African Successes, Volume II
Human Capital

Edited by
Sebastian Edwards, Simon Johnson,
and David N. Weil

The University of Chicago Press
Chicago and London
SEBASTIAN EDWARDS is the Henry Ford II Professor of International Economics in the Anderson Graduate School of Management at the University of California, Los Angeles. SIMON JOHNSON is the Ronald A. Kurtz (1954) Professor of Entrepreneurship and professor of global economics and management at the MIT Sloan School of Management. DAVID N. WEIL is the James and Merryl Tisch Professor of Economics at Brown University. All three editors are research associates of the NBER.

The University of Chicago Press, Chicago 60637
The University of Chicago Press, Ltd., London
© 2016 by the National Bureau of Economic Research
Printed in the United States of America
25 24 23 22 21 20 19 18 17 16 1 2 3 4 5

DOI: 10.7208/chicago/9780226316192.001.0001

Library of Congress Cataloging-in-Publication Data

Title: African successes : government and institutions / edited by Sebastian Edwards, Simon Johnson, and David N. Weil.

⊕ This paper meets the requirements of ANSI/NISO Z39.48–1992 (Permanence of Paper).
National Bureau of Economic Research

Officers
Martin B. Zimmerman, chairman
Karen N. Horn, vice chairman
James M. Poterba, president and chief executive officer
Robert Mednick, treasurer
Kelly Horak, controller and assistant corporate secretary
Alterra Milone, corporate secretary
Denis Healy, assistant corporate secretary

Directors at Large
Peter C. Aldrich
Elizabeth E. Bailey
John H. Biggs
John S. Clarkeson
Don R. Conlan
Kathleen B. Cooper
Charles H. Dallara
George C. Eads
Jessica P. Einhorn
Mohamed El-Erian
Linda Ewing
Jacob A. Frenkel
Judith M. Gueron
Robert S. Hamada
Peter Blair Henry
Karen N. Horn
John Lipsky
Laurence H. Meyer
Michael H. Moskow
Alicia H. Munnell
Robert T. Parry
James M. Poterba
John S. Reed
Marina v. N. Whitman
Martin B. Zimmerman

Directors by University Appointment
Timothy Bresnahan, Stanford
Pierre-André Chiappori, Columbia
Alan V. Deardorff, Michigan
Ray C. Fair, Yale
Edward Foster, Minnesota
John P. Gould, Chicago
Mark Grinblatt, California, Los Angeles
Bruce Hansen, Wisconsin–Madison
Benjamin Hermalin, California, Berkeley
Marjorie B. McElroy, Duke
Joel Mokyr, Northwestern
Andrew Postlewaite, Pennsylvania
Cecilia Rouse, Princeton
Richard L. Schmalensee, Massachusetts Institute of Technology
David B. Yoffie, Harvard

Directors by Appointment of Other Organizations
Jean-Paul Chavas, Agricultural and Applied Economics Association
Martin J. Gruber, American Finance Association
Arthur Kennickell, American Statistical Association
Jack Kleinhenz, National Association for Business Economics
William W. Lewis, Committee for Economic Development
Robert Mednick, American Institute of Certified Public Accountants
Alan L. Olmstead, Economic History Association
Peter L. Rousseau, American Economic Association
Gregor W. Smith, Canadian Economics Association
William Spriggs, American Federation of Labor and Congress of Industrial Organizations
Bart van Ark, The Conference Board

Directors Emeriti
George Akerlof
Jagdish Bhagwati
Carl F. Christ
Franklin Fisher
George Hatsopoulos
Saul H. Hymans
Rudolph A. Oswald
Peter G. Peterson
John J. Siegfried
Craig Swan

Craig Swan
Relation of the Directors to the
Work and Publications of the
National Bureau of Economic Research

1. The object of the NBER is to ascertain and present to the economics profession, and to the public more generally, important economic facts and their interpretation in a scientific manner without policy recommendations. The Board of Directors is charged with the responsibility of ensuring that the work of the NBER is carried on in strict conformity with this object.

2. The President shall establish an internal review process to ensure that book manuscripts proposed for publication DO NOT contain policy recommendations. This shall apply both to the proceedings of conferences and to manuscripts by a single author or by one or more co-authors but shall not apply to authors of comments at NBER conferences who are not NBER affiliates.

3. No book manuscript reporting research shall be published by the NBER until the President has sent to each member of the Board a notice that a manuscript is recommended for publication and that in the President's opinion it is suitable for publication in accordance with the above principles of the NBER. Such notification will include a table of contents and an abstract or summary of the manuscript's content, a list of contributors if applicable, and a response form for use by Directors who desire a copy of the manuscript for review. Each manuscript shall contain a summary drawing attention to the nature and treatment of the problem studied and the main conclusions reached.

4. No volume shall be published until forty-five days have elapsed from the above notification of intention to publish it. During this period a copy shall be sent to any Director requesting it, and if any Director objects to publication on the grounds that the manuscript contains policy recommendations, the objection will be presented to the author(s) or editor(s). In case of dispute, all members of the Board shall be notified, and the President shall appoint an ad hoc committee of the Board to decide the matter; thirty days additional shall be granted for this purpose.

5. The President shall present annually to the Board a report describing the internal manuscript review process, any objections made by Directors before publication or by anyone after publication, any disputes about such matters, and how they were handled.

6. Publications of the NBER issued for informational purposes concerning the work of the Bureau, or issued to inform the public of the activities at the Bureau, including but not limited to the NBER Digest and Reporter, shall be consistent with the object stated in paragraph 1. They shall contain a specific disclaimer noting that they have not passed through the review procedures required in this resolution. The Executive Committee of the Board is charged with the review of all such publications from time to time.

7. NBER working papers and manuscripts distributed on the Bureau's web site are not deemed to be publications for the purpose of this resolution, but they shall be consistent with the object stated in paragraph 1. Working papers shall contain a specific disclaimer noting that they have not passed through the review procedures required in this resolution. The NBER’s web site shall contain a similar disclaimer. The President shall establish an internal review process to ensure that the working papers and the web site do not contain policy recommendations, and shall report annually to the Board on this process and any concerns raised in connection with it.

8. Unless otherwise determined by the Board or exempted by the terms of paragraphs 6 and 7, a copy of this resolution shall be printed in each NBER publication as described in paragraph 2 above.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Series Introduction</strong></td>
<td>1</td>
</tr>
<tr>
<td>Sebastian Edwards, Simon Johnson, and David N. Weil</td>
<td></td>
</tr>
<tr>
<td><strong>Volume Introduction</strong></td>
<td>5</td>
</tr>
<tr>
<td>Sebastian Edwards, Simon Johnson, and David N. Weil</td>
<td></td>
</tr>
<tr>
<td><strong>I. Health</strong></td>
<td></td>
</tr>
<tr>
<td>1. Evaluating the Effects of Large-Scale Health Interventions in Developing Countries: The Zambian Malaria Initiative</td>
<td>13</td>
</tr>
<tr>
<td>Nava Ashraf, Günther Fink, and David N. Weil</td>
<td></td>
</tr>
<tr>
<td>2. Prevention of Mother-to-Child Transmission of HIV and Reproductive Behavior in Zambia</td>
<td>59</td>
</tr>
<tr>
<td>Nicholas Wilson</td>
<td></td>
</tr>
<tr>
<td>3. Stimulating Demand for AIDS Prevention: Lessons from the RESPECT Trial</td>
<td>85</td>
</tr>
<tr>
<td>Damien de Walque, William H. Dow, Carol Medlin, and Rose Nathan</td>
<td></td>
</tr>
<tr>
<td>4. Alternative Cash Transfer Delivery Mechanisms: Impacts on Routine Preventative Health Clinic Visits in Burkina Faso</td>
<td>113</td>
</tr>
<tr>
<td>Richard Akresh, Damien de Walque, and Harounan Kazianga</td>
<td></td>
</tr>
</tbody>
</table>
II. Gender Issues

5. Girl Power: Cash Transfers and Adolescent Welfare: Evidence from a Cluster-Randomized Experiment in Malawi
Sarah Baird, Ephraim Chirwa, Jacobus de Hoop, and Berk Özler

6. Comparing Economic and Social Interventions to Reduce Intimate Partner Violence: Evidence from Central and Southern Africa
Radha Iyengar and Giulia Ferrari

7. Family Ties, Inheritance Rights, and Successful Poverty Alleviation: Evidence from Ghana
Edward Kutsoati and Randall Morck

III. Education

8. The Surprisingly Dire Situation of Children’s Education in Rural West Africa: Results from the CREO Study in Guinea-Bissau (Comprehensive Review of Education Outcomes)
Peter Boone, Ila Fazzio, Kameshwari Jandhyala, Chitra Jayanty, Gangadhar Jayanty, Simon Johnson, Vimala Ramachandran, Filipa Silva, and Zhaoguo Zhan

9. Success in Entrepreneurship: Doing the Math
Michael Kremer, Jonathan Robinson, and Olga Rostapshova

10. The Returns to the Brain Drain and Brain Circulation in Sub-Saharan Africa: Some Computations Using Data from Ghana
Yaw Nyarko

Contributors 347
Author Index 351
Subject Index 357
In the 1950s and early 1960s, there was a great deal of optimism about the prospects for economic development in sub-Saharan Africa. By early in the twenty-first century, the prevailing consensus had become much more negative—and for good reason. Decades of civil war, repeated state failure, corruption, and disappointing private sector performance characterized much of Africa’s postindependence experience. A wave of prominent papers in the economic literature tried to dig more deeply into the causes of these problems, with some scholars putting them in a broader comparative perspective and others focusing on the specifics of the African experience. There was no shortage of deep causes suggested as explanations for repeated African disappointments, including weak rule of law, a lack of democracy, colonial inheritance, the impact of the slave trade, the burden of tropical disease, some form of “resource curse,” and ethno-linguistic divisions among the population.

The NBER Africa project, conceived in the middle of the first decade of the twenty-first century, took a different approach. Rather than trying to understand the causes of underperformance in Africa, we decided to focus on finding and understanding more positive aspects of what was happening...
on that continent south of the Sahara, along several different dimensions studied by economists. Our timing proved good for three reasons.

First, scholars were turning their attention increasingly to the details of what was working well or at least better with regard to African development. This new wave of research involved working with or, in many cases creating, data sets suited to careful analysis—including sophisticated use of econometrics. We are fortunate to have involved and supported many leading empirical researchers as they broke new ground in multiple directions. Most likely some of this work would have happened in any case, but at the very least we can claim to have provided an appropriate catalyst for many projects.

Second, Africa is changing—and the prospects for nearly a billion people are looking up. A decade or more of relatively good performance does not a miracle make, but across a wide range of countries there has been better economic growth, considerable progress with improving public health and other social indicators, and a range of attempts to improve the performance of the state. Many of the chapters in this series of four volumes address some aspect of this profound and important transformation.

Third, the study of Africa is becoming much more integrated with the rest of economics. Just as happened earlier with research on Japan and China, a line of work that previously might have been seen as of purely regional interest can now appear in top journals. The broader trend, of course, has been the resurrection of development economics as a vibrant field. But also encouraging—and a central part of the NBER Africa project—has been the increase in interest among nonspecialists regarding what is actually happening on this dynamic and fascinating continent.

Volume I in this series focuses on the most basic building blocks of economic development, including the rule of law, civil conflict, and institutions more broadly. Volume II contains chapters on human capital development in Africa, including some important work on public health improvements, but also research into education on the continent. Volume III examines whether Africa can glean any advantage from being relatively late to economic development, including being able to bypass some large investments (for example, in fixed-line telephones or in traditional branch banking) or being able to learn from others (for example, in the development of an export sector). Volume IV looks at whether recent growth can be sustained, in terms of agricultural development and more broadly.

The research presented in these volumes covers a wide territory, in geographic and intellectual terms. However, our project was never intended to be comprehensive. Rather we attempted to act as a catalyst for rigorous and innovative thinking applied to recent African development. The work published here far exceeds our earliest expectations—a reflection, primarily, of how many serious scholars are now deeply engaged with these issues.
It has been a great honor for us, as program directors and now as editors of these volumes, to participate in and help to facilitate this surge in serious interest. In terms of making this possible, we must thank, first and foremost, the Bill & Melinda Gates Foundation for their willingness to encourage economists in this endeavor. We have worked with a range of officials at the Foundation over the past decade; their support has been unstinting and their perspective on development is always refreshing. We would specifically like to thank Sara Sievers for many of our early interactions and Oliver Babson for his subsequent engagement. We also greatly appreciate the ideas and energy of Geoffrey Lamb, Kim Hamilton, Negar Akhavi, Adam Gerstenmier, and Mumukshu Patel.

We must also recognize the founding insight and energy of Martin Feldstein, who emphasized, among many other relevant and helpful points, that there is an important link between raising the quality of economic research on an issue and improving the odds that policy discussions will become more informed. Since becoming president of the NBER in 2008, James Poterba has also provided us with great leadership and encouragement—including sage advice at every stage of the process.

Our four published volumes present results from thirty-nine research teams, with the findings organized along thematic lines. Of the 100 authors whose names appear on one or more of the chapters in our collection, nineteen are from Africa and thirty-two are affiliated with the NBER as either Faculty Research Fellows or research associates. They range from experienced specialists on African development to scholars who had never previously worked on the continent; in seniority they ran the gamut from newly appointed assistant professors to distinguished, established thought leaders.

Every project included a significant on-the-ground component. Some research teams combined money we provided with other funds, for example, to support the collection of very large field data sets. In other cases, funding from the NBER made it possible for researchers to interview policymakers, business people (both large and small), farmers, health workers, or others engaged in the process of economic development.

Results from the research project were presented at a series of conferences in the United States and in Africa. Given the large size of our project and our explicit goal of including scholars who had not previously been working on Africa, we began with a background conference in February 2008, at the NBER in Cambridge, MA, bringing together researchers and policymakers from the United States, Africa, and Europe. The conference featured presentations on current research and an overview of available data, aimed especially at scholars who were new to the area.

Our next meeting, also in Cambridge, MA, in February 2009 was a preconference at which preliminary findings from ten papers were presented. This was followed by a conference in December of the same year, again in
Cambridge, MA, that took a hybrid form: final versions of five projects were presented, as were preconference versions of another twelve projects.

This was followed in July of 2010 by a conference in Accra, Ghana, held in cooperation with the Institute of Statistical, Social, and Economic Research (ISSER). Our final research conference was held in Zanzibar, Tanzania, in August 2011, in cooperation with the Bank of Tanzania.

One goal of our project from inception, with full support from the Gates Foundation, was to help connect economic research with the African policy community. We arranged some interactions along these lines throughout our project, but we were fortunate to be able to make a special effort at the end, with a meeting devoted specifically to the Next Macroeconomic Challenges in Africa, held again in Zanzibar, in December 2012, also in cooperation with the Bank of Tanzania.

There are many people to thank for the successful completion of this project. Benno Ndulu, governor of the Bank of Tanzania, provided wise guidance throughout the process and particularly helped us to focus on narrowing the gap between research and policy, including our two fruitful meetings in Zanzibar. His team at the Bank of Tanzania was most helpful in many ways, and we have special thanks for Patricia Mlozi, Mechtilda Mugo, Msafiri Nampesya, and Pamela Lowassa-Solomon.

Our conference in Accra benefited greatly from the engagement and support provided by Ernest Aryeetey, Kwesi Botchwey, and Robert Osei. And we had great cooperation in many ways across the entire project with African Economic Research Consortium (AERC); thanks to Olu Ajakaiye, William Lyakurwa, and Lemma Senbet for making this possible.

We would like to thank everyone who attended our various conferences and who worked hard on all dimensions of these research projects. We are also most grateful for all the inputs received from members of the Advisory Committee, formed especially for this project: Robert Bates, Paul Collier, Martin Feldstein, Benno Ndulu, Franklyn Prendergast, Antoinette Sayeh, Nicholas Stern, and John Taylor.

The entire project ran smoothly due to the hard work, precision, and attention to detail of Elisa Pepe at the NBER. Elisa was with us from beginning to end, and words cannot sufficiently express our gratitude for all she has done.

Others at the NBER provided outstanding help on a wide variety of tasks. Our meetings in the United States and in Africa were organized with exemplary competence by Carl Beck of the NBER’s conference department. For all their help in the production, management, and dissemination of research, we would also like to thank Alex Aminoff, Laura Bethard, Daniel Feenberg, Helena Fitz-Patrick, Wayne Gray, Steve Harriman, and Alterra Milone. And for their assistance with the data portal, we are grateful to Binh Thanh Le, Dimitry Legagneur, and C. Michelle Tejada.