total factor productivity runs through changes in public policies. In our analysis of the agricultural sector, we do so by estimating three linear regressions (Imai and others, 2011):

$$\begin{aligned} a) \quad Y_i &= \alpha_1 + \beta_1 T_i + X_i \varphi_1 + \varepsilon_{i1} \\ b) \quad M_i &= \alpha_2 + \beta_2 T_i + X_i \varphi_2 + \varepsilon_{i2} \end{aligned} \quad (12.4)$$

where Y is the outcome variable (agricultural TFP growth), T is the treatment variable (electoral competition), M is the mediating variable (RRA or BMP), and X is a vector of control variables. When we turn to TFP growth in the economy as a whole, we do so less formally and note whether the relationship between policy choice

and the growth of TFP responds to the introduction into the model of measures of public policy.

12.6.1 *The agricultural sector*

We turn first to the relationship between political reform and the growth of total factor productivity in agriculture. Using data from 27 countries over 46 years (1961-2007), Table 12.2 explores the relationship between political institutions and TFP growth in agriculture.

Table 12.2: Effect of Electoral Competition on Agricultural TFP Growth

	(1)	(2)
ELECOMP67	0.585**	0.544**
	(0.226)	(0.210)
Rural Pop. Share		-0.0463
		(0.199)
Civil War dummy		-0.192
		(0.168)
Avg EIEC of neighbors (t-1)		0.203
		(0.127)
Constant	-48.62	48.13
	(32.08)	(265.3)
Observations	605	605
R-squared	0.668	0.679
No. of countries	27	27
Country FE	YES	YES
Year FE	YES	YES
Country trends	YES	YES

Notes: Robust standard errors (clustered at the country level) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

12.6.1.1 *Institutions and economic performance*

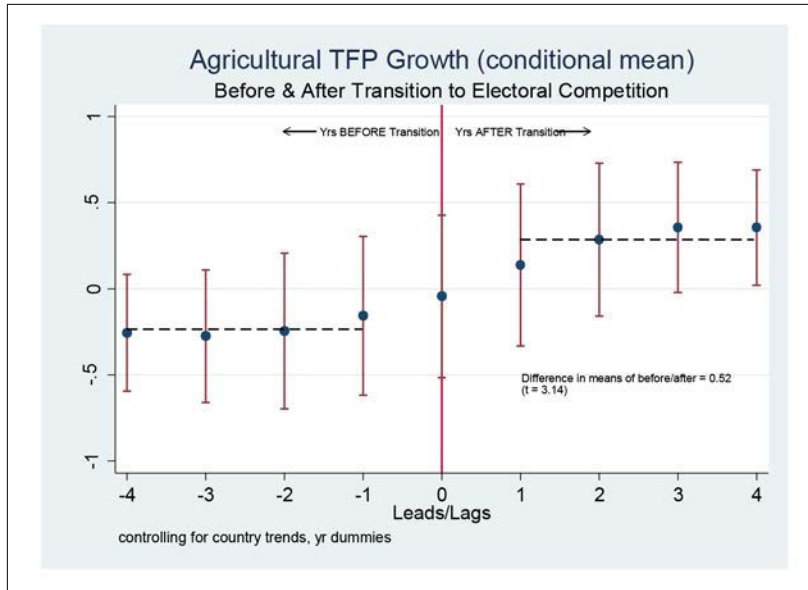
ELECOMP67 takes the value 1 when the measure of party competition registers either a 6 or a 7, i.e. its two highest values. We find that by comparison with farmers subject to authoritarian regimes, farmers in countries governed by heads of state who gained power in competitive elections exhibit significantly higher rates of total factor productivity growth. The result is robust to the inclusion of control variables:

civil conflict, the average level of electoral competition in bordering states, and rural population share. Civil conflict was endemic in late-century Africa, with 40 percent of countries experiencing at least one year of civil war between 1960 and 2000. Noting the occurrence of civil conflict enables us to control for the possibility that political competition affects TFP growth through its impact on political stability (Snyder and Mansfield, 2000). If electoral competition were to generate strong political or economic forces, then the impact of these forces could spill across political boundaries. By controlling for the lagged average of the degree of electoral competition in each country's neighbors, we control for this possibility as well. Lastly, note that the coefficient on the percentage of the population living in rural areas captures the impact of a wide range of other variables, including income, urbanization, media exposure, and others of the so-called "modernization" group of variables (Lerner, 1956). By including a measure of the relative size of the rural population, we thereby control for the impact of these unobserved variables. Inclusion of country-level fixed effects helps to control for the impact of other unobserved, time-invariant variables, such as climate, while the inclusion of annual fixed effects enables us to control for the impact of common shocks, such as price changes in global markets.

An additional threat to identification in difference-in-difference models is the possibility that the effect (agricultural TFP growth) precedes the treatment (political reform). To assess this possibility, we follow Angrist and Pischke (2009) who invoke a form of Granger causality:

$$y_{it} = \alpha_i + \lambda_t + \sum_{\tau=0}^m \delta_{-\tau} D_{i,t-\tau} + \sum_{\tau=1}^q \delta_{+\tau} D_{i,t+\tau} + X'_{it} \beta + \varepsilon_{it} \quad (12.5)$$

The model allows for m lags (post-treatment effects) and q leads (anticipatory effects). Figure 12.12 graphs the coefficient estimates of these post- and pre-treatment effects on agricultural TFP growth for $m = q = 4$ leads and the lags surrounding the year in which each country transitioned into a system of competitive elections. The results indicate no significant anticipatory effect on changes in agricultural productivity. The difference between the mean coefficients before and after political transition is 0.56 percentage points, a magnitude consistent with the estimates in Table 12.2.

Figure 12.12: Crop TFP Growth Before/After Founding Election

12.6.1.2 Political reform and policy choice

Table 12.3 captures the relationship between institutional reform and changes in the relative rate of assistance (RRA), our measure of policy bias against agriculture. Column 1 suggests a negative relationship between electoral competition and the level of urban bias,¹³ but the addition of country-specific trends in column 2 renders the coefficient insignificant.

Table 12.3: Effect of Electoral Competition on Relative Rate of Assistance, as a Function of Rural Population Share

VARIABLES	(1) FE	(2) FE	(3) FE-2SLS	(4) FE-2SLS
ELECOMP67	-0.372* (0.182)	-0.252 (0.257)	-0.501** (0.230)	-0.233 (0.243)
Elecomp x rurpopshr	0.00632** (0.00286)	0.00360 (0.00344)	0.00690** (0.00330)	0.00300 (0.00332)
POLCOMP910				
polcomp910xrurpopshr				
Rural Pop. Share	-0.00265 (0.0101)	0.00680 (0.0177)	-0.00993 (0.00758)	-0.00220 (0.0342)
Civil War dummy	-0.00268 (0.0531)	0.0142 (0.0422)	-0.0151 (0.0378)	-0.0190 (0.0354)
Under IMF Agreement	0.121*** (0.0285)	0.0501* (0.0273)	0.264* (0.156)	0.143 (0.190)
Constant	-0.0435 (0.668)	-25.57 (17.74)	0.611 (0.514)	-19.58 (33.57)
Total Effect of Electoral Competition Evaluated with Rural Population Share at:				
25 th percentile	0.014 (0.042)	-0.032 (0.056)	-0.080 (0.046)	-0.049 (0.051)
50 th percentile	0.067 (0.047)	-0.001 (0.037)	-0.021 (0.039)	-0.024 (0.036)
75 th percentile	0.137* (0.067)	0.039 (0.041)	0.055 (0.055)	0.009 (0.044)
Observations	432	432	279	279
R-squared	0.314	0.471		
Number of Countries	15	15	15	15
Country FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Country-Trends	NO	YES	NO	YES

Notes: Robust standard errors (clustered at country level) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

While the risk of reverse causality¹⁴ is minimal, we remain keenly aware of the possible impact of excluded variables. As expected, the IMF dummy enters positively and significantly in columns 1-2. There is an additional concern, however: that IMF agreements may not be randomly distributed across countries. We therefore estimate a two-stage model in which we, like others such as Easterly (2005), instrument for IMF agreements using each country's level of US military assistance and previous colonial status.¹⁵ We report the results in columns 3 and 4.¹⁶

Political reform, policy choice and economic performance

Table 12.4 closes the circle. We evaluate these relationships with the growth of TFP at the 25th, 50th, and 75th percentiles of the distribution of rural population share. While RRA fails to provide a medium through which electoral competition affects TFP growth when the share of rural population is small. But at the 75th percentile, RRA accounts for nearly 14 percent of the total effect of electoral competition on TFP growth.

**Table 12.4: Mediation Analysis (Treatment = electoral competition;
Mediating variable = RRA)**

	(1)	(2)	(3)
Dep. Var:	Ag TFP gr	RRA	Ag TFP gr
ELECOMP67	2.401** (1.107)	-0.438*** (0.158)	3.242*** (1.084)
Elecomp x rurpopshr	-0.0132 (0.0151)	0.00664*** (0.00215)	-0.0259* (0.0148)
Relative Rate of Assistance			1.917*** (0.439)
Rural Pop. Share	-0.0831** (0.0350)	-0.0176*** (0.00500)	-0.0494 (0.0346)
Civil War dummy	-0.127 (0.231)	-0.00116 (0.0329)	-0.124 (0.222)
Constant	5.569** (2.322)	0.914*** (0.331)	3.817* (2.274)
Observations	277	277	277
R-squared	0.218	0.382	0.277
Number of Countries	11	11	11
Evaluated with Rural Pop Share at:			
	<u>25th pctl</u>	<u>50th pctl</u>	<u>75th pctl</u>
Total Effect of Treatment	1.60*** (0.293)	1.49*** (0.246)	1.34*** (0.278)
Direct Effect of Treatment	1.66*** (0.283)	1.44*** (0.238)	1.16*** (0.027)
Mediation Effect	-0.065 (0.076)	0.044 (0.069)	0.185** (0.093)
Mediation Effect as Share of Total Effect	-4.0%	2.9%	13.8%

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. All specifications estimated by fixed effects and include a full set of year dummies. Robust standard errors calculated by bootstrapping (with 1,000 repetitions).

12.6.2 The greater economy

When we turn to the analysis of the greater economy, we continue to employ a difference-in-difference framework and proceed in similar fashion, first exploring the link between institutional reform and the growth of total factor productivity (Table 12.5), then turning to the relationship between institutional change and policy reform (as measured by changes in the black market premium in Table 12.6 and the level of government intervention in markets and industries in Table 12.7); and concluding by assessing the degree to which policy change in the form of regulatory reform provides a channel between institutional reforms and changes in total factor productivity, as our reasoning suggests.

12.6.2.1 Omitted variables

As when exploring the revival of Africa's agricultural sector, when exploring the resumption of total factor productivity growth in Africa's national economies we focus on the impact of institutional reforms and policy change. Clearly, other variables have influenced Africa's economic performance. To purge our estimates of the bias that may result from their impact, we introduce a series of controls.

- We include in our model measures of the economic significance of ore, fuel, and metals in exports.
- Though we have focused on the significance of institutional change, a second political factor could be significant: conflict, and specifically civil wars, whose number, intensity, and geographic spread waxed and waned over the sample period. We therefore include a dummy that takes the value 1 for each country year in which there is was civil war.
- The continent of Africa contains more than 50 countries, most of which are small. Forces that operate in one country can impinge upon events in another. We therefore control for the level of institutional reform in a nation's neighbors.
- We control as well for whether a country was participating in a program under the direction of the IMF. Given the growing importance of conditionality—which over time came to include institutional measures—the possibility arises that policy

choices and economic performance on the one hand and institutional changes on the other are related because both are joint products of IMF interventions.

- We control as well for the influence of other economic variables:
 - The structure of the population, and
 - Given the absence of irrigation and the importance of agriculture to Africa's economies, the level of rainfall.

Since the transition into a competitive electoral system is not random, these additional variables also include time-varying factors that might influence selection into “treatment.” To control for the possibility that countries might select into treatment based on time-invariant unobservables, we introduce fixed effects.¹⁷

The inclusion of these variables also enables us to evaluate alternative interpretations of Africa's economic revival. One is that the renewal of economic growth in Africa is the result of an increase in the demand for raw material in emerging markets rather than of political reform at home (Brautigam, 2010). Another is that it results from the pass-through of a “demographic bulge,” as youths now enter the work force—a phenomenon that some argue once fueled the growth of the economies of Asia (Bloom and Williamson, 1997). A third would attribute it to the return to peace in the early 21st century and the enjoyment of a “peace dividend.” The inclusion of these control variables in our estimates thus sheds additional light on the sources and sustainability of Africa's growth surge.

12.6.2.2 Additional sources of bias

Another potential source of bias in the estimates might be a reciprocal relationship between TFP growth and institutional reform. We have found it difficult to locate valid instruments¹⁸ and therefore introduce temporal lags in order to counter this source of bias. For each country we collapse the annual observations into successive periods, each consisting of a five-year average, and then lag all of the explanatory variables (except rainfall) by one five-year period.¹⁹

Additional difficulties arise when we attempt to control for the impact of the IMF, which played a major part in the programs of reform in late 20th century Africa.

Participation in an IMF program might signal a country's determination to introduce both political and economic reforms. Attempting to correct for the bias that might therefore arise, we explored the use of instrumental variables, including the level of United States military aid and an indicator of how "friendly" a country was to the United States and Europe as indicated by voting patterns in the United Nations and trade partners (Dreher and others, 2013). Judged by their Kleibergen-Paap Wald F-statistics, these instruments proved weak, however. Once again, we therefore have relied upon five-year lags to counter the introduction of bias.

A similar problem arises with respect to oil or mineral deposits. As discussed in the literature on the "resource curse," countries thus endowed both falter economically and tend to remain authoritarian in their politics (Ross, 2013; see also Haber and Menaldo, 2011). In this instance too, we were unable to find valid instruments and therefore reverted to the use of five-year lags to check against endogeneity bias.

The validity of the estimates generated by our difference-in-difference estimator depends upon an identifying assumption: that the treated and untreated observations follow a common trend. Revisiting Figure 12.5, note that the institutional reforms cluster in the mid-to-late 1990s. By estimating Equation 12.3 with a sample limited to pre-1990 data, we use this temporal clustering to search for common pre-treatment trends in TFP growth. Doing so, we fail to detect any difference in trends prior to treatment.

Lastly, bias could also result if—as suggested by Figure 12.10—the transition to electoral competition came as a result of prior declines in TFP growth. We address this possibility by re-specifying our model to include five lags of the dependent variable and applying a System-GMM estimator to annual data. The results, presented in Appendix Table 12.B, are consistent with our main results.²⁰

12.6.2.3 Analysis

We first estimate the relationship between the nature of Africa's political institutions and its total factor productivity (Table 12.5). We then explore the relationship between electoral competition and policy reform, first as measured by changes in the black market premium (Table 12.6) and then by regulatory reform (Table 12.7). Table 12.8

closes the argument by regressing productivity growth on both political reform and policy reform. To the extent that political reform affects productivity growth through its impact on policy reform, these final specifications will exhibit a reduced effect of political reform and a significant impact from policy reform.

Table 12.5: Difference-in-Difference Estimates of the Effect of Electoral Competition on TFP Growth (Panel of 5-year averages, 1960/64 – 2005/09)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	TFP Growth	TFP Growth	TFP Growth	TFP Growth	TFP Growth	TFP Growth
	Maximum sample	Largest common sample				
Electoral Comp (t-1)	0.00756*** (0.00239)	0.0109*** (0.00275)	0.0101*** (0.00312)	0.0100*** (0.00347)	0.0105*** (0.00194)	0.0114*** (0.00130)
Neibrs Elect Comp (t-2)			0.00420* (0.00235)	0.00418* (0.00240)	0.00414** (0.00159)	0.00369** (0.00160)
Civil War dummy (t-1)			-0.00135 (0.00319)	-0.00135 (0.00323)	0.00510 (0.00337)	0.00524 (0.00329)
Under IMF dum (t-1)				0.000279 (0.00330)	0.00501 (0.00392)	0.00425 (0.00374)
Trd Shr Ore/Metal (t-1)					-0.000108 (0.000159)	-0.000102 (0.000154)
Trade Shr Fuels (t-1)					0.000273*** (9.50e-05)	0.000255** (8.97e-05)
Dependency ratio (t-1)					-0.386*** (0.0865)	-0.367*** (0.0866)
Log Rainfall						0.00411 (0.00662)
Time trend	0.00345*** (0.000435)	0.00465*** (0.00103)	0.00352*** (0.000646)	0.00352*** (0.000648)	-9.10e-05 (0.00113)	2.65e-05 (0.00116)
Constant	-0.0409*** (0.00224)	-0.0537*** (0.00655)	-0.0590*** (0.00756)	-0.0591*** (0.00805)	0.149*** (0.0476)	0.112 (0.0754)
Observations	189	53	53	53	53	53
R-squared	0.553	0.812	0.845	0.845	0.912	0.913
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Countries	32	21	21	21	21	21

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

In each table, the first specification (column one) includes only the treatment variable and time trend and uses the maximum number of available observations (when additional controls are excluded). Column 2 repeats the initial specification, limiting the sample to the largest common sample available when all controls are included; this comparison tests one aspect of robustness. The remaining specifications (columns 3 – 6) progressively add to the list of covariates, first adding an indicator of civil war, then introducing a variable indicating that the country was participating in a program overseen by the IMF. Column 5 introduces controls for the shares of ores and metals and fuel in merchandise exports, along with the dependency ratio, and column 6 (when the dependent variable is TFP growth) includes rainfall. In an effort to deal with endogeneity, we lag each independent variable (except rainfall) by one five-year period.

In Table 12.5, we find that having a competitive electoral system in the previous five-year period increases the rate of growth of TFP by approximately one percentage point.²¹ There is evidence that the impact of reforms spills over national boundaries.

Table 12.6: Difference-in-Difference Estimates of the Effect of Electoral Competition on Black Market Premium (Panel of 5-year averages, 1960/64 – 2005/09)

VARIABLES	(1) Log BMP Maximum Sample	(2) Log BMP	(3) Log BMP Largest Common Sample	(4) Log BMP	(5) Log BMP
Electoral Comp (t-1)	-3.135*** (0.990)	-6.034*** (1.275)	-5.622*** (1.484)	-5.752*** (1.461)	-5.886*** (1.487)
Neibrs Elect Comp (t-2)			-2.270** (0.942)	-2.307** (0.937)	-2.378** (0.911)
Civil War dummy (t-1)			0.245 (1.742)	0.247 (1.692)	-0.346 (1.492)
Under IMF dum (t-1)				0.608 (0.877)	0.145 (0.989)
Trd Shr Ore/Metal (t-1)					-0.0407 (0.0923)
Trade Shr Fuels (t-1)					-0.0159 (0.0271)
Dependency ratio (t-1)					31.94 (40.95)
Time trend	-1.591*** (0.197)	-1.311** (0.498)	-0.693 (0.424)	-0.698 (0.418)	-0.395 (0.403)
Constant	13.07*** (1.081)	12.26*** (3.265)	15.18*** (3.795)	14.97*** (3.772)	-1.242 (23.23)
Observations	139	53	53	53	53
R-squared	0.643	0.812	0.871	0.872	0.875
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
Number of Countries	29	21	21	21	21

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In Tables 12.6 and 12.7, we explore the relationship between political reform and policy change. In Table 12.6, the dependent variable is our measure of changes in the black market premium. The relationship is negative in every estimate, suggesting that political reform was followed by the reform of macroeconomic policies.²² Here, too, we find evidence that previous electoral competition in a country's neighbors spills over to affect economic policy.

Table 12.7: Difference-in-Difference Estimates of the Effect of Electoral Competition on Regulatory Reform (Panel of 5-year averages, 1960/64 – 2005/09)

VARIABLES	(1)	(2)	(3)	(4)	(5)
	Reform Index Maximum Sample	Reform Index	Reform Index Largest Common Sample	Reform Index	Reform Index
Electoral Comp (t-1)	0.0751** (0.0365)	0.0428 (0.0250)	0.0500** (0.0197)	0.0546*** (0.0167)	0.0472** (0.0177)
Neibrs Elect Comp (t-2)			-0.0414** (0.0159)	-0.0401** (0.0157)	-0.0429** (0.0154)
Civil War dummy (t-1)			-0.00311 (0.0276)	-0.00319 (0.0291)	-0.0115 (0.0458)
Under IMF dum (t-1)				-0.0215 (0.0380)	-0.0424 (0.0507)
Trd Shr Ore/Metal (t-1)					-0.00278 (0.00269)
Trade Shr Fuels (t-1)					0.00177* (0.000956)
Dependency ratio (t-1)					0.673 (1.611)
Time trend	0.0756*** (0.00911)	0.101*** (0.00787)	0.112*** (0.00845)	0.112*** (0.00817)	0.121*** (0.0198)
Constant	-0.222*** (0.0569)	-0.405*** (0.0582)	-0.351*** (0.0625)	-0.343*** (0.0623)	-0.680 (0.923)
Observations	171	53	53	53	53
R-squared	0.764	0.885	0.901	0.902	0.909
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
Number of Countries	30	21	21	21	21

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 12.7 reports a positive relationship between institutional change and regulatory reform. We find that after countries adopt competitive electoral systems, their governments begin to dismantle regulations and controls over key markets and industries.²³

Table 12.8: Testing for the Significance of Policy Channels

VARIABLES	(1)	(2)	(3)	(4)	(5)
	TFP Growth Maximum Sample	TFP Growth	TFP Growth Largest Common Sample	TFP Growth	TFP Growth
Electoral Comp (t-1)	0.00583** (0.00267)	0.00610* (0.00307)	0.00637** (0.00292)	0.00784*** (0.00186)	0.00947*** (0.00184)
Log BMP (t-1)	-0.000661*** (0.000173)	0.000253 (0.000988)	0.000571 (0.000786)	0.000490 (0.000508)	0.000339 (0.000541)
Reform Index (t-1)	0.0261*** (0.00905)	0.0362*** (0.0121)	0.0306* (0.0157)	0.0225* (0.0121)	0.0292** (0.0122)
Neibrs Elect Comp (t-2)			0.00309 (0.00230)	0.00352** (0.00164)	0.00206 (0.00183)
Civil War dummy (t-1)			-0.00200 (0.00258)	0.00418 (0.00321)	0.00431 (0.00269)
Under IMF dum (t-1)			-0.000394 (0.00273)	0.00385 (0.00355)	0.00157 (0.00310)
Trd Shr Ore/Metal (t-1)				-2.57e-05 (0.000201)	2.43e-05 (0.000194)
Trade Shr Fuels (t-1)				0.000287** (0.000101)	0.000243*** (8.31e-05)
Dependency ratio (t-1)				-0.344*** (0.0834)	-0.281*** (0.0772)
Log Rainfall					0.0105** (0.00462)
Time Trend	0.000667 (0.000646)	0.00252*** (0.000800)	0.00221*** (0.000696)	-0.000579 (0.00141)	-0.000532 (0.00137)
Constant	-0.0270*** (0.00346)	-0.0460*** (0.00547)	-0.0529*** (0.00775)	0.128*** (0.0432)	0.0288 (0.0555)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
Number of Countries	27	21	21	21	21
Observations	149	53	53	53	53
R-squared	0.672	0.849	0.866	0.922	0.928

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 12.8 combines the treatment—political competition—and mediating policy variables into a single equation. Electoral competitiveness retains its positive significant effect on TFP growth across all specifications. Comparing the point estimates for electoral competitiveness for each specification in Tables 12.5 and 12.8 (e.g., respectively without and with the two mediating variables) suggests that approximately 30 percent of the impact of electoral competitiveness on TFP growth operates through policy channels.²⁴ The evidence for the black market premium, however, is merely suggestive as it retains its previous effect only with the maximal sample.

Table 12.9: Effect of Electoral Competition on Accumulation of Physical and Human Capital (Panel of 5-year averages, 1960/64 – 2005/09)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Growth of Physical Capital per cap	Growth of Physical Capital per cap	Growth of Physical Capital per cap	Growth of Human Capital per cap	Growth of Human Capital per cap	Growth of Human Capital per cap
Electoral Comp (t-1)	-0.00105 (0.0168)	0.0264 (0.0330)	0.0176 (0.0402)	0.00396* (0.00225)	0.00735* (0.00358)	0.00933*** (0.00302)
Log BMP (t-1)			-0.00503 (0.0108)			-0.00144* (0.000727)
Reform Index (t-1)			0.0460 (0.151)			0.00997 (0.0142)
Neibrs Elect Comp (t-2)			0.00274 (0.0149)			-0.00259 (0.00194)
Civil War dum (t-1)			-0.0258 (0.0388)			0.000643 (0.00253)
Under IMF dum (t-1)			-0.0726 (0.0523)			-0.00508* (0.00293)
Trd Shr Ore/Metal (t-1)			0.000648 (0.00249)			0.000198 (0.000234)
Trd Shr Fuels (t-1)			-0.000215 (0.000789)			-6.56e-05 (8.23e-05)
Dependency Ratio (t-1)			2.959** (1.391)			0.324** (0.118)
Log Rainfall			-0.0206 (0.0669)			0.0169* (0.00894)
Time Trend	0.00344 (0.00331)	-0.0107 (0.0131)	0.0145 (0.0101)	-0.00116** (0.000554)	-0.00322** (0.00139)	-0.00141 (0.00156)
Constant	-0.00117 (0.0200)	0.0818 (0.0857)	-1.359 (1.060)	0.0172*** (0.00340)	0.0306*** (0.00919)	-0.246** (0.111)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	189	53	53	189	53	53
R-squared	0.017	0.044	0.310	0.089	0.270	0.486
Number of Countries	32	21	21	32	21	21

Notes: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

In closing, note that Table 12.9 indicates that political reform plays no role in driving the accumulation of physical capital per capita but does increase the accumulation of human capital, perhaps reflecting improved incentives for self-investment in education (columns 4-6). The effect of political reform on the accumulation of human capital, however, is only half as large as the effect of political reform on growth, as channeled changes in the rate of growth of TFP.²⁵ We therefore have further justification for our focus on TFP growth as the critical driver of economic growth in contemporary Africa and the role of institutional change in contributing to it.²⁶

12.7 Conclusion

We too are cheered by Africa's recent economic resurgence, and in this article we have sought to account for this resurgence. In doing so, we have focused on the role of institutions. Throughout much of Africa, self-selected governments that gained power as a result of military coups, or were installed by a party that could not legally be opposed, have given way to governments that rule because they have received a majority of the votes in a competitive election. In addition, governments less frequently intervene in markets and economic incentives appear to elicit the more efficient use of land, labor, and capital in Africa's economies. We have argued that the changes in the nature of Africa's politics produced changes in government policies, with the result that producers made more efficient use of labor and capital. While our analysis leaves much of the growth of Africa's economies unexplained, the relationship between the reform of institutions and the revival of growth emerges as one of our most robust findings.

If confirmed, our analysis is of obvious importance to policymakers, to humanitarians, and, above all, to those who live in Africa. Our findings are also significant to scholars, for they cut to the core of contemporary theorizing in the study of development. North (1990), Acemoglu and Robinson (2012), and Harriss and others (1995) argue that differences in institutions correlate with differences in economic performance, both historically and in the contemporary world, and that institutions that impose checks upon the power of political rulers reduce the level of risk. When institutions constrain those who govern, they then limit the use of power for purposes of predation. They provide a setting in which those who seek to prosper can

remain secure and so encourage those with capital to invest and entrepreneurs to find ways to elicit more output from the inputs they possess. Insofar as we have identified a plausibly causal relationship between the changes in Africa's political institutions and the growth of total factor productivity, we have found evidence in support of these arguments.

We conclude by addressing a last question: How comprehensive and enduring does Africa's growth appear to be? By way of response, note the coefficients on the dependency ratio. While some, such as Young (2012), point to the "demographic dividend" that Africa might accrue as a result of an earlier decline in mortality rates, recent reports highlight the persistence of high birth rates and therefore the persistence of high dependency ratios (Guengant and May, 2013). Our results confirm the negative impact of high dependency ratios on increases in per capita incomes. They also suggest (subject to the effect of possible measurement error) a positive impact of petroleum exports on Africa's growth rate, but with the slowing growth of emerging markets and the increase in the domestic production of energy in North America, the impact of such exports is likely to decline. Lastly, note the significant relationship between rainfall and growth in Africa's economies—reminding us of the continuing importance of the agricultural sector and that while Africa's economies may be growing, their structure has yet to be transformed.

Given the results of our analysis, moreover, it is particularly sobering to view our core finding in light of political trends in Africa. For several years, Freedom House has decried the decline in the quality of political and civil rights on the continent. As stated in its report for 2010:

2009 marked the fourth consecutive year in which global freedom suffered a decline—the longest consecutive period of setbacks for freedom in the nearly 40-year history of the report. These declines were most pronounced in Sub-Saharan Africa.

As captured in Figure 12.13, according to Freedom House in 2012, a larger percentage of the states in Africa than in the world as a whole moved to lower levels of political and civil liberties and a smaller percentage ascended to higher levels.

Figure 12.13: Changes in Political Rights and Civil Liberties, Africa and the World

Worth mentioning too are the data compiled by Daniel Posner on term limits in Africa. When competitive elections were introduced in the period of political reform, term limits were adopted in 33 African states. As of 2014, the limits had not been reached in nine of these states, but in eleven of the remaining twenty-four states (46 percent), the chief executive and his supporters sought to abolish them, and in eight (33 percent), they succeeded in doing so. Powerful forces are at play in Africa that seek to reverse the political reforms of the 1980s. If our analysis is correct, this political reversal could be economically costly.

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Appendix Table 12.A: Data Definitions and Sources

Variable	Obs	Mean	Std. Dev.	Min	Max	Source
Electoral Competition dummy	245	0.473	0.500	0.000	1.000	=1 if EIEC \geq 6. Database of Political Institutions; Beck, Clarke et al (2001)
Neighbors' Avg. Electoral Competition	245	3.941	1.487	2.000	7.000	
Civil War dummy	245	0.159	0.367	0.000	1.000	Sambanis and Doyle (2006)
Under IMF Agreement	245	0.686	0.465	0.000	1.000	Vreeland
Ores/Metals Shr Merchandise Exports	245	17.554	25.345	0.000	98.302	World Development Indicators
Fuel Shr Merchandise Exports	245	10.173	18.910	0.000	94.389	World Development Indicators
Dependency Ratio	245	0.483	0.025	0.377	0.530	World Development Indicators
log Rainfall (annual)	245	6.906	0.399	5.407	7.883	Jefferson & O'Connell (2004)
TFP Growth	245	-0.015	0.006	-0.030	-0.003	calculated by authors
GDP Growth per Worker	245	-0.002	0.049	-0.159	0.172	calculated from Penn World Tables 8.0
Growth of Capital Stock Per Worker	245	0.011	0.066	-0.513	0.188	calculated from Penn World Tables 8.1
Growth of Human Capital Per Worker	245	0.011	0.007	-0.012	0.030	calculated from Penn World Tables 8.2
Agricultural Output	2130	976,517	244,7993	25.29	3.31x10	Block (2014a)
Agricultural TFP Growth Rate	1494	0.614	2.117	-7.694	8.247	Block (2014a)

Appendix Table 12.B: System-GMM estimates of Equation (12.3) incorporating multiple lags of dependent variable (TFP growth)**Difference-in-Difference Estimates of Effect of Electoral Competition on TFP Growth (System-GMM estimator using annual observations)**

VARIABLES	(1) TFP Growth	(2) TFP Growth	(3) TFP Growth	(4) TFP Growth	(5) TFP Growth
TFP Growth (t-1)	1.612*** (0.0211)	1.268*** (0.0471)	1.163*** (0.0511)	1.211*** (0.0501)	1.173*** (0.0565)
TFP Growth (t-2)	-0.678*** (0.0400)	-0.391*** (0.0777)	-0.341*** (0.0814)	-0.383*** (0.0807)	-0.362*** (0.0885)
TFP Growth (t-3)	0.199*** (0.0424)	0.212** (0.0845)	0.303*** (0.0875)	0.308*** (0.0885)	0.349*** (0.0986)
TFP Growth (t-4)	-0.416*** (0.0400)	-0.245*** (0.0941)	-0.484*** (0.0980)	-0.485*** (0.0985)	-0.517*** (0.107)
TFP Growth (t-5)	0.246*** (0.0207)	0.0532 (0.0553)	0.232*** (0.0602)	0.234*** (0.0592)	0.234*** (0.0640)
Electoral Comp ^a (t-1)	0.000455*** (0.000143)	0.00174*** (0.000387)	0.00130*** (0.000415)	0.00121*** (0.000388)	0.000930** (0.000423)
Under IMF ^b (t-1)				-0.000456* (0.000252)	-0.000490* (0.000284)
Neibrs Elect Comp (t-2)			0.000743*** (0.000161)	0.000654*** (0.000144)	0.000530*** (0.000166)
Civil War (t-1)			-0.000475 (0.000469)	-0.000737* (0.000379)	-0.000710* (0.000417)
Ore/Metal Shr Mrch Expt (t-1)			-1.70e-05 (1.54e-05)	-1.56e-05 (9.78e-06)	-1.55e-05 (1.09e-05)
Fuels Shr Mrch Expt (t-1)			-1.73e-05 (1.23e-05)	-4.16e-06 (8.89e-06)	4.73e-06 (1.03e-05)
Dependency Ratio (t-1)			-0.0527*** (0.0119)	-0.0282*** (0.00885)	-0.0245** (0.00983)
Reform Index (t-1)					0.00394*** (0.00131)
Log Black Mkt Prm (t-1)					2.71e-05 (5.52e-05)
year	6.27e-05*** (4.94e-06)	-5.79e-06 (1.98e-05)	-0.000117*** (2.68e-05)	-7.32e-05*** (2.36e-05)	-9.26e-05*** (3.43e-05)
Constant	-0.125*** (0.00983)	0.00967 (0.0393)	0.254*** (0.0560)	0.156*** (0.0487)	0.192*** (0.0694)
Observations	1,135	248	248	248	248
Number of Countries	32	25	25	25	25

^aTreated as a predetermined variable. ^bTreated as an endogenous variable.

Endnotes

- ¹ Conventionally dated at 1960.
- ² Crop TFP growth results are from Block (2014a), which covers 27 countries of Sub-Saharan Africa from 1960 – 2008.
- ³ Yet most of the growth in Africa's agricultural output over these decades resulted from expanding the area under cultivation. See World Bank (2007).
- ⁴ Growth accounting results are from Block (2014b) and UNECA (2014).
- ⁵ See the reports of the International Coffee Organization.
- ⁶ Much of the material in the next several paragraphs comes from Bates (2008a).
- ⁷ See Bates and others (1996) and Beck and others (2001).
- ⁸ As the dot indicates, a derivative with respect to time is the growth rate of capital per worker and is the growth rate of human capital and is the growth rate of total factor productivity.
- ⁹ This equation underpins the identification of the sources of growth in output per capita.
- ¹⁰ The before/after analyses in panel A of Figures 12.7 and 12.8 are estimated based on Equation 12.5.
- ¹¹ This is the result of Engels' law, which holds that as income rises, the proportion of income spent on food declines; the income elasticity of food consumption is less than unity. From this micro-level regularity a macro-level implication follows: that economic development implies structural change (Kuznets, 1966; Chenery and Taylor, 1968; Anderson and Hayami, 1986; Lindert, 1991; Matsuyama, 1992). When people are poor, a large percentage of their total expenditure will be devoted to food; absent foreign trade and significant economies of scale in farming, the rural sector therefore will be large. But when people earn higher incomes, the percentage spent on food will be less and, absent a comparative advantage in global markets, the rural sector will then comprise a smaller portion of the economy.
- ¹² While producing nothing.
- ¹³ Recall that positive changes in RRA indicate *less* urban bias, that is, more favorable policies toward agriculture.
- ¹⁴ In the sense that RRA would cause electoral competitiveness.
- ¹⁵ Easterly (2005) argues that US military assistance is indicative of the recipient being a "friend of the donor," and thus a correlate of IMF agreements, while not affecting (in our case) agricultural price policy via any other channel. The F-tests of excluded instruments on 2SLS versions of the regressions on columns 7 and 8 are 8.6, suggesting the possibility of weak instruments. This is of secondary concern, as our primary focus is on the effect of electoral competition, rather than on the specific effect of IMF agreements.
- ¹⁶ Including country-specific time trends in columns 2 and 4 reduces the precision of our estimates. This may raise questions regarding our identifying assumptions, but it may also simply result from the loss of degrees of freedom.
- ¹⁷ From an econometric perspective, then, our claim is that, based on these control variables, selection into electoral competition is conditionally independent.
- ¹⁸ Those that come to mind, such as settler mortality, whose relationship to political institutions is by now well known, are often non-time varying, and so not useful in this panel setting.
- ¹⁹ Averaging offers the additional advantage of smoothing out the year-to-year data, eliminating "noise."
- ²⁰ Acemoglu and others (2014) find a similar possibility in examining the effect of democracy on growth in a broader cross-section of countries. They, similarly, address this problem by incorporating multiple lags of their dependent variable in a System-GMM estimation.

- ²¹ In Tables 12.5 – 12.8, we begin with the “maximal” sample (e.g., using all available observations for the most restricted of our specifications), and then re-estimate the initial specification (and all subsequent specifications) with the largest sample available for our least restricted specification.
- ²² In these estimates, the magnitude of the point estimates is sensitive to the sample of countries included, with a significantly smaller effect in the largest sample. Sign and significance, however, do not change across these samples.
- ²³ It is not clear, however, why previous electoral competition among the neighbors would negatively affect regulatory reform, as indicated in columns 3 – 5 of Table 12.7.
- ²⁴ That is, comparing like specifications between Tables 12.5 and 12.8, the average reduction in the point estimates for electoral competition when policy and regulatory reform are included is just greater than 30 percent.
- ²⁵ Note that in our growth accounting framework, the growth contributions of an increase in human capital are multiplied by 0.55, which is the production elasticity of human capital in the aggregate production function.
- ²⁶ As an additional check on the robustness of our difference-in-difference specifications, we also introduced country-specific time trends into the models in each of the preceding tables. Our core results remained unaffected but the estimates for electoral competition in Table 12.7 lost statistical significance (raising questions about identification, but also perhaps an effect of reduced degrees of freedom). The results in Table 12.8 were unchanged for the larger sample, and the effect of electoral competition on human capital (Table 12.9) also lost significance. This final point underscores our focus on TFP growth.

13. Evidence-based Reflections on Natural Resource Governance and Corruption in Africa

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13.1 Introduction

In this contribution I provide a comparative empirical perspective regarding governance in Africa, with a particular focus on the challenges in managing natural resources. At the outset I note that this perspective is selective, thus not exhaustive, and that obviously serious challenges in national governance prevail in countries in every region of the world, not just Africa. Further, there is significant variation in the quality of governance across countries within each continent, Africa included. Even within each country there is significant diversity across institutions and, in larger economies, across regions and cities.

The perspective here is empirical in that it is evidence-based, reviewing some relevant indicators across time and space, and this perspective includes the nexus between political, economic, and institutional dimensions of governance. An illustration of this link is the particular issue of state capture (Kaufmann, 2012)—undue influence by the private sector in shaping the policies, laws, and regulations in a country—which is related to the phenomenon of “legal corruption” (Kaufmann and Vicente, 2011). As a growing number of countries have formal elections, the ways

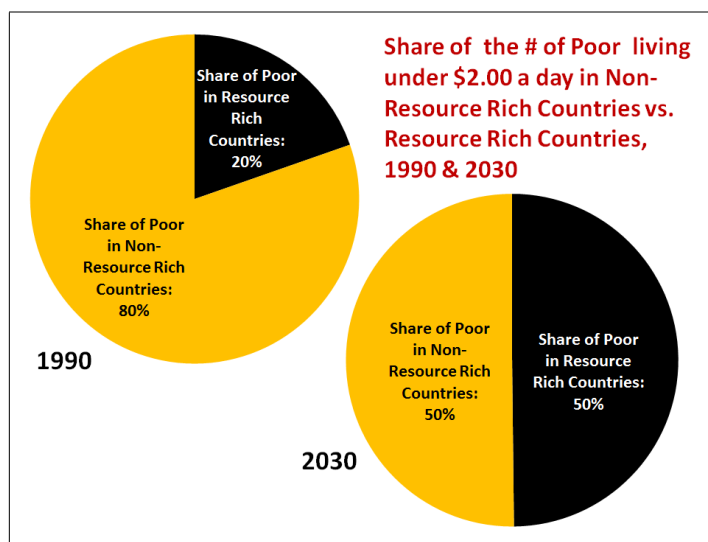
*Eric Li provided valuable research assistance.

political and electoral finance have evolved is associated with these forms of capture and corruption.

In the past we have studied the challenge of state capture (and legal corruption) in advanced, transition, emerging, and developing economies. Politics clearly emerge in this work in general, and also more specifically in countries rich in natural resources—particularly oil but also gas, metals, and minerals. State capture has been associated with the so-called “resource curse,” although, as indicated below, the notion of a curse is misleading because the nefarious consequences of resource riches are not predetermined: good governance is possible, as demonstrated by some resource-rich countries.

Unfortunately, the sobering reality is that most resource-intensive countries face major deficits in governance, and that in those countries the poor are not benefitting from resource wealth with inclusiveness, and social progress has been impaired. As we observe in Figure 13.1, in 1990 only about 20 percent of the world’s poor were living in resource-rich countries. If current trends continue (that is, unless institutions and governance improve), by 2030 half the world’s poor will live in resource-rich countries as currently classified.¹ In fact, the numbers of people living below the poverty line in resource-rich countries have not declined—they continue to hover at about 1 billion people worldwide—and they are not expected to decline in the next 15 years unless governance improves. This pattern contrasts sharply with the past and expected trends in countries that are not rich in natural resources, where the decline in poverty has been dramatic and is expected to continue.

Figure 13.1: Share of the Poor Living Under US\$2 a Day, 1990 and 2030 (projected, assuming current trends)

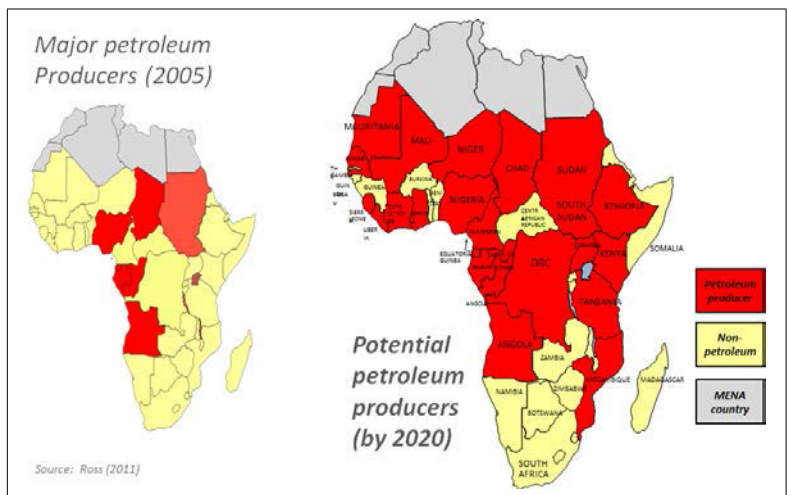


Source: Brookings Poverty database and estimations.

The challenge of poverty reduction for Africa is dire; much of the needed progress is still pending in this resource-rich continent. Much of the international development focus on Africa has centered on the magnitude and effectiveness of aid. But total official aid inflows, net of loan repayments, to Sub-Saharan Africa are only about US\$30 billion a year. Contrast that with the resource rents merely from oil and gas in Sub-Saharan Africa, which have totaled about US\$400 billion a year and have often been mismanaged.

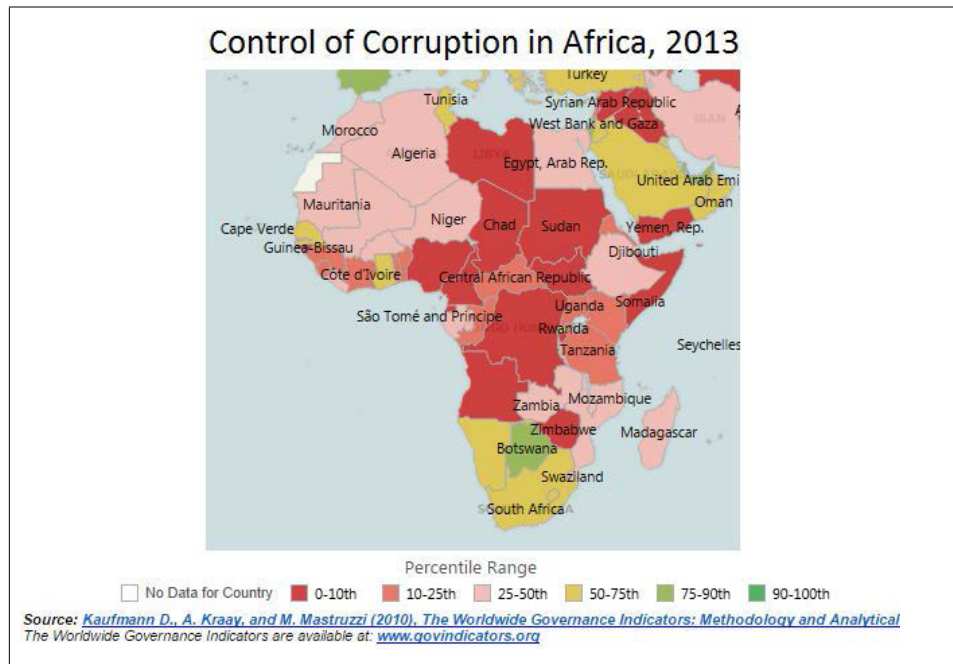
Oil, gas, and mining have gained in importance in Africa's economic development and, as we see in Figure 13.2 for the case of oil, are expected to become even more prominent. In fact, all but a very few of Sub-Saharan African countries are either resource-rich or prospectively so, given recent exploration and discoveries.

Figure 13.2: Actual and Prospective Petroleum Producers, Sub-Saharan Africa



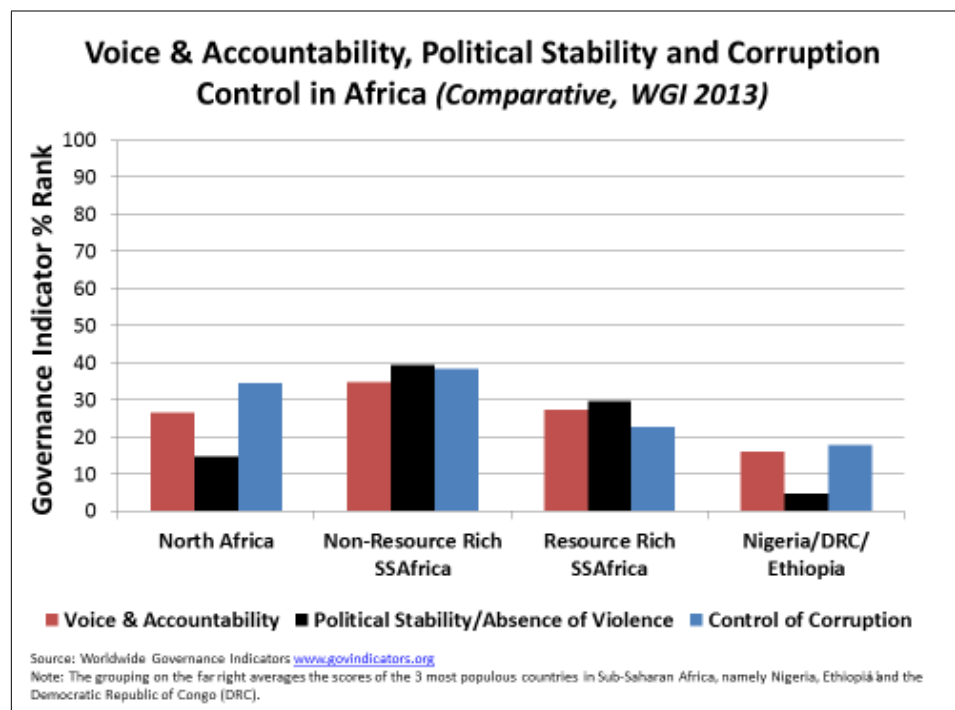
13.2 Empirics and challenges of governance in natural resources

For assessing the quality of management of natural resources in any country, understanding the broader governance environment at the national level is critical. The evidence is clear that the overall governance challenge in Africa is also dire, generally speaking. Yet it is important to focus on the specifics and the variations across countries and components. First, Figure 13.3 depicts a governance map showing the control of corruption in Africa. Data are drawn from the most recent measured year in the Worldwide Governance Indicators (WGI).² In this dimension of governance –corruption--, many countries rate poorly and are depicted in red in the figure; others exhibit serious challenges in corruption (pink), while a few face lesser challenges (yellow). Botswana performs rather well.

Figure 13.3: Control of Corruption in Africa, 2013

The challenge of national governance is also evident when focusing on other components of the WGI, such as voice and accountability (which include political and media freedoms as well as civil liberties) and political stability/absence of violence. Alongside the indicator for control of corruption, these components are depicted in Figure 13.4. The juxtaposition not only suggests the overall extent of the challenge across the various indicators in Africa, but also points to some differences: resource-rich countries perform worse than other countries, and within resource-rich countries, the largest countries in terms of population, namely Nigeria, Ethiopia, and the Democratic Republic of Congo—which together account for almost 40 percent of the population in Sub-Saharan Africa—face acute governance challenges.

Figure 13.4

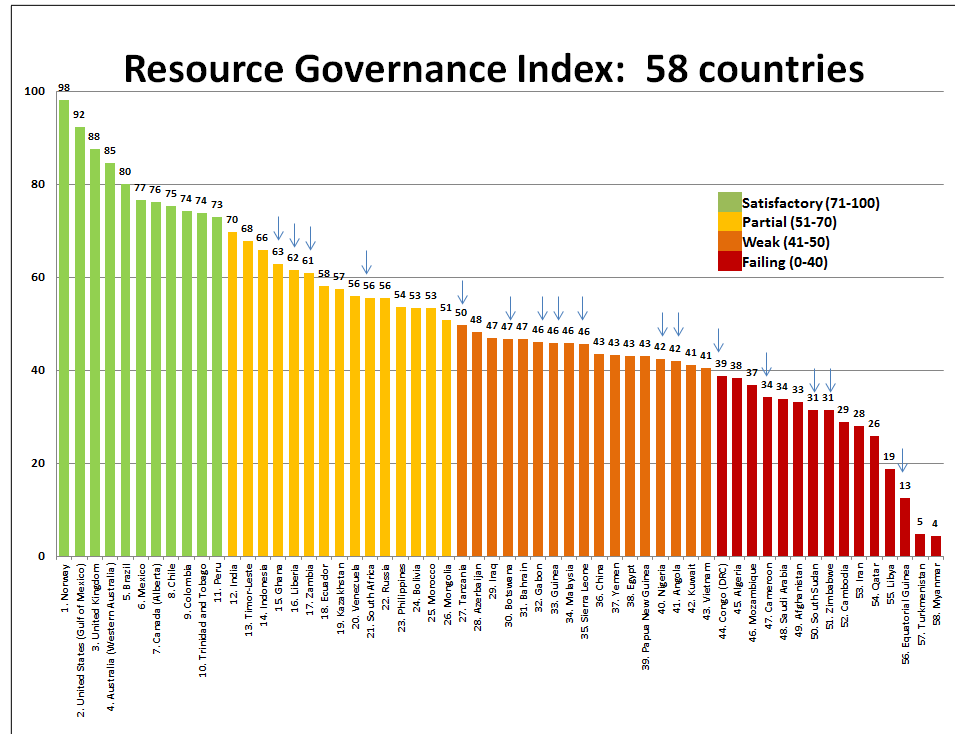


Other governance components, such as the quality of rule of law and regulations, show some similar patterns for the countries in the continent. There is a literature about the links between natural resource riches and poor governance (Ross, 2012). Natural resource rents are generated by a very concentrated product—oil, gas, or minerals—that is a magnet for capture. Its concentrated riches provide a disincentive to regular political transitions. Some modicum of autocratic stability is abetted by incumbents buying support and placating their opponents by distributing resource rents. This has major implications for politically induced distribution, as well as for accountability, because often the opposition is silenced through this buyout financed by the largesse of natural resources.

Several other links between natural resource wealth and governance have been highlighted. A government's reliance on extracted revenues as opposed to taxes has an enormous impact on public accountability and government effectiveness. Another major challenge for governance arises from the instability of natural resource revenues. More generally, resource intensity often discourages investment in diversification of production and of exports, causing the so-called Dutch disease (Corden, 1984).

Yet generally it is important to underscore that the prevalence and manifestations of these challenges vary from country to country. Some countries have managed to successfully address or bypass them.

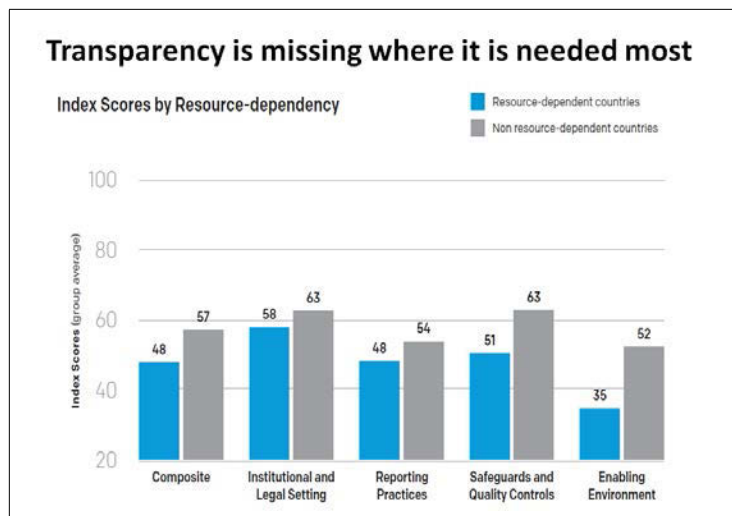
Figure 13.5: Resource Governance Index: 58 Countries



The RGI covers 58 countries that are particularly relevant to a discussion of governance and natural resources, and focuses on dimensions of transparency and accountability, drawing from scores of different variables that have been gathered using in-depth questionnaires answered by experts. We note that there is very high variance among these 58 countries, which include 16 in Sub-Saharan Africa, denoted by arrows in Figure 13.5. First, the figure makes clear that in general there is a governance deficit regarding transparency and accountability in natural resources: only 20 percent of the countries covered by the Index perform satisfactorily. It is noteworthy, however that there *is* such a set of countries to show what is possible, and that among them are some emerging countries: having satisfactory performance is not the exclusive domain of richer countries.

Neither do all wealthy countries perform satisfactorily. Some indeed, particularly the Gulf countries, are not managing their natural resources in the most transparent and accountable manner. And many emerging and developing countries exhibit poor governance in natural resources. This is particularly true of the more resource-dependent countries (Figure 13.6)—which arguably need good governance the most.

Figure 13.6: Transparency is Missing Where It Is Most Needed



For a more thorough diagnostic that is useful for decision makers in a country, it is important to drill down beyond aggregates and composites. The RGI permits this by focusing on key components of transparency and accountability in extractive industries and on specific variables within each component:

The actual disclosure of information by government agencies (i.e. Reporting Practices) is the direct indicator of transparency in practice.

Institutional and Legal Setting is the degree to which laws, regulations, and institutional arrangements facilitate transparency, accountability and open/fair competition.

Safeguards and Quality Controls indicate the presence and quality of checks and oversight mechanisms that encourage integrity and guard against conflicts of interest.

Enabling Environment looks at the broader governance environment on measures of accountability, government effectiveness, rule of law, corruption, and democracy.

Focusing on these specifics reveals that even countries that on average face enormous challenges can make progress, and have done so. This can be seen from Figure 13.7, where many countries have rather different values (colors) across different components of the index, and also from the country illustration for Guinea in Figure 13.8.

Figure 13.7: Resource Governance Index for 58 Countries

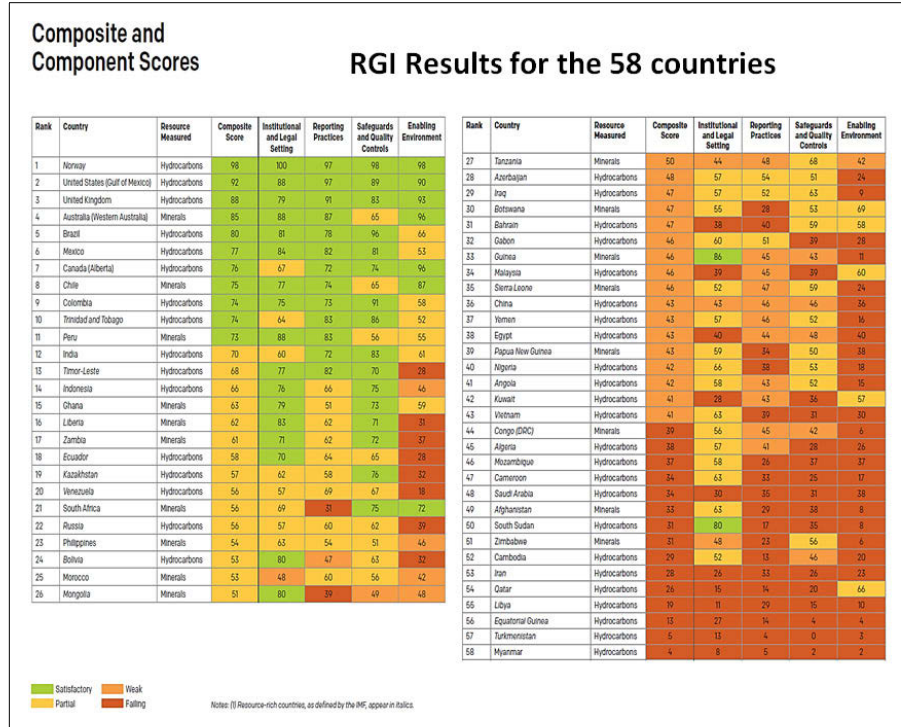
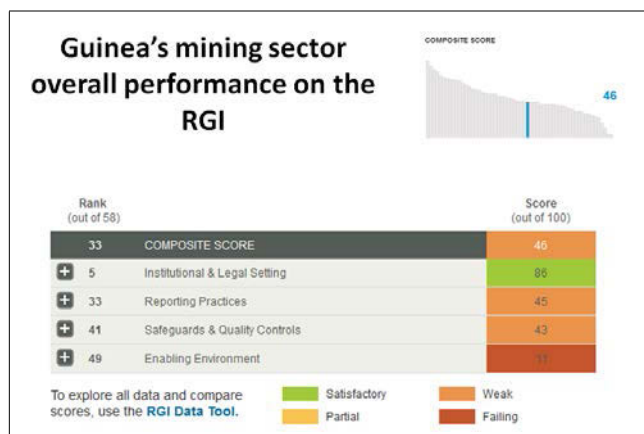


Figure 13.8: Resource Governance Index for Guinea



Guinea's mining sector				
	Institutional & Legal Setting (20%)	Reporting Practices (40%)	Safeguards & Quality Controls (20%)	Enabling Environment (20%)
	Indicator	Indicator	Indicator	Indicator
1	Freedom of information law	1 Licensing process	1 Checks on licensing process	1 Accountability & democracy (EIU Democracy Index & WGI voice and accountability)
2	Comprehensive sector legislation	2 Contracts	2 Checks on budgetary process	2 Open Budget (IBP Index)
3	EITI participation	3 Environmental and social impact assessments	3 Quality of government reports	3 Government effectiveness (WGI)
4	Independent licensing process	4 Exploration data	4 Government disclosure of conflicts of interest	4 Rule of law (WGI)
5	Environmental and social impact assessments required	5 Production volumes		5 Corruption (TI Corruption Perceptions Index & WGI control of corruption)
6	Clarity in revenue collection	6 Production value		
7	Comprehensive public sector balance	7 Primary sources of revenue		
		8 Secondary sources of revenue		
		9 Subsidies		
		10 Operating company names		

By 2012, Guinea had made significant progress in building and strengthening its institutions and legal framework, but that is yet to be translated into other components of transparency and accountability. And Guinea's broader enabling environment, captured in the fourth RGI component and covering overall issues of rule of law, corruption, and government effectiveness, points to major pending challenges. The further specifics by subcomponent of the Index point to further achievements and challenges. For instance, in the case of contracts, at the time the data were gathered for the Index (in 2012), Guinea was not performing well in terms of disclosure,

hence the red color rating shown in Figure 13.8. Since then, however, Guinea has released more information and is now more transparent.

13.3 A holistic approach to assessing governance in extractives: the Natural Resource Charter

To comprehensively assess and advise on natural resource governance, a thorough approach and tool has been developed: the Natural Resource Charter (NRC)³, a set of principles to guide governments' and societies' use of natural resources so these economic opportunities result in maximum and sustained returns for a country's citizens. The Charter outlines tools and policy options for governments and civil society in order to avoid the mismanagement of diminishing natural riches, and ensure their ongoing benefits. The key governance and accountability dimensions are integrated into the technocratic economic decision-making stages along the chain, from the decision to extract until investment in development, as summarized in Figure 13.9.

Figure 13.9: Key Stages of the Natural Resource Charter

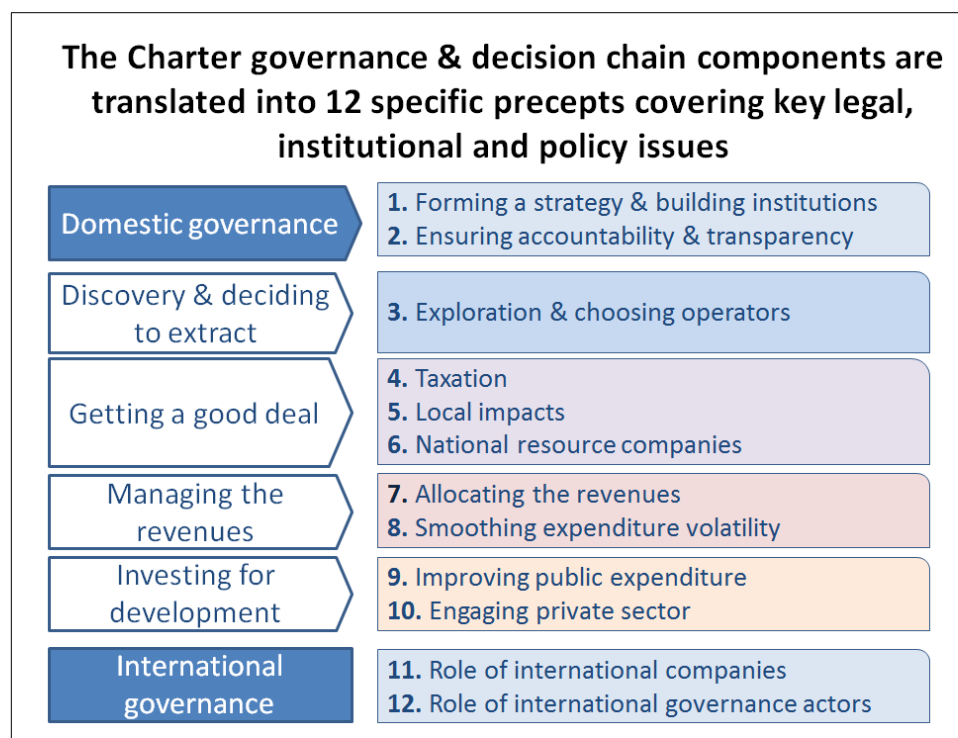


The Charter looks at the whole value and decision chain. In essence, one has to look at key decision making from a policy standpoint: from the initial discovery of resources and the decision to extract, then to getting a good deal, then to managing natural resource revenues, and finally to investing for sustainable development. That is the technocratic decision-making chain, for which effective policymaking and

effective economic decisions are crucial and which has to be overlain by a government framework. Domestic governance issues are crucial in terms of accountability, transparency, and civil society participation by NGOs, think tanks, academics, and so on. This is in addition to the whole international governance framework.

These overarching stages are then unbundled into a set of twelve specific precepts covering in depth the key governance and policymaking aspects in the extractives chain. They are spelled out in Figure 13.10.

Figure 13.10: Natural Resource Charter: Governance and Decision Chain Precepts



We see the progression of these precepts along the decision-making chain, starting with the first one, focusing on forming a strategy and ensuring accountability and transparency, which pertains to the issue of governance. It moves on to public finance issues like taxation, local impact, issues involving national resource companies, allocating revenue, managing volatility, and public expenditure, and finishes with the very important role of international companies and international governance actors.

This intellectual framework has been adapted into a benchmarking (or diagnostic) framework that is being applied in a number of countries including Tanzania, where the government is implementing it.

13.4 Corruption matters

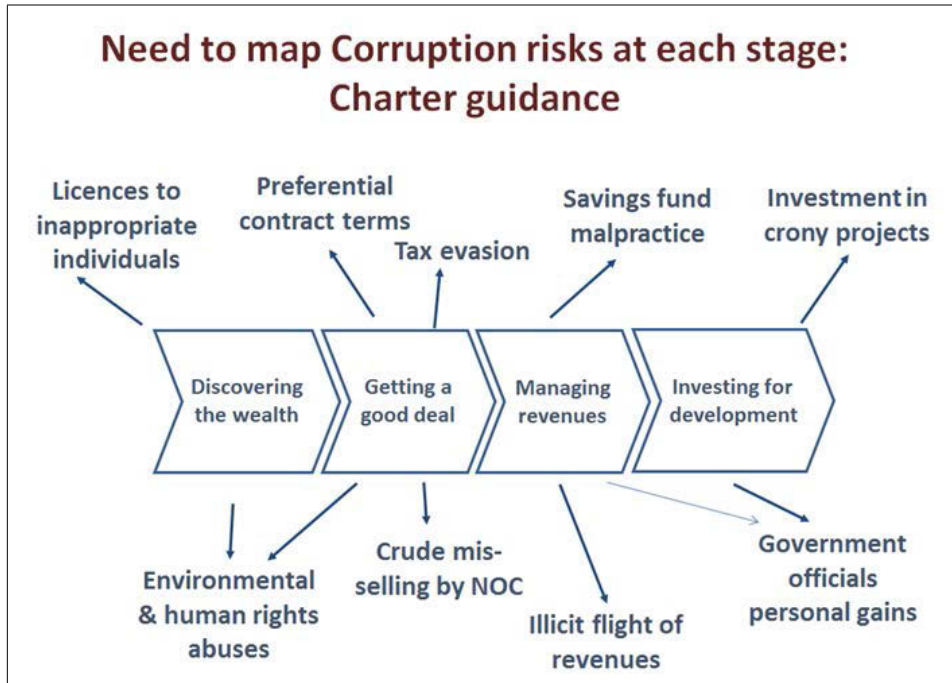
In contrast with a few decades ago, writing about corruption, and measuring it, have ceased to be taboo or fringe undertakings subject to major sensitivities. Awareness of the challenge of corruption has increased significantly, supported by the efforts by many organizations including the international NGO, Transparency International. Yet, when it comes to the complex politics of implementing strategies and programs that address corruption in a country, much progress has yet to be made.

Much also needs to be done to find rigorous ways of analyzing corruption and its main determinants in a country, and to translate such analysis into a coherent strategy and action program that addresses the institutional failures and key factors behind corruption. This challenge starts from the recognition that corruption is largely a (costly) symptom of underlying weaknesses in governance and institutions, which one has to understand in depth.

The pending analytical and strategic challenge of corruption is evident in the case of natural resources. For the extractives sector, the Charter in principle offers an overall framework that could help a country make inroads in controlling corruption, but specific work lies ahead to rigorously specify the different manifestations of corruption and the types of vulnerabilities and determinants that prevail at every stage of the natural resource value and decision chain.

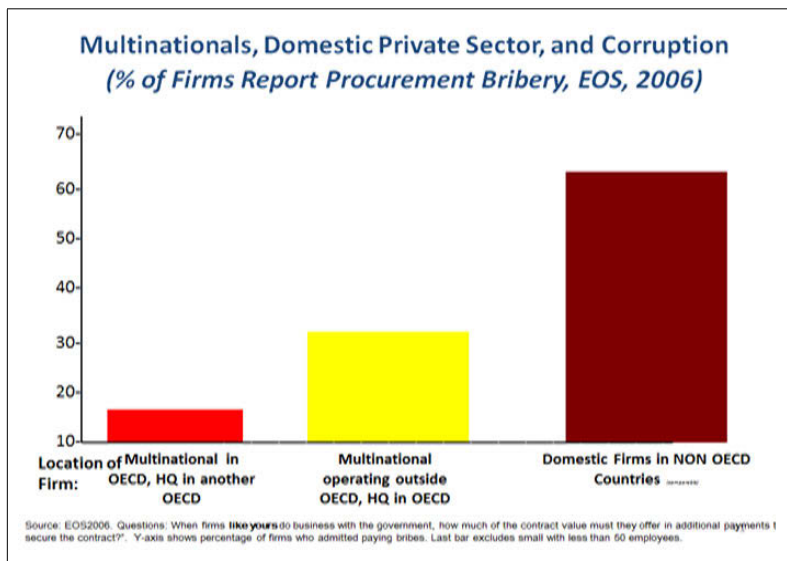
Figure 13.11 points to the myriad manifestations of corruption and illustrates how some key points of vulnerability to corruption can be mapped into the Charter decision chain. In analyzing corruption vulnerability in a specific country, each type of vulnerability to corruption would need to be associated with particular institutional factors and key actors, and would imply different action programs.

Figure 13.11: Mapping Corruption Vulnerabilities in the Extractives Chain



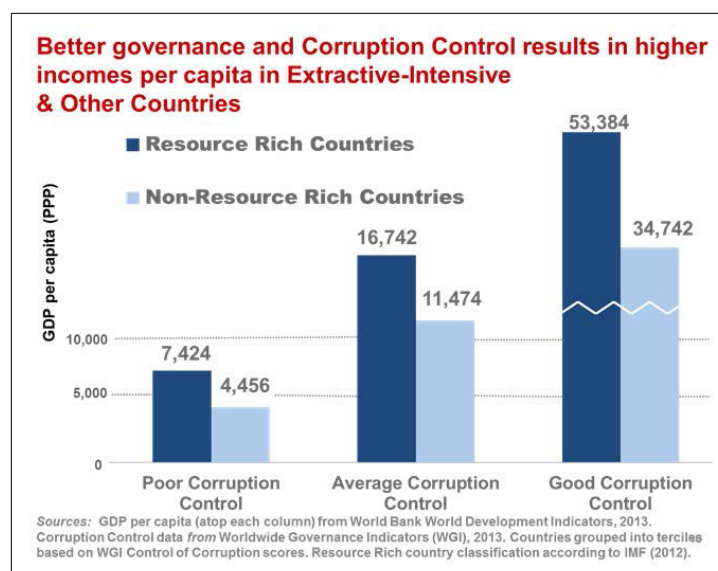
It is also important to consider the transnational dimension of bribery and corruption, and thus the fact that many multinational companies still engage in corrupt practices abroad (Figure 13.12). There is evidence (OECD, 2014) suggesting that such bribery from companies to public officials may be particularly prevalent in natural resources.

Figure 13.12: Bribery and Corruption in Procurement



The evidence is clear that improved governance and anti-corruption measures are associated with significant development gains; our past research suggests that on average worldwide, a 1-standard deviation improvement in governance (such as corruption control and rule of law) is causally linked to a three-fold increase in a country's per capita income in the long term. As Figure 13.13 shows, these large orders of magnitude are no smaller in resource-rich countries: if anything, the “development dividend” from improved governance may be even larger for countries that are rich in extractives. In other words, from the perspective of development, being awash in natural resources is not a substitute for good governance.

Figure 13.13: Governance and Per Capita Income Growth



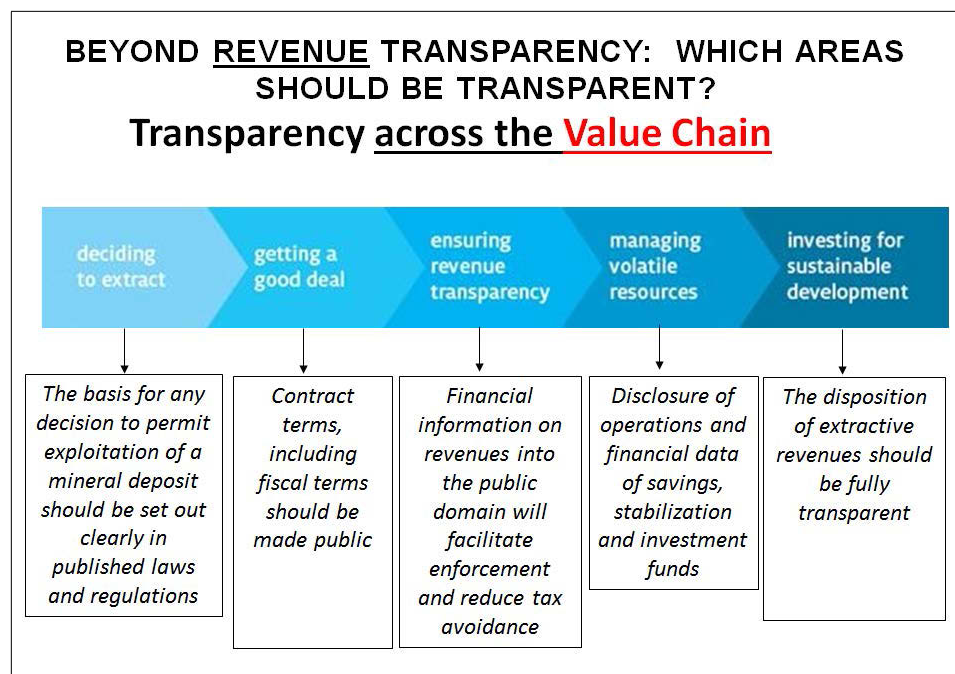
13.5 Transparency and beyond

In addressing corruption—and more generally enhancing accountability and governance—in natural resources, one should not underestimate the importance of transparency. International initiatives such as the Extractive Industries Transparency Initiative⁴ and mandatory disclosure requirements in the European Union and United States have made important contributions towards greater transparency in natural resource revenues, as have a number of individual-country initiatives.

Yet rigor and details are again important, since transparency is multi-dimensional and involves different issues at different stages of the value chain that go well beyond

the initial global initiatives on transparency of revenues. A simplified⁵ unbundling of the various transparency challenges across the chain is depicted in Figure 13.14.

Figure 13.14: Transparency Challenges Across the Value Chain



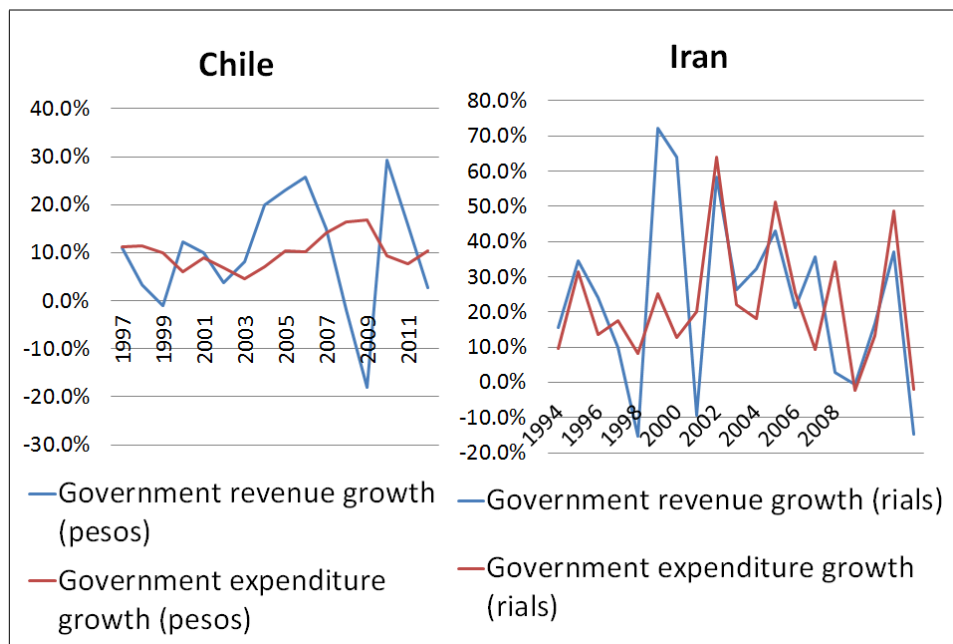
Transparency is necessary, but even if it is comprehensive it is insufficient. Critical complementarities (and thus interactive effects) imply that pursuing transparency alone will likely yield disappointing results. If the rule of law is lacking, disclosures may take place but not be fully followed up with sanctions: in essence, a regime of transparency with impunity. If civil society and basic liberties are repressed in a country, transparency will not translate into accountability and thus disclosure-induced pressure to implement reforms will be lacking. Hence, basic institutions associated with the rule of law also need to be in place, as does an enabling environment for civil society and the media to function without censorship and repression. Unfortunately, in many resource-rich countries such an institutional framework is largely lacking, and often deteriorating.

Beyond transparency, other important aspects also require a detailed and rigorous approach, starting with the decision to extract natural resources and continuing to the many decisions that follow, such as the terms of contracts and fiscal regimes,

or decisions on macroeconomic management that affect how to manage volatility and how to manage resources for investment and socioeconomic growth.

Differences in how volatility has been managed (or not) are illustrated in Figure 13.15, contrasting the case of Chile with those of Iran, Gabon, and Congo.

Figure 13.15: Budgetary Revenue and Expenditures in Selected Resource-Rich Countries



Source: Natural Resource Governance Institute.

The charts in Figure 13.15 depict the trends in government budgetary revenues (blue line) and expenditures (red line). In all resource-rich countries, revenues are naturally highly volatile, given fluctuations in price and volumes. The question is whether such countries have macroeconomic countercyclical policies and instruments in place to manage such volatility and to smooth expenditures. For Chile, the smoothing of government expenditures is clear, sharply contrasting with the cases of Iran, Gabon, and Congo, where the enormous volatility in public expenditures essentially dovetails the revenue pattern, illustrating these countries' subpar macroeconomic management frameworks.

In this context, it is worth considering institutional initiatives such as natural resource stabilization funds—provided, however, that these can be properly designed, gov-

erned, and implemented (as in Chile), because in poorly governed settings they may end up exacerbating the problem (Bauer, 2014).

13.6 Conclusion

For scores of resource-rich countries around the world, and for most countries in Africa, extractives are much more than a traditional economic sector. How these resources are harnessed has major implications for a country. Coupled with the prevailing governance deficit in most countries, this hints at why the governance of natural resources is arguably the development challenge of our generation.

In moving away from a narrow focus on the extractive industries, it is important to explicitly assess the key national development and macroeconomic implications of a country's natural resources, and utilize a comprehensive governance framework for analysis and diagnostics, such as the Natural Resource Charter, complemented with use of data and indicators and an analysis of the political economy and corruption vulnerabilities.

Corruption needs to be viewed through a different lens than the traditional focus on bribery and the notion that corruption is the driver of governance ills. Instead, corruption is often a costly symptom of broader institutional weaknesses rather than the fundamental determinant of governance failure, although forms of high level political corruption and capture are also a determinant of governance failure. Indeed, the focus on corruption needs to also shift to encompass various manifestations, including quasi-legal forms of corruption, leakages of public funds, asset stripping and stealing, and the like. In many settings, major institutional reforms are still pending regarding procurement and customs, as well as regarding tax policy and administration. Political finance is highly vulnerable to corruption and capture.

In this context, the proper set of analytical tools to assess the corruption vulnerabilities in the extractives sector is yet to be fully developed. Yet more generally, where there is political will, the implementation of benchmarking diagnostic tools such as the Natural Resource Charter offers a way to help address more comprehensively the challenge of natural resource governance.

To address corruption, enhancing transparency is necessary, even if not sufficient in itself. In natural resources, the Extractives Industry Transparency Initiative (EITI), which many African countries have joined, offers a path forward. Advances in transparency also need to be complemented with a similar focus on voice and accountability challenges—including basic liberties and civil society participation, which are missing in many countries. Progress on rule of law is also critical, lest transparency reforms fail to deliver because of impunity. The power of technology and new data frontiers is also key, and evidence-based policy analysis is important for more effective policymaking.

Beyond the technical assessments, much of the challenge ahead in addressing the governance challenges will be of a political nature. The declines in the prices of oil and mining products have major implications for Africa, not the least the challenge of maintaining macroeconomic stability in the face of dwindling revenues, as well as further obstacles in attracting investors. Yet they also present a unique opportunity to implement much needed governance reforms, which do not garner political support in times of boom. Lower oil prices offer the opportunity to eliminate costly subsidies. There is also an opportunity to implement broader reforms in public finances, such as expanding the tax base and enhancing the efficiency of public expenditures, as well as addressing corruption and waste in many oil and mining state enterprises.

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Endnotes

¹ That is, without considering any countries yet to be found to be resource-rich.

² See <http://info.worldbank.org/governance/wgi/index.aspx#home>.

³ See <http://naturalresourcecharter.org/>

⁴ See <https://eiti.org/>

⁵ And thus only illustrative, for purposes of designing action programs.

14. Corruption in Africa: Shifting Standards and Challenges

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Africa is infamous for corruption. Shocking anecdotes abound, and study after study finds that corruption in African politics and business outstrips corruption elsewhere. According to a 2002 African Union study (Hanson, 2009), corruption costs African countries almost US\$150 billion every year. From 1980 to 2009, Africa lost more than US\$1.2 trillion in illicit financial outflows, and this figure does not include illegal activities such as smuggling and trafficking (AfDB and GFI, 2013).¹ Many Africans recognize the scale of the problem. African countries report higher levels of perceived corruption than all other major regions of the world (Transparency International, 2009).

For all that, some commentators note that complaining about African corruption often reflects inconsistent standards. Bill Gates has observed that four of the last seven governors of Illinois have gone to jail, yet nobody suggests that we should stop building schools and roads in Illinois as a result.²

Gates has a point. The presence of corrupt African leaders is not a reason to deny foreign aid or stop building schools or infrastructure, though it is a reason to prosecute corrupt officials and to structure aid and investment so as to minimize the risk that they will become compromised.

But there is a more interesting version of the claim that we pay too much attention to African corruption: that we are holding developing countries today to a standard that the developed countries never met when they were developing. Whether it is the U.S. Foreign Corrupt Practices Act, the OECD Convention on Combating Bribery of Public Officials in International Business Transactions, or other comparable legislation, most early industrializers would not have passed muster.

These historical observations, while accurate, are beside the point. What went on in Europe and North America in the 19th century should inform our thinking, but we are living in a very different world today—one in which corruption presents developers with distinctive challenges and costs.

For one thing, competition was much less intense during the 19th century than in today's world of open markets and capital that is as mobile as it is skittish. In the United States, the combination of slave labor and unusually rich soil in the South provided southern cotton with an advantage in world trade. The availability of new land in the West created ample opportunities for geographic and economic expansion that were nearly uninhibited by competition.

In Europe too, many large powers industrialized behind shields of imperial protection, particularly in the second half of the 19th century. This insulated them from the kinds of fierce economic competition rampant in today's global markets, where developing countries must often compete not only with one another but also with developed countries. The competitive environment is tougher, and the deadweight loss from corruption is more costly.

In the U.S., there was, indeed, little deadweight loss from corruption in the 19th century. Most of what was skimmed off found its way back into the domestic economy. The robber barons did not ship their ill-gotten gains to offshore bank accounts. Today, the fruits of corruption in Africa often wind up in Cyprus, Switzerland, and elsewhere. They fund lavish cosmopolitan lifestyles and investments all over the globe. The externalities of African corruption are therefore almost all negative from the perspective of African countries.

Corruption is also corrosive of state building—a more serious problem in Africa today than it was for the earlier industrializers. In the U.S., the major state-building enterprise had finished by the time “Boss” Tweed and other political crooks were deeply into their most nefarious activities in the later 19th century. To be sure, there was plenty of corruption associated with westward expansion and particularly railroad construction, but this did not jeopardize the basic state-building enterprise that had been accomplished by the Mexican-American War and the Civil War. Many African countries today face wars and civil wars that threaten their basic integrity as states. In this context, corruption takes a larger and more lasting toll.

In short, corruption was often rife in 19th century America, but this is beside the point when assessing the costs of corruption in Africa today. Carbon emissions in the developed countries in the 20th century were greater than the standards to which we are trying to hold developing countries today. That was then and this is now. Developed countries should compensate late developers for the more stringent standards that they confront, but we have to recognize that we live in a different world that offers different possibilities and faces different challenges from those of a century or two ago.

There are not inexorable stages of economic development any more than there are inexorable stages of political development. In politics, expanding the franchise took well over a century in most Western countries. Today, no one claims that gradual expansion of the franchise is desirable or even feasible in new democracies, and countries go from zero mass franchise to universal franchise overnight. Rather than dwell on dubious comparisons with early developers, it would be more illuminating to focus on distinctive forces that drive African corruption today.

A big one is that too often politics is the only game in town. If your only access to the sources of opportunity and income derives from association with or direct involvement in the government, you will be loath to give up power or access to power. That is bad for democracy, which depends on the willingness of power holders to relinquish power when they lose elections. Indeed, political scientists say that a country cannot be called a democracy unless—and until—a government has

twice lost an election and given up power: the so-called double alternation (DA) test. Democracy requires the alternation of parties in power, the political analog of economic competition (Shapiro, 2003: 78-103).

DA is a pretty tough test. By that standard, the U.S. was not a democracy until 1840 and countries like Japan and India did not become democracies until recently. South Africa is still not a democracy by the DA test; no one yet knows what would happen if the African National Congress lost an election. Democracy was moribund in Mexico until 2000, when former-President Ernesto Zedillo courageously facilitated alternation by conceding that his Institutional Revolutionary Party had lost the election after seven decades in power and insisting on a turnover of power.

Alternation is vital to combating corruption. An opposition party that is a credible alternative government-in-waiting has the incentive to shine light in dark corners and expose corruption, holding leaders to account. And the fact that everyone knows that at some point the opposition is likely to take over influences behavior. If there is a good chance that skeletons will be taken out of closets, better avoid putting them there in the first place.

What predicts alternation? When you think about Jimmy Carter losing the 1980 U.S. presidential election to Ronald Reagan or George Herbert Walker Bush losing the 1992 election to Bill Clinton, the possibility of sending tanks down Pennsylvania Avenue was never on the table. Nobody thinks about this now, but it wasn't always so. In 1800, an open question for weeks, even months, was whether there was actually going to be a turnover of power from the Federalists to the Republicans (Dunn, 2004).

Adam Przeworski (2014) has shown that the best predictor of alternation is in fact alternation. Once a country experiences one or two turnovers in government, the odds are that the process will continue to increase rapidly. If a country reaches three or four turnovers in power, the process seems to go on indefinitely.

That in turn raises the question: how does alternation get started in the first place? This is where winner-take-all politics becomes relevant. The prospects for alterna-

tion in America's critical first few elections depended substantially on the low appeal that politics held for the founding generation. It is hard to read the literature on the early American republic without concluding that a career in politics paled in comparison to the more lucrative and appealing ways in which leaders could spend their time. Even at that early stage, the American polity and economy offered elites opportunities that greatly reduced the costs of losing office (see, for example, Elkins and McKittrick, 1993). It probably did not hurt that Washington, D.C. remained a dismal city surrounded by malaria-infested swamps for many decades after the government moved there from Philadelphia in 1800.

Participating in government was not particularly attractive, in part because the Founding Fathers had opportunities that they were keen to pursue. George Washington had to be strong-armed into running for a second term as President. Although John Adams had hoped for re-election, he was actually happy to be out of politics. Jefferson also ran grudgingly for a second term, and, after his presidency ended, he eagerly departed for Monticello, free to preside over the American Philosophical Society and establish the University of Virginia.³

The moral of the story is that the presence of lucrative activities outside politics is important to setting alternation in motion, and perhaps for sustaining it over time as well. In 2000, Al Gore believed that the U.S. vice-presidential election was stolen from him, yet he still gave up his claim to power without a fight once the Supreme Court had spoken in what he believed was a partisan voice. There is plenty for him to do outside political office. He travels the world producing movies, delivering speeches, and promoting environmentalism. His net worth is now more than US\$200 million.⁴

Reducing the exit costs from politics has implications for how we think about democratic transitions. It is unfortunate that Muammar Gaddafi, Hosni Mubarak, and Mohamed Morsi came to the ends that they did, because it reduces the likelihood that others in power will be willing to leave and correspondingly more likely that the Arab spring will turn to winter.

In the medium run, one thing that has to happen to encourage turnover by reducing the costs of exit in African politics is economic diversification. A diversified economy brings diversified opportunities. Without it, access to opportunity is limited to those who control the levers of power. This is why winner-take-all economies breed winner-take-all politics: The costs of losing office are simply too high. People who have power will keep it and those who do not will grab it if they can.

It would be wrong to assume that every source of African corruption emanates from Africa. The technological developments that drive globalization have in some ways made corruption easier to track, but they have also helped to escalate it. By linking countries and individuals, expanding networks help fuel international chains of corruption that can be difficult to spot and stymie (Goredema, 2009: 23-35). Foreign countries often funnel weapons to Africa to help prop up corrupt regimes, particularly when their governments are thought to be friendly or when economic ties are lucrative. China's importation of Sudanese oil and Sudan's purchase of Chinese-made weapons during the Darfur genocide is a perverse example of the possibilities that can arise in a highly interconnected globe.⁵ The illicit ivory trade is another.⁶ Sometimes, it can be difficult for the outside world to identify such activity, particularly when it occurs through clandestine, rapidly evolving channels (Goredema, 2009: footnote 11). Even when corruption is detected, taking action against it is too often dismissed as too costly. That is unfortunate.

Mo Ibrahim is fond of saying that although everybody talks about corruption in Africa, "political leaders don't corrupt themselves."⁷ And indeed, for every corrupt politician, there are dozens of corrupt businessmen and businesswomen on the other side of the transaction deriving benefits from the corrupt practices. Lax enforcement of anti-bribery and corrupt-practices legislation against corporations by governments outside Africa further entrenches corruption. It signals that illegal activities can yield rewards without penalty, and it fosters a culture of extortion which, as Transparency International notes⁸, once instituted is difficult to reverse.

It is imperative that bribery and other corrupt practices be combated by enforcing anti-corruption laws against individuals and corporations. Advocating this means addressing the obvious fear of a race to the bottom. This arises when people see

that countries such as France, Spain, and the Netherlands, which have a substantial amount of anti-corruption legislation on the books, engage in desultory enforcement.⁹ This is to say nothing of China. Enforcement is one area in which the U.S. actually has a fairly strong record.¹⁰ But even there, the threat of a race to the bottom remains a real obstacle to the enforcement of anti-bribery laws (Ad-eyeye, 2012: 141).

Avoiding a race to the bottom is a huge challenge, but not a futile one. Had there been neoclassical economists around in the late 18th century, they would have insisted that the British attempt to stamp out the slave trade would be bound to fail. Well, it didn't fail. Abolition took 60 years of real effort and investment, and was exceedingly costly, but it succeeded. Britain and the U.S. outlawed the Atlantic slave trade by 1808 (the latter acting from the less-than-pure motive to limit the growth of America's black population and to protect the—by then lucrative—American domestic slave trade (Deyle, 2005: 14-39). This was followed by a series of bilateral treaties banning the slave trade. Slavery was outlawed in most of the British Empire in 1833¹¹, helped along by £20 million in reparations paid out to slave owners. Much of this was achieved by a small group of dissenting members of parliament who held the balance of power at Westminster and auctioned their support to governments that could not survive without them.

Enforcement was ramped up outside the Empire by aggressive diplomacy and British military action, which escalated to an undeclared war against Brazil in 1850 to end the slave trade there. The United States finally agreed to searches of its ships in 1862 and Cuba was pressured into ending slave imports five years later (Kaufman and Pape, 1999: 631-668). The example reminds us that we should not make the race to the bottom a self-fulfilling prophecy.

Any discussion of African development would be incomplete without attention to corruption as one piece of a larger and more complex puzzle. Corruption continues to impede the rule of law, good governance, and stability that facilitate state building. Undoubtedly, every African state is different and faces distinctive challenges. But corruption is important enough in enough countries that it cannot be ignored.

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Endnotes

- ¹ As explained by its authors, the country estimates in AfDB and GFI (2013) probably underestimate corruption because they do not capture arrangements such as the "hawala system," smuggling, and other criminal activities, asset swaps, and faked transactions that do not show up in official statistics.
- ² Jeffrey Kluger, "Bill Gates talks to TIME about the myths of global aid." TIME online. January 24, 2014. Available at: [http://time.com/1381/bill-gates-talks-to-time-about-the-three-myths-of-global-aid/\[06-24-2014\]](http://time.com/1381/bill-gates-talks-to-time-about-the-three-myths-of-global-aid/[06-24-2014]).
- ³ "American President: A Reference Resource." University of Virginia Miller Center (n.d.). Available at: <http://millercenter.org/president/jefferson/essays/biography/6> [06-23-14]
- ⁴ "Report: Al Gore's net worth at US\$200 million," Stephanie Condon for CBS News. May 6, 2013 <http://www.cbsnews.com/news/report-al-gores-net-worth-at-200-million/> [06-24-2014].
- ⁵ Goodman, Peter, "China Invests Heavily In Sudan's Oil Industry." *Washington Post* online. December 23, 2004. Available at: <http://www.washingtonpost.com/wp-dyn/articles/A21143-2004Dec22.html> [06-25-14].
- ⁶ "New Report Warns of Uncertain Future for African Elephants: Poaching Doubled and Illegal Ivory Trade Tripled in Last Decade." United Nations Environment Program. March 6, 2013. Available at: <http://www.unep.org/newscentre/default.aspx?DocumentID=2711&ArticleID=9436> [06-25-14].
- ⁷ "Mo Ibrahim On How (And Why) Africa Should Solve Its Own Problems," Forbes online. July 15, 2013. Available at: <http://www.forbes.com/sites/skollworldforum/2013/07/15/mo-ibrahim-on-how-and-why-africa-should-solve-its-own-problems/> [06-24-2014].
- ⁸ "Fighting Foreign Bribery: Prosecutions Making it Harder for Companies," Transparency International. September 6, 2012. Available at: http://www.transparency.org/news/feature/fighting_foreign_bribery_prosecutions_making_it_harder_for_companies [06-25-14].
- ⁹ Ibid.
- ¹⁰ Ibid.
- ¹¹ The exceptions were Ceylon, St. Helena, and some territories possessed by the British East India Company.

15. Africa is Changing, but Needs Bold Leadership to Maintain Momentum

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Africa is changing. In this brief note I explore some of the reasons behind African countries' recent achievements in growth and development, but also highlight some crucial elements that will be needed to carry the momentum forward.

The way I see the change taking place in Africa comes from growth records in the region from the 1960s to the present. Between 1960 and 1985, most African countries experienced very wide year-to-year swings in their growth performance. But since 1985, when many of them began reforming, the swings have become much less severe and frequent. In the instances where growth fell, this was often marginal and the economies bounced back fairly rapidly. In effect the general trend has been upward. Annual GDP growth in the decade leading up to the financial crisis was consistently over 4 percent. Except for two years, this has continued since the crisis. There is somewhat greater diversification in export products and export markets. While high commodity prices may have accounted for some of the new growth, the truth is that both Africa and the world have changed.

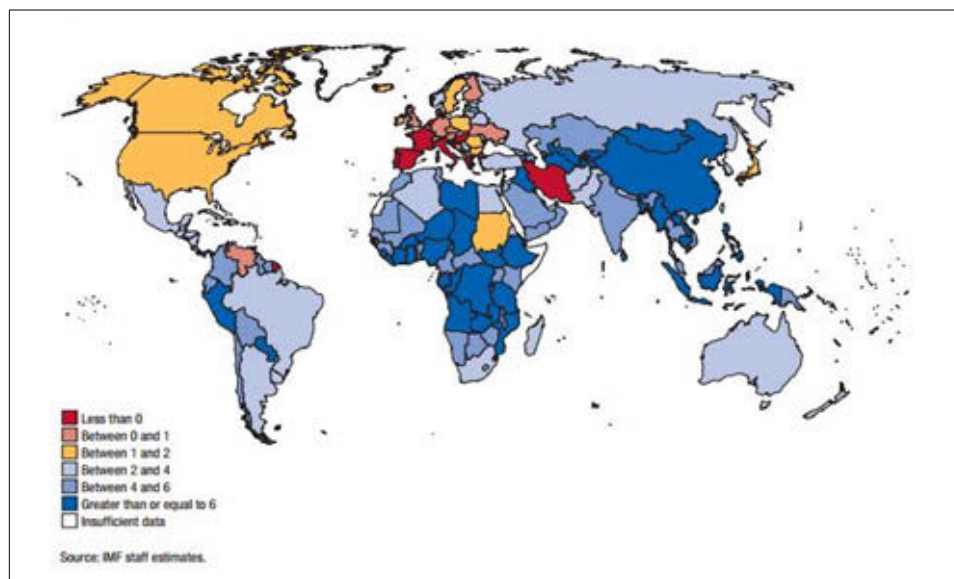
The upward trend is a clear indication that between the post-reform period and the pre-reform period, there has been a vast change in the way African economies are managed and have performed. Clearly, they have faltered in some instances, but

* This contribution is an edited version of my presentation delivered to the Yale African Development Colloquium.

the general growth story is obvious. In Figure 15.1, growth in Africa appears to be a lot more promising than in many other parts of the world.

Figure 15.1: World 2013 Growth Estimates

(Percent)



Even the social sectors have experienced improvements. In education, the net enrollment ratios in primary school have risen, and at the secondary and even at the tertiary level, one finds improvements. Education has seen considerable movement as net enrollment ratios rose from 58 percent in 1998 to 77 percent in 2010. Many governments have had ambitious education policies. More and more African kids are spending time in school, though issues with the quality of the education need to be dealt with. In health, much effort has been made in various countries to reduce the death toll from common diseases. For example, malaria deaths among children under five years old have been halved in the last decade. All of these improvements are consequences of the fact that governments have spent much more on the social sectors in the last decade than they did in the decade before. If one wants to see how much change is taking place, one simply needs to visit any typical African city to see how vibrant these have become.

What is behind all of this change? Undeniably, structural adjustment in the 1980s and 1990s is part of the story. Important public sector reforms and improvements

in governance were accomplished in many places. Governance has improved significantly compared to two decades earlier. Economic and public sector reforms of the 1990s yielded higher capacity in economic policy and management institutions as regulatory quality improved. Governance changes led to greater transparency in public accounts, and donor pressures forced greater transparency in decision making.

As a result, macroeconomic management in Africa has improved significantly, and the institutions in charge of economic management are much stronger today than they were 20 years ago. The typical central bank in Africa is now much more independent than it was before, and has a much stronger capacity to analyze monetary issues than before. As a consequence the average African economy has a much stronger capacity to bounce back from shocks now than it did two decades ago.

Another reason behind some of the improvements is that in almost every African country many more young people have become extremely ambitious to make a difference. In services and even in manufacturing, one finds a new private sector that is not run simply by an older generation of conservative businessmen and women, but by young people who are eager to attract foreign capital and new ideas. Thus, one finds a convergence of public interest and private interest driving growth in a number of economies.

When we look at what has motivated governments to pursue reforms in the management of the economy, we often refer to the pressure from outside—notably when donors and lenders impose conditions on their support for particular programs. But, for me one of the most crucial factors in African countries has been domestic pressures associated with the rise of a new civil society. This has not often been talked about. NGOs have tended to be seen as an irritant in many places, but they have made a big positive difference to governance in a number of countries. A good example is their contribution in the fight against widespread corruption. Corruption exists in most countries and is rampant in some. The corruption we see today, however, has a smaller effect on the management of the economy than was the case when there was no strong civil society. The likelihood that a corrupt practice will be discussed on the radio or in newspapers is now very high in many countries,

including in mine. The pressures from civil society have been enormous, and that has made it more difficult for governments to engage in corrupt practices.

But I also say not everything is changing.

Very few countries show a clear development objective and strategy associated with public spending. Related to this is the re-emergence of episodic growth in some countries. While the public sector has improved, there is still inconsistency in the delivery of public services. Corruption remains fairly significant, despite improvements. Most importantly, growth has been associated with inequalities and large-scale poverty remains, even if some countries have seen significant drops in poverty.

Public spending on many things, whether on health, education, or infrastructure, is less targeted and efficient today than it was a decade ago. And reforms in public financial management have been much less purposeful in the last few years than they were earlier. For example, in the midst of the economic reforms in Ghana (1983-93), it was a lot easier to get everybody to focus on what had to be done on the exchange rate, or on trade policy, and these were reforms that the government pursued without too much interference from outside. Today I see African governments struggling to do similar things, but showing a lot of reluctance to engage in major public sector reform. In Ghana I see a lot of reluctance in government to pursue an expansion of the revenue base, new taxes, or new ideas for reforming the public sector. Indeed in the 1990s and early 2000s, one regularly talked about public sector reform, but much less so today.

The absence of a new push forward is partly because the pressure from outside has gone down. Today it is a lot more difficult than in the 1980s to expect aid donors or lenders to give guidance to African governments on what direction to take. Many African leaders still look toward donors for guidance. Some are still looking to the World Bank to see what new development ideas there may be, but the World Bank has not introduced any new ideas for the last 20 years or so.

The weakening of the policy debate in Africa is also because one does not find within Africa itself a large constituency of people supporting or pushing for contin-

ued reforms. I attribute this partly to the change that has taken place in politics. Many African governments are reluctant to pursue an agenda of continued reforms largely because the reforms may not be popular, and they fear the consequences for themselves when it comes to elections. The spread of democracy itself is not the problem. Rather, in many African countries the problem is that democracy has not been hinged on institutions that have gradually developed and been anchored in an African system. So the legal system functions well on occasion, but on many other occasions it doesn't really deliver. And that affects business decision making significantly. The votes that different parliamentarians expect in the next election influence the contributions they make to a discussion of reforms. Parliaments have handicaps in terms of how radical they can be in dealing with the issues.

I believe there is a need for Africans to think about the institutions that they have developed in the last couple of decades, and about how these relate to the management of the economy and society, and whether they allow for the gestation of new ideas that will encourage more and more reform.

Moving forward, what can African governments do? Carlos Lopes has talked about a new boldness (see Chapter 3 in this volume—Ed.), and I believe that one finds that new boldness in many young Africans, but not within governments to do even what they know is the right thing to do. For example, as I mentioned earlier, I have yet to find an African government happy to talk about new areas of taxation, or public sector reforms. Land tenure reforms are a no-go area in most countries. These are not the kinds of things that attract votes. Indeed there are very few African leaders I can look at and say I know what they believe in. Most of the leaders flip flop—what they talk about depends on who is going to support them. So the bold decisions are still to be made. To have a solid industrial policy in place, for example, you need a leader who is willing to craft it or put together groups who will craft it and develop a strategy for it. We need a new generation of African leaders who can articulate a strong vision of where they want to go.

How do we engender this new boldness? It will not be easy, but whenever we get a chance we must talk about the need for reforms. We should, with our research, be

able to show what the benefits to an economy would be from reforms: we should be able to show where new opportunities for taxation lie, and how new reforms in the public sector can yield better outcomes. Today an abundance of evidence in agriculture, health, and education shows where the low-hanging fruits are. How do we, as researchers, get governments to develop programs and policies to allow society to reap these low-hanging fruits? How do we make policymakers aware that having well structured development banks in Ghana can have a huge payoff that is possible to replicate in many African countries, or that a tax on land can actually induce a change in how we use land?

It is time, I believe, for us as African academics, scholars, and thinkers to engage our governments and say, "Look, there are solutions here; there are hundreds of experiments being run around here that show us what will work in education, health, or in agriculture." These are the ideas and facts that we need to bring to the table, and on which we should push governments to engage with the wider public. That, in my view, is what we need to do, to engender bold decisions in African policymaking, relying on solid evidence from research being done all around the world.

PART IV

New Norms, New Opportunities: Africa in a Changing World

16. Global Value Chains and “Servicification” in Africa

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16.1 Introduction

The prospects of Africa are too often observed through the lens of old policy paradigms that do not match the reality of the modern economy.

For instance, many observers still make reference to Asia as a model for growth and development in Africa and elsewhere, though industrialization is on the decline in many countries of the world and might not be the best way forward for Africa. With the globalization of the economy, developing fully integrated industries that are competitive has become a largely illusory goal in Africa and elsewhere. The more practical objectives are now about joining and moving up value chains, which often require a country to have a sound business environment, i.e. to provide cost-efficient and quality services.

What are the other options and economic development paths? After a few decades of neglect, agriculture has returned to the front of the scene. Indeed, it is essential to Africa, where 70 percent of the poor still live in rural areas. The World Bank has suggested that growth in agriculture could be two to four times more effective at reducing poverty than growth in other sectors (World Bank, 2008). The face of agriculture has changed, however, with the increasing globalization of processing

* This paper draws extensively from previous work on global value chains done with Gary Gereffi, Sébastien Miroudot, Ben Shepherd, and Daria Taglioni, and on the role of foreign direct investment in development in Africa done with Jean-Christophe Maur and Akiko Suwa.

and food industries, the dissemination of standards, and the possibility to move up the value chains in the agro-food sector. Here again, joining agro-food global value chains is no longer only about capacities in the agricultural sector, but also about providing efficient ancillary services, including transport and logistics.

Natural resources remain an important asset for Africa, although governance issues and macroeconomic challenges have often turned hopes into disappointment. From an economic development perspective, the question has become how to maximize the positive spillover effects of extractive industries, including through promoting local sourcing of the goods and services needed for the operation of these industries.

Services show some potential, but this is often denigrated because most of the service sector in African countries is informal and associated with low-skill and poorly remunerated jobs. At the other end of the spectrum, however, services could provide more highly skilled jobs for young graduates, as well as for women whose jobs are threatened by the globalization of industrial production (e.g. in the textile industry). With the bundling of tasks that is the new trend in global production, services also represent a promising path for development in Africa, requiring less infrastructure than most industrial activities.

This paper reviews the recent changes that have affected the global economy as they create opportunities and risks for Africa's development. It then suggests a "double leap"—in technology and value added—to best position Africa on the development path offered by the new global economy.

16.2 Changes affecting the world economy and Africa

The international segmentation of production is not a new phenomenon. However, it has acquired a fully new dimension and importance in recent years. Initially regional (e.g., with auto parts made in Mexico, Eastern Europe, or Spain for car manufacturers in the US, Germany, and France, respectively), the phenomenon has become truly global as the result of technological progress and reduced costs of transport and telecommunications. The increasing importance of services in original manufacturers' output has led to a further delocalization of production, including of some services inputs in the value chain that once could not be traded across borders.

This new phenomenon is a unique opportunity to put Africa back on the world trade map and better reallocate value addition globally. It also carries risks, but these are not as great as the risks of exclusion for countries that cannot attract foreign investors and leading firms.

16.2.1 The new trade patterns and the reign of global value chains

In the last two decades, the world economy has been shaken by financial crises. The earlier ones remained regional in scope (e.g. Asia, 1997, and South America, 2002). Starting in 2008, by contrast, a liquidity problem and a collapse of demand in the US quickly spread through the channels of trade and trade finance to the rest of the world, to translate into a global depression of unprecedented scale. For example, as illustrated by Jansen and von Uexkull (2010), US consumers' decision to postpone the purchase of cars affected not only the American car industry but also the Liberian rubber sector that produces the material for the tires of those cars. Africa got into the eye of the cyclone.

This experience taught us several things. First, the world economies are increasingly integrated and interdependent: when the world's largest supermarket runs out of business, foreign suppliers also have to close up shop. Second, trade is a double-edged sword: while openness helps to buffer domestic or regional shocks, it also increases exposure to external shocks. Trade and trade-finance shortages have been identified as the main transmission channels of the crisis. Third, global value chains (GVCs) have become the world economy's backbone: take a link apart, and the whole chain is set loose.

The prevalence of trade within GVCs is illustrated by the growing importance of intra-firm trade (Lanz and Miroudot, 2011). UNCTAD (2013) estimates that nowadays 80 percent of trade involves multinational firms. Vertical trade, whether between affiliated companies or at arm's length, explains most of the growth in world trade (Yi, 2003); worldwide, more than half of manufactured imports are intermediate goods—i.e. primary goods, parts, and components, and semi-finished products (WTO, 2011)—and more than 70 percent of imported services are intermediate services (Miroudot and others, 2009).

Trade patterns also tend to be complex and multi-country. Evidence from OECD and WTO (2013a) suggests that typically about one third of imported intermediate goods are destined for the export market, with higher ratios in smaller economies (e.g. up to two-thirds in a country like Hungary) and in certain sectors. For example, the foreign content of electronic goods exports from China and Korea is 40 percent, and in those from Mexico it reaches 60 percent.

Finally, services play an important role. While services trade has long been underestimated, recent analysis suggests that within most manufacturing sectors, services represent more than one-third of the value of exports. When the services components of manufactured exports are added to the value of trade in services itself, services are seen to represent more than half of the value of exports for most OECD countries, and a third of the exports of an emerging country like China (OECD-WTO, 2013a).

16.2.2 Old and new paradigms in trade and development

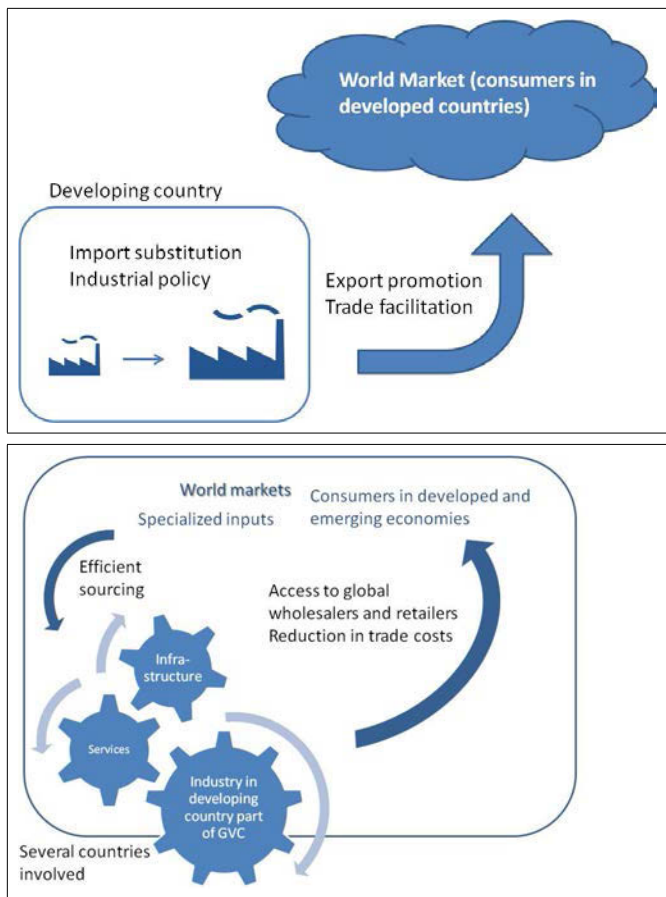
The emergence of GVCs and new trade patterns suggests the need to revise public strategies that aim at fostering competitiveness, as well as to rethink trade and development policies at large. Such a rethinking needs to take account of four major paradigm changes (Figure 16.1 and Cattaneo and Miroudot, 2015):

- The change of relevant strategic framework from countries to firms and GVCs. Competitiveness strategies should be tailored to trade and industrial organizations. Countries are no longer the relevant framework for analysis; policymakers should think business and think global—or at least regional. A country cannot develop a competitive offer of goods or services in isolation.
- The change of relevant economic framework from industries to tasks and business functions. The objective is not to develop domestic industries that will capture all the segments of production or the whole value chain; it is to identify the country's best position in a GVC and the most competitive supply of tasks or business functions.
- The change of relevant economic assets from endowments and stocks to flows. International competition is increasingly vertical, and firms are simultaneously

competitors and sources of key inputs and competencies for each other. In this context, GVCs have become the main channel of transfers of all kinds: e.g., capital, knowledge, technology, standards, and value-added services. Though these elements may not be available domestically they exist in the global marketplace. Hence, a country cannot become or remain competitive without efficient links to global markets.

- The change of relevant barriers and impetus from public to private. Barriers to trade and competitiveness have progressively moved from the border (traditional obstacles such as tariffs and quotas) to behind the border (non-tariff measures and other regulatory barriers), to ultimately become borderless (proliferation of private regulations and standards, distortion of competition within GVCs).

Figure 16.1: New Trade Paradigms under the Reign of Global Value Chains



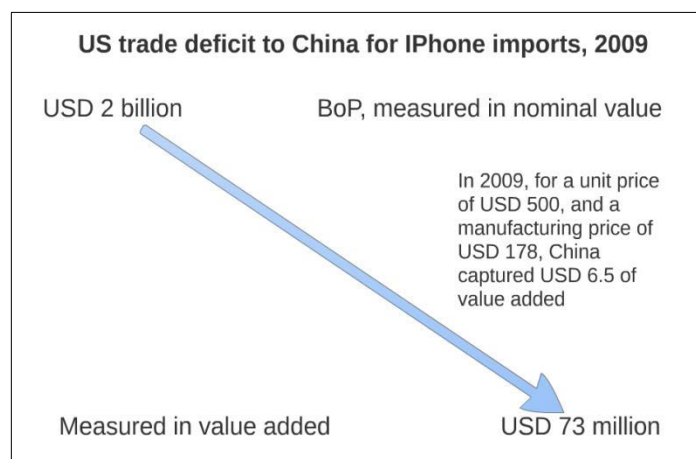
Source: Cattaneo and Miroudot (2015).

16.2.3 What really matters: From the value of trade to the value for trade

In the domain of trade statistics, the OECD and the WTO have developed a Trade in Value-Added (TiVA) database that records the value of imports and domestic production in exports. The new data help to shed new light on global imbalances (see the iPhone example in Figure 16.2) and also emphasize that public policy-makers in Africa should see their countries' trade and participation in GVCs as just intermediary objectives. For African countries, joining GVCs and participating in global trade is not enough. The question is how much value they can capture in terms of jobs, income, technology diffusion, sustainable development, etc. In Africa and elsewhere, one should look at how trade affects:

- direct and indirect job creation;
- sustainable use of natural resources;
- level and predictability of income;
- economic and social development;
- diffusion of technology; and
- political and economic stability.

Figure 16.2: From Nominal Value of Trade to Trade in Value-Added: the Example of the iPhone US Trade Deficit to China



Source: Cattaneo and Miroudot (2015).

16.3 A world of opportunities

Globalization is a source of opportunities for developing countries and Africa in particular. A greater division of labor and segmentation of production at a global scale allows more African countries to benefit from trade. The participation of Africa in GVCs potentially allows (and results from) greater competitiveness, better inclusion in trade and investment flows, and socioeconomic upgrading, with more and better remunerated jobs, a more sustainable use of resources, and better governance and political stability at large.

African countries do not need to develop vertically integrated industries to participate in global trade; GVCs offer an alternative outward-looking development model driven by trade and competitiveness. By developing capacities in specific segments (stages of production, tasks, or business functions) of the value chain, even small countries with limited capacities across the value chain have a chance to export.

Similarly, globalization creates new opportunities for African small and medium-sized enterprises to access global markets by inserting themselves in GVCs as providers of intermediate goods or services. This belies the idea that international trade and GVCs only benefit large multinational firms.

16.3.1 Joining, maintaining participation, and moving up value chains

For Africa, connecting to GVCs is just a first step. For many African countries that are already involved in global trade in intermediate goods and services, the challenge is to remain competitive and maintain participation in value chains despite rising labor costs (the so-called “middle-income trap”) and exogenous factors such as changes in the business strategy of firms and the consolidation of value chains.

Joining, maintaining participation in, and moving up GVCs therefore means that African countries will need to ensure cost competitiveness, improve their connectivity with international markets, improve their business and investment climates, and foster innovation, workforce development, and production capacity. These needs are discussed in turn below.

16.3.1.1 Ensuring cost competitiveness

According to recent surveys (OECD-WTO, 2013b), lack of cost competitiveness is one of the main obstacles to African countries' connection to value chains. "Lack of comparative advantage" always features among the top three constraints identified by donors and partner countries. Private firms across manufacturing sectors (agro-food, information and communications technology, apparel, and textiles) identified "production cost" as the factor most influencing their sourcing and investment decisions in value chains, and up to 70 percent of the firms in the textiles and apparel sector ranked production cost first among all decisive factors.

However, the notion of production cost is quite vague, giving no indication of causes (Cattaneo and others, 2013). For example, high production cost could result from a country's lack of infrastructure or competitiveness in basic services, or from excessive administrative burdens at and behind the border, or from rigid labor laws, or from a high level of corruption or insecurity.¹

16.3.1.2 Improving connectivity with international markets

The improvement of connectivity with international markets has both an infrastructural dimension (e.g. ports/airports/roads, telecommunications) and a regulatory dimension (e.g. customs administration, tariffs, and other border measures). According to OECD-WTO (2013b), lack of adequate transport infrastructure and high transport costs are among the top constraints affecting developing countries' ability to enter, establish, or move up value chains. For example, in the agro-food sector, this lack is the second most important constraint identified by the firms.

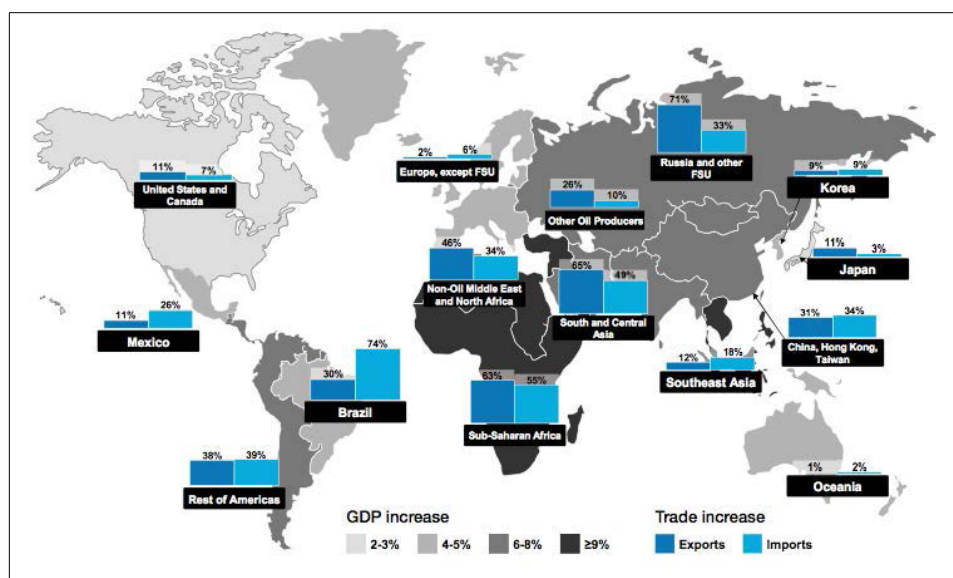
On the regulatory front, customs delays and procedures always appear among the most important difficulties affecting lead firms' ability to bring developing countries into their value chain; it is the most important obstacle identified by approximately half of the lead firms in the agro-food and textiles and apparel sectors.

The international community's efforts to reduce the "thickness of borders" include the reduction of traditional barriers to trade, such as tariffs or quotas, as well as the promotion of trade facilitation. In the context of GVCs, international efforts are seeking to improve cross-border forward and backward linkages, secure the flow

of inputs and outputs, and create efficient links with global markets (Cattaneo and others, 2013).

Recent studies suggest that the reduction of supply-chain barriers to trade (i.e. barriers posed by border administration, transport, and telecommunications infrastructure and related services) would do more to speed the growth of GDP and trade than would the complete elimination of tariffs. For example, WEF (2013) suggests that the reduction of supply-chain barriers to trade could increase world GDP by nearly 5 percent and trade by 15 percent, compared to less than 1 percent and 10 percent, respectively, from a complete elimination of tariffs. As illustrated by Figure 16.3, Sub-Saharan Africa would be the main beneficiary if supply-chain barriers were removed.

Figure 16.3: Reducing Supply-Chain Barriers: Impact on GDP and Trade



Source: WEF (2013).

16.3.1.3 Improving business and investment climates

The improvement of business and investment climates is essential to attracting lead firms and connecting developing countries to value chains. Cattaneo and others (2013) stress that the importance of business climate may vary with the governance structure of value chains, decreasing as a value chain becomes more vertically integrated. Those authors distinguish five components of an effort to improve the

business and investment climate:

- *Removing barriers to investment and the protection of foreign assets:* Cross-border vertical integration requires maximum fluidity and protection of the movement of production factors, including capital and labor. Typical barriers include restrictions on foreign equity, ownership, or forms of partnership; restrictions on the movement of key personnel; domestic content rules; and restrictions on the repatriation of benefits or other forms of currency exchange control. Solutions include the inclusion of stability clauses in contracts and participation in major arbitration and dispute-settlement mechanisms.
- *Improving the level of standards and corporate social responsibility (CSR):* Standards governing both processes² and products need to be respected throughout the value chain since every stage of production could affect the quality of the final product. OECD-WTO (2013b) identified the ability to meet standards as the most important factor affecting lead firms' sourcing and investment decisions in their value chains.
- *Addressing other non-tariff measures and business climate:* Such measures affect both a country's competitiveness (hence firms' sourcing decisions) and its ability to attract foreign investors. Their purview is very large, from the regulatory environment to the government procurement rules that affect the functioning of markets. The Doing Business (World Bank) and Global Competitiveness Report (WEF), among others, provide more comprehensive lists of the measures that affect a country's business environment. These measures affect political stability, governance, and corruption, which are key factors in the sourcing and investment decisions of lead firms.
- *Improving infrastructure, services, and the organization of domestic value chains:* This refers to the ease of access to efficient services in the sourcing or investment country, including access to energy, finance for business and trade, telecommunications (including e-commerce and electronic transfer capacity), domestic transport, etc. The efficient organization of the domestic value chain and markets is also essential.

- *Other incentives:* These include the granting of offshore status to foreign investors or firms participating in value chains; tax cuts; reduced administrative or legal constraints; or special customs procedures. Some 60 percent of the developing-country-government respondents to the OECD-WTO survey noted that they used export processing zones (EPZs) as a policy tool, with these EPZs accounting for more than 40 percent of their countries' exports by value. Investment and tax incentives are an important factor in sourcing or investment decisions for about one third of the lead firms in the different sectors covered by the survey.

16.3.1.4 Fostering innovation, workforce development, and production capacity

A country that connects to value chains on the sole basis of its low production costs risks falling into the “middle-income trap” once its salaries adjust and its competitors can offer a better deal. To achieve sustainable participation in value chains calls for adaptability to the lead firms' requests, responsiveness, and capacity to innovate. Workforce development and innovation capacity are essential to remain competitive and move up the value chain.

16.3.2 Building capacities through participation in GVCs

Participation in GVCs is potentially a source of important transfers from lead firms to suppliers along the value chain. Such transfers benefit the functioning of a specific value chain but also have spillover effects. For example, the construction of a road or an electrical plant to service a specific production facility also benefits other users of the infrastructure (Kurtz and Schmidkonz, 2005). Multinational companies sometimes invest in public goods such as road safety, education, or anti-corruption to improve the overall business environment in the country. Companies involved in such capacity building efforts primarily do so because it serves their core business strategy (61 percent of the lead firms surveyed) or their corporate social responsibility principles (46 percent of the lead firms surveyed) (OECD-WTO, 2013b). These transfers and spillover effects contribute to reducing the cost of capacity building and development that is usually borne by the local government and firms. They should be therefore encouraged by the government, whether or not they are linked to foreign direct investment.

Looking at the contribution of business to competitiveness and trade capacity building, four types of transfers and spillover effects taking place in GVCs can be distinguished (World Bank, 2011):

- *Building human capacity: training and skills.* While movement of key personnel is essential to doing business abroad, the majority of workers in most countries that attract FDI or partnerships with international firms are local or regional. Insofar as the workforce lacks specific skills that are needed, foreign companies often establish training programs. While benefiting the company in the short run, such programs can provide long-term benefits for the recipients who can apply their newly acquired skills in numerous ways, resulting in positive spillover effects for the country. For example, the alumni of multinational firms often count among the most successful local entrepreneurs and exporters. The types of programs that are implemented could benefit employees of the company or sub-contractors (and hence potentially benefit other exporting firms).
- *Bolstering productive capacity: technology, know-how, and finance.* Foreign companies investing in developing countries frequently find that the condition of existing infrastructure, technology, and the general business environment raises their operating costs significantly. A number of private sector efforts revolve around transfers of technology, know-how, and knowledge, and efforts to improve the business environment. While benefiting the company at the origin of the transfers, these capacity-building efforts can be expected to have positive spillover effects, including to local small and medium-sized enterprises.
- *Enhancing the functioning of value chains, including standards.* A number of efforts seek to enhance the performance of value chains, at points ranging from design to production, assembly, packaging, marketing, distribution, and consumption. Assistance in meeting quality and safety standards is particularly important to help incorporate local producers into global value chains. Promoting the sustainable inclusion of small producers into global value chains is fundamental to fighting poverty.
- *Facilitating trade.* Trade facilitation is a major concern for the private sector because red tape and inefficiencies in border management and corridor perfor-

mance can raise transport costs substantially, resulting in major delays. Initiatives and projects led by firms and industry groups range from road safety initiatives to more efficient customs processes achieved through customized software development. Trade facilitation is typical of a public good: safer roads and faster customs clearance benefit the company at the origin of the capacity building efforts as much as its competitors.

Table 16.1 provides examples of trade capacity building efforts led by the private sector in agro-food in Africa.

Table 16.1: Trade Capacity Building Efforts Led by Agro-Food Companies in Africa

<p>Rural Development in Zimbabwe: Cargill</p> <p>Provides inputs and training to more than 100,000 cotton farmers and operates a credit program on an in-kind basis to protect farmers from currency fluctuations. Farmer training in the region has more than tripled yields at some locations.</p> <p>Project Nurture in Kenya and Uganda: Coca Cola, TechnoServe, Gates Foundation</p> <p>Through training programs, facilitation of financial services, and expansion of access to inputs, helps more than 50,000 smallholder fruit farmers raise their incomes by improving their productivity and competitiveness, gaining access to new markets, and joining global value chains.</p> <p>Addressing Corruption in Cameroon: Diageo, Business Council for Africa</p> <p>Shares best-practice standards and expertise to improve the way companies do business. The program develops a common vision on compliance and ethics, with the goal of improving transparency and decreasing the cost of doing business.</p> <p>African Biofortified Sorghum Project: DuPont, Africa Harvest, Danforth Center, Howard Buffet Research Foundation</p> <p>Develops improved varieties of sorghum, an affordable African staple, for more than 300 million people in Africa, many of whom reside in the drier, more vulnerable areas such as the Sahel.</p> <p>Improved Maize for African Soils Partnership in Kenya: DuPont, CIMMYT, Agricultural Research Council of South Africa, Kenya Agricultural Research Institute, Bill and Melinda Gates Foundation, USAID</p> <p>Public-private partnership that enhances the lives of smallholder farmers through large-scale and systematic application of modern biotechnological tools, including transgenic varieties and marker-assisted selection, to raise maize yields under the severely nitrogen-limited conditions facing most African farmers.</p> <p>Africa Cashew Initiative in Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mozambique: Kraft Foods, Bill and Melinda Gates Foundation, GTZ</p> <p>Improves the quality of cashew nut cultivation, increases farmer productivity, improves links between smallholder farmers and the marketplace, increases African processing capacity, and promotes a sustainable global market for African cashews.</p> <p>Cadbury Cocoa Partnership in Cote d'Ivoire: Kraft Foods, Rainforest Alliance, GTZ, USAID, Armajaro, Care, WorldVision</p> <p>Increases cocoa farmers' incomes, increases crop yields, and creates thriving rural communities.</p> <p>Cocoa Plan and Farmers' Field Schools—Investing in the Future of Cocoa Farming in Côte d'Ivoire: Cargill, Nestlé, Heinz Benelux, Ahold, UTZ Certified, Mars, Ecom, Solidaridad, WWF, and Oxfam Novib</p> <p>300 schools will train 10,000 farmers spread over 35 farmer cooperatives to become UTZ-certified. As a result of the training and provision of the latest high-performance plantlets, farmers are benefiting from a 30 percent increase in their incomes from higher yields, as well as an improvement in the quality of their crop. This quality improvement also leads to an increase in farmers' earnings as they receive a quality-related bonus payment.</p> <p>Environment and Climate-Compatible Agriculture in Tanzania: Syngenta, Yara, University of Life Sciences, Norway, Sokoine University of Agriculture Tanzania</p> <p>Pilots new farming models based on a framework that measures the environmental impact of agronomic best practice and technology use, while increasing yields and profitability for the farmers.</p> <p>Source: Author's compilation.</p>
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16.4 A world of risks

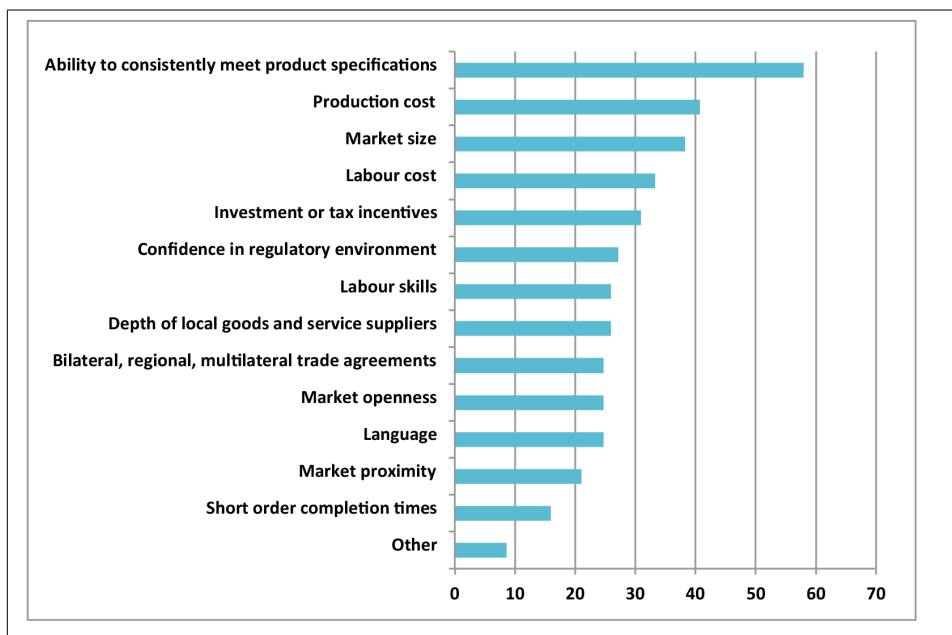
The predominance of GVCs is also a source of risk both for participating countries and for countries whose lack of attractiveness threatens them with exclusion from major GVCs.

16.4.1 Factors most positively and negatively affecting attractiveness for lead firms

The greater emphasis of leading firms on connectivity to markets and flows, including the ability to source inputs and to ship outputs at competitive prices, appears to exclude from major trade opportunities a number of countries that lack enough capacity to produce or to efficiently connect to global markets. Comparative advantage can no longer be measured within borders: a country cannot become a competitive exporter without first becoming an efficient importer.

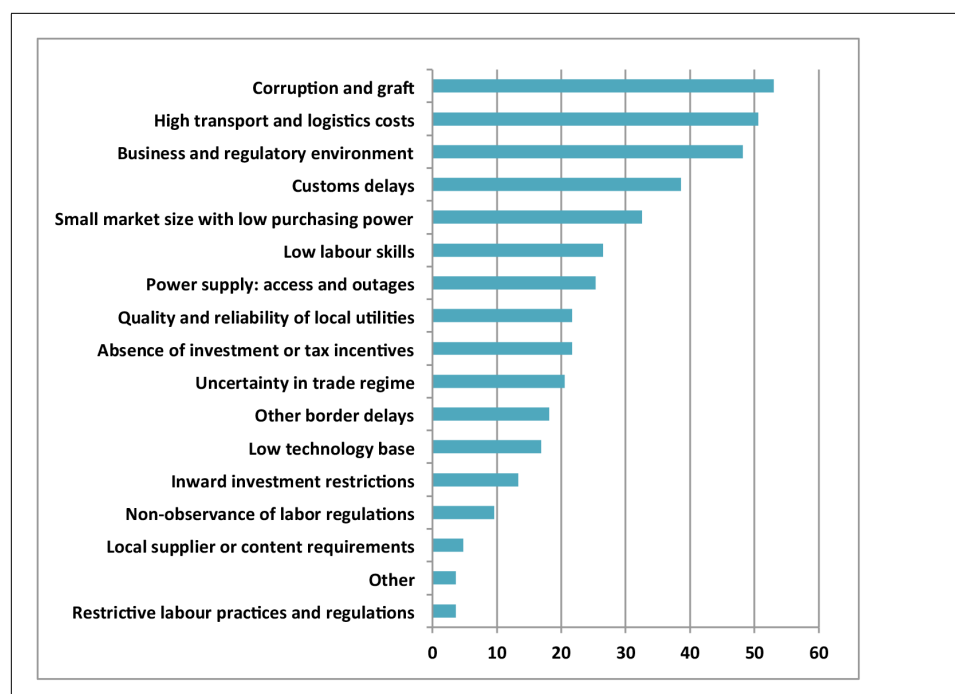
The previous section described the factors that make a country attractive or unattractive for lead firms seeking geographical diversification of their production. The results of the OECD-WTO (2013b) survey in the agricultural sector are summarized in Figures 16.4 and 16.5. In the areas of most importance to lead firms, African countries often perform worse than countries in other regions. Unless they can remedy this situation, for example by raising standards, lowering transport costs, or reducing corruption, they face increased risk of exclusion from international value chains.

Figure 16.4: Factors Most Positively Affecting Lead Firms in Their Decision to Include a Developing Country in Their Value Chain



Source: OECD-WTO (2013b).

Figure 16.5: Factors Most Negatively Affecting Lead Firms in Their Decision to Include a Developing Country in Their Value Chain



Source: OECD-WTO (2013b).

At the same time, as suggested by Figure 16.3 above, the pay-offs for improvement of these factors are higher in Africa than anywhere else in the world, reinforcing hopes that capacity-building efforts in Africa will result in even faster growth and global trade integration than in other regions.

16.4.2 Value chain resilience and external risks

GVCs have made international trade more volatile (Escaith and others, 2010): the 2008-09 crisis revealed a higher trade elasticity and exposure to imported crises through trade. The 2011 triple disaster in Japan—earthquake, tsunami, and nuclear accident—had severe effects not only on the Japanese economy but also on the world economy, through disruptions in global production chains, particularly in sectors such as automotive, computers, and consumer electronics in which downstream producers rely heavily on Japanese suppliers of specialized parts and components (*New York Times*, 2011). As a quasi-monopoly supplier of key technological products for the electronics and automotive industries, Japan has a strategic position at the

heart of global production chains. The impact of the disaster in Japan was particularly visible in Asian countries, which rely more heavily on Japan for their imports of intermediate goods than do other parts of the world (IMF, 2011).

Since trade flows are driven by business rather than government strategies, they tend to be volatile. Changes in business strategies and practices can result in rapid shifts in demand. These changes can be prompted by factors either endogenous or exogenous to business strategies such as a change in a country's legislation on investment, or a political crisis. For instance, the 2008-09 crisis and the disruptions following the 2011 events in Japan led firms to consolidate or shorten a number of GVCs by reducing the segmentation of the chain and reducing the number of participants (see Gereffi and Frederick, 2010 on how the textile and apparel sector adjusted to the 2008-09 global crisis).

The private impetus for globalization raises a number of new challenges for trade and development policies. Effects of the globalization of value chains that have aroused concern include the depletion of natural resources by foreign companies, land grabbing, the unequal partition of value along the production chains, captive market relationships, etc. Some studies suggest that an increase in exports can be detrimental socioeconomically to a country if the lead firm of the GVC engages in predatory behavior (see Kaplinsky and others, 2010 for the examples of timber in Gabon and cassava in Thailand). Regulators now face trans-boundary legal issues and private—often voluntary—standards that regulate an important part of global trade without governmental or neutral control.

A number of recent studies explore the resilience of value chains. For example, Shepherd and Cattaneo (2014) highlight some of the factors affecting the resilience of the value chain to a shock (Figure 16.6):

Remoteness and position in the value chain of the company/economy affected by the shock: the further upstream a company/economy is in the value chain, the more exposed it is to production shifts.

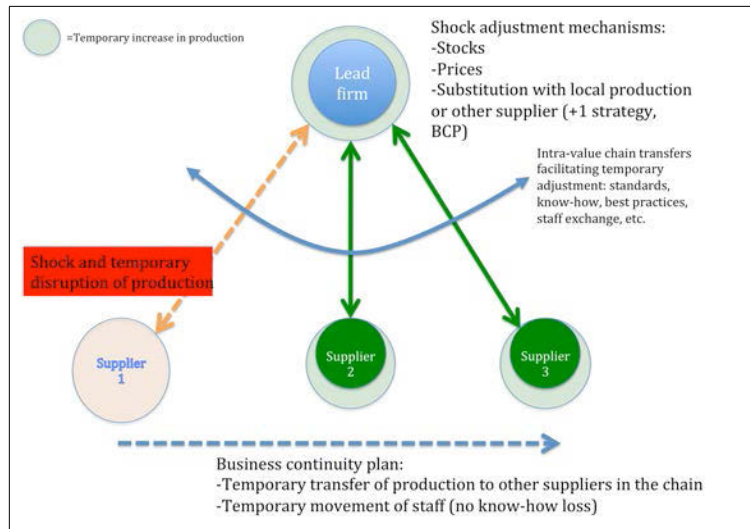
Type of governance of the value chain: intra-firm transfers increase resilience.

Sector and specificity of the products or services traded: product modularity determines value chain modularity.

Type of lead firms: global buyers shift production faster than do global manufacturers.

Regulatory environment: the more integrated the economy, the less it is subject to protectionist responses to crises.

Figure 16.6: Shock Adjustment Mechanisms in Global Value Chains



Source: Shepherd and Cattaneo (2014).

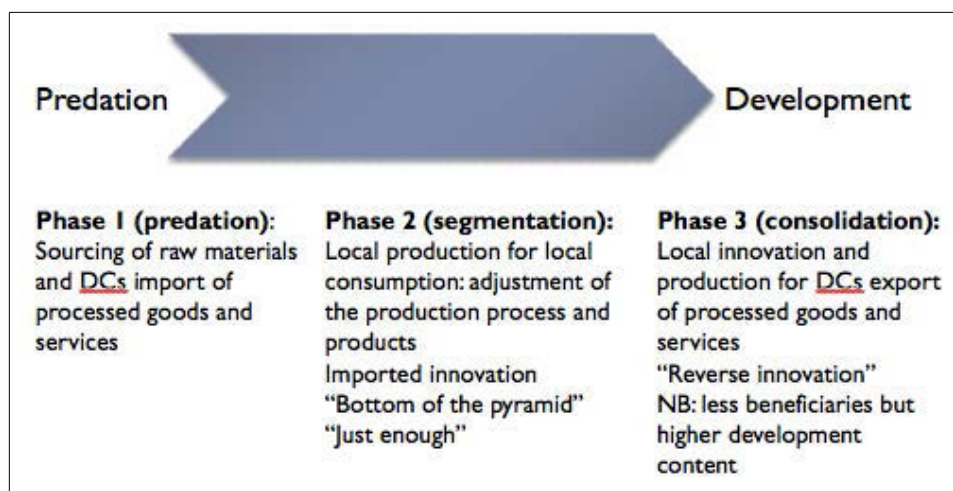
16.4.3 Upgrading prospects and the shift in demand from the North to the South

Until recently, socioeconomic development or upgrading tended to be discussed in the context of old-type trade and development strategies based on import substitution or export orientation (Fold and Larsen, 2008). With the emergence of global production in many sectors, socioeconomic development has been increasingly linked to GVCs (Kaplinsky and Morris, 2001).

A country that positions itself to undertake higher-rent activities could raise the value of trade that it can capture, and could benefit from the diffusion of higher standards, safer/greener production methods, and knowledge-intensive activities. However, a country's opportunities for achieving socioeconomic development through participation in GVCs appear to vary with the core competencies of the leading firm with which it deals.³ This relationship implies that governments need to enact policy measures that are contingent on the nature of specific value chains in which the country participates, and that prevent non-competitive practices within GVCs.

Figure 16.7 links the maturity of GVCs with their potential for assisting a country’s socioeconomic development. Not all GVCs have such potential: some lead firms essentially tap into the resources of poorer countries without transferring any kind of knowledge/technology or offering these countries real upgrading prospects. Three phases in the maturity of value chains are distinguished: a predation phase in which developing countries are confined to exporting raw materials and importing processed goods and services; a segmentation phase in which developing countries benefit from the delocalization of certain production activities, mostly to serve local markets; and a consolidation phase in which local innovation turns into export of processed goods and services to other developing and developed countries. While the last phase has the greatest potential for assisting a country’s development, it is also more selective: the consolidation of GVCs corresponds to a diminution of the number of participants in GVCs, and hence threatens to leave more developing countries outside major trade flows and upgrading paths.

Figure 16.7: The Maturity of GVCs and Their Potential for Assisting Socioeconomic Development

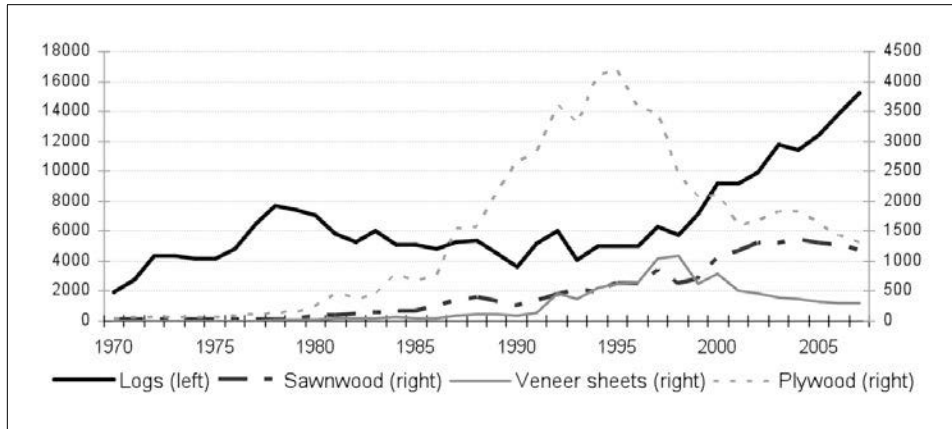


Source: Cattaneo and Miroudot, 2015.

Staritz and others (2011) have analyzed how the potential of GVCs for assisting socioeconomic development changes when end-markets shift to the South. In line with the theory of maturation of GVCs presented in Figure 16.7, lead firms and end markets shape the development path of upstream participating countries. Figure 16.8 shows the example of the timber value chain between Gabon and China. Between 1985 and 1995, China’s imports of processed wood (plywood) steadily grew, until

China acquired the technology to establish its own transformation industries; after this point, China imported mostly logs (unprocessed wood), causing a crisis for the timber transformation industry in Gabon. Chinese lead firms in this industry are thus in a predation phase. Kaplinsky and others (2010) show that Chinese importers are mostly interested in quantities and price, paying little attention to labor standards and sustainable harvesting. Thus, in the predation phase, rather than contributing to socioeconomic development in the upstream country, the value chain acts to reduce and downgrade that country's capacities.

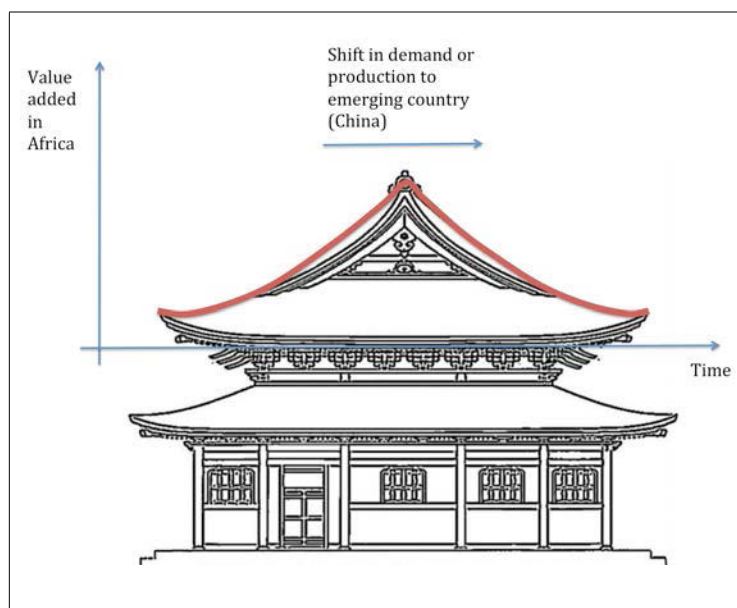
Figure 16.8: China's Imports of Gabonese Logs and Selected Wood Products (1,000 m³)



Source: Kaplinsky and others (2010), based on FAO ForeSTAT data, accessed November 2009.

There is a strong risk that a shift in end markets to China—in particular for raw materials or minimally processed goods—would kick the development ladder away from Africa. Figure 16.9 schematizes the shift in demand from developed to emerging countries and the associated risks to development and economic upgrading in African countries. The “pagoda” effect corresponds to a drop in the capture of value-added by African countries when the final markets shift from developed to emerging economies and the demand for raw materials surges at the same time as the demand for processed goods declines.

Figure 16.9: The “Pagoda” Effect: Impact On Value Addition in Africa When Markets Shift to the South

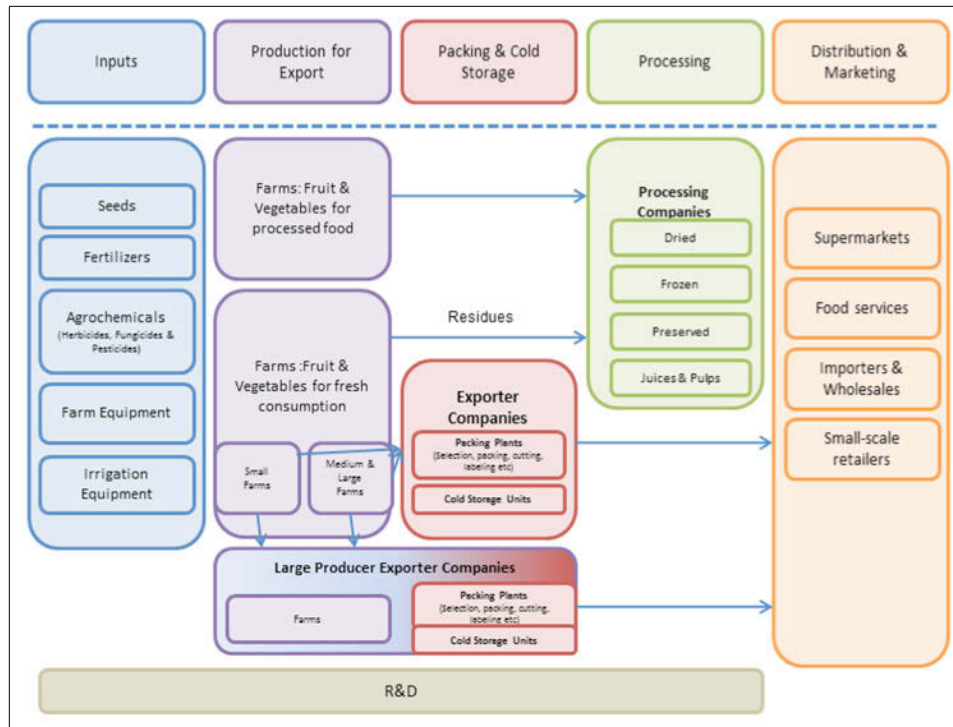


Source: Author.

16.5 A new hope: The “double leap”

There is no guarantee that the opportunities will outweigh the risks, and that Africa will be better off in the new economic order where GVCs rule international business and trade relations—particularly if governments and donors continue to apply old recipes to fix new problems, and disregard the changes in global trade and development paradigms. For example, an excessive focus on industrialization could lead to greater delays in the development process if emerging countries like China continue to be competitive in the middle ground, blocking African economies’ upgrading prospects.

Diversification could take place within value chains. Figure 16.10 provides the example of the fruit and vegetable value chain: African countries need to move from the production stage to all the other stages of the chain to capture more value. In most value chains, this means diversifying into services rather than industrial tasks. Therefore, African countries need to undertake a “double leap:” a value-added leap, moving into services within the sectors of traditional exports, and a technological leap, developing the infrastructure necessary for such services.

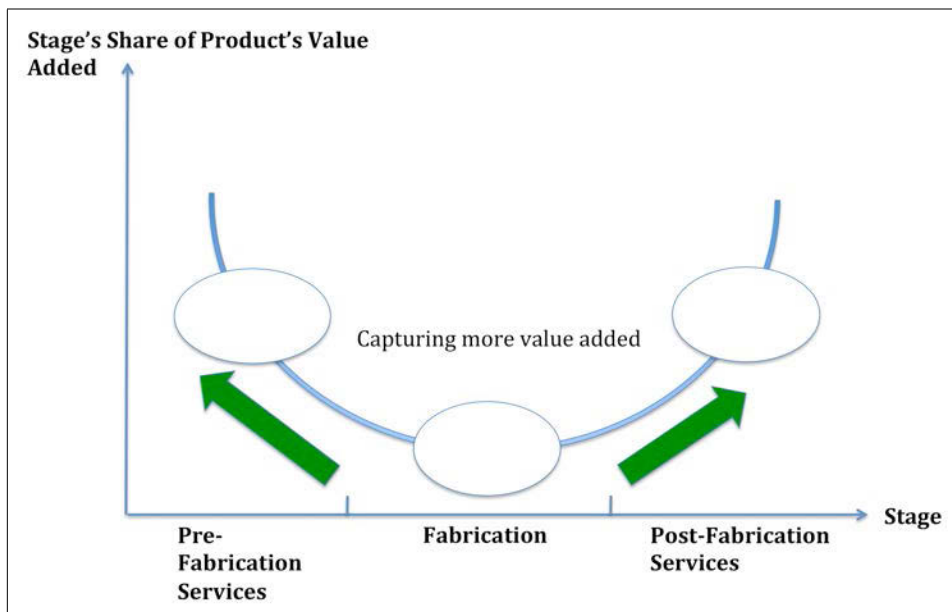
Figure 16.10: The Fruit and Vegetable Value Chain

Source: Fernandez-Stark and others (2011).

16.5.1 The double leap

The double leap is a leap in both value added and technology. Figure 16.11 illustrates the traditional so-called “smile curve,” which shows the partition of value added among different stages of production. The middle ground, i.e. the fabrication stage, is both the most crowded (with very competitive countries like China) and the least rewarding in terms of value added. A sound strategy for Africa would be to move into the pre- and post-fabrication stages instead of focusing on the fabrication stage. Yet it is impossible to develop pre- and post-production stages without first undertaking production. Industry remains a core element of Africa’s growth prospects, but diversification should look beyond industry and within existing value chains rather than focusing on product discoveries.

Figure 16.11: The “Smile Curve”: Value Addition and Production Stages



Source: Author.

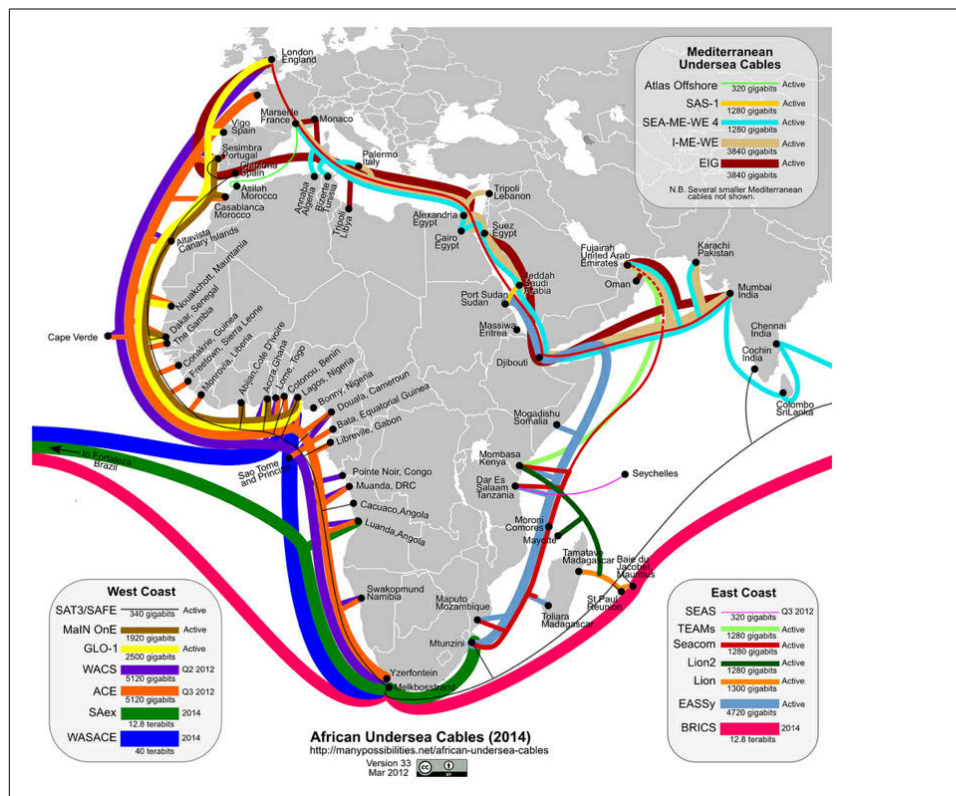
The value-added leap is made possible by a technological leap. Deficiencies in infrastructure pose a major obstacle to Africa’s development. In Africa, nearly 70 percent of people remain without access to electricity. The World Bank⁴ estimates that a 10 percent increase in infrastructure investment contributes a 1 percent increase in GDP growth, and that a US\$1 increase in public spending in infrastructure generates a US\$0.35 increase in total exports. Between 2001 and 2005, infrastructure development contributed half the acceleration in growth in Africa. The infrastructure is estimated at more than US\$1 trillion in low and middle-income countries.

The value-added leap, and the move into an economy based more on services, will require a technological leap and massive investments in the types of infrastructure most relevant to this new economy, in particular information and communication technologies (ICT). At the same time, the value-added leap partially solves the infrastructure problem: services trade requires less infrastructure than most industrial activities, so geographical remoteness could pose less of a problem. Skills remain the backbone of services, though to develop them will require additional investment in education and training.

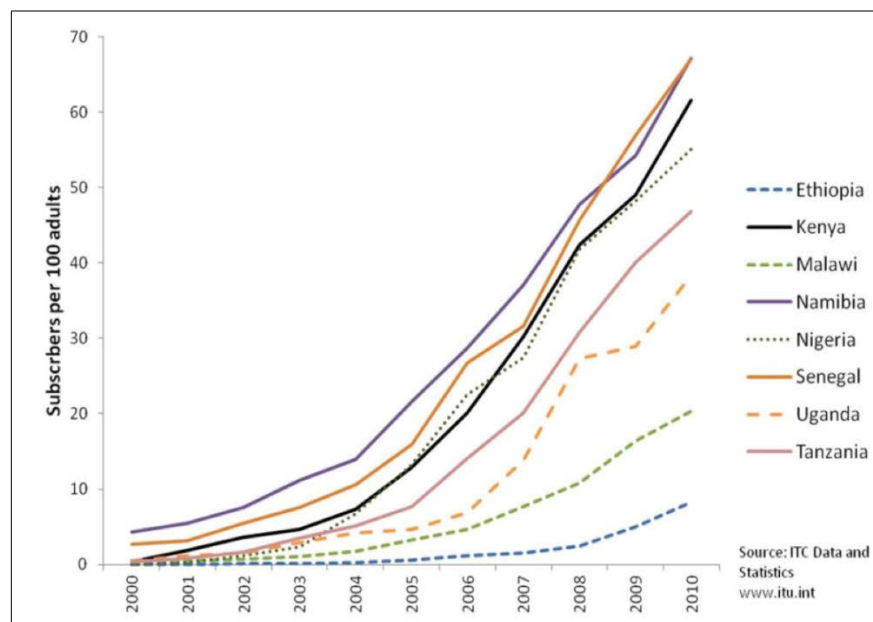
As it happens, the development of ICT needed for the value-added leap has been booming in Africa and the developing world at large. Figure 16.12 shows the development of Africa's connectivity in recent years, with the construction of under-sea cables and landing stations.⁵ Figure 16.13 shows the quick expansion of mobile phone subscriptions in selected African countries. For example, according to the World Bank, in Tanzania mobile money agents now outnumber all other financial intermediaries by a factor of ten to one. More than half of the people living on less than US\$2 a day in Tanzania have access to mobile technology.

The double leap is therefore a credible growth and development alternative to former models that focused merely on either industrialization or agriculture.

Figure 16.12: Africa's Connectivity: Under-Sea Cable Connections and Landing Stations



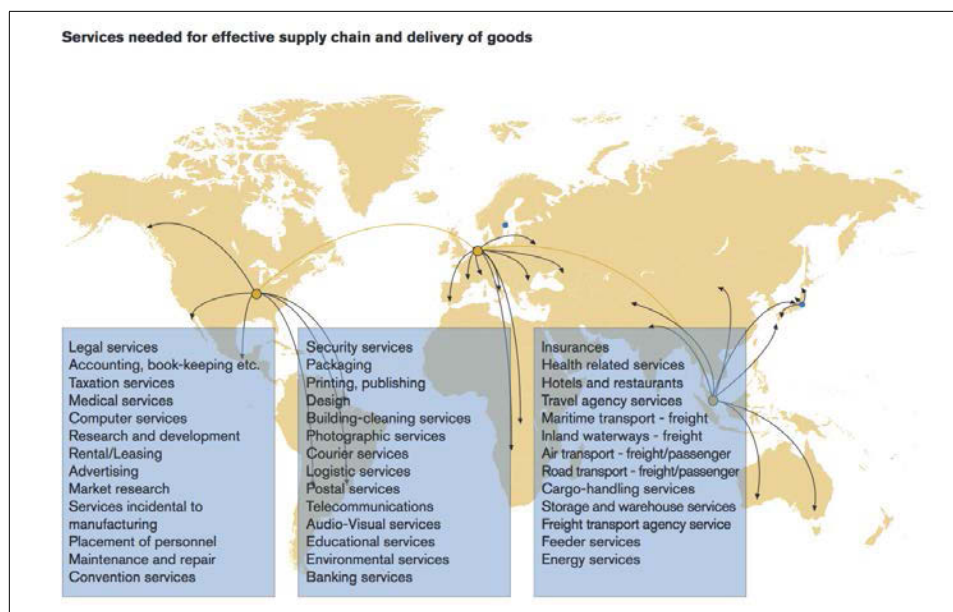
Source: <http://manypossibilities.net>.

Figure 16.13: The Boom of Mobile Phone Subscriptions in Africa

16.5.2 Using traditional exports to move up the value chain

Measuring the value of trade in services has always been a challenge, as noted above. Recent work on the measurement of trade in terms of value added reveals that the importance of services trade has been underestimated. According to the OECD-WTO's Trade in Value-Added (TiVA) database, services would represent a larger share of exports if exports were measured in value added (50 percent against 20 percent if measured in terms of gross exports). A number of services exports are embedded in traditional goods exports, because of the growing proportion of services in the economy, but these do not appear in traditional trade statistics. Recent work by the Swedish National Board of Trade has illustrated the growing proportion of services in the economy (see Figure 16.14), including in the agro-food industry (National Board of Trade, 2010, 2013).

Figure 16.14: Offshoring Needs for Services When Industrial Production Goes Global



Source: National Board of Trade (2010).

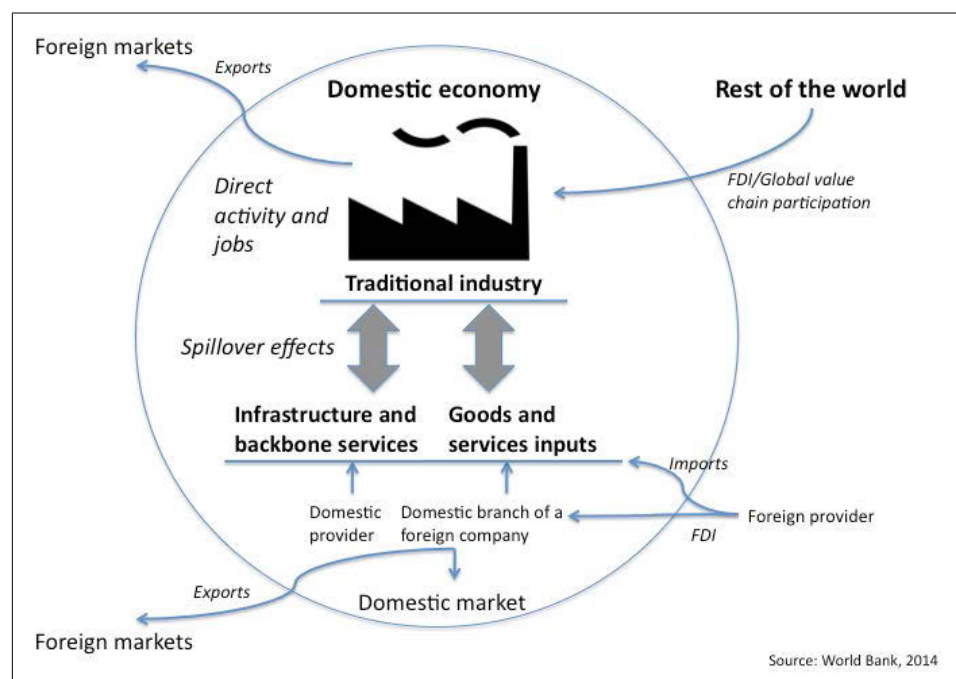
These new developments are of particular importance to African countries that have a high concentration of exports in traditional sectors. They suggest that the value of services trade—as it is traditionally measured—is underestimated and that hence the importance of services for the economy is underestimated. They also suggest that African countries do not need to directly export their services but could move up the value chain by developing the local supply of services to exporting industries, such as agro-food or mining industries. Countries could thus use their participation in global value chains in agro-food or mining as a stepping-stone for developing services. Ultimately, this development of services could not only boost a country's services exports but also contribute to improving the local supply of services, hence expanding the access of African people to more competitive and better quality services.

Figure 16.15 illustrates the development of services and services trade that could be triggered by a country's participation in GVCs and inflows of direct foreign investment in traditional sectors like mining or agriculture. African countries should seek to maximize the benefits from such participation and minimize its costs (Cattaneo

and others, 2013). The objective would be to move up the value chain through the local supply of input services and to capture as much value added as possible.

Three scenarios are possible for the provision of services inputs to traditional industries: first, the services could be imported if local supply is insufficient or insufficiently competitive (price and quality); second, foreign providers could establish themselves locally to supply themselves with services (that is, if demand is likely to be sustained); third, local providers could supply services, if needed after an adjustment of their capacity for training, investment, or maintenance of standards. Spillover effects are maximized in the second and third scenarios: local establishment of foreign suppliers could help transfers of all kinds (capital, knowledge, know-how, etc.) and contribute to local capacity building; the third scenario might take longer to accomplish, depending on the availability of local resources and skills.

Figure 16.15: Using Traditional Exports to Diversify African Economies and Foster Growth



Source: World Bank (2014).

Guinea's case provides an example from the mining industry in Africa. For Guinea, participation in the global mining value chain is a direct source of FDI inflows (US\$950 million in 2011 and US\$570 million in 2012), economic activity (about 20 percent of

GDP), jobs, and exports (75 percent of the country's total exports in 2012). It could also have important spillover effects, including in the services sector. Rio Tinto's Simandou project⁶ in Guinea alone is estimated to yield a total output of US\$7.6 billion a year, adding US\$5.6 billion added to the Guinean GDP and more than US\$1 billion to government revenue. The project would create 4,500 jobs directly, plus 3,500 jobs for contractors, and 45,000 jobs indirectly (Rio Tinto, 2013).

The operational phase of the Simandou project will require the improvement of the Guinean infrastructure (Figure 16.16), and the investment framework with Rio Tinto for the project provides for the financing of infrastructure. Though their main objective is to facilitate access to the exploitation site, its operation, and the transport of the products of the mine, the company's proposed investments could also help improve the access of Guinean citizens, in particular in remote regions, to essential services. Among other things, the project provides for the rehabilitation of 1,600 kilometers of road and 126 bridges. Not only does this work create demand for construction and engineering services (beneficiaries have included two Guinean companies and local branches of a French and a Brazilian company), but it also facilitates access to roads for Guineans living along the corridor. Similarly, the construction of the 670 kilometer Trans-Guinean railway to transport the mining products could benefit other users, including passengers. The construction of a port in Forécariah could also benefit third parties and open a new door to the rest of the world. Along the corridor, a fiber optic cable will be installed that could contribute to the objective of universal access to telecoms once connection is made available to third parties. Rio Tinto has also invested in the Beyla hospital and a public training center. In sum, the possible spillover effects of the project include an improvement of Guineans' access to essential services that include transport, telecommunications, health, and education.

The challenge for the government is to maximize these spillover effects to best serve the Guinean people's interest. The capacity of the port and railway will not, for example, allow significant use by third parties of the infrastructure unless the government or third parties invest further. A growth corridor could be developed along the road and railway, potentially reaching out to 1.8 million Guinean people in poor areas (Rio Tinto, 2013).

Figure 16.16: The Rio Tinto Simandou Project in Guinea: Possible Spillover Effects



Source: Rio Tinto (2013).

Notes: the dotted red lines are roads; the solid red line is the railway; see detailed key to the chart at Rio Tinto (2013: 40).

With regard to the goods and services that will be needed for the operation of all the mining projects in Guinea, the objective of the government and its partners (mining companies and donors) should be to identify those services that could be sourced locally and to develop local capacity. The International Finance Corporation, in collaboration with Rio Tinto and Guinea Alumina Corporation (GAC), launched IFC Business Edge in Guinea. That project has developed the capacity of local trainers to train local SMEs and help them meet international mining companies' standards. The Business Edge project supplements the Guinea Buy Local Program, which encompasses Rio Tinto's local procurement policies, procedures, and activities to meet its commitment to increase local sourcing in Guinea. A comprehensive database of local businesses (more than 700 SMEs) that could become suppliers to mining companies was developed.

Guinea's experience shows, however, that it is not enough to replace imported with locally produced services. Indeed, the substitution phase increases the country's dependence on the lead firm: domestic suppliers are exposed to the risk of changes

in the lead firm's business strategy and to shifts in its demand (e.g. the relocation of production in another country). To ensure the sustainability of local business, the client base must be diversified. Such diversification could take place, in a protected market, through the development of local demand. In a country like Guinea, unfortunately, local demand is not strong and sophisticated enough to substitute for the demand of lead firms: budget constraints affect the scope of public procurement, and local firms or consumers do not demand such high standards as multinational corporations. The sustainability of high value-added and high quality services thus depends on international demand and exports. Hence import substitution policies that require the lead firm to source its inputs locally, without ensuring that the local suppliers are internationally competitive, would be bound to fail. Movement up the value chain should take place in an open competitive environment and be sustained by strategies for export promotion and diversification to reduce the risks of participation in GVCs—and in particular of dependence upon a single lead firm.

Guinea is a perfect illustration of this new trade and development paradigm. A mining rush created a large demand for services in that country. In some sectors that are protected, for instance due to a lack of tradability, the sudden increase in demand generated inflation: this was the case, for instance, for housing and hospitality services that cannot be imported (although, in turn, this created a large demand for construction services to remedy the lack of housing facilities offering sufficiently high quality and safety standards for the mining companies). In other sectors, like engineering or retail/import of mining materials, both domestic and foreign companies benefited from the surge in demand. Guinea made significant efforts to build capacity and bring local suppliers up to the standards of the mining companies. These efforts had a cost, and many local services suppliers contracted debts to invest in production capacities (e.g. for trucks or other mining/quarrying machinery) and workforce development. Recent years saw a temporary withdrawal of the mining companies, in response to a drop in aluminum prices. Lacking local public and private demand, many companies had to lay off qualified personnel and went to the edge of bankruptcy. The companies that have survived, and could wait until the mining companies came back, are either domestic branches of foreign companies that could reallocate some of their staff and benefit from the support of

their network to diversify through exports, or domestic companies that had diversified their clients' base through exports.

16.5.3 Strategies to promote competitive services and local sourcing

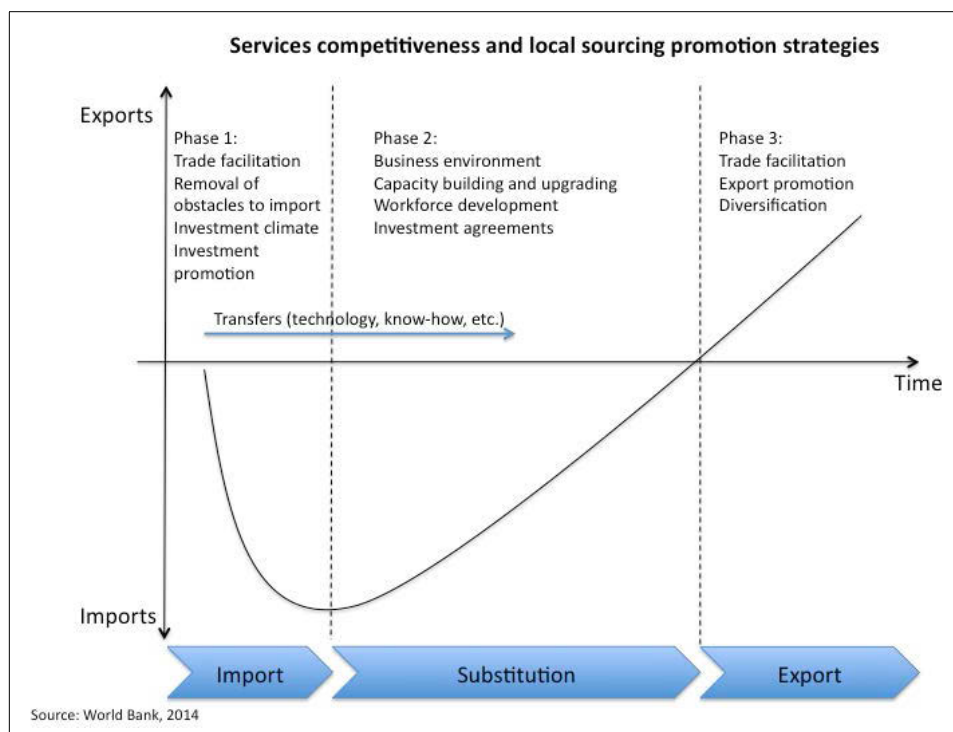
Maximizing the benefits of participation in GVCs calls for a mix of public policies, multi-stakeholder initiatives (e.g., public-private, government-donors, civil society), and cooperation. Such an integrated approach aims to ensure that strategies for building competitiveness and trade capacity are driven by demand rather than supply, and seeks to match a country's supply capabilities with market needs—rather than placing bets on sectors that have high export potential but low export survival rates. Maximizing the benefits of GVC participation could consist in capturing more of the chain's value added, by improving backward linkages or increasing the within-GVC transfers and their spillover effects. Maximizing the benefits could also be about identifying who gets what in the GVC, and restructuring dysfunctional GVCs to the benefit of local producers and service providers.

Such policies should be carefully designed to avoid creating new obstacles to trade and investment. For example, governments should avoid adopting national content rules that aim to capture more of the trade value added by reserving certain activities for nationals or by establishing a preference for domestic rather than imported inputs. Such rules would reduce the competitiveness of local suppliers and the attractiveness of the country for lead firms (e.g., by making adherence to certain standards more difficult). At the same time, local sourcing should be rewarded and should be facilitated through a proactive adjustment of local supply to the needs of firms participating in GVCs. Policies to enable the local sourcing of inputs include:

- enabling local small and medium-sized enterprises (SMEs) to meet the standards required by lead firms;
- removing unnecessary non-tariff barriers;
- developing the workforce to match available skills with demand;
- building capacity up- and downstream of the GVC entry point; and
- providing incentives for innovation.

Figure 16.17 shows a three-phase strategy for developing services trade, building upon policies to promote competitiveness and local sourcing.

Figure 16.17: Strategies to Promote Competitive Services and Local Sourcing



In phase 1, African countries should experience an increase in services imports, and a growing deficit in services trade. Accompanying policies should seek to encourage foreign investment by facilitating trade and improving the investment climate. Due to the importance of reputation and knowledge in the services sector, attempts to skip phase 1 and protect the local market would expose the country to the risk of limiting the spillover effects of investment. For example, an international law firm that could not establish itself locally would advise its clients from a foreign office, flying its lawyers in and out as needed; spillover effects would be limited since the jobs would be created abroad and no transfer of knowledge and development of local capacities would be possible.

In phase 2, substitution would progressively take place with the development of local supply to meet the needs of the foreign investors. Accompanying policies should aim to facilitate intra-chain transfers of all kinds (technology, knowledge, know-how), and

to help capacity building and upgrading, including workforce development. Investment agreements play a key role during this phase, and a government needs to satisfy itself that the exploitation of local resources by foreign companies will have enough positive spillover effects for the local economy. In open markets, substitution will take place only if the local suppliers become competitive, and therefore accompanying policies should also contribute to improving the business environment.

In phase 3, it is important to reduce local suppliers' dependence on foreign investors. Such diversification could be achieved through the development of local demand for services, including through public procurement or through raising local standards to match supply with demand. Given the limits of such policies (income), it is important to promote and facilitate exports.⁷

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Endnotes

¹ Thus, reducing production costs is an intermediate rather than a direct objective of Aid for Trade.

² Standards governing processes pertain, for example, to management, labor, and environmental impact and are often contained in a lead firm's corporate social responsibility code or conduct code.

³ Depending, for example, on whether a value chain is buyer-led or retailer-led (as discussed by Gereffi, 1994; Bair and Gereffi, 2001) and on the type of network structure: whether captive, relational, or modular (Gereffi and others, 2005).

⁴ Infrastructure portal at www.worldbank.org

⁵ It is estimated that 75 percent of people around the world now have access to a cell phone, with the number of global mobile-cellular subscriptions quickly approaching 7 billion.

- ⁶ Simandou is a world-class project located in Guinea that aims to provide access to one of the world's largest untapped, high grade iron ore resources.
- ⁷ In Guinea, this dimension has been neglected thus far and should be rolled into current local sourcing promotion policies.

17. Better Global Governance for a Stronger Africa: A New Era, a New Strategy

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17.1 Introduction

Economic news on Africa has been quite positive, and increasingly so, over the past decade. African economies have posted impressive growth rates, even weathering the global financial and economic crisis, and some are currently ranked among the fastest growing economies in the world (IMF, 2014). The continent has the second highest growth rate after Asia (Brixiova and Ndikumana, 2013). It has also experienced an improvement in governance, with the majority of countries embarking on democratic changes, forging ahead toward egalitarian representation, including along gender dimensions, and regular universal elections.

These recent positive developments notwithstanding, the majority of African countries still confront major structural challenges that hamper progress towards stable and inclusive development. The continent confronts high and stubborn poverty rates where a large fraction of the population chronically struggles to make ends meet. Sub-Saharan Africa is the only continent where the number of poor people has continued to rise even during the era of growth resurgence.¹ In addition to high levels of poverty, African countries also face high and often rising inequality, both in its vertical (income inequality) and horizontal dimensions (e.g., regional and gender inequalities), which implies that the gains from growth are not equally shared among

the population. One of the emerging challenges in African countries is rising youth unemployment, which poses severe political risks as was demonstrated by the Arab Spring in 2011. Unfortunately it does not appear as though African governments are equipped to deal with this rising tide. Few countries have dedicated government institutions mandated and equipped to design and implement explicit strategies to solve the youth unemployment problem.

Structurally, most African economies still lack resilience, with trade and growth remaining concentrated in one or a few products in the primary sector. Growth has not been accompanied by meaningful diversification and economic transformation. The chance for African countries to modernize is highly contingent upon their ability to transform, and especially to better harness their natural resource endowment (UNECA, 2013). One of the challenges facing African countries is that the global environment is rather unfriendly, and it hampers their efforts to gainfully tap into global markets.

Moreover, African economies are hampered by structural fiscal fragility. They still depend heavily on external assistance. Domestic revenue mobilization is substantially below potential and progress in this area is very slow. Weak revenue performance is a severe constraint on efforts to achieve strong, sustained, and shared growth.

The recommendations that are given to handle these challenges have typically focused on what African countries themselves should do to improve their positions, and what their development partners or donors should do to improve the continent's economic fate. Much less attention has been devoted to the role of global governance in addressing these challenges. Efforts at the national, bilateral, and multilateral levels are hampered by features of the global governance architecture that undermine national policy and international cooperation. This paper discusses these issues as a way of shedding light on possible solutions to help put African countries on a more robust development path and thus build a stronger Africa.

17.2 The increasing interdependence among countries

That we live in an increasingly interdependent world is not a controversial statement. The performance of national economies is substantially and increasingly influenced

and constrained by outcomes of policy decisions and shocks originating in other countries and regions. This was clearly demonstrated in 2008-09. Unlike in the past, African countries suffered the consequences of a crisis that was not of their own making. What started off as a crisis in the US financial system had substantial spillover effects on African economies. While African countries were able to avoid the first-round effects, due to their limited financial development and limited integration in global financial markets, they suffered second-round effects through the decline in demand and prices for their commodity exports and a collapse in trade financing. They later suffered third-round effects when the banking sector was affected by high exposure to the oil sector in some countries. This was especially the case in Nigeria where a dozen of banks had to be bailed out by the Central Bank (Brixiova and Ndikumana, 2013).

The effects of the recent debt crisis in Europe are another illustration of the relevance of increasing global interconnectedness for African economies. The crisis has affected Africa's trade, given that European countries remain the continent's main trading partners despite the increasing shares of China and other emerging economies (AU and UNECA, 2012). This also illustrates the risks of African economies' highly concentrated trade and the urgent need to diversify export and import markets.

What is the relevance of global governance in a context of increasing global economic interdependence? The increasing interconnectedness implies that African countries suffer the consequences of governance failures that occur in other regions or at the global level. As indicated earlier, the negative impacts of deregulation and reckless risk taking in the US financial system were not limited to the United States but affected African economies. More generally, inadequate financial regulation policies have detrimental effects on African countries. And yet African countries have no say about global rules on financial sector regulation.

17.3 Asymmetries in the global system

Globalization is characterized by important asymmetries that have substantial implications for African economies.

17.3.1 Trade and finance

The first main manifestation of asymmetries is with regard to the governance of trade and finance. The past decades have witnessed rapid expansion of financial flows in all forms, including foreign direct investment, portfolio flows, and cross-border mergers and acquisitions. This expansion has been facilitated by financial liberalization and deregulation at the national level, as well as the proliferation and rapid growth of offshore finance. Finance has outpaced trade in goods in size, scope, and sophistication over the past decades. Between 1980 and 2012, capital flows grew five times faster than exports. Global trade in merchandise increased by 820 percent, from US\$1,979 billion to US\$18,214 billion, while global outward foreign direct investment increased by 5,290 percent, from US\$549 billion to US\$23,593 billion.² Most capital flows have been directed to the services sector, including banking (UNCTAD and others, 2002: 9). The key concern regarding this asymmetry is that while there have been substantial efforts to establish and strengthen global frameworks for the regulation of trade in goods, little attention has been devoted to the regulation of finance.

Inadequate governance of finance has substantial implications for African economies in many important ways. The rise in unregulated financial flows increases the fragility of national and regional financial systems through higher contagion across the globe. Globalization and unregulated finance have also facilitated the expansion of capital flight and illicit financial flows from African countries. Over the last four decades, up to 2010, Africa lost about US\$1.3 trillion through capital flight or US\$1.7 trillion including interest earnings. This amount vastly exceeds the continent's liabilities to the rest of the world, thus ironically making the most capital-starved continent a net creditor to the rest of the world (Ndikumana and Boyce, 2011, 2013; Ndikumana and others, 2013). Illicit financial flows imply substantial losses in public and private capital as well as government tax revenue, retarding growth, poverty reduction, and economic development in general (Ndikumana, 2014c; Nkurunziza, 2012, 2013). Indeed, a large proportion of illicit financial flows are motivated by tax evasion and tax avoidance.

An important mechanism of illicit financial flows is transfer pricing by multinational corporations, especially in the natural resource sector. This is facilitated by the increasing sophistication and complexity of the governance and ownership structure and domiciliation of modern large corporations along with the lack of coordination of tax policies around the world. For example, while the copper mining giant Mopani Copper Mines (MCM) is a Zambian registered company, it is almost entirely located in tax havens: it is 73 percent owned by Carlisa Investments in the British Virgin Islands, a company that in turn is 82 percent owned by Bermuda-based Glencore Finance, which is 100 percent owned by Switzerland-based Glencore International AG. This complex structure enables MCM to minimize its tax liabilities in Zambia by inflating its costs, the bulk of which are expenses paid to company affiliates located in low-tax jurisdictions. Such mechanisms explain why Zambia is generating tax revenue from the mining sector that is far below its potential. A report from the Zambia Institute for Policy Analysis and Research says it all: “With some of the worst poverty statistics in Africa, Zambia appears to have little to show for a century of mining” (Manley, 2013). Most noteworthy, an analysis of reports by the Extractive Industries Transparency Initiative (EITI) reveals that the largest tax payments by mining companies consist of employee taxes or PAYE (pay-as-you-earn) taxes while corporate profit taxes contribute a relatively small share (Lundstøl and others, 2013).

The foregoing discussion has important implications for global governance. A long-standing tradition of governance of global trade in merchandise has led to the establishment of international bodies in charge of regulating international trade. In addition to global institutions such as the World Trade Organization (WTO), there are regional arrangements such as the North American Free Trade Agreement (NAFTA) that aim to coordinate trade for the purpose of development and stability of the global economy.

There is no equivalent structure for the governance of global finance. On the contrary, past decades have witnessed an increasing deregulation of finance with accompanying negative effects on financial stability. The liberalization era saw the proliferation of offshore financial centers (OFCs), which are the ultimate illustration not of only

lack of regulation but also of blatant violation of responsible-finance rules. Contrary to common perceptions these OFCs, also referred to as “safe havens,” include not only exotic tropical islands such as the Bahamas, Cayman Islands, and the like, but also large financial centers such as New York, London, and Paris.

The positive implication is that because these OFCs are located in countries with otherwise strong legal and regulatory systems, it is possible to discipline them given adequate political will. Indeed, things are beginning to move gradually in the right direction. For example, some progress has been made recently by the United States in breaking through the secrecy walls of Swiss banks, forcing them to report assets held by American taxpayers. The question is how African countries can jump on the bandwagon, given that they have no muscles to flex in front of well-capitalized and politically powerful financial institutions in OFCs.

Regulating global finance requires addressing weaknesses and systemic issues at both the national and international levels. At the national level the key issues to tackle are transparency and accountability in trade and capital account transactions. This includes tackling import and export misinvoicing, which constitutes an important channel of capital flight. There is an urgent need to clamp down on tax evasion and tax avoidance by multinational corporations. But, at the same time, African governments need to be more diligent in their design of tax incentives aimed at attracting foreign direct investment. In addition to being subject to corruption, these incentive schemes are often exaggerated, granting multi-year tax holidays to companies that are investing in sectors that are otherwise highly profitable with relatively short break-even cycles. In addition to causing large losses in tax revenue, such generous tax holidays imply significant competitive advantage in favor of foreign investors to the detriment of domestic investors.

At the international level, governance reforms are needed to establish and strengthen mechanisms for exchange of information on cross-border trade and financial transactions. Specifically, advanced countries and global governance bodies need to institutionalize automatic exchange of information and country-by-country reporting of multinational corporations’ trade and financial operations. These measures will

not only benefit African countries but also help build much cleaner, development-oriented global trading and financial systems.

17.3.2 Labor and capital movements

The second type of asymmetry in the global economic system is with regard to the movement of labor and capital. Globalization has been accompanied by increasing capital mobility partly as a result of deregulation, as illustrated by the explosion of financial flows. Comparatively fewer changes have taken place with regard to labor mobility, as labor remains more strictly regulated than capital. It is true that migration has increased, including rising shares of highly skilled labor from Africa, which implies substantial losses in the continent's human capital. This is especially relevant given that education is mostly financed by governments.³

The implication of these asymmetries between capital and labor mobility is that the tax burden falls disproportionately on labor compared to capital. The above example of the Zambian mining sector is quite illuminating in this respect: increased capital mobility favors capital owners relative to workers, and large companies relative to small and medium enterprises (SMEs), so the working class and SMEs end up bearing a tax burden that is larger relative to their incomes. The taxes paid by workers and SMEs are used in part to cover the tax holidays granted to large foreign investors. As a result, income inequalities deepen, while the provision of public infrastructure and social services is held back. This too affects workers proportionately more than capitalists, who can afford private services in or outside the country.

17.3.3 Implications for global governance

What are the implications for global governance? An aspect that we emphasize in this paper is the implications for global development finance. As discussed above, increased capital mobility has been accompanied by large and increasing losses in tax revenue for African countries. The evidence requires a deep rethinking of development assistance strategies. Traditionally, the focus has been on efforts to increase official development aid and facilitate access to markets for African countries. But as we know by now, aid volumes will not increase meaningfully in the foreseeable future.

It is therefore time to shift the focus towards helping African countries to mobilize more of their own domestic resources.⁴ This involves assisting these countries to expand their tax base, including bringing into the tax net the growing urban real estate sector.⁵ It also involves increasing the transparency and user friendliness of tax systems, as well as building investigative skills and an appropriate administration infrastructure to track and prosecute tax evasion. Most importantly, the donor community can help African countries by enforcing responsible behavior by multinational corporations. This involves enforcing the existing rules against corporate corruption, such as the US Dodd-Frank Act and the UK Bribery Act.⁶ The ultimate objective is for African countries to be in a position to mobilize sufficient resources to finance their development agenda and to graduate from aid.

17.4 Global governance and national policy space

For African countries to build stronger and more resilient economies, national development policies need to be designed differently and geared towards building stronger productive capacities. For this to happen, greater country ownership is needed. Two important dimensions are emphasized in this paper.⁷

17.4.1 Macroeconomic policy

First, African countries need to move away from the “do no harm” approach to macroeconomic policy. They need to consider and use macroeconomic policy in active support of national development strategies, beyond the traditional confines of macroeconomic stabilization. Traditionally, African countries have been trapped into a minimalist approach that confines the role of macroeconomic policy to keeping inflation at low single-digit level, explicitly at a magic 5 percent.⁸ By setting the bar so low (only focusing on inflation), this policy rewards the few occasional “stellar performers” that are able to bring down inflation, regardless of the actual progress made in real development outcomes. This is a rather cynical view of policymaking in Africa. Certainly African governments can do better than this.

Broadening the goals of macroeconomic policy also requires broadening the range of its instruments, and increasing the integration and synergies between macroeconomic policies and sectoral strategies. In particular, governments need to leverage

the potential of credit policies, inclusive finance strategies, investment incentives, and employment policies in stimulating private investment and employment creation. This will help overcome the trap of jobless growth that many countries have experienced over the past decades of “growth resurgence.”

17.4.2 Industrial policy

The second dimension emphasized here is the need to embrace industrial policy as the cornerstone of national development policies. This requires a philosophical and ideological shift to overcome the negative view of the role of government in economic development. Africa and the global community must come to realize that it is impossible to achieve strong and sustainable development without a capable state.

At the sectoral level, industrial policy in African countries must establish agriculture as the launching pad for manufacturing and industrial development. This involves policies and mechanisms to support agribusiness and other industries for transformation of agricultural products. For example, Ethiopia has made substantial progress in leveraging its large cattle stock to build a growing leather industry. Rwanda, too, is making headway in agro-processing, in the transformation of fruits into juice, processing and packaging of milk, and other agro-industries. This creates incentives for investment in agriculture, creates jobs, increases and stabilizes export revenue, and reduces dependence on food imports.

Another key element of this renewed industrial policy is to exploit the full potential of the continent’s natural resource endowment. This requires measures to move up the value chain in the sector. This will be accomplished by building domestic capacity through explicit human skills development that leverages resource revenues. It also requires clear investment rules that mandate and institutionalize the allocation of revenue from oil and minerals into infrastructure investment and the stimulation of non-resource activities. Botswana is a good example in this regard. It has institutionalized a budgeting rule, that the Sustainable Budget Index—defined as the ratio of non-investment spending to recurrent revenue—must be kept below one (Lange and Wright, 2004). This ensures that all the revenues from mineral resources are used to finance public investment. Botswana is also making efforts

to increase the domestic transformation of diamonds, which will help increase the value added of its exports while also creating jobs.

A cornerstone of this renewed industrial policy is technology and innovation. Thus far, African countries have not invested sufficiently in technology and innovation. There are some encouraging trends whereby some governments, for example in Uganda and Ethiopia, are giving more prominence to science, technology, and innovation in their educational systems. Still, services for the development of the industrial sector receive very little public resource allocation.

17.4.3 Global aspects

What is the relevance of global governance? For African countries to successfully embark on a path of economic transformation driven by well-crafted industrial policies, they will need to be given sufficient policy space and ownership of national policies. This requires getting rid of imported ready-made one-size-fit-all policy packages. They must be given the flexibility to innovate and adapt their national strategies to domestic circumstances and national goals. Advanced countries must also facilitate their access to modern technology, through technology transfers and resistance to protectionism. At the national level, the success of industrial policy requires visionary leadership and confidence, with a view to offer and stand behind an alternative national viewpoint regarding national development policy. In other words, African countries must also be prepared to seize the policy space in the event it is granted to them.

17.5 Voice and representation

Traditionally, the global governance architecture has been founded on a very simple principle: economic size is all that matters. Representation at the main international governing bodies is determined by the size of a country's economy. And given that this principle was established a long time ago, it naturally favors old economies, namely those of Europe and North America. Thus, Africa and other developing regions are marginalized in the global decision-making bodies where their fate is usually sealed. It is in that context that Africa has only three seats on the executive board at the World Bank—an ironic feature of an institution whose mission is to promote

good governance and economic development. The Bretton Woods institutions' largest client is Africa, which contains 32 of the 48 least developed countries and the largest number of poor people in the developing world excluding China. Yet the continent is inadequately represented in these institutions' policymaking processes. It is indeed ironic that institutions whose mission is to champion good governance are unable to operate on the simple rule of fair representation.

Today global governance is gradually shifting towards elite multilateralism, where deliberations on vital issues are held within small clubs of large economies, thereby marginalizing the traditional more representative bodies such as the United Nations and its affiliated organizations. Major decisions affecting the world economy and African economies in particular are taken at the meetings of the G7, G8, and G20, where African countries are not represented.⁹

What options does Africa have to address this marginalization in global governance? There are three possible courses of action. As a first notional option, the large economies, namely South Africa, Nigeria, Algeria, and Egypt, can choose to lobby the global powers so that they can become members of the elite clubs and defend their own national interests. This would leave the smaller poorer African nations in the dark to fend for themselves. Obviously this is a losing strategy. These countries will have a hard time being accepted in the elite clubs. Moreover, it is impossible to build islands of prosperity in a sea of deprivation.

The second option is for the large African economies to embrace their leadership destiny and champion a unified African voice to defend the continent's interests in the global arena. This involves developing strategic alliances with regions that have similar interests so as to leverage the increasing strength of the "global South." Thus the continent would ride on the rising tide of economic prosperity in the BRICs and other emerging economies. This seems to be a winning strategy.

The third option is to strengthen regional integration. This would enable the continent to develop larger regional markets and build capacity to initiate African solutions to Africa's economic and political problems. The consolidation of regional integration is a powerful strategy for increasing Africa's voice in global governance.

The combination of these last two options is Africa's winning strategy in an increasingly integrated yet marginalizing global economy. It is time for Africa to seize these opportunities and take charge of its economic destiny.

16.6 Conclusion

This paper has identified a number of critical issues that characterize the current global governance structure and aspects of globalization that have major implications for Africa's economic development. It has underscored important asymmetries in the globalization process that result in substantial disadvantages for African economies. It has also highlighted the marginalization of the African continent in the current global governance structure, whereby major decisions that have vast implications for Africa's economic destiny are taken in global bodies where Africa is not represented. The paper has laid out a number of options that the continent may pursue to address these challenges so as to better position itself to take advantage of globalization and establish a stronger base for long-term development. The success of these strategies requires visionary leadership on the African side as well as reforms of the global governance system to improve transparency, accountability, and mutual responsibility. Such reforms must be geared toward giving African countries more policy space to own their national policy frameworks so that they are tailored to country-specific circumstances and help achieve national development goals.

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Endnotes

¹ The number of poor African people increased from 205 million in 1981 to 386 million in 2008 (World Bank PovcalNet database).

² Data obtained from UNCTAD's statistical database at <http://unctad.org/en/Pages/Statistics.aspx>.

- ³ In other words, private human capital is financed by public funds. In many African cases, even private education institutions free-ride on public resources: their teachers are often full-time employees of public schools (resulting in high teacher absenteeism) and use material from their public institutions of affiliation.
- ⁴ See Ndikumana (2014b) for a detailed discussion and illustrations.
- ⁵ Rwanda is making progress in taxation of urban real estate through computerization of property records and improved monitoring of tax payments by the local authorities. These reforms are both feasible and highly beneficial.
- ⁶ See Ndikumana (2013) for a more detailed discussion of anti-private sector corruption rules and regulations.
- ⁷ See UN-OHRLLS (2013) for an in-depth and illustrated discussion of strategies to build productive capacities in developing countries.
- ⁸ It is not clear how the 5 percent inflation target came about. Even more intriguingly, it is not clear how it applies to all countries. See Ndikumana (2014a) for a discussion of implications of inflation-focused monetary policy frameworks in African countries.
- ⁹ South Africa has a seat at the G20 table but in its own right, not as a mandated representative of Africa's interests.

18. China-Africa Economic Cooperation: Dimensions, Changes, Expectations

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This short paper discusses the latest information on trade, investment, finance and ODA flows from China to Africa and vice versa; changes in the cooperation framework—aid, partnership, and attention to the environment; and what we can expect from the future.

18.1 Chinese engagement in Africa

China has been engaged in Africa for more than 50 years. In the 1960s, Chinese aid began by financing production projects: large state-owned farms and factories in countries such as Tanzania, Mali, and Mauritania. During the 1970s and 1980s, aid expanded to cover infrastructure. The 1,860 kilometer Tan-Zam railroad is best known, but Chinese aid also financed and built bridges in Sierra Leone and Zambia, the Kinkon and Tinkisso hydropower projects in Guinea, highways in Ethiopia and Madagascar, urban water supply facilities in Congo and Somalia, and dozens of other projects, including stadiums and ministry buildings. During the 1990s, Chinese contractors expanded their business in Africa, bidding on projects financed by non-Chinese sources. Chinese companies also began to invest equity in the continent: in oil in Sudan, copper in Zambia, and agriculture in Togo.

Today, little of Chinese economic cooperation in Africa is strictly official development assistance (ODA). Chinese ODA on a net basis is relatively small and is considered

primarily as an instrument of diplomacy, taking effect through, for example, supplying medical teams or building stadiums and conference centers. For third parties, awareness of the distinction between development assistance and economic cooperation is critical for efforts to engage the Chinese: OECD countries and multilateral development banks should engage with their counterpart Chinese entities (export credit agencies, state-owned banks), and shift away from “donor-recipient” thinking.

The scope of Chinese economic engagement with Africa is very large and still growing rapidly. In 2013, Chinese trade with Africa¹ reached US\$210 billion, almost double the figure of US\$107 billion in 2008, and up from US\$19 billion in 2003. China became Africa’s largest trading partner in 2009. China-Africa trade has grown at an average annual rate of 29 percent over the past decade, although the rate slowed to 6 percent in the past year, reflecting slower growth in both Chinese exports (9 percent) and African exports (3 percent). Chinese premier Li Keqiang predicted during his May 2014 visit to Africa that China-Africa trade would reach US\$400 billion by 2020.

The stock of Chinese foreign direct investment (FDI) in Africa at the end of 2013 is reported by Chinese sources at more than US\$25 billion. This does not include Chinese-owned FDI originating from offshore financial centers such as Hong Kong, Cayman Islands, or Luxembourg. In 2012, annual Chinese FDI flows to Africa were US\$3.61 billion, and for 2013 preliminary figures report a similar amount of US\$3.77 billion. Other sources, tracking media reports, note that Chinese firms committed to US\$6.76 billion in large investment projects (greater than US\$100 million) in Africa in 2012, although not all of these investments will be realized, and some will be smaller in scale than originally reported. Mining is the largest sector (25 percent), followed by construction (23 percent), finance (18 percent), and manufacturing (16 percent). South Africa continues to be the largest investment destination, with 22 percent of total Chinese FDI stock in Africa. Since 2007, the China Africa Development Fund, an equity fund established by China Development Bank, has invested US\$2.39 billion in equity in 61 projects, many of them joint ventures and most of them export oriented. According to Chinese sources, African countries had investment stocks of US\$14.2 billion in China as of 2012.

The construction industry in Africa is a significant arena for Chinese business. Chinese companies with engineering and construction contracts in Africa reported US\$40.8 billion in turnover (revenues) in 2012, and US\$64.05 billion in the value of new contracts signed that year. These figures have increased substantially over the past decade: in 2003, Chinese firms reported turnover of only US\$2.3 billion. Much of this work will be financed by non-Chinese sources, including the World Bank, African Development Bank, bilateral agencies, and African governments and private sectors.

In May 2014, Chinese officials announced that Africa now receives more than half of China's official development assistance (ODA). ODA comprises projects funded by grants, zero-interest loans, and low-interest (concessional) foreign aid loans. China's Ministry of Commerce oversees the foreign aid program and manages the projects funded by grants and zero-interest loans. Between January 2011 and December 2012, 83 foreign aid projects financed by the grant and zero-interest loan program were completed in Africa, including 16 hospitals, several malaria treatment centers, schools, and agricultural technology demonstration centers. China's Export-Import Bank provides appraisals and finance for projects funded by concessional aid loans.

China does not report much about its finance or its official development aid. China's budget for foreign assistance expenditures includes the face value of grants and zero-interest loans, and the value of the interest-rate subsidy on concessional foreign aid loans, but not the face value. The latest published figures (2012) record an annual global disbursement by China of RMB16.7 billion (US\$2.65 billion) out of a budget of RMB19.2 billion (US\$3.04 billion).² About half of this amount, or US\$1.3 billion, is a good approximation of the actual government funds disbursed in foreign aid for Africa in 2012.³ These figures do not include the face value of concessional foreign aid loans, which are banking transactions for which no budget allocations are made. The latest public announcement of total ODA was in April 2013, when an official stated that China's global foreign aid (presumably for 2012) totaled 40 billion yuan (US\$6.35 billion).⁴ If Africa received around half of that (the current norm), then the amount of ODA disbursed to Africa was approximately US\$3.18

billion in 2012. Due to the rapid increase in loan funds, annual disbursements are notably smaller than annual commitments. And, as noted above, official development assistance remains a small portion of the total flows. In 2005, the portfolio of concessional foreign aid loans at China Eximbank made up only 3 percent of the Eximbank's assets, according to a credit review by Standard & Poor's.

Chinese leaders have pledged to commit official loan finance of US\$35 billion between 2007 and 2015 to Africa⁵, or nearly US\$4 billion per year. Up to half of this is likely to be non-concessional. China Eximbank also provides export buyers' credits and commercial loans tied to market rates. China Development Bank (CDB), which provides only commercial-rate loans, began lending in Africa around 2007. In 2009, CDB also established a loan fund for African small and medium enterprises; by the end of 2012, this fund had committed US\$1.21 billion in SME loans through African financial institutions. *People's Daily* reported that as of September 2010, CDB had committed more than US\$10 billion to projects in Africa and disbursed US\$5.6 billion to 35 projects in more than 30 African countries⁶; this figure is likely to include finance to Chinese companies operating in Africa. In 2012, CDB was reported to have US\$13.7 billion in outstanding loans in Africa.⁷

Drawing on open sources, project by project, the SAIS China Africa Research Initiative (CARI) estimates that Chinese official loan commitments and suppliers' credits to African governments, African state-owned enterprises (SOEs), and joint ventures between African SOEs and Chinese firms were approximately US\$49 billion between 2000 and 2011.⁸ These figures include finance for military as well as economic purposes. Nearly half of the value of these credit agreements was secured with commodity export sales or enterprise profits going to an escrow account. The largest Chinese loans are at commercial rates of LIBOR plus a margin, and are generally tied to Chinese goods and services, although this is somewhat negotiable. These figures have grown sharply but appear to have leveled off. Recent years (up to 2011) show approximately US\$8.4 billion annually in commitments of bilateral loan finance to African governments, government-owned banks, SOEs, and joint ventures from all Chinese sources.

The Chinese figures can be loosely compared with foreign assistance (including military aid) to Sub-Saharan Africa from the United States of approximately US\$12 billion in 2012⁹, or commitments from the World Bank to SSA of US\$8.2 billion in 2012/13 with a US\$40.2 billion portfolio¹⁰ of projects under implementation.

18.2 Impact

With cooperation taking so many forms, impact has been varied. Increasing policy space for Africa has allowed industrial policy, infrastructure, and agriculture to resume central positions. The most significant effect of Chinese cooperation is probably in infrastructure. Although no studies exist of this impact, and questions have been raised about the quality of the infrastructure built, many anecdotes exist of reduced travel time on newly paved roads, rural communities with new access to electricity and mobile phones, urban sanitation, and clean water, and Internet access through fiber-optic cables. At the same time, Chinese competition has probably made it more difficult for local African construction firms to grow into large players on their home turf; African workers complain about low salaries and poor labor relations; and the maintenance of the facilities built is not assured.

In employment, capacity-building, and training, the impact of Chinese engagement may be substantial. For example, China National Petroleum Corporation has 17,600 local petroleum workers across Africa, including in Sudan, Chad, and Niger. Chinese companies like China Nonferrous Metal Mining Group have established scholarships at African universities to support African students in mining and engineering. Huajian, a shoe factory in Ethiopia, sent 86 local workers to China for training, hired interns from a local vocational-technical school built with Chinese aid, and now employs 3,000 local workers.

In 2012, China funded 6,717 African students enrolled in degree programs in Chinese universities; more than 8,000 officials went on short-term training courses (including in crop protection, fisheries management, development planning, water resource management). In his May 2014 visit to the World Economic Forum in Abuja, Chinese premier Li Keqiang pledged to provide an additional 18,000 Chinese government

scholarships for African students and to provide short-term training for 30,000 professionals, although there was no indication of the time period for realization of this pledge. Chinese companies like Huawei and CCECC have built training centers in Kenya and Nigeria.

18.3 Changes in the cooperation framework and expectations for the future

Since 2000, the official framework of cooperation for China-Africa economic engagement has been negotiated every three years as part of the Forum on China-Africa Cooperation (FOCAC). Commitments of official Chinese finance are usually announced at these meetings, which also report on outcomes of earlier commitments. The FOCAC summits, and speeches by Chinese leaders, provide a window into Chinese thinking about the directions in which the engagement should shift. For example, in response to concerns about the impact of Chinese goods on African enterprises, the Chinese established the US\$1 billion loan fund to support African SMEs.

Below we briefly discuss several issues where Chinese practice has noticeably changed, and point out how this might affect future developments. We also provide some analysis about recent trends in finance and suggest how this may affect the future expansion of Chinese engagement.

18.3.1 Environment

At the 2009 FOCAC, Chinese leaders announced that they would fund 100 “clean energy” projects in Africa from 2010 to 2012, a reflection of their awareness of the importance of “green” issues. The learning curve on environmental issues is steep in China. Chinese consumers continue to demand products and foods—for example ivory, abalone, rhino horn—from endangered and protected animal species. To address concerns about ivory smuggling, the Chinese joined in a large public crushing in January 2014 of six tons of African ivory seized by Chinese customs. Retired Chinese basketball star and environmentalist Yao Ming has been featured in a number of ads to raise awareness of the plight of African elephants, while the government sends cell phone messages to Chinese travelers to Africa to warn them of the penalties for purchases of illegal wildlife products from Africa. The Beijing

airport is lined with posters raising awareness of endangered species. In 2013, the government banned shark fin soup from official banquets, contributing to a fall in the price and volume of imports—a trend that had begun in 2009 when Yao Ming said he would no longer eat shark fin soup.¹¹

18.3.2 Investment partners

Chinese practice is also changing somewhat with regard to how companies approach investment. In the past, company leaders assumed that (as in China) local party leaders would be safe partners in investments. After being burned by the failure of investments after political transitions, some firms have changed their approach. “Now we prefer to talk with government administration instead of party leaders when it comes to further cooperation,” an official with China State Farms Agribusiness Corporation told a newspaper, recounting an experience in Ghana.¹²

18.3.3 Tripartite cooperation

The Chinese Ministry of Agriculture’s Twelfth Five Year Plan (2011-15) was the first to specifically endorse the exploration of tripartite cooperation, with specific mentions of cooperation among China, developing countries, and the United States, Britain, Japan, and the World Bank.¹³ We can expect to see more exploration of cooperation in the future, as the Chinese consider the lessons of these initial experiments.

18.3.4 Economic engagement

Economic engagement will continue to increase. Chinese estimates predict that two-way trade will double again to US\$400 billion by 2020. These figures are likely to be met, particularly as demand for Chinese goods will continue to be strong among African consumers.

Chinese analysts predict that Chinese foreign direct investment in Africa will quadruple by 2020, to US\$100 billion (stock). But it is hard to see how this will be achieved: it would require FDI flows from China to Africa of more than US\$10 billion per year, but past Chinese official FDI flows to Africa have never risen above US\$5.5 billion in a single year.

18.3.5 Chinese finance

The rate of increase of Chinese finance is likely to continue to slow and concessional finance is not likely to expand as fast as before. Between 2008 and 2011, for example, China's budget for foreign assistance expenditures grew by an average of 9 percent annually after several years of expansion at an average rate of 17 percent. Similarly, as the "going global" policies took off between 2005 and 2007, China Eximbank's global disbursements of finance¹⁴ grew at an average of 40 percent annually. However, in 2008-12, growth slowed to an annual average of 9 percent, and in the last year (2011/12), growth was only 3 percent.

It is also possible that projects in Africa may experience a rapid increase in the near term as a backlog of project agreements are executed before the 2015 FOCAC deadline. The hydropower sector provides an illustration. Between 2003 and 2012, Chinese banks financed only eleven large (greater than 50 MW) hydropower projects and assorted transmission lines in Africa, for a total of US\$4.5 billion. In 2013 alone, however, China Eximbank appears to have signed six loan agreements for hydropower projects, totaling US\$2.96 billion, with others under active discussion in 2014. China Development Bank's growing commercial role in Africa may also offset a slowing of cheaper finance from China Eximbank. Chinese policymakers believe that many African countries can manage finance at commercial rates.

18.4.5 Manufacturing

According to the Chinese Ministry of Commerce, the stock of Chinese investment in African manufacturing came to US\$3.43 billion as of 2012. Drawing on data from the Chinese Ministry of Commerce, researchers at the SAIS China Africa Research Initiative have identified 505 Chinese manufacturing investments in Africa approved between 2000 and March 2014. As manufacturing costs rise in China, more Chinese and other firms will be looking to move offshore. An official at China's Ministry of Commerce commented in 2013: "In the past, China imported minerals and crude oil directly from Africa—but now we are investing more in downstream mineral processing businesses there."¹⁵

Endnotes

- ¹ All figures for Africa represent the entire continent.
- ² China Statistical Yearbook (2012).
- ³ According to the State Council, as reported in China's White Paper on Foreign Aid (April 2011), "China's financial resources for foreign aid have increased rapidly, averaging 29.4 percent from 2004 to 2009." Budget expenditures rose by 17 percent during this period, so the rest of the increase comes from China Eximbank's concessional loans.
- ⁴ "Government backs energy, mining investment in Africa," *China Daily*, April 11, 2013. It is not clear whether this figure referred to disbursements or commitments.
- ⁵ The first FOCAC saw a pledge of US\$3 billion in concessional loans and US\$2 billion in preferential export credits for 2007-09. The second FOCAC included a pledge of US\$10 billion in "preferential" loans for 2010-12. The third FOCAC offered a pledge of US\$20 billion in "loans" (2013-15) with no mention of them being preferential or concessional. During his May 2014 visit to Africa, Chinese premier Li Keqiang pledged an additional US\$10 billion in loans, without specifying the time period or the terms.
- ⁶ *People's Daily*, 17 November 2010.
- ⁷ Ai-Chu Hsieh, "Chinese bonds bought in Hong Kong bought by foreign governments," *Want China Times*, 2012. <http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1203&MainCatID=12&id=20120804000023> [accessed July 8, 2013].
- ⁸ Current-year figures are simply added together in this estimate, in reflection of Chinese practice. Due to the difficulty of obtaining data, these figures mix disbursements and commitments and should be regarded as rough approximations.
- ⁹ <http://gbk.eads.usaidallnet.gov/data/fast-facts.html>
- ¹⁰ As of June 30, 2012. See http://siteresources.worldbank.org/EXTANNREP2012/Resources/8784408-1346247445238/8817772-1347490494640/3.1_Africa.pdf
- ¹¹ "Shark Finning in Decline in Far East," *The Guardian*, January 11, 2014.
- ¹² "China, Africa forge farming ties," *China Daily*, August 12, 2010.
- ¹³ Ministry of Agriculture, "Twelfth Five-Year Plan (2011-15)," p. 7.
- ¹⁴ Export sellers' credits, export buyers' credits, and loan guarantees. Source: Eximbank annual reports.
- ¹⁵ "Government backs energy, mining investment in Africa," *China Daily*, April 11, 2013.

19. The Role of Aid in a Changing Africa

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19.1 Introduction

Fast growth in Sub-Saharan Africa in the last decade has generated new optimism about African prospects for sustained growth and poverty reduction. It has also allowed a renewed discussion about the role of aid in supporting development. With negotiations on a new set of Development Goals ongoing as this is written, there are also calls for a rethinking of development finance. Better macroeconomic performance, low debt, growth, and new natural resource discoveries have improved the credit ratings of many African countries, while high liquidity in international capital markets and interest in Africa from emerging market countries—especially China—have led to substantial private flows into the continent. Over the last five years in Sub-Saharan Africa, overseas development assistance (ODA) has remained at historically high levels in excess of US\$50 per capita.¹ ODA has nevertheless become less important as a percentage of gross national income (GNI) than in the last few decades, falling from well above 5 percent to close to 3.5 percent of GNI, although this is still a substantial proportion. Net inflows of foreign direct investment (FDI), too, have increased relative to ODA: while in the 1990s FDI was around 25 percent of the size of ODA, in the last five years it has reached around 90 percent. Furthermore, the prospect of a multi-speed Africa is becoming more likely with countries progressing at divergent rates: some are still trapped in conflict, or in

growth that fails to diversify out of natural resources, while others may be able to sustain current growth with diversification or limited natural resource dependence.

It is unlikely however that development aid will disappear in the foreseeable future. Aid remains an important source of resources for development finance, and it is likely that a financing deal around the new Development Goals will emerge that maintains a key role for aid. Among donor countries, there has been a notable divergence of political appetite for a sizeable aid budget, but in most places development aid continues to receive relatively broad political support.

In this brief paper, we argue that we should guard against some of the naïve narratives that persist about the role of aid, while recipient countries could benefit from using aid in more sophisticated ways, as an instrument for positive change. It is an appeal to think about development aid less as finance and more as a lever to support the more important aspects of a commitment to development in Africa, which may have less to do with finance *per se*.

19.2 How relevant is Sweden?

Development aid has long been justified by a legitimate concern for the needs of the poor. The articulation of global development goals in the form of the Millennium Development Goals (MDGs) in 2000 turned this into an implicit contract between aid donors and recipients: that both a country's level of progress and the development finance offered to support this progress ought to be judged with reference to the MDGs. The MDGs embody a broad multidimensional view of what poverty is, with a dashboard of specific targets in areas such as incomes, health, education, and gender equality. Even though it is not clear how strong their focus on the targets proved to be, with disparate experience among donor and recipient countries (Bourguignon and others, 2010), the MDGs articulated a vision of *what* success in development should look like, alongside an apparent view of *how* development takes place. They saw development as the process of turning each and every developing country into a wealthier, more peaceful, and more stable version of itself, with low poverty, low inequality, excellent social services, and admirable human development indicators for all. In effect, they suggested a path towards a mythical version of Sweden, with the *how* interpreted as an active and efficient welfare state focused on spending for

the poor. They fed the view that all spending by recipient governments, including development aid, ought to directly contribute to fighting poverty, and that achieving the various MDG targets was largely an issue of ensuring that enough resources were spent on each specific problem.

This idealized version of Sweden is not just embedded with supporters of the MDGs. In fact, it is probably one of the clearest shared visions of development among practitioners in development agencies, international agencies, and NGOs. In our opinion it is not a bad vision. But what is surprising is that it has emerged as a global yardstick, given the diversity of development histories across the world, many of which seemingly have limited relevance for the developing world as we know it now. Trying to turn each country into an ideal version of Sweden may be a suitable objective for the Swedes and for Nordic countries with broadly similar societies, but it is a surprising strategy for the rest of the world.

Most critically, as a vision of how development comes about, it lacks foundation. Neither Sweden nor any other country ever embarked on a development path governed by a set of poverty targets, or even by a set of explicit and clear policies focused on the poorest. We may debate how today's low poverty and relatively high inclusion rates of European societies may have come about, but in all cases they have resulted from messy processes over long periods of time, with significant successes but also repeated failures. The eradication of poverty was intertwined with other broader development processes, and not achieved in isolation. States and their policies surely played a role in achieving this, but not just through spending focusing on defined targets for the poor.

19.3 Estimating the cost of development

Of course, the Sweden analogy is a straw man, and many development practitioners would recognize that development is more complicated than just targeting spending to achieve the MDGs. However, in development finance discussions, the view of development as something one can buy has remained prevalent. The idea is that it is possible to quantify how much it would cost to achieve each MDG across each dimension, and that the sum across all countries would show the amount of aid needed to eradicate poverty on a global scale. When the MDGs came to be estab-

lished, various related approaches were used to quantify how much was needed as a way of guiding the international mobilization of aid. This exercise may have been beneficial, in terms of creating a better climate of accountability and articulating a clearer rationale for increasing aid, but it also created a false certainty that aid resources were all that was needed, that it was clear what needed to be done, and that it was clear how aid should be spent. For example, Bono wrote in the foreword to Jeffrey Sachs' *End of Poverty* that "[t]he wealth of the rich world [and] the power [...] of knowledge ...make the end of the poverty a realistic possibility by the year 2025." In the early 2000s, various estimates were offered, suggesting that between about US\$50 billion and US\$76 billion of extra aid resources were needed per year in 2003 prices (over and above the US\$60 billion of aid at that time) to achieve the MDGs by 2015.²

Some observers believe such resources are simply wasted. Arguments are often made, including some based on cross-country growth regressions, that the overall rate of return to aid as it is given is zero or negative.

However, the most comprehensive and encompassing econometric analyses do not suggest that this is the case, even in the aggregate. Clemens and others (2012), in a very credible analysis, find, overall, a small but positive return of aid on overall growth. They also find suggestive evidence of a continued positive marginal return for aid up to around 20 percent of GDP (well above the current level of aid of most countries, with the exception of some post-conflict states). At the same time, there is plenty of micro-evidence that spending on particular things "works": from cash transfers to health information or certain specific school inputs, aid can *potentially* have a positive return (see e.g. Banerjee and Duflo, 2011). But this is not the same as saying that aid *will* work, nor that development can just be bought off the shelf.

19.4 The limits of aid in Africa

For those who have been working on African development for a few decades, it is at times striking how slow progress has been in some countries. People involved in providing aid need to be committed optimists, but aid providers working with officials and political leaders often end up frustrated. This is of course something rather universal: the world of civil servants and politicians has its own logic, not always

seemingly based on common sense. The result is that public resources, including aid, appear to be less efficiently spent than one may hope for, as seen from outside.

It is possible, though, to make a clearer statement on why and when aid is unlikely to be very effective, appealing to basic political and political economy analysis. For aid to be effective, one needs to have an institutional setting supportive of growth and poverty reduction. We use institutions here in the sense of North (1991), as the set of norms, values, and rules that underpin the functioning of the state and economy. The set of institutions will lead to particular political outcomes (a political settlement, often an elite bargain) and also a particular nature of state capacity. For development to take place, a country needs to have a political settlement that is sufficiently aligned with growth and poverty reduction—that is, it needs an elite bargain that values these goals, and sufficient state capacity to implement them. A state needs to be both willing and able to act. Most often, aid-effectiveness debates tend to emphasize state capacity as the “ability to act”—making aid effectiveness a technocratic issue—and hence “governance” work turns into capacity-building activities. But this does not go far enough: the elite bargain and the state’s *willingness* to act are not only fundamentally interlinked with a state’s technocratic capacity but also essential for growth and poverty reduction.

And here, we would argue, lies the main development problem of Sub-Saharan Africa. Even if progress has been made in the outward features of political institutions—such as more elections or, in some countries, a freer press—there often remains the fundamental problem that neither politics nor the state are committed to growth and poverty reduction but are driven by other interests.

As part of its diagnostic work to improve its own aid effectiveness, the United Kingdom Department for International Development (DFID) conducted an analysis in all of its focus countries in Africa (these include all Anglophone low- and lower-middle-income countries, as well as some Lusophone and Francophone countries). DFID found that only two out of all these countries had a political settlement aligned with a commitment to growth and poverty reduction, and that at most a handful had some partial features in this respect. The analysis concluded that the vast majority of African political settlements only weakly supported broader development.³ Instead,

elites appeared to be satisfied with controlling the returns from narrow sources of growth, such as natural resource extraction, rather than supporting diversified or employment-intensive sources of income.

In countries with weak support for growth and poverty reduction the return on aid need not be zero, but aid spending needs to be more selective, and the possible externalities and multiplier effects of aid are bound to be smaller. In countries such as the Democratic Republic of Congo that are highly dysfunctional in this respect, one may question whether aid can achieve much beyond a strict humanitarian role, and a more substantial role would definitely be highly risky and unpredictable.

In such settings, putting a price tag on development sounds slightly ridiculous. Because it is not possible to buy well-functioning institutions, and resources may end up being wasted, there is no upper bound on the cost of development, so quoting any fixed sum would give false certainty. In other words, the price tag for development is simply unknown.

There are unfortunately good reasons to worry that this problem of political settlements may get worse before it gets better. The increasing incidence of substantial natural resource discoveries in Africa arouses four concerns about the prospects for growth and poverty reduction. First, natural resource extraction, unlike manufacturing or service industries, in itself creates few jobs. Second, the concentration of exports in a few primary commodities creates Dutch Disease effects in the macroeconomy and relative prices that discourage tradable production such as export-oriented manufacturing or agriculture. Third, slow growth in the tradable sector results in a lack of diversification of the economy, creating a persistent vulnerability to external commodity prices, and ultimately a ceiling on economic output. Fourth, slow growth in tradable production discourages overall economic growth, as natural resource exploitation makes the elite and the state less dependent on alternative sources of growth to offer them rents. Natural-resource finds hence weaken the incentives for elites to support a broader and diversified growth environment. This last factor we would judge most important, and we are observing a political scramble over the control of resources even in peaceful countries such as Ghana, Mozambique, and Tanzania. Many countries are also using future resource wealth to secure borrowing

on international bond markets, and taking the risk of spending for short-run, politically expedient gain, rather than investing in long-term growth as a future source of (tax) revenue. Of course, the potentially massive financial resources associated with natural resource finds could be invested to create the infrastructure and human capital that drives future growth and poverty reduction. But without clear political interest and commitment to this kind of future, such wealth will not be handled well, and the signs are not encouraging.⁴

19.5 Making aid work

In this environment, aid does *not* self-evidently provide development. Moreover, larger flows from international capital markets, emerging powers, and natural-resource-backed loans and revenues mean that aid is becoming a relatively less important source of financing. This does not mean that governments in Sub-Saharan Africa are not interested in receiving aid or concessional loans; rather that the usual policy conditions (whether *ex-post* or *ex-ante*) that donors attach to aid are becoming even less effective. More and more, as alternative ways of financing investment plans become available, a sense of partnership and shared commitment by the different parties involved is vital for aid to be effective.

If donors want to see their aid used for promoting growth and poverty reduction, and if we are right that the political economy in many Sub-Saharan African countries does not favor this, what then should be the role of development aid? We offer five general ideas and principles.

First, it is important to be willing to work more selectively. The return to aid in terms of growth and poverty reduction will be higher if recipient countries are actively trying to create a climate that favors growth and poverty reduction. While it is broadly accepted that there could be various ways to be aligned with growth and poverty reduction (and that we might not necessarily be able to judge this alignment easily), the opposite case, of predatory states in which elites focus on extracting rents from society, is familiar and recognizable. In such states, merely behaving as if aid can be apolitical—as is done at times by some multilateral agencies, or indeed by China—is effectively itself a political choice that favors the current political settlement irrespective of its role in broader development.

Being more selective would mean particular support of countries where the political economy favors development, in terms of growth and poverty reduction. At the other extreme, in predatory states, selectivity would mean that little beyond humanitarian support may be feasible. Most countries lie in between these poles, and selectivity will mean doing things that support growth and poverty reduction but in ways that explicitly take the political economy into account. It could mean supporting reformers, or supporting investments that break some of the predatory powers of elites, or supporting coalitions among players that enable long-term investment to be undertaken.

Whatever choices donors make, they should involve a careful attempt to take the politics into account and to influence it for the better—at least in terms of the relatively modest objective of supporting growth and poverty reduction in the country. Acemoglu and Robinson (2013) offer a simple model and discussion for thinking about economic policymaking where politics is endogenous. This is what we have in mind: it is not enough to think of aid being constrained by politics, rather, politics is inevitably affected by aid.⁵

Second, donors should pick their themes and partners carefully for maximum impact of development aid. The greatest rewards in African development will stem from harnessing the proceeds from natural resource extraction so that they serve the future needs of Africa's people. To achieve this not only involves technocratic choices but also has a huge political dimension. A future of poor governance, low growth, stagnating poverty, and indeed conflict looms if the natural resource boom is not handled better. Donors will continue to partner with governments, as seems right—with the proviso discussed earlier on the political economy. They will be tempted to work with alternative partners, including civil society and the private sector. But the latter are not neutral players in a country's political economy. Indeed, although the private sector is often portrayed as the credible alternative in countries with poorly functioning politics, private firms are often intertwined in the same elite network, with politics shaping the private sector and private sector players also important political players. Indeed, working with the private sector will require similar care and selectivity for the same political economy reasons as discussed above, and naïve portrayals of a clean private sector are equally as misleading in such settings.

Third, what should aid resources be used for? Above, we touched on the need to be aware of the political economy and of the institutional consequences of giving aid, and to choose well for long-term gain. But more can be said. Where financial resources are increasing, aid becomes less needed as a substitute source of public finance, but offers greater opportunities to be used as a multiplier that unlocks other resources. For example, aid can be used to unlock tax collection, partly to make development self-financing but also to strengthen mutual accountability and legitimacy between the state, citizens, and business (Besley and Persson, 2011). Aid can also be used to directly promote systems of accountability, and—albeit carefully—to unlock international investment or to improve access to international finance at competitive rates for both the private and public sectors. Aid can be used to encourage risk taking and experimentation by the public sector and other stakeholders, and to promote learning, showing what can and cannot be done with public resources. Aid becomes then a complementary good to other sources of finance, leveraging these resources and unlocking greater return.

Fourth, donors should use aid to create the external conditions to enable those African countries that promote growth and poverty reduction to be more successful. This is a vast non-aid agenda, but one that often receives less attention than the aid agenda itself. It encompasses the global and regional actions that change rules, norms, and behaviors and that are particularly beneficial for growth and poverty reduction. Aid can be used to fund these changes, but success often has more to do with effective diplomacy to the advantage of poorer countries than with the amount that is spent. The most obvious areas for action are trade, access to financial markets, and the global financial infrastructure. Global health initiatives or initiatives to set clear international learning standards similarly can have high returns. Of particular importance to Sub-Saharan Africa in the near future will be finding ever-better mechanisms to ensure that natural resource extraction, contracting, and revenue flows are as clean and transparent as possible. Deepening the Extractive Industries Transparency Initiative and related actions, and giving them more “teeth,” will be crucial. The current private scramble for control of natural resources in many African countries by unscrupulous businesspeople from both OECD and emerging powers, and political elites all too clearly with souls and hearts of darkness, will

wreak damage for a long time to come. Similarly, the quality of Africa's business environments will be helped by global initiatives for transparency and for oversight of tax havens, and by initiatives in richer economies, such as anti-bribery acts, to promote good business practice. Much of this action will need to take place in richer and emerging economies, not Africa itself, and will require political commitment from a variety of countries. Aid can do well to support the necessary development diplomacy on behalf of Africa in the world.

Fifth, a key role for aid should be to show what may work in development: experimenting and exploring how to achieve progress as effectively as possible. This is the realm of applied research and knowledge: spending on understanding how, in different contexts, to turn financial resources into outcomes that contribute to growth and poverty reduction. Even if, in practice, the local context and elements of the political economy discussed above are crucial in determining whether sustained development and growth can be achieved, a favorable political environment is not enough: important technocratic issues are involved in turning commitment into results, and much remains to be done to understand these. For example, How to get children to learn best? How to deliver most effectively health care in poor settings? How to boost agricultural yields and to improve farm practices? Better understanding of such issues will mean more results even in relatively poor settings. One area worth singling out is the need to find better ways to build institutions (in the sense of North, 1991). Even with a nascent commitment to growth and poverty reduction, the process of formalizing this commitment into shared values, norms, and rules of the game across politics and state actors is a field where much remains to be learned, and is a key area worthy of aid resources. International aid will never be able to buy development. But for those who want development to succeed in their countries, aid may help them succeed.

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Endnotes

- ¹ In 2011 constant US\$. Data from World Bank (2013).
- ² The Zedillo panel estimated US\$50 bn in additional resources would be needed to achieve the MDGs—\$20 bn to halve extreme poverty and another US\$30 bn for the other goals—over and above the then-level of aid, about US\$60 bn in 2002 (United Nations, 2001). The more comprehensive UN Millennium Project estimated that global ODA needed to reach US\$135 bn (in 2003 prices), or about US\$76 bn extra. The World Bank used a different method to get at the income poverty goal, estimating costs substantially higher than the Zedillo panel but arguing that other targets would then be much easier to meet if income poverty were removed, leading to an estimate in between the other two. For a discussion, see Devarajan and others (2002).

- ³ For hopefully obvious reasons, the DFID analysis must remain confidential, although it is unlikely to be difficult to reconstruct these findings.
- ⁴ Aid itself offers incentives to avoid growth: it offers opportunities for rent extraction for those in power, and limits the need of the elite or the state to use growth as a basis for wealth creation. There is some evidence that tax collection is negatively affected by aid, although the effects do not seem to be large.
- ⁵ Our recommended approach goes beyond the current practice, of the World Bank and some other donors, of using the country policy and institutional assessment (CPIA) as part of the criteria for allocating concessional funds from the International Development Association (IDA) or other forms of aid. Drawing inspiration from the influential piece by Collier and Dollar (2002), the CPIA weighs a country's indicators of economic management, policy, social inclusion, and (mostly) "governance" as an ex-ante measure of aid effectiveness. The flaw of the argument here for aid allocation is that the CPIA is treated as exogenous, unaffected by aid per se and by the economic and political institutions that also drive the returns to other growth-enhancing factors and the speed of poverty reduction. Furthermore, the CPIA focuses too often on symptoms, some of which may or may not reflect a fundamental lack of political commitment to sensible growth and poverty reduction actions. Indeed, many countries that do not currently receive IDA credits, including some that have graduated out of IDA, made much progress in growth and poverty reduction with arguably rather poor CPIA indicators. Building on Acemoglu and Robinson (2013), our argument is that what aid is spent on, and how, matters fundamentally for aid effectiveness now and in the future.

PART V

Shaping Africa's Future

20. Actors of Change in Africa: Human Capital and Markets

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20.1 Introduction

In this paper I will be presenting two ideas that I think are critical to economic development. The two ideas are markets and human capital. I will argue that these two factors are often unappreciated in economic development circles—or, I should say, their importance relative to other factors is unappreciated. I will also discuss how, when given the opportunity, Africans have seized market opportunities, acquired human capital, and achieved major successes that are also often unappreciated.

As regards human capital, I'm going to think of it as including technology, particularly information communication technology. When talking about markets, I'm scared people are going to think of me as some right-wing African radical. Due to recent very generous funding, I've been able to spend a lot of time in villages in Africa. I was born and bred in Ghana, in villages with no lights, no electricity, no nothing, and, after a couple of decades in the United States, I'm surprised, going back, at the resilience and the progress of these villages.

This paper is based on my experiences living in and doing research on Africa over the past several years—experiences that have been, on the whole, positive. I'm biased, being very positive about Africa, and I have confidence in its future.

* I acknowledge the research support of the New York University in Abu Dhabi Research Institute under the Center for Technology and Economic Development; anonymous donors to NYU's Ghana Research Center; and research assistance by Fred Rossoff and Eddie Mandhry. All errors are of course mine.

To begin with, in the economic development narrative and academic research I think we have to give a whole lot more respect to Africans, particularly the poor and the illiterate. I think that in academia and in the policy world, we simply don't have an understanding of what goes on there. Even my comrades in Accra (the capital of Ghana), people I grew up with, have no idea what is going on in the villages. But there is something beautiful going on in Africa, particularly in the rural areas: people are surviving, despite all of their hardships. Market opportunities are seized whenever they are available. So that is point number one. In particular, I will go into history to describe this behavior in some detail in the context of one particular economic experience. This is the subject of a forthcoming monograph I'm working on with a Harvard historian, Emanuel Akyeampong, on the history of Ghana's cocoa industry. In short, the monograph shows that the Ghanaian cocoa industry is a major success, and this gives me confidence in the future of many African countries. It is but one example of how markets can be transformative for an economy, even when the market actors are rural illiterate and poor farmers.

My passion is with the poorer people of Africa. That is where all of my research is. In almost everything you see, especially from policy institutions, there is always some lip service paid to markets, but then the attitude becomes: "we have to plan this, we have to do that, we've got to control this, we've got to write this." I'm glad the African Development Bank is now moving heavily into the private sector, but I don't think enough credit is being given to markets. We have been interviewing farmers quite a bit over the past three or four years, and when you ask them: "What is the number one constraint you are facing?" they will not tell you it is capital, they will not tell you it is fertilizer, they will tell you it is markets. If they can find markets for their products, they will figure out the rest.

Human capital will be the second part of my discussion. Many of you are going to be surprised, but I will be talking about brain drain as another success, another way in which we should always empathize with struggling people. Many of you, when looking at pictures of people in boats crossing the Mediterranean, usually associate those images with despair. But I am thinking, "These people are determined, they

have the human spirit, they want to make things work.” If those are the people that we have on the continent of Africa, then we as academics and as policymakers just have to set things right, because the people themselves will do what it takes.

Human capital in Africa has been a big success, and I’m going to make the pitch for markets, particularly markets that are enabled by information and communication technology. I’ve been spending a lot of time with computer scientists. Some of our team members have a patent or are in the process of acquiring one in the area of mobile phones and solar energy, as I will describe later, and all of our team’s work centers on using technology to create markets.

20.2 Markets

In my forthcoming monograph with Emanuel Akyeampong, we begin with the arrival of cocoa into Ghana in 1879. In 1879, Ghana was a fragile state. The middle part of Ghana was fighting a rebellion against the British, during which Kumasi, the second largest city, was burned down. By all measures Ghana was a fragile state, but despite that there were a lot of successes.

Cocoa is not indigenous to Africa. It comes from Central America, from the Aztecs and the Olmecs before them. When cocoa first came from Central America, it went to Europe, and then the Europeans brought it to Africa. They did not bring it to Ghana. They brought it to Mozambique and Angola, and there was a lot of slavery and plantation farming associated with it. It came to Ghana through Tetteh Quarshie, a famous man in Ghana. The rumor is that the British government at that time had selected coffee to be Ghana’s product. Tetteh went to neighboring Fernando Po, as it was called at that time, and brought in some cocoa pods and, almost surreptitiously, under the eyes of the British, developed an industry. That is private enterprise at work.

Many people tried to claim credit for the introduction of cocoa into Ghana. We have done a lot of field research in Ghana to ascertain that it was this man who brought it in. Some say he swallowed the seeds because he didn’t want to be caught. A lot of cocaine is smuggled through swallowing, so that is technically feasible.

Africans had no sweet tooth. Ghanaians, at least at that time, did not drink cocoa. Rumor has it that the Ghanaian farmers actually thought it was something you put in gasoline, since it's the same color and came at around the same time.

Nevertheless, they developed the cocoa industry using non-European technology. One neat thing about the African method of producing cocoa is that cocoa is inter-cropped with food crops. Inter-cropping is something the European system did not have. Early on, cocoa was transported from the middle of the country all the way to the coast by people (usually women) putting it on their heads and walking for hundreds of miles. My grandmother did that. My aunt told me about how my grandmother used to hold her hand and just walk hundreds of miles. Despite that the difficulties, Ghana was producing a third of the world's cocoa 20 or 30 years after cocoa was first introduced.

People created their own roads. They would put the cocoa in barrels and literally roll it from the center of Kumasi, about 200 miles away from the coast, all the way to the coast. When they had to construct physical structures, the chiefs would get together, get some funding or loans from the individuals involved, and create their own roads. The point is that if there are markets there, if people see an incentive, if there is money in it, they will find ways around the problems.

As an economic theorist, I find the fact that different kinds of contracts were used in cocoa production very suggestive. The word "wages" didn't exist in the Ashanti language. Everything was by contract, including for sharecropping. I think Joe Stiglitz made a lot of these things famous, and as we carry out our field research we see a lot of that still going on.

That's the summary of cocoa in Ghana. It is a big success story. Even to this day cocoa is one of the largest foreign exchange earners. In the late 1800s and early 1900s, when cocoa was starting, Ghana was a fragile state with internal conflicts with the British government, and no modern infrastructure, and yet the people seized the opportunities of the market. Let us give them a bit more respect. When you next eat chocolate, think of the Ghanaian farmers.

20.3 Human capital and the power of information and communication technology

Human capital is another big success. I remember maybe a decade ago I got a call from Jagdish Bhagwati, who was doing some work on human capital and migration, and asked me, “Why don’t you do something on the terrible problem of brain drain in Africa?” I said to myself, “Is this man trying to tell me something? I’m Exhibit A of brain drain. I grew up in Ghana and I’m not currently working full time in Ghana. Is this an insult?” Then I thought about it for a second, and I said, “Actually this is something which is very good about Africa.” When things were bad, many of us hustled on our own to leave the country. Many of the people going through the university system right now say to themselves, “I would like to get an education so that I can go abroad, get a large salary, and come back later on and help.” I have been thinking through that problem, and have come to realize that human capital is very, very important. We know that from growth studies. It is important to get a large stock of highly educated people. That is point number one. Point number two, brain drain is important in creating the incentives for people to go into the educational system.

In a National Bureau of Economic Research (NBER) working paper with my New York University colleague William Easterly, “Returns to the Brain Drain and Brain Circulation in Sub-Saharan Africa: Some Computations Using Data from Ghana,” there is a discussion of this issue in greater and more rigorous depth. People enter the educational system thinking that there is a possibility that they will emigrate, but through our computations we have figured out that many people who leave actually come back. And so when you are talking about brain drain you should not be calling it brain drain, but brain circulation. When you say brain drain you are just taking a snapshot at one particular time. Those people whose picture you are taking now will be back in the country later on. Any time you hear conversations about Africa, the topic is always, “Africa can make it because its greatest wealth is its minerals.” I actually think that Africa’s greatest wealth is its people. We should just train the people a bit more and help them to be more productive.

In the year 2000, of all Ghanaians on planet Earth who had tertiary education, 46.86 percent were out of the country. The remainder, 53.14 percent, were in the country. Such statistics give brain drain a bad name.

To begin with, the numbers are small. 150,000 people was the sum total of all tertiary educated Ghanaians in the year 2000. When I was a student at the University of Ghana we had maybe 3,000 students there. There are now 38,000 students in the university, indicating a huge increase in tertiary education. I am so confident about Africa because if you go into the remote areas, there are large numbers of educated people, which wasn't the case ten or twenty years ago.

I recently visited the UN Economic Commission for Africa, where they asked me to speak freely about what I thought about post-Millennium Development Goals. I told them that information communication technology is going to be important. That is where I have invested a lot of my time recently. Markets are going to be important. Agriculture is going to be important. The Ethiopian Commodities Exchange is something that we have been doing quite a bit of work on. They have just set up an organized market, in which, instead of bilateral trades, trade is centralized. This has caused many innovations, including increased clarity and transparency but most importantly, better markets. Now coffee farmers in Ethiopia know that if they go up the value chain and produce better quality coffee, they will get more money for it. We're beginning to see that farmers are responding to those incentives. Create the markets and you'll get things done.

There is a much deeper point here about commodities exchanges. These have become extremely topical in many nations, with several national leaders proclaiming their importance and many countries establishing them or beginning to establish them. Yes, the exchanges will have a positive impact and yes, farmers will respond to the incentives they create in increasing the quality of the products, since the return to increased quality is now made transparent on the market. All these things will happen. The real benefit of the exchange, however, will be in the introduction of new crops or commodities that one may not be thinking about today. For example, much has been made of the successful introduction of flowers exports in Ethiopia, these exports going primarily to European markets. There are a number of untapped

markets whose value may become apparent only after the introduction of a centralized market that provides much more assurance of price and sales to farmers. That is what I think the true value of commodities markets will eventually turn out to be.

In terms of financial products, there are a variety of promising tools, including M-Pesa, rural banks, and micro-insurance. All of these things can work, and furthermore they can all be mobile phone based. The big problem with the provision of insurance to farmers has been both the costly verification of claims and also the relatively high costs of managing the schemes, given the small amounts of money involved when farmers are poor and in rural areas. We now have the capacity to create insurance schemes for farmers entirely on the mobile phone. This has the potential to revolutionize the provision of micro-insurance. There have been some very exciting early examples in Kenya and in Ghana. It is too early to tell whether these will eventually take off as they are so new. However, the M-Pesa revolution gives us a lot of reason to be hopeful.

Another important sector for development will be energy. When viewed from outer space at night, Africa is dark, with no electricity. The Center for Technology and Economic Development at NYU has been working on a patent for a technology that involves putting SIM cards in solar panels so that you can communicate with the solar panel and help with diagnostics through your mobile phone. This solves one of the big problems with solar energy delivery for poor communities: the high cost of diagnosing and solving problems. With such mobile phone based technologies, the potential for remote diagnostics is possible through communication between each solar panel and the technician in the city via text messaging. After the diagnosis, the technician can call the rural owner of the panel on his or her mobile phone and provide instructions for repair, often requiring nothing much more than a quick cleaning of the solar panels.

All these new technologies offer great potential for economic development. They are, however, pieces of a much bigger issue: why we don't have more markets in energy. There is a steady demand for electricity, so that if you supply energy into the grid, you should get some cash out of it. Once the market is set up, then those of us who are working in the IT area and medium-scale energy area could use that

market to support the new technologies. There is a surprising reality in many African countries however. Many countries desperately need power, and have continual blackouts (in Ghana the power is on one day, off the next—what Ghanaians call Dumso or “Off-On” in the local language, while the Nigerian Energy and Power Authority (NEPA) is jokingly called “Never Expect Power Always”). Despite this great need, markets for energy remain very constrained. Unless there is a partnership with the government—what is now fashionably called a private public partnership or PPP—it is extremely difficult for a smaller-scale entrepreneur to create energy to sell into the grid. This is a mistake. Given the scale of the energy problem and the obvious ability of Africans to meet smaller-scale market opportunities as witnessed in the cocoa revolution, it is absurd that governments do not tap into the entrepreneurial energy of citizens for the provision of electrical energy.

One may think that these ideas are somewhat obvious. In the United States, whose citizens enjoy great power consumption, there are well developed markets where customers in, say, Vermont, who install large solar panels in their back yards have electricity meters that run backwards when they are generating electricity into the grid and in the usual forward direction when they are using electricity from the grid. Their final electricity bill could therefore either be positive (they owe money) or negative (the electricity company owes them money). This very simple example shows the power of markets. In the electricity sector, it is possible that these small-scale interventions could make a difference to a large number of people who are currently off the grid in rural areas, or are on the grid with very sporadic on-off electricity. In particular, the markets for energy are currently being expanded in the United States. Such markets could potentially have even bigger prospects in Africa where the energy need shortfalls are greater.

20.4 Conclusion

Unfortunately most of the rhetoric and discussion around economic development is about aid, and about how the rest of the world can help African countries. Not nearly enough attention is placed on understanding past successes of Africans, exemplified in the cash crop revolutions in many nations. An understanding of those

successes would lead to the conclusion that there is a huge potential for solving many of the development problems on the continent, particularly energy, by allowing more private sector involvement—including small private sector players and not necessarily big PPPs. Unfortunately, for many of the development banks and large development organizations, this is an exceptionally unpopular idea. Some (including the World Bank) have charters that discourage interaction with the private sector; others favor big government activities, albeit in partnership with private sector actors, who are usually big foreign players. We believe that there should be room for the smaller indigenous players who will rise to the incentives created by markets in the energy sector.

To conclude, I am extremely confident in the future trajectory of Africa. I am confident because I have confidence in the people themselves. There are two main things needed. On the one hand there needs to be encouragement to acquire human capital. This human capital should be at all levels, including at the tertiary level—and indeed should be encouraged in spite of, and perhaps also because of, brain drain, which when viewed in the correct perspective has advantages leading it to be a net positive in many circumstances.

In addition to human capital, much more emphasis is needed on local small-scale entrepreneurial activities, which will sprout up where markets are enabled.

Over time, I am confident that these two conditions, increased human capital and freer markets for smaller-scale players, will develop. This has happened in the past and will occur again in the future.

21. Past the Resource Curse: The “New Normal” of African Economics and Politics

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21.1 Introduction

There are good reasons to be optimistic about Africa’s future, although there is often a touch of skepticism in the refreshing new sentiments about Africa. The “resource curse” theme is a good illustration of this ambiguity. There is enthusiasm about new natural resources discoveries in Africa but, at the same time, apprehension that large revenues from those resources, notably oil, gas, and minerals, might well lead Africa to make policy choices that could put its future at risk, and extinguish the light many now see at the end of the tunnel.

The experience of a number of countries, notably the Democratic Republic of Congo, Libya, Nigeria, and Liberia, provides valid reasons for some skepticism. But this experience also offers some recipes for what not to do, so as to avoid taking the wrong turn at the fork in the road.

So the fundamental issue is how we see the future course and effectiveness of economic policy, and in particular whether, on the basis of what is happening in the natural resources sector across Africa today, we can find strong enough evidence that there will be no growth reversal, no disappointment. Put differently: is there reason to be optimistic, considering the strong policy performance and achieve-

ments that Sub-Saharan Africa has recorded over the last decade? And, given the large increases in natural resource revenues on the horizon, is a resource curse a great potential danger?

21.2 Understanding the resource curse

The resource curse is a manifestation of policy problems, first among which is the management of the macro risks. Heavy dependence on exports of primary commodities and minerals makes the economy vulnerable to price volatility and terms of trade shocks that translate into periodic surges and collapses of large resource flows into the economy and the government budget. In many African countries, past fiscal and monetary policy responses to such inflows have typically been pro-cyclical, rather than counter-cyclical and long-term and consistent with stable sustainable growth. Will this pattern continue or be corrected?

The resource curse, in its most devastating form, also is the mark of fundamental governance problems: it is rooted in less-than transparent management of natural resources and weak control of public expenditure. The practical reality is that converting proven reserves into financial and other assets is a complex process, from exploration to production and sales to accrual of revenues into the national treasury. That process is typically enmeshed in a myriad of legal, regulatory, and contractual arrangements that may not be easily monitored or rigorously enforced. In many cases in Africa, this has fostered rent seeking, lack of transparency, and inadequate accountability to the public; it has given rise to patterns of resource use and public spending in pursuit of populist policies that hold back growth and development.

Inevitably, persistent problems in macroeconomic management and governance lead to unsustainable divergence of policy outcomes from reasonable expectations, rising social tensions—and, in the extreme, open civil conflict, a powerfully destructive form of the curse. We have seen much of this in Africa's growth experience.

In sharp contrast, the blessings expected from easy access to abundant resources come true when policies are right, that is, when policymakers successfully manage the associated risks and deliver sustainable growth, social stability, and improved living standards.

21.3 Lessons learnt and the “right way” forward

Clearly, Africa is rising because something has changed. The recent record is good evidence of a significant departure from the past and from policy failures.

Sound economic management in a stable growing economy is increasingly the norm across Africa. The policy framework that has developed in Africa over the last decade has established what could be called a “new normal,” quite different and more conducive to growth. We see a new landscape in which, overall, economic performance looks strong and quite robust, the macro policy framework is much sounder, robust and investor friendly; and there is a good degree of macro stability and the economies are more resilient.

This is the result of reforms and getting policies generally right. It means that African countries have been able to cope with recent shocks and have managed well the vulnerabilities that we know stem from dependence on commodities, be these cocoa, copper, oil, or diamonds.

The monetary policy regimes implemented by central banks, as well as fiscal policies, have become prudent, using hard-won policy space for counter-cyclical rather than pro-cyclical policies. A look at the indicators shows there has been reasonably consistent fiscal consolidation with good debt indicators and relatively low inflation rates and build-up of some policy buffers against shocks.

This good policy record suggests that the macroeconomic risks associated with exchange-rate and terms-of-trade shocks, volatility in commodity prices, and large movements in natural resource revenues could be fairly well managed in future.

A lot of progress has also been made on the governance front. Looking at the work that has been done on governance in resource management, Ghana’s experience is a good illustration. The announcement that oil had been discovered was marked by a national celebration, followed by a series of conferences to educate the public about the prospects for rapid growth, pointing to the prospective inflow of resources that would help the country consolidate its progress towards an emerging market economy. The downside to this was real, in the sense of fomenting high expectations that might prove difficult to manage. But in that public education process, many

experts from various countries were brought to share their experiences, and Nigeria could say: “you should not repeat our mistakes.” Experts from Kazakhstan, Norway, multilateral institutions, and development partners from everywhere discussed the issues of the resource curse and how Ghana could turn the prospective revenues from oil, the newfound wealth, into a blessing.

All of that helped to create a framework within which the resources could be managed and reforms implemented. In 2011 Ghana put in place the landmark Petroleum Revenue Management Act, which embodies international best practice of fiscal transparency and accountability, and mechanisms to track the inflow, allocation, and use of resources, with separate funds for stabilization and future generations. The Act has imposed a discipline to bind fiscal policy, and should be working.

Ghana is not alone in learning from past experiences. Many resource-rich African countries have committed to the principles advocated by Extractive Industry Transparency International (EITI) and are EITI-compliant; they are increasingly open to independent and public scrutiny in the management of their resource wealth. Such openness could reduce the scope for inefficiency, rent seeking, and misallocation of resources and so protect the public interest. Guinea’s bold stance on restoring transparency and fairness in the awards of contracts and development of its huge iron ore reserves—at the landmark Rio Tinto USD 20 billion Simandou mine project—is a striking example.

Finally, over the last two decades the democratization movement has swept through Africa. The essence of it has been a momentum toward the practice of good governance, accountable government, and transparency—some of the hallmarks of economic success. Not surprisingly, the thread of democracy runs through much of today’s discussions on Africa.

Arguably, there is a change from the old normal in which Africa was caught for decades in slow growth, excessive public debt, and rising poverty, when it was renowned for weak economic management and critically dependent on donor and multilateral financial aid and charity, with most of the resource-rich countries among the poorly performing economies and disappointingly in the grip of a resource curse.

In a remarkable shift, a good number of African countries are now seen as fast-growing frontier economies; they are attracting significant foreign direct investment and portfolio capital and are able to issue sovereign bonds on the international capital market. And, as is the norm for stable growing economies, many are submitting domestic policies to international credit rating agency assessment and greater market discipline, and not exclusively to donor and multilateral surveillance. Collectively, countries in the region are doing well.

African countries have been learning from their own and other countries' experiences. The better performance over the last decade shows that they have internalized most of those lessons; it owes much to the improved macro policy framework and to developing the institutions and systems needed for public accountability in economic management—all of which should serve as foundations for the future in the new normal.

On that basis, yes, one could say that Africa has come to a fork in the road. It might even have already passed through the fork towards sustainable development, and the real question may well be how fast and how far Africa can run to catch up with its peers in the rest of the world.

Still, a prudent optimist leaves room to feel a little skeptical. The developments in Ghana over the last year show that the situation can be fragile as the economy has come under fiscal stress, with rising inflation and currency depreciation. Similarly in Zambia. Yet, there is much to take credit for in all that has happened during the last decade; the performance in Ghana is very typical, if not the sterling example of that of the so-called African frontier economies, including Zambia, where consistent implementation of reforms has transformed the development climate.

21.4 Past the fork in the road: keeping the momentum

One of the major challenges that policymakers face down the road is mobilizing resources to sustain and, better, boost Africa's growth momentum, given the comparatively low savings and investment ratios in the region. Natural resource wealth can best be harnessed to fuel the new engine of growth and not to stall it.

Revenues from this source could possibly reach some US\$400 billion annually—quite significant in scale compared with Africa’s US\$50 billion in development aid receipts. Such resource flows create policy space to resolve the key problem of how to jack up investment rates, growth rates, and so on, close the gaps in infrastructure, energy, human resources, and technology, and build strong institutions—all common problems for Africa. In effect, enhanced resource flows on the projected scale should open up opportunities for the resource-rich countries to build more competitive and rapidly growing economies and contribute to Africa’s rise in the global economy.

One cannot imagine that, armed with much larger resources, countries would regress to the old normal, because the population is going to hold policymakers to account, try to defend what has been achieved, and protect the public interest.

To take Ghana’s example, again, there was much talking, by a vibrant press and the common man in the street, when the exchange rate started moving fast over the last year. The movement was seen to be out of line with the standards of macro stability and the notional benchmarks of success that have become embedded in the rational expectations of the public. The policymakers responded with a sense of urgency, seeking to mobilize a national consensus to restore confidence in the development agenda. This sort of meta-surveillance by the public and civil society over government policies can be a powerful force for restraint and stability in a liberal democracy, in Ghana and elsewhere in Africa.

But then the skeptic would point out that Africa is establishing competitive democratic governance systems with political leaders who can and do prey on the aspirations of the public, making very ambitious promises and raising expectations when seeking or working to consolidate power. Thus, securing full accountability and transparency in resource management may not be enough: it may moderate but not curtail the power of governing parties to undertake large populist spending programs designed to achieve short-term political objectives, appeasing the constituency rather than promoting longer-term development goals. And so the resource curse virus is alive and well.

A fair statement of political risk is that resources, irrespective of the source, might be used to underwrite spending programs with low returns to society. That view

would be in tune with the view that the cost of exit from power, of electoral defeat, is ostensibly very high, making the alternative of committing to fiscal prudence very difficult and the environment fertile for the curse!

The optimistic view on this would be a mirror-image conditional statement: that an alert and growing middle class, a resurgent private sector, and an increasingly creative and educated population are demanding improvements in the quality of the governance system. Such engagement in issues of governance is inherent in the dynamics of the new normal; it should be vital in enforcing public accountability and policy transparency in African countries, whether resource-rich or resource-poor. Good political leadership will be vitally important for Africa to exorcise the curse, and thus sustain progress and not disappoint again beyond the fork in the road.

In summary, Africa has established a new normal in terms of economic management and dynamics of growth. The conditions necessary to support a true economic take-off, including the framework for transparent management of resources, are building up and look quite robust. In this new normal, there is a distinct incipient groundswell of popular pressure for accountable governance. And it is not implausible that increases in revenue from the region's abundant natural resource wealth, and in other capital inflows, should be not a curse but a blessing that would keep Africa on the rise and allow it to become a truly dynamic growth pole in the global economy.

22. Can Africa Move from Resource Dependence to Structural Transformation?

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22.1 Introduction

Since the dawn of the 21st century, Africa has recorded impressive and sustained growth rates. A new era of optimism and success has been heralded, stemming from a number of significant developments including high economic growth, improved economic governance and management, expanding trade in goods and services, increasing flows of foreign investment and domestic resource mobilization, growing urbanization and consumer spending, and political stability with declining conflicts across the continent. Notable progress has also been made in reducing poverty, expanding primary education, and improving other indicators of human development.

But despite high growth experienced across the continent over more than a decade, economic diversification and structural transformation remain limited and productivity growth low. Growth has not resulted in sufficient employment creation, reduced inequality, or significant poverty reduction for the majority of Africans. Such a transformation—a hallmark of development in other regions—involves a shift in resources, especially new investments, from low to high productivity activities within and across sectors, most notably to manufacturing and modern agriculture and

* This paper draws on the authors' work with others on the *United Nations Economic Commission for Africa (UNECA) Economic Report on Africa*, years 2011-14.

services. These changes would create stable and productive employment and lead to a more equitable distribution of income. While a few African countries such as Mauritius, Morocco, South Africa, and Tunisia have experienced notable economic diversification, informal and vulnerable employment as well as high youth unemployment remain formidable challenges across the continent.

A main factor in the inability of Africa's growth to spread across sectors and populations has been the dependence of many economies on natural resources. About 25 percent of Africa's growth has come from commodity sectors, which have also fuelled an export boom and filled the coffers of foreign and domestic extracting firms as well as national governments. Africa's commodity exports are mainly of resources in their primary form, taken from the earth and sold with little subsequent processing, refining, or beneficiation taking place within Africa. Agricultural activities, the source of employment for a majority of Africans, similarly take place with limited agro-processing or value addition. While contributing significantly to GDP, mining and fuel extraction have not created jobs commensurate with the revenues that they generate. This resource dependence has exposed many African countries to commodity price fluctuations and growth volatility as well as social tension and political instability.

However, with good policies, African countries have more opportunity today than ever before to increase and sustain growth and achieve structural transformation. Given the need to create decent jobs for Africa's rapidly growing population, the test for African policymakers and stakeholders will be to ensure that natural resources help transform high growth into sustainable and inclusive development for the continent, by fostering new industries that add value to current commodity endowments, and that branch into new labor-intensive modern manufacturing sectors. Africa should focus on high growth-potential activities within and across sectors, in order to foster industrialization and transformation in the current global context.

22.2 Natural resources: endowments, opportunities, and risks

22.2.1 What are Africa's resource endowments?

That Africa is endowed with natural resources in general is well known, but it is important to note which countries are resource-rich and which types of commodi-

ties are prevalent. In 2013, 13 countries were classified as oil exporters and 16 as mineral-rich (ECA and AUC, 2014).¹ McKinsey Global Institute (2010) estimates that Africa holds 10 percent of global reserves of oil, 40 percent of gold, and 80 to 90 percent of chromium and platinum group metals, and that it is home to 60 percent of the world's uncultivated arable land.

Africa's production of oil, natural gas, and selected minerals has increased exponentially, both in absolute terms and as a percentage of total world production, since the Independence era. As of 2012, Africa accounted for 10.9 percent of global oil production and 6.4 percent of global natural gas production (British Petroleum, 2013). Africa also accounts for a significant part of global mineral output: as of 2011 more than two-thirds of the world's cobalt, more than half of the platinum group metals, nearly half of the world's diamonds, and one-fifth of global gold came from Africa (Table 22.1).

Table 22.1: Africa's Production and Global Shares: Selected Minerals

Platinum group metals (kg)	2.20	0.31	63.61
Gold (kg)	3.53	0.53	20.02
Chromium (t)	67.42	11.45	43.27
Manganese (t)	54.83	11.11	23.07
Vanadium (t)	0.15	21.65	30.03
Cobalt (t)	0.42	108.80	76.98
Diamond (ca)	558.11	60.24	48.71
Aluminum (t)	12.85	1.84	2.04
Tin (t)	0.09	0.01	3.36
Zinc (t)	1.71	0.24	1.88
Copper (t)	6.66	1.33	8.9

Source: British Geological Survey, 2014, *Minerals UK Commodities & Statistics*, available at: <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=102&dateFrom=2005&dateTo=2011&country=&agreeToTsAndCs=agreed>. Accessed 1 April 2014.

Note: kg = kilograms; t = tonnes; and ca = carats.

Recent discoveries of minerals in countries other than those labeled "mineral-rich" have fuelled expectations that by 2020, virtually all countries across the continent will be involved in mineral extraction (World Bank, 2012a). Oil finds point to the potential

for Ghana to produce 120,000 barrels a day, while the Lake Albert Rift Basin between Uganda and the Democratic Republic of Congo will yield 150,000 barrels per day (Africa Progress Panel, 2013). Countries that have already established themselves as oil exporters, including Angola and Nigeria, have further increased their reserves (Africa Progress Panel, 2013). Similarly, countries already engaged in mining, such as Mozambique, Niger, Sierra Leone, and Zambia, have been upgrading and expanding their operations (World Bank, 2013; United Nations, 2014).

Arguably, much of the continent's true resource wealth remains unknown and requires greater exploration. According to the Africa Progress Panel (2013), "On a per square kilometer basis, Africa spends less than one-tenth of the amount that major mineral producers such as Australia and Canada spend on exploration."

22.2.2 Opportunities presented by commodities

These natural resource endowments present many opportunities for African countries to spur sustained and diversified growth.

Three means by which resources may serve as inputs to the process of transformation have been identified in global industrialization experiences. First, adding value to mineral, oil, and agricultural endowments allows countries to exploit their comparative advantage and reap greater employment- and income-generating benefits from their commodities (ECA and AUC, 2013). Second, proactive government policies can draw upon high returns to commodities to allocate resources and rents from extractive industries to build capacities, especially infrastructure and human skills, and to foster new competitive industries in various sectors. Third, in the drive to spur new labor-intensive industries, fuel and energy endowments can be used to fuel industrialization, rather than simply being exported. Successful industrializers have followed a combination of these routes.

In order to pursue these natural resource-based strategies, countries need to foster value addition and industrialization through changes in policies, incentives, institutions and resource allocation (Auty, 2004). Indeed, resource abundance is best harnessed if governments pursue the right strategies for building long-term competitiveness and investing in opportunities for the poor in particular (Birdsall and others, 2000).

National visions for growth and development need to address the needs of the natural resources sector—in order to foster value addition and diversification based on commodities—and those of non-commodity-based manufacturing. Successful countries complement the commodities boom with industrial policies that promote linkages among the extractive sectors, multinational corporations, and local firms (DIIS, 2013).

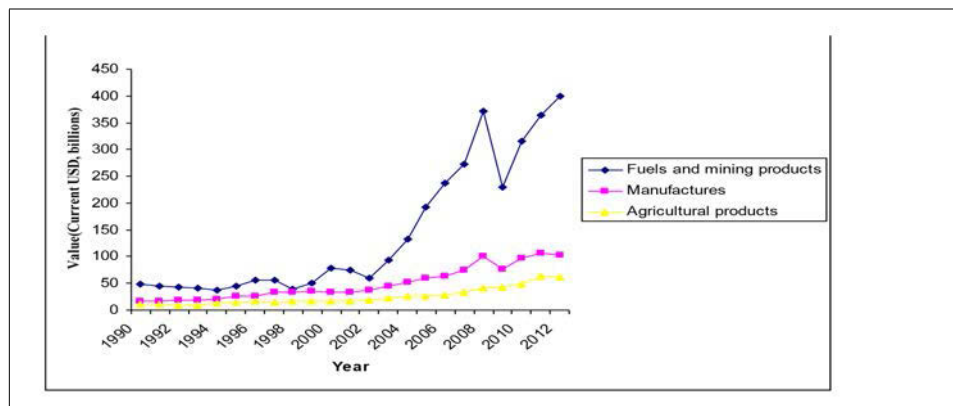
Natural resource abundance often presents serious challenges to countries that lack good institutions and policies, causing growth to collapse (Auty, 2004). Naturally endowed countries have under-invested in social protection and other human development schemes (Africa Progress Panel, 2013). Inequality, while rising globally, is most pronounced in these countries with the gains from natural resources accruing to the few rather than to the collective many. More importantly, the availability of high returns to natural resources in many cases provides a disincentive for governments to invest in alternative economic activities such as manufacturing. In contrast to a “virtuous cycle of growth with equity” involving investments in human capital, agriculture, and other sectors beneficial both for productivity and the poor, governments with ready access to resource rents do not have incentives to pursue long-term innovation and diversification strategies and, instead, usually choose populist but ineffective short-term policies (Birdsall and others, 2000). It is therefore not surprising to note that over the last two decades, mineral-poor African countries exhibited twice the rate of structural transformation of the mineral-rich countries and did better in terms of productivity growth (ECA and AUC, 2014: 36).

22.2.3 Is Africa really overly reliant on natural resources?

While Africa’s high economic growth has benefited significantly from natural resources, the sources of growth are diversifying.

The role of natural resources in Africa’s recent successes is most evident in the continent’s external trade, with the value of fuel and mining product exports more than six times greater than the value of agricultural product exports, and nearly four times greater than that of manufactured exports (Figure 22.1). Hydrocarbon and metals exports account for more than half of exports in 14 African countries that together make up 39 percent of the continent’s population (Emerging Markets Forum, 2013).

Figure 22.1: Value of Africa’s Exports, by Sector



Source: WTO Statistics Database, available at: <http://stat.wto.org/StatisticalProgram/WSDBStatProgramSeries.aspx?Language=>, accessed 05 March 2014.

Indeed, Africa’s exports have been highly concentrated around natural resources. As measured by the Herfindahl-Hirschmann index, Africa’s exports have become far more concentrated than exports from developing countries in general, and from Asian developing countries in particular (Table 22.2). Commodity exports have helped reduce trade imbalances across Africa, but if the trends in oil-exporting countries are excluded from the calculation, Africa’s net exports have continued to be negative—indicating the challenges faced by non-oil exporters (ECA and AUC, 2014: 5).

Table 22.2: Export Concentration Index, Selected Regions and Years

	1995	2001	2007	2012
Developing Economies: Africa	0.249	0.305	0.455	0.452
Developing Economies: Asia	0.094	0.117	0.126	0.125
Developing Economies: All	0.092	0.114	0.139	0.141

Source: UNCTADStat at <http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=120>, accessed 19 March 2014.

The concentration of Africa’s exports has been exacerbated by the commodity price boom of the 2000s, which has been driven by unprecedented growth and demand from emerging markets. Aside from a dip following the onset of the global financial crisis, the prices for all commodity groups have been surging (ECA and AUC, 2013: 75). Although prices are currently moderating, they are likely to remain at historically high levels in the foreseeable future. Rising returns to commodity production

have thus been magnifying the importance of these products for African national economies.

22.3 Diversifying sources of growth underpin Africa's potential to transform

After two decades of stagnation, Africa's average growth rate increased to unprecedented levels, averaging about 5 percent since 2000 (Figure 22.2 below). This growth was broadly shared across regions and among resource-rich as well as resource-poor countries such as Ethiopia and Rwanda. Meanwhile, African economies are slowly diversifying and sectoral contributions to GDP have been changing. In the early 1960s, agriculture accounted for the largest share of GDP (more than 40 percent) and was followed by services and industry. However, between 2005 and 2009, agriculture's share of GDP fell by around 20 percentage points, with the share of services and industry making up for the difference in roughly equal proportions. The contribution of manufacturing to GDP actually declined during this period: from 11.5 percent in the 1960s to 10.5 percent in the 2000s.

A variety of other factors, beyond commodity production and exports and growing assets, are expected to keep Africa's growth buoyant in the foreseeable future. Discussed in turn below, these include improved economic governance and political stability, rising productivity, urbanization and growing domestic demand, positive human development and demographic trends, a growing regional market within Africa, and new partnerships.

22.3.1 Improved economic governance

Africa's strong growth is partly the outcome of prudent macroeconomic governance, management, and policy. Indeed, "Arguably more important [than the resource boom] were government actions to end political conflicts, improve macroeconomic conditions, and create better business climates, which enabled growth to accelerate broadly across countries and sectors" (McKinsey Global Institute, 2010: 1). Policy actions to reduce inflation, government and external debt, and current account and fiscal deficits were key to establishing a stable economic base on which the economies of Africa have prospered.

A main improvement has involved economic governance and management. Data from the Ibrahim Index of Governance indicate that of 52 countries examined, all but six recorded positive progress on the aggregate governance score over the 13-year period for which data are available (Mo Ibrahim Foundation, 2013). In the sub-category of “Sustainable Economic Opportunity,” all but seven countries improved over this period, with twelve recording double-digit progress. Transparency and accountability increasingly characterize the governance and regulation of natural resources (Africa Progress Panel, 2013: 72). Business and economic regulation has also improved, and between June 2010 and May 2011, “regulatory reforms making it easier to do business were implemented in 35 out of 46 economies” (World Bank, 2012b: 1).

Important for these developments has been the political will displayed by African countries, both individually and collectively. Initiatives such as the New Partnership for Africa’s Development (NEPAD) and the African Peer Review Mechanism point to African countries’ commitments to improving governance and mainstreaming policies for development into national frameworks.

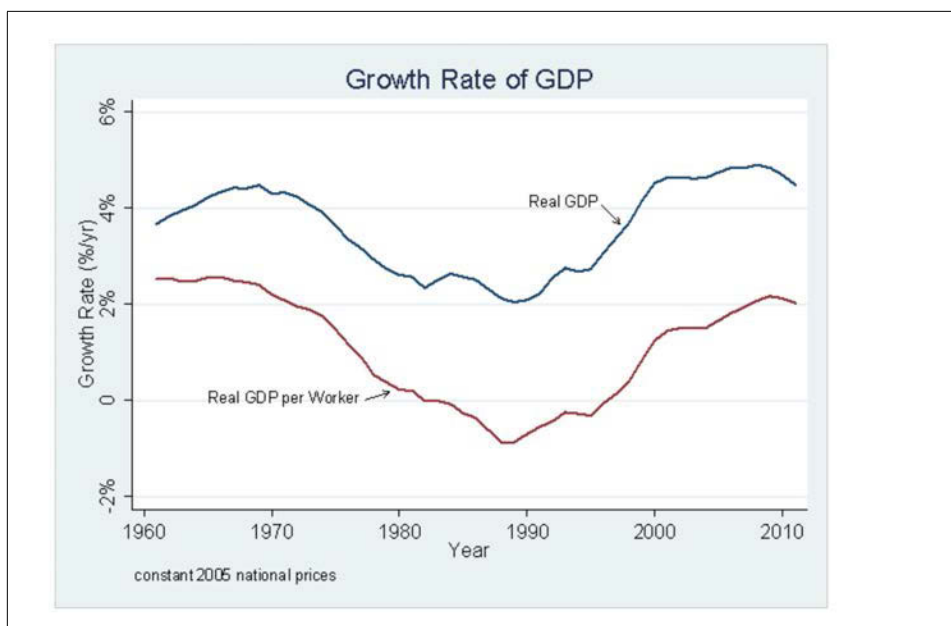
Better political conditions are also reflected in the greater frequency and fairness of elections. Member states of the African Union have adopted a zero-tolerance policy towards unconstitutional changes of government, suspending from the Union countries that are guilty of such changes. Meanwhile, between January 2010 and April 2011, 20 African states held presidential, parliamentary, or local elections (Freedom House, 2011). While elections and fair representation still face significant challenges throughout Africa, current trends are towards more transparent elections and accountability to citizens. In addressing armed conflicts across the continent, the African Union has been effective at carrying out its mandate in pursuing peace and security—with notable successes, together with the UN, in ending conflict in Eastern DRC and Mali, and in securing significant regions of Somalia for the first time in 20 years.

22.3.2 Rising productivity

Productivity has been rising across Africa since the late 1990s, contributing to the continent’s growth resurgence. GDP per worker has grown in tandem with economic growth, at an average of 1.6 percent during the 2000s (Figure 22.2). This growth

was made up of improvements in human capital (0.5 percent), accumulation of physical capital per worker (1 percent), and growth in total factor productivity (0.1 percent). These productivity improvements were closely associated with improved political and economic governance and better institutions and policies, including human development strategies and policies to reduce exchange rate misalignment and to promote macroeconomic stability and real investment.

Figure 22.2: Growth Rate of GDP and Real GDP per Worker, 1960-2010



Source: ECA and AUC (2014).

22.3.3 Growing domestic consumption

As incomes rise and the middle class grows across Africa, domestic demand is providing a local market for the continent's small but growing manufacturing base. Estimates indicate that Africa's combined consumer spending was US\$680 billion as of 2008, equal to a quarter of the continent's GDP, and is projected to rise to US\$2.2 trillion by 2030 (AfDB and others, 2011). Furthermore, "by 2030 the continent's top 18 cities could have a combined spending power of US\$1.3 trillion" (McKinsey Global Institute, 2010: 3). While natural resources accounted for 24 percent of the continent's growth in 2002-07, their contribution was followed by diverse wholesale and retail activities at 13 percent, agriculture at 12 percent, transport and telecom-

munications at 10 percent, and manufacturing at 9 percent. When decomposed into five-year periods from 1960 to 2009, private consumption accounts for between 60 and 70 percent of GDP (ECA and AUC, 2014).

Investment has been a key driver of growth in African countries since Independence, but its scale has increased significantly over the past decade. Indeed, “as of 2007, the continent had the highest rate of returns on inward foreign direct investment (FDI) in the world” (McKinsey Global Institute, 2010: 17). However, despite this improving picture, much FDI still flows to low-productivity but high-return extractive sectors, and African countries still save and invest too little of their GDP (Commission on Growth and Development, 2008).

22.3.4 Human development and demographic trends

Africa’s progress in addressing human development goals is also notable as an enabler for industrialization and transformation, because a healthier and better educated society is necessary to undertake new and more advanced economic activities. The continent has made strides in reducing under-five and maternal mortality and the incidence and prevalence of HIV, and has achieved near-universal primary education and a significant expansion of secondary education. Population growth and increasing rural-to-urban migration have led to greater urbanization and a construction boom.

Africa’s prospects for growth are brightened by its growing workforce; the working-age population is expected to reach 1.1 billion by 2040. Furthermore, increasing urbanization is bringing entrepreneurs together in urban knowledge networks. Whether the growing young population translates into a demographic dividend will depend on countries’ ability to continue expanding and improving education, and providing the right, purposive, policies and macroeconomic environment for greater job creation.

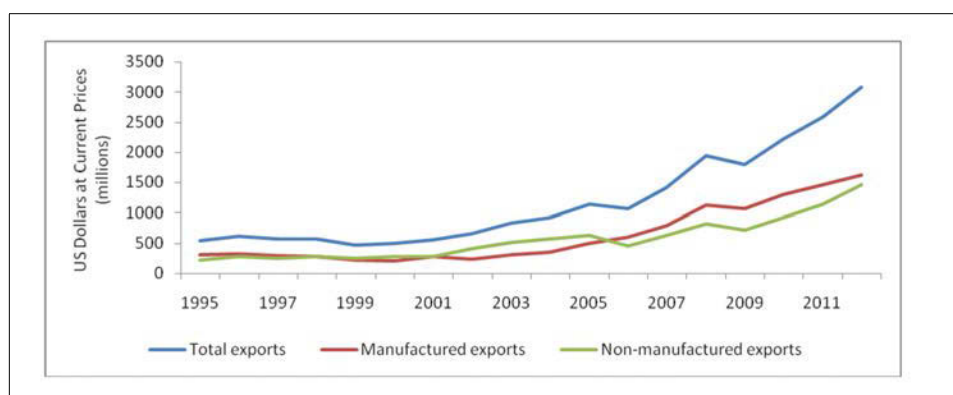
22.3.5 Intra-African trade and regional integration

Regional markets are important in facilitating industrialization and local production both within and among African countries, expanding end markets for manufactured goods, and facilitating the cross-border movement of factors of production. Recent studies underpin the fact that regional markets provide more learning opportunities

for small-scale domestic firms, allowing local firms to upgrade into international markets (ECA and AUC, 2013).

Intra-African trade is much more diversified than African trade with the rest of the world. Manufactures make up an estimated 40 percent of intra-African exports, but only 12 percent of African exports to the rest of the world (ECA-AUC, 2014). Taking an example of sub-regional trade facilitated by regional economic community agreements, Figure 22.3 decomposes trade flows within the East African Community regional block, indicating the large role of manufactured products.

Figure 22.3: Composition of Intra-East African Community Exports, 2010-12



Source: UNCTADStat Database at <http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=120>, accessed 1 April 2014.

Current trade patterns underscore the need for African countries to boost trade among themselves as a means to facilitate trade in a diversified portfolio of products. To achieve such a boost will require concerted efforts to address the numerous trade-related constraints among African countries, such as tariff and non-tariff barriers, poor infrastructure, and technical barriers to trade.

22.3.6 Growing partnerships with emerging markets

Africa's growing partnerships with emerging markets provide chances to seek alternative sources of finance, investment, trade, and knowledge sharing, and also present opportunities for African countries to move beyond commodities and link into global manufacturing value chains. Trade with emerging markets increased from 21.7 percent of Africa's total trade in 2000 to 36.4 percent in 2009 (AfDB and others, 2011). Sub-Saharan Africa (SSA) has been linking with emerging markets

to an even greater extent, with other developing countries accounting for more than half of SSA's trade in 2008, and Asia and Western Europe accounting for equal shares (McKinsey Global Institute, 2010). It is projected that by 2060, the United States and European Union will receive only 27 percent of Africa's exports, with China alone receiving almost 25 percent (AfDB, 2011: 20).

In recent years, trade connections have helped synchronize Africa's business cycle with that in the global economy. The convergence is particularly noticeable between African countries and the BRICS, and Africa's trade with BRICS has four times as much impact on the convergence as does Africa's trade with the G7 (Diallo and Tapsoba, 2014). Emerging markets offer African countries a unique combination of financing, including FDI, official development assistance, loans, and grants, as well as deals regarding trade, infrastructure, investment, and aid (AfDB and others, 2011). In this regard, Africa is better able to build up its industrial capabilities through innovative development cooperation.

Much interest from emerging markets focuses on African land and natural resources, but nonetheless provides opportunities for Africa to enhance its productivity through deals involving both resources and industry. In countries such as Ethiopia, Chinese investment is pouring into non-commodity sectors—construction and light manufacturing. Indeed, Africa has slowly started taking advantage of the offshoring of manufacturing jobs from East Asia and elsewhere, generating employment and helping the continent link in to higher segments of global value chains. South African investments in the rest of the continent have also been growing rapidly, accounting for many industrial inputs across the continent and providing a large market for other African countries' commodity exports.

These new and more diverse sources of sustained growth for Africa have aroused enthusiasm that the continent is not on a temporary and purely commodity-dependent path, but rather will emerge as a significant pole of global growth (ECA and AUC, 2012).

22.4 Policy imperatives for Africa to reduce natural resource dependence and transform its economies

22.4.1 Why Africa must embark on a transformation agenda

Actively pursuing transformation is vital for Africa to draw on its diversifying growth sources and turn the corner towards sustained, job-creating growth. Indeed, no country has achieved rapid and sustained economic growth without economic and structural transformation.

In Africa thus far, economic transformation has been limited by a variety of factors, including weak institutional and organizational capacities; low investments in industry and productive capabilities; restrictive policy space and trade practices of external partners; vested interests in the market for primary commodities; poor inputs to transformation including finance, infrastructure, and policy support; and limited development of skills and knowledge for higher value-added economic activities.

For African countries to address these constraints they will need to coordinate their policies, particularly towards industrial development. Industrialization is recognized as the means by which developed and developing countries alike have achieved economic transformation, and it is a clear route for Africa to pursue employment-generating growth and development. Industrialization also helps countries link into higher segments of regional and global value chains, diversifying and increasing exports, decreasing vulnerability to global commodity prices and demand shocks, and generating more foreign exchange that can be re-invested in productive economic activities and social services.

Recently, African countries have shown increasing interest in industrialization, thanks to its potential to drive transformation and rapid successes in East and Southeast Asia. The question has thus shifted from *whether* Africa should utilize industrial policy to *how* and in what form.

22.4.2 How to transform: the opportunity for commodity-based industrialization

To build on and complement the continent's diversifying sources of growth, a feasible way for Africa to industrialize based on its assets and endowments is to pursue commodity-based value addition and industrialization (ECA and AUC, 2013). There is massive potential in adding value to natural resources. For example, countries exporting raw diamonds could reap an extra 66 percent of the value of raw exported stones by sorting, cutting, and polishing the stones and manufacturing jewelry (Table 22.3).

Table 22.3: Benefits of Moving up the Global Diamond Value Chain

Stage of global value chain	% of original value
Producer selling value	100
Sorting and valuing	115
Cutting and polishing	127
Polished dealing	133
Jewellery manufacturing	166
Retail	320

Source: Even-Zohar (2007).

Similarly, while most of Africa's coffee producers participate in growing and exporting raw coffee beans, with some limited processing taking place in-country, it is clear that the lion's share of value is added at later stages in consuming countries. These are just two examples of the income potential of commodity-based value addition, and similar value gaps are evident in textiles, leather, tea, and other resources.

Developing linkages upstream for industrial inputs, and downstream for value addition and beneficiation, has proven vital for countries that have linked their commodity endowments with broad development and industrialization. For many resource-based industries—particularly mining—there is an added incentive to develop local linkages in order to reduce the transport and logistical costs.

Research by ECA and AUC (2013) has revealed a variety of factors affecting local linkage development in Africa. A main hindrance to domestic value addition has

been the limited capabilities of local manufacturers. For example, the largest copper mining firms in Zambia find that local manufacturers lack the capacity to provide the mining inputs they need, and the largest gold mining firms in Ghana report similarly. More thorough implementation of local-content policies, and supportive investments in local suppliers, will help domestic firms link in to large and lucrative commodity markets to generate more economic activity and jobs across other sectors. Regarding beneficiation, firms report that their specialty lies in extraction rather than processing, highlighting the need for expanded knowledge networks and greater support to firms that branch into higher-value activities.

Successful cases can be found across Africa of moving from commodity-based growth to a more sustainable and inclusive development trajectory. For example, Botswana has succeeded in adding value to mineral deposits, namely diamonds, and upgrading production to include cutting and polishing. Central to its success was the building of a strong and competent bureaucracy, and attracting FDI to higher-level processing activities within the diamond industry. Successful institutional reform focused on natural resource governance and management (Africa Progress Panel, 2013: 81). Even so, about half of Botswana's GDP still comes from mining revenues, indicating that further diversification efforts are needed.

The Ethiopian government has introduced a number of incentives and programs to raise the value-added content of leather and hide exports. These have included imposing export taxes of 150 percent on low value-added hides, and directly engaging foreign firms to provide skills and technological training to local firms through partnerships. As a result, 95 percent of Ethiopia's leather exports are of processed leather.

South Africa presents a success story of building distinctive upstream linkages, creating a network of firms supplying machinery for mining. Its mining equipment exports rose by 20 percent between 2010 and 2011 (ECA and AUC, 2013). The success of linking mining with manufacturing in South Africa has led to large income and employment multipliers. While mining directly yields R267 billion in revenue and 524,000 jobs, when capturing indirect impacts, mining accounts for R536.1 billion in revenue and 1.35 million jobs.²

22.4.3 Diversify by building on sectors with high growth potential

Strategies for value addition based on current comparative advantage are the necessary first steps towards a long-term strategy for building new competitive advantages. A meaningful diversification agenda is necessary to gradually reduce economic dependence on any one sector. As demonstrated in this study, there are other growing sectors that, if fostered with the right policies, can become the continent's future sources of growth. African countries can provide good economic management and conducive policies to build up the financing, human capital, and other inputs needed to expand these sectors. Governments must make far-sighted policy interventions that recognize the temporary nature of unsustainable commodity booms and bubbles.

22.4.4 Build a comprehensive framework for informed policymaking

Industrialization is key to structural transformation and inclusive development, but African countries continue to face challenges in designing and implementing effective industrial policies. Countries need to establish strong institutions for industrial and development policymaking if they are to avoid the disappointments of past commodity booms that were not translated into economic, social, and structural transformation.

Africa's past efforts to accelerate and sustain growth based on industrial policy provide many lessons on which strategies did and did not yield successes, and why some industrial policies have been ineffective. After Independence, African countries' initial industrialization efforts involved direct state action in fostering new industries. But many of the new industries were inefficient, had large capital requirements, and could not be sustained. Structural adjustment in the 1980s and 1990s was meant to correct macroeconomic imbalances, but it downplayed the role of the state in economic management, including that of industry. Left alone, the market favored Africa's natural resource sectors.

Though African industrial policies have to contend with weak institutional structures, ineffective processes, and inflexible mechanisms, policymakers have largely followed blueprint approaches and one-off policies, rather than building an institutional

environment capable of formulating dynamic industrial interventions (ECA and AUC, 2014). Many industrial policy organizations lack the capacity and financial support to fulfill their mandates efficiently. Most are static and do not easily evolve organizationally to deal with the ever-changing challenges facing industry. The private sector typically participates very little in the design and implementation of industrial policy. Many well-designed industrial policy plans have been left un-implemented, for a variety of reasons ranging from insufficient capabilities to a lack of funding, weak monitoring and evaluation, poor policy coordination, and policy inconsistencies over time and across sectors.

These experiences have resulted in missed opportunities for industrialization in many African states. For example, Zambia's significant global role as a copper producer has only yielded 10 percent of the country's formal employment and 9.9 percent of GDP (ECA and AUC, 2013). Major oil producers including Angola, Nigeria, and others have been unable to refine their oil to meet domestic demand, and attempts to create oil-based sovereign wealth funds have not adequately applied natural resource rents to fuel diversified and job-creating industry and manufacturing.

Given this state of industrial policy formulation, African countries should focus on building and operating effective industrial policy organizations. African states must look beyond addressing individual problems or constraints, and instead examine institutional and macro-level issues. Industrial policy coordination should begin at the apex of government, with the executive office and key line ministries (ECA and AUC, 2014). IPOs must be well supported in order to build internal capacities and coordinate with one another. Embedded autonomy of bureaucrats will ensure that those responsible for devising and executing policy are well versed in the needs of industrial firms and stakeholders while still remaining independent of special interest groups. And concrete implementation plans must be devised and adhered to in a timely manner, in order to address the prevalent market failures in industry. Other recognized strategies include establishing pockets of efficiency within ministries, promoting regional integration and trade as key enablers of Africa's industrialization, and enhancing data collection and analysis of the drivers of productivity in order to facilitate informed policy choices regarding the allocation of resources and incentives.

Successes in improving policy coordination for transformation can be found across Africa. In South Africa, for example, a national accreditation system supports industrial policy organizations in dealing with the changing needs of industry, with an emphasis on capacity building (ECA and AUC, 2014). In Tunisia, a major strength of industrial policy organizations is post-intervention monitoring, with notably tight coordination between technical centers and the Ministry of Industry.

Lessons for other African countries can be drawn from these industrial policy systems. The common underlying theme is that state support is vital to addressing market failures and to institutionalizing industrial policy at the highest levels of government so that it becomes part and parcel of regular decision-making and monitoring mechanisms. Successful experiences underscore the role of long-term development visions and plans in fostering industrialization through improved policy coordination and efficient allocation of resources.

22.5 Conclusion

This is an exciting time of great potential for Africa. High growth, large returns on investment, increasing global trade and investment ties, governance reforms, and human development improvements have been the headlines for years now. This positive story can continue, if African governments now start focusing on long-term transformative and inclusive growth as well as job creation for the benefit of their growing populations.

Africa has a real opportunity to utilize natural resource endowments to foster structural transformation by adding value to its raw commodities and improving capacities and inputs for new competitive and productive sectors. Sources of growth have been diversifying, and countries can take advantage of growing domestic consumption, diversifying trade, increasing regional integration, and other positive trends. Proactive policies are needed to harness these assets in order to help propel Africa's economies higher along regional and global value chains, moving away from the primary commodity production and export that has characterized the region in the past.

There is broader agreement than ever before among Africans on what needs to be done to build on achievements thus far and to propel the continent forward as a

pole of global growth. In addition to building capabilities and institutions to design and implement effective industrial policies, strategies for African countries to sustain their current growth momentum and promote transformative and inclusive growth should be based on coherent long-term development plans as well as stronger commitment to regional integration and policy harmonization. Intra-Africa trade and investments offer greater potential than Africa's trade with the rest of the world for African countries to increase productivity and competitiveness and promote modern economic sectors, especially manufacturing and services.

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Endnotes

- ¹ Oil exporters are countries whose oil exports are at least 20 percent higher than their oil imports. Mineral rich countries are those whose mineral exports account for more than 20 percent of total exports.
- ² Presentation by Jorge Maia on "The interface between mining and manufacturing in South Africa: the context," given at the Industrial Development Corporation in South Africa on 22 August 2013, available at <http://www.idc.co.za/interface>.

23. Foreign Direct Investment, Natural Resources, and Employment in Sub-Saharan Africa

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23.1 Introduction

Global oil consumption has increased significantly in the past two decades, and this trend is expected to continue.¹ Not surprisingly, the increase in demand for energy has led to an increase in oil prices and the price boom has fuelled a rise in profits in the extractive industry.² The recent events in the oil industry have led to an increase in exploration and production of oil around the world, and in particular in Sub-Saharan Africa (SSA).

The rise in global demand for oil has been met by increased oil production in SSA, with a substantial increase in the exploration and production of oil in the region. For example, in 2007, there were significant new oil and gas discoveries in 14 countries in SSA: Angola, Cameroon, Gabon, Guinea-Bissau, Congo-Brazzaville, Ghana, Guinea, Namibia, Nigeria, Sao Tome, Sierra Leone, Tanzania, Uganda, and Zambia.

We use Tullow Oil, plc, one of the largest multinational corporations (MNCs) in the oil industry, as an example to illustrate Africa's growing share of global oil exploration and production.³ We start with Tullow's expenditure on oil exploration and appraisal. From 2008-09, the company's expenditure in SSA increased by about 32 percent, from £294 million to £387 million. By contrast, its expenditure declined by about 50 percent in Europe, 50 percent in South Asia, and 42 percent in South America. Also, the expenditure in SSA accounted for about 84 percent of the company's total exploration expenditure in 2008, and 93 percent in 2009. Oil exploration is extremely risky in that the outcome is uncertain. However, new discoveries in the region are evidence that the explorations in Africa have been successful. For example, for Ghana, Tullow reported a 100 percent success rate in oil explorations in 2008, and an 88 percent success rate in 2009. On oil production, Tullow's expenditure in SSA increased from £92 million to £303 million in 2009, an increase of about 230 percent. This compares with a 25 percent decrease in production expenditure in South Asia and a mere 3 percent increase in Europe.⁴ Finally, the African expenditure accounted for 70 percent of the company's total production expenditure in 2008 and 88 percent in 2009.

It is important to note that exploration and production of oil results in foreign direct investment (FDI) inflows only when the activities are funded by foreign firms, i.e., multinational corporations (MNCs). In Sub-Saharan Africa, unlike other regions, MNCs dominate the oil industry. For example, in 2005, the share of oil production by MNCs was about 19 percent for all developing countries, 18 percent in Latin America, 11 percent in transition countries, and 57 percent in SSA. The share of oil production by MNCs in SSA's top four oil-exporting countries was 92 percent, 74 percent, 64 percent, and 47 percent in Equatorial Guinea, Angola, Sudan, and Nigeria, respectively (UNCTAD, 2007).⁵ Reasons for the dominance of multinational corporations in Africa's extractive industries are that mineral extraction is capital intensive, requires sophisticated technology, has long gestation periods, and is also risky (there is no guarantee that oil may be discovered after spending an extensive amount of resources on exploration). As a consequence, the increased exploration and production in the region has led to a substantial increase in FDI in the extractive industry.

This paper has two objectives. First, it analyzes the effect of the increase in oil production in SSA on flows of foreign direct investment to the region. Second, it examines the potential impact of the recent FDI flows on host economies in SSA.

The impact of FDI on host economies depends on the *type* of FDI that the country receives, whether investment in extractive industry, manufacturing, or services (Asiedu, 2004; Axaroglou and Pournarakis, 2007). Thus an issue that comes to bear is whether or not the recent increase in extractive-industry FDI will enhance economic growth and reduce poverty in SSA countries. We make two assertions. First, we argue that employment by MNCs is one of the most effective ways by which FDI can facilitate poverty reduction and economic growth in host countries. However, extractive industry FDI generates very limited local employment. This point is noted in UNCTAD (2007: 92): “mineral extraction is primarily an export-oriented activity, with significant revenue creation, but limited opportunities for employment creation and local linkages.” The second assertion is that natural resources in host countries can crowd out FDI in non-extractive industries—in particular, in manufacturing (Asiedu and others, 2011).⁶ One reason is that natural resources cause the host country’s currency to appreciate, and this has an adverse effect on firms in tradable industries. In addition, natural resources are associated with weak institutions (Auty, 2001), civil wars (Collier and Hoeffler, 1998) and low investments in physical capital and human capital (Gylfason and Zoega, 2006). However, a country’s institutions, physical capital, and human capital are extremely relevant for the success of FDI in non-extractive industries (we expound on this in Section 1.5 below). Thus, a continual increase in oil production in SSA implies that more countries in the region will be susceptible to the “FDI-natural resource curse”⁷—i.e., the crowding out of manufacturing FDI as a result of an increase in natural resources in the host country (Asiedu and others, 2011).⁸ We discuss policies that will help countries elude this curse, attract FDI in manufacturing, and thereby benefit from the positive spillovers generated by FDI.

The paper is organized as follows. Section 1.2 outlines reasons why FDI is important to SSA, Section 1.3 describes trends in oil production and FDI flows to the region, and Section 1.4 focuses on the employment effect of FDI. Section 1.5 discusses

the determinants of FDI in non-extractive industries, and Section 1.6 discusses policy implications.

23.2 Importance of FDI to Sub-Saharan Africa

We [the United Nations General Assembly] resolve to halve, by the year 2015, the proportion of the world's people whose income is less than one dollar a day. We also resolve to take special measures to address the challenges of poverty eradication and sustainable development in Africa, including debt cancellation, improved market access, enhanced Official Development Assistance and increased flows of Foreign Direct Investment (...).

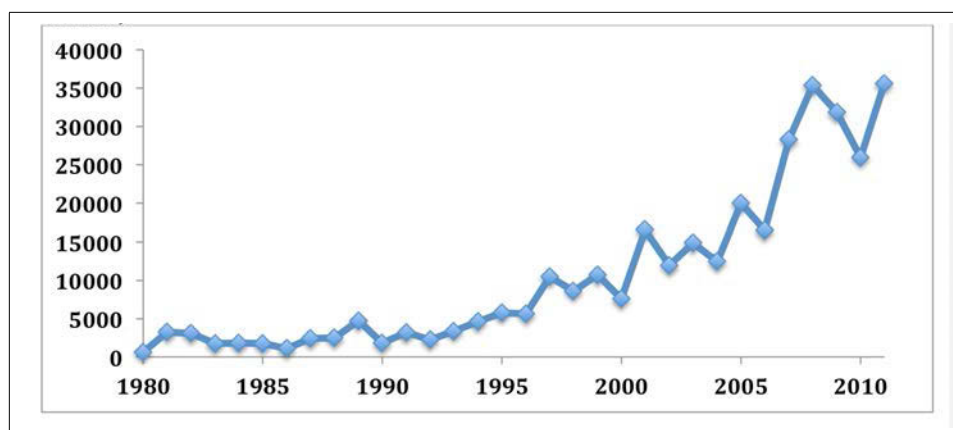
This quotation from the United Nations Millennium Declaration (September 8, 2000) suggests that an increase in FDI to Africa can help the continent achieve the Millennium Development Goal (MDG) of halving poverty rates by 2015. The importance of FDI in eradicating poverty is echoed in the New Partnership for Africa's Development (NEPAD), whose Framework Document stipulates that "to achieve the 7 percent annual growth rate needed to meet the MDG [...], Africa needs to fill an annual resource gap of 12 percent of its GDP, or US\$64 billion" (NEPAD, 2010: 37). Since income levels and domestic savings in the region are low, this resource gap needs to be filled by foreign capital, mainly foreign aid and FDI.⁹

Foreign aid has declined since the global financial crisis in 2007. From 2001 to 2006, aid increased by about 81 percent in real terms—from US\$16.3 billion in 2001 to about US\$38.9 billion. Subsequently, however, aid declined in 2007 to about US\$32.6 billion (i.e., a decrease of 16 percent from the 2006 level), and rose in 2008 to US\$33.5 billion (i.e. about 14 percent less than the 2006 level).

With regard to future aid flows, the analysis of Dang and others (2009) suggests that the 2007 financial crisis could lead to a significant reduction in aid flows. Specifically the authors find that when a donor country experiences a systemic banking crisis, aid from the donor decreases until it bottoms out in about ten or eleven years, with an estimated decline of about 17 percent in the first five years and a decline of about 24 percent after eleven years. Even if future aid flows do not follow historical

patterns, there is no doubt great uncertainty about the performance of the economies of donor countries, and therefore future aid flows may at best be described as uncertain. Clearly, the potential adverse effect of the financial crisis on future aid flows to SSA suggests that FDI is likely to be more crucial to the region—as a tool to fill the resource gap, generate growth, and alleviate poverty.

Figure 23.1: Net Foreign Direct Investment Flows to SSA, 1980-2010 (constant 2005 US\$, millions)



Source: World Bank (2011) and calculations by authors.

The *potential* positive effect of foreign direct investment on the host country's economy is well articulated in UNCTAD (2002: 5), which notes that:

Foreign direct investment contributes toward financing sustained economic growth over the long term. It is especially important for its potential to transfer knowledge and technology, create jobs, boost overall productivity, enhance competitiveness and entrepreneurship, and ultimately eradicate poverty through economic growth and development.

Fortunately, FDI to SSA has increased substantially since 2000 (Figure 23.1). From 2000-09, net FDI inflows to the region increased by about 259 percent in real terms—from US\$81 million in 2000 to about US\$259 million in 2009 (WDI, 2011). An important question is whether countries in SSA will reap the potential positive externalities generated by FDI. We discuss this issue in detail in Sections 1.4 and 1.5.

23.3 Trends in oil production and FDI flows to SSA

As noted above, the production of crude oil in Africa has increased substantially since the 1990s. Table 23.1 shows the average daily production of crude oil for the world, the various geographical regions, and the top four oil-exporting countries in SSA: Angola, Equatorial Guinea, Nigeria, and Sudan. There are several notable points in Table 23.1. First, oil production grew faster in Africa than in the other regions. Between 1992 and 2011, oil production in Africa increased by 40 percent, compared with 32 percent in Asia, 15 percent in Europe, 24 percent in South America—and a decline of 4 percent in North America. Second, a large share of the production in Africa occurred in the top four oil-exporting countries, whose share of production rose from about 37.6 percent in 1992-96 to about 52.5 percent in 2008-11. Third, the growth in oil production in Equatorial Guinea and Sudan from 1992-2011 was substantial: 3,946 percent for Equatorial Guinea and 207,437 percent for Sudan. Note that oil was discovered in Equatorial Guinea in 1990 and in Sudan in 1991, suggesting that the increase in oil production in SSA is driven by new discoveries. This is consistent with our assertion that the rise in global demand for oil is being met by increased oil production in SSA.

Table 23.1: Daily Crude Oil Production (thousands of barrels per day)

Region/Country	1992-1996	1997-2001	2002-2006	2008-2011	% Change 1992-96 to 2008-11
World	60064.4	64644.4	69319.2	71966.9	20
Asia	23949.2	27196.1	29277.2	31517.8	32
Europe	10724.5	10346.9	12343.6	12331.8	15
North America	11231.2	11121.6	11172.1	10758.7	-4
South America	4994.6	6241.0	5972.1	6192.1	24
Africa	6808.6	7369.5	8671.8	9508.4	40
Angola	585.2	736.6	1102.8	1871.2	220
Equatorial Guinea	7.7	117.3	298.0	312.1	3946
Nigeria	1965.4	2167.4	2357.8	2340.8	19
Sudan	0.2	118.5	315.8	472.1	207437
Total for top oil producing countries in SSA	2558.6	3139.8	4074.4	4996.2	
% of oil produced by the top four countries	37.6	42.6	47.0	52.5	

Sources: Index Mundi 2009; US Energy Information Administration, 2009.

Note: "Africa" includes Sub-Saharan Africa and North Africa.

Figure 23.1 and Table 23.2 show trends in FDI flows to SSA. Figure 23.1 shows that FDI to the region has increased substantially since 2000. Table 23.2 shows that average annual FDI grew faster in SSA than in non-SSA developing countries (excluding China): between 1990-99 and 2000-09, FDI to SSA grew by 181 percent, and that to non-SSA developing countries by 109 percent. Furthermore, the growth of FDI in SSA was about 4.5 times that in East Asia and Pacific, 4 times that in Latin America, and about 1.6 times that in non-SSA developing countries.

However, as shown in Table 23.3, the investments are concentrated in oil-exporting countries. Over the period 2000-09, about 40 percent of FDI flows to SSA went to the top four oil-exporting countries, and this share is larger (49 percent) when FDI to South Africa is excluded. Note that this implies that the remaining 43 countries in the region received only 51 percent of the investment. Since FDI in oil-producing economies tends to be concentrated in oil, one can infer that the recent increase in FDI to SSA has been mainly in the oil industry.¹⁰

Table 23.2: Net Foreign Direct Investment Flows to Developing Countries, Excluding China (constant 2005 US\$, millions)

Income Group/Region	1990-1999	2000-2009	% Growth 1990-99 to 2000-09
Developing countries	957	2,052	114
East Asia & Pacific	625	916	47
Latin America & Caribbean	545	764	40
South Asia	33	172	427
Sub-Saharan Africa	66	187	181

Source: World Bank (2011) and calculations by authors.

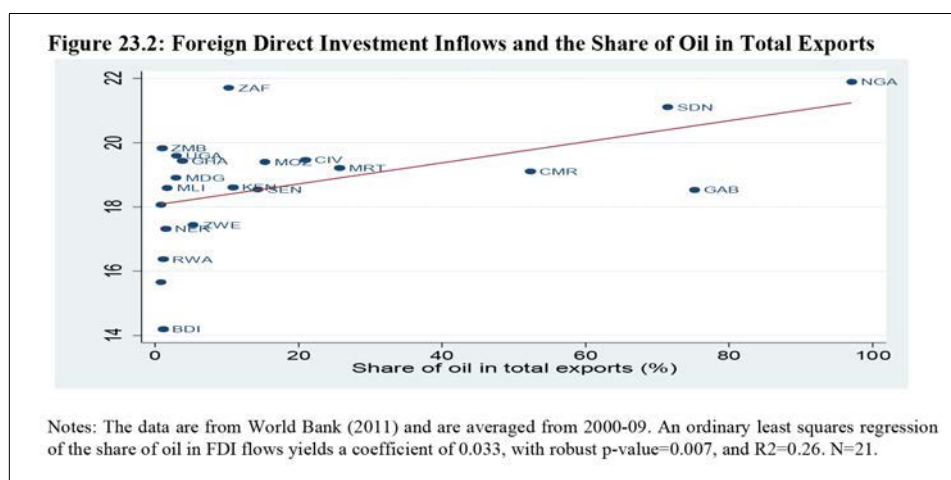
The conjecture is supported by Figure 23.2, which shows a graph of FDI flows and the share of oil in total exports for 21 countries in SSA. The data on FDI and oil export intensity are averaged from 2000-09. The graph shows a positive correlation between FDI and oil export intensity. An ordinary least squares regression of $\ln(\text{FDI})$ on oil export intensity yields an estimated coefficient of 0.033, with a robust p-value=0.007, and $R^2=0.26$. This implies that, all else equal, a one-percentage point increase in oil export intensity will raise FDI by about 0.033 percent.

Table 23.3: Net Foreign Direct Investment Inflows (constant 2005 US\$, millions)

Country /Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sub-Saharan Africa (SSA)	81	172	124	150	119	189	197	274	304	259
SSA excluding South Africa	69	89	108	142	112	124	199	221	223	213
Angola	10	24	19	38	15	-13	0	-8	14	18
Equatorial Guinea	2	11	4	7	4	8	5	11	-7	13
Nigeria	14	14	21	22	20	50	85	55	46	47
Sudan	5	7	8	14	16	23	34	22	22	22
Sum of Top 4 Oil	30	55	51	81	54	68	122	81	75	100
FDI to Top 4 oil-exporting countries as a share of Total FDI to SSA (percent)	38	32	41	54	45	36	62	29	25	39
FDI to Top 4 oil-exporting countries as a share of Total FDI to SSA excluding South Africa	44	62	47	57	48	55	62	36	34	47

Source: World Bank (2011) and calculations by authors.

Figure 23.2: Foreign Direct Investment Inflows and the Share of Oil in Total Exports



Notes: The data are from World Bank (2011) and are averaged from 2000-09. An ordinary least squares regression of the share of oil in FDI flows yields a coefficient of 0.033, with robust p-value=0.007, and R2=0.26. N=21.

The increase in extractive industry FDI to the region can also be inferred from data on United States FDI stock in extractive industries in Africa. Table 23.4 shows US outward FDI stock in extractive industries in 1995, 2000, and 2005. It suggests several important points. First, extractive industry investments by United States MNCs in Africa increased significantly from 1995 to 2005, by about 489 percent in constant US dollars. This compares with increases of 88 percent in Latin America and Caribbean and 40 percent in the Middle East, and a decline of 43 percent in South and East Asia. Furthermore, from 1995-2005, Africa’s share of extractive-

industry FDI stock in developing countries quadrupled (increasing by about 340 percent) and its share of stock in the World increased by 800 percent.

Table 23.4: United States Outward Foreign Direct Investment Stock in Extractive Industries (constant 2005 US\$, millions)

Region	1995	2000	2005	% Growth 1995-2005
Total World	1,052	853	1,143	9
Developed Countries	642	395	558	-13
Developing Countries	335	438	498	49
Africa	19	68	112	489
Latin America	92	195	173	88
Middle East	40	25	56	40
South and East Asia	167	131	96	-43
Africa's share of LDC (%)	5	15	22	
Africa's share of World (%)	1	8	9	

Sources: UNCTAD (2007) and calculation by authors.

Notes: "Africa" includes SSA and North Africa. UNCTAD does not report data for SSA.

23.4 Multinational employment

Local employment by MNCs is one of the most effective ways in which host economies can realize the positive externalities that accrue from FDI. The employment effects of FDI are important to Africa, because in most African countries unemployment is prevalent. Countries with high unemployment rates include South Africa, with 23 percent; Kenya, 40 percent; Senegal, 48 percent; and Zambia, 50 percent (CIA, 2011). In addition to expanding domestic employment, MNC employment boosts wages in host countries. MNCs pay higher wages than domestic firms and the presence of multinationals generates wage spillovers: wages tend to be higher in industries and in provinces that have a greater foreign presence (Asiedu, 2004; Lipsey and Sjöholm, 2001). This is important because wages are low in SSA. For example, about 46 percent of workers in South Africa (one of the richest countries in the region), earn less than the living wage (Fields, 2000). Thus, for countries like South Africa, the contribution of FDI to employment is crucial. Indeed, foreign affiliates accounted for about 23 percent of employment in South Africa in 1999 (UNCTAD, 2002).

We asserted above that FDI in manufacturing generates more jobs than FDI in extractive industries. Here we employ data from United States MNCs to back this assertion. Specifically, we compare the employment effects of FDI in manufacturing and extractive industries. For each industry, we compute the number of employees per US\$1 million stock of FDI of affiliates of U.S. MNCs abroad, and use that measure as a proxy for the elasticity of job creation. Table 23.5 shows the employment elasticity data for the world and various regions. A higher elasticity implies that FDI generates more jobs. We also report the elasticity ratio, which we define as the ratio of the elasticity for manufacturing to the elasticity for mining.

There are three notable points. First, the elasticity ratios are greater than one, suggesting that, in all the regions, an equal investment in manufacturing and mining will produce more jobs in manufacturing than in mining. For example the elasticity ratio for Africa is 17, which means that for the same level of investment, the number of jobs created in manufacturing will be about 17 times the number of jobs created in mining. Second, Africa has the highest elasticity ratio, implying that the relative benefit (in terms of job creation) of receiving FDI in manufacturing versus FDI in mining is higher for Africa than for other regions. Third, Africa has the highest employment elasticity in manufacturing: a US\$1 million investment in manufacturing will create about 34 jobs in SSA—this compares with 21 in Latin America, 15 in Asia, and about 10 in Europe and the Middle East. This implies that in terms of employment creation, FDI in manufacturing is more “productive” in Africa than in other regions. This is clearly shown in Figure 23.3.

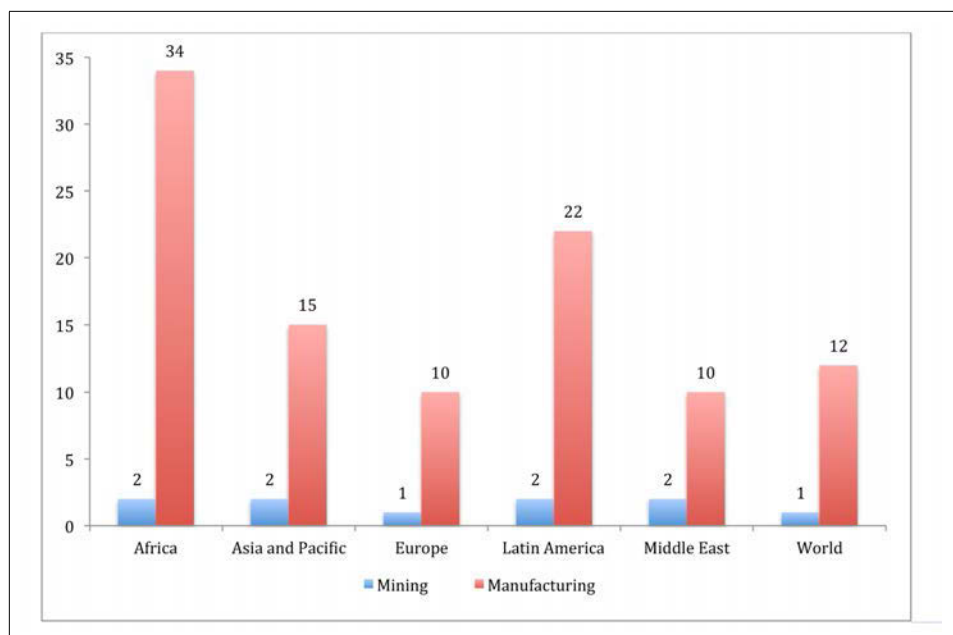
Table 23.5: Employees per US\$1 Million of Foreign Direct Investment Stock in US Foreign Affiliates Abroad, by Sector and Region

	Mining	Manufacturing	Elasticity Ratio
Africa	2	34	17
Asia and Pacific	2	15	7.5
Europe	1	10	10
Latin America	2	22	11
Middle East	2	10	5
World	1	12	12

Source: Bureau of Economic Analysis, US Department of Commerce, and calculations by authors.

Notes: Data for Africa, Latin America, and Europe are for 2007, data for Asia and the World are for 2006, and data for the Middle East are for 2002. “Africa” includes Sub-Saharan Africa and North Africa.

Figure 23.3: Employment Effect of U.S. Foreign Direct Investment in Manufacturing and Extractive Industries: Number of Employees per US\$1 million of Foreign Direct Investment Stock in US Foreign Affiliates Abroad



Source: Authors' compilation based on Bureau of Economic Analysis data.

23.5 Determinants of FDI in non-extractive industries

Our discussion so far suggests that one of the challenges facing countries in SSA, and in particular the oil-exporting countries in the region, is to find ways to attract FDI in non-extractive industries. In analyzing this issue, it is important to note that extractive-industry FDI is mainly driven by access to natural resources in host economies (Asiedu, 2002). In contrast, non-extractive-industry FDI is sensitive to the conditions in host economies—in particular, the size of the local market, quality of physical infrastructure, productivity of the labor force, openness to trade, FDI policy, and the quality of institutions. The differences in factors that drive natural resource and non-natural resource FDI are evident in Asiedu and Lien (2011), who find that democracy in host countries facilitates FDI in non-resource exporting countries, but does not significantly affect FDI in resource-exporting countries. Also, according to a survey conducted in 2007 by UNCTAD (2009), for MNCs in manufacturing and services the most important location criterion is market size (while for MNCs in the extractive industry the number one criterion is availability of natural resources in the

host country). Another relevant point is that FDI in non-extractive industries is more footloose than FDI in the extractive industry. This suggests that countries need to compete in order to attract FDI in non-extractive industries. In our framework, this implies that countries in SSA need to compete against developing countries outside SSA for non-extractive industry FDI.

Table 23.6: Determinants of Foreign Direct Investment in Non-extractive Industries

	Non-SSA Countries		Developing SSA Countries		Top Eight Oil-Exporting Countries in SSA*	
	Mean	S.D	Mean	S.D	Mean	S.D
Trade Openness – Trade/GDP (percent)	91.35	36.34	78.59	36.06	94.17	39.35
Infrastructure – Phones per 100 population	15.09	11.55	2.89	5.71	1.16	0.96
Human Capital and Labor Productivity						
Life Expectancy (years)	69.71	4.95	52.28	8.11	51.00	5.20
Adult Literacy Rate (percent)	86.25	14.71	58.78	20.32	64.19	20.06
Human Development Index	0.74	0.12	0.51	0.13	0.57	0.12
Institutional Quality						
Political Freedom	0.58	0.35	0.45	0.30	0.18	0.16
Bureaucracy	0.52	0.80	0.72	0.82	0.73	0.95
Corruption	0.64	0.10	0.69	0.12	0.72	0.12
Effectiveness Rule of Law	0.57	0.17	0.48	0.18	0.40	0.08
Country Risk: Risk of Expropriation	0.41	0.16	0.48	0.16	0.49	0.10

Notes: Data on trade/GDP, telephones per 100 population, life expectancy, adult literacy rate, Human Development Index, are from the World Bank's World Development Indicators (2010); data on political freedom are from Freedom House; and data on government bureaucracy, corruption, effectiveness of the rule of law, and country risk are from the International Country Risk Guide (ICRG) database. The values for the Human Development Index, political freedom, bureaucracy, corruption, the effectiveness of the rule of law, and country risk range from 0 to 1; a higher number implies a low degree of human development, increased political freedom, high bureaucracy, more corruption, a more effective rule of law, and higher country risk.

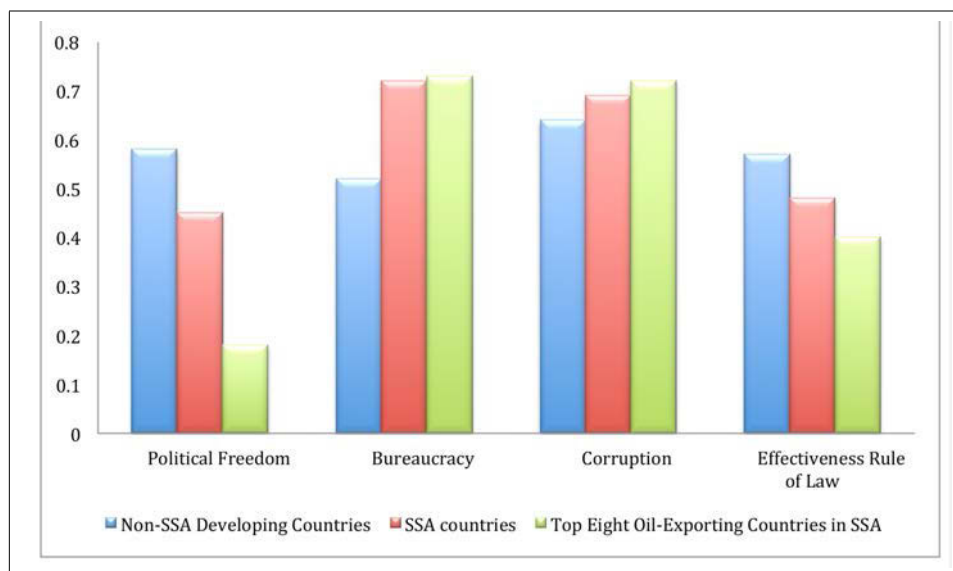
* The oil-exporting countries are Angola, Cameroon, Chad, Congo Republic, Equatorial Guinea, Gabon, Nigeria, and Sudan.

The empirical literature on the determinants of FDI to developing countries suggests that the host-country characteristics that attract FDI in manufacturing and services include trade openness, infrastructure development, an educated and productive labor force, good institutions, and relatively few restrictions on FDI.

To provide the reader with a sense of the potential challenges faced by countries in SSA in attracting non-extractive FDI, we report in Table 23.6 data that reflect these measures and compare the values for SSA and non-SSA developing countries, as well as for SSA's eight top oil-exporting countries: Angola, Cameroon, Chad, Congo Republic, Equatorial Guinea, Gabon, Nigeria, and Sudan. Following the literature, we use the share of trade in GDP as a measure of trade openness and the number of telephones per 100 population to measure infrastructure development. We employ

three variables to measure human capital and labor productivity: life expectancy in years, adult literacy rate, and the Human Development Index (HDI). The HDI is a weighted average of GDP per capita, literacy rate, and life expectancy, and ranges from zero to one; a higher number implies a more educated and productive labor force. We employ four variables to measure the quality of institutions. The measures reflect: (a) the level of political and civil rights; (b) the level of bureaucracy; (c) the level of corruption; and (d) the impartiality of the legal system in host countries. Finally, we include a variable that measures the risk faced by FDI in host countries. This variable, which we refer to as country risk, captures the risk to investment as a result of “hostile” government actions (e.g., expropriation) and restrictions on FDI.¹¹ To facilitate interpretation of the data, we rescale the data on institutional quality and country risk to range from zero to one. A higher number implies more political and civil rights, more corruption, more bureaucracy, a reliable legal system, and less risk. All the data are averaged from 2000-09.

Table 23.6 shows that SSA lags behind other developing countries for all the measures of FDI. The data also show that the scores for the eight oil-exporting countries in SSA are much lower than the average for the region. As shown in Figure 23.4, SSA fares poorly on all the measures of institutional quality, and the top eight oil-exporting countries in the region fare even worse. Indeed, this observation is consistent with several studies that find a negative relationship between natural resource abundance and institutional quality, human capital, and physical capital (Gylfason and Zoega, 2006).¹² Thus, the data suggest that countries in SSA face keen competition to attract non-extractive FDI, and that the competition is keener for oil-exporting countries in the region.

Figure 23.4: Institutional Quality: Average Data from 2000-11

Source: Authors' compilation based on data from the World Bank, Freedom House, and the International Country Risk Guide.

23.6 Conclusion

We begin this section with a summary of the main thesis of the paper.¹³ First, the rise in global demand for oil has resulted in a significant increase in oil-related FDI in SSA. Second, employment by multinational corporations is one of the most effective ways by which FDI can facilitate poverty reduction and economic growth in host countries. However, unlike FDI in non-extractive industries, extractive-industry FDI generates very limited employment and local linkages. Third, physical infrastructure, an educated labor force, openness to trade, good institutions, and lower country risk foster FDI in non-extractive industries. Finally, relative to non-SSA developing countries, countries in SSA score low on the measures that facilitate non-extractive-industry FDI, and the scores are much lower for oil-exporting countries in the region.

The results have several policy implications. First, they suggest that in order to compete successfully for non-extractive FDI, countries in SSA need to boost investments in physical infrastructure and education. Here, oil-exporting countries have an advantage, in that they can use some of the rents that accrue from oil production to finance these investments. Another important result is that a decrease in country risk—in particular, the risk of expropriation—will enhance FDI flows. Asiedu and

others (2009) show that foreign aid lowers the risk of expropriation in host countries and thereby facilitates FDI flows. However, aid cannot completely eliminate this risk. This suggests that multilateral organizations such as the World Bank can play an important role in facilitating FDI to SSA. Nevertheless, countries need to take steps to reduce FDI risk, since aid cannot completely neutralize the adverse effect of risk on FDI.

The results also suggest that regional economic cooperation may facilitate FDI to SSA (Elbadawi and Mwege, 1997; Bartels and Crombrugghe, 2009).¹⁴ There are two reasons for this. First, regionalism allows countries to coordinate their policies. For example, members of a regional bloc may require all participating countries to curb corruption, implement sound and stable macroeconomic policies, and adopt an “investor friendly” regulatory framework (such as by removing restrictions on profit repatriation). Errant countries may face costly sanctions or be barred from membership. Here, the threat of sanctions or losing access to the benefits that accrue from regionalism serves as an incentive for countries to implement “good” policies. Another advantage of regionalism is that it expands the size of the market, and therefore makes the region more attractive for FDI (recall that market size is an important determinant of FDI in non-extractive industries). The importance of large markets for FDI in Africa has been documented in several surveys.¹⁵

The market size advantage of regionalism is particularly important for Africa because countries in the region are small in terms of population and income. For example, 15 out of the 48 countries in SSA have a population of less than two million and about half of the countries have a population of less than six million. With regard to income, about half of the countries have a GDP of less than US\$3 billion. Indeed, the total GDP of Sub-Saharan Africa in 2009 was US\$956 billion, which was about equal to the GDP of Mexico or about 61 percent of the GDP of Brazil (World Bank, 2011). Furthermore, SSA’s GDP falls to about US\$498 billion (i.e., about 30 percent of the GDP of Brazil and about 57 percent the GDP of Mexico) when Nigeria and South Africa are excluded.¹⁶ Thus, given the small income and population size of African countries, a large number of countries would have to be included in the regional bloc in order to achieve a large enough market size to attract foreign investors.

The caveat is that policy coordination becomes difficult as the number of countries in the regional bloc increases. Indeed, the difficulty of coordinating and enforcing policies across many countries may be so costly, in terms of time and resources, that regionalism may prove infeasible.

Finally, we note that an increase in FDI, even in the manufacturing industry, does not necessarily translate into higher economic growth. Specifically, several studies have found that FDI enhances growth only under certain conditions: when the host country's education level exceeds a certain threshold (Borensztein and others, 1998); when domestic and foreign capital are complements (de Mello, 1999); when the country has achieved a certain level of income (Blomstrom and others, 1994); when the country is open (Balasubramanyam and others, 1996); and when the host country has a well developed financial sector (Alfaro and others, 2004). The data in Table 23.6 suggest that SSA countries may not achieve the threshold level necessary to benefit from the growth effects of FDI.

Therefore, for countries in the region, reaping the benefits that accrue from FDI may be more difficult than attracting FDI. However, there is room for optimism. The policies that promote FDI also have a direct impact on long-term economic growth. As a consequence, African countries cannot go wrong implementing such policies.

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Endnotes

- ¹ For example, world energy consumption increased from 375×10^{15} quadrillion Btu in 1996 to about 472×10^{15} in 2006, and is expected to increase to 596×10^{15} quadrillion Btu in 2020. The rise in oil demand was driven mainly by China and India (EIA, 2011).
- ² The world price of crude oil increased by about 185 percent from 2002-07 (UNCTAD, 2008). Also, the median after-tax profits as a share of revenue of Global 500 companies increased from about 2 percent in 2002 to about 6 percent in 2006. In contrast, the share of profits of Global 500 companies in extractive industries increased from 5 percent to about 26 percent over the same period (UNCTAD, 2008).
- ³ See Tullow's annual report for more information; <http://www.tullowoil.com/files/reports/ar2009/>
- ⁴ There was no production in South America in 2008 and 2009 although the company spent £12 million in 2008 and £7 million in 2009 on exploration in the region.
- ⁵ In countries such as Kuwait, Mexico, and Saudi Arabia, oil is produced solely by domestic firms—there is no production by foreign firms.
- ⁶ Asiedu and others (2011) find an inverse relationship between natural resource export intensity and FDI. They assert that natural resources increase FDI in natural resources, but reduce non-resource-related FDI, and that the crowding out is more than one-for-one.
- ⁷ Discussion has increased among policymakers, international organizations, and academics about finding ways for countries in SSA to avoid the resource curse. The 2013 annual publications of the three top international organizations in Africa focused on natural resource management. These organizations are the African Capacity Building Foundation, African Development Bank, and United Nations Economic Commission for Africa.
- ⁸ We borrow the term “FDI-natural resource curse” from Asiedu and others (2011).
- ⁹ Remittances are becoming an important source of finance. However, to keep the discussion focused this paper focuses on FDI.
- ¹⁰ We are conjecturing because data on FDI flows by sector are not readily available for countries in SSA.
- ¹¹ See Asiedu and others (2009) for a detailed description of the data on institutional quality and country risk.
- ¹² See Gylfason and Zoega (2006) for a survey of the literature.
- ¹³ This section draws heavily from Asiedu (2006).
- ¹⁴ An example of a successful regional bloc in SSA is the Southern African Development Community (SADC). Countries in the SADC are Angola, Botswana, Congo Dem. Rep., Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe. Elbadawi and Mwega (1997) find evidence that after controlling for relevant country conditions, countries in the SADC region receive more FDI than other countries in Africa.

- ¹⁵ For example, “narrow and missing markets” was cited as the main factor preventing French companies from investing in Africa (Arias-Chamberline, 2002).
- ¹⁶ In 2009, the share of SSA’s GDP from Nigeria and South Africa was 18 percent and 30 percent, respectively.

24. Tanzania: Turning Natural Gas into Sustained Growth

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Introduction

Despite its abundance of natural capital, Tanzania is rarely thought of as a classical resource-rich or natural-resource-dependent economy. But with new natural gas discoveries in its territorial waters of the Indian Ocean, questions of resource dependence and the attendant challenges have, almost overnight, come to dominate the national debate and national sensibilities. The issue is already beginning to alter how Tanzanians view their country and its prospects. As recently as 2010, at the request of the President, the national Planning Commission undertook a review of the Tanzania Development Vision 2025, which had been launched at the turn of the new Millennium, and developed a Long-Term Perspective Plan. The review was duly completed and the Vision re-launched in 2012. But less than three years on, the new Vision and Plan already look shockingly out of date: they make hardly a mention of the gas sector beyond reference to the small onshore fields that have existed for some two decades, and no mention of how the discovery of the huge fields of offshore natural gas might reshape the economics and political economy of Tanzania. This is no criticism of the Planning Commission but rather a recognition of how rapidly these discoveries have changed the frame of reference for the economic policy debate in Tanzania to the point that almost every conversation in Tanzania—in government, civil society, and on the street—is now about the natural gas finds and how the anticipated surge in national wealth will transform the country.

Tanzania is not alone in facing this potential transformation. To the south, Mozambique, whose territorial waters encompass an even larger proportion of the Rovuma Basin field¹, faces the prospect of even larger natural gas finds while, to the north, exploration and development is moving ahead rapidly in Uganda, Kenya, and off-shore Somalia.

The economic potential of these finds is enormous but the challenges associated with translating resource wealth into sustained growth and employment are equally formidable. The authorities must navigate a complex, multi-stage process running from upstream contracting through the development of an appropriate fiscal regime to capture revenue, to the implementation of a suite of macroeconomic, public expenditure, and industrial policy decisions required to deploy fiscal revenues in support of the growth of the (labor-intensive) non-resource economy. As such, it is a process that is vulnerable to the “weakest link” problem: each stage in the process must work and failure at any one stage compromises the overall development objectives.

Given the long lead times involved (typically around seven years from the initial investment decision to the generation of commercially realizable export revenues) the authorities still have time to tackle these issues. There is a very substantial literature and body of evidence on how best these stages can be successfully negotiated (see for example IMF, 2012) along with plenty of case study evidence on what not to do (Collier and Venables, 2011).

This short paper distils this literature in order to identify some key policy issues facing the authorities in Tanzania over the coming years. In doing so it contributes to an already vigorous public debate on natural resource management in Tanzania.² Before getting to these lessons, I first briefly discuss the history of natural gas in the region (Section 24.2) and place current developments in the Indian Ocean in the broader context of the global gas market (Section 24.3). Section 24.4 focuses on policy lessons.

24.2 History, discoveries, and the “final investment decision”

24.2.1 Established fields

The presence of substantial hydrocarbon resources in Tanzanian territorial waters has been known about for many decades. In recent years, however, a new wave of exploration has identified significant new finds which, along with the even larger finds off Mozambique and early-stage explorations off the coasts of Kenya and Mozambique, have made the Indian Ocean Basin one of the bigger and most exciting plays in the global gas market. The Indian Ocean fields were first explored in the 1950s and 60s by BP and Shell but the challenging ocean geology (discussed in Section 1.3.1), especially when compared with the much more attractive and cheaper operating environment in the Middle East, saw these companies abandon their efforts.

By the late 1970s, however, high oil and gas prices rekindled exploration by small independent companies and saw the development of onshore and shallow water explorations in Southern Tanzania at Mnazi Bay and on Songo Songo Island.³ Since 2004, a small-bore pipeline has been bringing gas from the Songo Songo field to Dar es Salaam, providing approximately 45 percent of total electricity generation capacity in the country. This contribution is set to expand with the completion in late 2014 of a new 36-inch-bore gas pipeline connecting the Mnazi Bay field and Songo Songo to Dar es Salaam. This new pipeline will monetize the hitherto “stranded” gas field at Mnazi and, with the completion of the associated Kinyerezi gas-fired power station, will provide a significant increase in overall power generation capacity in Tanzania. Poor availability of power is consistently ranked among the most severe constraints on doing business in Tanzania.⁴

24.2.2 New discoveries

Tanzania’s onshore and shallow-water fields are dwarfed in scale by the recent offshore finds. Since 2009 the UK partnership of Ophir and BG—the former a specialist oil and gas exploration company and the latter one of the Big Five liquefied natural gas (LNG) majors—have successfully drilled 14 separate exploration wells,

identifying 15 trillion cubic feet (tcf) of gas reserves. The Norwegian state-owned company, Statoil, has enjoyed a similar success rate, with the result that current estimates are of reserves of between 20 to 40 tcf and rising. To put this in a Tanzanian perspective, the combined reserves of Mnazi Bay and Songo Songo are estimated to be slightly less than 1 tcf, implying a very sizeable increase in reserves and scale of operations compared to the situation envisaged only a few years ago. In international terms, the Tanzanian finds are, so far, quite modest compared to those in Mozambique (160 tcf) and tiny compared to those in Qatar (1,000 tcf). Nonetheless, and even before further exploration, they would sustain 30-40 years of export production at a rate of between 10 and 20 million metric tons per year (mmtpa) of LNG.⁵ At current prices, this would double Tanzania's gross export revenues and, as discussed below, give a substantial boost to government revenue arising from the anticipated production-sharing contracts that would eventually underpin the development of the fields.

24.3 The global gas market: potential but with risks

A number of key factors contribute to the rash of natural gas discoveries in recent years. The first is technological progress: geological survey methods have become more accurate and less expensive in recent decades, so that knowing what's there has become easier. Second, with gas being seen as the cleanest of the conventional fossil fuels, pressures for coal-to-gas and oil-to-gas substitution in power generation have added substantial heft to the general rise in prospective global demand and price expectations. Third, new technologies, most notably horizontal drilling and fracking, have shifted attention towards "non-traditional" gas-bearing rocks. And finally, since the global financial crisis, the cost of capital is at historical lows even for high-risk activities such as exploration. Taken together these factors have fuelled an exploration boom.

But the discovery of resources is only the first step in the chain. The wealth they represent remains firmly locked in the rock beneath the ocean. Whether the gas remains economically stranded or is extracted and sold depends on the commercial decisions of the majors, which in the case of Tanzania are BG and Statoil. Even if

the companies decide it makes sense to exploit the resource, it will be some time before gas is pumped and sold to the market. There is no guarantee that either company will make this choice (recall that both BP and Shell successfully surveyed these waters in the 1950s but abandoned them in favor of more attractive options). Both companies maintain active exploration portfolios (through extensive “farm-out” arrangements with specialist companies such as Ophir) and are active in a number of the other big natural gas plays around the world, including Canada, Australia, and the United States as well as in Nigeria, Egypt, and Equatorial Guinea.

The critical event is the so-called final investment decision (FID), the point at which the boards of Statoil and BG would irrevocably commit to the enormous capital costs of developing the Tanzanian fields (the upstream investment in getting the gas out) and bringing it to market (the downstream investment in the construction of an LNG plant to supply the Asian market). The sums involved are vast: depending on whether the eventual scale of the fields warrants a two-train or four-train LNG plant⁶, the total capital expenditure, at 2012 prices, is estimated to be in the region of US\$25 billion to US\$50 billion spread over five years. To put this in perspective, total GDP in Tanzania is currently about US\$30 billion, so the annual investment spending would be around 20 percent of (non-oil) GDP over the construction phase.

This is clearly a large sum for Tanzania but it also represents an enormous commitment of funds by the companies—and by the Government of Tanzania should it seek to take an equity stake in the venture. Their decision to invest shareholder funds or raise capital in London and Oslo is far from straightforward given the enormous uncertainty in the global gas market. It is expected that the final investment decision on the Tanzanian play will take place in the first quarter of 2016.

Barring unforeseen events, such as new more competitive resource finds elsewhere, or radical changes in the domestic or international political environment, it is likely that the investment will go ahead. But even so, the long lead times between investment and bringing natural gas to the market will ensure that substantial uncertainty will remain about the residual value accruing to the government and people of Tanzania from the exploitation of this resource.

24.3.1 Investment uncertainty: local geology and global market conditions

One way of thinking about how this uncertainty impacts on the scale and timing of investment in the natural gas sector is through the lens of option theory.

In the spirit of Dixit and Pindyck (1994), three features of the anticipated investment are relevant. The first is that investment in natural gas is at least partially irreversible and highly sector specific. Second, the profitability of the (irreversible) investment decision is a function of uncertainty about the future evolution of prices, costs, taxation, and even government policy. Third, when the final investment decision is under the control of the investor—in the sense that property rights over the resource find are secure—there may be a benefit to delaying the investment pending the resolution of (some of) the uncertainty. These factors combine to generate an option value to waiting. The option costs the investor a forgone return in the short run—and possibly the loss of first-mover advantages in the sector—but it conveys benefits by offering the flexibility to choose a time to invest as uncertainty resolves itself.

Enormous uncertainty surrounds both the cost and the revenue sides of natural gas development in the Indian Ocean. On the cost side, deep-water offshore fields are very costly to run. Relative to more favorable locations, three main factors are relevant. The first stems from geology. The Indian Ocean fields currently under exploration are in waters that are up to 150 kilometers offshore and 1,500 - 3,000 meters below sea level, in a seabed that is mountainous. They are individually quite small and widely scattered within the exploration blocks, so that the capital costs of linking well-heads to pipelines are high. The second factor is a reflection of the changing global market conditions, which have seen construction costs in LNG rising very sharply as supply conditions tighten (Songhurst, 2014). Given the highly specialized nature of the industry, the prospects for a sharp reduction in these costs are limited. The third element is security costs, which are unusually high in the Indian Ocean.

There are arguably bigger concerns on the revenue or price side. The viability of the project and the rents accruing to government will depend hugely on the state of the world gas market in a decade's time. In one important respect, the prospects are very favorable. It is estimated that global demand for natural gas will increase

by around 50 percent over the next decade, partly through income effects but more powerfully through substitution effects as a result of gas-for-oil and gas-for-coal substitution in power generation. Moreover, much of this demand is likely to emanate from Asia which, given the high costs of transporting natural gas, is Tanzania's "local" export market. Other things equal, therefore, this would suggest that gas prices are indeed likely to rise over time, making the investment more attractive and therefore more likely.

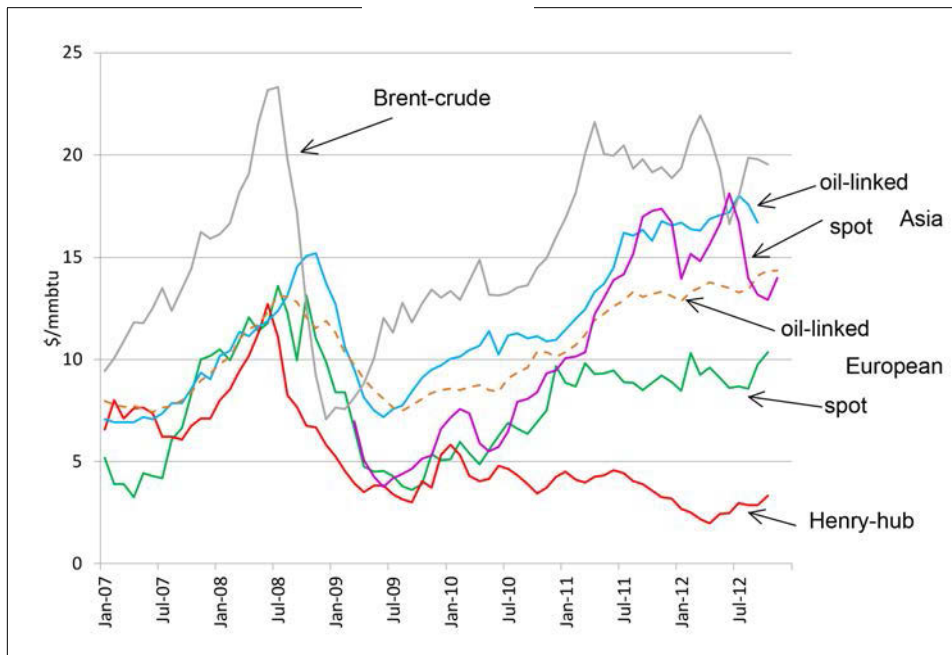
There are, however, a number of countervailing forces.

The shale gas revolution in the US: The scaling-up of fracking technologies for oil and gas in the US has radically changed the global supply and demand balance in natural gas (and in energy markets more generally). US spot prices for gas—the so-called "Henry Hub" price—have fallen sharply over the last five years. Industry forecasts suggest the US price will rise but, given the relatively high elasticity of supply in the US, not by very much.⁷ Unlike the oil market, the gas market remains highly segmented because of the high costs of transport. Hence, historically, regional markets have been relatively insulated from developments in the US. But this too is beginning to change: the increased price differentials between the US and Asia in particular are opening up arbitrage opportunities for export to Asia from US west coast producers.⁸

The erosion of oil-linked pricing contracts: Traditionally, natural gas prices were linked to oil prices and these oil-linked contracts were of extremely long duration. The contracts served to stabilize relative energy prices at a time when gas markets were thin. They provided much-needed long-run incentives to develop new fields in the face of very high up-front capital expenditures. But as global gas markets have expanded an increasing share of total gas supply is priced on spot markets, usually at prices well below the oil-linked level. This change is particularly marked in Europe, where low levels of demand associated with the prolonged recession in the region have put downward pressure on prices, but it is spreading to other markets, including those in China and Japan, that have long been the stalwarts of

index-linked contracts (Figure 24.1).

Figure 24.1: Regional Natural Gas Prices, by Destination



Source: Oxford Institute of Energy Studies.

The fallacy of composition: Natural gas fields are being developed in many places other than the Indian Ocean, including Qatar and the Mediterranean and Australia. Given the regionally segmented market, it is regional rather than global supply and competition that matters for the profitability of the Indian Ocean basin. But as the market becomes more competitive and more alert to potential arbitrage opportunities—and as some key producers such as Qatar and Russia start to look east in the face of weak long-run demand from Europe—the potential supply gap is likely to close more rapidly than current static forecasts suggest.

China—the game changer: The largest single source of uncertainty for the natural gas market is China. In recent decades China has not featured large in this market but this is likely to change, possibly very rapidly. On the demand side the key uncertainty is the extent to which Chinese demand will shift away from coal to gas and other cleaner technologies. A shift is already happening for urban residential demand, where pollution and public health considerations have forced the pace of

substitution, but the big impact on demand will come with substitution in industrial use. Given prevailing cost structures, achieving a significant substitution away from coal will require the Chinese authorities to impose a very substantial carbon tax; it is unclear how strong is the appetite for such a move. On the supply side, the scope for significant increases in supply is relatively limited, which means the key developments turn on the nature of long-run supply contracts and the spatial patterns of demand. For southern China, the most likely source of supply will be LNG from Australia and the Indian Ocean, while, in the north, pipeline arrangements with Russia will dominate—the recent long-term supply contract between Gazprom and CNPC being the first sign of these developments. Viewed from Tanzania’s perspective, the key feature of the machinations of the Chinese market is simply to underline the difficulty in predicting the likely evolution of gas prices.

24.3.2 The use of the gas

Whereas the gas from Songo Songo and Mnazi Bay is entirely used for domestic power generation, the range of options is wider for the use of new deep-water resources. The economic viability of the new fields rests on exporting approximately 95 percent of production as LNG to the Asian market. The remainder, the so-called domestic market offtake, could be used to supplement existing gas-fired power generation (possibly to the point that Tanzania becomes a regional exporter of electricity) or as feedstock for downstream industry such as fertilizer and petrochemicals.

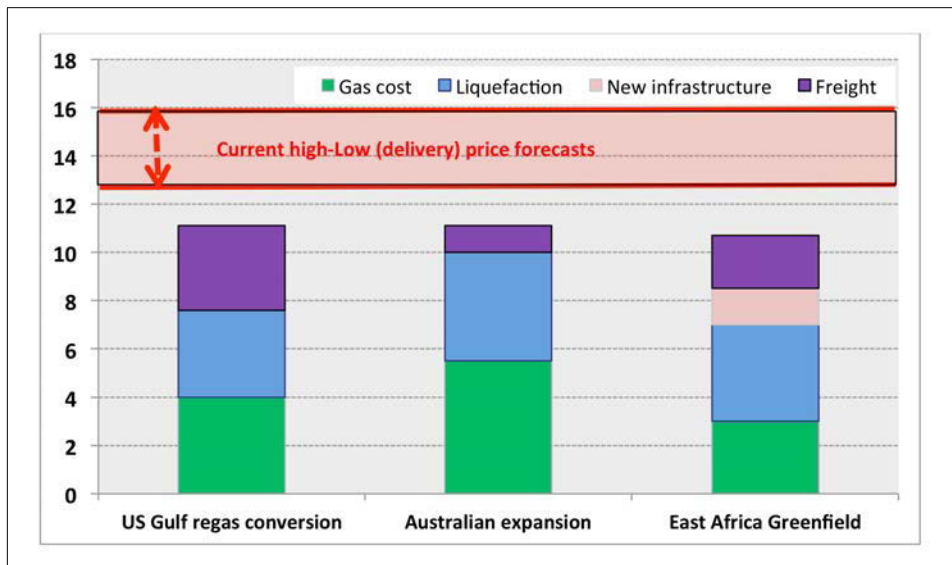
24.3.3 Extracting revenue, assuming investment goes ahead

Despite widespread uncertainty, it is likely that both Statoil’s and BG’s final investment decisions will be positive and that the investment will go ahead. But uncertainty will remain around the likely price at which gas is sold to the Asian market.

What this means for Tanzania is an uncertainty over rents, which may turn out to be comparatively modest. Figure 24.2 compares current estimates of the break-even delivery prices into the Asian gas market from three competing sources of supply: two established sources—the US and (currently high-cost) Australia—and a potential greenfield development in the Indian Ocean basin (this is essentially Tanzania but

could equally be Mozambique).

Figure 24.2: Break-Even Delivery Prices for Natural Gas to Asia (US\$ per MMBTU)



Source: Ledesma (2013).

The first conclusion from these comparisons is that while liquefaction costs are quite standard, and the greenfield site must carry the cost of new investment in infrastructure, Indian Ocean supply is competitive in terms of production cost compared to Australia and in terms of transport margins compared to the US. The second conclusion is more striking: for all sources of supply, the margins are modest at current price forecasts, which range between US\$11 and US\$15 per MMBTU in current prices.⁹

Translating these cost comparisons into government revenue requires us to think about both the pure rent from the development of the resource and the contractual basis on which this rent is shared between the operating companies and the government and people of Tanzania.

*The gas contract:*¹⁰ Gas contracts—the fiscal regime—in Tanzania are laid out in the Petroleum Act and it is reasonable to assume that some variant of these forms will apply to future contracts for the deep-water natural gas finds. Thus the contracts will likely be a hybrid between a production-sharing and an income tax/royalty regime.¹¹ Revenues under such contracts accrue through three channels.

The first is a conventional royalty on production, typically in the region of 5 percent of production value. Once this has been taken, the operator recovers operating and development costs, usually up to a contract ceiling, with un-recovered costs carried forward.¹² The residual profit is then shared between the operator and government: this constitutes the second element of revenue. Third, government taxes the profits of the operator and levies withholding taxes on various contractor payments and dividends.

The final element of income from the resource stems from dividends arising from government equity participation in the project. There is a question of how government acquires this equity. Fully paid up shares may be expensive to acquire—a 20 percent equity share may cost government US\$4 billion to US\$5 billion—so it is more likely that government acquires a “carried interest equity stake” under which the contractor finances the government share and recoups this loan (with interest) from future revenue to government, necessarily reducing the rate at which rents accrue to government.

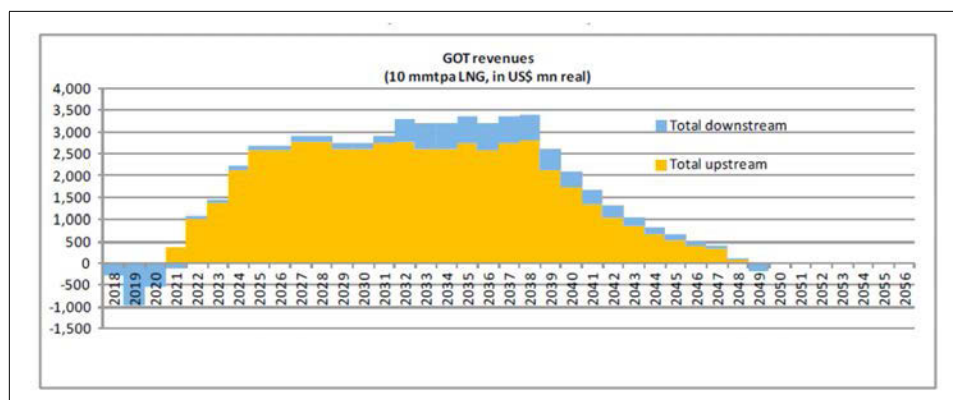
24.3.4 The scale of the revenue: substantial but not transformative

Given that myriad uncertainties surround the gas market over the coming decade, the capital and operating costs associated with extracting natural gas from the Tanzanian fields and, indeed, the precise form of the gas contracts eventually negotiated, it is extremely hard to estimate with any precision the expected scale of revenues likely to accrue to government. The IMF (2014) has offered a tentative projection based on a two-train production facility operating at the lower bound of current revenue projections (Figure 24.3). This sees total revenues rising to around US\$3 billion per year around a decade from now and remaining at that level for approximately 15 years. The profile for a four-train production facility, which would be justified if proven reserves come in towards the top end of current estimates, generates a similarly shaped revenue profile that plateaus at around US\$6 billion per year. The up-front capital cost of the four-train facility is estimated at US\$46 billion in current prices, with attendant implications for the cost of government’s equity participation.

Revenues of this scale would be equivalent to several percentage points of Tanzania’s (non-resource) GDP at the peak of production. They will not, on current projec-

tions, grow so large as to dominate the budget but rather peak at levels equivalent to current aid flows to the Tanzanian budget (approximately 4 percent to 5 percent of GDP). On a different metric, peak gas revenues may come to around \$50 - \$80 per capita per year.¹³ Given the currently projected profile for revenue, the implied annuity value of the flow is substantially lower. In other words, the revenue flow is likely to be substantial but not transformative, although experience does suggest that new discoveries during the production phase will tend to attenuate the plateau, at least until the marginal cost of extraction starts to rise sharply.

Figure 24.3: Projected Fiscal Revenues to Government of Tanzania



Source: IMF (2014, Figure 2).

Notes: Estimates based on “lower bound” projected natural gas price of US\$11/MMBTU for a two-train facility producing 10 million metric tons per year of LNG.

24.4 Policy lessons

This final section draws out some key lessons for policymakers as they work through the elements of the decision chain.

First, a clear distinction needs to be drawn between developments in the established on-shore natural gas field, which will occur quite rapidly, and the development of the deep offshore reserves, which will take time. The completion of the Mnazi Bay to Dar es Salaam gas pipeline offers the prospect of rapid improvements in the reliability and cost of domestic power generation regardless of what happens further offshore. In the short run, government must seek to secure the gains from the increased supply of natural gas by addressing as a priority the weaknesses and bottlenecks in power generation including issues of energy pricing, billing, and the

distribution network. Even without offshore resource development, the static and dynamic welfare effects of this may be very large.

Second, in terms of offshore reserves, the long lead time for the development of this sector is both an opportunity and a challenge. Government has the opportunity to consult widely and invest in research and planning to ensure that critical decisions are taken with full information and good analysis and that the institutional and policy regime that is put in place for the sector adapts best practice from around the world to fit the specific characteristics of Tanzania. On the other hand, though, the perception that there is plenty of time may lead to drift and a failure to appreciate the challenges inherent in establishing (and testing) a robust and coherent institutional framework for managing the eventual increase in resources. Government needs to foster a sense of urgency in its planning for eventual resource inflows. This should be clearly projected through the nascent Natural Gas Policy.

Third, expectations need to be carefully managed during the transition; clear communication will be crucial. It will be hard to resist the belief that natural gas discoveries will transform the economy and that this promise justifies increased expenditure today, mortgaging the future. During the gestation phase, which may well be characterized by large-scale but highly localized investment activity associated with exploration and development, speculation about the scale of the windfall will spread like wildfire and is likely to be prone to rumor that government is failing to secure a fair deal from contracts with foreign investors and partners. There is an inevitable and irreducible degree of uncertainty in this sector, particularly as projections are updated, global market conditions change, and contract arrangements remain fluid, but this only reinforces the need for government to develop as transparent and plausible as possible a narrative of developments in the sector in order to anchor expectations. This narrative needs to offer to citizens an understanding of what can and cannot reasonably be expected from resource wealth. This transparency helps to stem corruption and allows citizens to hold the government to account for failures and to contribute to policy debate. But at the same time, well-grounded expectations provide government with an instrument to resist popular pressure to undertake excessive (and premature) current spending.

The case for a clear narrative can be seen today where there is already dissonance between popular perceptions and the current best estimates of the scale of resource discoveries. As noted above, current knowledge suggests that annual government revenue from the export of LNG might be some US\$3 billion to US\$6 billion, or US\$50 to US\$80 per capita, depending on estimated population size, starting from around 2020 for the duration of the resource flow. If realized, this would amount to something similar to the level of aid inflows today. This is a large amount and, if managed well, can substantially boost growth. But of itself it is not transformative: the rents from natural gas will not transform Tanzania into a Qatar (or even a Mozambique). Government needs to clearly broadcast this “important but not transformative” message.

Fourth, a coherent strategy for natural gas requires careful consideration of the alternative uses to which natural gas can be applied. There are three choices: gas can be liquefied for export to world markets; it can be used to substitute for liquid fuels in power generation and (if compressed) to substitute for gasoline for urban transport; or it can be used as feedstock. Given the enormous capital costs involved, investors (i.e. foreign gas companies) will need to be certain there is enough guaranteed throughput to justify the construction of the infrastructure to produce LNG for export. If and only if they are certain will any of the offshore gas reserve be developed, from which the “excess over exports” may then be allocated to alternative uses.

Fifth, assuming this threshold is met, the government’s share of income from exporting will be determined by two parameters. The first is the rent per unit of gas exported from Tanzania. This is defined as the difference between the price in the export market less the full cost of exporting (liquefaction, transport, and re-gasification) and the full “on the beach” cost of Tanzanian gas (the “on the beach” cost consists of the full cost of extracting gas, including financing and costs borne by the operators before the distributable rent is declared). The second parameter is the fraction of this distributable rent that is secured by government through negotiated royalty, profit share, and corporate tax arrangements.

How large the public revenue is from exporting will clearly depend on both parameters. While the government's share of the rent can be secured through careful design and negotiation of contract terms and the regime for natural resource taxation (processes that are underway), the rent per unit of gas extracted is and will remain highly uncertain. Many of the geological and technical challenges faced in extracting gas from the Indian Ocean are yet to be fully understood, so the underlying cost structure remains uncertain. Moreover, huge uncertainties as to how the global gas market and gas prices will evolve over the coming decades mean that the likely market price Tanzanian gas may command in future decades is almost impossible to predict. Recognizing these uncertainties, the government needs to pay close attention to the technical and market developments for natural gas and to be prepared to re-calibrate its strategy for the gas sector as new information arrives. Per-unit rents could be significantly higher or significantly lower than current estimates suggest and government planning must be flexible enough to respond to such eventualities. In particular, the government must be careful not to lock itself into planning assumptions that prove to be highly overoptimistic.

Sixth, natural gas production in excess of the minimum required to ensure export viability offers an important route out of the trap of high cost and low reliability of power generation, and opens up the possibility of a new comparative advantage in energy-using sectors. The economics of substitution towards local natural gas are simple. It makes sense to sell gas to domestic power generators at the net export price for gas (i.e. the relevant world price less export costs, as defined above). Assuming this price is lower than the current price of oil/diesel used for power generation, substitution from high-cost oil-fired generation to gas-fired generation will boost real incomes in a manner directly equivalent to a terms-of-trade improvement. The boost would come in two parts: first, an income effect arising from the fact that current levels of power generation will be cheaper, and second, a substitution effect arising from the increase in energy demand coming from the growth of energy-intensive activities that have become profitable at the lower cost of power. These gains will be reduced by the cost of switching and adding new generation capacity to take advantage of lower gas costs. Probably it does not make sense

to sell gas for domestic power generation at below the net export price. To do so would be to offer a subsidy, which would raise concerns about inefficient resource allocation. The case for subsidizing power generation would need to be backed by clear arguments that there is some externality that warrants a specific input subsidy. While not ruling out such a possibility, Government's starting point should be to set domestic gas prices at their opportunity cost on world markets.

Seventh, the availability of a local source of natural gas may allow the economy to exploit new sources of comparative advantage in terms of domestic production, either for export to regional or world markets or as a substitute for imports as Tanzania goes from being a high- to a low-energy-cost economy. Given its location, competitive labor and cheap energy could give Tanzania a comparative advantage in a range of goods. Whether this potential can be realized is likely to depend as much on the quality of infrastructure and other complementary public inputs (financed by gas revenues) as on lower energy costs. If supported by well-designed infrastructure investments, the prospects for diversification and growth are encouraging.

Eighth, gas should not necessarily be used as feedstock for the development of downstream activities. Whether Tanzania becomes globally (or regionally) competitive in these sectors will depend not just on the availability of gas but on a range of other factors determining comparative advantage. Moreover, it should be noted that the opportunity cost of gas is likely to be higher in Tanzania than in producing countries such as Qatar: given the sharp fall in global transport costs over the last 30 years or so, it may well be more efficient to import gas-intensive goods such as fertilizer that are produced more cheaply elsewhere than to invest in domestic capacity. Public investment in downstream investment must be assessed on a case-by-case basis and the government should not assume that because Tanzania produces gas it should necessarily produce gas-intensive goods.

Ninth, opportunities for local participation in the sector can be enhanced by promoting the engagement of mid-size local firms in international supply chains in the natural gas sector. Left to its own devices, the natural gas sector does not generate strong backward linkages to the domestic economy, either in terms of employment or demand for intermediate inputs. While mandated local-content rules may gener-

ate demand for local goods and employment in the short run, a growing domestic participation will be strengthened if domestic firms become increasingly engaged in the sector's global supply chains so that they, as well as foreign firms, generate demand for skilled local labor and other inputs. The design of a local-content policy should focus as much on promoting domestic firms' capabilities and productivity (recognizing that these will emerge at the top end of the firm sector) as on placing simple local-content requirements on foreign firms.

Finally, experience from around the world suggests that to manage a natural resource discovery well, a producing country should leverage its resource rents to grow the non-resource economy. It is the non-resource economy that will generate the employment and distribute the gains from natural gas widely through the population. When such strategies succeed, the returns dwarf the direct value of resource rents alone. It follows that government policy should be built on three pillars. The first is the development of a growth and employment strategy in the non-resource economy. The second is the establishment of systems of public resource management that can efficiently leverage gas rents into key infrastructure and complementary inputs (both physical and human) that can support private investment. And the third is a strategy for macroeconomic management that is capable of smoothing public expenditures in the face of potentially volatile resource revenues, so as to insulate the non-resource economy from the potentially damaging "Dutch disease" effects that often accompany a resource inflow.

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Endnotes

¹ The Rovuma River drains the Great Lakes of central Africa into the Indian Ocean, its course from Lake Nyasa to the sea forming the border between Tanzania and Mozambique.

² There are many more extensive reports and papers on natural gas in Tanzania and East Africa including Ledesma (2013), Frühauf (2014), IMF (2014), and Henstridge (2013), not to mention the very significant general issues work on managing natural resources in Africa (for example van der Ploeg and Venables, 2012 and IMF, 2012).

³ Mnazi Bay lies on the border with Mozambique, some 500 km from Dar es Salaam, while Songo Songo Island is approximately 15 km offshore from the Tanzania mainland, 200 km south of Dar es Salaam. Exploratory work began on Songo Songo in 1974 by the Italian company AGIP and in 1982 the Canadian firm, Wentworth Resources, began to develop the Mnazi Bay concession.

- ⁴ Increasing the volume of gas-fired generation benefits the private sector on three margins, directly by improving the reliability of supply and reducing the cost of generation (gas is significantly cheaper than oil per thermal unit of power generated) and by reducing the need for extensive and expensive stand-by generator capacity.
- ⁵ Liquefied natural gas is natural gas that is pressurised and cooled to -161° c. LNG is transported across oceans by specialist tanker prior to “re-gasification” into pipeline systems or other processing facilities in the destination countries.
- ⁶ A “train” in this context is the plant’s liquefaction and purification facility; these are of broadly constant scale so that the overall size of an LNG plant is measured by how many trains are bolted together.
- ⁷ The high supply elasticity reflects a number of factors that have contributed to the rapid expansion of the US shale market: flexible property rights (which allow for small-scale fracking); a large and well-developed oil and gas service sector; and plentiful supplies of water and financial markets well placed to finance high risk ventures).
- ⁸ In practice, increased exports are likely to come from Canada as US domestic production crowds out imports from Canada. The net effect for the rest of the world is, however, the same.
- ⁹ Million metric British thermal units.
- ¹⁰ This section draws heavily on IMF (2014).
- ¹¹ See IMF (2014).
- ¹² IMF (2014) notes that this limit ensures that there is always a revenue yield to government.
- ¹³ This assumes a population growth rate of approximately 2.5 percent per year.

25. Feeding Africa's Growing Population

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25.1 Introduction

This paper explores issues related to ensuring that Africa can feed its ever-growing population: reducing food loss and waste; increasing access to markets; reducing yield gaps between Africa and other developing regions; improving technology for post-harvest management; and improving governance, in order to achieve better management of natural resources and strengthen the resilience of vulnerable communities.

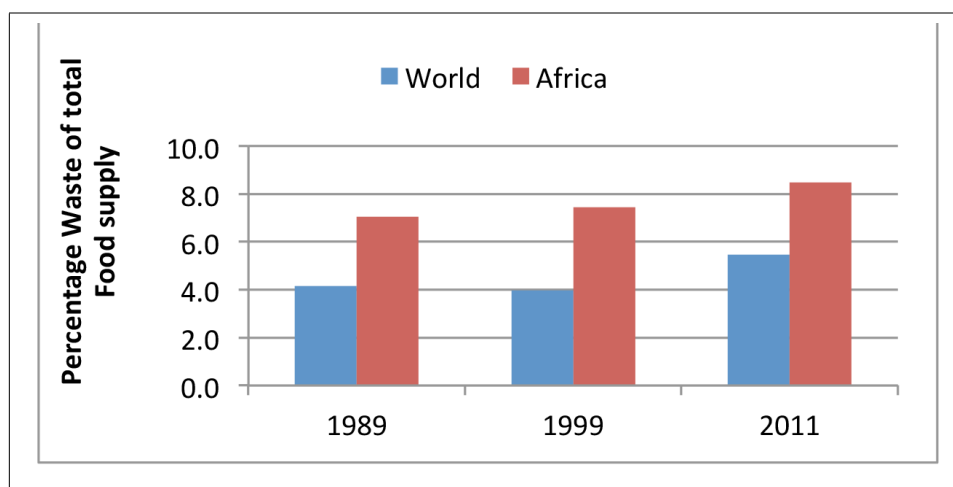
Looking ahead, the amount of food needed for Sub-Saharan Africa's people will need to increase with population growth. It is estimated that the region's population will double from 856 million in 2012 to about two billion in 2050 (UN Population Division, 2010). To be able to feed this growing population, Africa needs to invest more in agriculture, to raise overall output, to increase the resilience of output to shocks such as those from bad weather, and to raise the productivity of land and labor. African countries also need to take measures to reduce food wastage and to strengthen the resilience of poor communities to forces that threaten their food supply.

Section 25.2 reviews issues in the reduction of food loss and wastage and Section 25.3 gives recommendations for improving food and nutrition security in the continent. The last section recommends ways to reduce food loss and wastage.

25.2 Food loss and wastage

By definition, “food loss” results from an agricultural process or technical limitation in storage, infrastructure, packaging, or marketing while “food waste” refers to food that is fit for human consumption but does not get consumed (Lipinski and others, 2013; FAO, 2011). Accurate data on the scale of food loss and waste along the supply chain are not available. This is primarily for lack of a universal method of measuring food loss and waste at the country level and across the different stages of the food production and consumption chain. Countries and corporations are sometimes under no obligation to report their food waste data. Thus, reliance on self-reporting methods at the consumer and corporate level, and on the use of proxy or anecdotal data for the measurement of food waste globally, means that the food waste figures currently available probably underestimate the real numbers (FAO, 2011).

Worldwide, about one third of the food produced for human consumption is lost or wasted in its journey from farm to table (Gustavsson and others, 2011; Lundqvist and others, 2008). This amount could feed two billion people without harm to the environment (FAO, 2011). According to Gustavsson and others (2011), in European and North American countries between 208 kg and 300 kg of food per capita is lost or wasted annually throughout the food chain, of which 95 kg to 115 kg is by consumers. In Sub-Saharan Africa and Southeast Asia, 120 kg to 170 kg of food per capita is lost or wasted annually, of which only 6 kg to 11 kg is by consumers. Food losses and wastage are gaining prominence in the face of the never ending challenge of food insecurity in most of the African continent. They are important components of the food security debate. Over the last few decades, food supply has grown¹ and so has calorie intake per capita, but the continent does not grow enough food to feed itself. Food wastage has been rising over time and was equivalent to 8 percent of the continent’s total food supply in 2011 (Figure 25.1). More food losses occur at the downstream end of the food chain than at the consumption stage, implying that measures are needed to address the losses at different stages in the supply chain, taking into account the unique characteristics of different food products.

Figure 25.1: Food Waste as a Percentage of Total Food Supply

Source: FAOSTAT, 2014.

25.2.1 Post-harvest losses

For some years, various organizations have been compiling databases on post-harvest losses, putting emphasis on providing good quality representative data that take into account climatic, biophysical, and technical conditions. For rice, for example, whose losses have been widely studied and which is the second most frequently consumed cereal by humans after wheat, global losses are estimated at 15 percent of harvested rice (Grolleau, 2002), though with wide variations among countries, climatic zones and practices, and fluctuations in data reliability.

Post-harvest losses contribute the largest share of total food losses in most African countries. For instance, 25 percent of the fruits and vegetables harvested are lost during the processing and packing process (FAO, 2011). Post-harvest losses have several causes, including poor timing of the harvest, inappropriate harvesting techniques, equipment, and conditions.²

Lack of adequate processing facilities causes high food losses in many African countries (Table 25.1). Fresh products, such as fruits, vegetables, meat, and fish straight from the farm or after the catch, can spoil quickly in hot conditions if infrastructure is missing for cooling, transport, storage, and markets (Rolle, 2006). In

many situations, the food processing industry lacks the capacity to process and preserve enough fresh farm produce to meet the demand; part of the problem stems from the seasonality of production and the cost of investing in processing facilities that will not be used year round. However in some instances, processing facilities themselves are a major source of waste. This happens mainly during trimming, which removes both edible portions (e.g. skin, fat, peels, end pieces) and inedible portions (e.g. bones, pith). Processing losses could also occur from technical or equipment malfunctions during the production process, though these may be difficult to avoid (Gunders, 2012). In many developing countries, investment and capacity-building initiatives are essential to improving processing facilities.

Table 25.1: Estimated Percentages of Losses and Wastage for Various Commodity Groups in the Food Supply Chains in Sub-Saharan Africa

Food types	Available Food ('000 Metric Tons)	Agricultural Production %	Postharvest handling and storage %	Processing and packaging %	Distribution %	Consumption %
Fruits and vegetables	254,135	10	9	25	17	5
Cereal	146,164	6	8	3.5	2	1
Milk	93,894	6	11	0.1	10	0.1
Roots and tubers	66,891	14	18	15	5	2
Meats	40,805	15	0.7	5	7	2
Oilseeds and pulses	39,682	12	8	8	2	1
Fish and seafood	20,974	5.7	6	9	15	2

Source: FAO, 2011.

25.2.2 Deficiencies in markets and market infrastructure

Another major source of food waste is variance between demand and supply for food products. Its causes range from farmers not finding a market for their products and leaving them to rot in the field, middlemen changing the quantity ordered, or supermarkets downsizing product orders at the last minute, leaving producers with unsalable products (Lipinski and others, 2013). Information asymmetry due to miscommunication, perverse signals, and incentives all along the supply chain results

in food loss or waste and, together with that, waste of all the resources that were used to create it (FAO, 2011; Lundqvist and others, 2008). Tackling food wastage requires communication among the different parts of the supply chain to better balance demand and supply, such as farmers discussing production with buyers and establishing a harvesting calendar to avoid flooding the market.

Other causes of high food losses include deficiencies in market infrastructure and inadequate market systems. To minimize losses, commodities produced by farmers need to reach consumers in an efficient way. Wholesale and retail markets in many developing African countries are often small, overcrowded, and lacking in cooling equipment (Kader, 2005). They require shorter supply chains and better market access, as well as improvements in marketplaces and stores. Simple improvements, such as adding a roof to a local market, can greatly reduce wastage by protecting the produce from sun or rain (Lipinski and others, 2013; Pedrick, 2012; FAO, 2011). Tapping into renewable energy sources that can generate electricity for the market will further improve the shelf life of produce.

25.3 Increasing food security and resilience

Africa is acutely vulnerable to food security crises. These can arise not only from weather-related events such as drought and flooding but also from complex interactions among political, economic, social, and environmental factors. Climate-related risks are common across the region even though Africa is full of different types of people and distinct economies. Other causes of African food crises include slower moving stresses such as the nexus of rapid population growth, land fragmentation, natural resource degradation, and conflict which, among other things, causes poor utilization of water, energy, land, labor, and capital.

As a result of these challenges, many people have become continuously dependent on humanitarian assistance for food and financial aid, which, although designed as a temporary mitigating strategy, has been in use for years. This prolonged use is unsustainable. Food handouts do not build resilience; they increase dependency (Fan and others, 2014). New thinking and actions are urgently needed on how to help vulnerable communities become resilient and ultimately prosperous.

25.3.1 Increasing food supply

Agricultural yields in Sub-Saharan Africa have remained significantly lower than in other developing regions (Global Harvest Initiative, 2012). Use of the agricultural inputs and technologies that are needed to boost production lags far behind that in the rest of the developing world (Fuglie and Nin-Pratt, 2013; Global Harvest Initiative, 2012; Morris and others, 2007). Organic and inorganic fertilizers remain expensive for most African farmers, although efforts to improve physical and financial access to them are being made in a number of African countries. For women farmers, greater challenges of poverty, low levels of education, and lack of credit limit the use of fertilizers and improved seeds or mechanical tools and equipment (Meinzen-Dick and Quisumbing, 2013).

Seasonal imbalances in demand and supply happen due to over-reliance on rainfed agriculture. For farmers, predictable supplies of water are critical to increase and stabilize production, reduce climate-related risks, and provide the basis for higher value agriculture. Given the severe constraints on public sector resources and capacity, private capital and management skills need to be tapped to accelerate investment in irrigation. Lessons emerging from experiences with public-private partnerships in irrigation from different countries can help within the African context (World Bank, 2009).

Public-private partnerships can also fill other infrastructural gaps, such as in storage, cold chains, logistics terminals, and wholesale markets, although they can be challenging to implement. In most of Sub-Saharan Africa where risks are high, capacity is rather low, and experience somewhat limited, even simple contractual arrangements may be effective (Lipinski and others, 2013).

In the foreseeable future, agriculture will remain central to many livelihoods even though many Africans are moving to cities. On average, agriculture is estimated to generate about 30 percent of GDP across low-income African countries. Though that share is shrinking, especially in the resource-rich economies, extractive industries generate fewer jobs than agriculture per unit of output value. In essence, agriculture's share of the workforce will still remain relatively large even when the agricultural share of GDP declines (IMF, 2013). Agriculture accounts for 58 percent of Africa's

economically active population, and for more than 80 percent in some countries (World Bank, 2009). More than 70 percent of the continent's poor live in rural areas and agriculture is their most important economic activity (World Bank, 2009; Bennell, 2007). One third of the new jobs that are needed to provide a livelihood for Africa's youth will need to be created in agriculture.

25.3.2 Building resilience in agri-food systems

Building resilience is the transformative process of strengthening the capacity of people, communities, and countries to anticipate, manage, and recover from shocks and transform their lives (Fan and others, 2014). Resilience is built through partnership-based approaches that respect the dignity of the recipients, foster ownership of resources, and promote sustainability. Building the resilience of vulnerable households requires helping them to cope with existing challenges, adapt their livelihoods, and improve governance systems and ecosystem health so they are better able to avoid problems in the future. This means not only helping people through direct implementation of assistance programs at multiple levels, but also facilitating meaningful change through promoting improved policies and adaptive practices.

Resilient agri-food systems can withstand many political, economic, social, and environmental shocks over time. In order to achieve appropriate and sustainable approaches to enhancing resilience in food security, Africa should promote integrated strategies that ensure support for three separate but complementary components of resilience: disaster risk management, adaptive capacity, and governance. Among other considerations these components require actions spanning the areas of natural resources, social networks, maintenance of diversity in genetic resources and farming techniques, and policies that create conditions for effective governance.

Managing natural resources. Degradation of natural resources due to overexploitation has reduced productive agricultural and livestock areas, eroded and depleted soils, and damaged rangelands and watersheds. The prevalence of natural resource degradation is mainly due to unsustainable and inappropriate production activities that decrease the provision of ecosystem services.

Therefore, natural resource management is an important foundation upon which to build resilience to achieve food security. Development strategies and programs must

improve resource use rights (including land and grazing rights), protect and bolster resources that are threatened by degradation (through, for example, conservation agriculture), and promote improved resource management strategies for existing resources (such as rainwater harvesting or commercial destocking). Other successful initiatives to protect natural resources have included early warning systems, long-term education, community-based conservation, and management programs (Bett, 2011; World Bank, 2009).

Building social networks. Disintegrating social networks have resulted in an erosion of traditional coping mechanisms, rising ethnic strife, and a breakdown in the structure of acknowledged means of resolving conflicts. People are better able to adapt to challenges when they have strong social networks and make decisions in a way that involves others. When faced with uncertainty and mounting stress on the structure of societal relationships, individuals become increasingly fatalistic and lack a broader, realistic vision of the future.

Discriminatory attitudes toward women also result in a systemic undervaluation of women's role in agriculture and other income generating activities, so that women lack access to needed resources and to positions of importance in political structures. While there are many constraints on social resilience in Africa, traditional coping mechanisms must be recognized and strengthened. The need to impart new mindsets, skills, and facilitation mechanisms is also important in achieving food security (Fan and others, 2014).

Maintaining diversity in genetic resources. Diversity has been fundamental to farmers' ability to cope with different forms and degrees of risk and uncertainty. A diversity of crops is more stable: though one may fail, others may not. A diversity of farming techniques allows farmers to cope with differences in local environments and the seasonality that is a part of life. A diversity of productive assets has been crucial to farmers; variety in breeds of crops and animals, each adapted to different conditions, helps ensure their survival. In addition, encouraging diversity means recognizing that agriculture serves many functions: providing food for the family, contributing to community nutrition and health, and providing a variety of livelihoods. Moreover, diversity plays a crucial role in defining people's identity and culture (World Bank, 2013).

Strong governance and institutions are a fundamental centerpiece to enhancing resilience, which is hindered by poorly coordinated and weakly enforced policies (Fan and others, 2014). Governance relies on a wide range of public, private, formal, and informal organizations, policies, and processes that function at the local, national, and international levels (Pasteur, 2011). Creating the enabling conditions for effective governance is critical for resilience and food security, and for determining household and community access to resources, skills, technology, services, markets, and information. Policies that strengthen institutions, advocate for decentralized and participatory decision making (including by women), strengthen linkages between various levels of governance, and seek to address existing imbalances in power relations will enhance the adaptive capacity of communities by assisting them to anticipate, prepare for, respond to, and recover from shocks and stresses.

A commitment to enhancing resilience provides opportunities to address a range of complex governance issues including accountability, transparency, and corruption. When appropriately designed and implemented, policies and programs aimed at enhancing resilience can manage social, economic, and environmental variability resulting from shocks. Policies in support of resilience must also overcome a common disregard for the informal governance arrangements at the local level that have evolved to allow the co-existence of diverse ethnic populations and the collective management of livelihood resources.

Building and maintaining resilience in food security requires the participation of a range of actors and institutions with complementary capacities and skills. By forging mutually advantageous partnerships and drawing on diverse networks among communities, civil society, research institutions, NGOs, technical agencies, government, and the private sector, development actors can strengthen the ability of vulnerable populations to adapt to change, improve their well being, and contribute to and benefit from social development and economic growth.

Public-private partnerships and the clustering of donor, government, and private-sector investments in agricultural markets, household and public assets, social protection, climate change adaptation, and financial services have the potential to enhance livelihoods and the resilience of food supplies. For example, private sector involvement in skills training, marketing support, and input provision can facilitate

the greater participation of poor households in value chains, providing a means for them to escape poverty and achieve longer-term livelihood security. To engage the private sector for these purposes entails building strategic partnerships around the common goal of reducing households' vulnerability (ACF, 2014; Fan and others, 2014).

25.3.3 Economic transformation

Economic transformation entails both the movement of people and resources out of traditional agriculture and herding, and a modernization of those traditional sectors through changes in technology, investments in physical capital, and increases in human capital. To accelerate this transformation, Africa needs to significantly boost its agriculture and fisheries, which together provide livelihoods for roughly two-thirds of all Africans (Africa Progress Panel, 2014).

Existing transformation paradigms have largely ignored the role of resilience, which is a goal in itself as well as an instrumental factor for asset accumulation, as the literature on poverty traps indicates (Barrett, and others, 2008; Barrett and McPeak, 2006). In arid and semi-arid lands, there is evidence that people are falling out of pastoralism into low-return and relatively unsustainable activities, such as firewood/charcoal collection (Devereux, 2006).

25.4 Recommendations

Tackling food and nutrition insecurity in Africa will require an integrated, multi-sectoral, holistic approach. Reducing food losses and wastage is one of the critical aspects that will go a long way in helping the continent to meet its food and nutrition needs. The following are some recommendations for this purpose.

Improve post-harvest storage. New storage technologies have been developed, such as green technologies (solar dryers) that improve the lifetime of products in storage and, in turn, increase food security and economic benefits for the producers (Lipinski and others, 2013).

Raise awareness about food losses. There is a significant lack of coherence in data gathering, data sharing, and data analysis, in addition to limited capacity to carry out these activities. This makes it difficult to estimate the environmental impact

of food wastage. Major communication campaigns are needed to raise awareness of the issue and move stakeholders in different parts of the food supply chain to take specific actions.

Implement legislation to reduce food wastage. The link between food wastage and political action is sensitive and complex. Effective policy needs to be based on a holistic, flexible approach that focuses on the involvement of stakeholders at all levels of the food value chain and invests in raising awareness, enhancing cooperation at the global level, and increasing the sense of responsibility of a range of actors from farmers to producers and from policymakers to consumers. Legislators will need to adopt a range of measures which may vary from broad policy frameworks to statements of intent and commitments, from “soft law” measures, such as recommendations and guidelines, to more incisive legislation, such as directives, regulations, and statutory acts.

Local knowledge and innovation. Farmers hold a wealth of knowledge about their land and its ability to produce food. The important role that local knowledge and indigenous technologies can play in reducing uncertainty and risk cannot be overemphasized. It is important to promote opportunities to share information and knowledge at the household, local, and regional levels.

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Endnotes

¹ According to FAO's food balance sheet for 2011, Africa contributes 8.5 percent to total annual world food supply.

² For example, to reduce wastage, fruits on high trees can be harvested with a hook and a catching bag on a pole, to prevent the fruit falling thus bruising. Most vegetable crops are better harvested using tools like knives that cut the crop.

26. Taking Stock of Africa's Green (Shoot) Revolution

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26.1 Introduction

Sub-Saharan Africa (hereafter “Africa”) has seen many positive turns of fortune over the past generation. As of the late 1990s, the region’s average per capita income was stagnant, poverty rates were increasing, and key human development measures like child survival were lagging compared to the rest of the world. As a central piece of the challenge, the HIV/AIDS epidemic was devastating tens of millions of lives. Fortunately, thanks to a wide range of local and international efforts since the turn of the millennium, many African development indicators have shown tremendous improvement in recent years. Growth is now up, mortality and poverty are down, and natural resource discoveries are buoying hopes among investors and government leaders around the world.

But one key dimension of Africa’s development story has not yet achieved similar rates of progress: agriculture. Decades-old debates over the sector’s role in promoting growth and poverty reduction have been reenergized with new data and analysis (e.g., Collier and Dercon, 2013). Although there is some evidence to suggest that African poverty has recently declined through labor movement out of agriculture (McMillan and Harttgen, 2014), it is not clear how much of this movement might be due to a “push” effect away from the sector’s relative stagnation. Hence there continues to be ambiguity regarding the roles for different possible sources of structural change

in Africa's labor markets. Roughly half a billion Africans still live in rural areas, so the challenge is of immense importance.

Overall, the evidence for agriculture's role in growth and poverty reduction remains compelling (e.g., Christiaensen and others, 2011; Diao and others, 2012; Ravallion and Chen, 2007), and it is difficult to see how most African countries can enjoy widely distributed economic gains in the absence of significant improvements in agricultural productivity. At the same time, Africa's agricultural situation is uniquely complex due to the region's heterogeneous mix of agro-ecological zones and diversity of potential crops. It has been made more complex, if also more promising, by the growing range of global private investors who are newly motivated to deploy private capital in low-income contexts.

This paper provides an overview of Africa's recent agricultural developments. It begins with a brief discussion of key events in recent policy history and then considers trends in the context of broader developing world dynamics. The issues of area expansion, yields per hectare, and access to inputs like fertilizer are examined. This is followed by some suggested overarching policy priorities moving forward.

26.2 Recent policy history

Following an extended period of international policy neglect, the early 2000s saw a renewal of high-level attention to African agriculture. One piece of this took shape in 2003 when the African Union established the Comprehensive African Agricultural Development Program (CAADP), aiming for 6 percent annual agricultural growth by 2015. A salient political moment then came the next year, in July 2004, when UN Secretary-General Kofi Annan gave a seminal speech in Addis Ababa to leaders from across the region. He called for a "uniquely African green revolution," a comprehensive approach to boosting agricultural yields and productivity that would attend to Africa's wide range of farming systems and environmental realities (Annan, 2004).

With support from key advisors like Jeffrey Sachs, Annan's speech helped prompt a cascade of policy efforts, including a reassessment of approaches to supporting agriculture in Africa. In late 2005, a pivotal case took shape in Malawi. Following a succession of droughts and famines that had devastated the country, President

Bingu wa Mutharika, who was also Minister of Agriculture, initiated a nationwide input support program in the form of vouchers for fertilizer and seeds (Denning and others, 2009). Mutharika's subsidy program ran counter to the prevailing policy orthodoxy of the day and initially faced significant resistance from the international donor community, whose financial support was required.

In 2006, Malawi registered a strong harvest, although skeptics remained uncertain how much of this was due to good rain and whether early imperfections in the farmer support program could be overcome. As a result the national program was tweaked for greater efficiency in its second year. Meanwhile, in September 2006, the global policy momentum continued to build when the Bill and Melinda Gates Foundation partnered with the Rockefeller Foundation to launch the Alliance for a Green Revolution for Africa (AGRA). Mr. Annan himself subsequently became AGRA's first board chair.

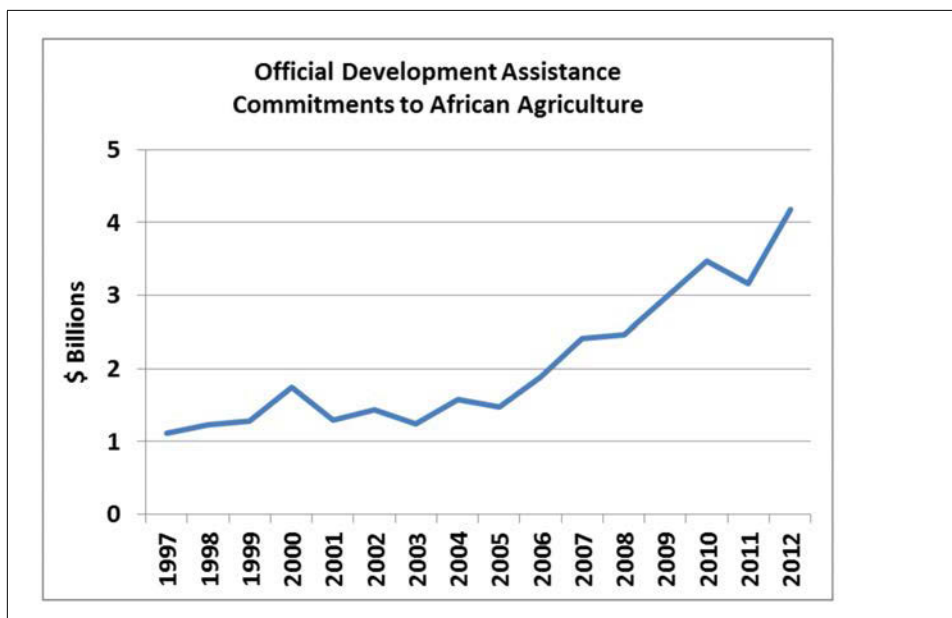
The following year, Malawi experienced an even better harvest, and in October 2007 the World Bank's Independent Evaluation Group issued a harsh critique of the Bank's long-term neglect of African agriculture (IEG, 2007). Robert Zoellick had only been in office a short time as Bank president and had already declared an African green revolution as one of his top priorities. Two months later, in December 2007, the *New York Times* ran a front page story of Malawi's national breakthrough in more than doubling food production in the space of two years—a breakthrough that the writer largely attributed to fertilizer subsidies (Dugger, 2007). The title of the piece was “Ending Famine, Simply by Ignoring the Experts.”

A few months later, in the spring of 2008, a year-long trend of escalating world food prices culminated as a full-fledged global crisis. Dozens of countries experienced protests and political instability. The global financial crisis ensued only a few months later, but issues of agriculture and development had risen to such geopolitical prominence that in mid-2009 President Barack Obama personally lobbied his counterparts to elevate their commitments during the G-8 L'Aquila Summit in Italy. The resulting pledges sustained an upward aid trajectory for African agriculture that had begun in 2006. As shown in Figure 26.1, official development assistance for the sector had been stagnant near US\$1.5 billion (in US\$2012) from 1997 to 2005, and then

began climbing toward commitments of more than US\$4 billion in 2012. With 575 million rural people in the region, these aid levels now translate to roughly US\$7 per rural African per year, up from less than US\$3 in 2005.

Global private investment has also surged in many African countries, with concomitant political challenges. In 2008, the Korean company Daewoo Logistics announced a 99-year lease on nearly half of Madagascar’s arable land, mostly to grow maize. Local public opinion was significantly offended, contributing to the violent ouster of Madagascar’s incumbent president. More consultative country-based approaches have recently taken shape through the Grow Africa initiative, a partnership between CAADP, the New Partnership for Africa’s Development, and the World Economic Forum. Grow Africa aims to provide a platform for governments to present national investment priorities at private investor roundtables, with transparent participation for other key stakeholders. In its most recent annual report, the initiative counts US\$970 million of new private investment across ten countries in 2013 and more than US\$7.3 billion of planned investment (Grow Africa, 2014). The growing combination of public and private resources reflects a systematic increase in international attention compared to the early 2000s.

Figure 26.1: Growth of Aid to African Agriculture, 1997-2012

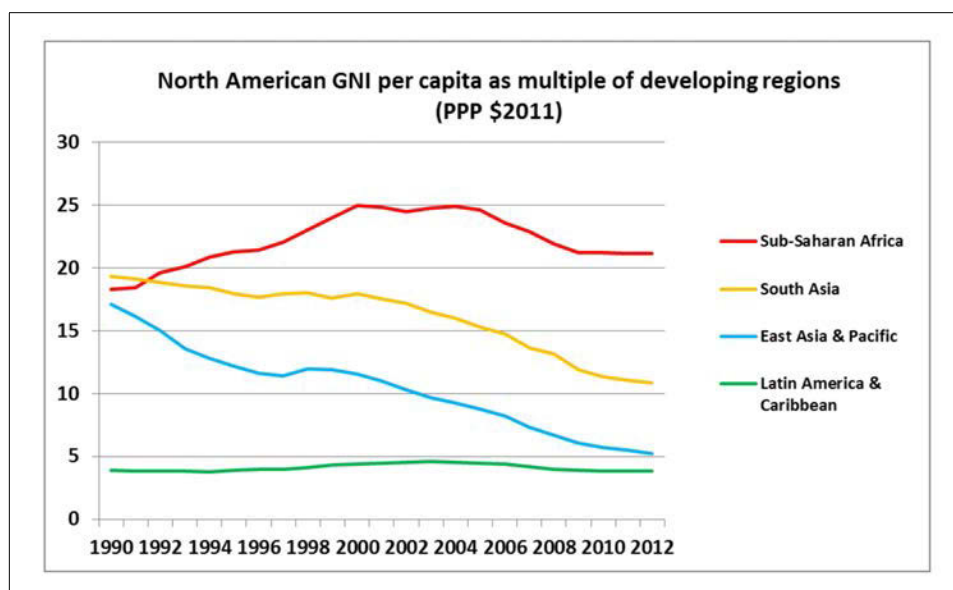


Source: Development Initiative, 2014.

26.3 Shifts from divergence to convergence

Africa's recent agricultural results are best considered in the context of the region's longer-term development trends. Following minimal and often negative rates of economic growth through the 1980s and 1990s, Africa's economic fortunes initially began to recover after 1995 (Arbache and Page, 2010), when average growth rates turned slightly upward, but still lagged behind those of the rest of the world. Figure 26.2 shows North American gross national income (GNI) per capita (in purchasing power parity constant US\$2011) since 1990 as a multiple of four World Bank regional aggregates: Sub-Saharan Africa, South Asia, East Asia and the Pacific, and Latin America and the Caribbean (World Bank, 2014). The graph shows Africa's unique path of divergence up to 2000, with incomes shrinking in relative terms from 1/18th to 1/25th of North American incomes. A process of convergence began after 2005, such that the ratio to North American incomes declined to 1/21 by 2012. The relative progress is clear, but the absolute ratio in 2012 was still higher than in 1990, and had declined much more slowly than in either South Asia or East Asia.

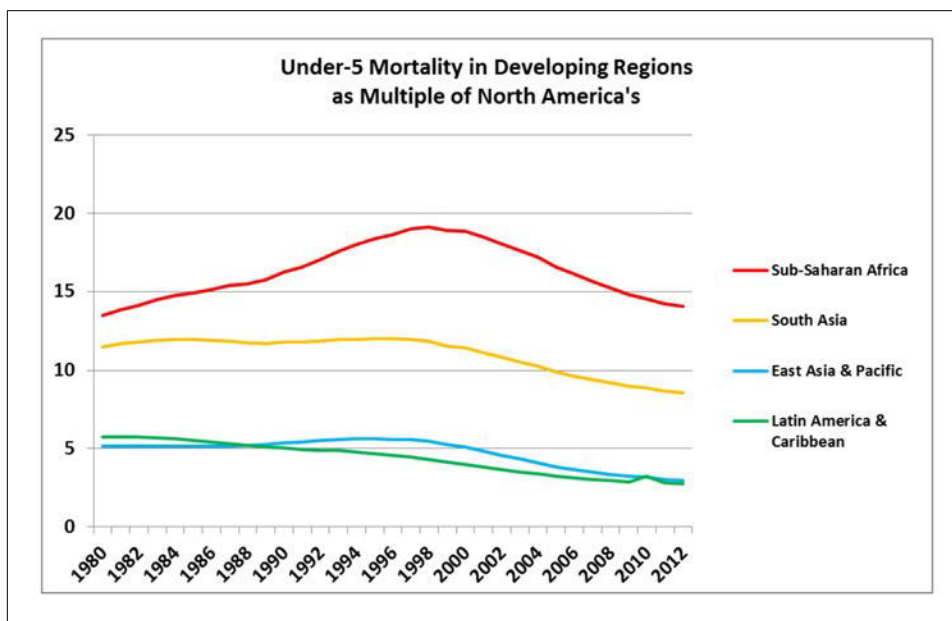
Figure 26.2: Per Capita Income Comparisons: North America and Developing Regions, 1990-2012



Source: Author's calculations based on World Bank, 2014.

Africa’s health outcomes have followed a similar path of divergence and then convergence, although with different inflection timing and different cross-regional trends. Figure 26.3 shows a key indicator: child (under-five) mortality rates since 1980. Average child mortality rates declined everywhere throughout most of the period, but the 1990s rates of progress were dramatically slower in Africa than the rest of the world. The nadir was in 1998, when African children were more than 19 times more likely than children in North America to die before their fifth birthday. Africa has since seen a dramatic acceleration in rates of progress (see McArthur 2014 for details). By 2012 the relevant ratio had declined to 14, which remains horrendous by any normative standard, but is down to roughly the same value as in 1980.

Figure 26.3: Child Mortality Rate Comparisons North America and Developing Regions, 1980-2012

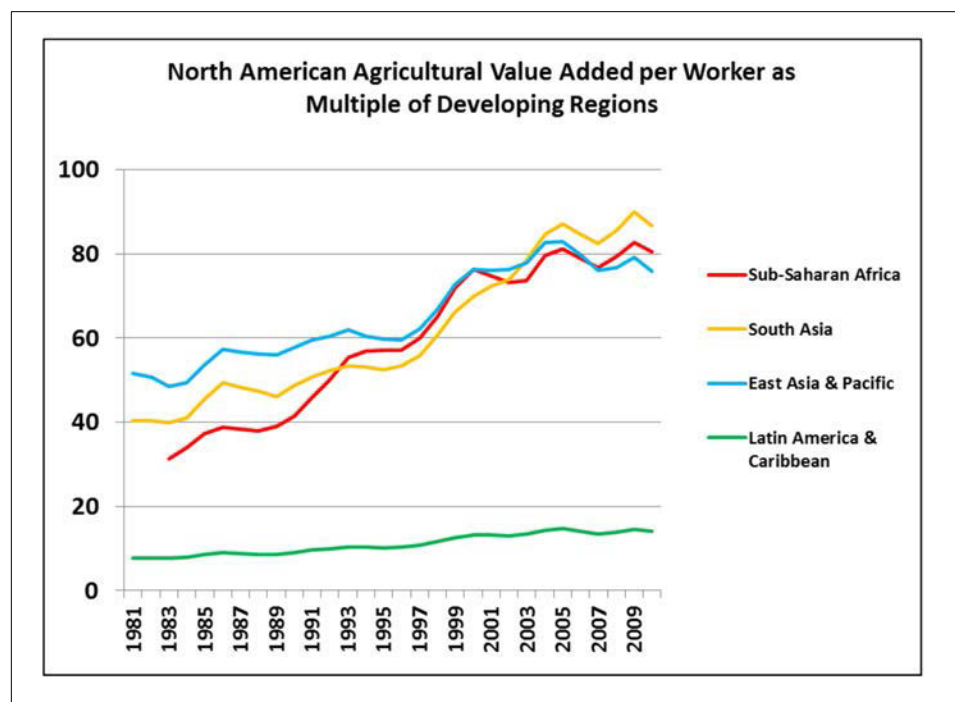


Source: Author’s calculation based on World Bank, 2014.

Meanwhile, African agriculture shows persistent patterns of divergence rather than convergence. As one indicator, Figure 26.4 shows that Africa’s agricultural value added per worker has continued to diverge from North America’s and, notably, that the divergence trend also holds across East Asia and South Asia. Since 1990, value added per worker has grown 37 percent in Sub-Saharan Africa, 41 percent

in South Asia, and 92 percent in East Asia. These are all positive results, but they are much less than the 162 percent growth in North America over the same period.

Figure 26.4: Agricultural Value Added Comparisons: North America and Developing Regions, 1981-2009



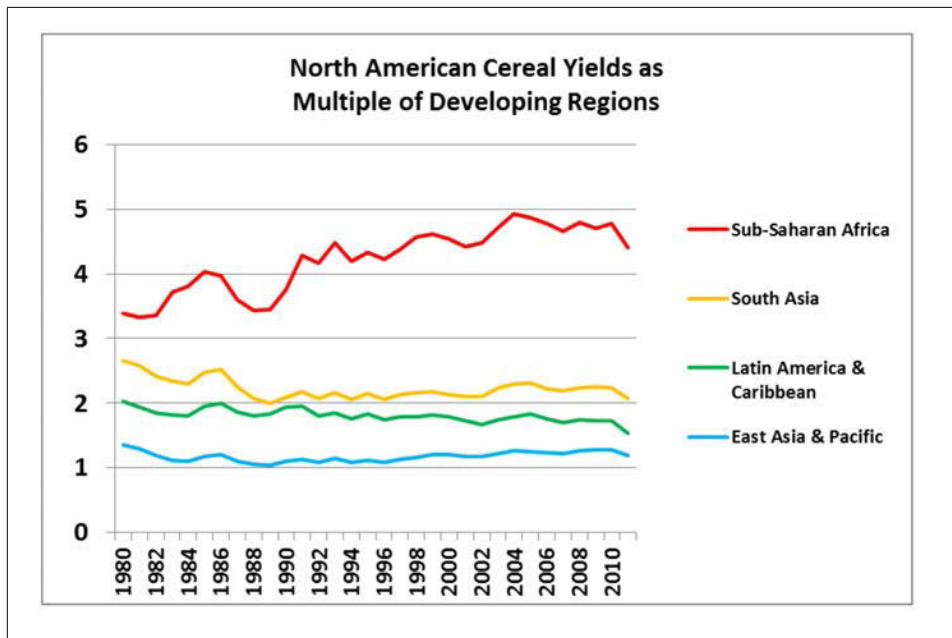
Note: Data presented are three-year moving averages.

Source: Author's calculation based on World Bank, 2014.

It is a notable puzzle that the three developing regions in the figure have all followed a similar global divergence trend on this productivity measure, even while average Asian income levels have been converging towards the global frontier. Presuming the trend is not an artifact of some measurement error, at first glance it might appear to suggest that the cross-regional differences in income growth are entirely due to other sectors like manufacturing, as suggested by the evidence in Rodrik (2013). However, in light of the tremendous regional differences in yield growth discussed below, the trend might also be due to wage and price factors, linked either to slow migration of rural labor or to physical productivity-induced pressures that have been keeping the prices of Asian agricultural products low (see, for example, de Janvry and Sadoulet, 2010; Thorbecke, 2013).

Africa’s uniquely low agricultural yield trajectory is captured in Figures 26.5 and 26.6. The first of these figures shows the long-run relative trends in cereal yields per hectare, again compared to North America. Latin America and South Asia have seen a very gradual long-run convergence towards North American levels, while yields in East Asia Pacific have stayed close to par over the period. Most Asian countries experienced their early green revolution-type yield take-offs—often defined as the jump from one to two or more tons per hectare—at different points throughout the 20th century (McArthur, 2013).

Figure 26.5: Cereal Yield Comparisons: North America and Developing Regions, 1980-2010

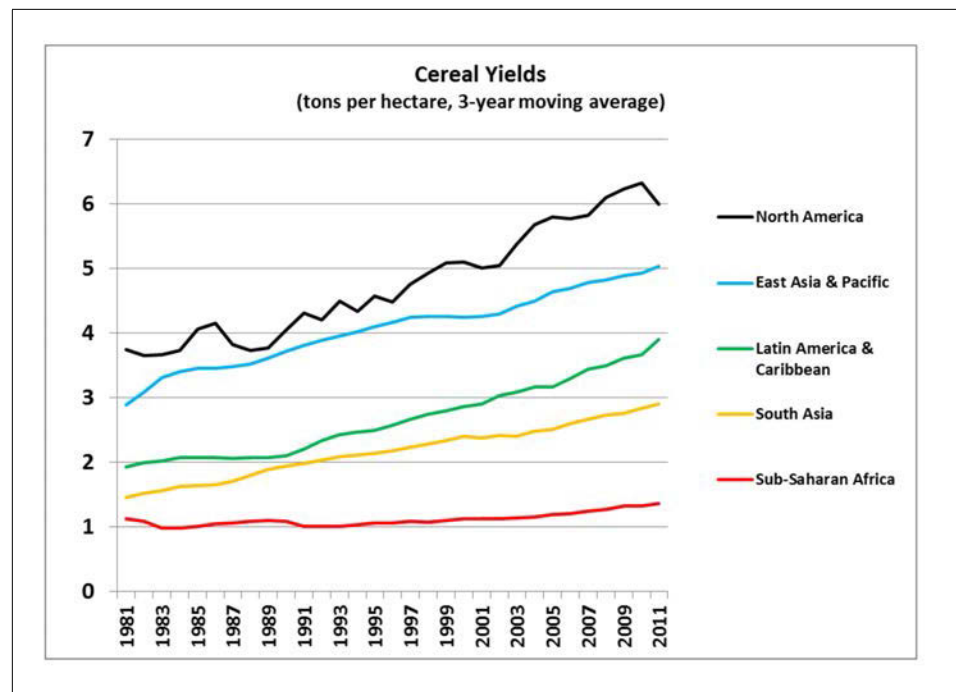


Note: Data presented are 3-year moving averages.

Source: Author’s calculation based on World Bank, 2014.

Figure 26.6 presents the same cereal yield data in absolute values of tons per hectare. The graph reflects the green revolutions that were still underway across South Asia in the 1980s, while finishing in Latin America and mostly completed in East Asia. It also underscores Africa’s long-term relative yield stagnation, hovering as a flat line near one ton per hectare for three decades. According to World Bank (2014) data, Africa’s regional average in 2012 was only 1.4 tons per hectare, a level that was first reached by East Asia in 1962, by Latin America in 1967, and South Asia in 1978.

Figure 26.6: Cereal Yields in Tons/Hectare, North America and Developing Regions, 1981-2011



Source: World Bank, 2014.

Nonetheless, there is preliminary evidence to suggest that African yields have recently started to trend upward. When Kofi Annan gave his major speech in 2004, yields the previous year had been 1.1 tons per hectare, essentially still the same as in the early 1980s. But in the subsequent nine years, yields increased by 27 percent, the fastest rate of progress in three decades. The agricultural revolution's green shoots may have started to sprout, even if it remains too early to confirm how strongly they have taken root.

One key piece of the puzzle is presented by Block (2013), who estimates total factor productivity (TFP) trends in African agriculture since the early 1960s. He finds a U-shaped historical pattern, with gradual long-term TFP declines over the 1960s and 1970s, followed by gradual acceleration in TFP growth from the 1980s through to the early 2000s. But the use of inputs like fertilizer remains extremely low, limiting output advances despite the TFP growth.

In the simplest sense, agricultural output can be increased by expanding the area planted (extensification) or by boosting output per hectare (intensification). Africa's

26.4 A closer look at yields

Simple cross-country regressions help to highlight the links between yields and agricultural value added. Table 26.1 considers value added as the dependent variable and tests for correlation with intensification (higher yields) and extensification (more area planted) during the period 2000-10. Data for value added and cereal yields are taken from World Bank (2014), while values for area harvested are calculated based on data from FAO (2014). Cereals are again used as a proxy for economy-wide yield improvements. The sample is restricted to countries with a rural population of at least 250,000, and is limited in some cases by data availability.

Table 26.1: Effects of Yield and Cultivated Area on Agricultural Value Added, Selected Developing Countries, 2000-10

Dependent Variable: Total Agricultural Value Added, Average Annual Growth Rate, 2000-2010				
	Developing Countries		Sub-Saharan Africa	
	(1)	(2)	(3)	(4)
Cereal yield growth rate	0.27 *** (0.07)	0.27 *** (0.07)	0.57 *** (0.17)	0.30 * (0.16)
Area harvested growth rate	0.59 *** (0.11)	0.47 *** (0.10)	0.30 (0.19)	0.33 ** (0.15)
Constant	0.02 *** (0.003)	0.02 *** (0.003)	0.01 * (0.006)	0.02 *** (0.006)
N	89	81	24	23
R-squared	0.34	0.33	0.49	0.37
Sample restrictions		Excl. Nat. Resource exporters	SS Africa, excl. Nat. Resource	SS Africa, excl. Nat. Resource & ZWE

Notes: (1) *, **, and *** represent 10%, 5%, and 1% significance levels, respectively. (2) Numbers in parentheses indicate robust standard errors. (3) The dependent variable is measured as annual average rate of decline over the decade.

The first column shows that, across developing countries, both “growing out” and “growing up” are strongly positively correlated with increases in value added across the sector. The second column is calculated without the major natural resource exporters, in view of the unique economic pathways often experienced by such countries.¹

The third and fourth columns restrict the sample to African economies, of which 24 have adequate data for inclusion. An inspection shows that Zimbabwe is a significant outlier due to its collapse in both yields and value added during the 2000s, so the observation for that country is dropped from the regression in column 4. The coefficient on yield just misses 5 percent significance levels, but is consistent with the value for the broader developing country sample in column 2. The coefficient on area harvested is significant at the 5 percent level, although with a slightly lower coefficient than in column 2. It would be unwise to draw unduly strong conclusions from a cross-sectional regression with limited degrees of freedom, but a plausible interpretation of this result is that both yields and area drove value added growth in Africa during the 2000s.

Table 26.2 examines a similar set of correlations, but now with agricultural value added per worker as the dependent variable. Again, the first two columns examine a broad sample of developing economies while the remaining columns cover an African subset. The regressions include (log) initial value added per worker as an explanatory variable, and the full developing country sample captures the strongly significant pattern of divergence already suggested in Figure 26.4. Countries with twice the initial level of output per worker are estimated to have a 0.6 percent faster annual growth rate over the period. The coefficient on yields is similar to the results from Table 26.1, while the coefficient on area harvested drops considerably and is less statistically significant, especially in column 2, which again excludes natural resource exporters.

Table 26.2: Effects of Yield and Cultivated Area on Value Added per Worker, Selected Developing Countries, 2000-10

Dependent Variable: Agricultural Value Added per Worker, Average Annual Growth Rate, 2000-2010							
	Developing Countries		Sub-Saharan Africa				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Initial Agric Value Added per worker (Ln)	0.008 ** (0.004)	0.009 *** (0.003)	0.010 (0.007)	-0.002 (0.006)	0.006 (0.005)	0.007 (0.006)	0.001 (0.006)
Cereal yield growth rate	0.28 *** (0.09)	0.30 *** (0.08)	0.47 ** (0.18)	0.18 (0.16)	0.28 (0.17)		
Area harvested growth rate	0.33 ** (0.15)	0.25 * (0.15)	0.11 (0.22)	0.27 (0.18)		0.18 (0.19)	
Rural population growth rate	-0.53 ** (0.27)	-0.65 ** (0.26)	-0.10 (0.85)	-2.37 ** (0.93)			-0.72 (0.64)
Constant	-0.04 (0.03)	-0.04 (0.03)	-0.06 (0.05)	0.07 (0.05)	-0.03 (0.03)	-0.03 (0.04)	-0.02 (0.04)
N	88	80	24	23	25	23	25
R-squared	0.28	0.36	0.34	0.39	0.20	0.08	0.08
Sample restrictions		Excl. Nat Resource exporters	SS Africa, excl. Nat. Resource exporters	SS Africa, excl. Nat. Resource & ZWE	SS Africa, excl. Nat. Resource & ZWE	SS Africa, excl. Nat. Resource & ZWE	SS Africa, excl. Nat. Resource & ZWE

Notes: (1) *, **, and *** represent 10%, 5%, and 1% significance levels, respectively. (2) Numbers in parentheses indicate robust standard errors. (3) The dependent variable is measured as annual average rate of decline over the decade.

It is not entirely surprising that the coefficient on area harvested is less significant when considering output per worker in Table 26.2, since land expansion might well be correlated with population growth. Table 26.2 therefore also examines whether rural population growth is correlated with value added per worker across developing countries and finds that it is, with a strongly negative coefficient. A one percentage point increase in the population growth rate is associated with a half a percentage point slower growth rate for agricultural value added per worker. When considering the Africa sample alone, the estimated coefficients are of a consistent sign and somewhat similar magnitude compared with those in the developing country sample, although most are not statistically significant. Again, one must be cautious in interpreting these results, but they do provide suggestive evidence for the role of simple aggregate yield increases in boosting agricultural value added per worker.

A logical next question is to ask what variables affect yields. Table 26.3 presents reduced-form regression results drawing from McArthur and McCord (2014). In a panel data set of developing countries covering five-year intervals from 1965 to 2000, there is strong evidence for the role of fertilizer, precipitation, and modern

variety seeds as determining variables for cereal yields. (Coefficients on measures of irrigation, years of schooling, land-labor ratios, and tractor-land ratios are found generally not to be statistically significant in the same regression framework.) The strong result for fertilizer aligns with the findings of Block (2013), as does the strong coefficient on modern variety seeds. The seed variable is courtesy of Evenson and Gollin (2003), who found that African adoption of improved seeds picked up over the course of the 1980s; this trend might help to explain a key source of the subsequent TFP growth trends identified by Block.

Table 26.3: Effects of Inputs on Cereal Yield, Selected Developing Countries, 2000-10

Dependent Variable: Cereal Yield, 1965-2000 (t/ha, in 5 year intervals)				
	Pooled OLS	Fixed Effects Estimator		
	(1)	(2)	(3)	(4)
Fertilizer per hectare (t/ha)	7.85*** (2.24)	4.54*** (1.62)	4.49*** (1.60)	3.40** (1.58)
Precipitation [ln (mm)]			0.39** (0.16)	0.39** (0.16)
Modern seeds (%)				0.010*** (0.003)
N	463	463	463	463
(Within) R-squared	0.50	0.62	0.63	0.66
Countries	69	69	69	69

Notes: (1) *, **, and *** represent 10%, 5%, and 1% significance levels, respectively. (2) Numbers in parentheses indicate robust standard errors. (3) The dependent variable is measured in tons per hectare (4) All variables except modern seeds are 3 year means measured at 5 year intervals. E.g., "1970" measures means over 1969, 1970 and 1971. The subsequent value averages over 1974, 1975 and 1976. (5) Constant terms, year dummies and country dummies not reported to save space.

At an intuitive level, the coefficients on key inputs reflect the biophysical fact that modern variety seeds produce higher yields when they are accompanied by better rains and increased fertilizer use. But the slow growth in African yields amidst long-term TFP growth draws attention to the missing factor inputs that should also be driving output.

Perhaps most importantly, fertilizer use in Africa remains close to non-existent, with a regional average of only 13 tonnes per hectare (t/ha) as of 2011, virtually unchanged from a decade earlier. This is an order of magnitude less than the 122 t/ha in Latin America, 175 t/ha in South Asia, and 381 t/ha in East Asia in the same year.

For policymakers, an essential question is how to promote the use of key inputs. Fertilizer use, for example, might increase endogenously through market forces as part of the process of economic growth. Throughout Asia in the 20th century, it also benefited from early-stage subsidies for low-income farmers. Ideally subsidies like those used in Malawi are phased out once demand is strong enough to provide adequate incentives for robust local supply chains to take shape. However, subsidies can be subject to capture and difficult to phase out for political reasons. In India they still consume a significant share of the total government budget, decades after the onset of that country's green revolution.

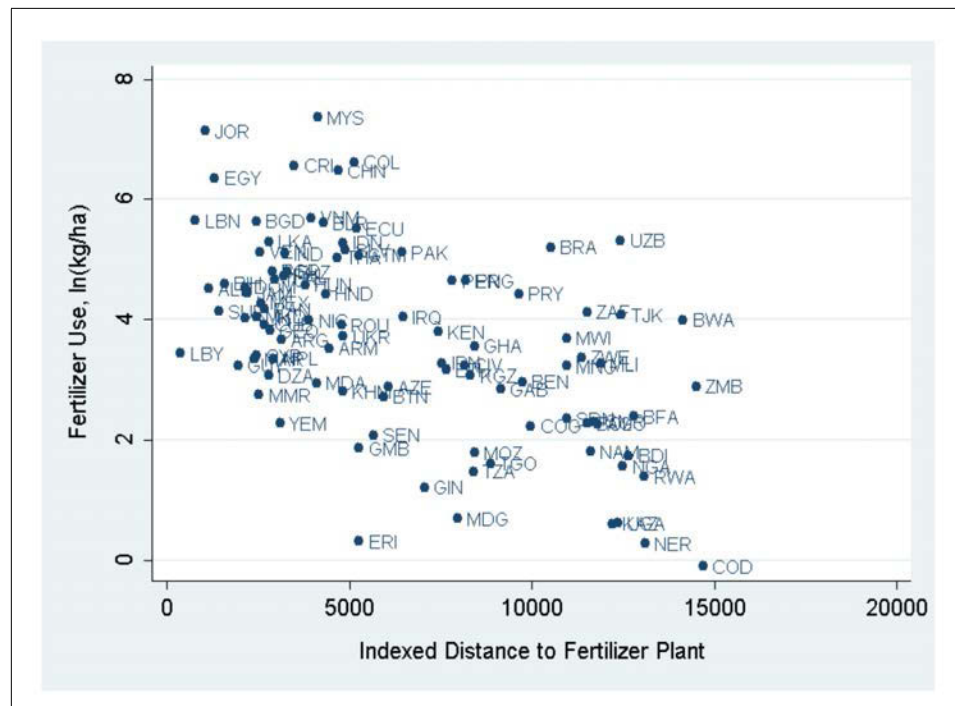
An array of micro-focused studies and randomized control trials have tested for a variety of behavioral and environmental constraints on fertilizer use in Africa (e.g., Duflo and others, 2011). But as Dercon and Gollin (2014) have emphasized, these studies typically do not assess the economy-wide contexts that might limit the relevance of findings across individual sites. For instance, the economic context of fertilizer use is certainly affected by the farm-gate price, which is in turn affected by transport costs, both within the country and internationally.

Unfortunately, there are few cross-sectional or time-series data measuring cross-country variations in fertilizer price. However, global transport costs can be approximated. McArthur and McCord (2014) do so by estimating the distance from each developing country's geographic center of agriculture to the nearest nitrogen fertilizer plant. The location of these plants is largely determined by the presence of liquid natural gas deposits, which are mostly situated in advanced economies. An indexed distance value is created by scaling for the difference between land- and sea-based transport costs. Figure 26.9 presents the relevant cross-section for all developing countries, with the measure of distance on the horizontal axis and a (logged) measure of fertilizer use per hectare on the vertical axis. There is a clear

negative correlation between the two variables ($r = -0.54$), suggesting that countries with costly physical access to fertilizer markets face special challenges in boosting their agricultural productivity. McArthur and McCord (2014) provide a more detailed assessment of potential implications for economic growth and structural change.

The correlation between fertilizer use and physical ease of access to fertilizer has potential implications for economic strategy. For example, Dercon (2009) presents a thoughtful typology of African contexts and suggests that landlocked countries are most likely to benefit from prioritized agricultural support, since they have few comparative advantages in other industries. However, Figure 26.9 underscores a fundamental economic and agronomic challenge for countries that are far from fertilizer plants. It might actually be that the returns on public investment in agriculture are higher in coastal economies that have cheaper access to global commodity markets.

Figure 26.9: Relation between Fertilizer Use in 2012 and Distance to Nitrogen Fertilizer Manufacturing Plants, Developing Countries



Source: McArthur and McCord, 2014, World Bank, 2014.

26.5 Moving forward

Africa's mixed agricultural results to date and clear ongoing challenges mean that a regional green revolution remains a priority, even if in practice it requires a "rainbow of revolutions," as described in Kofi Annan's 2004 Addis Ababa speech. There is no one-size-fits-all strategy, since each country faces its own combination of potential crops, degree of access to global markets, and domestic linkages across sectors.

Nonetheless, there are some common priorities for advancing agriculture across Africa. Here we stress six:

First, **transport costs** need priority attention, both within and across borders. This likely requires an order of magnitude greater investment in road infrastructure, including trunk roads and feeder roads, in addition perhaps to regulatory reform to ensure necessary firm-level competition in areas like trucking and rail cargo.

Second, **water** is essential for farming, so the rain-fed nature of African agriculture and increasing climate variability, particularly in the Sahel, require concerted policies to promote farmers' access to irrigation, especially small-scale irrigation. Reliable irrigation brings multiple economic benefits. It supports greater climate resilience, allows the introduction of multiple planting seasons, and provides the predictability to enable planting of crops with higher value per hectare.

Third, in order to promote farm-level investments in irrigation and other areas that are likely to be profitable over the medium term, policies are needed to provide incentives for commercial lenders to **expand credit in rural areas**. Given the historically high—often prohibitively high—cost of loan administration in rural areas, this will likely require a significant amount of commercial experimentation to identify new business models that can leverage emerging information technologies and market conditions to develop viable product lines. This might require an international agricultural finance facility, with public funds used to provide credit subsidies and appropriate insurance measures. An indicative calculation suggests that perhaps US\$25 billion per year of annual private lending across the region could be unlocked by US\$5 billion per year of public support (McArthur, 2011).

Fourth, the availability of **reliable low-cost energy** will be crucial for irrigation, transport, and potential agro-processing. The International Finance Corporation tracks large-scale infrastructure projects around the world and has recently identified more than 200 around Africa, up from only a handful a few years ago; a large share are energy projects. To get off the ground, many of the relevant public-private partnerships will require support for project preparation, public guarantees, and first-loss instruments, plus commitments to carbon pricing, long-term political risk insurance, and larger multilateral mechanisms that provide needed levels of public non-concessional loans.

Fifth, while recognizing that each country's **mix of crop opportunities** is unique, a multi-pronged approach is needed to boost productivity in the domestic staple foods sector while also encouraging opportunities for farmers to pursue export-oriented cash crops. This is particularly important in economies where domestic foods are effectively non-tradable goods, and real wages are significantly affected by the price of food. Such a multi-pronged approach will likely grow in macroeconomic importance, too, as new natural resource exporters encounter appreciation pressures on their real exchange rates. Boosting staple food production to meet aggregate subsistence needs can free up labor to shift to higher value-added sectors, and can also promote the price competitiveness of labor, leading to increased opportunities for growth in manufacturing, as suggested by Gelb and others (2013).

Sixth, to address the strong negative correlation between population growth rates and growth in agricultural value added per worker, Africa needs enhanced policies to promote **voluntary declines in fertility**. The region's total fertility rate remains extremely high, at 5.1 as of 2012 (World Bank, 2014). This is more than two births per woman greater than that of the next highest region, the Middle East and North Africa, at 2.8. There is no perfect evidence for what will prompt the needed demographic transition in each country, but it will likely be a combination of efforts to decrease child mortality, promote girls' universal access to secondary education, and make access to family planning available.

26.6 Conclusion

A decade after Kofi Annan's 2004 call to action, there are grounds for cautious long-term optimism about African agriculture. Recent progress has the "green shoot" characteristics of an early stage. Achieving a transformation across roughly 500 million rural Africans will still require scaled up public and private investments, alongside complementary policies tailored to each country's circumstances. No single approach will work everywhere, but some common principles can be supported to raise Africa's widespread agricultural competitiveness. Boosting crop productivity, especially staple crop productivity, should ultimately help drive much-improved living standards for Africans across the continent.

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Endnote

- ¹ The eight countries dropped from the full sample are Algeria, Angola, Botswana, Guinea, Namibia, Nigeria, Republic of Congo, and Venezuela.

27. Smallholders Hold the Keys to Africa's Food and Nutrition Security

Sam Dryden

Bill and Melinda Gates Foundation*

27.1 Introduction

African agriculture is poised for dramatic productivity gains.¹ After decades of policy inattention, disproportionate taxation, and lack of investment, agriculture is beginning to show significant growth and being viewed favorably by most African countries—the Maputo Declaration (AU, 2003), pledging 10 percent investment and a 6 percent growth rate, and the Malabo Declaration (AU, 2014) building on it, to include doubling productivity gains, being cases in point.

Agriculture can catalyze Africa's development, but four critical factors will determine whether the sector can unleash inclusive economic transformation on the continent: (a) smallholder farmers need to be the drivers of African agricultural growth; (b) the goal must be to have sustainable productivity gains in Africa; (c) innovation must be mainstreamed; and (d) a comprehensive food systems approach must guide policy and investment action.

* This paper is an edited version of a presentation delivered to the Yale African Development Colloquium in my capacity as a Senior Fellow and former Director of the Agricultural Development Strategy, Bill and Melinda Gates Foundation. I thank Aigul Bazylova for her excellent research assistance on this presentation and Mumukshu Patel for his editing.

After discussing these factors briefly, I will provide a more detailed account of how the Bill and Melinda Gates Foundation's agricultural development strategy approaches African agricultural development. As one of the largest donors to the sector, the Foundation focuses on each of the four factors addressed above to more than double productivity, sustainably, for African smallholders through partnerships that leverage its US\$400 million yearly investment in agriculture.

I end with a few considerations for multiple stakeholders in the African food and agriculture systems to enable a transformation in food production and consumption in the region, to help make poverty and hunger history on the continent and usher in an era of shared prosperity.

27.2 Toward an African agricultural renaissance: smallholders, sustainable productivity, innovation, and a systemic approach.

If Africa is to feed itself, it needs productive and sustainable farms: it will need to build and sustain a strong agricultural sector. Four critical factors can enable African countries to attain this objective.

Smallholder farmers need to be the drivers of African agricultural growth.

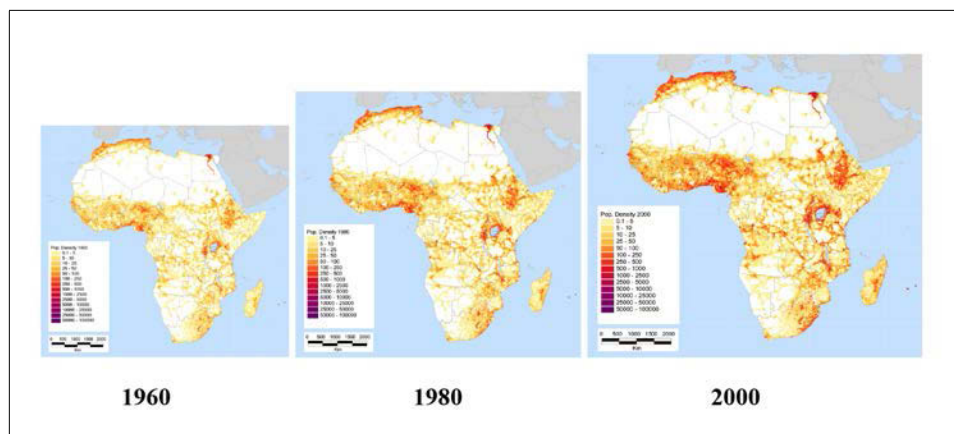
Africa's farmers largely farm on plots smaller than a hectare, or two at most—the size of a football field—and a large majority of them are women. Given these realities, it has always been surprising that for a period of four to five decades after Independence, African governments disproportionately taxed farmers rather than providing an enabling policy environment and investments to them (Anderson and Valenzuela, 2005, 2013). As that situation changes, following the recent political declarations and the development of national agricultural strategies—Comprehensive Africa Agricultural Development Plans—it is critical that the mistakes of the past not be repeated and smallholder farmers remain central to these strategies.

Equitable and inclusive growth would not be possible without creating the enabling conditions for smallholders to thrive, since smallholders constitute the vast majority of Africa's poor (Collier, 2008). Moreover, various studies show that smallholder farmers are as productive as larger-scale farmers in Africa. The Asian Green Revolution was driven by smallholder farmers, so—notwithstanding what some have argued—experience indicates that smallholder agriculture can indeed drive growth.

African agriculture needs to be sustainable and focus on productivity gains.

Sustainable productivity growth, led by smallholders, is critical for long-term agricultural development in Africa. Productivity gains imply that one grows more with less. By sustainable, I mean that the environmental impact of agriculture must be minimal; this is one key lesson from the Asian Green Revolution, where environmental needs were often overlooked. Taken together, these two phenomena—productivity gains and sustainability—are termed “climate-smart agriculture” or “sustainable intensification” by technical experts.

The initial conditions for sustainable productivity gains—through sustainable intensification—are now present in most parts of Africa. A leading factor here is population density. Most farmers would prefer to bring more land into cultivation rather than to engage in more concentrated farming (intensification), which costs them more. Above a certain threshold of population density, however, intensification becomes more likely, given pressures on land supply combined with expanded availability of labor. Sub-Saharan African population densities today (Figure 27.1) mirror those of Asia before the onset of the Green Revolution there, which raised farm productivity dramatically.

Figure 27.1: African Population Density

Innovation must be embraced and mainstreamed in African agriculture. Innovation is needed in agro-ecological technologies and practices. Recent decades have seen the emergence of several innovative developments with the potential to change the way we answer age-old questions of agriculture, particularly smallholder

agriculture. Digital technology will be a key driver of the needed changes, allowing smallholder farmers to be connected upstream and downstream to innovations in a way never before possible. (An analogy is the way mobile phones have changed the telecom space, allowing people in remote parts of the continent to leapfrog over the need for landlines.) For instance, today some countries in Sub-Saharan Africa have digital soil maps that can be used for targeting specific interventions, like non-tillage agriculture. This technique can boost yield by a factor of two without the environmental consequences of tilling. Identifying areas where it is suitable would not have been possible without the advent of information and communications technologies.

A comprehensive food systems approach must guide investment and policy action for African agriculture. With urbanization, along with rising wealth given high economic growth, and accompanying diet-diversification patterns, it is critical to use the “demand pull” of agriculture through food retailers to bring smallholders into the value chain. This requires us to match supply with demand; for too long, we have focused only on the supply side of the equation.

A comprehensive food systems approach can match supply and demand trends to link smallholders to markets in an integrated way: doing so would provide smallholders with a greater share of profits, while also making agriculture more economically sustainable.

I have not mentioned trade here, either intra-regional or international. Trade is important for agricultural commodities and it ought to be encouraged. A certain level of self-sufficiency in critical commodities, essential for national food security, is required and must feature in trade discussions. This need holds true for most of the developed world and we do not see why the approach should differ for Africa. However, I would urge caution against taking an isolationist approach to food security.

27.3 The Gates Foundation’s approach to agricultural development in Africa: catalytic philanthropy in action to increase smallholder productivity, sustainably

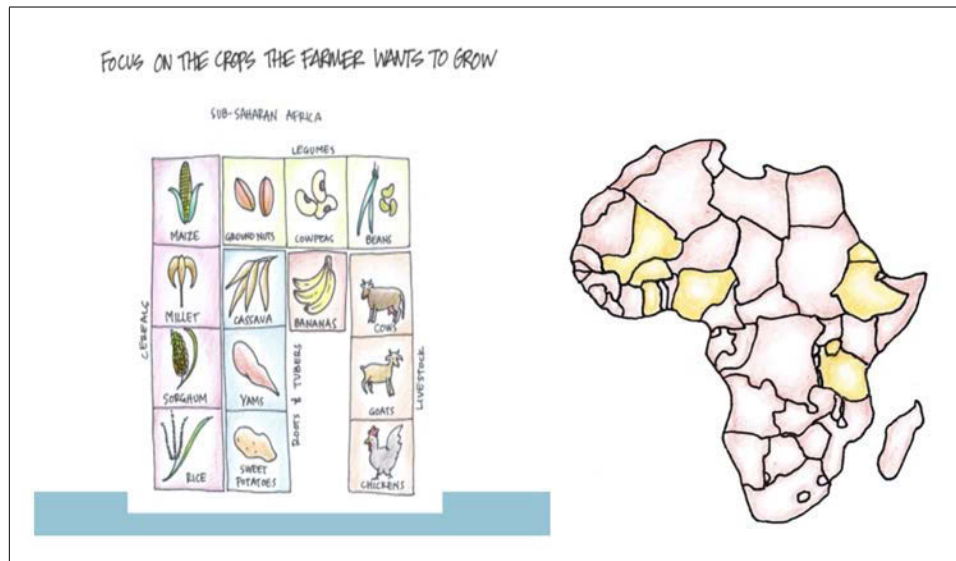
The Gates Foundation’s Agricultural Development Strategy takes into account the four factors mentioned above, to help increase smallholder farmer productivity by

170 percent by 2030, in a sustainable manner that would lift more than 50 million farming families out of poverty.²

Agricultural development is the largest strategy area for the Foundation, in terms of both personnel and payout. Following a strategy planning exercise in 2010, Bill and Melinda Gates saw the potential of agriculture to catalyze progress across our work in global health and development, and provided us with resources to achieve our mission: agriculture went from being a small, exploratory initiative to a US\$400 million/year priority strategy.

Our program uses an approach that centers on the smallholder farmer and focuses on key geographic areas, largely in Africa but also in South Asia, to get maximum impact. The program uses strong metrics—to guide the goal of increasing productivity sustainably across African farms and to have a strong learning agenda that can help us increase the adoption of key technologies and practices to strengthen agriculture across the continent. The focus is on a set of key staple crops and livestock, since there is huge potential for productivity gains there. Finally, while the budget envelope is substantial, we realize that global development partners, African governments, the private sector, and farmers themselves invest a lot more than the Foundation does in agriculture—and thus, our program places a strong focus on partnerships.

Figure 27.2: Focus on Crops and African Geographies

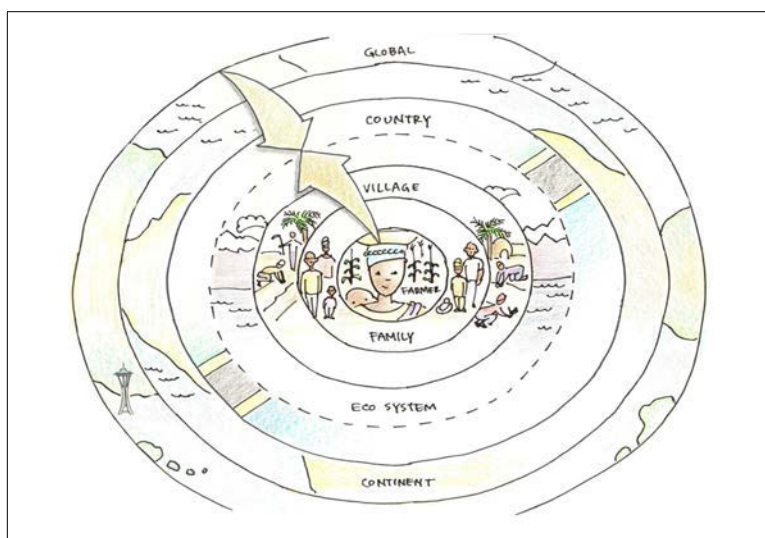


An approach grounded in trust and centered on the smallholder farmer: The program focuses on smallholder farmers, because they constitute the bulk of the agriculture sector. In turn, a majority of smallholder farmers are women—in some instances women comprise around 70 percent of the farming population, especially in certain commodities. It is evident then that increasing smallholder productivity sustainably is the surest way to increase food security in Africa and combat poverty to ensure shared prosperity.

The Foundation begins by putting the smallholder farmer at the center and by spending a lot of time listening and trying to understand her life. This is done through such instruments as living standards measurement surveys, village dynamics studies, and the like, but also through numerous field visits by both program and leadership staff. By trying to understand the context in which the African smallholder operates, the Foundation gets a better understanding of where to focus its efforts around the adoption of technologies and practices with which she can raise her productivity in a sustainable manner.

To simplify matters, over the past several years we developed the “circles of trust” schematic (Figure 27.3) to help explain the adoption of technologies. To raise the adoption rate of any productivity-increasing technology/practice, one needs to understand these circles of trust.

Figure 27.3: Circles of Trust



Knowing whom the smallholder trusts most is critical to determining where there is greatest potential for disseminating new and existing productivity-enhancing technologies. These circles begin with her family, her village, her larger community, and extend progressively further out. She is affected by country policies, she is affected by continental norms and declarations, like the African Union's Maputo commitments, and—in the largest circle—she is affected by the global context, be it in terms of international food prices or guidelines around land tenure.

Notice that the Gates Foundation, based in Seattle, is in the lower left corner, very far out. The Foundation is mindful of this; as Wendell Berry asked when the program started its agricultural strategy planning exercise in 2010: “What are you doing that actually makes something better for the smallholder farmer in the field, thousands of miles away?” The program strives to ground our investments and interventions, through using grantee partners, to see which context provides the best interface for particular productivity-enhancing measures.

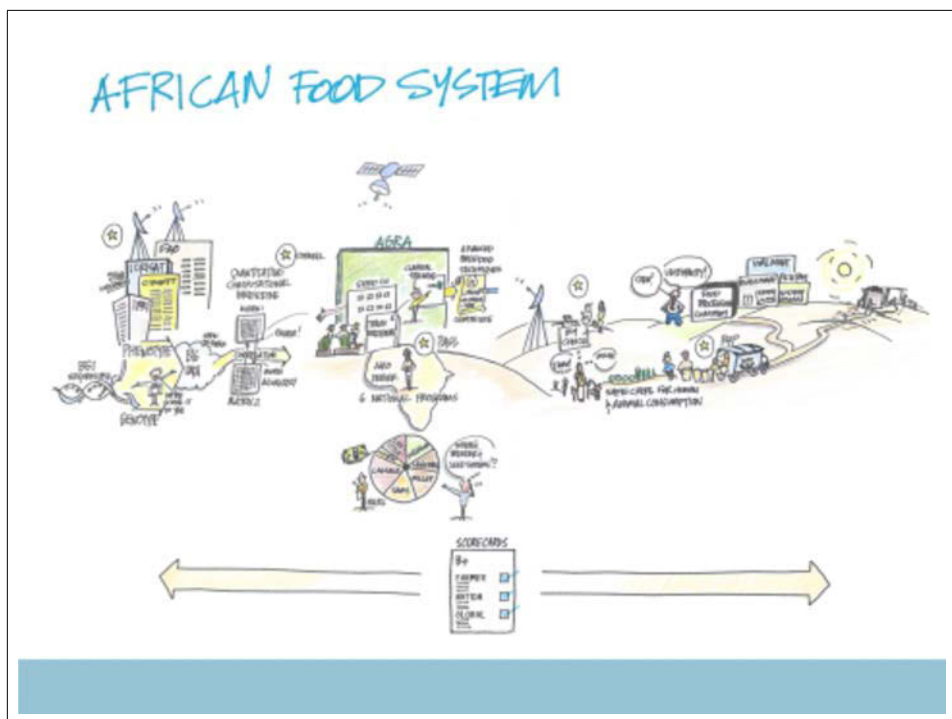
An approach mainstreaming innovation: After understanding the dynamics of adoption of technologies in the smallholder's family farm, and the kinds of technologies she prefers—say growing staple crops as opposed to cash crops in certain settings—the strategy focuses on key innovations that are designed to increase productivity, and keeps in mind that these practices/technologies have the potential to be scaled up. Such innovations can range from developing new crop varieties, like scuba rice or vitamin-fortified sorghum, to creating storage facilities for dairy products or strengthening agricultural extension.

An illustrative example in extension is Digital Green. This is a video method of peer-to-peer, farmer-to-farmer knowledge exchange that can better target extension and farming practices based on farmers' needs and results in higher adoption (seven times higher) of new knowledge and thus greater productivity. Local partners, who are mostly women, go into a community and use digital cameras to video the leading farmer who demonstrates the best extension practices. Over holiday periods, these videos are then presented to the villagers. The videos and the interactive question-and-answer session are filmed again to see what questions farmers are most concerned about. Using algorithms and tags in local languages, Digital Green

then determines what are the most critical barriers for adoption and which targeted extension practices can alleviate them. This approach has changed the very dynamics of extension and is now being scaled up from South Asia to Africa to help reform extension systems there.

An approach grounded in metrics and accountability: The development of the strategy was also rooted in the importance of metrics across the various dimensions of the work (and across the entire agricultural value chain) to keep track of progress around our ambitious goals, in order to learn from mistakes and scale up successes.³

Figure 27.4: Food System: A Comprehensive Approach



A comprehensive regional food systems approach: The strategy was also developed to ground the work in a comprehensive food systems approach that looks at both the demand and supply side of the agricultural value chain. While the focus of the efforts is largely on the supply side, which tends to have larger market failures, the program also monitors developments on the demand side: to ensure that supply-side interventions respond to demand; or create sustainable demand; or to identify what sort of partnerships can be forged to ensure this alignment.

One example here is our work with the World Food Program's Purchase for Progress (P4P)⁴, where foundation investments help the WFP procure food from local markets across Africa, sourcing staples like sorghum and millet to respond to emergency demands. Madame Zuma, the African Union Chair, and Kofi Annan recently led two convenings on Food Systems at the African Union Headquarters in Addis Ababa to explore the potential to use this approach to inform the AU's Year of Agriculture and associated policy frameworks. These translated into the Malabo Declaration, which seeks to double the productivity of African farms, sustainably, by 2025, using metrics that go beyond the supply side to include post-harvest losses, intra-regional trade, and private-public partnerships.⁵

27.4 Conclusion: a proposed path forward

Africa can indeed feed itself, and can do so by unleashing the productivity of its farms. It can thereby achieve multiple development objectives that can result in an inclusive economic transformation of the continent—as the world saw in many parts of Asia during the Green Revolution. In this context, I would point to a quote from the Chairs' summary of the convening led by Chairwoman Zuma and Mr. Annan:

African agriculture and food systems are changing rapidly in positive and exciting ways. Africa has the agricultural potential not only to feed itself but also to grow a surplus to help provide global food security. However, fulfilling this potential requires.... a broad perspective—looking at the needs of smallholder farmers as part of food systems and supply chains and considering agricultural productivity, food security, and nutrition in the context of overall economic development and social stability.

(Kofi Annan Foundation and Bill and Melinda
Gates Foundation, 2014: 2).⁶

With a growing number of stakeholders engaged in food systems in Africa, with both social and economic aims, the following considerations may be valuable:

Smallholders are part of the solution, not the problem, in Africa. Think about how you can engage smallholders in your business models (if you are part of the private

sector), development strategies (if you are a government or development partner), and accountability and organizational activities (if you are a farmers' organization or civil society institution).

Focus on sustainable agricultural productivity. This is by far the best metric we have, whereby Africa can not only achieve its food security aims but can also sustain high rates of economic growth to achieve an inclusive economic transformation, creating jobs for a youth bulge that exceeds that of the Middle East, to enable dramatic poverty reduction and prosperity generation.

Factor in innovation, in terms of technology adoption as well as the scaling up of productivity-enhancing practices. Mobile technologies, and improved varieties for key staple and cash crops, are just some of the technological innovations that can be scaled up to help Africa feed itself. We also have the potential to use “big data” to catalyze smallholder agriculture, using more traditional knowledge exchange/extension practices to promote the use of certain sustainable indigenous activities that have evolved over generations.

Use a comprehensive food systems approach, with smallholders as the drivers of that system on the supply end, and retailers on the demand end, to create the optimal outcome for the end-user—the consumer—in Africa. This can only be done by ensuring that all actors within the system focus and coordinate their activities for common productivity-enhancing goals, exploiting the digital developments in data for agriculture, as Mr. Gates called for in his speech to IFAD's Governing Council.⁷

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Endnotes

- ¹ Africa is a diverse continent with 54 countries, many agro-ecologies, and geographies at various levels of development. We use the term African agriculture not to homogenize this diversity but for the sake of linguistic simplicity.
- ² The Gates Foundation disburses a total of about US\$4 billion every year, with a quarter of this focusing on domestic education in the United States. The rest is devoted to global efforts within two program areas: Global Health and Development. Each program allocates funding according to priority strategies.
- ³ For more details, see Bill Gates' 2012 Speech to IFAD's Governing Council, available at: <http://www.gatesfoundation.org/media-center/speeches/2012/02/bill-gates-ifad>
- ⁴ See <https://www.wfp.org/purchase-progress>
- ⁵ See <http://www.merid.org/Africanagricultureandfoodsystems.aspx> and Kofi Annan Foundation and Bill and Melinda Gates Foundation, 2014.
- ⁶ See <http://www.merid.org/~media/Files/Projects/Africa%20Ag%20and%20Food%20Systems/African%20Agriculture%20and%20Food%20Systems%20Full%20Report.pdf>
- ⁷ Available at: <http://www.gatesfoundation.org/media-center/speeches/2012/02/bill-gates-ifad>

28. Financial Markets, Investment, and Productivity in African Agriculture

Christopher Udry*

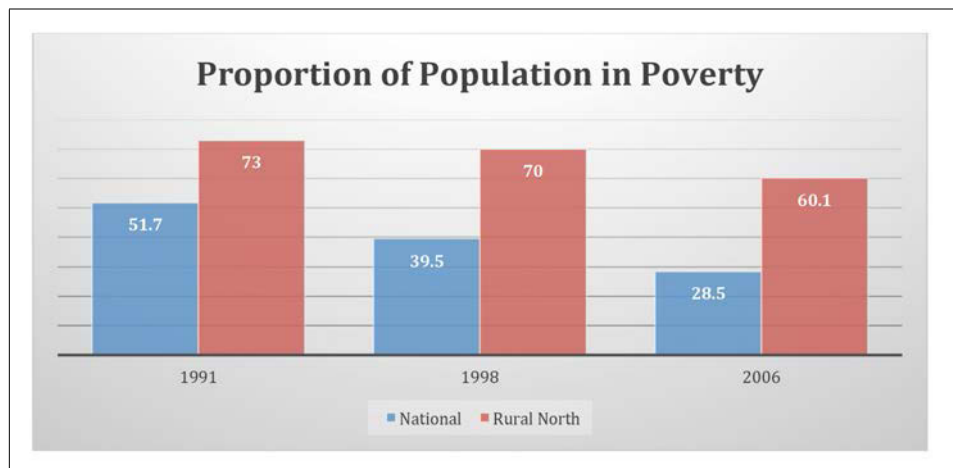
Yale University

28.1 Introduction

My presentation is about the importance of avoiding overgeneralization in discussions of economic development in Africa. I'm not going to be able to provide simple answers to large-scale questions about what we should be doing to help smallholder farmers in Africa achieve their goals better, because of the fundamental heterogeneity in the constraints they face and the opportunities they have. I'll make this argument in the context of a discussion of financial markets and investment and productivity in agriculture.

To begin, we can generalize at least a little bit about African smallholder farmers. Think about Ghana, which has been growing rapidly but where the proportion of people in poverty in the rural north remains extraordinarily, unacceptably high (Figure 28.1). The root of their poverty is low agricultural productivity. Yields are mostly stagnant, though with maybe a little bit of improvement recently.

* This contribution is an edited version of my presentation to the Yale African Development Colloquium.

Figure 28.1: Ghana, Proportion of Population in Poverty, 1991-2006

Agricultural output per agricultural population is just not moving overall in Africa. Though there is actually a lot of output growth, it has come mostly from extensification—that is, bringing new land into cultivation. So the picture is relatively dismal. Modern seeds are used by a very small fraction of the population. Irrigation essentially doesn't exist for smallholder farmers. Fertilizer use is very low. While North Americans use about 200 kilograms/hectare, Africans use about 20 kilograms/hectare, and even less in a lot of places.

Now we are getting down to the sorts of questions I can start thinking about. Let's start with a really simple question, which is an important step towards understanding the economic and social situation of small-scale farmers in Africa. Why is fertilizer use so low?

Some of the answers are pretty clear. Fertilizer prices are high. Infrastructure is bad. Distance from the producing centers of fertilizer is far. Population density is low in lots of areas, and so the transport costs of getting fertilizer to farmers are really high.

But, even at market prices, in many places in Africa the use of fertilizer appears to be profitable. That's controversial, but it appears on average to be profitable for a lot of farmers to use much more fertilizer than they are using. We have examples from a lot of places across Africa, including in Burkina Faso, Ghana, Kenya, and Senegal. I have asked a lot of farmers in Ghana, Kenya, and Nigeria about why they don't use fertilizer. They all say, "I'd love to use fertilizer but I've got no money". That is

the ubiquitous response to this question. But I will argue that the barriers to such a simple thing as utilizing fertilizer differ dramatically across countries, and that even within communities heterogeneity is an important clue to why things go wrong often.

I'm going to do this using four case studies drawing on my own work. I could have used a lot of other work to show this heterogeneity, because it's blatantly obvious as soon as you start looking at it.

28.2 Four cases

28.2.1. Capital constraints in Ghana

In Ghana the Millennium Challenge Corporation (a bilateral US aid agency) launched a huge program covering three broad zones of the country including some poor areas and some of the richest rural areas. Ernest Aryeetey convinced the program authorities to randomize the order in which the hundreds of farmer-based organizations across Ghana got access to the program, so that program managers could evaluate the impact of what they did.

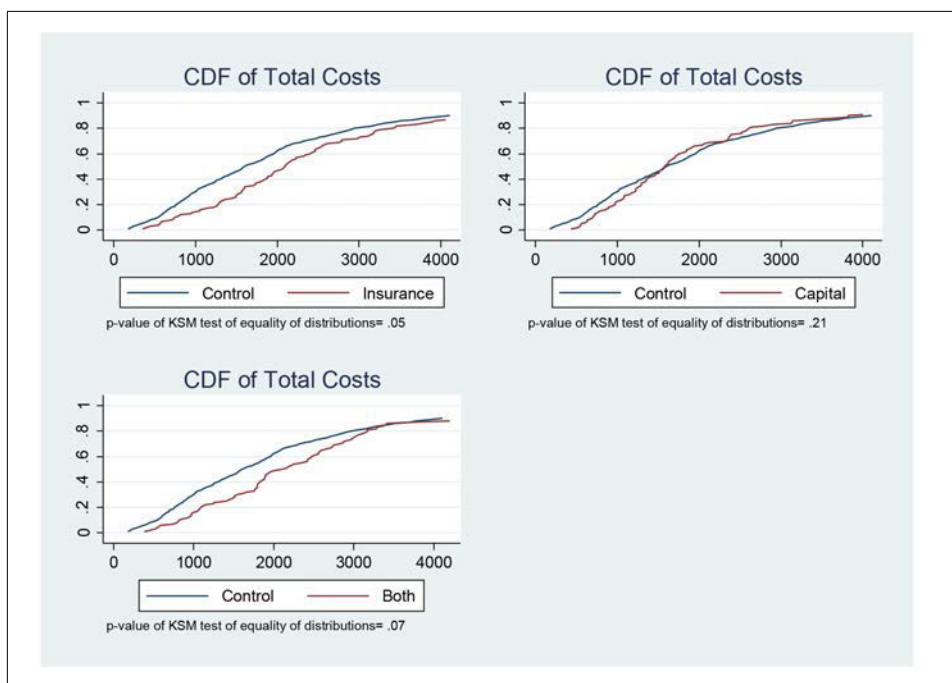
The five-year (2007-12) US\$60 million program involved lots of training for farmers: some 30 hours of agronomic training for almost 70,000 farmers; meeting with farmer groups; and giving them extension services. A crucial part of the program was introduced towards the end when its managers were worried that the training was not going to work. They gave all farmers in each randomly selected farmer group a starter pack of seeds and fertilizer worth US\$230. This "starter pack" was identical for all the participants in the program across the country.

Based on the randomization it is relatively easy to show that even for the farmers who got the starter packs, the program had essentially no impact on farming practices (Osei and others, 2013). When the MCC gave them fertilizer they barely increased their use (by less than the value of the starter pack). They bought less fertilizer from the market. No changes were seen in their yields, output, income, or welfare. This distressing experience shows that lack of access to resources cannot have been the cause for their lack of investments in farming. Thus there must be other reasons for their lack of investment.

28.2.2 Spatial heterogeneity 1: Capital constraints and drought risks in Northern Ghana

Perhaps by focusing just on the poorest areas of Ghana we would see the expected reasons for inability to invest in farming. So in the rural Northern region we selected a large sample of farmers (Karlan and others, 2013). We randomly gave each of a first set of those farmers enough capital to afford to apply the recommended package of hybrid seeds and fertilizer on a big piece of their land. This meant we supplied them with a cash grant of US\$85/acre, for up to five acres. Working with another set of farmers, also randomly chosen, we provided them with a grant of rainfall index insurance.¹

Figure 28.2: Northern Ghana: Investments by Farmers in Response to Capital and Insurance Interventions



CDF: Cumulative distribution function.

Figure 28.2 shows the results of our study for four groups of farmers: a control group who received no assistance; the group who received capital grants, the group who received insurance, and a group who received both capital grants and insurance.

The blue line in the graphs is the cumulative distribution function for the control group of farmers who didn't receive anything. In the top right panel, the red line is the distribution of investment for the farmers who received capital grants. There is no difference between the two functions: the distribution of investment by the two groups looks the same.

What happened to the insurance group—the farmers to whom we gave nothing other than a promise? These farmers increased their investment by about 10 to 20 percent on their farm (red line in two left panels of Figure 28.2). Thus when they were assured that if a disaster happened they would have some backup, they were willing to invest in their farm and they found the resources to do so.

We conclude that the reason why poor farmers in the study area were not using fertilizer was not because they lacked enough money. When they *wanted* to use fertilizer or more labor or more tractors for plowing, they found the money somewhere. Their concern was actually about risk—that “I might put all of this money into my farm and lose it all because of the drought.”

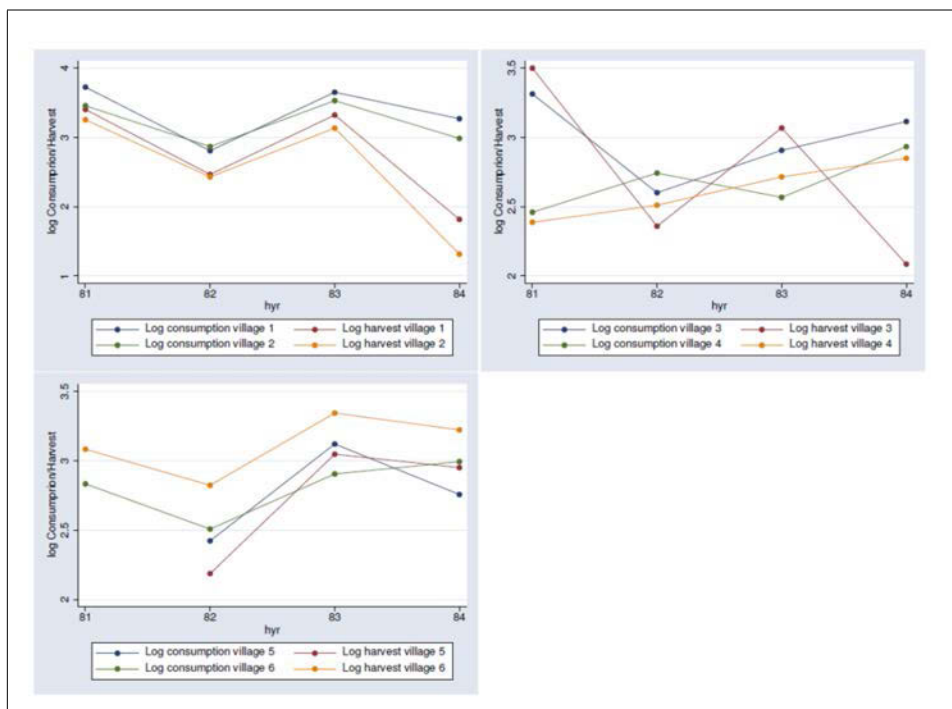
From this case one might be tempted to generalize, and conclude that credit constraints are not the problem of small-scale African farmers. But that is not a responsible conclusion. Credit constraints are not what are preventing *these farmers around Tamale in Northern Ghana* from investing on their farms.

28.2.3 Spatial heterogeneity 2: Burkina Faso

By contrast, nearby in Burkina Faso we have really strong evidence that farmers face binding credit constraints that hurt. The graphs in Figure 28.3 show what happened to income and food consumption in six villages during the harvest years 1981-84—a period of terrible drought in Burkina Faso. The six villages were drawn from three different agro-climatic zones of Burkina Faso by the International Crops Research Institute for the Semiarid Tropics for a four-year panel study. Detailed information on agricultural production and consumption in 150 households randomly selected from these villages was collected by enumerators resident in the villages. Farmers in these villages were consuming only half to two-thirds of the amount of calories

recommended by FAO. Their families would lose weight during bad years. What we see is that when the harvest goes way down with a drought, consumption goes down almost one-to-one with it. When output goes back up, consumption goes back up with it. Consumption is tracking income almost one for one, giving a very clear signal that credit constraints are binding.

Figure 28.3: Burkina Faso: Consumption and Income Patterns in Six Villages, 1981-84



Next door in Northern Ghana we do not see this relationship, showing that heterogeneity is geographically quite sensitive. There is a time dimension too: our results from Burkina Faso are from the 1980s (Kazianga and Udry, 2006), and one can hope that conditions have improved for those villages since then.

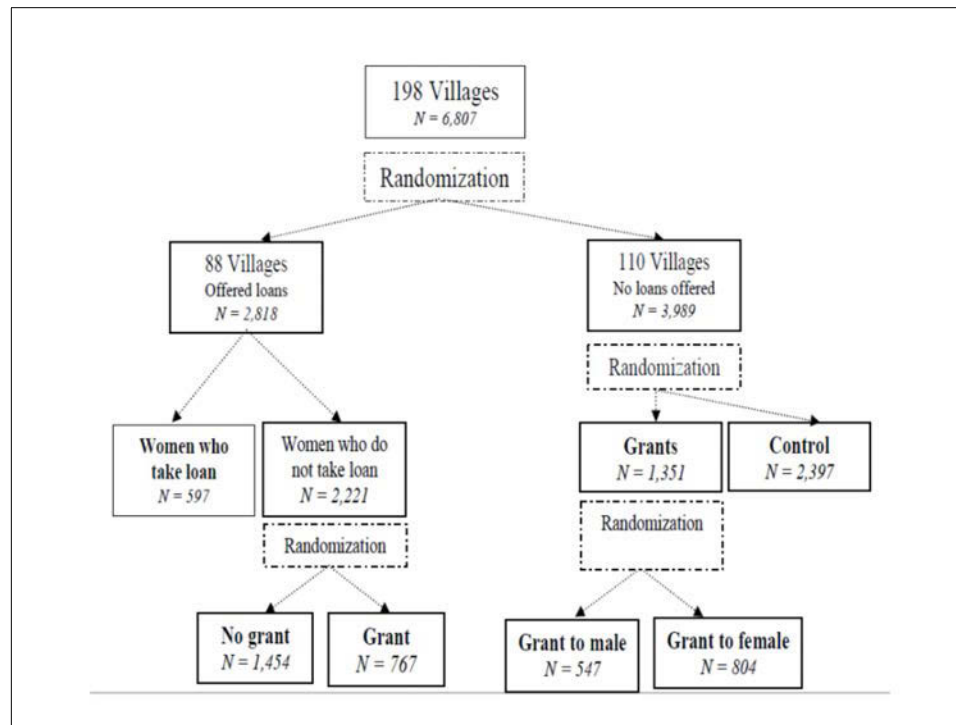
28.2.4 Spatial heterogeneity 3: Mali

A third case study shows that even within one place different households face different constraints. In Mali we found that households are very aware of this specificity, and select their behavior depending upon the constraints that are affecting them (Beaman and others, 2014). We were able to work with a micro-finance institution (MFI) in Mali. The MFI was thinking of expanding but did not have enough resources

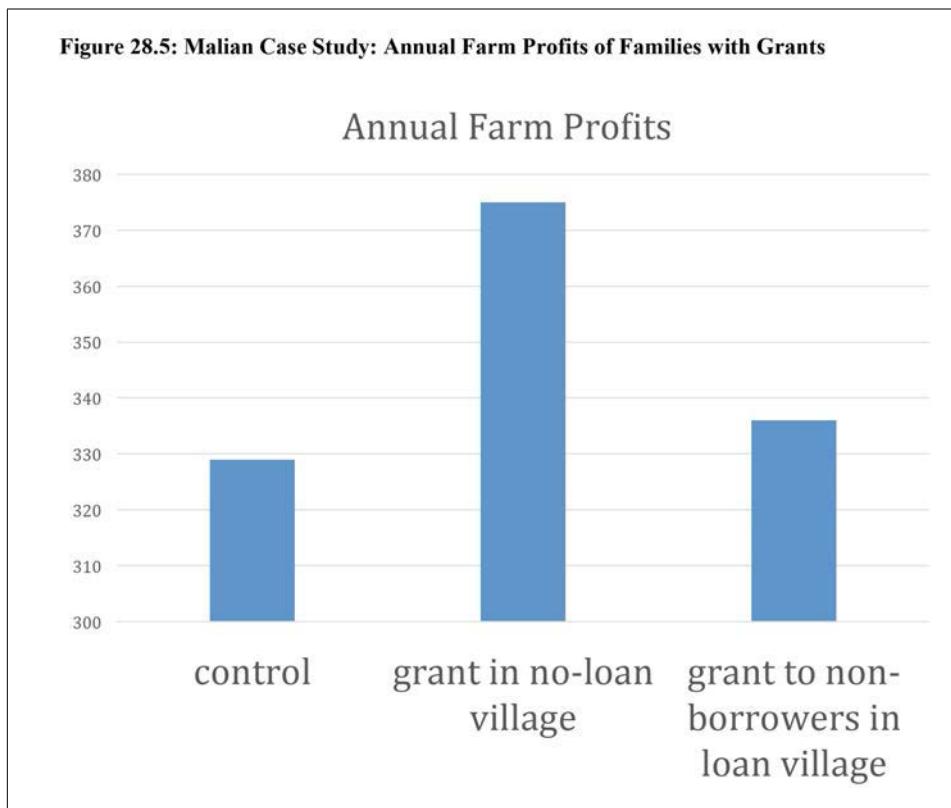
to reach all of the villages in the region, and thus its managers agreed with us to randomize which villages they would expand into. So in 88 villages the MFI offered loans and in 110 villages it did not.

In the 88 villages the MFI formed farmer groups through which to make loans to women. As shown in Figure 28.4, some women took up the loans, and others did not. In the 110 villages where the MFI was not present we randomly gave some people grants, in amounts that were comparable to the MFI loans. (Unlike the MFI loans, our grants were also randomized by gender.)

Figure 28.4: Distribution of Loans and Grants in Malian Case Study



We found that the families who received our grants behaved very differently in the villages that were and were not served by the MFI. Figure 28.5 shows annual farm profits of families in the control group, who received neither loans nor grants (column 1), and compares them to the profits of the recipients of our grants, both those who lived in no-loan villages (column 2) and those who lived in loan villages but had not borrowed from the MFI.

Figure 28.5: Malian Case Study: Annual Farm Profits of Families with Grants

Farm profits in the control group were US\$330 on average. But the profits of the families who received our grants in no-loan villages went up by more than 10 percent, to more than US\$370. This result is highly statistically significant. Why did their profits go up? They used a lot more fertilizer. They bought fertilizer, they bought seed, they hired more labor, and they used tractors a little bit more. Their increases in profits stemming from the grants persisted for at least two years. These people then were not lying when they said that they were not using fertilizer because they didn't have money. They really wanted to intensify their production, and they did so as soon as they received money. These findings imply that the average farm family in Mali, if it could receive grants, would see its profits go way up.

But here is the really interesting part: among the families who had chosen not to borrow from the MFI but had received our grants (Figure 28.5, column 3), the grants made virtually no impact on farm profits.

Together these findings imply that people were aware of their own particular constraints. Some were being held back and unable to achieve higher profits because they didn't have access to money. Others, the potential borrowers in the MFI expansion villages, did have access to money—they could have borrowed if they had wanted to, and they chose not to.

28.3 Conclusions

What do we take away from this? It is no surprise that the huge Millennium Challenge Corporation program did not do a whole lot of good. It fell into exactly what Jim Scott in his *Seeing like a State* (one of the best books in development economics) made clear decades ago. That is, if you don't take account of heterogeneity—if you give everybody the same starter pack of a certain fertilizer and a certain seed across the country—it is not surprising that wonderful things don't happen. So one lesson that should not be shocking to us is that large-scale, introduced-from-above, state-led development programs are going to run into such complexity and are going to fail.

The more positive lesson is that interventions that embrace heterogeneity have the prospect of succeeding. What plays a crucial role here is markets with prices. For example, the loans in Mali that farmers chose not to borrow had an interest rate of 25 percent a year, but these farmers' return on capital wasn't worth 25 percent a year, so they opted not to borrow. The people who did borrow were getting those high returns. Markets are the most obvious example of where people can choose to participate and bear the cost of doing so, and they embrace heterogeneity.²

Another example of embracing heterogeneity and not trying to impose a single model from above is the information and communications technology (ICT) revolution. One of the most exciting projects that I am involved with now links community extension agents with extension sector agents in the formal sector through ICT and videos, which are produced by a local Tamale company with very enthusiastic farmer actors, who were a delight to watch. Maybe the videos are not Oscar candidates, but they have generated enormous interest and enthusiasm among farmers in these communities, and among the extension agents who work with them. The

same technologies that make it possible for us to link community extension agents with formal sector extension workers are those that have sparked the mobile money revolution in other countries. This links tightly to our earlier work on rainfall index insurance: such insurance may become commercially viable when mobile money makes it possible for farmers to pay insurance premiums and receive payouts from the insurance company with low transaction costs.

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Endnotes

- ¹ Rain poses the major risk that farmers face in rainfed agriculture in the semi-arid tropics. To insure against inadequate rainfall you create an index that is an indicator, and compensate farmers financially if there is a drought. This approach to insurance for farmers has advantages over crop yield insurance. It avoids adverse selection and moral hazard, and it is much cheaper administratively than crop yield insurance.
- ² This is where Jim Scott and I end up disagreeing.

29. Towards Sustainability: Predictors of Growth Reversals in Africa

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29.1 Introduction

In the last decade, Africa has recorded impressive economic growth performance, which has excited optimists and confounded skeptics. Several debates around the growth trends have mainly focused on whether this growth is sustainable or not.

While there is a lot of excitement about this growth, skeptics are not convinced that there is any reason to celebrate at all. Several commentators have argued that most developed countries grew because of industrial development and not primary industries (agriculture and natural resource extraction), as is happening in Africa; that it is only a matter of time before the bubble bursts; that a country needs manufacturing value addition to grow sustainably; and that Africa has experienced boom periods in the past that ended up nowhere. They also point to the persistent levels of poverty, inequality, and unemployment that continue to plague Africa as indications that the much-hyped growth is doing nothing to improve the living standards of Africans. Some have even doubted the African statistics that are producing such “exaggerated” growth figures in the face of glaring poverty and inequality.

On the back of these contestations, this paper wades into the debate and examines whether the recent growth experience in Africa is likely to be sustainable or whether there is a possibility of growth reversals like those that happened after previous high growth periods. By investigating the likelihood of growth reversals in Africa following the recent impressive performance, we hope to contribute to the small but growing literature on growth reversals, accelerations, and sustainability.

Thus our approach contrasts with the long-term, cross-country growth studies popular since Barro (1991). Using panel data from 1970-2007, we find that more democratic and politically stable countries experience fewer growth reversals but that democracy does not substitute for political stability—implying that improved democracy in a politically unstable country does not reduce the likelihood of growth reversals. The variable with the greatest impact on reducing growth reversals is improvement in a country's higher education and skills. Basic education, by contrast, plays an important role in reducing growth reversals only in autocratic regimes. Diversification into manufacturing is found to increase growth reversals in Africa, possibly because these countries diversify into new products and sectors in which they do not have comparative advantage. Papageorgiou and Spatafora (2012) note that diversification into new products and sectors with limited scope for increases in productivity and quality may result in less broad-based and sustainable growth. They argue that for low-income countries (LICs) with small economic size and limited potential to exploit economies of scale, diversification may result in a high cost of moving into many new products, making quality upgrading within existing products all the more important in the early stages of diversification.

The paper is organized as follows: Section 29.2 reviews recent growth trends in Africa; Section 29.3 discusses the concept of growth reversals and its measurement; Section 29.4 lays out the methodology and the data used; Section 29.5 discusses the results, and Section 29.6 concludes.

29.2 Recent growth trends in Africa

Between 2002 and 2011, Africa's GDP grew at an average of 5.3 percent a year and per capita GDP grew at 2.5 percent a year. Growth in 2012 was 6.6 percent. Leibfritz

and Flaig (2013) show that Africa's trend growth rose to 5.25 percent between 1993 and 2006, up from 2.5 percent between 1980 and 1990.

In the background of Africa's impressive growth performance is the dismal performance in other parts of the world. The Eurozone, which fell into recession in 2012, recorded growth of 1.9 percent in 2010 and 1.5 percent in 2011. China, which has been recording double-digit growth rates over the past two decades, has started to show signs of a slowdown: growth in China slowed down to 7.8 percent in 2012 from 9.3 percent in 2011 and 10.4 percent in 2010. Growth in the USA has just started to show signs of recovery after recording negative rates of -0.4 percent and -3.1 percent in 2008 and 2009 respectively. The US economy recorded growth of 1.8 percent in 2011 and 2.2 percent in 2012.

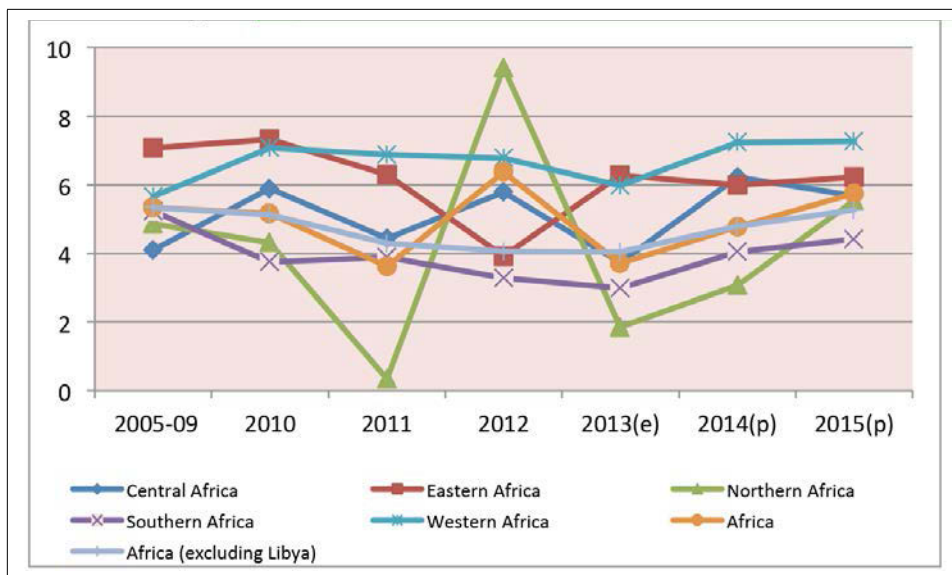
Real income per capita in Sub-Saharan Africa increased by more than 30 percent in the last decade. More than 60 percent of the 47 countries in Africa for which data exist have experienced higher than 10 percent growth since 2002, while more than half of the countries have achieved growth higher than 20 percent. There has been some regional variation in this growth, with Central Africa and West Africa recording per capita real growth of more than 40 percent since 2002, East Africa recording 30 percent, and Southern Africa only 18 percent—though nonetheless impressive by historical standards.

Recent African growth is unprecedented not only in its magnitude but also in its heterogeneity. Among the countries that grew fastest in 2012 were Sierra Leone at 15.2 percent, Libya at 11.6 percent, Niger at 11.2 percent, Liberia at 10.8 percent, and Burkina Faso at 10.0 percent. In 2012, only Sudan, South Sudan, Mali, and Guinea-Bissau experienced negative growth—which was mostly due to instability and conflict in these countries.

Figure 29.1 shows the trends in Africa's GDP growth since 2005. Regional comparisons show that while Sub-Saharan Africa as a whole grew at 5.6 percent between 2000 and 2013, the West African region led the pack at 6.84 percent, followed by East Africa at 6.40 percent and Central Africa at 5.41 percent. Southern Africa grew at 4.49 percent and North Africa at 4.47 percent, mainly because of the effects of

the global financial crisis, which were felt more in South Africa than in the other African countries, and of the Arab Spring in the north. Net oil exporting countries grew by 5.77 percent while net oil importers grew by 4.55 percent. Post-conflict countries posted growth of 6.6 percent while fragile states grew by 3.6 percent over the same period.

Figure 29.1: Real GDP Growth in Africa, 2005-15



Source: African Development Bank, Statistics Department.

Achievements in African education and health have been remarkable. Since 2000, life expectancy at birth has risen by 10 percent across Sub-Saharan Africa, compared to a rise of only 3 percent between 1980 and 2000. Adult literacy rates have continued to rise, increasing by 9 percent since 2000 to 62 percent of the population, building on a trend that saw 8 percent growth in literacy over the period 1985–2000.

The main drivers of Africa’s growth in the last decade have been: an increasing domestic demand, an improvement in macroeconomic policy management and governance, high commodity and agricultural prices, and financial inflows mainly from remittances and foreign direct investments. The price of oil moved from US\$25 per barrel in the mid-1980s to about US\$145 per barrel in July 2008 before stabilizing at about US\$110 per barrel between 2009 and 2013.

29.3 Growth reversals in Africa

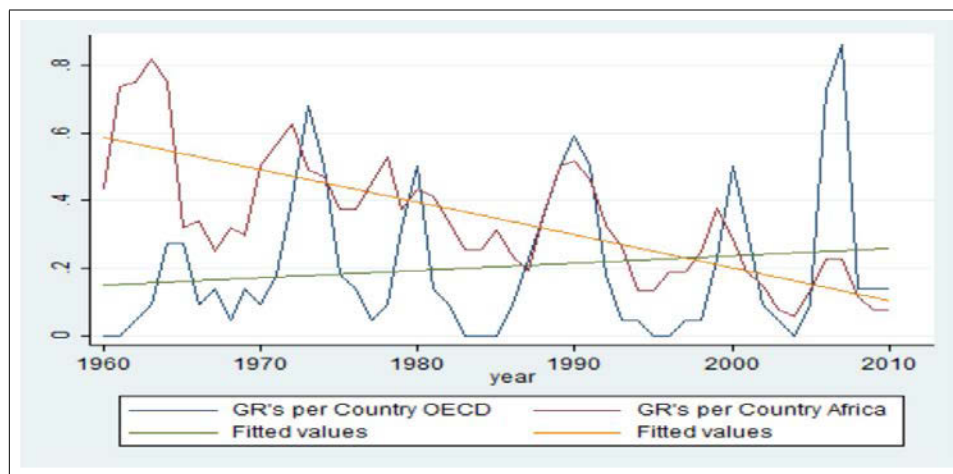
As pointed out by Hausmann, Pritchett, and Rodrik (2005), economists have long used a variety of econometric approaches to shed light on why some countries grow faster than others. The early work in this line focused on cross-section econometrics, with growth rates over two or three years regressed on country characteristics and policies. These authors point out that this approach does not unearth the sources of underlying variations in the data. They suggest that to identify the reasons for accelerated growth would require an examination of the changes that happen at the turning points of persistent growth experiences, and of what determines these transitions. Accordingly, we can examine growth reversals at the turning points of persistent growth declines and assess what factors contribute to such turning points.

In this paper we adapt Hausmann, Pritchett, and Rodrik's (2005) definition of growth accelerations to a definition of growth reversals (GR). Looking at a point in time, t , we compare the income growth rate in the following three years ($t+3$) with the income growth rate in the preceding five years ($t-5$). We define GR as a dummy that takes the value 1 if average annual per capita GDP growth between t and $t+3$ is more than 2 percent lower than average growth between t and $t-5$, provided that the trend growth rate in that five-year period was lower than 5 percent. In cases where the trend growth rate was higher than 5 percent, we raise our threshold for GR from a 2 percent to a 3 percent drop.

While the current literature on such types of examinations is small, it offers some common findings about growth accelerations and reversals. An examination of the calculated GR occurrences in our sample reveals that reversals are quite common. We identify just over 900 instances of growth reversals in Africa since 1950 across our sample. Medium-term trend breaks are frequent, and occur even among the poorest and richest nations (Cuberes and Jerzmanowski, 2012; Hausmann, Pritchett, and Rodrik, 2005). Figure 29.2 plots the frequency by year of growth reversals per country in the OECD and African samples. African and OECD countries have experienced many GRs since 1960, but while the number has been fairly constant in the OECD, it has been steadily decreasing in Africa. While the simple bivariate

trend line is insignificant for the OECD sample, it is negative and significant for the Africa sample, showing that there has been a significant decline in the number of growth reversals in Africa over the sample period.

Figure 29.2: Growth Reversals in OECD and African Countries, 1960-2010



Source: Authors' Calculations

29.4 Instigators of growth reversals in Africa

A review of the literature indicates that the traditional determinants of long-term growth are not always typical determinants of GRs or growth accelerations, and that variables like physical and human capital from traditional economic growth models are not always major explanatory variables (see for instance Hausmann, Pritchett, and Rodrik, 2005). A variety of mechanisms seem to be driving growth reversals and growth accelerations as well as sustaining growth once it has begun. Jones and Olken (2005), for instance, find that increased trade is responsible for growth accelerations, whereas reversals are associated with reduced manufacturing and investment. Tsangarides (2012) finds that the determinants are different for an Africa sample than a rest-of-the-world sample, although the effects of an African dummy remain insignificant in the world sample. Droughts and openness to trade are more important in determining Africa's growth accelerations, while investment, education, and the US interest rate are among the common determinants in both samples.

Institutional measures have also often been identified as playing a role in accelerations and reversals. Cuberes and Jerzmanowski (2012) find that increased democracy is

important in mitigating growth reversals, because it is associated with lower barriers to entry of firms and with increased economic diversification. Jones and Olken (2005) find that the outbreak of violent conflict is associated with a break in trend growth.

29.5 Methodology

We develop an empirical model to examine the factors that predict the likelihood of growth reversals in Africa. As the dependent variable takes a 1 or 0, we make use of a logit fixed effects model. And because the coefficients from the logit model can be interpreted as probabilities, we are able to assess the effects of our chosen causative factors on the probability of growth reversals in Africa and, conversely, on the sustainability of growth. In order to do this, we develop a model with growth reversal as the dependent variable.

29.5.1 Empirical model

The basic model is:

$$GR_{it} = \ln\left(\frac{p_{it}}{1-p_{it}}\right) = \beta_1 + \beta_2 X_{it} + e_{it}$$

where p_{it} is the probability of growth reversal occurring in country i and time t and is a sigmoid function of the dependent variables. The vector of explanatory variables includes income level (per capita GDP), democracy (Polity2, explained below), and volatility (standard deviation of previous five-year growth rates). Volatility of growth is introduced to control for GR that may have been coded as 1 due to high volatility in GDP. We also include two dummy variables indicating if the country is a major oil exporter or non-fuel primary commodity exporter. We estimate Equation 29.1 using the maximum likelihood estimation technique.

Once the basic model (Equation 29.1) is estimated for the African sample, we add regressors that are potential predictors of growth reversals. Additional model choices and specifications were tested to examine the robustness of the model; these included changes in parsimonious specification, and modeling these changes using pooled OLS (not reported here) and logit fixed effects. We also used alternative definitions of the dependent variable, raising the threshold levels for GR and

limiting the dummy to the identified GR only. Where these robustness checks made differences in the results, the differences are discussed.

29.5.2 Data

The availability of complementary datasets allowed us to calculate GRs for the period since 1950, but we ran regressions only on the sample since 1970. Owing to the need to calculate growth rates to $t+3$ and with the sample ending at 2010, the range for analysis was 1970–2007. The dependent variable GR is a dummy with the value 1 if a growth reversal occurred in the year when the average per capita GDP growth rate in the preceding five years was a certain threshold percentage greater than that in the succeeding three years. (As explained above, in cases where the five-year average GDP growth was lower than 5 percent, the threshold percentage was set at 2 percent, and in cases where the five-year average GDP growth was higher than 5 percent, the threshold percentage was 3 percent.)

Income data used to calculate the dependent variable, income levels, and the standard deviation all come from the Penn World Tables (Heston, Summers, and Aten, 2012). The democracy score, Polity2, comes from the Polity IV database¹, which is a general measure of regime type, lying between –10 for the most autocratic and 10 for the most democratic regimes. The inflation rate is used as a proxy for the degree of economic stability and by implication the quality of macroeconomic management. To capture the effects of human skill levels in preventing growth reversals, we include data on a country's educational level, proxied by the population's average total years of primary, secondary, and tertiary education. We also use openness to trade, calculated as the value of a country's total trade as a percentage of GDP, obtained from the Penn World Tables. We include two dummy variables, indicating if the country is a major exporter of oil and/or natural resources or a non-fuel primary commodity exporter, as a measure of economic diversification to determine whether a more diversified structure is better at insulating an economy from growth reversals. We also use the more traditional measures of diversification: manufacturing value added as a percentage of GDP, and the share of primary products in total exports.

We also include in the regression a measure of political violence (CIVTOT), using data obtained from the Center for Systematic Peace. CIVTOT is the total summed magnitudes of all major episodes of political violence (MEPV) involving that country in that year. These include CIVVIOL, CIVWAR, ETHVIOL, and ETHWAR. CIVTOT thus measures the magnitude score of episode(s) of civil violence, civil warfare, ethnic violence, and ethnic warfare respectively involving that state in that year. For each major episode of political violence, the scale is 1 (lowest) to 10 (highest) depending on the magnitude of the violence or warfare. Scores for multiple MEPV are summed; 0 denotes no episodes. We also use CIVVIOL, CIVWAR, ETHVIOL, and ETHWAR independently in the regressions, looking out for high correlations and significance in the model.

29.6 Results

In this section, we first briefly discuss the characteristics of the data and then the results.

Table 29.1 presents the summary statistics.

Table 29.1: Summary Statistics

	<u>Mean</u>	<u>Std Dev</u>	<u>Min</u>	<u>Max</u>
GR	0.431	0.495	0.000	1.000
Polity2	-3.137	5.953	-10.000	10.000
pcGDP	2223.971	2855.727	160.931	20207.310
5yr St Dev	5.403	4.631	0.067	44.743

The results show that, on average, African countries experienced a rising number of growth reversals over the sample period. The measure of the level of democracy shows that, on average, African countries became less democratic.

Table 29.2: Correlations

	GR	Polity2	Dummy 95	pcGDP	Std Dev
GR	1.00				
Polity2	-0.19	1.00			
Dummy 95	-0.23	0.42	1.00		
pcGDP	0.03	0.04	0.12	1.00	
Std Dev	0.21	-0.12	-0.04	0.05	1

Table 29.3 reports the results of Equation 29.1 and adds a variety of variables as controls.

Table 29.3: Predictors of Growth Reversal in Africa

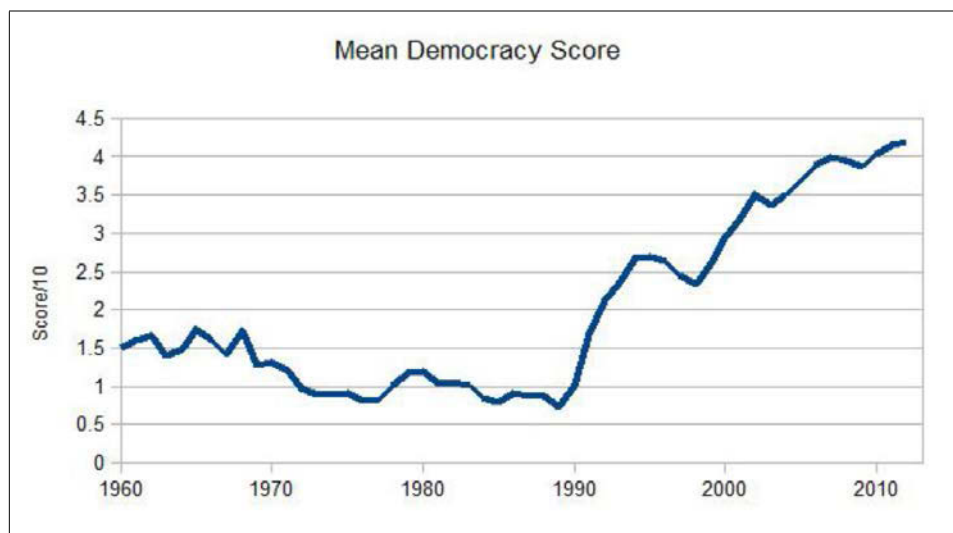
Developing countries						
Independent variable: growth reversal	All Developing Countries	Exporters of non-oil primary exports	Exporters of fuel, mainly oil	Autocratic regimes	Democratic Regimes	Landlocked
Model	(8)	(9)	(10)	(11)	(12)	(13)
Democracy	-0.09** (0.00)	-0.08** (0.00)	-0.49** (0.01)			
GDP per capita	0.0005** (0.00)	0.0003** (0.00)	0.0009** (0.01)	0.0007** (0.001)	0.24** (0.00)	0.001** (0.00)
Growth volatility	0.13** (0.00)	0.09** (0.00)		0.06** (0.02)		0.12** (0.00)
Years in primary education				-0.46** (0.00)		-0.92** (0.00)
Years in tertiary education	-12.25** (0.00)		-9.22** (0.00)	-17.56** (0.00)		-17.10** (0.01)
Openness to trade		-0.004* (0.09)				
inflation					-0.04* (0.06)	
Final consumption					-0.04** (0.001)	
Manufacturing value added	0.03* (0.07)		-0.17** (0.02)	0.08** (0.00)	0.05 (0.09)	0.08** (0.001)
Age ratio	0.05** (0.00)	0.03** (0.00)				
ToT change	0.45** (0.05)					
Civil war	1.53** (0.00)			0.37** (0.09)		
Democracy*war	0.17** (0.02)					
Democracy*macro instability	-0.001* (0.11)	-0.001** (0.02)			0.01* (0.09)	
Democracy*size of economy	0.00002** (0.01)		0.0001** (0.02)	0.00004** (0.03)		
Tot*manufacturing						
Tot*nonfuel						
Tot*diversification index						
Tot*fuel				1.50* (0.06)		
constant	-7.34** (0.00)	-3.75** (0.00)	-3.63* (0.09)	-0.26 (0.54)	0.37 (0.7)	-0.33 (0.6)
/lnsig2u	-0.65	-1.77	0.29	-1.16	-0.34	0.29
sigma_u	0.72	0.41	1.16	0.56	0.84	1.16
rho	0.14	0.05	0.29	0.09	0.18	0.29

29.6.1 Democracy

The results show that in Africa an improvement in democracy (Polity2) reduces the chances of a country experiencing a growth reversal. The effects are the same for exporters of non-fuel primary products and oil/natural resource exporters but (as expected) not for autocratic countries. Improved democracy in bigger economies is found to increase the likelihood of growth reversals. The results further show that improved democracy does not substitute for political stability. The coefficient of the interaction term between political instability and democracy is found to be positive and significantly different from zero, implying that improved democracy in a politically unstable country does not reduce the likelihood of growth reversals. On the other hand, the results show that economic instability does not dampen the effects of democracy on growth reversals. The interaction term between democracy and macroeconomic instability returns a negative and significant sign, implying that democracy cushions the economy from reversals during episodes of economic instability.

The finding that improved democracy reduces the chances of growth reversals is not surprising. Several studies have found that democracy is an important factor in generating and sustaining growth (Acemoglu and Robinson, 2002). In Africa the sustainability of the recent growth experience therefore depends to some extent on the expansion of the democratic space. Democracy in Africa has taken firmer root over the last decade, and more states are democratic than ever before.

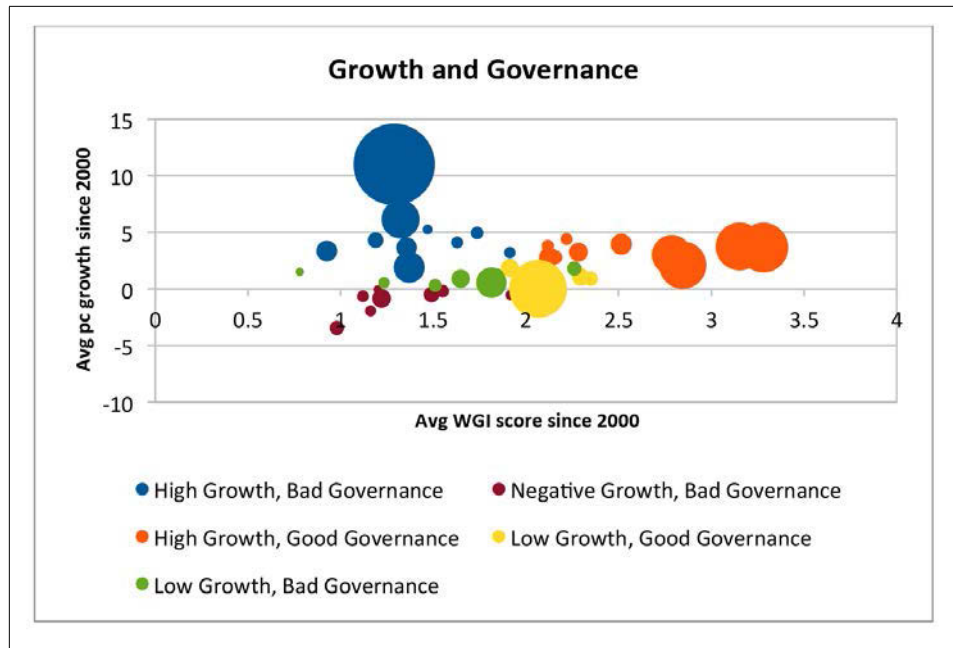
Figure 29.3 shows how, on average, the democracy score for all African states has changed over time. In 1990, a gradual 30-year deterioration of democracy began to be rapidly reversed, and there have been sustained and unprecedented improvements throughout the 1990s and 2000s.

Figure 29.3: Democracy in Africa, 1960-2010

Source: Polity IV database.

However, the role of democracy in driving growth (as distinct from preventing growth reversal) is a matter for debate. Several countries in Africa with regimes that are least democratic have continued to record impressive growth in the last few years. Angola, for example, was placed at number 44 among 48 SSA countries ranked on the 2008 Ibrahim Index of African Governance. At the same time, Angola had average GDP growth of 20 percent between 2005 and 2007 and, in the period 2001-10, it had the world's highest annual average GDP growth, at 11.1 percent.

As Figure 29.4 confirms, while there is a strong positive link between growth and good governance and a strong negative link between growth and bad governance, a sizable number of countries have combined bad governance with impressive growth, implying that bad governance per se does not prevent growth acceleration. It can also be seen from Figure 29.4 that a majority of the countries with good governance as measured by the Worldwide Governance Indicators (WGI), recorded positive growth—confirming our results above that good governance prevents growth reversal. It can thus be summarized that lack of democracy does not necessarily prevent growth, but democracy prevents growth reversals.

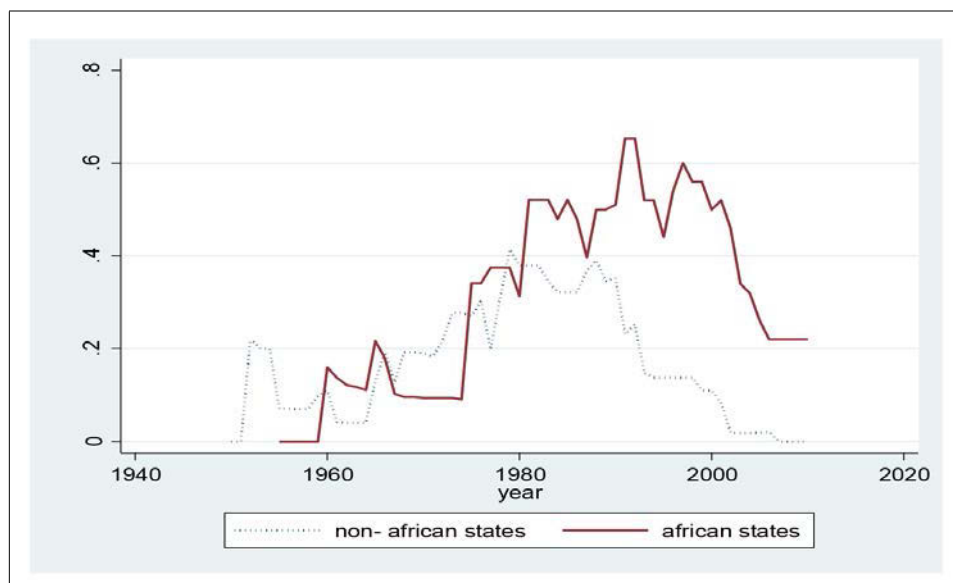
Figure 29.4: Correlation between Growth and Governance in Africa Since 2000

Source: Authors' calculations based on data from www.govindicators.org

29.6.2 Effects of war (political stability)

Analysis of the effects of political instability on growth reversals shows (as expected) that increased episodes of civil war increase growth reversals, both in Africa as a whole and in authoritarian regimes, but not in oil/natural resource exporters nor in non-fuel primary products exporters. The results further show that civil war makes the largest contribution to growth reversals in Africa.

The results above relate very well with the recent trends in the prevalence of conflict in Africa (Figure 29.5) and with the extent to which growth reversals have declined in the past decade and especially since the 1990s.

Figure 29.5: Trends in Civil War in African States, 1950-2014

Source: Authors' calculations from Polity IV database.

The last decade has seen a decrease in conflict in Africa. African civil wars² have become less frequent and severe with an average of only 0.4 wars per year, down from 3.1 in the 1980s and 2.2 in the 1990s. The number and intensity of all conflicts³ has declined from approximately 1,200 battle deaths per conflict per year in the 1990s, to 600 between 2000 and 2010.⁴ Alongside this decrease in war and conflict has been a decrease in attempts to overthrow African governments. In the 1980s and 1990s there were 49 and 55 attempted coups respectively; the number fell to 29 between 2000 and 2010, of which only 7 were successful.⁵ Reflecting this trend, military expenditure as a percentage of GDP in Sub-Saharan Africa was at 1.5 percent in 2011, down from 2 percent and 3 percent in 2000 and 1990 respectively. In light of the above trends, the likelihood of Africa's recent growth being held back by political instability is therefore limited.

26.6.3 Macroeconomic stability and economic governance

The other aspect of governance that is important for growth sustainability is economic governance and stability, irrespective of whether a country is a democracy or an autocracy. Good economic governance entails control of corruption, enforcement of the rule of law, and effectiveness and accountability in use of public resources.

We use the inflation rate as a proxy for economic instability to assess the role of economic governance in mitigating growth reversals in Africa. It is expected that price stability is strongly associated with growth stability. Steady and low inflation rates are also associated with better macroeconomic policy management, which is instrumental in achieving sustainability of growth and does not depend on a country's system of government. A country with an autocratic system could have a very stable macroeconomic environment that is conducive for growth.

The results show that in Africa, economic instability in itself does not affect growth reversals, but that among developing countries in general, economic instability reduces growth reversals in democratic countries.

29.6.4 Other predictors of growth reversals in Africa

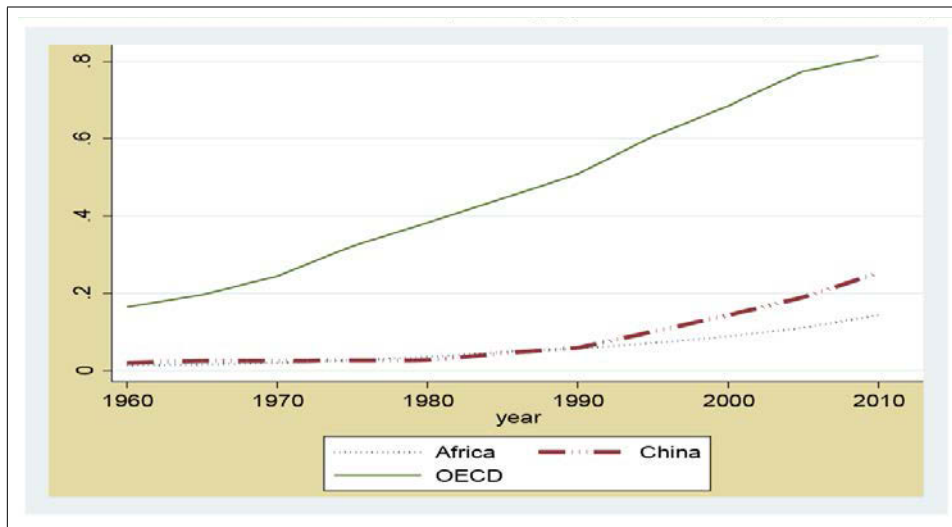
We also examine the role of other factors in predicting growth reversals in Africa. These factors are the size of the economy, the level of skill development, openness to trade, economic diversification, the age dependency ratio, external shocks, and geopolitical changes in Africa.

The results show that a rise in GDP per capita, as a measure of the size of the economy, increases the incidence of growth reversals in Africa. This is the case for countries whose exports are composed mainly of non-fuel primary products, as well as for exporters of oil, but not for countries that have autocratic regimes. From these results we infer that an increase in economic size comes with an increased integration of the domestic economy into international markets, which raises its vulnerability to the external environment. Cameron (1978) finds that externally induced volatility in aggregate demand becomes an increasingly serious issue for domestic economic stability as an economy grows—a finding supported by Rodrik (1997). Increased economic size may generate popular agitation for a better welfare system, including wage and pension increments that may be difficult to maintain if shocks hit the economy. This conclusion may be relevant for countries such as Ghana, which faced increased pressure for wage increments after becoming a middle-income country; after the government increased public sector wages by about 20 percent, the huge wage bill pushed the fiscal deficit to GDP ratio to 11.5 percent in 2012.

The greatest contributor to reductions in growth reversals in Africa is (increased years of) higher education. This result shows the importance of higher education in sustaining growth. By contrast, increased years of primary and secondary education are generally found to have no significant impact on growth reversals. The exception here is that basic education is found to reduce growth reversals in countries with autocratic regimes—possibly because the initial level of basic education in these countries is generally lower than in their democratic counterparts. For countries with autocratic regimes to achieve sustained growth, therefore, improving basic education is as important as improving higher education. Levels of higher education play a more important role in preventing growth reversals for exporters of oil and natural resources than they do for exporters of non-fuel primary products. Again this may be because higher education is less widespread in exporters of oil and natural resources than in exporters of non-fuel primary products. The incentive to seek higher education is lower in oil/natural resource exporting countries because children are attracted away from school by the ease of making a decent living in the natural resources sector, but the country's ability to use the proceeds in a productive and sustainable way is lacking partly because of lack of high education and skills. Improving higher education among this group of countries therefore has a higher effect (than among exporters of non-fuel primary products) on encouraging productive expenditure and sustaining economic growth. Education remains one of the few means by which a country can alter its comparative advantage and move up the value chain in the goods it produces and the services it provides.

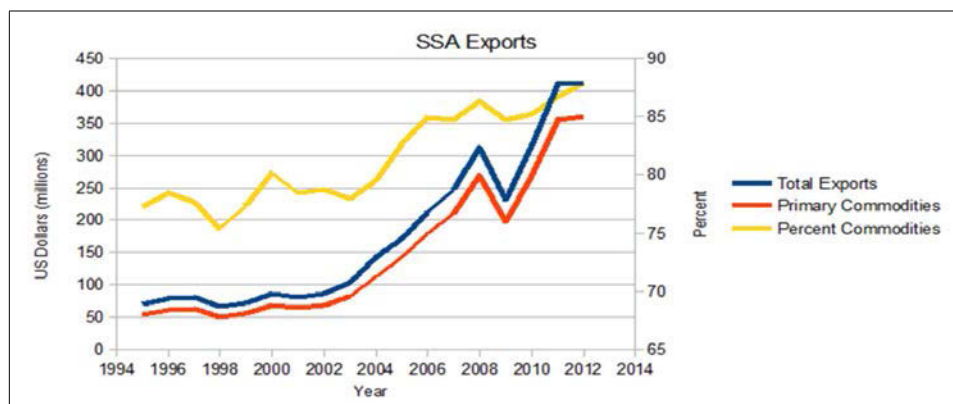
Figure 29.6 highlights the improvements that Africa has made in educating its population, with steady gains since 1960. Despite the gains, however, African education levels remain woefully behind relative global levels and must be significantly further improved for the recent growth experience to be sustained.

Figure 29.6: Trends in Education Levels (average years of tertiary education), 1950-2020



Source: Data from Barro and Lee, 2010.

The results further show that increased manufacturing value addition increases growth reversals in Africa, among oil exporters and autocratic regimes but not in countries that export mainly non-fuel primary products. The finding that increased diversification is associated with more growth reversals may be because some African countries' diversification into manufacturing entailed producing products in which they lacked comparative advantage, and thus introduced vulnerabilities associated with lack of export competitiveness. On the other hand, increased openness to trade has no significant effects on growth in Africa except in exporters of non-fuel primary products. Trade linkages with the rest of the world have increased dramatically in Africa, but chiefly in commodities and primary products (Figure 29.7).

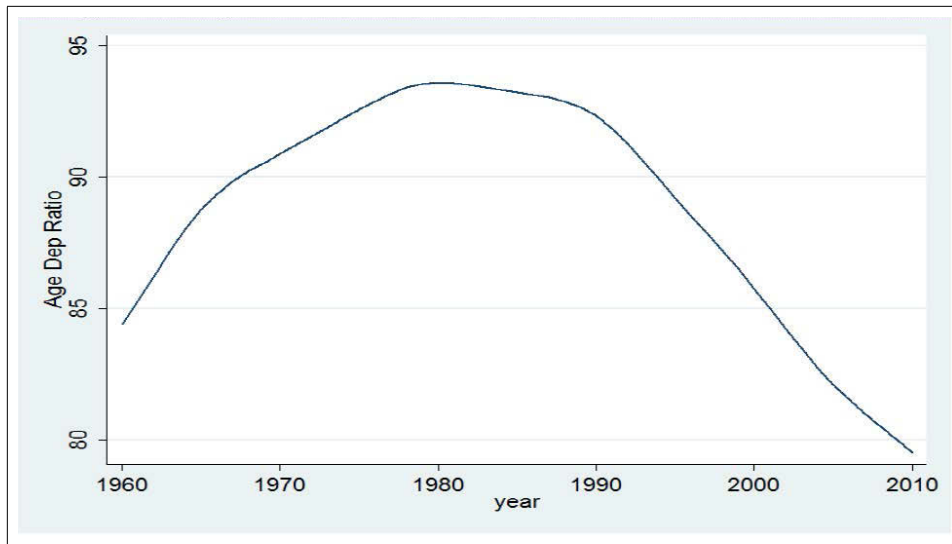
Figure 29.7: Trade Volumes in Africa, 1994-2014

Source: www.unctad.org | Trade and Development Report, 2013.

It is important therefore that a faster pace of trade liberalization be accompanied by diversification into manufacturing and at the same time improved competitiveness of manufactured exports.

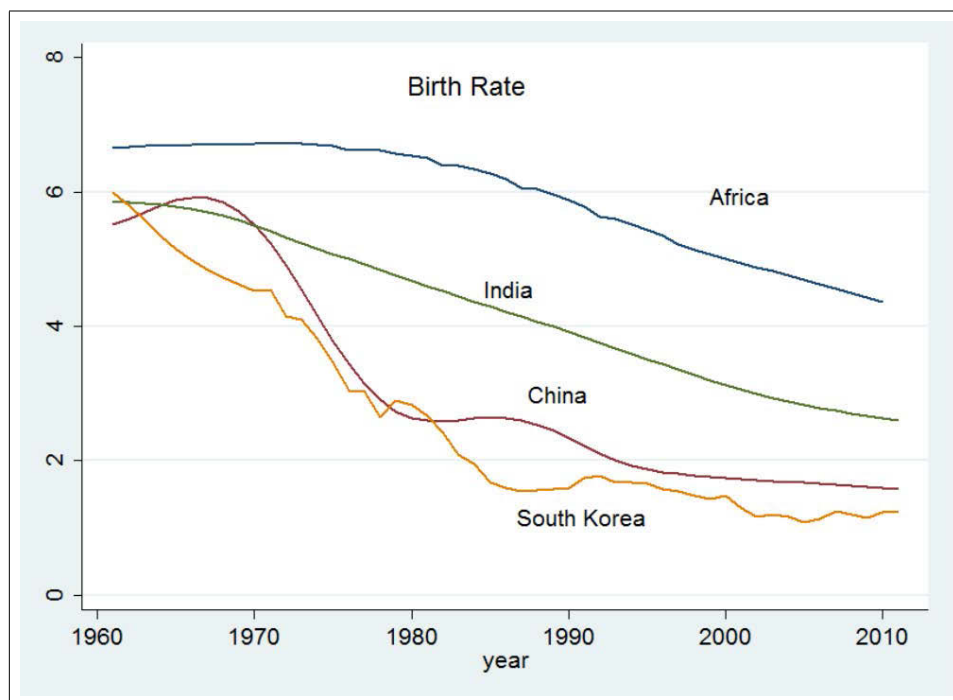
Analyses of the impacts of demography on growth reversals in Africa show that, as expected, a reduction in the age dependency ratio (the number of elderly and young people as a proportion of the working-age population) reduces growth reversals in Africa on average and in countries that are exporters of non-fuel primary products. As shown in Figure 29.8, the age dependency ratio has fallen in Africa dramatically and consistently since 1990. While a low dependency ratio offers an opportunity for a “demographic dividend,” as enjoyed by Asia from the 1960s and 1970s onwards, it does not guarantee it. As the labor force swells relative to the population, it is crucial for African economies to be able to provide jobs for the new workers.

Figure 29.10: Age Dependency Ratio in Africa, 1960-2010



Source: World Bank World Development Indicators, 2013.

While there is change in key demographic variables, in particular by African standards, there remains a long way to go. Figure 29.11 examines the total fertility rate (TFR) in Africa and a number of other developing countries together with South Korea, which saw a dramatic change in its demographic structure as it grew rapidly to become a developed nation.

Figure 29.11: Total Fertility Rate, Africa and Selected Countries, 1960-2010

Source: World Bank World Development Indicators, 2013.

While Africa's decline in TFR is unprecedented, the rate remains high, and the decline slow, compared to countries that have achieved rapid development.

29.7 Conclusions and policy issues

This study has examined whether the recent growth recorded in Africa is sustainable. The findings show that improved democracy reduces growth reversals in Africa, and that the effects in exporters of non-fuel primary products are the same as those in exporters of oil. The effects differ for autocratic countries. In bigger economies, improved democracy is found to increase the likelihood of growth reversals. The results for improved democracy differ from those for changes in political stability, implying that increased democracy in a politically unstable country does not reduce the likelihood of growth reversals. The findings also show that economic instability does not dampen the effects of democracy on growth reversals, implying that democracy cushions the economy from reversals during episodes of economic instability

The results also show that increased episodes of civil war increase growth reversals in Africa on average and in authoritarian regimes, but they show no significant impact in oil exporting countries or in countries that are exporters of non-fuel primary products. Civil war is the variable that makes the largest contribution to growth reversals in Africa. Economic instability in itself has no significant effects on growth reversals in Africa, but it reduces growth reversals in democratic countries among developing countries in general.

Analyses of the other predictors of growth reversals in Africa show that higher GDP per capita (as a measure of the size of the economy) increases growth reversals. This is the case in oil exporting and non-fuel primary product exporting countries, but not in autocratic regimes. Further, the results show that having a population with more years of higher education reduces growth reversals in Africa. Improved higher education is found to be the greatest contributor to reductions in growth reversals. Primary education has no effect on the likelihood of a country experiencing growth reversals, except in countries with autocratic regimes—implying that these countries have less educated populations than their democratic counterparts, so that an increase in education even at the basic level would help to make growth more sustainable. Higher education levels are more important for oil and natural resources exporters than for exporters of non-fuel primary products, underscoring that the resource-rich economies tend to have less educated populations.

On economic diversification, the results show that increased value addition in manufacturing increases growth reversals in Africa at large, and among oil exporters and autocratic regimes, but not in non-fuel primary products exporters. This pattern may imply that increased diversification into manufacturing introduces vulnerabilities associated with lack of export competitiveness that negatively affect growth. We also find that increased openness to trade has no significant effect on growth in Africa except in exporters of non-fuel primary products; a result mainly attributable to the high proportion of primary exports in the total exports of Africa. An increased age dependency ratio is found to increase growth reversals in Africa both as a whole and among exporters of non-fuel primary products.

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Appendix to Chapter 29

Table 29.A1: Countries in the Study

Country	GR	Country	GR
Algeria	15	Liberia	18
Angola	15	Libya	10
Benin	13	Madagascar	15
Botswana	19	Malawi	18
Burkina Faso	13	Mali	18
Burundi	16	Mauritania	21
Cameroon	12	Mauritius	14
Central African Rep.	20	Morocco	19
Chad	21	Mozambique	14
Comoros	19	Namibia	21
Congo, Rep.	16	Niger	17
Cote d'Ivoire	18	Nigeria	28
Congo, Dem. Rep.	18	Rwanda	17
Djibouti	12	Senegal	14
Egypt	11	Sierra Leone	22
Equatorial Guinea	22	Somalia	13
Eritrea	11	South Africa	16
Ethiopia	22	Sudan	10
Gabon	18	Swaziland	17
The Gambia	19	Tanzania	20
Ghana	17	Togo	20
Guinea	15	Tunisia	20
Guinea-Bissau	19	Uganda	10
Kenya	16	Zambia	25
Lesotho	18	Zimbabwe	24

Endnotes

¹ <http://www.systemicpeace.org/africa.htm>

² Over 1,000 battle deaths per year.

³ Over 25 battle deaths per year.

⁴ Uppsala Conflict Data Program.

⁵ Center for Systemic Peace.

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Former Governor of the Bank of Ghana

Paul Acquah was Governor of the Bank of Ghana from 2001 to 2009 and in 2005 he won the Emerging Markets award for Africa Central Bank Governor of the Year. He began his career as an economist with the International Monetary Fund (IMF) and served the IMF in various capacities, becoming Deputy Director of the Africa Department from 1998 to 2001. In 2009, he was part of a team formed to stabilize the debt of the Tema Oil Refinery and manage its crude oil supply; he was joined by Minister of Finance and Economic Planning Kwabena Duffuor, Chief of Staff John Martey Newman, and Minister of Energy Joe Oteng-Adjei. Dr. Acquah received a BSc in Economics from the University of Ghana, Legon; a Master's Degree from Yale University; and a PhD from the University of Pennsylvania.

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Christopher Adam's current research spans three main themes: the macroeconomics of Africa, growth and structural change in low-income countries, and the economics and political economy of aid. His work uses methods of quantitative macroeconomics including stochastic and deterministic general equilibrium techniques. He is a visiting professor at the Centre d'Etudes et de Recherches sur le Développement International, Université d'Auvergne, Clermont-Ferrand, and an occasional visiting scholar at the International Monetary Fund. From 2003-05 he served as external Macroeconomic Adviser to the Policy Division at the UK Department for International

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Ernest Aryeetey is Vice Chancellor of the University of Ghana, where he has been on the research faculty since 1986. He is also a nonresident senior fellow with the Africa Growth Initiative in the Global Economy and Development Program of The Brookings Institution, and served as director of that Initiative from 2009–10. His research focuses on the economics of development, with interest in institutions and their role in development; regional integration; economic reforms; financial systems in support of development; and small enterprise development. He is well known for his work on informal finance and microfinance in Africa. Among his many publications are *Financial Integration and Development in Sub-Saharan Africa* (1998); *Economic Reforms in Ghana: The Miracle and the Mirage* (2000); and *Testing Global Interdependence* (2007). He has been a visiting professor at Yale University Department of Economics, and Cornell Visiting Professor, Department of Economics, at Swarthmore College. He was the second recipient of the Michael Bruno Award of the World Bank to become a visiting scholar for May–October 1998. He studied economics at the University of Ghana and obtained a PhD at the University of Dortmund, Germany.

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Elizabeth Asiedu's research focuses on foreign direct investment, foreign aid, and HIV/AIDS. She is a former President of the African Finance Economic Association and in 2007, she received the Emerging Scholar Award—a nationwide award that honors minority faculty in the United States. Her work has been published in leading

scholarly journals, including *The American Economic Review Papers and Proceedings*, *Journal of International Economics*, and *Review of Economics and Statistics*. She has consulted for many international organizations, including the United Nations University/World Institute of Development Economics Research, International Labor Organization, African Development Bank, and the Global Development Network. She received her BS from the University of Ghana, and MS in Mathematics and PhD in Economics from the University of Illinois at Urbana-Champaign. Professor Asiedu is also President and founder of the Association for the Advancement of African Women Economists (AAWE). This non-profit organization is the first and only organization that focuses on building the capacity and skills of African women economists. AAWE creates opportunities for networking and mentoring, assists members to obtain grants, fellowships, and internships, and facilitates the creation and sharing of knowledge among members. As of March 2014, it had 751 members, representing 55 countries (38 countries in Africa and 17 outside), 478 of whom were African women economists living in Africa. See <https://www.aaawe.org/>

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Robert Bates is simultaneously a faculty fellow of the Institute for International Development, and a member of the Department of African and African-American Studies, at Harvard University, and Professeur associé, Department of Economics, University of Toulouse. Earlier in his career he was a professor at the California Institute of Technology, and at Duke University. He is the author of numerous books, including *Markets and States in Tropical Africa* (1981), *Analytic Narratives* (1998), *Prosperity and Violence* (2002), and *When Things Fell Apart* (2008). He is also co-author and co-editor of a two-volume study of the *Political Economy of Economic Growth in Africa, 1960-2000* (2008). He has undertaken extensive fieldwork in Colombia, Brazil, and several nations in Africa. Among his fields of interest are political economy, political development, political violence, and African politics. He has served as President of the Comparative Politics Section of the American Political Science Association, Vice President of the Association, and a member of the board of the African Studies Association. He serves as a member of the Political Instability Task Force of the United States government and as a consultant to the

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Steven Block is an economist studying food and agricultural policy, productivity, household nutrition, and the political economy of both macroeconomic and agricultural policy. He has published in diverse research areas. One series of his papers addresses the effects of elections on macroeconomic policy in developing countries, demonstrating for Africa in particular that the growing frequency of competitive elections has motivated cycles in both fiscal and monetary policy. Another series of papers addresses the determinants of child nutritional status in rural Indonesia, focusing on the role of maternal nutrition knowledge. More recently, he has published research on agricultural productivity in Africa, finding that an encouraging recovery since the mid-1980s followed a prolonged decline in the first two decades of independence. Along with co-author Robert Bates, Professor Block draws on a new World Bank data set on trade interventions to provide political-economy explanations for African governments' persistent discrimination against agriculture. He earned his BA from Brandeis University; Master of Public Policy from The John F.

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Stefan Dercon is a development economist applying microeconomics and statistics to problems of development. His research interests include risk and poverty, the foundations of growth in poor societies, agriculture and rural institutions, migration, political economy, childhood poverty, social and geographic mobility, micro-insurance, and measurement issues related to poverty and vulnerability. Previously, he worked at the Center for the Study of African Economies, Oxford, and taught at the University of Addis Ababa, the Catholic University of Leuven, Belgium, WIDER/UNU in Helsinki, and Jesus College, Oxford. He has served as an advisor to the World Bank, the World Food Program, and various national governments. He is an associate editor of *Oxford Economic Papers*, *Economic Development and Cultural Change*, and the *World Bank Economic Review*. He earned his DPhil from the University of Oxford.

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Sam Dryden works with key external influencers, networks, and partners to keep agriculture and nutrition on the global agenda in the service of smallholder farmers. He previously served the Gates Foundation as Director, Agricultural Development. He has written and lectured on food security and economic development issues and served as an advisor on rural development for the World Bank and the Rockefeller Foundation. Before joining the Foundation he was a managing director of Wolfensohn & Company, a corporate advisory and investment firm. Until 2006, he led Emergent Genetics, Inc., which develops and markets seeds, having previously served as President and CEO of the seed company Agrigenetics Corporation, and having founded Big Stone Inc., a private venture and development company. Mr. Dryden formerly served on the US Board of the Global Crop Diversity Trust, the National Academies Roundtable on Science and Technology for Global Sustainability, and the World Bank's Steering Committee for the International Assessment on Agricultural Science and Technology. He was a member of the Executive Council of the Consultative Group on International Agricultural Research; the Board of the South/North Development Initiative; and the Design Advisory Committee of the African Agricultural Technology Foundation effort. He received his Bachelor's degree in Economics from Emory University.

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Donald Kaberuka

President, African Development Bank

Donald Kaberuka is serving his second five-year term as President of the African Development Bank Group (AfDB). Before joining the AfDB, he had a distinguished career in banking, international trade and development, and government service. A national of Rwanda, he was that country's Minister of Finance and Economic Planning between 1997 and 2005. During this period, he oversaw Rwanda's successful economic reconstruction after the end of the civil war there. He initiated and implemented major economic reforms and introduced new systems of structural, monetary, and fiscal governance, laying special emphasis on the independence of Rwanda's central bank. These reforms led to the widely-recognized revival of Rwanda's economy, and to the sustained economic growth that enabled Rwanda to obtain debt cancellation under the Heavily Indebted Poor Countries Initiative in April 2005. During his service at the AfDB, Dr. Kaberuka has presided over a major redirection in the Bank's strategy for development and poverty reduction in Africa. To that end, the AfDB has placed increased emphasis on the private sector, and on the importance of major infrastructure developments in areas such as roads, railways, power plants, and communications, especially in their role in promoting regional integration in Africa. Dr. Kaberuka was educated at universities in Tanzania and Scotland, and holds a PhD in Economics from Glasgow University.

Daniel Kaufmann

President, Natural Resource Governance Institute

Daniel Kaufmann is simultaneously a nonresident senior fellow in the Global Economy and Development Program at The Brookings Institution. He carries out policy analysis and applied research on economic development, governance, regulation, and corruption around the world. He is a world-renowned writer, lecturer, and analyst on governance, corruption, and development worldwide, with experience in Latin America, Europe, the Middle East, and Africa, as well as in industrialized and transition economies. Previously he served as Director of the World Bank Institute, where

he pioneered new approaches to measure and analyze governance and corruption, helping countries formulate action programs. At the World Bank, Dr. Kaufmann also held senior positions focused on finance, regulation, and anti-corruption, as well as on capacity building for Latin America. He also served as lead economist both for economies in transition and at the World Bank's research department. Earlier in his career he was a senior economist in the Bank's Africa region. Dr. Kaufmann is a Chilean national who received a BA in Economics and Statistics from the Hebrew University of Jerusalem, and MA and PhD in Economics from Harvard University. His blog on Governance is at www.thekaufmannpost.net.

Carlos Lopes

Executive Secretary, UN Economic Commission for Africa

Carlos Lopes was appointed Executive Secretary of the Economic Commission for Africa, at the level of UN Under Secretary-General, in 2012. Previously, he served as Executive Director of the United Nations Institute for Training and Research in Geneva and Director of the UN System Staff College in Turin (2007-12) and UN Assistant-Secretary-General and Director for Political Affairs in the Executive Office of the Secretary-General (2005-07). After serving in the public sector of his native Guinea-Bissau in areas of research, diplomacy, and planning, he joined the United Nations Development Program (UNDP) as a development economist in 1988. At UNDP, he held various positions including Deputy Director at the Office of Evaluation and Strategic Planning, Resident Representative in Zimbabwe, as well as Deputy, and became Director of the New York-based Bureau for Development Policy. He also managed UNDP's global program, with a portfolio of US\$1 billion. Specialized in development and strategic planning, he has authored or edited 22 books and taught at academic institutions in Lisbon, Zurich, Uppsala, Mexico, São Paulo, and Rio de Janeiro. He holds a Master's degree from the Geneva Graduate Institute of International and Development Studies and a PhD in history from the University of Paris 1, Panthéon-Sorbonne.

Aly Mbaye

Dean, Faculty of Economics and Management, Cheikh Anta Diop University, Dakar

Aly Mbaye is co-author of *The Informal Sector in Francophone Africa* (World Bank, 2012) and numerous other publications on development economics and West

Africa, especially Senegal. He has served as a consultant for many international organizations such as UNCTAD, WTO, FAO, the World Bank, UNECA, the West African Economic and Monetary Union, and the Senegalese government.

John McArthur

Visiting Fellow, Global Economy and Development Program and Africa Growth Initiative, The Brookings Institution

John McArthur is simultaneously a senior fellow with the UN Foundation and a senior fellow with the Fung Global Institute. An international development economist, he was previously the Chief Executive Officer of Millennium Promise, the leading international non-governmental organization solely committed to supporting the achievement of the Millennium Development Goals to halve extreme poverty by 2015. He was also a faculty member at Columbia University's School of International and Public Affairs and a research scholar at the University's Earth Institute, where he also served as Policy Director. From 2002-06 he served as a manager and then Deputy Director of the United Nations Millennium Project, and was lead editor of that Project's final report, *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*. He earned a BA at the University of British Columbia, a Master's in Public Policy at Harvard University's Kennedy School of Government, and an MPhil and DPhil in Economics at Oxford University, which he attended as a Rhodes Scholar.

Mthuli Ncube

Chief Economist and Vice President, African Development Bank

Mthuli Ncube oversees the African Development Bank's Economics Complex, which focuses on knowledge management within the Bank and with its partners, and guides the general economic strategic direction of the Bank. In this regard, he looks after the Development Research Division, Statistics Division, and African Development Institute, all of whose directors report to him. Before joining the Bank, he was Dean of the Faculty of Commerce, Law, and Management at the University of the Witwatersrand (Wits), Johannesburg, South Africa, having previously served as Dean and Professor of Finance at Wits Business School. He has extensive experience as an investment banker, and was founding Chairman of Barbican and

Selwyn Capital. He is Chairman of the Board of the African Economic Research Consortium—a network that develops economists in Africa and with which he has been associated for the last 20 years—and Chairman of the Global Agenda Council on Poverty and Economic Development (World Economic Forum). He holds a PhD in Mathematical Finance from Cambridge University.

Léonce Ndikumana

Andrew Glyn Professor of Economics, University of Massachusetts at Amherst

Léonce Ndikumana is also Director of the African Development Policy Program at the Political Economy Research Institute. He received the 2013 UMass Award for Outstanding Accomplishments in Research and Creative Activity and was nominated as Spotlight Scholar, also in 2013. He is a member of the United Nations Committee on Development Policy and an honorary professor of economics at the University of Stellenbosch, South Africa. He served as Director of Research and Operational Policy at the African Development Bank, and Chief of Macroeconomic Analysis at the United Nations Economic Commission for Africa. His research interests lie in macroeconomics and economic development, with focus on external debt and capital flight, financial markets and growth, macroeconomic policies for growth and employment, and the economics of conflict and civil wars in Africa. He is co-author of *Africa's Odious Debt: How Foreign Loans and Capital Flight Bled a Continent*, in addition to dozens of academic articles and book chapters on African development and macroeconomics. He is a graduate of the University of Burundi and received his PhD in Economics from Washington University in St. Louis, Missouri.

Yaw Nyarko

Professor of Economics, New York University

Yaw Nyarko is also the Director of the Center for Technology and Economic Development; Co-Director of the Development Research Institute; winner of the 2009 BBVA Foundation's Frontiers in Knowledge Award on Economic Development Cooperation; and Founding Director of New York University's Africa House. A theoretical economist, his interests include growth and development economics, human capital theory, migration and brain drain studies, game theory, and learning theory. He

currently works on models in which the economic actors engage in active learning about their environments and on human capital models of economic growth and development. He is the author of many published research papers and the recipient of numerous awards and grants, including many from the United States National Science Foundation. He has been a consultant to many organizations including the World Bank, the United Nations, and the Social Science Research Council. He earned his BA from the University of Ghana, and MA and PhD in Economics from Cornell University.

Jacob Oduor

Principal Research Economist, Research Department, African Development Bank

Jacob Oduor joined the African Development Bank in 2012 as Principal Research Economist in the Development Research Department. Before joining the Bank he was Director of Research at the Center for Research on Financial Markets and Policy at the Kenya Bankers' Association. Prior to that he was a senior research analyst at the Kenya Institute of Public Policy Research and Analysis, after teaching for seven years at the Department of Econometrics and Statistics at Kenyatta University, Kenya. His main research interests are in macroeconomics (theory and policy), macro-modeling, and impact evaluation. He has extensive experience in macroeconomic policy analysis and macro-modeling, having advised the Government of Kenya as a member of the Macro Working Group in Kenya. He also has extensive experience in impact evaluation and has led impact evaluation studies funded by organizations including the Bill and Melinda Gates Foundation. He holds a PhD in Economics from the University of Bielefeld in Germany with specializations in Econometrics and Macroeconomics.

John Omiti

Executive Director, Kenya Institute for Public Policy Research and Analysis (KIPPRA)

John Omiti provides technical guidance and capacity building assistance on policy and strategy formulation to the Government of Kenya and other stakeholders. Previously he was a principal policy analyst at KIPPRA, having been a senior research fellow at the Institute of Policy Analysis and Research in Nairobi. Earlier, Omiti worked with the Kenyan civil service for about eleven years and then as a postdoctoral research fellow with the International Crops Research Institute for the

Semi-Arid Tropics, where he focused on natural resource management strategies for smallholder agriculture. He has published widely in refereed journals and books. His research interests are in public policy research focusing on agricultural transformation, food security, regional trade, economic geography, poverty alleviation, and institutional development at macro and sectoral levels. He holds a Bachelor's degree in Agriculture and a Master's degree in Agricultural Economics from the University of Nairobi, and a PhD in Agricultural and Applied Economics from the University of New England (Australia).

John Page

Senior Fellow, Brookings Institution

John Page is a senior fellow in The Brookings Institution's Global Economy and Development Program, and a director of the International Growth Center of the London School of Economics and Oxford University. From 1980 to 2008, he was at the World Bank where his senior positions included: Director, Poverty Reduction; Director, Economic Policy; Chief Economist and Director, Economic and Social Development, Middle East and North Africa Region; and Chief Economist, Africa Region. Before his appointment at the World Bank, he was a member of the faculty at Stanford and Princeton Universities. He is a research associate at the Center for the Study of African Economies at Oxford University and has been a consultant to the African Development Bank, the Global Development Network, and the Japan International Cooperation Agency, among other agencies. His several books include *Africa at a Turning Point? Growth, Aid and External Shocks* (2008), and *Breaking in and Moving Up: Industrial Challenges for the Bottom Billion and the Middle Income Countries* (2009). He is the author of more than 80 published articles on the economics of developing countries. He obtained his Bachelor's degree in Economics from Stanford University and his PhD from Oxford University, where he was a Rhodes Scholar.

Vijaya Ramachandran

Senior Fellow, Center for Global Development (CGD)

Vijaya Ramachandran works on private sector development, food security, humanitarian assistance, and development interventions in fragile states. Before joining CGD, Dr. Ramachandran served on the faculty at Georgetown University and also

worked in the Africa Private Sector Group of the World Bank and in the Executive Office of the Secretary-General of the United Nations. Most recently, she coauthored an essay titled “Development as Diffusion: Manufacturing Productivity and Africa’s Missing Middle,” to be published in the *Oxford Handbook on Economics and Africa*. Currently, she is looking at the impact of regulatory reform on investment, and at better ways to deliver humanitarian assistance in the aftermath of natural disasters. Her work has appeared in several media outlets including the *Economist*, *Financial Times*, *Guardian*, *Washington Post*, *New York Times*, National Public Radio, and Voice of America. She earned her BA, MA, and PhD in Business Economics from Harvard University.

Ian Shapiro

Sterling Professor of Political Science; Henry R. Luce Director, MacMillan Center for International and Area Studies, Yale University

Ian Shapiro has written widely and influentially on democracy, justice, and the methods of social inquiry. A native of South Africa, he received his JD from the Yale Law School and his PhD from the Yale Political Science Department, where he has taught since 1984 and served as Chair from 1999 to 2004. He is a fellow of the American Academy of Arts and Sciences and the American Philosophical Society, and a member of the Council on Foreign Relations. He is a past fellow of the Carnegie Corporation, the Guggenheim Foundation, and the Center for Advanced Study in the Behavioral Sciences. He has held visiting appointments at the University of Cape Town, Keio University in Tokyo, and Nuffield College, Oxford. His most recent books are *The Real World of Democratic Theory*, *Containment: Rebuilding a Strategy against Global Terror*, *The Flight from Reality in the Human Sciences*; and *Death by a Thousand Cuts: The Fight Over Taxing Inherited Wealth* (with Michael Graetz). His current research concerns the relations between democracy and the distribution of income and wealth.

Erik Thorbecke

H.E. Babcock Professor of Economics Emeritus, Cornell University

Erik Thorbecke is former Director of the Program on Comparative Economic Development at Cornell University. His other past positions include Chairman of the Department of Economics at Cornell and Associate Assistant Administrator for Program Policy

at the US Agency for International Development. He has made contributions in the areas of economic and agricultural development, the measurement and analysis of poverty and malnutrition, the social accounting matrix and general equilibrium modeling, and international economic policy. The Foster-Greer-Thorbecke poverty measure has been adopted as the standard poverty measure by the World Bank and practically all UN agencies and is used almost universally by researchers doing empirical work on poverty. In recent years he co-directed a large-scale research project on The Impact of Globalization on the World's Poor under the auspices of the United Nations University's World Institute for Development Economics Research, and undertook research on inclusive growth in Africa and Asia. During 2013 he was closely involved in research activities of the African Economic Research Consortium (AERC); he chairs the thematic research group of the AERC on Poverty, Income Distribution, and Food Security.

Christopher Udry

Henry J. Heinz, II Professor of Economics; Chair, Council on African Studies, Yale University

Christopher Udry is a development economist whose research focuses on rural economic activity in Sub-Saharan Africa. He has conducted extensive field research in West Africa on technological change in agriculture; the use of financial markets, asset accumulation, and gift exchange to cope with risk; gender relations; and the structure of household economies, property rights, and a variety of other aspects of rural economic organization. He spent two years as a secondary school teacher in northern Ghana, and has been a visiting scholar at Ahmadu Bello University in Nigeria and at the University of Ghana at Legon. At Yale, Professor Udry has directed the Economic Growth Center and served as Chair of the Department of Economics. He teaches graduate courses on development economics, and undergraduate courses on economic development in Africa. He received his BA from Swarthmore College and his PhD in Economics from Yale University.

Leonard Wantchekon

Professor of Politics, Princeton University

Leonard Wantchekon uses his background in economics to analytically address social science questions related to his numerous academic interests in political and

economic development, particularly in Africa. His specific interests include democratization, clientelism, and redistributive politics, resource curse, and the long-term social impact of historical events. His numerous publications in leading academic journals include “The Slave Trade and the Origins of Mistrust in Africa” (with Nathan Nunn), forthcoming in the *American Economic Review*; “The Paradox of “Warlord” Democracy: A Theoretical Investigation,” in the *American Political Science Review* (2004); and “Clientelism and Voting Behavior: A Field Experiment in Benin,” *World Politics* (2003). Professor Wantchekon is a member of the Executive Committee of the Afrobarometer Network, as well as of the Ibrahim Index Technical Committee of the Mo Ibrahim Foundation, which supports good governance and great leadership in Africa. He is the founder of the Institute for Empirical Research in Political Economy based in Cotonou, Benin and the Africa School of Economics in the city of Abomey Calavi, Benin, set to open in 2014. He received his PhD in Economics from Northwestern University.

James D. Wolfensohn

President, The World Bank, 1995-2005

Mr. Wolfensohn has had a long, visible, and highly distinguished career in business, finance, and public service. The central focus of his career has been investment banking and the economic development of emerging market economies. From 1995 to 2005, Mr. Wolfensohn served two terms as President of the World Bank. In that capacity he traveled to more than 120 countries to help them face the challenges they confronted on poverty and environmental issues. He led successful initiatives on debt reduction, environmental sustainability, anti-corruption, and AIDS prevention and treatment. He developed activities on religion and culture and decentralized offices overseas linked by the most modern telecommunications system in the international community. From 2005-06 he served as Special Envoy for Gaza Disengagement, appointed by U.S. Secretary of State Condoleezza Rice, Russian Foreign Minister Sergei Lavrov, EU High Representative for the Common Foreign and Security Policy Javier Solana, and UN Secretary General Kofi Annan. In this role, he helped coordinate Israel’s planned withdrawal from the Gaza Strip and spearheaded reconstruction efforts as Palestinians assumed sovereignty over the

area. Prior to joining the World Bank, Mr. Wolfensohn had a long career as an international investment banker. He holds BA and LLB degrees from the University of Sydney and an MBA from Harvard Business School. In May 1995, he was awarded an Honorary Knighthood by Queen Elizabeth II for his contribution to the arts.

Ernesto Zedillo

Director, Yale Center for the Study of Globalization

Ernesto Zedillo is the Frederick Iseman '74 Director of the Yale Center for the Study of Globalization; Professor in the Field of International Economics and Politics; Professor of International and Area Studies; and Professor Adjunct of Forestry and Environmental Studies at Yale University. He teaches two undergraduate seminars at Yale, on Debating Globalization and The Economic Evolution and Challenges of the Latin American and Caribbean Countries. From 1978-87 he was with the Central Bank of Mexico; he served the National Government of Mexico as Undersecretary of Budget (1987-88) and as Secretary of Economic Programming and the Budget (1988-92), and was appointed Secretary of Education in 1992. He served his country as President of Mexico from 1994-2000. He currently serves as Chairman of the Governing Board of the Natural Resource Governance Institute; the 21st Century Advisory Council of the Berggruen Institute on Governance; and Co-Chair of the Inter-American Dialogue. He serves on the Global Commission on Drug Policy, chaired by Fernando Henrique Cardoso and The Elders, an independent group of global leaders using their collective experience and influence for peace, justice, and human rights worldwide. He is a member of the G30 and the Board of Directors of the Peterson Institute for International Economics. He is a distinguished practitioner of the Blavatnik School of Government at Oxford and in 2011 he was elected an international member of the American Philosophical Society. He earned his Bachelor's degree from the School of Economics of the National Polytechnic Institute in Mexico and his MA and PhD from Yale University.

