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A B C D E

Annual World Bank Conference on  
Development Economics

# The New Reform Agenda

*Edited by*  
Boris Pleskovic and  
Nicholas Stern

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Development Economics  
2003**

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Nicholas Stern**

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1818 H Street, NW  
Washington, DC 20433  
Telephone 202-473-1000  
Internet [www.worldbank.org](http://www.worldbank.org)  
E-mail [feedback@worldbank.org](mailto:feedback@worldbank.org)

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## About this Book

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The Annual World Bank Conference on Development Economics is a forum for discussion and debate of important policy issues facing developing countries. The conferences emphasize the contribution that empirical and basic economic research can make to understanding development processes and to formulating sound development policies. Conference papers are written by researchers in and outside the World Bank. The conference series was started in 1989. Conference papers are reviewed by the editors and are also subject to internal and external peer review. Some papers were revised after the conference, sometimes to reflect the comments by discussants or from the floor. Most discussants' comments were not revised. As a result, discussants' comments may refer to elements of the paper that no longer exist in their original form. Participants' affiliations identified in this volume are as of the time of the conference, April 29-30, 2002.

Boris Pleskovic and Nicholas Stern edited this volume. Developmental and copyediting services were provided by Christine Cotting of UpperCase Publication Services. The book was designed by Naylor Design, Inc. Book production and dissemination were coordinated by the World Bank Publications team.





## Introduction

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BORIS PLESKOVIC AND NICHOLAS STERN

The Annual World Bank Conference on Development Economics seeks to expand the flow of ideas among development policy researchers, academics, and practitioners from around the world. It is a premier forum for World Bank and other experts to exchange ideas, challenge one another's findings, and expand theoretical and practical knowledge of development. Each year the topics selected for the conference represent new matters of concern or areas that will benefit from a review of what we know and from the identification of what still needs to be explored and expanded.

The 14th conference, held at the World Bank on April 29–30, 2002, addressed four themes: trade and poverty; Africa's future: industrial or agricultural development; education and empowerment; and investment climate and productivity. The first day of the conference opened with remarks by James D. Wolfensohn and a keynote address by Nicholas Stern. Those remarks were followed by four papers on poverty and Africa's future. The second day began with a keynote address by John B. Taylor, which was followed by three papers on education and the investment climate.

In his opening remarks, **James D. Wolfensohn** speaks about the World Bank's current development agenda within the context of the New Partnership for Africa's Development (NEPAD) and the Monterrey International Conference on Financing for Development.

Mr. Wolfensohn stresses that NEPAD, a precursor to the Monterrey conference, fundamentally restates the position of African leaders by establishing a framework in which a bargain would be struck between developing countries in Africa and industrial countries. Of critical importance is the recognition that leaders of developing countries should be in charge of the development of their countries and that efforts should be made to render development equitable. The NEPAD initiative also acknowledges conditions that must be established for the development process to

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Boris Pleskovic is research administrator at the World Bank. Nicholas Stern is senior vice president, Development Economics, and chief economist at the World Bank.

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progress, namely, conditions in the areas of government capacity building, reformed judicial systems, transparent financial systems, and eradication of corruption.

NEPAD's assertions carried through to Monterrey, where the framework was recognized as essential to the development process. Wolfensohn notes that without the framework, work can be accomplished at the humanitarian level but not in the realm of basic structural reform, and therefore the development process would not be effective. Three initiatives emerged from Monterrey: (1) capacity building at every level—governmental, civil society, and private sector; (2) a focus on the centrality of trade; and (3) increased development assistance apart from capacity building and trade.

With NEPAD and Monterrey setting precedents for Johannesburg, Wolfensohn sees the issue of sustainable development being more clearly accentuated, particularly as it is set within the context of poverty-reduction strategies and integrated in the comprehensive development framework. But the critical question is implementation—will industrial countries be able to deliver on their promise to reform trade practices and support developing countries' capacity-building efforts? Will developing countries be able to deliver on their promises to attack corruption, reform their judicial and financial systems, and earnestly tackle active poverty reduction among their populace?

Wolfensohn emphasizes that there is a critical need to take three essential steps in order to implement this framework—coherence and coordination of aid, effectiveness, and leverage and scale—which are unattainable without economic growth. He then concludes that the issues discussed in the Monterrey Consensus and the global development framework fall into two dimensions: public-private partnership and capacity building. Yet a third dimension—time—will ultimately play a critical role in how development is carried out and its effectiveness assessed.

**Nicholas Stern**, in his keynote address, discusses how the World Bank and the international community can scale up assistance to developing countries toward achieving the Millennium Development Goals (MDGs). Although the magnitude of the poverty and the MDG challenge are daunting, much more is known today about how to make development assistance effective through good country-owned policies, governance, and institutions. He notes that the international community is more united in its commitment to development, as represented by the landmark Monterrey meeting in 2002, which presented a unique opportunity to advance the MDG agenda. Bank lending is small relative to the financing needs of developing countries, however, and the additional aid pledged at Monterrey is only a fraction of the estimated US\$50 billion needed annually for meeting the MDGs.

Stern argues that reaching those goals requires understanding the scale of the challenge relative to the goals and building on international partnerships. Where aid flows are small, the key role of the World Bank is to support the formulation of good policy, sound institutions, and capacity building. The Bank has a comparative advantage in generating analysis, drawing evidence together from international experience, and creating partnerships around good country strategies. Stern emphasizes that advice is taken more seriously when backed by financial involvement, but that financial support must be for change rather than for covering the costs of not changing.

Scaling up support should exploit *increasing* returns to scale, in the sense of leveraging big responses from modest resources. In recalling his 2001 ABCDE speech, which set out the elements of development strategy, Stern notes that policy changes that improve the investment climate and empower poor people can create and support momentum for change. The Bank's instruments for bringing this type of change include (i) analytical work, (ii) a programmatic approach, (iii) demonstration projects, and (iv) conditions or "necessary steps" on which assistance is predicated. Each of these instruments shows how real ideas can be put into practice and can generate reform momentum for scaling up support.

Stern also emphasizes that collaborative relationships with other development partners to coordinate activities are essential to scaling up financial assistance. Increasing support requires that international organizations play different roles. The Bank should play an *integrating* role across sectors and institutions, a *convening* role to bring development partners together, and an *advocacy* role on key global issues. Stern notes that the Bank's research efforts are also of great importance, building on the Bank's unique position to create and disseminate ideas. As development practitioners we should recognize the power of a good practical idea in shaping events. Finally, Stern points out the crucial role of evaluation to assess results and analyze how development processes influence outcomes. Such evaluation requires good databases on outcomes and processes—household surveys, investment climate surveys, and service delivery surveys—to build a better understanding of how to establish a healthy investment climate and empower poor people and how to assess results.

In his keynote address, **John B. Taylor** outlines the Bush administration's economic development agenda relative to the problem of global poverty. Taylor states that low productivity is the proximate reason why so many countries are impoverished and that increasing productivity is the only way to achieve substantial and sustained reductions in poverty.

What impedes productivity in so many areas of the world? Basic economic growth theory posits that productivity growth depends on capital per worker and on the level of technology, and that capital and technology flow to the places where they are needed if there are no impediments. Taylor therefore notes that, in theory, poor countries and regions should be catching up to their richer counterparts. Evidence indicates, however, that there are significant impediments to investment and to the adoption of technology. These impediments—poor governance, poor education, and restrictions on economic transactions—will continue to depress productivity until they are removed or resolved.

The Bush administration's economic development agenda calls for a greater emphasis on policies that reduce impediments to productivity growth and for an increase in funding for economic development. Taylor says that Bush's proposed 18 percent increase in the U.S. contribution to the African Development Fund and the International Development Association (IDA), and a challenge to the IDA to provide grant assistance rather than loans to the poorest countries, demonstrate the administration's commitment to reducing global poverty. The creation of the Millennium Challenge Account also provides a new, separate account for development assistance.

Taylor reports that a recent study by the U.S. Government Accounting Office has demonstrated that grants promote debt sustainability better than 100 percent debt forgiveness of old international foreign investment debt. Consistent with the Millennium Challenge Account and the more recent results-based IDA replenishment proposals, grants can be tied to performance measures. Taylor concludes by urging commitment to further study on what kinds of assistance are most effective in promoting productivity growth in poor countries.

## Trade and Poverty

**Andrew Berg and Anne Krueger** consider the effects of trade openness on poverty in two components: the effect on average income growth, and the effect on distribution for a given growth rate. Varied evidence supports the view that trade openness contributes greatly to growth. Cross-country regressions of the level of income on various determinants generally show that openness is the most important policy variable. This conclusion seems firm despite deep measurement problems and difficulties in disentangling the effects of policies and institutions. Regressions that attempt to explain the variation in countries' performance over time also show that increases in openness are central to promoting growth. The authors would not find these results particularly convincing if there were no substantial industry and firm-level research documenting the various ways in which openness contributes to export, productivity, and ultimately income growth.

Berg and Krueger argue that trade openness does not have systematic effects on the poor population beyond its effect on overall growth. The aggregate evidence shows that the income of the poorest people tends to grow one-for-one with average income. Of course, in some countries and in some periods poor people do better than the average, and sometimes they do worse. But openness does not help explain which of these outcomes occurs. The microeconomic evidence from a large number of individual liberalization episodes also reveals no systematic relationship between trade liberalization and income distribution. Berg and Krueger conclude that trade policy is only one of many determinants of growth and poverty reduction. Because trade openness has important positive spillover effects on other aspects of reform, the correlation of trade with other pro-reform policies speaks to the advantages of making openness a primary part of the reform package.

**L. Alan Winters** presents a framework for thinking through the effect of trade liberalization on extreme poverty in developing countries, including the benefits of economic growth plus a number of direct effects operating by way of prices and wages faced by poor populations, the vulnerability of poor people, and government revenue. He then uses the framework to assess whether the round of world trade talks—the Doha Development Agenda (DDA)—will help achieve the World Poverty Target of halving extreme poverty by 2015. Winters argues that the talks will help but only if they are seriously trade-liberalizing. He illustrates his argument with respect to five items on the DDA. The reduction of trade barriers in agricul-

ture, especially but not exclusively in industrial countries, has a large potential for alleviating poverty in rural areas. Opening manufacturing markets is also likely to help, although here the trade barriers of developing countries are central. More demanding politically is the need to liberalize the temporary movement of less-skilled workers from developing to industrial countries. In these three cases the author's concern is that the DDA may not go deep enough. Winters next considers trade preferences, which could undermine the liberalizing thrust of the DDA. He posits that the European Union's "Everything But Arms" initiative is well intentioned but needs to be extended if it is to have much effect on poverty. Finally, the author considers the "Singapore Issues"—investment, competition policy, government procurement, and trade facilitation—and concludes that they are a distraction and a danger to the whole round. He argues that they will create tensions and absorb large amounts of attention at the expense of simple trade liberalization in the DDA and, very probably, other equally important nontrade components of poverty policy.

### **Africa's Future: Industrial or Agricultural Development**

Paul Collier notes that until recently virtually all developing countries were heavily dependent on exports of primary commodities. Globally this gave rise to three severe problems. First, because commodity prices are highly volatile, countries had to cope with large price shocks, both positive and negative. Second, for various reasons, the rents generated by primary commodities have been associated with poor governance. Third, primary commodity dependence is associated with a substantially higher risk of civil war. Given these problems, diversification seems desirable and, on average over the past two decades, some developing countries have diversified their exports massively so that such dependence is a thing of the past. Africa, however, has not experienced this diversification.

Collier argues that Africa's current comparative advantage in primary commodities is often the result of a poor investment climate that is policy related. This poor climate most handicaps those activities that are intensive in transactions. Globally, the nonfactor costs of manufacturing and agricultural processing are a greater percentage of the total costs than are the nonfactor costs of agriculture, natural resource extraction, and services. Collier discusses how it may be feasible to lower these costs in a coordinated way—through export processing zones—and so become competitive in manufacturing.

For the next decade, however, even if Africa embarks on effective diversification, it will have to live with primary commodity dependence, so there is an urgent need to reduce the problems that have been caused by such dependence. Many of the policies that could be effective require action by industrial countries. Collier suggests a range of such policies, including making aid flows contingent on commodity prices and creating greater transparency in corporate payments of primary commodity rents to governments.

**Adrian Wood** argues that although there are important lessons for Africa from the experience of East Asia, the sectoral and spatial structures of an increasingly prosperous Africa will be more like those of the Americas. Because it is land abundant, as is America, Africa will always have a larger primary sector and a smaller manufacturing sector than the land-scarce regions of Asia and Europe. Moreover, because much of its land is far from the sea (which raises internal transport costs), a prosperous Africa will also resemble America in having a relatively unpopulated interior focused on agriculture and mining, with urban industrial concentrations on its coasts. Africa may surpass the current income level of South America, although it may never quite catch up with North America because of its tropical climate and its division into many countries, which obstructs internal movement of goods, ideas, and people.

Wood suggests that mainly what is needed to raise Africa from poverty to prosperity are improvements in governance that will reduce the risks of investment and encourage the return of flight capital, both physical and human. Similar improvements in governance are needed in all poor countries, but the policy priorities of land-abundant Africa differ from those of land-scarce Asia in three areas. First, it is especially crucial for Africa to apply knowledge to nature by promoting scientific research, education, and training in agriculture and mining. Second, to overcome the problems of internal spatial dispersion Africa must spend more on transport and communications and facilitate movement of people, especially from the interior to the coasts. Wood concludes that Africa must ensure widely distributed access to land and education so that high levels of inequality do not slow growth and perpetuate poverty.

## **Education and Empowerment**

**Ravi Kanbur** considers an apparent disconnection between the consensus in policy circles that reducing gender inequalities should be given a high priority in strategies for reducing inequality and poverty, and a view in mainstream economics (and in some policy circles) that gender inequalities are overemphasized. The latter view is not stated openly because it is politically incorrect to do so, but it is present. In specific terms, there is a sense that gender inequalities are not large relative to other types of inequalities, that the evidence on consequences of gender inequality for economic growth is weak, and that inequality of power is not something that should receive policy priority over conventional economic interventions. Kanbur takes these positions seriously, and he argues that on some readings the narrowly economic evidence does indeed support them, but that to some extent this is an issue with the economic evidence and its interpretation. Reexamining the evidence and the arguments suggests a number of directions for research and analysis in exploring the economics of gender inequalities.

## Investment Climate and Productivity

**Carmen M. Reinhart and Kenneth S. Rogoff** note that Africa lags behind other regions in attracting foreign direct investment. In some circumstances there are obvious explanations for the absence of investment, such as a high incidence of war. They examine how monetary and exchange rate policy may help explain this outcome. Specifically, they document the incidence of inflationary episodes and currency crashes to compare countries within the region and to make comparisons with other regions. Furthermore, because monetary policy can range from very transparent to very opaque, the authors assess Africa's track record with dual and parallel markets. Reinhart and Rogoff use the parallel market premia as an indicator of the degree of distortion and the extent of transparency. Their findings suggest that this is a promising line of inquiry because Africa does stand apart from other regions in this measure of transparency. The authors also discuss some of the fiscal underpinnings of Africa's bouts with high inflation.

**Andrei Shleifer** notes that comparative economics has experienced a revival in recent years, with a new focus on comparing capitalist economies. The transition from socialism, the Asian financial crisis, and the European economic and political integration have challenged our understanding of how capitalist economies and societies work. Capitalist economies differ in important ways in how they regulate market activities, including the extent of public ownership, regulation of social harms and externalities, contract enforcement, modes of dispute resolution, and so on. Capitalist countries also differ in how they regulate political competition, including the structure of electoral systems, the nature of checks and balances, and legal procedures. Shleifer argues that these institutional differences among countries are highly systematic and have important effects on economic and social outcomes. As an important example, the historical origin of a country's legal system has proved to be a crucial factor shaping institutions. A growing body of theoretical and empirical research documents and analyzes how history as well as current conditions shape institutions. The author concludes that this research—which we call the new comparative economics—helps explain many differences in performance and informs the design of economic and political reforms.

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As in previous years, the planning and organization of the 2002 conference was a joint effort. Special thanks are due to Julee Allen, Anupa Bhaumik, François J. Bourguignon, and F. Desmond McCarthy for their useful suggestions and advice. We also wish to thank several anonymous reviewers for their assistance, and conference coordinators Mantejwinder K. Jandu and Anna Maranon-McConchie, whose outstanding organizational skills helped ensure a successful conference. Finally, we thank the editorial staff for pulling this volume together, especially Mark Ingebretsen from the Office of the Publisher and Christine Cotting from UpperCase Publication Services.





## Opening Address

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JAMES D. WOLFENSOHN

I would like to welcome all of you here and say how delighted we are by the existence of the Annual World Bank Conference on Development Economics and by the fact that so many of you attend to enrich it and help us clarify a lot of our thinking. We also welcome the opportunity to exchange with you ideas that we are developing and to discuss with you the things that we're doing. I am heartened that the World Bank Group's current development agenda, on which I am pleased to speak to you today, is a close fit with the subjects you have chosen for this year's conference.

The big event of the year, of course, was the International Conference on Financing for Development, held in Monterrey. It was a coming together of the international development community in a conference that only a couple of months earlier looked certain to be the total failure it had been speculated to be—just another conference weakly delivering statements of general principles, with low attendance and not much movement. As it turned out, it was a coming together of quite a number of things, none of them yet proven or established but which set a framework that we are trying to move on now as we go forward.

The framework was this—The New Partnership for African Development (NEPAD) initiative, which fundamentally restated the position of African leaders Obasanjo, Mbeki, Bouteflika, and others that for the development process to succeed, the Africans themselves must put certain conditions on the way a bargain would be struck between developing countries in Africa and industrial countries. The bargain, as I think you know, was first, and totally appropriately, that the developing country leaders will be in charge; second, for the development process to progress, developing country leaders agreed that efforts should be made to render development equitable to their people. In NEPAD's view, these preconditions include strengthening of the government in terms of capacity building; establishing a legal and judicial system that is reformed, clean, and accessible to everybody—one in

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James D. Wolfensohn is president of the World Bank Group.

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which judges are honest and the legal system itself falls into place with some integrity; designing a financial system that is transparent and that allows access to credit, especially micro-credit, leasing, and other forms of specialist financing, not just for the privileged few but also for small- and medium-size enterprises; and encouraging governments to wage a relentless war on corruption and make governance transparent. The theme of the NEPAD initiative—with leaders who are seeking general approval for the plan and with K.Y. Amoako of the United Nations Economic Commission for Africa seeking to build the base that could enable pan-African implementation—carried through into Monterrey and became part of the Monterrey Consensus. There it was stated by all developing countries that they recognized the need for this framework—that going into the development process without it would permit work to be done on a humanitarian level, but not in the realm of basic structural reform, and therefore the development process would not be effective. They said also that implementing the framework above could not be the responsibility of the developing country leaders alone. Needed was some form of comprehensive plan that would include governments, civil society, the private sector, and an integration of effort on the part of development agencies. All of these were the developing countries' statements, as were some statements about gender and about reaching the Millennium Development Goals.

On the other side, the Monterrey Consensus stated what was expected of the industrial countries and the donor institutions (both bilateral and multilateral institutions). There were, as you know, three particular initiatives:

- The first was an agreement by industrial countries that they would support capacity building (in developing countries) by giving assistance in building capacity at every level, not only in the government but in civil society and the private sector as well. The initiative stated that the trade agenda was central, that the Doha Round was critical to the process for all the reasons that you know better than anybody—namely, that the numbers in the trade game are such that they dwarf the numbers in the overseas development assistance game. Agricultural subsidies are running at \$350 billion a year from the industrial countries alone, and overseas development assistance is somewhere a bit north of \$50 billion. So on the single issue of agricultural subsidies and trade, the amount of money in agricultural subsidies is seven times the amount in development assistance, quite apart from the opportunities that come from trade when there is development in a country and access to other markets.
- The second aspect of the agenda, the centrality of trade, was reaffirmed in Monterrey, but the hopes were that action could be taken even before the end of the Doha Round to open markets, as was done with the U.S. Africa Growth and Opportunity Act and the “everything but arms” policy in Europe.
- The third initiative was increased development assistance, and two months before the Monterrey conference that initiative looked as though it was going to fail miserably. There was a tremendous amount of going back and forth until, just weeks before the conference, President George W. Bush made a speech at the Inter-

American Development Bank in which he indicated that on top of the \$10 billion a year that the United States is giving to international development assistance, now there will be an increment at the rate of \$5 billion a year, which means that by the beginning of the fourth year from now, the U.S. development assistance efforts will be operating at \$15 billion a year. As you know, the Europeans increased their contribution from 0.33 percent to 0.39 percent of GDP on average. So we have somewhere between \$12 billion and \$20 billion extra coming in as we move forward.

These parts of the possibilities for development assistance were more clearly delineated in Monterrey. The World Bank took the Monterrey agreement to the 2002 Spring Meetings (and in preparation for the September gathering in Johannesburg) to ask, What do we do now that we've got this agreement, fragile though it may be, and where do we go from here? The issue presently is implementation. All people in the development business agree that we should all stop the "*talk*" and get on to the "*implementation*" phase. Everybody is now waiting to see if the industrial countries would be able to deliver on trade and if the developing countries can deliver on their promise.

This is now the position that we're in, all precedent to Johannesburg where the issue of sustainable development—and particularly but not exclusively environmental sustainability—will be more clearly accentuated. All of this is happening, I might add, within the context of the poverty reduction strategies, the integrated framework, and comprehensive development, all terms that now seem to be part of the development language, and with three very important additional implementation issues that must be addressed.

The first issue is coherence. Development must be done in a coherent way. As a practical matter, the international community has grappled with coherence in part, but not overall. The problem with coherence and coordination of aid is that the development agencies fall all over each other trying to give assistance. In pursuit of coordination, the World Bank has developed a new Web-based instrument called the Global Development Gateway (<http://www.developmentgateway.org/>), which you may want to access on your computer, that is essentially a new information database that concerns many forms of development. This information database shows that there are 400,000 projects in the development field for which we have some record—400,000. For example, if you click on Morocco and primary school education, thinking that you'll run into 10 or 12 projects, you'll find there are 258. Use the Accessible Information on Development Activities (AiDA) function in the database and you'll discover just how many development agents there are in every field in every country, and you'll validate what President Benjamin Mkapa of Tanzania said: Government officials in Tanzania complete 2,500 forms every quarter in fulfillment of the reporting requirements of donor agencies and have more than 1,000 visits a year from donor agencies. Well, if that happens in Tanzania, it happens everywhere. Coordination of aid is not a theoretical issue; it is crucial in terms of the effectiveness of assistance. This issue is being discussed now, and we'll have a meeting on it next year, run under the auspices of the Bank, the regional banks, the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development

(OECD), and the United Nations, at which we'll say, "Listen, we've all got a problem here. It's about time we really looked at it more closely."

The second challenge facing the development community is effectiveness, and I hope many of you may give us a hand in grappling with this issue. The concern was stimulated by the U.S. Secretary of the Treasury, Paul O'Neill, who talked about the productivity of investments and raised the argument that so many have raised: There will be plenty more money, but demonstrate to us that the money's being well spent. You know that Secretary O'Neill challenged us all in the development business when he said in effect that he has been around the world, and he thinks we have all done a lousy job because there's still poverty. How could we have spent all this money and done a decent job when you find that there are three billion people still living under \$2 a day? And how is this going to work in the next 25, 30 years when, to the five billion in developing countries, we're going to add two billion, to make it seven billion out of eight? He wanted to know how we're spending the money, and he wants to know the returns. If we're putting money into primary school education, we should show him how it works, and show him how we're having an effect in terms of health and how we're having an effect in terms of the Millennium Development Goals. Well, that's a difficult issue. We at the Bank have done, I think, a pretty damn good job on measuring the effectiveness of our projects. But to measure the relationship between our educational expenditures and the Millennium Development Goals is something different. There are a lot of other factors: What other people do, the size of our contribution, the leveraging up of what we're doing. We're having a meeting on June 4th and 5th at which we're going to grapple with a question that looks simple when it's posed in terms of "just show me how effective you are," and with the question of how to really measure the effectiveness of any individual development initiative.

"There may be answers," I said to Secretary O'Neill and to the other ministers. "If you could show us how you measure the effectiveness of domestic budget expenditures, we'll be delighted to take that methodology and apply it internationally." There isn't a queue at the door to tell us how they measure the effectiveness of domestic expenditures, and I guess the queue will not be forming, although one or two countries are experimenting with such measurement, notably New Zealand and the United Kingdom. Maybe we will get some information. But at this point in time it's a problem that I hope some of you may want to address.

The last issue challenging us is the question of leverage and scale. Related to this question is the issue of time. What troubles me at the moment is the enormity of this challenge—even if our current initiatives are successful, how do we scale up to meet the growing challenges of the next 25 years? How do we engage poor people and make them part of the solution rather than the object of our intervention? How do we do it in a sustainable way? And how do we do it in a way that is owned and is replicable? Because if we don't do that, we'll have individual successful projects that may cause dependency and won't prompt development to evolve into a more active framework.

Let me just say for the record that I do undoubtedly recognize that none of this is possible without economic growth. I do understand the fundamental economic basis that is necessary if we are to accomplish any of these things. Let me stipulate up front that I do recognize that growth and sustainability are based on economic growth. The critical concerns are leveraging up within that environment, and doing so as quickly as possible. What we're talking about in the Monterrey Consensus and the global development framework has two dimensions. Let's picture those dimensions as a grid. One dimension is the partnership between government, civil society, the private sector, and the multilateral and bilateral institutions. They're the players, if you like, on the left-hand side of the grid. Across the top of the grid are the concerns facing the new partnership--capacity building, legal and judicial reform, financial sector reform, elimination of corruption, and in whatever order you choose, education, health, infrastructure, rural strategy, urban strategy, and cultural strategy—all the things that go into the mix of building a society. You can do a clear analysis using this two-dimensional approach. But there is a third dimension—time. It is time that you need to get a lot of these things done. If you come up with a successful two-dimensional approach, that's okay, but what happens when you say that changing a legal system or an educational system or a health system takes you 5, 10, 15 years? How do you judge your effectiveness in that three-dimensional context? How do you assess what changes in the way in which you operate when you have to think in terms of this third dimension?

Here is how I see our development agenda at the moment: It is an agenda of the new partnership between the industrial and the developing countries; the phenomenal pressure of scale and the changing balance of the world because we are adding 2 billion people, with virtually not more than 50 million of them being added to the industrial world. And we have the issues of how we approach development in terms of coordination or cooperation, how we deal with the question of effectiveness, and how we evolve sustainable and expandable programs. Given that you're all going to be here for two days and can solve all these problems, I just leave you with an understanding of where I see the international agenda now and with a prayer that we do well enough in Johannesburg to enable us to take the next step of getting on with implementation.

Thanks very much.





## Keynote Address Scale, Results, and Development

NICHOLAS STERN

### The Challenge and the Opportunity

The magnitude of the *challenge* of reducing poverty is daunting. Despite unprecedented wealth in rich countries, 1.2 billion people still live on less than \$1 a day. There is also great deprivation along key dimensions of human development: for example, in developing countries, child mortality is 84 per 1,000 live births, whereas in high-income countries it is only 7 per 1,000. And the scale of the challenge will continue to grow. In the next 30 years, the population of the world is projected to increase by 2 billion people, from 6 to 8 billion, and almost all of the population increase will be in developing countries. But I will argue that developments over recent years and months have given us a real opportunity of success in rising to this challenge. We have an opportunity to make advances in the fight against poverty of a magnitude that has never before been possible. That opportunity carries with it a duty to respond on a scale that is commensurate with the challenge.

Overall development *achievement* in recent decades has been remarkable. Since 1960, developing-country life expectancy has increased by 20 years (from the mid-40s to the mid-60s); since 1970, adult illiteracy in developing countries has fallen from 47 percent to 25 percent; and since 1980, the number of people living on less than \$1/day has begun to fall, notwithstanding a population increase of around 1.5 billion in developing countries. But far too many people, particularly in Sub-Saharan Africa, are left out of this story, and far too many people have seen the quality of their lives deteriorate. The challenge we have is to build on the achievements and recognize and reverse the setbacks, taking into consideration the lessons we have learnt.

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Nicholas Stern is senior vice president, Development Economics, and chief economist at the World Bank. The author would like to thank Paul Collier, Shanta Devarajan, David Ellerman, Shahrokh Fardoust, Ian Goldin, Amy Jill Heyman, Gloria Kessler, Caralee McLeish, Joyce Msuya, and Jean Gray Ponchamni for their input and assistance in preparing this article.

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We now must act in global partnership, scale up our actions, and work constantly to increase the development impact of our efforts.

In building on these past achievements, we are aided by a new *international recognition* of the poverty challenge and by shared international targets. The Millennium Development Goals (MDGs) adopted at the United Nations Summit in 2000 commit us to the eradication of extreme poverty and hunger. Two key targets for the period 1990 to 2015 are halving the proportion of people living in absolute poverty and cutting child mortality by two-thirds. The goals in education include a target of universal primary education by 2015, as well as elimination of gender disparities in schooling, preferably by 2005, and no later than 2015. The MDGs also commit the international community to halt and reverse the spread of HIV/AIDS and malaria, and reverse the loss of environmental resources, by 2015. These and other MDGs are ambitious but attainable (see annex).

Furthermore, we now know more about how to be *effective*. We have learnt how we can make development assistance work better. We have learnt about the central importance of development policies and actions that are shaped and thereby “owned” by the government and people of developing countries. We have understood that assistance is much more effective if it comes in support of good country-owned policies, governance, and institutions. And we are learning more about how to build better institutions and governance (World Bank 2002a).

The world community is *accepting responsibility* for reducing poverty. The consensus that emerged from the Monterrey Financing for Development conference in March 2002 laid out a framework of mutual responsibility and accountability between developing and rich countries. Development partners have agreed to build on the Monterrey consensus with progress in three areas:

- *Better (country-owned) policies and institutions in developing countries*—as set out, for example, in an approach based on a Comprehensive Development Framework (CDF)/Poverty Reduction Strategy<sup>1</sup>—with assistance in capacity building
- *Greater market access and integration*—following on the World Trade Organization (WTO) talks in Doha in November 2001
- *Higher levels and better use of aid*—just before Monterrey, donors committed to an extra \$12 billion in aid (over and above the \$54 billion in aid delivered in 2000), and more effective poverty-oriented criteria have also been proposed for aid delivery.

Taken together, these positive developments—the achievements over the last 40 years, recognition of the magnitude of the challenge and the setting of targets through the MDGs, the learning about development effectiveness, and acceptance of mutual responsibility in Monterrey—give us this unique opportunity. The MDGs adopted in October 2000 and the Monterrey gathering of March 2002 are central to our new opportunity. Let me take a moment to highlight the reasons for their importance.

Through the MDGs, countries have committed themselves to conquering poverty. The MDGs are *multidimensional* and multisectoral, covering income, gender, educa-

tion, health, and environment. They represent a much broader definition of the objectives of development than we would have seen 15 years ago, and they embody a deeper understanding of the nature of poverty. The multidimensionality is crucial not only in concept but also in action. Confronting poverty on any one dimension will usually require an understanding of how income, education, health, gender, environment, and other aspects of the development of the economy and society interact. And strong effects on outcomes on any one dimension are likely to require action on several dimensions. Meeting the MDGs will depend heavily on shared international commitment and international coordination. Partnership is essential—there is no room to waste resources through uncoordinated efforts. The measurable results inherent in the MDGs will help us manage, allocate, and coordinate our activities and resources more effectively. Equally important is the sense of urgency provided by the deadlines specified in the MDGs.

To meet the MDGs we must understand the *scale* of the challenge in relation to the goals. And we must understand how actions on the different dimensions can be brought together. We know that income growth is necessary for poverty reduction (see, for example, World Bank [2000]). To meet the other MDGs related to human development (infant mortality, maternal mortality, primary education, and girls' education), however, the focus of implementation has to go well beyond income growth. Based on the growth rates that we now forecast for the developing world, an implementation focus on income alone will not get us very far on these MDGs; we must also act directly to achieve health, education, and other goals (Devarajan, Miller, and Swanson 2002). Tables 1 and 2 illustrate this point by showing how far growth-only actions can be expected to take us toward reaching the poverty, health, and education goals, drawing on estimated elasticities from the literature. Growth alone, as currently forecast, will bring income poverty close to the goal in most regions except Sub-Saharan Africa. Health indicators, however, are expected to fall well short of the goals in all regions, if we assume no policy action beyond that embodied in the growth forecasts. And education outcomes in Africa, for example, would be far from the targets under a growth-only strategy. Even if income growth in Africa were three times as rapid as forecast, so that the continent would be likely to reach the poverty goal, it would still fall well short of the education and child mortality goals.

The conference at Monterrey was a landmark of great significance. First, the development partners who came together there reaffirmed their commitment to the MDGs. Second, the Monterrey consensus embodied a sense of common responsibility and accountability for rich and developing countries. Third, it emphasized the importance of getting measurable results in growth and poverty reduction. One example of an explicit commitment is the one made by African governments, through the New Partnership for Africa's Development (NEPAD), to promote good governance and adopt sound policies; another is the pledge by rich countries to increase the volume of aid, thereby reversing the downward trend seen during the 1990s as politically motivated aid unwound after the end of the Cold War. Fourth, at and in preparing for Monterrey, the international institutions—particularly the World Bank,

**TABLE 1.**  
**Income Goals**

	Population		GDP per capita			Poverty			Growth-alone (%)
	Millions	2000	Current US\$	Average annual rate of change (%)		Population in extreme poverty (%)	1999	Target (%)	
				1990-2000	199x-2015				
East Asia and Pacific	1,855	1,110	1,110	5.9	5.6	27.6	14.2	13.8	7.4
Europe and Central Asia	474	1,986	1,986	-1.7	4.8	1.6	3.6	0.8	2.1
Latin America and the Caribbean	516	3,879	3,879	1.7	3.0	16.8	15.1	8.4	8.4
Middle East and North Africa	295	2,235	2,235	0.9	1.4	2.4	2.3	1.2	1.8
South Asia	1,355	440	440	3.6	3.7	44.0	36.9	22.0	25.4
Sub-Saharan Africa	659	490	490	-0.1	1.4	47.7	46.7	23.9	40.6
Total	5,154	1,273	1,273	2.0	n.a.	28.9	22.7	14.5	n.a.

n.a. Not applicable.

Note: Growth-alone is constructed from forecast growth rates.

Sources: World Bank 2001a, c.

**TABLE 2.**  
**Health and Education Goals**

	Mortality rate of children under 5 years of age (per 1,000 live births)			Net primary enrollment		
	Target		Growth- alone	Target		Growth- alone (%)
	2000	2015		1998 (%)	2015 (%)	
East Asia and Pacific	44.7	18.2	38.9	97	100	127
Europe and Central Asia	25.2	11.2	23.4	93	100	117
Latin America and the Caribbean	36.7	16.2	35.6	94	100	108
Middle East and North Africa	53.9	23.4	52.4	86	100	92
South Asia	96.5	39.9	91.2	73	100	87
Sub-Saharan Africa	161.6	51.2	154.2	60	100	64
Total	78.0	30.3	n.a.	82	100	n.a.

n.a. Not applicable.

Note: The challenge of meeting targets specified in terms of primary school completion rates is much more severe than that of enrollment (see World Bank 2002b).

Sources: Growth-alone is constructed from forecast growth rates and a growth elasticity that can be found in Pritchett and Summers (1993) and Schultz (1987). Additional information from World Bank 2001a, c; UNESCO.

the International Monetary Fund, the United Nations, and the WTO—showed a strengthened and deepened ability to join forces in the fight against poverty.

For those reasons, the prospects for successful action on development have never been better. But the prospects cannot be realized unless there is delivery on the commitments made in Monterrey. And we have to understand the scale of the challenge and respond in a way that is commensurate with the scale. Tables 1 and 2 show that the distance from our goals not only is great overall, but also varies tremendously across dimensions and across populations. It is particularly severe in health in most regions, and on all dimensions in Sub-Saharan Africa. Our task is complex and urgent; carrying it out successfully will depend on partnership and global action. If that partnership and action are to work effectively they must be guided by careful evidence-based policy analysis.

## **The Scale of the Challenge and the Nature of International Financial Institution Response**

How do we respond to this challenge? Given its scale and nature, there must be an international partnership. I will focus here mostly on the role of the Bank, but in many cases it acts in concert with other international institutions, and there is no attempt here to set out the specific role for each actor in a partnership either between international institutions or more generally. To function effectively, partnerships are likely to require a common understanding of a broad strategic

approach at the country and global levels. This is the reason that, at the country level, lies behind the Comprehensive Development Framework and the Poverty Reduction Strategy Paper. It was the recognition of the importance of that approach at the global level that made the Monterrey conference so significant. Of course, a shared strategic approach is not, and should not be, a global “master plan,” but it should embody mutual responsibility and commitment and an understanding of how different commitments and actions fit together.

The challenge and goals require a strategy that explicitly takes on the issue of scale. In shaping such a strategy and analyzing the Bank’s role within it, we must recognize that the Bank is a small player in relation to flows to developing countries. To developing countries, the Bank lends approximately \$16 billion a year (around \$10 billion in nonconcessional loans through the International Bank for Reconstruction and Development, and around \$6 billion in concessional loans from the International Development Association [IDA]). That is small compared with a recent annual average of approximately \$160 billion of foreign direct investment to developing countries, and very small compared with some \$1.5 trillion of total investment in developing countries. In education, the Bank—the world’s largest lender in this sector—lends \$1–\$2 billion a year, which compares with an estimated total of \$250 billion in public spending on education worldwide. Clearly, in relative terms, if the Bank’s current education loans were doubled to 2 percent of the total they would stay small. Even when we add in the other donors, the total volume of aid—at \$54 billion or so—is small relative to the challenge. And the additional \$12 billion of aid pledged at Monterrey is far from the extra \$50 billion that the Bank has calculated as necessary to reach the MDGs—a calculation based on the assumption of strong improvement in policies in developing countries. With the exception of some very poor, sparsely populated countries, the aid itself is comparatively small. More than 3 billion people of the developing world’s approximately 5 billion people live in countries that receive less than 0.5 percent of gross national income in aid (tables 3 and 4). Therefore it is imperative that we use aid well and, in particular, use it to promote the wider change that is crucial if countries are to embark on a path that will be really effective in fighting poverty.

For those countries where aid flows are small, and that include most of the population of developing countries, the key role of the World Bank is to promote and support the formulation of good policy, the construction of sound institutions, and the building of capacity. The Bank is uniquely positioned to be, and has a responsibility to act as, the primary source of evidence-based policy advice, generating ideas and sharing experiences from around the world. It has a comparative advantage in drawing evidence together, generating analysis, and creating partnerships around good country strategies. For Bank activities, therefore, scaling up is largely about fostering an understanding of what can work and what does not work—that is, an understanding of development effectiveness—and bringing it more effectively to bear on the challenge of development. That is why we speak of the “Knowledge Bank” and why the notion is so important. Let me add in that context that we also must emphasize the role of “ideas,” a more dynamic term than “knowledge” and one that carries the central notion of change.

We must be clear, however, that financial support and involvement in projects and programs is a crucial complement to ideas, analysis, and advice. Advice is understandably taken much more seriously if it is backed by financial involvement so that our partners recognize that we are prepared to put our reputation and credibility behind our advice and take part in its implementation. The complementarity is still deeper than this. Analysis of country priorities and strategy leads to the identification of programs in which we should be involved. And the proposal of a program or project by a country will usually require special analysis. Above all, acting for scale requires that the ideas and finance come together to promote change. Thus, if we are to make a response commensurate with the challenge, we have to *provide financial support for change rather than cover the costs of not changing*.

I have explained that, for the majority of people in developing countries, ideas and analysis will be the key contribution of the Bank. However, at a country or regional level, aid flows will not always be small. In some cases, particularly in Africa, scaling up must involve scaling up resource flows in addition to bringing ideas and analysis. Resource flows, small as they are in absolute terms, are already relatively large in comparison with gross domestic product (GDP) in those countries (see table 5). For example, the estimated cost of a basic World Health Organization health intervention at \$30–\$40 per person a year (Sachs 2001) is large in relation to an annual GDP of \$300–\$400 per person—a typical income level for much of Sub-Saharan Africa. And at \$600 million a year, projected IDA programs in Ethiopia, a country of around 60 million people and GDP of around \$6 billion, would represent some 10 percent of GDP.

In this context, the absorptive capacity of developing countries will have to be taken into consideration. That will depend on many things, including the quality of policy, institutions, and infrastructure. Preliminary calculations based on the experiences of the Bank and other donors suggest that with reasonable policies in the recipient country, resource flows could remain effective while expanding to 15–20 percent of national income in most developing countries (Collier and Dollar 2002). Thus our thoughts about ideas, financial flows, and development must be nuanced: we must recognize that in some countries, contributing ideas that catalyze domestic reforms will be the predominant contribution of outside assistance, whereas in other countries—particularly in Sub-Saharan Africa—an increase in financial flows also will be crucial.

The above discussion has concentrated on aggregate aid flows. Focused efforts in health and education, however, are essential for meeting the goals on these dimensions. Experience has shown that direct action, embodying both knowledge and financial transfers, can yield very substantial results on the human development dimensions. Infant and child mortality in Bangladesh was cut by a third in the 1990s. In India, women’s literacy grew from a little over one-third to around one-half in the 1990s. Costs of these interventions together with estimates of the costs of spurring overall growth (and assuming appropriate policy reforms) form the basis of our calculations that an extra \$40–\$60 billion per year in aid would be needed to achieve the human development MDGs (Devarajan, Miller, and Swanson 2002).

**TABLE 3.**  
**Aid by Threshold**

Aid (% GNI)	Atlas			Purchasing power parity		
	Number of countries with data	GNI per capita	Population (millions)	Number of countries with data	GNI per capita	Population (millions)
	1995–2000 average			1995–2000 average		
>20	13	270	63.5	..	..	..
10.0–20.0	30	272	257.6	3	670	14.3
5.0–10.0	19	503	179.4	15	854	98.6
2.0–5.0	19	606	369.7	36	1,375	238.0
1.0–2.0	17	1,461	346.3	17	1,969	179.2
0.5–1.0	16	1,193	610.0	19	2,840	452.6
0–0.5	28	1,508	3,077.5	48	4,078	3,992.1
Total	130	1,248	4,929.2	128	3,541	4,929.1

.. Zero or insignificant.

GNI Gross national income.

Note: The Atlas conversion factor—used in calculating GNI—is the average of a country's exchange rate (or alternative conversion factor) for that year and its exchange rates for the two preceding years, adjusted for the difference between the rate of inflation in the country and that in the G5 countries. PPP GNI is gross national income converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power of GNI as a U.S. dollar has in the United States; unallocated/unspecified aid not included.

Source: World Bank 2001c.

**TABLE 4.**  
**Aid by Region**

	Atlas				Purchasing power parity			
	Aid (% GNI)	Number of countries with data	GNI per capita	Population (millions)	Aid (% GNI)	Number of countries with data	GNI per capita	Population (millions)
		1995–2000 average		2000		1995–2000 average		2000
East Asia and Pacific	0.4	18	1,038	1,785	0.1	15	3,542	1,785
Europe and Central Asia	0.8	27	2,093	474	0.2	25	6,002	460
Latin America and the Caribbean	0.3	29	3,678	501	0.1	29	6,605	501
Middle East and North Africa	1.0	14	1,975	267	0.4	11	4,898	261
South Asia	0.9	7	417	1,329	0.2	7	1,977	1,329
Sub-Saharan Africa	4.4	45	510	647	1.5	43	1,518	647
Total	1.0	140	1,227	5,154.4	0.3	130	3,507	5,154.4

GNI: Gross national income.

Note: The Atlas conversion factor—used in calculating GNI—is the average of a country's exchange rate (or alternative conversion factor) for that year and its exchange rates for the two preceding years, adjusted for the difference between the rate of inflation in the country and that in the G5 countries. PPP GNI is gross national income converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power of GNI as a U.S. dollar has in the United States; unallocated/unspecified aid not included. The aggregates include unallocated/unspecified aid. The GNI per capita figures refer to the entire region.

Source: World Bank 2001c.

## How Can the Bank Work to Scale Up?

Scaling up, I have argued, is in large measure about supporting and helping to foster reform that is oriented to pro-poor growth and development. We must therefore be able to understand, analyze, and propose policy on the drivers of development and how to influence them. At last year's Annual Bank Conference on Development Economics (ABCDE), I set out a "strategy for development" in terms of two pillars of pro-poor growth: (1) the creation of an investment climate for entrepreneurship, investment, productivity, and employment (emphasizing the importance of small and medium-size enterprises and farms), and (2) empowering and investing in people. We are now developing our evidence-based policy research on the two pillars and the promotion of the drivers of development they embody. We also are examining the use of aid from the perspective of supporting good policies embodied in the two pillars. In a recent Bank paper on development effectiveness (World Bank 2002a), we showed that aid is becoming more effective because it is better allocated and policies and governance in developing countries are improving.

### *Returns to Scale*

Before introducing some of the ideas and programs behind that research, the strong emphasis on "scaling up" here requires me—for the economists—to draw attention to the relevant notions of scale and returns to scale underlying the discussion. I started by emphasizing the magnitude of the challenge relative to the resources from external financial support. That gap suggests that we need increasing returns to scale in our actions, in the sense of big responses from modest inputs, if those actions are to achieve results commensurate with the scale of the challenge. The formal notion of constant returns to scale, in standard production theory in economics, is usually defined in terms of a doubling of all inputs leading to a doubling of all outputs.<sup>2</sup>

From the policy perspective, we must look for increasing returns to scale from interventions that initiate or contribute to domestic processes that then develop their own momentum. The investment climate and empowerment are central examples of such processes and their influences. As I discussed in last year's ABCDE speech (Stern 2001), improvements in the investment climate and empowerment can exert an ever-widening influence and generate further demand for their enhancement. What we need to understand, and what we are working on, is how to build the momentum of those processes.

### *Instruments to Create and Support Momentum for Change*

The Bank's instruments for bringing about the type of change we are describing are analytical work, a programmatic approach, demonstration projects, and conditionalities or "necessary steps" on which assistance is predicated. Much of the change we have been discussing involves building and changing governance and institutions. To

create and sustain that change will require the building of capacity. Thus all four instruments should be used in a way that supports that kind of change and recognizes the importance of time.

*Analytical work* helps establish priorities and shows what can be done, thus helping policymakers shape action. Ideas are created and shared through analysis and implementation. I have already emphasized that the influence is much greater if we can back up the analysis with financial commitment. The Bank is uniquely placed to provide an economy-wide assessment of priorities based on cross-country experience. It also has, or can muster, appropriate skills in particular sectors.

The *programmatic approach* supports reform and reform programs by providing multiyear lending and the flexibility to direct resources toward reforms across a significant part of a country's economy. With programmatic involvement we can engage with the country in a medium- to long-term framework that matches the time dimension of the development challenge. Programs can be at the country or sector level. For aficionados of Bank legal structures, I should emphasize that in defining programs as above, I am not invoking the Bank's formal and legal distinction between projects and programs. Programs could involve investment loans, sectoral adjustment loans, and so on. From our discussion here, of course, it is crucial that the program loans genuinely support change and are not merely the transfer of budgetary resources.

The programmatic approach also allows us to go some way toward avoiding the problems of evaluating the effectiveness of our assistance that are created by the fungibility of aid. Let me elaborate briefly on the notion of fungibility. A significant problem in evaluating the contribution of external financial assistance is that we do not know what the country would have spent in an area if the outside donor had not supported a particular project, and as a result we do not know if the project actually has brought more resources to a sector. For example, we cannot be sure that aid to the agricultural sector will increase public expenditure on agriculture by the project amount. And there is considerable evidence to show that fungibility at the project and sector levels is quite common. Work by Devarajan and others, for example, showed that \$1 in aid for transport and communication in a sample of 18 Sub-Saharan African countries led to a 36 cent increase in spending in that sector (Devarajan, Dollar, and Holmgren 2002).

By contrast, for example, programmatic engagement allows us to work toward improvement both in the allocations of public budgets and in how they are spent. Both of those changes can be analyzed directly—we can try to measure the overall balance of spending and we can identify changes in methods and organization, for example, in health and education. Thus the programmatic approach allows us to come to grips with the assessment of whether changes in both processes and allocations are taking place. And the changes in allocation give us insight into the problem of fungibility.

*Demonstration projects* can develop approaches and show how real ideas can be put into practice, and then can encourage adaptation and replication on a larger scale.<sup>3</sup> Evaluation is crucial to demonstration projects. There have been very impor-

tant recent advances in evaluation, including an increased emphasis on randomization (Angrist and others 2001). Evaluation does not necessarily solve problems of fungibility of financial transfers but it can show whether a project is changing methods of work in a way that gets results. Clearly, programs for adaptation and replication are crucial to scaling up. We are also learning to scale up and carry ideas across countries. One example is the Progresa program in Mexico, which provides cash transfers to poor rural families on condition that their children remain in school and take part in health care and nutrition activities. That program was deliberately introduced in randomized samples so that it could be evaluated properly. The program's effects have been substantial and the evaluations convincing. The result has been that the example of Progresa is now influencing the design of social programs in many other countries. On a national scale, China has been very successful at experimenting in one region and then scaling up across the country. For example, China's agricultural reforms of 1979–83, started by farmers in Anhui province, were replicated in all provinces and the whole country by the early 1980s. In India, the Bank's support for reforming states has aimed at promoting similar demonstration effects of reforms. It must be emphasized very strongly that if a project is to be genuinely a demonstration, the evidence of its benefits must be clear. That demands convincing evaluation, which requires careful ex ante design, including randomization where possible.

Successful demonstration will go beyond sound evaluation. It will also require strong communication to those who may wish to implement ideas elsewhere. Thus the responsibility of those engaging in projects is to think ahead about both evaluation and communication. These are not desirable add-ons but are central to the whole point of doing projects. Without them a project may be simply one more road or one more school.

Demonstration projects may demonstrate much more than good ways of creating, say, a piece of infrastructure. A good road project, for example, could demonstrate principles of how to do procurement with applications much wider than road infrastructure. It might show how to finance infrastructure maintenance. Or it might demonstrate how to involve local people in design, execution, and maintenance.

*Actions* (or "*necessary steps*") deemed to be crucial for effectiveness of programs—these have often been called conditionalities—can also strengthen the arm of reformers. They cannot substitute for country ownership, but when a country has demonstrated a commitment to reform (say, by undertaking some difficult decisions such as a currency devaluation), then these "*necessary steps*" made suitably simple and country-specific could enhance commitment to the reform program (Devarajan, Dollar, and Holmgren 2002). In thinking about such conditionalities and their roles, we must recognize that no country, whether industrial or developing, is a homogeneous entity with a well-defined political will that either embraces or does not embrace reform. Reformers can become more or less convincing and influential over time, and they often greatly value external support in the domestic competition of ideas. But it is not the main purpose of this article to discuss the role and effectiveness of conditionalities.

All of this discussion shows that the Bank really does have the instruments to implement its role in providing finance for change—and *not* providing finance for not changing.

### *Country Ownership and Collaboration between Partners in Scaling Up*

So far I have been examining the *instruments* of the Bank; let me now turn to its *relationships*. Because we are small relative to the scale of the challenge, we have to work with other partners to make best use of the limited resources available to us. We can help prioritize, coordinate, and integrate what can be done. And one of the key lessons that we have learned about development assistance in recent years is that we must constantly work in a way that responds to and builds on country leadership. The approach embodied in the creation of Poverty Reduction Strategy Papers (PRSPs) is a central example of how governments can drive the development process with cooperation from civil society and development partners.

Collaboration requires setting priorities and coordinating activities. The process of setting priorities with partners should be focused on helping us understand how partners can come together to scale up efforts and impact. In many cases the Bank is the only organization on the ground with an ability to assess priorities across the board. As a result, it can play a role akin to a general practitioner in health, and it is uniquely placed to support the PRSP process (and comparable CDF vehicles in richer countries).

The Bank should choose its own activities on the basis of comparative advantage and development effectiveness. It must not try to do everything. It should assess comparative advantage through knowledge of what its partners are doing and can do on the ground. The Bank can judge development effectiveness on the basis of a well-formed strategy founded on the twin pillars of investment climate and empowering and investing in people (World Bank 2002a).

In performing its integrating role, the Bank must recognize that outcomes depend on action in many sectors. For example, educational achievement depends on transport infrastructure, water supply, power supplies, incomes, and nutrition, as well as inputs into education. Attaining better health outcomes depends not only on doctors, nurses, hospitals, and clinics, but also on income, education (particularly of women), clean water supply, reduction of air pollution (including indoor pollution), and immunization. These essential elements of action are embodied in the Strategic Framework of the Bank, adopted in early 2001 and deepened this year, that is now the basis of our implementation activities.

The Bank and other international organizations also play a key role in effecting change at a global level and in developed countries. In part, they do this through their *convening* role.

- For example, through its work on PRSPs, the Bank can help ensure coordination among development partners to provide strong support for country leadership.
- On a regional level, the Onchocerciasis (Riverblindness) Control Program is an example in which the Bank convened partners from developing countries, donors,

the private sector, and civil society to eliminate this costly disease from an 11-country region of West Africa.

- In the area of the environment (as well as conflict prevention), the Nile Basin Initiative has brought the many riparian countries of the Nile River to work together toward peaceful and sustainable sharing of that river's resources. Similarly, through the Chad-Cameroon oil pipeline project, the Bank has helped establish standards for environmental safeguards. Both examples have strong regional dimensions.
- In Eastern and Central Europe and the former Soviet Union, the European Bank for Reconstruction and Development (EBRD) has contributed to the transition by bringing together the experience of investors through councils such as the Foreign Investor Advisory Council (FIAC) sponsored in Russia and Ukraine. The International Finance Corporation and the Bank have played a related role with Foreign Investor Advisory Services by linking multilateral agencies, governments, and firms to collaborate on ways to attract investment. Those are important examples of how convening partners can lead to improvements in the climate for entrepreneurs to invest and create jobs.
- Work on conflict countries provides strong examples of the convening role. The diamonds industry has recently established a self-regulation system—the Kimberley initiative designed to keep conflict diamonds and other illicit diamonds off the market. This is the culmination of recent steps by the U.N. Security Council designed to prevent future conflicts such as those that have plagued Angola and Sierra Leone. The regulation of diamonds is an example of how international development institutions can use convening power and advocacy to improve the environment in which developing countries find themselves. In this case the convening power came from the United Nations.

The Kimberley process also shows how the Bank and IFIs can promote development progress through *advocacy*. The scholar Michael Klare (2001) has written, “Two events were responsible for [the Kimberley process]. The first was the release of a U.N. report on illicit diamonds trafficking. . . . The second key event was the publication of a study by the World Bank. . . . The release of these two documents, both of which received widespread media attention, spurred government officials and NGOs [nongovernmental organizations] to call for measures to break the link between resource exploitation and war.”

The Bank plays an advocacy role in other global issues that either promote or impede international development. One recent example is advocacy in favor of dismantling trade barriers in wealthy countries. For example, the Bank's *Global Economic Prospects 2002* report and its policy research report on *Globalization, Growth, and Poverty* last year were oriented toward the WTO talks in Doha, and explored how rich-country subsidies, tariffs, and nontariff barriers hinder progress in the developing world. Doha only opened the door to this dialogue; the challenge is now to open minds in rich countries to the great waste and damage those policies

cause. To take one example, distortionary agricultural subsidies in rich countries are now more than six times global aid flows and are similar in magnitude to the GDP of Sub-Saharan Africa. They depress export prices of such crops as cotton, sugar, and soybean, and damage incomes in the poorest countries. They cause widespread environmental damage by encouraging excessive use of fertilizers. And of course they are a great drain on rich countries' budgetary resources that could be used much more productively—not least for development assistance.

*Research and development* is another essential role of the international institutions. I have argued that ideas and change drive growth; generating knowledge through research is therefore critical. Research has direct impact on the lives of poor people. For example, new agricultural technologies generated by research centers supported by the Consultative Group on International Agricultural Research have increased cereal yields in developing countries by some 75 percent in less than three decades (World Bank 2002a).

The Bank is in a unique position to create and disseminate ideas: it has the leading development research institute, a unique store of knowledge in its sector work and its operational integration of policy ideas, and a leading capacity-building institution (the World Bank Institute). The Bank has established networks for the development and exchange of ideas, such as the Global Development Network. Our role is not only in generating ideas but also in disseminating knowledge and taking ideas to implementation for action and change. Our strong country presence, a result of internal decentralization by the Bank, heightens our ability to play this role.

A final example of the Bank as supporter and agent of change lies in its post-conflict work, through which the Bank supports rehabilitation and reconstruction. In the late 1990s, the Bank supported community reintegration and development in Rwanda; and in the Democratic Republic of Congo, we worked with the government to develop a transitional support strategy at a time when the country was emerging from civil unrest. Other good examples can be found in Cambodia and East Timor.

## **How Can We Tell If We Are Making a Difference?**

In assessing whether development assistance makes a difference we need to distinguish between final results or outcomes, on the one hand, and intermediate goals or processes on the other. The MDGs provide a framework for the former; the latter requires a serious understanding of the relationship between actions and outcomes. We have to get inside the “black box” of development. In my judgment, the twin-pillars processes—improving the investment climate and empowering and investing in poor people—provide a valuable organizing framework. To construct and assess appropriate interventions in these areas, we need to focus on the analysis of those processes. Given the time involved in development processes, any assessment of how we are doing and our impact must be based on measurement of both outcomes and intermediating processes.

Appropriate indicators for assessing results and progress should be based on analysis of how the processes work to influence outcomes and how actions influence both processes and outcomes. The process or intermediate indicators will need to capture the crucial components that determine outcomes. Governance and capacity building underlie many of these, but we need to be more specific both in areas concerned and in dimensions. Priorities for work in those two areas crucial for sustained development should be set with clear reference to outcomes and the intermediating process. I have emphasized above the broad areas of the investment climate and empowerment, but I want to stress that these areas will require process indicators in the specific areas of entrepreneurship, productivity, health, and education, among others. Each of those areas raises its own difficulties and challenges in measurement. Let me focus on the investment climate.

In the Bank, we currently are constructing and measuring indicators of the climate for entrepreneurs, investment, jobs, and productivity through surveys of firms. The investment climate surveys have grown out of the Bank's experience with firm-level surveys, including the Regional Program on Enterprise Development surveys in Africa and the East Asia competitiveness surveys. Counting those precursors, we have a substantial and growing portfolio of firm-level data sets available on the Bank Web site, with new surveys under way in a diverse set of countries (table 5).

The plan is to scale up to doing about 20 surveys a year, and returning to each country every four or five years. We use a standardized questionnaire that covers the production and financing of the firm, as well as quantitative indicators of the investment climate. Our objective is to link outcomes to these indicators. For example, we can compare productivity and wages at the plant level for similar industries in China and India. Other outcome measures would be total factor productivity or growth rate of output. Some investment climate indicators are best captured at the national level, such as shipping costs or the bureaucratic framework for starting firms. For those issues, the Bank is beginning to measure national indicators of regulatory obstacles to entrepreneurs. We complement that with firm-level indicators on such matters as whether firms need to have their own power generators, how much time they spend dealing with the public bureaucracy, and how long it takes them to clear goods

**TABLE 5.**  
**Investment Climate Surveys**

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**Regional Program on Enterprise Development surveys—Sub-Saharan Africa**

*Economies:* Burundi, Cameroon, Côte d'Ivoire, Ghana, Kenya, Zimbabwe, 1992–95

**East Asia competitiveness surveys**

*Economies:* Indonesia, Rep. of Korea, Malaysia, the Philippines, Thailand, 1998–99

**Investment climate surveys**

*Economies completed:* Bolivia, India, Morocco, 2000–01

*Economies under way:* Algeria, Bangladesh, Brazil, China, Ethiopia, Kenya, Mozambique, Pakistan, Peru, Tanzania, Uganda, through 2002

*Economies in the future:* 20 a year, beginning in 2003

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through customs (table 6). In general, higher bottlenecks are linked in the firm data to worse outcomes in the form of lower productivity, lower wages, and slower firm growth.

The Bank and its IDA partners already use the Country Policy and Institutional Assessment (CPIA) indexes (see table 7 for their components) to guide IDA allocations. The methods are described on the Bank's Web site, although individual country ratings are not published.<sup>4</sup> These ratings have also been used for internal Bank analysis and some cross-country regressions.

In choosing our indicators for both processes and outcomes, we must beware of ending up with a laundry list of 25 items in an unstructured and equally weighted way. We must focus on the measures that are most important. For outcomes, we can focus on MDGs; for processes or intermediate goals, we must focus on the link between processes and outcome.

Our goal in the Development Economics Vice Presidency of the Bank is to develop databases on both outcomes and processes that will help with research on the relationship between policy actions, processes, and outcomes; help with establishing measures of progress; help guide the allocation of resources; and help us learn from experience around the world. To this end, we are developing databases in three areas:

- *Household surveys* (including the Living Standards Measurement Survey), which provide data on development outcomes at the individual and household levels
- *Investment climate surveys* described above, which provide data on the intermediate step of encouraging entrepreneurship, investment, and job creation

**TABLE 6.**  
**Sample Results**

	China (1999)	India (1999)
<b>Outcomes</b>		
Value added per worker (garments)	\$2,415	\$2,058
Average annual wage (garments)	\$931	\$658
Investment rate of firms (I/K)	15%	8%
<b>Investment climate indicators</b>		
<i>National level</i>		
Cost of shipping a container of textiles to the United States (China = 100)	100	137
Median days to start a firm	30	90
<i>Firm level</i>		
Percentage of management time spent dealing with government	9%	16%
Percentage of plants with their own power generator	30%	69%
Days to clear goods through customs		
Last shipment	6.7	10.6
Longest in past six months	9.2	21.0

I/K Investment to capital.

Source: Available at <http://www.worldbank.org/research/facs>.

**TABLE 7.**  
**Summary of CPIA Ratings**

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**A. Economic management**

1. Management of inflation and macroeconomic imbalances
2. Fiscal policy
3. Management of external debt
4. Management and sustainability of the development program

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**B. Structural policies**

5. Trade policy and foreign exchange regime
6. Financial stability and depth
7. Banking sector efficiency and resource mobilization
8. Competitive environment for the private sector
9. Factor and product markets
10. Policies and institutions for environmental sustainability

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**C. Policies for social inclusion/equity**

11. Gender
12. Equity of public resource use
13. Building human resources
14. Social protection and labor
15. Monitoring and analysis of poverty outcomes and impacts

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**D. Public sector management and institutions**

16. Property rights and rule-based governance
  17. Quality of budgetary and financial management
  18. Efficiency of revenue mobilization
  19. Quality of public administration
  20. Transparency, accountability, and corruption in the public sector
- 

Source: CPIA Country Policy and Institutional Assessment.

- *Service delivery surveys*, which assess the ability of service providers (for example, in health and education) to provide poor people with the tools they need to participate in growth.

The data produced by those surveys are global public goods and are thus another example of an important role for international institutions.

## The Research Challenge Is Here in Real Time

With the confluence of better developing country policies, greater international attention and commitment to development, increasing development effectiveness, and agreement on the Millennium Development Goals, the opportunities for major advances in development and fighting poverty have never been greater. The research community has a fundamental role to play in seizing those opportunities. Most notably, we have to get inside the black box of the relationship between actions and

outcomes. Evaluation is crucial, as is a better understanding of the processes of building the investment climate and empowering poor people.

Action plans for development are moving rapidly, and decisions inevitably will be based on the limited knowledge available. As researchers, we must move quickly—we need to deliver research results and policy assessments in real time. It is our responsibility to help shape judgments that are based on as much sound evidence and analysis as possible. The need for evidence-based policy research has never been more pressing.

## **Annex: List of Millennium Development Goals and Targets**

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### **Goal 1. Eradicate extreme poverty and hunger**

*Target 1. Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day.*

- Proportion of population below \$1<sup>a</sup>
- Poverty gap ratio (incidence times depth of poverty)
- Share of poorest quintile in national consumption

*Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger.*

- Prevalence of underweight children (under five years of age)
- Proportion of population below minimum level of dietary energy consumption

### **Goal 2. Achieve universal primary education**

*Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.*

- Net enrollment ratio in primary education
- Proportion of pupils starting grade 1 who reach grade 5
- Literacy rate of 15- to 24-year-olds

### **Goal 3. Promote gender equality and empower women**

*Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015.*

- Ratio of girls to boys in primary, secondary, and tertiary education
- Ratio of literate females to males among 15- to 24-year-olds
- Share of women in wage employment in the nonagricultural sector
- Proportion of seats held by women in national parliament

**Goal 4. Reduce child mortality**

*Target 5. Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.*

Under-five mortality rate

Infant mortality rate

Proportion of one-year-old children immunized against measles

**Goal 5. Improve maternal health**

*Target 6. Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.*

Maternal mortality ratio

Proportion of births attended by skilled health personnel

**Goal 6. Combat HIV/AIDS, malaria, and other diseases**

*Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS.*

HIV prevalence among 15- to 24-year-old pregnant women

Condom use rate of the contraceptive prevalence rate<sup>b</sup>

Number of children orphaned by HIV/AIDS<sup>c</sup>

*Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.*

Prevalence and death rates associated with malaria

Proportion of population in malaria risk areas using effective malaria prevention and treatment measures<sup>d</sup>

Prevalence and death rates associated with tuberculosis

Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS)

**Goal 7. Ensure environmental sustainability**

*Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the losses of environmental resources.*

Proportion of land area covered by forest

Ratio of area protected to maintain biological diversity to surface area

Energy use per unit of GDP

Carbon dioxide emissions (per capita) and consumption of ozone depleting chlorofluorocarbons

Proportion of population using solid fuels

*Target 10. Halve by 2015 the proportion of people without sustainable access to safe drinking water.*

Proportion of population with sustainable access to an improved water source, rural and urban

*Target 11. Have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers.*

Proportion of population with access to improved sanitation

Proportion of households with access to secure tenure

### **Goal 8. Develop a global partnership for development**

*Target 12. Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system (includes: a commitment to good governance, development, and poverty reduction—both nationally and internationally).*

*Target 13. Address the special needs of the least developed countries (includes tariff- and quota-free access for exports, enhancing program of debt relief for and cancellation of official bilateral debt, and more generous ODA for countries committed to poverty reduction).*

*Target 14. Address the special needs of landlocked countries and small island developing states (through the Program of Action for the Sustainable Development of Small Island Developing States and 22nd General Assembly provisions).*

*Target 15. Deal comprehensively with the debt problems of developing countries through national and international measures to make debt sustainable in the long term.*

#### **Indicators for Targets 12–15**

Some of the indicators listed below will be monitored separately for the least developed countries, Africa, landlocked countries, and small island developing states.

#### *Official development assistance (ODA)*

Net ODA, total and to least developed countries, as percentage of DAC donors' gross national income (GNI)

Proportion of bilateral ODA for basic social services (basic education, primary health care, nutrition, safe water, and sanitation)

Proportion of bilateral ODA donors that is untied

ODA received by landlocked countries as a proportion of their GNI

ODA received in small island developing states as a proportion of their GNI

*Market access*

Proportion of total developed country imports (excluding arms) from developing countries and least developed countries admitted free of duties

Average tariffs imposed by developed countries on agricultural products and textiles and clothing

Agricultural support estimate for OECD countries as a percentage of their GDP

Proportion of ODA provided to help build trade capacity<sup>e</sup>

*Debt sustainability*

Total number of countries that have reached their HIPC decision and completion points (cumulative)

Debt relief committed under HIPC initiative

Debt service as a percentage of exports of goods and services

*Target 16. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth.*

Unemployment rate of 15- to 24-year-olds, male and female and total<sup>f</sup>

*Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.*

Proportion of population with access to affordable, essential drugs on a sustainable basis

*Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies.*

Telephone lines and cellular subscribers per 100 people

Personal computers in use per 100 people

Internet users per 100 people

DAC Development Assistance Committee; HIPC Heavily Indebted Poor Countries; ODA official development assistance; OECD Organisation for Economic Co-operation and Development.

- a. For monitoring at the country level, national poverty lines should be used.
- b. Among contraceptive methods, only condoms are effective in reducing the spread of HIV.
- c. The proportion of orphan to nonorphan 10- to 14 year-olds who are attending school.
- d. Percentage of children under five sleeping under insecticide-treated bed nets (prevention) and appropriately treated (treatment).
- e. The Organization for Economic Co-operation and Development and the World Trade Organization are collecting data, which will be available from 2001.
- f. An improved measure of the target is under development by the International Labour Organization.

## Notes

1. The Comprehensive Development Framework (CDF) is a means of achieving greater effectiveness in reducing poverty. It puts forward a holistic approach to development that seeks a better balance in policymaking and implementation by highlighting the interdependence of all elements of development—social, structural, human, governance, environmental,

macroeconomic, and financial. That approach requires a transition from donor-led development assistance strategies to the development of a country strategy led by the country itself, with vigorous participation of government at all levels, including representative institutions, civil society and the private sector, and with the support of multilateral and bilateral organizations. Poverty Reduction Strategy Papers (PRSPs) describe a country's macroeconomic, structural, and social policies and programs to promote growth and reduce poverty, as well as associated external financing needs. PRSPs are prepared by governments through a participatory process involving civil society and development partners, including the World Bank and the International Monetary Fund.

2. The scale of the challenge of development, however, is such that a simple expansion of aid inputs—that is, simply increasing the scale of aid (at least in terms of financial resources)—will not be enough with constant returns.
3. We should take care with the notions of replication and best practice. Any idea or approach has to be adapted to circumstances, whether within or across countries.
4. See <http://www.worldbank.org/ida/idalloc.htm> and <http://www.worldbank.org/ida/CPIA2002.pdf>.

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## Keynote Address

# New Policies for Economic Development

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JOHN B. TAYLOR

Thank you for inviting me to speak here today. I'd like to use this opportunity to talk about the Bush administration's economic development agenda. It is a big agenda designed to help people around the world exit from extreme poverty. It stresses new quantitative methods to achieve good economic policy and good economic results. It includes substantial increases in development funding for the first time in many years. And it applies new ideas in economic development—including many of the ideas coming out of this conference series.

Before describing some of the specific policies, I want to define the problem we are trying to solve. Then I want to discuss in simple, straightforward terms the economic principles that logically and empirically lead to the specific policies. In doing so I will draw on economic development research completed in the last dozen years.

### The Problem

The problem that we are all trying to deal with, of course, is that many people and many countries around the world are still very poor. Despite remarkable economic progress in many parts of the world, more than 1.3 billion people live on less than US\$1 a day, and half the world's population lives on less than US\$2 a day. As the color-coded maps on the World Bank Web site illustrate, many of the poorest countries are in Sub-Saharan Africa, Central Asia, and Central America.

### The Goal of Productivity Growth

The first question is why are these countries so poor? Low productivity is the proximate answer. Productivity is the amount of goods and services that a worker pro-

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John B. Taylor is the Under Secretary for International Affairs at the U.S. Department of the Treasury.

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duces per unit of time with the skills and tools available. If there are many high-productivity jobs in a country, then the country is rich. If there are only a few high-productivity jobs in a country, then the country is poor. If you want to reduce the number of poor countries—to make all the colors on those World Bank maps the same color as the United States and Europe—then you have no choice but to increase productivity in poor countries. And the higher the rate of productivity growth, the faster those colors will change. Simply put, the ticket out of poverty is higher productivity jobs.

This is why U.S. Treasury Secretary Paul O'Neill has argued that program and loan decisions by the World Bank and the other multilateral development banks should focus on raising productivity. It is important to note that when the International Development Association (IDA) was first proposed by the Eisenhower administration in 1959, higher productivity was the key goal. In the words of the very first article of IDA's Articles of Agreement, "The purposes of the Association are to promote economic development, increase productivity and thus raise standards of living in the less-developed areas of the world. . . . The Association shall be guided in all its decisions by the provisions of this Article." It is unfortunate that I've seen too few examples in which increasing productivity has been the key goal for IDA decisions in recent years. Let's follow the provisions of the IDA articles or amend them.

Let me say a few more words about goals. The Millennium Development Goals are a very useful set of objectives. But there is something missing from these goals as stated: the goal of higher productivity growth. What might such a goal look like? As I'll discuss in a few minutes, we should expect that countries with lower productivity than the United States should have a productivity growth rate higher than that of the United States. But we could be more specific, stating that the greater the productivity gap between a country and the United States, the greater should be the productivity growth rate in that country. In fact, we could be even more specific by stating numerical goals for productivity growth. For example, empirical studies indicate that a reasonable annual productivity growth rate goal for a country with productivity one-fifth that of the United States is 3 percentage points greater than the productivity growth rate of the United States. For a country with one-tenth the productivity of the United States, a reasonable goal would be 5 percentage points greater productivity growth than the United States. And extrapolating, for a country with one one-hundredth of U.S. productivity, perhaps a goal of 9 percentage points greater growth than the United States could be set.

These are ambitious goals. But seriously addressing global poverty demands nothing less. And make no mistake—raising productivity growth is the only way to achieve substantial and sustained reductions in poverty. Empirical studies confirm this. Higher growth increases the income per capita of the lowest quintile by about the same amount as the other quintiles.

## Impediments to Catching Up

If low productivity is the proximate cause of poverty, then we need to answer another question: why is productivity so low in so many areas of the world? According to basic economic growth theory, productivity depends on two things: capital per worker and the level of technology. If there are no impediments to the flow and accumulation of capital and technology, then countries or areas that are behind in productivity should have a higher productivity growth rate. Capital will flow to where it is in short supply relative to labor and, with more capital, higher productivity jobs can be created. Similarly, technology can spread through education and training—perhaps through on-the-job training via foreign investment, or education via the Internet. For these reasons, poor areas or countries should be catching up to rich areas or countries.

There is evidence for such catch-up when there are few impediments to the use and accumulation of capital (including human capital) and technology. For example, an examination of the productivity growth rates in states in the United States shows that states that were relatively poor in the late 19th century, such as Texas and Florida, grew more rapidly in the 20th century than did richer states, such as New York or California. Similar evidence of catch-up exists in the countries of the Organisation for Economic Co-operation and Development (OECD). Among the countries that were founding members of the OECD in the 1960s, lower productivity countries have grown more rapidly than have higher productivity countries.

It is unfortunate that there is little evidence of such catch-up in the world as a whole. Although some countries that were very poor in the 1960s have grown more rapidly than have the rich countries, many other poor countries have grown more slowly. Why has there not been more catch-up? Is economic growth theory wrong? Many answers have been given to these difficult questions—indeed, the questions have been on the minds of development economists for years. More and more evidence, however, has been accumulating that the laws of economics have not been repealed, but rather that significant impediments—in the broadest sense—to investment and the adoption of technology are holding back countries and people.

One can group these impediments into three areas. First, *poor governance*—the lack of rule of law or enforceable contracts and the prevalence of corruption create disincentives to invest, to start up new firms, and to expand existing firms with high-productivity jobs. This has a negative impact on capital formation and entrepreneurial activity. Second, *poor education*, which impedes the development of human capital. Workers without adequate education do not have the skills to take on high-productivity jobs or to adopt new technologies to increase the productivity of the jobs they do have. Third, *too many restrictions on economic transactions*, which prevent people from trading goods and services or adopting new technologies. Lack of openness to trade, state monopolies, and excessive regulation are all examples of restrictions that reduce incentives for innovation and investment needed to boost productivity.

## The Specific Policies of the Bush Administration

With these ideas and facts as background, let me now discuss the Bush administration's new economic development agenda.

First, the agenda calls for a much greater emphasis than in the past on policies that reduce the impediments to higher productivity growth. Countries that follow good economic policies are to receive more aid, and the actual results of the aid are to be measured quantitatively.

Second, the agenda calls for an increase in funding for economic development. President Bush has proposed an 18 percent increase in the U.S. contribution to the African Development Fund and to IDA. He has called for a larger fraction of IDA assistance to the poorest countries to be provided in the form of grants rather than loans. And he has called for the creation of a Millennium Challenge Account, a new, separate account for development assistance.

### *The Millennium Challenge Account*

Consider first the Millennium Challenge Account. This account will be funded by increases in the budget beginning in fiscal year 2004. The account is designed to increase to US\$5 billion a year starting in 2006—a 50 percent increase over the approximately US\$10 billion in existing U.S. development assistance. The idea behind the Millennium Challenge Account is to channel aid to those poor countries that have good economic policies that increase economic growth and reduce poverty. To access the account, developing countries must demonstrate strong commitments in three policy areas: (1) “ruling justly”—upholding the rule of law, rooting out corruption, and protecting human rights and political freedoms; (2) “investing in people”—education and health care; and (3) “encouraging economic freedom”—open markets, sound fiscal and monetary policies, appropriate regulatory environments, and support for private enterprise. Note that these are exactly the three policy areas I mentioned above when listing the impediments to economic growth.

President Bush has assigned Secretary O’Neill and Secretary of State Colin Powell the task of developing the objective criteria for measuring countries’ policies in these areas, and we are hard at work on this task now. We are using empirical research on economic growth over the last 10 years and performing our own research. We place a premium on simplicity and robustness. We want something that easily can be understood.

Indeed, President Bush has asked us to reach out to the world community in the process of developing these indicators. The people in this room have a great deal to contribute to this process. Your ideas are welcome!

### *Results-Based IDA Replenishments*

As I mentioned, the President's budget proposes a significant increase in the U.S. contribution to IDA-13. Under President Bush's proposal, funding would be 18 percent higher than the IDA-11 and IDA-12 replenishments in the 1990s. The proposal incorporates an \$850 million contribution in the first year, \$950 million in the second year, and \$1,050 million in the third year. However, the increases in the last two years are explicitly linked to improvements in IDA's performance in such areas as combating disease and improving education.

Linking the size of the IDA replenishment to results is a new idea. I am glad to say that it appears to be having a good impact on other areas of the World Bank. Already we are hearing more about a greater focus on measurable results in the World Bank's operations.

### *IDA Grants*

As many of you know, President Bush has proposed converting part of IDA loans to results-based grants. IDA loans have highly favorable terms. But the burden of repayment on some of the poorest countries has meant that the international community has to forgive many of these loans. The objective of the U.S. grants proposal is to prevent that problem, with all its disruptive consequences for economic growth, from ever occurring again. We want to "stop the debt."

A recent study by the U.S. General Accounting Office demonstrates that grants promote debt sustainability better than 100 percent debt forgiveness of old international foreign investment debt. And consistent with the Millennium Challenge Account and results-based IDA replenishment proposals, grants can be tied to performance measures, such as test scores in basic skills.

### **Conclusion**

Conferences like this one provide a forum for sharing what we know and—just as important—what we do not know about economic development. Today I have tried to describe how recent advances in research on economic growth have informed the Bush administration's policies on foreign assistance.

But there is still much that we do not know about economic growth and development. For example, although studies demonstrate that aid is most effective when provided to countries with good policies, there is more work to be done on what *kinds* of assistance are most effective in promoting productivity growth in poor countries. If we are going to achieve the productivity growth goals I suggested in this talk, we are going to need more ideas. I look forward to benefiting from the research and insights of ABCDE conferences in the years ahead.





# Trade and Poverty

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## Trade, Growth, and Poverty— A Selective Survey

ANDREW BERG AND ANNE KRUEGER

*This survey of the recent literature asks: how important is trade policy for poverty reduction? Berg and Krueger consider the effects of openness on poverty in two components: the effect of openness on average income growth, and the effect on distribution for a given growth rate.*

*Varied evidence supports the view that trade openness contributes greatly to growth. Cross-country regressions of the level of income on various determinants generally show that openness is the most important policy variable. This conclusion seems firm despite deep measurement problems and difficulties in disentangling the effects of policies and institutions. Regressions that attempt to explain the variation in countries' performance over time also show a central role for increases in openness in promoting growth. The authors would not find these results particularly convincing if there were no substantial industry and firm-level research documenting the various ways in which openness contributes to export, productivity, and ultimately income growth.*

*Trade openness does not have systematic effects on the poor beyond its effect on overall growth. The aggregate evidence shows that the income of the poorest tends to grow one-for-one with average income. Of course, in some countries and in some periods poor people do better than average, and sometimes they do worse. But openness does not help explain which of these outcomes occurs. The microeconomic evidence from a large number of individual liberalization episodes also shows that there is no systematic relationship between trade liberalization and income distribution.*

*Trade policy is only one of many determinants of growth and poverty reduction. Trade openness has important positive spillovers on other aspects of reform so that the correlation of trade with other pro-reform policies speaks to the advantages of making openness a primary part of the reform package.*

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Andrew Berg is deputy chief of the financial studies division of the research department at the International Monetary Fund. Anne Krueger is first deputy managing director at the International Monetary Fund. The authors would like to thank their discussants as well as Elliot Berg, Aart Kraay, Hans Lankes, Ashoka Mody, Catherine Pattillo, Antonio Spilimbergo, and Andrew Warner for helpful discussions, and Young Kim for excellent research assistance.

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## Introduction

Twenty years ago a consensus had emerged that trade liberalization strongly promoted growth and poverty reduction. The intervening period has seen a large wave of trade liberalization in the developing world. There has also been a surge of research on openness, growth, and poverty reduction, in part inspired by this experience. In this article we survey the recent literature to ask how important trade policy is for poverty reduction. We consider the effects of openness on poverty in two components: the effect of openness on average income, and the effect on distribution for a given growth rate or income level. We ask two main questions: is trade openness an important determinant of growth, and is the growth that is associated with trade liberalization particularly pro- or anti-poor?

We focus on the links between trade and growth because changes in average per capita income are the main determinants of changes in poverty. In the last 20 years, the percentage of extremely poor people in the world (those living on less than two 1985 U.S. dollars per day)<sup>1</sup> has fallen sharply, from 38 percent in 1978 to 19 percent in 1998. Because of population growth, the absolute numbers of poor people have declined less, although the reduction in the number of poor people from 1.4 billion to 1 billion is probably unprecedented.<sup>2</sup> These changes in poverty almost entirely are attributable to growth itself, not to changes in the world income distribution.<sup>3</sup> More generally, there is no systematic relationship between growth and changes in income distribution. Thus, the income of poor people tends to grow proportionally with mean per capita growth.<sup>4</sup>

That finding suggests that our focus on growth as the core of a poverty-reduction strategy is well-founded. Changes in income distribution still could be important sources of changes in poverty within countries, however, even if they tended to average out across countries (Ravallion 2001). Moreover, if faster growth were associated with worsening income distribution, there would be a limit on how much improvement in poverty we could expect from growth alone. In fact, neither concern turns out to challenge the primacy of growth in driving poverty reduction. The variance in income distribution through time is much smaller than the variance in average per capita income. Moreover, changes in the income distribution and real income per capita through time are weakly, if at all, correlated. Those two facts mean that whatever the causal relationship between growth and changes in income distribution, most variation in the income of poor people must be a result of changes in average growth, not changes in income distribution, unless the changes in distribution are of historically unprecedented magnitudes.<sup>5</sup>

Consider the important example of China. As Quah (2002) showed, no plausible increase in inequality could have swamped the effects of China's rapid per capita growth from 1980 through 1992. Per capita incomes grew by an average of 3.6 percent per annum over that period. During that time, China's Gini coefficient increased from 0.32 to 0.38, a large increase by international standards. Despite the rise in inequality, the number of poor people (measured as those living on less than 2 U.S. dollars a day) fell by some 250 million as rapid income growth swamped the effects

of the increase in inequality. Inequality in China would have had to grow more than twice as fast as it did (much faster than observed in any other country during the postwar period) to undo the effects of the rapid income growth.<sup>6</sup>

Even though, in general, changes in poverty are due mostly to changes in average incomes, it might be that the growth that is due to trade liberalization is different from growth in general. That is, it is possible that trade liberalization generates a sort of growth that is particularly anti- (or pro-) poor. There are strong reasons to suppose that trade liberalization will benefit poor people at least as much as it benefits the average person. If, nonetheless, trade liberalization worsens the income distribution enough, then it is possible that it is not good for poverty reduction despite its positive overall growth effects. This article thus also addresses the questions of the relationship between openness and growth and whether trade-related growth or openness has a particular effect on inequality.<sup>7</sup>

In the next section we discuss some conceptual questions about the relationship between openness and growth. We review the many reasons why openness may contribute to growth, noting, though, that theory is ultimately ambiguous about the relationship. Theoretical developments of the past 15 years have raised the presumption that openness contributes to growth but also elaborated the alternative “infant-industry” view. Then we discuss the central question of how to define and measure openness. The various measures of trade liberalization and openness that have been used include measures of policy, such as tariff rates and nontariff barrier coverage, on one hand, and outcome measures, such as trade volumes, on the other. We conclude that openness measures are all imperfect, but our preferred measure for many purposes (within the feasible set) is that of Sachs and Warner (1995).

Following that discussion we demonstrate two central propositions. First, we show that increases in openness to trade are an important contributor to growth. Second, we argue that there is nothing special about trade-led growth that systematically worsens the income distribution and so would undercut openness’s powerful positive effect on poverty reduction through faster growth.

In the fourth section we return to the question of the nature of openness by discussing its place in the broader set of policy reforms. We emphasize that it is hard to disentangle the effects of openness from those of the broader reform package. We argue, however, that although trade is only part of the package, it is often a key and early instrumental part. Thus, although the association of trade with other positive reforms is an econometric problem, it is a policy opportunity.

## Conceptual Issues

Our primary focus is empirical. Before looking at the evidence, however, we find it helpful to consider some key analytic issues about the theoretical relationship between openness and growth and the measurement of openness, as well as to briefly review some stylized facts about trends in openness over the last several decades.

### *Openness and Growth*

In theory, the openness of an economy is the degree to which nationals and foreigners can transact without artificial (that is, governmentally imposed) costs (including delays and uncertainty) that are not imposed on transactions among domestic citizens. Tariffs and nontariff barriers, domestic content requirements, and health and safety requirements (or inspection delays) beyond those imposed on the domestic products raise the cost of buying from abroad.<sup>8</sup> In theory, openness is desirable because relative international prices reflect the international marginal rate of transformation (in a competitive international economy) and should be equated with domestic prices for an efficient allocation of resources.<sup>9</sup>

The mechanisms through which an efficient static allocation of resources affects growth are less clear-cut, although a number of channels have been identified. These channels include (a) an increased efficiency of investment, particularly given the importance of imported capital goods in developing countries; (b) an ability to expand at constant rather than diminishing returns for a longer period through access to larger markets (Ventura 1997); (c) a higher real return to capital in countries that exploit their comparative advantage in abundant unskilled labor; (d) the higher rate of domestic saving, foreign capital inflow, or both that may be attracted by either or both (a) and (b); (e) possible endogenous growth effects arising from more rapid short-term growth in response to trade opening; (f) the discipline imposed on a government to undertake other pro-growth economic policy reforms if there is an open trade regime; (g) the reduction in rent-seeking activities inspired by trade restrictions; (h) the spur to innovation and entrepreneurial activity resulting from competition and access to larger markets; and (i) openness to ideas and innovations generated by openness to trade.

The theory and empirics of long-run economic growth have developed enormously in the last 20 years so it is natural to place an assessment of the relationship between openness and growth in this framework. The workhorse has been the neoclassical model based on Solow (1956). In this framework, the level of gross domestic product (GDP) per capita in the steady state will depend on anything that affects the level of productivity, such as distortions that affect the allocation of resources, as well as determinants of the level of the steady-state capital stock, such as the savings rate. The implication for us is that, by allowing a more efficient allocation of resources, openness raises any country's steady-state level of income and the growth rate out of equilibrium. In the last 20 years, the main theoretical innovation has been the development of endogenous growth theory. A central theme of endogenous growth theory is that openness may promote long-run growth in a number of ways. Models that emphasize diffusion of technology as the engine of long-run growth can be constructed to predict that countries that are more open will have higher steady-state growth rates (Grossman and Helpman (1991). Learning by doing is emphasized in Lucas (1988) and Young (1991). Earlier arguments to the effect that opening to trade could allow specialization in industries with scale economies and thereby increase long-run growth are precursors of this sort of argument (see Bhagwati 1988 and Krueger 1980, for example).

Should we focus our empirical attention on the relationship between growth and openness or on the relationship between growth and *changes* in openness? For example, if we believe that openness is important for growth, should we be puzzled that China might grow extremely fast while remaining fairly closed, or should we instead focus on the fact that a dramatic increase in the degree of openness has been associated with an increase in the growth rate? Theory makes no clear prediction. In the neoclassical model the most natural formulation is that openness raises the steady-state level of real income. Thus, increases in openness would cause increases in growth rates during convergence to the new higher level. The endogenous growth literature, given its concern to explain country-specific long-run growth rates, would tend to focus on the relationship between growth and openness. However, those endogenous growth models that emphasize how international diffusion of ideas or technology can produce faster growth in developing countries also would imply that changes in openness would lead to increases in growth rates. In practice we can expect that a variety of processes operate at different times in different countries.<sup>10</sup> Overall, though, our reading is that the most important relationship is between the level of openness and the level of income, or (equivalently) between liberalization and growth.

Despite a consistent emphasis in the literature on how openness can promote growth, theory has always been ambiguous on this point.<sup>11</sup> From a static point of view, the general theory of the second-best suggested that in the presence of other distortions, free trade might not be best for growth. The most notable example of such a distortion has always been the infant-industry argument. Despite its focus on learning, openness, and growth, endogenous growth modeling has given some credence to long-run versions of the traditional infant-industry argument. Endogenous growth models easily can imply that a more open country may get “stuck” in industries without learning-by-doing. In this case, closing the economy may help the relatively backward country grow faster. Easterly (2001a), for example, emphasizes that models with increasing returns to scale or sufficient externalities can generate a situation in which factors flow from poor to rich areas so that the poor can get stuck in “growth traps.”

Even if growth-inducing channels are dominant, one could challenge their quantitative significance.<sup>12</sup> The importance of openness for growth is therefore an empirical question. One implication is that what we mean by openness, and how we measure deviations from free trade, are key questions.

### *Definition and Measurement of Openness*

A range of analytical issues arises in defining and measuring openness. Because much of the theoretical case for openness as a source of growth is about the costs of market distortions, we should be concerned with policies that distort the market allocation, such as the level and dispersion of tariffs and nontariff barriers (NTBs). Outward orientation does not require the absence of all such distortions; it requires only that the overall system of export subsidies and trade barriers not be biased against exports.<sup>13</sup>

Most empirical analyses of openness look directly at policy measures that restrict trade, such as tariffs, nontariff barriers, and so on. Severe problems arise in the analy-

sis of each of these measures. It is not clear how to aggregate across goods to arrive at a meaningful overall measure. A higher tariff (or tariff-equivalent) on commodity A may have lower welfare costs than a lower tariff on commodity B; the same tariff rate may have different effects in different countries; issues arise in comparing different tariff structures regarding the dispersion of tariff rates, and so on. Simple averaging does not capture the relative importance of different categories of goods, and using actual trade weights gives too little weight to high tariff categories, precisely because the tariff has discouraged trade in that good. Moreover, there is no necessary relationship between official and collected tariff rates.<sup>14</sup> Nontariff barriers are extremely hard to quantify for a variety of reasons.<sup>15</sup> Finally, discriminatory exchange rate policies that offer to exporters a more appreciated exchange rate than to importers are equivalent to a tariff. This latter policy is easier to measure as the black market or parallel exchange rate premium, although clearly this variable is related not just to trade policy but also more broadly to macroeconomic policy (a point to which we will return later).<sup>16</sup>

A variety of measurement problems arise when a country is not wholehearted about its trade liberalization. For example, across-the-board reductions in tariff rates will show up as a reduction in average tariff, but customs officials in reluctant countries frequently respond to the tariff reduction by reclassifying goods from low- to high-tariff categories so actual tariffs may remain the same.<sup>17</sup> In addition, there are questions as to how to quantify the uncertainty (regarding, for example, the likelihood of antidumping actions or delays in customs clearance) that can affect openness.

It has been amply documented that countries tend to switch from one form of protection to another rather than smoothly remove (or increase) protection.<sup>18</sup> Moreover, whether a change in one form of protection has any impact on effective openness depends on whether other forms of protection are binding. For example, a reduction in a tariff rate may not matter if binding nontariff barriers prohibit imports of that good. Thus, in measuring openness it is important to try to control for the possible substitution between various policy measures. Sachs and Warner (1995) attempted to do so by constructing a dummy variable that takes a value of 1 for a country that passes each of five tests of openness: (1) an average tariff rate below 40 percent; (2) NTBs covering less than 40 percent of trade; (3) a black market exchange rate premium below 20 percent on average during the 1970s and 1980s; (4) the absence of a socialist economic system; and (5) the absence of an extractive state monopoly on major exports. In our view, this represents a fairly successful effort to measure the overall importance of trade policy restrictions, although it does not differentiate degrees of restrictiveness of trade regimes. A country barely passing the Sachs-Warner tests would be far from fully open.<sup>19</sup>

The Sachs-Warner measure has been criticized on three main grounds.<sup>20</sup> First, the black market premium measures factors other than trade policy. For example, to the extent that it captures chaotic macroeconomic policy, the Sachs-Warner measure is attributing to openness benefits that should be attributed to macroeconomic stability. We would nonetheless argue that a high premium on the secondary market for foreign exchange acts substantially like a tariff in that it is likely to drive a wedge

between the exchange rate that exporters effectively receive (assuming they are supposed to sell their proceeds at the official exchange rate) and the rate paid by importers (who on the margin are likely to pay the parallel rate, given the incentives to smuggle). A high black market premium may also reflect chaotic macroeconomic policy in the context of exchange controls. Indeed, Krueger (1978) and many other authors have argued that among the main costs of protection in practice were the associated macroeconomic disequilibria. These disequilibria represent a much more substantial problem for econometric efforts to distinguish between the influence of macroeconomic stability and openness than they do for policy.

A second criticism of the Sachs-Warner measure is that the marketing board component amounts to a sort of African dummy plus, as it was taken from a World Bank study of African economies undergoing structural adjustment, so that other countries (even other African countries) with powerful export monopolies were excluded. In fact, however, the only countries that are considered closed by this criterion are those in which a mandatory export marketing board controls a large majority of total exports and holds a monopoly position in the sale of foreign exchange for imports, in the process driving a wedge between the rate received by exporters and that paid by importers. Thus, marketing boards in countries such as Canada, Indonesia, and Mauritius do not satisfy the criterion and would not have been classified as closed according to Sachs and Warner. It is true that most, although by no means all, African countries were rated as closed by this measure. That situation reflects the facts for Africa, however.<sup>21</sup> More generally, African growth experience is indeed unusual in recent decades. The fact that coercive and export marketing arrangements are strongly coincident with a regional dummy is suggestive of the issues (although it hardly captures their richness) with respect to growth in Africa. We place much more weight in what follows on results that are invariant to the inclusion of regional dummies.

Finally, the tariff and quota measures that are subsets of the Sachs-Warner openness variable do not work as well independently as does the aggregated measure. This fact, however, is consistent with the motivation for such a multivariate indicator in the first place—the frequent substitution of one method of protection for the other.<sup>22</sup>

Nonetheless it is clear that these measures of policy are not fully satisfactory. The Sachs-Warner measure as well as others that are available for large cross-country and panel studies simply do not address most of the measurement problems we raised above—most notably the inadequacies of average tariff rates and nontariff barrier coverage ratios. For this reason, a direct measure of openness—exports plus imports as a share of GDP—sometimes is useful. Of course, that measure of openness reflects the level of economic development, such geographic factors as distance from trading partners, and resource endowment (in that countries with unusual resource endowments are likely to trade more). Whether the direct measurement of openness is still interesting depends on the use to which it is put. For example, empirical results in which endogeneity of this measure of openness is controlled for through the use of exogenous, mostly geographic determinants of trade are the most useful.

Alcalá and Ciccone (2001) noted that this traditional openness measure has a drawback: productivity gains in the traded-goods sector (perhaps due to trade) lead

to a rise in the relative price of nontraded services, which may decrease measured openness. Thus, more trade that leads to growth reduces measured openness, biasing downward an estimate of the effects of openness on growth. A solution is to measure what those authors called “real openness,” defined as imports plus exports as a share of GDP in purchasing-power-parity dollars.<sup>23</sup>

Measuring openness as imports and exports as a share of GDP combines the effects of “natural” openness and trade policy. A refinement to measures of effective openness involves adjusting the trade share for nonpolicy determinants of trade shares, such as level of development, distance from potential trading partners, country size, and relative factor endowments. The idea is that the residual from a regression of trade shares on these determinants is a measure of policy openness. It is unfortunate that our empirical models of the determinants of trade flows are not so sufficiently robust that it is safe to identify the residual with policy, as any specification or other errors in the regression also appear there.<sup>24</sup>

More fundamentally, natural openness as well as policy openness may matter for growth. For example, trade policy openness would be of interest where the concern is the influence of distortions on relative prices and the laissez-faire equilibrium, but natural openness would be pertinent to whether trade causes growth through the sharing of ideas and technology that it implies.

In our survey of empirical work, we necessarily take an eclectic approach to the measurement of openness. Case studies and microeconomic studies often allow for the most detailed and careful measurement of trade barriers. We also consider many analyses that use policy-based measures of openness, particularly that of Sachs and Warner (1995), partly because that is the direction the literature has taken and partly because we believe such analysis to be a broadly sensible, if imperfect, measure. Other, simpler policy measures, such as average tariffs, may be informative in some circumstances. Finally, we pay some attention to studies that use outcome-based measures of openness, such as trade shares in GDP, particularly if care has been taken to control for the endogeneity of openness so measured.

### *Trends in Trade Policy*

Given the measurement problems, it is perhaps not surprising that it is exceedingly difficult to get systematic measures of the degree of trade liberalization through time and across countries. Dean, Desai, and Riedel (1994) documented the character and extent of liberalization in 32 countries in South Asia, Africa, Latin America, and East Asia from 1985 to 1992–93. They examined in some detail a variety of information on average tariffs, coverage of nontariff barriers, and tariff dispersion. They found that trade liberalization has occurred extensively, and sometimes dramatically, although with important regional differences: Latin American countries tended to move the fastest and most comprehensively; until 1991 most of the South Asian countries made little progress outside of reductions in NTBs, whereas the main source of protection in non-CFA Africa has been and remains lack of foreign exchange and associated black market premiums and extensive exchange controls.<sup>25</sup>

A larger set of countries can be examined, although at a cost in terms of the richness of the openness measures. Tables 1a, 1b, and 2 present data on maximum and average tariff rates, and table 3 shows the coverage of nontariff barriers, the size of black market premiums, and the incidence of current account restrictions over the last several decades. Figure 1 shows average tariff rates by region. Only a few data points are available for the period prior to 1980. Nonetheless, it is clear that there has been a substantial degree of trade liberalization in recent decades.<sup>26</sup> We now turn to the central question of this article—the impact of trade liberalization on the incidence of poverty.

## Relationship between Trade and Poverty

We saw in the introduction that the main determinant of changes in poverty is average per capita growth. We can thus decompose the effect of trade on poverty into two parts: the effect of trade on average growth in income per capita and the effect of trade on poverty for a given level of average per capita income, that is, on the income distribution.

### *Trade and Growth*

The literature on trade and growth is almost as vast as that on growth itself because openness is a part of much recent theory and most empirical work. Disagreements and contradictions abound. We can, however, extract several principles that are both plausible and well established. Overall and perhaps not surprisingly we find that, although there are deep problems with the measurement of openness, and although establishing causality from openness to growth is difficult, the weight of the evidence from a variety of sources strongly indicates that openness is an important element in explaining growth performance.

### *Absolute Convergence*

There is some evidence of absolute convergence, at least for sufficiently similar regions within countries and, less clearly, for countries that are integrated through trade. That is, poor countries or regions tend to grow faster than do rich regions if

**TABLE 1A.**  
Maximum Tariff Rates

Economy	1960s Rate (%)	2002 Rate (%)
Argentina	521	35
Chile	255	7
Colombia	400	35
Peru	158	20
Singapore	6	0

Source: Papageorgiou, Michaely, and Choksi (1991) for 1960s rates; IMF Data for 2002 rates.

**TABLE 1B.**  
**Trends in Average Tariff Rates for Developing Countries, 1960–2002**

<b>Economy</b>	<b>Earliest (1960–70)</b>	<b>Earliest (1980–85)</b>	<b>Average (1986–90)</b>	<b>Average (1991–95)</b>	<b>Latest (1996–2002)</b>
Argentina	181	28	25	11	14
Bangladesh		100	93	63	26
Bolivia		12	18	10	9
Brazil		44	42	17	13
Burundi		38	37	7	
Cameroon		28	32	19	18
Chile	83	35	17	11	8
China		50	39	40	14
Colombia	47	61	29	14	12
Costa Rica		21	19	12	7
Cote d'Ivoire		31	26	22	15
Egypt, Arab Rep.		47	40	33	30
Ghana		43	19	17	16
Guinea		76	10	11	17
India		74	94	54	40
Indonesia	58	29	26	20	7
Israel		8	7	8	8
Jordan		16	16	17	15
Kenya		40	40	30	20
Korea, Rep. of	40	24	18	10	9
Libya		13	23		20
Malawi		22	18	20	16
Malaysia		11	15	14	9
Mexico		27	14	13	17
Morocco		54	23	24	34
Nigeria		33	32	33	25
Pakistan		78	67	57	24
Peru	73	19	41	17	14
Philippines		41	28	23	8
Sierra Leone		26	31	30	16
Singapore	1	0	0	0	0
South Africa		29	15	9	13
Sri Lanka		41	28	24	16
Taiwan,China		31	15	11	9
Thailand		32	40	32	17
Tunisia		24	26	28	36
Turkey		40	27	27	14
Uruguay <sup>a</sup>	384	47	30	16	12
Average developing country	108	36	29	22	16

a. Weighted average tariff rates in 1961. Weights were calculated by weighting four-digit International Standard Industrial Classification (ISIC) sectors.

Sources: World Bank data; IMF data, Papageorgiou, Michaely, and Choksi 1991.

**TABLE 2.**  
**Standard Deviation of Tariff Rates**

<b>Economy</b>	<b>1990–94</b>	<b>1995–98</b>
<i>South Asia</i>		
Bangladesh	114.0	14.6
India	39.4	12.7
Sri Lanka	18.1	15.4
<i>Sub-Saharan Africa</i>		
South Africa	11.3	7.2
Malawi	15.5	11.6
Zimbabwe	6.4	17.8
<i>East Asia and Pacific</i>		
Philippines	28.2	10.2
Thailand	25.0	8.9
Indonesia	16.1	16.6
China	29.9	13.0
<i>Latin America and the Caribbean</i>		
Argentina	5.0	6.9
Brazil	17.3	7.3
Colombia	8.3	6.2
Mexico	4.4	13.5
<i>Middle East and North Africa</i>		
Egypt, Arab Rep. of	425.8	28.9
Tunisia	37.4	11.7
Turkey	35.7	5.7

Notes: Country observations are for one year in the time period specified.

Source: World Bank (2001).

they are sufficiently integrated with each other. This suggests that poor countries will grow, and reduce poverty, if they are sufficiently open.

Among regions that are sufficiently open to each other in all senses and with sufficiently similar overall policy environments, poorer ones tend to grow faster than average. Barro and Sala-i-Martin (1995) demonstrated this “absolute convergence” for states of the United States, regions of Europe, and prefectures of Japan over periods of several decades, as well as for OECD countries from 1960 through 1985. Over these long and relatively stable periods, poorer regions converged to richer ones at a rate of about 2 percent a year in all three areas. As a result, measures of the variation of intraregional inequality have fallen steadily.<sup>27</sup>

The implication of this result, particularly as extended to countries in the OECD sample, is that poor countries will not just grow but grow relatively fast if they are sufficiently integrated with faster growing countries. Of course, these groups of regions are integrated in many ways other than through trade: they have common laws, factor mobility, common currencies (except for the regions of Europe and the OECD), and no barriers to trade. Thus, this evidence does not speak to whether trade

**TABLE 3.**  
**Reductions in Barriers to Trade**

*Frequency of Total Core Nontariff Measures for Developing Countries, 1989–98*

Region	1989–94	1995–98
East Asia and Pacific (7)	30.1	16.3
Latin America and the Caribbean (13)	18.3	8.0
Middle East and North Africa (4)	43.8	16.6
South Asia (4)	57.0	58.3
Sub-Saharan Africa (12)	26.0	10.4

Note: Average number of commodities subject to nontariff measures as a percentage of total. Figures in parentheses are the number of countries in each region for which data are available.

Source: World Bank (2001)

*Countries Imposing Restrictions on Payments for Current Account Transactions (percent)*

Region	1980	1991	1995
East Asia and Pacific (9)	33	33	22
South Asia (5)	100	100	40
Middle East and North America (6)	67	67	33
Sub-Saharan Africa (23)	85	83	39
Latin America and the Caribbean (30)	44	60	17
Europe and Central Asia (17)		94	47
Industrialized economies (12)	17	8	0
Total (102)	55	65	27

Note: Figures in parentheses are the number of countries in each regional grouping.

Source: World Bank (2001)

*Average Black Market Premium (percent)*

Region	1980–89	1990–93	1994–97
Total <sup>a</sup>	82.0	78.2	20.3
East Asia and Pacific	3.6	3.6	3.2
Middle East and North Africa	165.6	351.6	46.5
Excluding outliers <sup>b</sup>	7.1	8.8	1.4
Latin America and the Caribbean	48.7	13.1	4.4
South Asia	40.8	45.1	10.1
Sub-Saharan Africa	116.5	28.6	32.2
Excluding Nigeria	112.1	25.8	9.6

a. Sample of 41 developing countries.

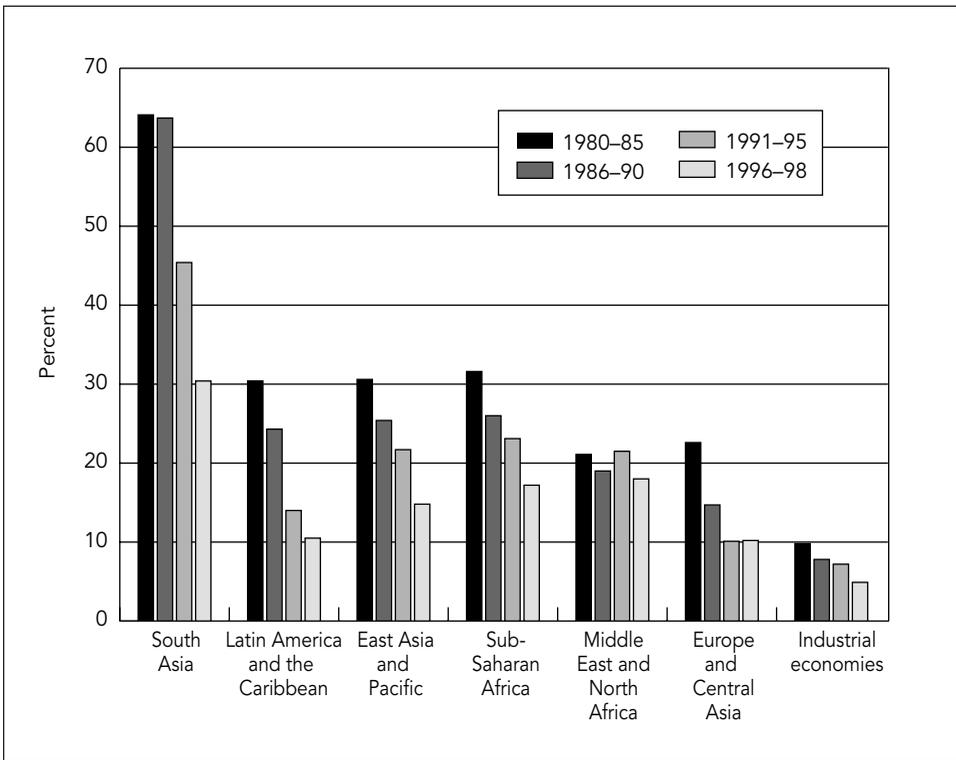
b. Algeria and the Islamic Republic of Iran.

Source: World Bank (2001).

liberalization itself is sufficient to permit poor countries to grow fast, but it does suggest that if a poor region adopts enough common institutions and liberalizes enough (and if its partners liberalize fully), then relatively fast growth will ensue.

The OECD countries represent a potentially important exception to the rule that integration must be complete for absolute convergence. How much integration is required? Sachs and Warner (1995) suggested that openness to trade, measured as described in the previous section, is enough. That is, there was absolute convergence among all countries in the world that were open to trade in 1970 (figure 2).

**FIGURE 1.**  
**Average Unweighted Tariff Rates by Region**



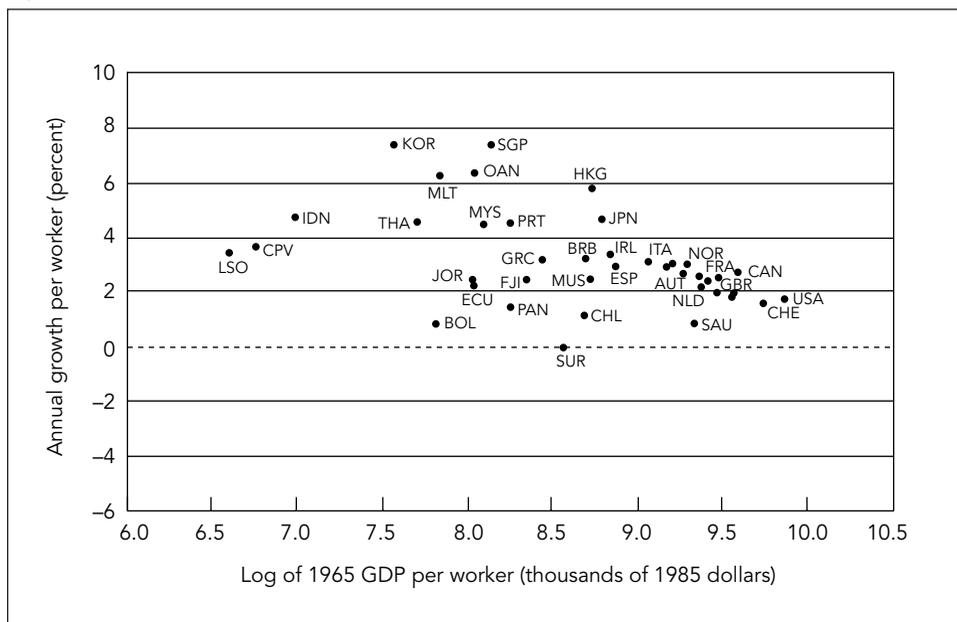
Source: World Bank data and World Trade Organization data.

Does this result hold for other measures of trade liberalization and over other time periods? There is some evidence that it does, at least for developed countries. Ben-David (1993) argued that convergence among the main European countries only became marked after 1958, when the trade liberalizations associated with the European Economic Community took place. He also found that convergence accelerated among various other developed country groups when they executed free trade arrangements. Finally, Ben-David (1996) found some direct evidence that trade is the mediating factor. He grouped countries into sets that trade intensively with each other, and then compared them to random groups of countries and reported that the trade-linked countries tended to display absolute convergence, whereas the random groups did not.

Both the Sachs and Warner (1995) results and the Ben-David (1993, 1996) results have been challenged. Rodríguez and Rodrik (1999) disputed the meaningfulness of the Sachs-Warner openness variable; as we discussed above, we think the variable is a plausible measure of trade openness. Rodríguez and Rodrik also questioned Ben-David’s results, pointing out among other things that it is difficult to distinguish the convergence observed among the European countries in the post-WWII period from

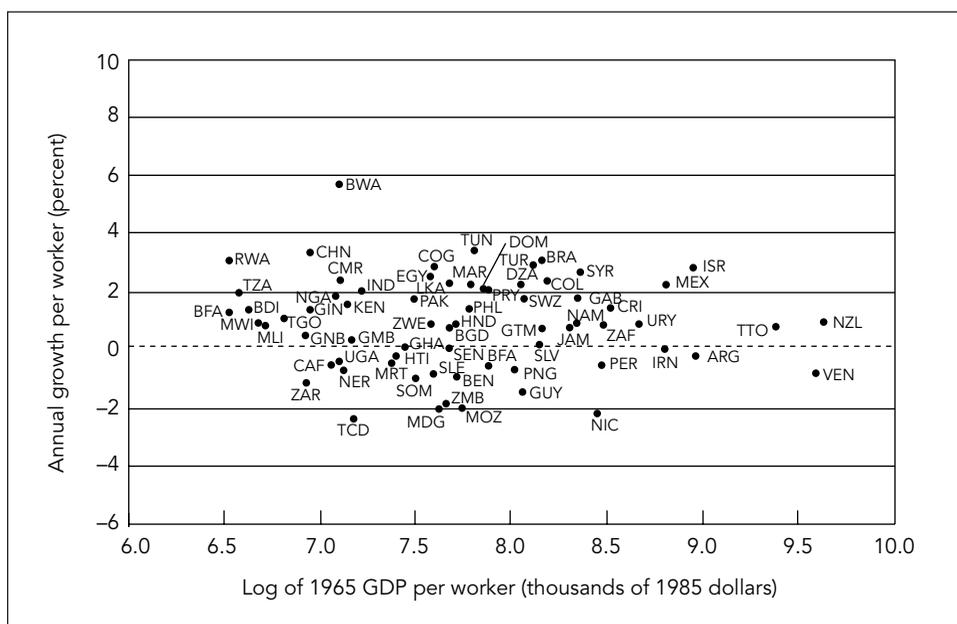
**FIGURE 2.**  
**Growth Per Worker and Initial GDP Per Worker, Open Economies and Closed Economies, 1965–1990**

**Open Economies**



Note: Country abbreviations are described on page 90.  
 Source: Sachs and Warner (1995).

**Closed Economies**



Note: Country abbreviations are described on page 90.  
 Source: Sachs and Warner (1995).

the convergence observed among those countries since 1870 or so (although with the important exception of the interwar period).

What if we compare systematically the change in speed of convergence before and after a group of countries liberalizes trade, with the change in convergence observed over the same time periods for a control group that did not liberalize trade? Slaughter (2001) found no evidence that the trade liberalizations led systematically to faster convergence. He did not examine the Sachs-Warner sample, but the point is that perhaps the countries that were open in 1970 were converging even faster in the previous period when they were closed.

Trade openness can be important, as shown by the examples of the OECD countries and the Sachs-Warner results, but is not necessarily enough. Given the large number of other factors that contribute to growth, we find this result unsurprising. But trade openness is an important piece of the puzzle.

### *Output and Openness: Regression Evidence*

Differences across countries in the level of output per capita are systematically and importantly related to openness. This result seems to hold up even when the endogeneity of openness is taken into account and when controls for other important determinants, such as the quality of institutions and geography, are included.

Empirical work of the last 15 years has concentrated on cross-country and panel regression analyses. Many articles have concluded that openness to trade is a significant explanatory variable for the level or the growth rate of real GDP per capita.<sup>28</sup>

These results have been challenged on a number of grounds. Most broadly, it is difficult to believe that a simple linear model can capture the deeply complex growth process (Srinivasan 2001). Nonetheless, this line of inquiry is worthwhile and, in our view, has produced strong and believable results despite the difficulties of the enterprise. There is no question that such regression analysis can capture only a small piece of the picture. Nonetheless, the forces that shape the relationship between openness and growth seem so strong that they emerge fairly clearly. Similarly, measurement of all of the variables is difficult, particularly but not only across countries. We have discussed the issue of how to measure openness itself, but similar problems plague the other interesting variables, including real GDP per capita itself. Again, it is remarkable that the results occur despite the surely pervasive measurement error.

A second deep potential problem relates to the question of causality. It is evident that openness, however measured, may well depend on growth or the level of income. The possible channels are numerous. Wealthier countries can afford better infrastructure for trade; poor countries may need to tax trade relatively heavily; higher incomes may shift preferences in favor of traded goods; and fast growth or high incomes may reduce political pressures for protection. We concentrate on results that are able to disentangle cause from effect through careful use of instrumental variables.

Third, trade policy and outcomes are likely to be highly correlated with other determinants of growth. If these other variables are omitted, trade falsely may take the credit. If they are included, colinearity may make it impossible to tell which determi-

nant really matters. We accept the notion that the links between trade and growth are hard to separate from the policies that typically accompany more open trading regimes, such as more stable macroeconomic policies, more openness to foreign direct investment, more liberalization of domestic markets, less rent-seeking, stronger rule of law, and so on. This makes it more difficult to tell whether trade or some other aspect of the “package” is what matters, or indeed whether the different components are too interrelated to assign an independent benefit to one piece. As we will discuss in the next section, we view this confluence of policies to be an advantage of open trade policies. Thus we are not troubled by an interpretation of the results that says that more open trade and the policies that are typically associated with it lead to higher incomes.

Rather than review the many articles in this area, we concentrate on two complementary strands. The first strand looks at the relationship between levels of income and trade openness across countries, using a variety of instruments to control for the possibility of reverse causality from growth to trade and attempting to test whether the inclusion of other determinants of growth, such as institutional quality and geography, eliminate the relationship between trade and growth. The findings of these articles are that the cross-country variation in the level of GDP per capita and total factor productivity depends on openness, even when openness, measured either as the share of trade in GDP or the policy-based Sachs-Warner measure, is instrumented with plausibly exogenous variables such as distance from trading partners. Another conclusion is that openness often is highly correlated with institutional quality (where institutional quality is defined broadly in terms of the importance of the rule of law, the effectiveness of the government, and so on). In an effort to unravel this colinearity of openness and institutional quality across countries, we will turn to a second strand of analysis that examines the relationship between changes in openness and changes in per capita GDP through time.<sup>29</sup>

We focus first on Hall and Jones (1999), who attempted to explain cross-country differences in per capita income. Their basic specification is

$$\log Y/L = \alpha + \beta \tilde{S} + \varepsilon$$

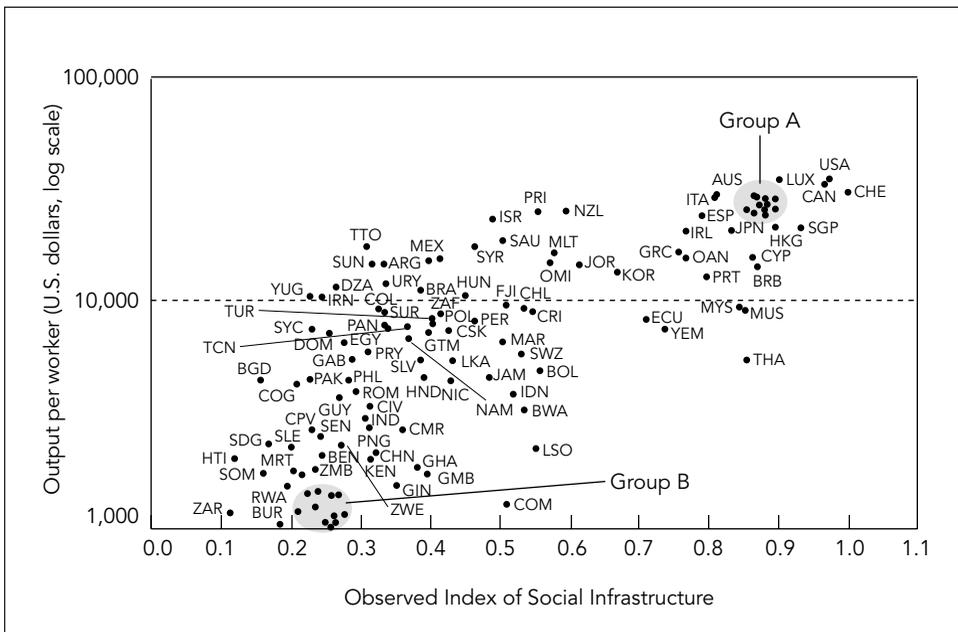
where  $Y/L$  is output per worker and  $\tilde{S}$  is the (instrumented) value of the “social infrastructure.” Social infrastructure is an average of two components. The first component is government antidiversion policies (GADP), as estimated by a private firm, Political Risk Services. This component measures law and order, bureaucratic quality, corruption, risk of expropriation, and government repudiation of contracts. The second component is the fraction of years during the period 1950 to 1994 that the country was open according to the Sachs-Warner measure of policy openness. These components are instrumented with various plausibly exogenous variables that are designed to measure Western European influence: the extent to which Western European languages are spoken, the distance from the equator, and the predicted trade share of an economy based on a gravity model of international trade that uses only a country’s population and geographic characteristics (Frankel and Romer 1999).

The basic result is that social infrastructure instrumented in this way is highly significant and explains much of the difference across countries in output per worker. (Figure 3 shows the impressive strength of the simple relationship between output per worker and social infrastructure.) It is more important for our purposes to note that the results are similar when using Sachs-Warner openness alone, although apparently results are correlated sufficiently with GADP that it is impossible to disentangle the effects of the two variables.

This is a powerful result that addresses many of the toughest specification problems. First, we are comfortable with the association of openness with “social infrastructure” and accept that the two are hard to tell apart, for reasons we have discussed. Second, the instruments are clearly exogenous to income in 1990. Moreover, the ordinary least squares (OLS) estimates of the effect of openness on income are smaller than the instrumental variables (IV) estimates, which suggests any reverse causality from income to openness is dwarfed by errors in the measurement of openness that bias the OLS coefficient down. Third, there is no evidence that the instruments affect income except through their impact on openness.

Suppose, in contrast, that it is not really openness that causes growth; suppose instead that the higher incomes result from deeper structural and cultural factors related to the instruments used in the regression—that is, to distance from partners, language use, and so on. In this case, however, the residuals from the regression of income on trade (instrumented with those structural factors) ought to be correlated with the structural factors themselves. Why? Because the variation of these structur-

**FIGURE 3.**  
**Social Infrastructure and Output per Worker**



Note: Country abbreviations and clusters of countries labelled Group A and Group B are described on page 90.  
Source: Hall and Jones (1999).

al factors not associated with trade openness ought to matter for income. In fact, the residuals are not correlated with the instruments. This allows a rejection of the hypothesis that any of the instruments belong in the income regression. Finally, the result is robust to the inclusion of a variety of other variables on the right-hand side of the income equation, notably distance from the equator and ethnolinguistic fractionalization.

Similar strong results occur when openness is measured by trade shares in GDP rather than by the Sachs-Warner policy-based measure, as long as the shares measurement is properly instrumented. This result originated in Frankel and Romer (1999) and is expanded in Frankel and Rose (2000). They measured openness as the share of exports plus imports in GDP, and then created a predicted openness measure based on such geographic variables as distance from trading partners, size, having a common border, and being landlocked. This fitted openness measure is not subject to reverse causality from income, but itself is a powerful determinant of the level of real income per capita across countries. As above, the errors in the income regression are not correlated with the instruments, making it possible to reject the hypothesis that these variables belong in the income regression directly. To control for the possibility that this fitted openness variable is proxying for other factors that may be correlated with the instruments, they included a variety of control variables, including distance from the equator, regional dummies, and a measure of institutional quality. They found that the fitted openness variable largely survives the inclusion of those additional variables.<sup>30</sup>

That general finding is not entirely ironclad. For example, Irwin and Tervio (2000) extended the Frankel-Romer regressions to various time periods in the 20th century and found that trade, instrumented by geographic variables, explains income, but that inclusion of a variable measuring distance from the equator greatly attenuates the effect in some samples. Rodrik (2000) also showed that adding enough variables can make openness insignificant.

A recent refinement to the measure of openness appears substantially to strengthen the robustness of the link between openness, instrumented by geographic variables, and income. As noted above, Alcalá and Ciccone (2001) argued that openness should be measured as exports plus imports as a share of GDP in purchasing-power-parity dollars. Those authors found that the level of income is strongly related to real openness when the latter is instrumented with the usual geographic variables. Moreover, that result holds up when a large number of controls are introduced, including institutional quality, expropriation risk, such geographic variables as distance from the equator, and regional dummy variables. These effects are large. Their baseline estimate suggests that an increase in real openness that takes the country from the 20th percentile to the median value almost triples productivity.<sup>31</sup>

To summarize, the cross-country evidence is strong that openness causes higher incomes. This is true when openness is measured in terms of policy, as in the Sachs-Warner variable, and when it is measured as an outcome in terms of the ratio of exports plus imports to GDP. In the latter case, using purchasing-power-parity GDP instead of GDP—that is, eliminating the effects of cross-country differences in the

price of nontraded goods—seems to make the results stronger. This remains true when openness is instrumented using plausible exogenous variables, which themselves appear not to belong in the income regression. Finally, it withstands the introduction of a variety of specifications that add other variables, notably controls for such geographic factors as distance from the equator and even regional dummies.

This line of research shows, however, that it is difficult to separate the effects of openness and institutional quality in a satisfactory way. This finding partly reflects the fact that the components of each that can be identified as exogenous (because they are correlated with predetermined instrumental variables, such as distance from trading partners and historical determinants of institutional quality) are highly correlated with each other. That is, the variation across countries in the variables and their deep determinants does not allow the identification of separate effects.<sup>32</sup>

We therefore turn to a second set of regressions that emphasize differences in openness through time as determinants of changes in growth rates through time, thereby abstracting from slowly changing institutional and geographic issues. Dollar and Kraay (2001) explained growth in the 1990s and 1980s for a set of about 100 countries as a function of growth in the previous decade and the change in openness over the decade, plus other controls:

$$Y_{ct} = \beta_0 + \beta_1 Y_{c,t-k} + \beta_2 X_{ct} + \eta_c + \gamma_t + v_{ct}$$

and, taking first differences,

$$Y_{ct} - Y_{c,t-k} = \beta_1 (Y_{c,t-k} - Y_{c,t-2k}) + \beta_2 (X_{ct} - X_{c,t-k}) + (\gamma_t - \gamma_{t-k}) + (v_{ct} - v_{c,t-k})$$

where  $Y_{ct}$  is the log-level of per capita GDP in country  $c$  in time  $t$ ;  $k$  is 10 years;  $X_{ct}$  is a set of control variables, in particular openness, measured as an average over the decade between  $t-k$  and  $t$ ;  $\eta_c$  is an unobserved country effect that is constant over time;  $\gamma_t$  is an unobserved time period effect that is common across countries; and  $v_{ct}$  is a serially uncorrelated error. Dollar and Kraay estimated the regression in first differences. Openness was measured as the exports plus imports as a share of GDP.

This approach avoids the difficulty associated with distinguishing the roles of slowly changing geographic, institutional, and cultural factors from openness by looking only at differences through time. In other words, the time invariant country-specific term  $\eta_c$  drops out from the estimated equation, so it does not matter for the estimates. This procedure also takes an approach entirely different from the cross-country-level regressions in controlling for reverse causality from income to openness, because it permits the use of lagged values of the endogenous predictive variables, openness and growth, as instruments.<sup>33</sup> Although again these instruments pass the appropriate tests of whether they are uncorrelated with the errors in the growth equation, these tests may have low power and the instruments may not be appropriate. We would emphasize, however, that the problems here are entirely different from those associated with the instruments in the cross-country-levels approach. Thus, the two sets of results reinforce and complement each other.

The basic result is that changes in trade volumes are highly correlated with changes in growth, with a point estimate suggesting that an increase in the trade share of GDP from 20 to 40 percent over the decade would raise real GDP per capita by 10 percent. This result turns out to be robust to the inclusion of a variety of additional control variables, specifically inflation, government consumption as a share of GDP, and (as measures of time-varying institutional quality) the frequency of revolutions and the amount of contract-intensive money (that is, the ratio of broad money [M2] to GDP).<sup>34</sup>

A further interesting result is that foreign direct investment (FDI) as a share of GDP predicts growth in a similar manner to trade openness, and those two variables are too correlated for the data to tell whether each is independently important. Although it is unfortunate that the data do not allow us to gauge the relative importance of these two variables, we find it reasonable that the benefits of trade cannot be distinguished from the benefits of openness to FDI. As we will discuss in the last section of this article, trade policy typically being part of a set of reforms, including liberalization to FDI, suggests the importance of trade openness as part of the overall reform package.<sup>35</sup>

We have focused on a small number of regression studies and emphasized how two very different approaches yield a similar result: openness is a fairly robust cause of growth. Two important caveats are in order. We recognize that there is substantial uncertainty surrounding these estimates. In some specifications openness is not robust, for example, and frequently related variables of interest are too correlated for the data to tell which matters most. As we discussed at the beginning of this section, broad regression exercises of these sorts can go only so far in exploring many of the complexities involved. We thus turn now to other sorts of evidence.

### *Effects of Liberalization on Income: Case Studies*

Case studies also have tended to show benefits from trade liberalization. Clearly, opening to trade does not guarantee faster growth. But one striking conclusion from the last 20 years of experience is that there are no examples of recent-takeoff countries that have not opened to an important extent as part of the reform process.

Earlier literature convincingly detailed the mechanisms through which import substitution policies worked, or more precisely did not work. Krueger (1978) and Bhagwati (1978) reported on studies that measured in detail the degree of effective protection and anti-export bias in nine developing countries. They analyzed the phases through which liberalizing countries proceeded during their moves from import substitution toward an outward-oriented trade policy (that is, one without an anti-export bias). They described how the distortions from various sorts of protection work their way through the economy in mostly unplanned and undesirable ways. They showed how exports and growth responded in those cases where there were substantial trade liberalizations and appropriate accompanying macroeconomic policies.

In more recent years a variety of studies have followed that approach, attempting to define liberalization episodes in a sample of cases and to examine the effects of liberalization. In the largest study, Papageorgiou, Michaely, and Choksi (1991) analyzed

the design, implementation, and outcome of trade liberalizations in each of the 36 episodes in 19 countries between 1946 and 1986. They provided a subjective assessment of the depth of liberalization in each of the episodes and found that strong and sustained liberalization episodes result in rapid growth of exports and real GDP.

A variety of other multicountry studies of liberalization episodes gave mixed results on the effect of liberalization on growth.<sup>36</sup> A central complication is that it is critical not just to label a structural adjustment loan with trade components as liberalization—measuring actual follow-through is critical. Indeed, as demonstrated in Andriamananjara and Nash (1997), most liberalizations are gradual, with different layers of protection gradually being peeled away. Exceptions, such as Chile in the 1970s and Mexico in the 1980s, are rare. Thus, the liberalization event study is difficult to interpret, particularly if actual implementation is not carefully assessed case by case.<sup>37</sup> What has happened to liberalizers since 1980? There is a relative dearth of systematic case studies completed in the last few years that review the experience of liberalizers in the past 10 years or so. Dollar and Kraay (2001) classified countries into globalizers and nonglobalizers based on three criteria: (1) those whose trade as a share of GDP rose most (the top third of the distribution, that is, the top 24 countries in their sample) between 1975–79 and 1995–97; (2) those who had the largest reductions in average tariff over the 1985–89 to 1995–97 period; and (3) those nine countries that were in both groups.<sup>38</sup> They showed that the globalizers enjoyed a substantial increase in growth rates in the 1990s relative to the 1980s (from 1.4 to 3.8 percent per year in real per capita GDP growth for the third group), whereas growth of nonglobalizers went from –0.1 percent to 0.8 percent.<sup>39</sup> Sachs and Warner (1995) examined the experience of countries that opened (according to their measure) since 1975, and found higher growth in the two years after liberalization and further out, relative to the years prior to liberalization (even excluding years immediately prior to opening).

Individual case studies inevitably present a varied picture. Country experiences differ radically and trade is only part of the story. Disentangling the various factors is difficult. In our view, though, a common thread across most successful cases of takeoff is a significant degree of trade liberalization, even if this is not obviously decisive in each case and even if it is not sufficient. (It is less clear that it is not necessary because cases of successful and sustained takeoff during the post–WWII years in the absence of trade liberalization are rare to vanishing.)

### *Channels through Which Trade Affects Growth: Sectoral and Micro Studies*

Detailed country-specific sectoral studies from the 1970s and 1980s showed substantial costs to inward-oriented policies and failed to find dynamic gains from protection as predicted by infant-industry arguments. More recent microeconomic evidence has documented several channels through which openness leads to higher productivity. There is thus ample microeconomic basis for the aggregate relationships discussed above. Support for the infant-industry proposition at the sectoral level remains weak.

Perhaps the central finding from the large cross-country studies of trade liberalization in the 1970s and 1980s was the highly distortionary nature of the import-

substituting regimes being considered; these distortions proved to be much greater than the simple average tariff rates would suggest. These studies emphasized the ways in which inward-oriented trade policies reinforced poor macroeconomic and exchange rate policies. In their careful study of the differences between inward- and outward-oriented regimes in practice, these analyses can be contrasted with many recent discussions of the merits of openness that are impoverished by lack of a concrete counterfactual.

Some recent direct evidence that trade promotes productivity growth in developing countries comes from Coe, Helpman, and Hoffmaister (1997), who found that total factor productivity in a panel of 71 developing countries was significantly related to the stock of research and development (R&D) carried out by trading partners. They presented clear evidence that trade, particularly the import of machinery and equipment, mediates the diffusion of knowledge: the interaction of trading partner R&D stock with the quantity of machinery and equipment imported from that partner is an important determinant of the size of the productivity effect.

Until recently there has been little evidence of gains from trade liberalization at the industry and firm levels.<sup>40</sup> Bhagwati (1988) argued that there was little direct evidence that export promotion was associated with greater innovation or less *x*-inefficiency. Recent studies at the firm and industry levels, however, have supported the idea that trade liberalization has spurred increased productivity through a variety of mechanisms.<sup>41</sup> Increased import competition lowers margins and increases turnover and innovation. Exit is only the most visible part of the story. For example Wacziarg (1997) showed that entry rates of new firms into liberalizing sectors were 20 percent higher than in other sectors in 11 trade liberalization episodes during the 1980s.

Although many studies have shown that exporting firms are more productive, causality has been hard to establish, given the plausible hypothesis that increases in productivity (for some other reason) may encourage firms to export.<sup>42</sup> A set of articles recently examined the relationships between export performance and productivity growth using detailed panels of plant-level data and found that at the plant level in industrial and middle-income countries, causality seemed to run from productivity to exports, not the other way around.<sup>43</sup> That is, export growth follows increases in productivity, but there are few signs that strong export performance implies faster subsequent productivity increases. Thus, if exporting increases productivity, the evidence from richer countries suggests that it does so other than through direct effects on plant-level productivity. Firms in the poorest countries presumably have the most to learn. Thus, it is not surprising to find evidence that firms in such countries achieve more productivity growth after entering export markets. Bigsten and others (2000) found that firms in four African countries did learn from exporting, as well as self-selecting for the export sector, and Kraay (1999) found learning effects in Chinese enterprises.

Even if exporting firms enjoy unusual productivity increases only prior to entering the export market, causality may still run from the entry into the export market to the productivity increase. Hallward-Driemeier, Sokoloff, and Iarossi (2000), using data from five East Asian countries, found that the productivity gains observed prior

to entering into the export market were associated with specific behaviors that suggested directed efforts aimed at penetrating the export market, such as using more foreign technology and imported inputs.

Other studies have looked beyond plant-specific effects of trade in promoting productivity growth. One mechanism that appears important is that exporting plants that are relatively highly productive may grow faster than nonexporting plants. Thus, average productivity growth rates are higher as resources shift into the exporting plants. This mechanism appears very important in the United States. According to Bernard and Jensen (1999), from 1983 through 1992, more than 40 percent of total factor productivity growth in the manufacturing sector of the United States resulted from the fact that high-productivity exporting plants grew faster than lower productivity nonexporting plants. Thus, exporters accounted for much more of the productivity growth in the sample than their share in total employment. It is plausible to expect that of the various channels through which trade could promote productivity growth, those that operate through the diffusion of more advanced technologies from abroad would play the smallest role in the United States. Thus, trade may have more beneficial effects on productivity growth in developing countries than these results suggest.<sup>44</sup>

Trade also may promote productivity growth through its effects on the quality of imported intermediate and capital goods. Many studies show a positive correlation between access to imported inputs and productivity.<sup>45</sup> Demonstration effects across firms and higher competitiveness also may induce innovation and increases in productivity. For example, Clerides, Lach, and Tybout (1998), who found no within-plant learning from exporting per se, did find that firms in regions with substantial export activity had lower costs.<sup>46</sup>

Much evidence thus suggests that openness helps productivity growth in manufacturing. This is inconsistent with the infant-industry idea that protection helps support the growth of industry and eventually industrial productivity. Some evidence for learning by doing can be found, suggesting some role for protection to enhance productivity growth and allow new industries eventually to become competitive.<sup>47</sup> However, in most cases there is no evidence that protected industries grow faster than others, and even where they do, the costs of protection in terms of higher prices for domestic consumers seem greatly to outweigh any benefits. Krueger and Tuncer (1982) found no evidence that protection abetted productivity growth in a cross-section of Turkish industries.<sup>48</sup> More generally, Bell, Ross-Larson, and Westphal (1984) concluded in their survey that infant firms experienced relatively slow productivity growth. They believed that underlying that result was the fact that achieving international competitiveness results not just from learning by doing, as would be abetted by high levels of protection, but from a more active effort. This is consistent with the results discussed above on the positive influence on productivity growth of both import competition and the availability of export markets.

More recent work has continued to deprecate the infant-industry argument. Luzio and Greenstein (1995) studied the effect of Brazil's prohibition on microcomputer imports in the 1990s. The domestic industry developed rapidly, but more slowly than

international competitors, so the price/performance frontier in Brazil lagged international standards by three to five years. The costs to consumers of computers have been as high as 20 percent of domestic expenditures on microcomputers.

The above evidence focused on post-WWII international experience. It often has been claimed that late-19th century tariffs in the United States successfully promoted infant industries, most clearly in the case of the tin-plate industry. In a methodologically careful article, Irwin (2000) found that the tariffs did allow the industry to arise in the United States about a decade earlier than it otherwise would have arisen. Nonetheless, his welfare calculations suggested that the protection did not pass a cost-benefit test. Whatever learning by doing was taking place was outweighed by the higher prices paid by domestic users of tin plate in the United States as a result of the tariff.

More recent evidence on the relationship between protection and productivity growth comes from Jonsson and Subramanian (2001), who looked at the relationship between productivity and the decline in protection across industries in South Africa over the 1990s. They found strong effects: a 10 percent decline in the output price as a result of tariff reduction produced an increase in the total factor productivity growth rate of 3 percentage points. There is no sign of a larger decline in employment in those industries with the larger decline in tariffs.<sup>49</sup> Support from another direction came from Dodzin and Vamvakidis (1999), who examined the impact of international trade on industrialization in developing agricultural economies. Those economies that increased their openness (using the Sachs-Warner measure) from 1975 to 1995 experienced an *increase* in their share of industrial production at the expense of agricultural production. Indeed, the least industrialized countries at the time of liberalization tended to experience the most rapid industrialization thereafter.<sup>50</sup>

### *Trade and Poverty*

There are strong reasons to suppose that trade liberalization will benefit the poor at least as much as it benefits the average person. Trade liberalization tends to reduce monopoly rents and the value of connections to bureaucratic and political power. In developing countries, it may be expected to increase the relative wage of low-skilled workers.<sup>51</sup> Liberalization of agriculture may increase (relatively low) rural incomes. On the other hand, trade liberalization might worsen the income distribution, for example, by encouraging the adoption of skill-biased technical change in response to increased foreign competition.

If trade liberalization worsens the income distribution enough, particularly by making poor populations poorer, then it is possible that it is not good for poverty reduction, despite its positive overall growth effects. We have seen that this seems unlikely based on the weak general relationship between growth and inequality. But perhaps trade-based growth is different. We first examine the systematic cross-country evidence; then we briefly review some of the vast microeconomic literature on the effects of trade liberalization on income distribution. We are not looking here at

the question of how trade openness affects income distribution; rather, we want to know how trade openness matters for absolute poverty beyond its effects on growth.<sup>52</sup>

Although the evidence is somewhat mixed, it leans strongly toward the conclusion that there is no systematic relationship between openness and the income of the poorest people, beyond the effect of openness on overall growth. Dollar and Kraay (2002) provide the clearest evidence. Using a large panel (137 developing countries from 1950 to 1999), they regressed the income share going to the lowest quintile on mean per capita income in their sample. They found that the income of the poorest quintile grows one-for-one with average incomes (consistent with the finding we noted in the introduction that growth does not systematically correlate with changes in the income distribution). They also found that, given growth, openness has a tiny and statistically insignificant effect on the income of poor populations.<sup>53</sup>

Other studies using panel and cross-section data reported similar results: no significant evidence of links between openness and changes in the *relative* well-being of the poor.<sup>54</sup> For example, Cashin and others (2001) analyzed a cross-section of countries between 1975 and 1998. They estimated the relationship between economic policies and improvements in a human development index, which was highly correlated with poverty, for a given rate of growth of GDP per capita. They did not find significant and robust evidence that any openness variable (the ratio of foreign trade to GDP or the black market premium) was associated with pro-poor or anti-poor growth.<sup>55</sup>

Those statistical analyses with large numbers of countries are unsatisfactory in many ways. The data underlying them are highly problematic, and they attempt to fit different sorts of trade liberalization episodes in different countries into a common framework. An alternative approach to looking at how trade liberalization affects the poor is to study in detail individual liberalization episodes. Such study allows a consideration of the rich variety of mechanisms through which liberalization can affect poverty and of the various ways that specific characteristics of the individuals involved can influence the results. We would like to emphasize, however, one important problem that is more or less common to these studies: it is much easier to see what happens to individuals or groups that are directly affected by trade liberalization than it is to observe how the opening plays out across the entire economy through time.<sup>56</sup>

On the question of whether the poor benefit more or less than others do, no clear pattern emerged from the numerous studies of individual liberalization episodes.<sup>57</sup> This is not surprising, as any particular liberalization will change relative prices and incentives throughout the economy. A few generalizations can be extracted nonetheless from these studies. Poor consumers tend to benefit from trade liberalization as do other consumers. Liberalization of agricultural trade typically has the strongest effects on the poor because in most countries most poor people are engaged in small-scale agriculture. In general, trade protection usually induces an anti-agricultural bias, so liberalization should help; the poorest among small farmers may, however, be relatively ill placed to benefit.

## Trade and the Broader Policy Environment

We have examined a large amount of evidence about the effect of openness on growth and poverty. Much of this evidence is vulnerable to the criticism that the effect of openness has not been isolated from the effects of many other reforms that often were implemented at the same time. In the case studies and before-after comparisons, for example, effects of trade liberalization are hard to disentangle from the effects of macroeconomic stabilization, internal price liberalization, changes in the foreign exchange system and the exchange rate, liberalization of the capital account, the introduction or elimination of social safety net programs, and a host of other measures.

This correlation of openness with other elements of reform is a difficult econometric problem. We do not consider it to be a problem from the point of view of the design of reform programs, however. First, trade is a particularly important component of reform. Second, trade openness has important positive spillovers on other aspects of reform so that, on the whole, the correlation of trade with other pro-reform policies speaks to the advantages of making openness a primary part of the reform package. Finally, there is little evidence that there are other reforms that must precede an effective trade reform, although there are many reforms that are complementary.

Insofar as the data do speak, they tend to single out trade openness as a particularly important reform. The various policy variables hypothesized to promote growth are in many cases highly correlated. But, as Sala-i-Martin (1997) showed, among the variables more robustly related to growth are the Sachs-Warner openness measure and the black market exchange rate premium. According to Easterly and Levine (2001), openness (measured as the ratio of trade to GDP) and the black market premium were highly significant in a regression including several other policy variables.

It is indeed true that reforms tend to come in packages of various sorts. Thus, this is a problem for identifying the effects of different sorts of reforms. It is not, however, a policy problem. On the contrary, in our view trade reforms are a central aspect of the overall reform package. If trade openness is associated with lower inflation, for example, then it makes it more difficult to say which is the key factor in a regression or case study, but it makes it easier to recommend trade openness.

When interpreting the role of trade reform as distinct from other aspects of policy, it is important to distinguish between preconditions, desirable complements, and beneficial reform “spillovers.” In our view, there are few true preconditions—that is, reforms in the absence of which trade openness is a poor idea. Openness seems to promote growth in the poorest countries as well as in others. Ades and Glaeser (1999) found that, among relatively closed economies, the poorest in 1960 also grew the slowest between 1960 and 1985, but that low initial income is not correlated with slower subsequent growth in open economies. They argued that in closed economies low initial income reduces potential benefits from scale economies, but that trade openness overcomes this problem by allowing access to broader markets. More broadly, there is little evidence of a “growth trap” in the sense of a situation in which countries become too poor to take off. For example, Jones (1997) noted that,

of the 18 poorest countries in 1965 in his sample of 121, 4 grew at least one point faster than the United States from 1960 to 1988, and 11 grew about as fast as the United States. Parente and Prescott (2000) pointed out that all the growth miracles of the 20th century occurred in countries starting far behind the richest. Ng and Yeats (1996) argued that protectionist trade policies and related macroeconomic distortions played a key role in Africa's relative marginalization in world trade between the 1950s and 1990, not external protection in OECD markets or an unfortunate specialization in exporting goods of declining world importance, although the latter also played a role.

Many factors can make trade reform more or less successful. For example, a more egalitarian initial income distribution implies that a given amount of (distribution-neutral) growth has a larger impact on the poverty rate, all else held equal.<sup>58</sup> There is also evidence that certain factors, such as higher rates of education, permit poor people to benefit more fully from growth.<sup>59</sup> Of course, these are not arguments against trade reform but rather for pursuing these complementary reforms as well. Some measures may be co-requisites of trade liberalization, at least in the sense that in their absence the trade liberalization policy may not endure. As Papageorgiou, Michaely, and Choksi (1991) argued on the basis of case studies, for example, trade liberalizations in the presence of chaotic macroeconomic environments and overvalued exchange rates are likely to be reversed.<sup>60</sup>

The most important set of relationships, in our view, has to do with positive spillovers from trade reform. In many cases and in many ways, trade liberalization is itself a precondition or a complement to other sorts of reforms and thus facilitates their success. The fact that trade reform often happens as a package, from this point of view, is a strength of trade reforms, even if it is an econometric challenge.

There is a variety of reasons why trade openness might promote other sorts of reforms. Openness provides powerful channels for feedback on the effect of various policies on productivity and growth. For example, competition with foreign firms can expose inefficient industrial policies. Trade raises visibility of failure in other areas. Trade raises the marginal product of other reforms, in that better infrastructure, telephones, roads, and ports translate into better performance of the export sector and, less visibly, this raises productivity for domestic goods as well. Trade liberalization may change the political reform dynamic by creating constituencies for further reform.<sup>61</sup>

Two areas in which trade interacts with the capital account deserve special attention. First, the evidence is clear that FDI has important benefits for growth, and hence for combating poverty, in developing countries. As has been recognized for some time, allowing FDI behind important trade barriers can lead to large and stubborn distortions. Moreover, openness to FDI is highly correlated with openness to trade. Thus, an open trading regime is an important counterpart to allowing in substantial and productive FDI.<sup>62</sup>

Second, the large crises observed in several emerging markets in the last decade have given new force to an old sequencing argument: that trade liberalization should precede capital account liberalization more broadly. There is mixed evidence that the

income distribution systematically worsens during crises, but of course the poorest people are likely to be least able to adjust to declines in income.<sup>63</sup> Trade shocks and openness have not, in general, been important causes of recent exchange rate crises.<sup>64</sup> On the other hand, growth following crises and sharp contractions in the current account deficit is stronger in more open economies, presumably because the exchange rate depreciation associated with the crisis leads to a stronger export response in more open economies. Thus, trade openness is increasingly important in a world that is growing otherwise more integrated (Gupta, Mishra, and Sahay 2000; Milesi-Ferretti and Razin 1998).<sup>65</sup>

It is sometimes argued that an absence of adequate prior institutional reform may limit the gains from openness. Dani Rodrik, for example, has argued that the efforts spent implementing trade reform would be better spent on other sorts of reform, primarily institutional (Rodrik 2001). It should be clear that, in our view, the positive spillovers from openness to other reforms are more than powerful enough to overcome this sort of effect. Successful institutional reform is likely to be a powerful complement to trade liberalization, but there is little or no evidence to suggest that waiting on such institutional reform is a good idea. On the contrary, there is strong evidence that openness may encourage institutional reform and in particular reduce corruption, as argued in Krueger (1974). Ades and Di Tella (1999) found that corruption is higher in countries where domestic firms are sheltered from foreign competition by natural or policy-induced barriers to trade, and that the size of this effect is large: almost a third of the corruption gap between Italy and Austria can be explained by Italy's lower exposure to foreign competition.<sup>66</sup>

## Conclusion

We have surveyed the literature and extracted three main propositions about trade policy and poverty: (1) poverty reduction is mainly about growth in average per capita income; (2) trade openness is an important determinant of growth; and (3) the growth that is associated with trade liberalization is as pro-poor as growth in general.

On the first proposition, there is ample evidence that the main cause of changes in absolute poverty is changes in average per capita income. Long-run trends reinforce the point that the relationship between poverty and openness is dominated by growth. First, within-country inequality has been relatively stable and not a source of much of the change in overall global inequality. Thus, any globalization-induced changes in within-country inequality are a small part of the story. Bourguignon and Morrisson (2002) charted global individual inequality between 1820 and 1992 and divided it into between-country and within-country components (shown in figure 4). Most of the story of world income distribution is the rise in between-country inequality until about 1950 and perhaps the slight decline since 1980. Sala-i-Martin (2002) concentrated on the more recent period and found that overall global inequality has been falling since 1980, thanks to between-country convergence.

**FIGURE 4.**  
**World Income Inequality**



Note: Mean logarithmic deviation (see Sala-i-Martin [2002] for a definition of this measure of inequality).  
 Source: Bourguignon and Morrisson (2002).

By concluding that openness tends to increase growth, we suggest that if poor countries opened more, poverty would fall. In their surveys of historical trends in globalization and inequality both Bourguignon and Morrisson (2002) and O'Rourke (2001) concluded that globalization has been, broadly speaking, a force for between-country convergence among participating countries. Until the third quarter of the 20th century, however, other factors, such as unequal spread of the Industrial Revolution and nonparticipation by some countries in the world economy, overwhelmed this effect.

With respect to the second proposition, the evidence that trade openness is an important determinant of growth is varied. First, we know that countries and regions that are sufficiently similar along a broad number of dimensions, such as states in the United States, regions of Europe, or even countries of the OECD, tend to converge to similar levels of income. It is plausible that trade openness is an important part of this convergence process and hence part of bringing poverty rates down in poorer countries. Of course, many other factors potentially are at play in this convergence process.

Cross-country and panel regressions allow us to examine the separate roles of some of these factors. In cross-country regressions of the level of income on various determinants, openness seems to be the most important policy variable, despite the measurement problems. The toughest question is how to disentangle the effects of openness from those of the good institutional environment that usually accompanies openness. A quick perusal of the variables considered in measuring good institutions

makes it clear why these must be important in the development process: voice and accountability, lack of political instability and violence, effective government, manageable regulatory burden, rule of law, and absence of corruption. Trade can only be an aspect of the development process, and these institutions are clearly central. We argue, however, that openness is in many ways a contributor to a strong institutional environment. More broadly, the fact that openness is highly correlated with quality of institutions across countries should give long pause to anyone contemplating the adoption of what amounts to a novel (or tested and failed) development strategy that does not involve openness to trade.

The regression evidence on determinants of changes in income within countries through time allows us to distinguish between the effects of institutional variables and trade openness, for the simple reason that institutional variables do not vary much through time so that it is unlikely that changes in trade openness can be confused with their effects. These regressions also show a central role for increases in openness in promoting growth.

We would not find these regression results particularly convincing if there were not a substantial quantity of case study and industry- and firm-level research documenting the various ways in which openness contributes to export, productivity, and ultimately income growth. Perhaps the central finding from the large, multicountry studies of trade liberalization in the 1970s and 1980s was the highly distortionary nature of the import-substituting regimes prior to liberalization. Somewhat more recently, others have followed this approach, attempting to define liberalization episodes in a sample of cases and examine their effects, and finding that strong and sustained liberalization episodes result in rapid growth of exports and real GDP. Recent studies at the firm and industry levels have delineated some of the ways that trade liberalization and the resulting increase in import competition work to increase productivity and have shown that an emphasis on exports helps as well. Consistent with the evidence on the benefits of trade for productivity growth, the infant-industry argument has consistently failed to find empirical support.

Our third main proposition is that trade openness, conditional on growth, does not have systematic effects on the poor. The aggregate evidence shows that the income of the poorest people tends to grow one for one with average income. Of course, in some countries and in some periods poor people do better than average, and sometimes they do worse. But openness does not help explain which of these outcomes occurs. The evidence from a large number of individual liberalization episodes also shows that there is no systematic relationship between trade liberalization and income distribution. Thus, trade openness has contributed to growth that has resulted in an unprecedented decline in absolute poverty over the last 20 years. Changes in income distribution within countries have, on the other hand, contributed little to net changes in poverty incidence. (This is true also over longer periods.) Indeed, the change in income distribution in the last 15 or so years has been slightly pro-poor.

Much of the evidence that openness promotes growth and poverty reduction is vulnerable to the criticism that the effects of openness have not been isolated from those of other reforms undertaken prior to or with trade liberalization. This is an

econometric but not a policy problem, however. Openness has important positive spillovers on other aspects of reform so the correlation of trade with other reform policies speaks to the advantages of making openness a primary part of the reform package. Moreover, there is little evidence that other reforms must precede an effective trade reform, although there are many that are complementary.<sup>67</sup>

Openness is not a “magic bullet,” however. Trade policy is only one of many determinants of growth. Thus, it should not come as a surprise that, even though trade is an important determinant of growth and there has been substantial trade liberalization in the last 20 years, growth in the 1980s and 1990s has been disappointing, resulting in a correspondingly modest (if unprecedented) decline in poverty.<sup>68</sup> This should not distract us from the importance of trade liberalization in developing countries, however. Trade can only be an aspect of the development process. However, the breadth of evidence on openness, growth, and poverty reduction, and the strength of the association between openness and other important determinants of high per capita income, such as the quality of institutions, should give long pause to anyone contemplating the adoption of a novel (or tested and failed) development strategy that does not center around openness to trade.

In this article we have emphasized the importance of the policies of developing countries themselves in generating growth. Industrial countries also have maintained market access barriers and agricultural policies that penalize typical developing country products, and their removal would help reduce poverty and guarantee greater benefits from developing country trade liberalization.<sup>69</sup> Nonetheless, it is a deep mistake to consider trade opening and tariff reductions to be a game in which only bilateral negotiated liberalizations are advantageous.

## Notes

1. Unless otherwise noted, all dollar amounts are current U.S. dollars.
2. These numbers are from Sala-i-Martin (2002), who measured poverty rates based on income for developing and industrial countries. Chen and Ravallion (2001) found similar trends though higher poverty rates. They defined poverty in terms of consumption and considered only developing countries. The focus on consumption is a priori attractive but makes a substantial difference only if it is assumed that extremely poor people save a significant share of their income.
3. Changes in the world distribution of income from 1987 through 1998 have been slightly pro-poor (Chen and Ravallion 2001).
4. See, for example, Deininger and Squire (1998), Dollar and Kraay (2002), Roemer and Gugerty (1997). Ghura, Leite, and Tsangarides (2002) found in a large panel of countries that the elasticity of income of the poor with respect to average income at 0.94 is close to (though significantly different from) 1.
5. Quah (2002) emphasized this point.
6. In India, also, a huge reduction in poverty (in terms of headcount) has taken place. Measurement of poverty in India has been subject to substantial dispute, but a careful analysis in Deaton and Drèze (2002) suggested that poverty fell dramatically, from 35 percent in 1987–88 to 29 percent in 1993–94 and 23 percent in 1999–2000. The fall would have

- been to 21 percent had growth in the 1990s been exactly income neutral. Meanwhile, there are also many cases of growth with improvements in the income distribution.
7. Note that we are concerned here with the incidence of absolute poverty, not relative poverty. We discuss income distribution because the information on whether openness has particular implications for poverty beyond its effects on the growth rate is largely contained in the literature on openness and income distribution.
  8. Transport costs are not artificial, except in cases where high-cost domestic shipping is protected, because they reflect real resource costs.
  9. A rigorous statement of the optimality of free trade requires a number of additional assumptions, such as an absence of (or tax compensation for) externalities and other market imperfections, well-functioning competitive domestic factor markets, and no monopoly power in trade. But even if these assumptions were fully met, the issues of measurement that we address in the next section would arise.
  10. Pritchett (2000) pointed out the need for an eclectic set of models.
  11. Indeed, to the extent that many analysts have a tendency to move from the proposition that something is true in a given model to the view that this is somehow evidence for its truth, theory has gotten in the way of an analysis of trade policies. See Krueger (1997) and Srinivasan (2001).
  12. The same, of course, applies to the empirical importance of infant-industry considerations.
  13. A uniformity of incentives, including a low variance of import and export tariffs and subsidies across products, is also important, however. See Krueger (1995) for a discussion of the relationship between free trade, outward orientation, and laissez-faire policies.
  14. Pritchett and Sethi (1994) found almost no relationship between official rates and collection rates for a given item in three developing countries.
  15. Anderson and Neary (1996) introduced an index number designed to measure the overall restrictiveness of a system of trade protection. Unfortunately, its implementation is sensitive to assumptions regarding the structure of nontariff barriers that are difficult to justify empirically.
  16. Barro and Lee (1994) and Edwards (1998) demonstrated the use of the black market exchange rate premium as a measure of distortion and lack of trade openness.
  17. See Berg and others (1997) for an example.
  18. Dean, Desai, and Riedel (1994), discussed below, documented this nicely for a large number of countries.
  19. The Sachs-Warner measure may suffer from being a product of its times in that many protectionist countries have turned to different mechanisms from those emphasized in this measure, such as phytosanitary, sanitary, and technical standards that serve protectionist purposes. Moreover, many countries engage in contingent protection, in which there is a threat to impose large tariffs in the event of major import penetration. The share of imports covered at any point in time is small, but the deterrent effect on imports may be large.
  20. See Harrison and Hanson (1999) and Rodríguez and Rodrik (2001). Sachs and Warner (2001), upon which we draw here, provided a spirited defense of their measure. See also Orsmond (1992) on black market exchange rates.
  21. Bates (1981) discussed the harmful implications of extractive marketing boards at great length.
  22. Thus, the conclusion in Pritchett (1996) that various measures of trade policy, such as tariffs and NTB coverage rates, are not correlated is not surprising. His result that outcome-based measures and each of the various policy measures are not correlated is more surprising, although it may reflect a negative correlation among the various measures as well

- as other measurement problems. Wang (2001) found that bilateral trade in different categories of goods is highly dependent on the bilateral tariffs on those goods. He showed that where the policy is well measured, the results can be clear. Moreover, Alcalá and Ciccone (2001) showed that the Sachs-Warner measures, as well as some of the components, predict their measure of “real openness.”
23. Dollar and Kraay (2003) also measured openness as exports plus imports as a share of PPP GDP. Of course, PPP measures are also highly imperfect. Moreover, as Rodrik, Subramanian, and Trebbi (2002) pointed out, “real openness” as defined above may introduce a bias opposite to that it attempts to correct, in that any improvements in productivity of traded good production may result in higher measured “real openness.”
  24. Leamer (1988), Spilimbergo, Londono, and Szekely (1999), and Wolf (1994) attempted to measure openness as a residual.
  25. Sharer, Sorsa, and IMF (1998) collected detailed information on nontariff barriers and tariffs for six countries in the 1990s. They combined the results on NTBs and tariffs into one signal measure. This measure is available for the post-1997 period for a large number of countries.
  26. Krueger (1995) discussed trends in trade policy in the post-WWII period. See Martin (2001) and World Bank (2001) for data on trade barriers since 1980.
  27. The fall over time in the standard deviation of incomes across countries is “sigma convergence.” For the world as a whole there has not been absolute convergence if countries are the basic unit of analysis. For individuals there has been convergence in recent decades. The difference between the two results arises from the relatively rapid growth of India and China.
  28. A few selected examples are Alcalá and Ciccone (2001), Dollar (1992), Edwards (1998), Harrison (1996), Barro and Lee (1994), Lee (1993), Easterly and Levine (2001), Dollar and Kraay (2001, 2003), Irwin and Tervio (2000), Islam (1995), Sala-i-Martin (1997), Hall and Jones (1999), Frankel and Rose (2000), Frankel and Romer (1999), and Greenaway, Morgan, and Wright (1998). Surveys of the growth literature are numerous; we have drawn on Edwards (1993), Durlauf and Quah (1999), Klenow and Rodriguez-Clare (1997), Barro and Sala-i-Martin (1995), and Easterly (2001b).
  29. Dollar and Kraay (2003) took this approach. Two highly influential articles in the neo-classical tradition—Mankiw, Romer, and Weil (1992) and Young (1995)—emphasized factor accumulation as the source of growth. These articles shed little light on the role of openness, however. Mankiw, Romer, and Weil argued that most (in fact, about three-quarters) of the variation in levels of output per capita can be explained by variations in the (exogenous) rate of savings and population growth. Young demonstrated that most of the growth in the four Asian tigers during the post-1960 period can be attributed to (exogenous) accumulation of capital, especially human capital. We, in contrast, wonder about the role of openness in permitting such high savings rates over a long period to be used productively and about the relationship between openness and incentives to invest. In our examination of the empirical evidence below we concentrate on articles that attempt to explain these factors in terms of policy as well as other determinants, such as institutions and geography. See Durlauf and Quah (1999) and Klenow and Rodriguez-Clare (1997) for related comments.
  30. In a personal communication Jones reported that the explanatory power of the social infrastructure variable remains strong with the inclusion of a regional dummy variable for Africa, which itself is marginally significant and negative.
  31. Dollar and Kraay (2003) also found that using PPP GDP in the denominator yields a more robust determinant of income. As discussed in footnote 23, Rodrik, Subramanian, and Trebbi (2002) noted that this way of measuring openness creates its own distortions.

32. A debate about whether it is possible to distinguish between institutions, openness, and geography has continued in several very recent articles. Easterly and Levine (2002) reported, in regressions similar to those of Hall and Jones (1999), that institutions trump openness when both are instrumented. In a similar framework, Rodrik, Subramanian, and Trebbi (2002) reported that institutions trump openness and geography. On the other hand, Dollar and Kraay (2003) showed that when both institutions and openness are instrumented, it is difficult to distinguish the two effects. It would seem that whether it is possible to distinguish these effects depends on exactly which specification and sample are used.
33. Specifically,  $Y_{c,t-3k}$  is an instrument for the first term, whereas  $X_{c,t-k}$  is an appropriate instrument for the change in the second term. The required identifying assumptions are that openness may be correlated with contemporaneous or lagged shocks to GDP growth but not with future shocks to the growth rate, and that the shocks to GDP per capita are serially correlated. See the original article or Caselli, Esquivel, and Lefort (1996) for details.
34. Dollar and Kraay (2003) found that changes in a variety of other measures of institutional quality also do not influence growth.
35. Easterly and Levine (2001) applied a similar technique to a panel of 73 countries over the 1960 to 1995 period, using nonoverlapping five-year periods rather than decades. Their key result is that two measures of openness, trade shares and the black market premium, are both significantly related to growth in a panel of countries, even when controlling for endogeneity, permanent country-specific effects, and a variety of other possible determinants of growth.
36. Greenaway, Morgan, and Wright (1998) and Harrigan and Mosley (1991) reviewed this literature.
37. Greenaway, Morgan, and Wright (1998) found in a broad panel with annual data that liberalization episodes do indeed lead to growth, although there is some evidence of a “j-curve” effect with an initial negative effect.
38. These nine are Argentina, Bangladesh, Brazil, China, Colombia, India, Nicaragua, Thailand, and Uruguay. The different base year for tariffs is mandated by lack of prior data. Rodrik (2000) criticized this procedure on various grounds, including the different base years. He found the results sensitive to details of how the two groups are formulated.
39. This result is true for simple and population averages and if globalizers are defined only in terms of changes in trade shares. For the second group of globalizers, based on changes in tariffs, the nonglobalizers and globalizers have similar increases in growth rates from the 1980s to the 1990s.
40. Rent-seeking behavior (Krueger 1974) also has been hard to quantify.
41. This section draws heavily on Hallward-Driemeier (2001).
42. Roberts and Tybout (1997) developed and tested a model in which sunk costs of entry into exporting imply that only relatively productive firms will find it worthwhile to export. They found that causality goes from productivity to exporting, not the other way around.
43. Clerides, Lach, and Tybout (1998) looked at Mexico, Colombia, and Morocco, and Bernard and Jensen (1999) looked at the United States, with similar results.
44. However, Isgut (2001) found strikingly similar results for Colombian firms. Hallward-Driemeier (2001) argued that this is a consistent finding in studies that compare firms before and after liberalization episodes.
45. Hallward-Driemeier (2001) discussed some of them briefly.
46. Many studies have shown important demonstration or proximity effects for foreign multinational corporations on productivity of nearby exporting domestic firms (see Aitken, Hanson, and Harrison 1997 for Mexico and Haddad and Harrison 1993 for Morocco).

More generally, there is strong evidence of the productivity-enhancing effect of foreign direct investment at the plant level. In the final section we touch on the relationship between FDI and trade openness.

47. Of course, even in this case, subsidies would be preferred to protection.
48. This result has been criticized by Harrison (1994), who noted that in some specifications there is actually a positive relationship between the degree of protection of the industry and productivity growth. As noted in Krueger and Tuncer (1994), however, the underlying point remains. Although the evidence on productivity differentials is mixed and depends somewhat on the specification used, in no case can the size of a productivity growth differential in favor of the protected industry begin to justify the level of protection afforded that industry, in present value terms.
49. In personal communication Jonsson argued that reverse causality from productivity growth to tariff reductions is implausible. His discussions with policymakers suggested that they did not know which industries had higher productivity or a fortiori were likely to have higher productivity growth. Tariffs tended to be cut in sectors with high initial tariffs; political factors were also important. See also Choudhri and Hakura (2000), who found across countries that increased import competition enhances overall productivity growth.
50. In their survey, Bell, Ross-Larson, and Westphal (1994) also found little evidence supportive of infant-industry protection.
51. Evidence on this latter question is mixed.
52. A good recent survey is found in Bannister and Thugge (2001).
53. This result is robust to the inclusion of regional dummy variables and decade dummy variables. It also holds for relatively poor countries only, and whether the income of the poor is regressed on growth using ordinary least squares, or whether, given the possibility of reverse causality from income distribution to growth, growth is instrumented. The result on the irrelevance of openness to distribution holds whether openness is measured in terms of trade volumes, trade volumes purged of the effects of geography as a measure of policy, or the Sachs-Warner variable.
54. That is, these studies have not found links between openness and the well-being of poor people beyond those associated with higher average per capita income growth. See, for example, Edwards (1997), Ghura, Leite, and Tsangarides (2002), and Roemer and Gugerly (1997).
55. Lundberg and Squire (1999), in contrast, found in a panel of countries that the Gini coefficient for income inequality is significantly and positively related to instrumented Sachs-Warner openness. In separate regressions by income group, Sachs-Warner openness is negatively correlated with growth among the poorest 40 percent, but strongly and positively correlated with growth among the middle 60 percent and wealthiest 40 percent (these are overlapping samples). One reason these authors got a different result than Dollar and Kraay (2002) and others in the literature may be that they had a much smaller sample—a result of their effort to include many more explanatory variables in the regression, variables that are only available for a subset of the countries analyzed in Dollar and Kraay (2002).
56. For example, we noted earlier that exports seem to promote productivity growth not through what they do to individual plants but through how they allow the exporting plants to grow faster, drawing resources from other less productive sectors.
57. This paragraph and the next draw heavily on McCulloch and others (2001).
58. This comes from the interaction between the shape of the income distribution and the effect of an equiproportional increase in income for everyone.

59. Ravallion and Datt (2001) made this argument in looking at the effects of growth on poverty across regions of India.
60. Bannister and Thugge (2001) emphasized the value of making reforms as broad as possible, sequencing and phasing them to allow for adjustment, and implementing social safety nets and other reforms that facilitate adjustment to the new trade policy. Poulton, Kydd, and Harvey (1999) emphasized the value of targeted welfare interventions to ensure that the poorest rural households benefit from trade liberalization. Sharer, Sorsa, and IMF (1998) put more weight on the need to consider fiscal implications when designing trade liberalization programs.
61. Krueger (1980) made this argument and provided various examples.
62. See, for example, Edwards (1986), Michaely (1986), and Papageorgiou, Michaely, and Choksi (1991).
63. Lustig (2000) found strong and durable negative effects of crises on the poor. de Janvry and Sadoulet (2000) found that recessions have strong negative effects on inequality in Latin America. Over a broader sample, Baldacci, de Mello, and Inchauste (2002) and Dollar and Kraay (2002), looking systematically across episodes, found little evidence of a consistent relationship between economic downturns or crises and income distribution.
64. The important emerging market crises of the 1990s, for example, were not in general associated with terms of trade shocks. See Berg and others (1999) and Kaminsky and Reinhart (1999).
65. Easterly, Islam, and Stiglitz (2000) found broadly supportive results in their large panel. In their sample of 60 developing countries, trade openness does not increase the probability of economic downturns. They also found that openness has mixed effects on the volatility of output. Openness causes higher growth, which itself lowers the volatility of growth, although there is also a direct positive effect of openness on volatility.
66. Ades and Di Tella (1999) measured outward orientation in two ways: trade distance (that is, the distance from major trading partners) and import penetration (imports as a share of GDP). They instrumented with country size and population to control for the endogeneity of this measure. The difference in outwardness between Italy and Austria arises from the second of those two measures. See also Gatti (1999). Wei (2000) regressed trade intensity on natural determinants, such as distance from trading partners, and argued that it is the component of openness that is correlated with these natural factors that explains corruption across countries, not the residual, which might be associated with policy. Rodrik, Subramanian, and Trebbi (2002) also found that trade openness has a positive influence on the quality of institutions.
67. India's experience over the last 20 years or so illustrates many of the important points in our argument (see Krueger 2002). As noted in footnote 6, India has benefited from rapid increases in average income and a large reduction in poverty since 1987. Meanwhile, it began some modest reforms, including trade opening, at about the same time, with a substantial deepening of reform in the early 1990s. India's example is a reminder of the importance of concentrating on the relationship between openness and the level of income: some reforms, including trade liberalization, made a large difference to a very poor country, but India remains poor and relatively closed. Moreover, a variety of institutional and economic reforms in addition to further openness are needed to sustain progress. But the centrality of trade opening in the progress achieved to date cannot be doubted.
68. Easterly (2001b) found that good policy continued to matter for growth in the 1980s and 1990s, but overall disappointing performance was mostly the result of negative shocks, particularly declines in developed country growth rates and increases in U.S. interest rates.
69. On this topic, see IMF Staff (2002).

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The word “processed” describes informally produced works that may not be available commonly through libraries.

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**List of abbreviations for Figures 2, 3, and 4**

DZA	Algeria	GTM	Guatemala	PER	Peru
AGO	Angola (B)	GIN	Guinea	PHL	Philippines
ARG	Argentina	GNB	Guinea-Bissau (B)	POL	Poland
AUS	Australia	GUY	Guyana	PRT	Portugal
AUT	Austria (A)	HTI	Haiti	PRI	Puerto Rico
BHS	Bahamas, The	HND	Honduras	QAT	Qatar
BHR	Bahrain	HKG	Hong Kong	REU	Reunion
BGD	Bangladesh	HUN	Hungary	ROM	Romania
BRB	Barbados	ISL	Iceland (A)	RWA	Rwanda
BEL	Belgium (A)	IND	India	SAU	Saudi Arabia
BLZ	Belize	IDN	Indonesia	SEN	Senegal
BEN	Benin	IRN	Iran, Islamic Rep. of	SYC	Seychelles
BTN	Bhutan	IRQ	Iraq	SLE	Sierra Leone
BOL	Bolivia	IRL	Ireland	SGP	Singapore
BWA	Botswana	ISR	Israel	SLB	Solomon Islands
BRA	Brazil	ITA	Italy	SOM	Somalia
BGR	Bulgaria	JAM	Jamaica	ZAF	South Africa
BFA	Burkina Faso (B)	JPN	Japan	ESP	Spain
BDI	Burundi (B)	JOR	Jordan	LKA	Sri Lanka
CMR	Cameroon	KEN	Kenya	KNA	St. Kitts and Nevis
CAN	Canada	KOR	Korea, Rep. of	LCA	St. Lucia
CPV	Cape Verde Island	KWT	Kuwait	VCT	St. Vincent
CAF	Central African Rep. (B)	LAO	Lao PDR	SDN	Sudan
TCD	Chad (B)	LSO	Lesotho	SUR	Suriname
CHL	Chile	LBR	Liberia	SWZ	Swaziland
CHN	China	LUX	Luxembourg	SWE	Sweden (A)
COL	Colombia	MDG	Madagascar (B)	CHE	Switzerland
COM	Comoros	MWI	Malawi (B)	SYR	Syria
COG	Congo	MYS	Malaysia	OAN	Taiwan
CRI	Costa Rica	MLI	Mali (B)	TZA	Tanzania (B)
CIV	Côte d'Ivoire	MLT	Malta	THA	Thailand
CYP	Cyprus	MRT	Mauritania	TGO	Togo
CSK	Czechoslovakia	MUS	Mauritius	TON	Tonga
DNK	Denmark (A)	MEX	Mexico	TTO	Trinidad and Tobago
DJI	Djibouti	MNG	Mongolia	TUN	Tunisia
DMA	Dominica	MAR	Morocco	TUR	Turkey
DOM	Dominican Republic	MOZ	Mozambique (B)	GBR	U.K. (A)
ECU	Ecuador	BUR	Myanmar	USA	U.S.A
EGY	Egypt, Arab Rep. of	NAM	Namibia	SUN	U.S.S.R.
SLV	El Salvador	NPL	Nepal	UGA	Uganda (B)
ETH	Ethiopia	NLD	Netherlands (A)	ARE	United Arab E.
FJI	Fiji	NZL	New Zealand	URY	Uruguay
FIN	Finland (A)	NIC	Nicaragua	VUT	Vanuatu
FRA	France (A)	NER	Niger (B)	VEN	Venezuela
GAB	Gabon	NGA	Nigeria	WSM	Western Samoa
GMB	Gambia, The	NOR	Norway (A)	YEM	Yemen
DDR	Germany, East	OMN	Oman	YUG	Yugoslavia
DEU	Germany, Federal Rep. of (A)	PAK	Pakistan	ZAR	Zaire
GHA	Ghana	PAN	Panama	ZMB	Zambia
GRC	Greece	PNG	Papua New Guinea	ZWE	Zimbabwe
GRD	Grenada	PRY	Paraguay		

Note: Letters in parentheses identify countries belonging to clusters A & B.



## Doha and the World Poverty Targets

L. ALAN WINTERS

*This article presents a framework for thinking through the effects of trade liberalization on extreme poverty in developing countries, including the benefits of economic growth and several direct effects on poor people produced by the prices and wages they encounter, by their vulnerability, and by government revenue. The framework is used to determine whether the current round of world trade talks—the Doha Development Agenda (DDA)—will help materially in achieving the World Poverty Target of halving extreme poverty by 2015. They will help, but only if the talks are seriously trade-liberalizing and not overloaded with complex issues that bear little immediate relevance to development. Five elements of the DDA are used to illustrate this argument. In three items the DDA may not go deeply enough. Lowering trade barriers to agriculture, especially but not exclusively in industrial countries, has a large potential for alleviating poverty, given that poverty is still mainly a rural issue. Similarly opening manufacturing markets also is likely to help, although in this arena developing countries' own trade barriers are central. More demanding politically is the case for liberalizing the temporary movement of less-skilled workers from developing to industrial countries. The author questions the utility and efficacy of two other components of the DDA. Trade preferences, which figure implicitly even in multilateral trade talks, have little effect on eliminating poverty in general, and could undermine the liberalizing thrust of the DDA. The European Union's (EU) "Everything But Arms" initiative is well intentioned but needs to be extended if it is to have much impact on poverty. The EU's Cotonou Agreement, on the other hand, would best be replaced. Finally, the "Singapore Issues"—investment, competition policy, government procurement, and trade facilitation—are a distraction and a danger to the*

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L. Alan Winters is professor of economics at the University of Sussex, research fellow at the Centre for Economic Policy Research, and senior visiting fellow at the Center for Economic Performance of the London School of Economics. The author is grateful to two anonymous referees for advice on the structure of this article; to Mike Finger, Bernard Hoekman, Peter Holmes, Julio Nogués, Maurice Schiff, Zhen Kun Wang, and Adrian Wood for comments on an earlier draft; and to Janet Ellis and Amy Sheehan for logistical help. None of these people should be blamed for the article's remaining shortcomings.

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*whole round of talks. They will create tension and absorb large amounts of attention at the expense of simple trade liberalization in the DDA and, probably, in other equally important nontrade components of poverty policy.*

Between now and 2015 the nations of the world will undertake the most extensive round of international trade negotiations ever attempted and will agonize over whether it is possible to meet the International Development Target of halving extreme poverty within that time frame. For staff in international institutions and development ministries and for politicians and bureaucrats in developing countries, these two activities are likely to constitute a large part of their future work. This article asks how the two activities are related.

There are potentially important links between trade policy and poverty alleviation, and they warrant careful thought and analysis. The links, however, are less direct than the volume and stridency of the current debate about the new round of trade talks would suggest. Overstating the strength of the direct link between trade talks and poverty alleviation could endanger either or both of the important tasks concerned—further liberalizing world trade in ways that aid development and achieving the world poverty targets. Each task has important dimensions independent of the other and could become distorted by too close an association. Furthermore, raising undue expectations about the immediacy of the poverty-relieving benefits of trade liberalization might discredit the process when those expectations are frustrated.

Policymakers and advisers have finite resources and hence must make tradeoffs. Although a reasonably open trading regime is needed to relieve poverty, other issues are equally important: sound macroeconomic policy, basic health care programs, adequate infrastructure, education, effective governance, property rights, and so forth. Open trade can help in several of these issues, but it certainly is not sufficient to achieve them. Furthermore, the World Trade Organization's (WTO's) forthcoming round of trade talks—which has come to be called the Doha Development Agenda (DDA)—is only part of the openness and trade agenda. Negotiating trade concessions and rules in the WTO clearly influences developing countries' trade policies, but it should not define them: the WTO permits many actions that developing countries should not take and ignores many issues those countries face and courses they should pursue. The comprehensiveness of the DDA will make it difficult to keep developing countries' efforts focused and to get agreement on the important aspects of the talks. Moreover, coupled with a genuine intention to involve developing countries in the WTO process, the DDA will absorb all of the trade policymaking capacity and much of the other analytical and bureaucratic capacity in many developing countries.

Much of civil society responds to these problems by effectively rejecting the whole liberalization agenda. For example, in their joint statement on the DDA (Hilary 2002), 10 NGOs could not bring themselves to recommend any act of liberalization by developing countries. Dani Rodrik's (2000, p. 8) response is more nuanced, but on one reading of "deep liberalization" it is similar:

When other worthwhile policy objectives compete for scarce administrative resources and political capital, deep trade liberalization often does not deserve the high priority it typically receives in development strategies.

In other words, if the trade liberalization package is too expensive, do not buy it. No economist would challenge the logic of that advice, but there is an alternative response: make it cheaper. The really important bits of trade reform are the cheap ones—the ones that actually release resources: removing nontariff barriers, using uniform tariffs, and eschewing pseudolegal processes such as anti-dumping duties.<sup>1</sup> The DDA adds complexity where the opposite is required. Just as the Uruguay Round and its creation of the WTO was a reflection of the United States's legalistic approach to policy, so the DDA's comprehensive agenda looks like a victory for the European model of bureaucratic complexity and compromise. It is a sad world in which the most useful task for a developing country's scarce stock of skilled administrators is to attend (or even think about) three years of meetings on competition policy or fish standards.

J. Michael Finger (Finger and Schuler 2000; Finger and Nogués 2002) has made a similar point about the outcome of the Uruguay Round. Unlike traditional trade liberalization, and whatever their economic advantages, implementing the “new issues”—for example, the Sanitary and Phyto-Sanitary (SPS) and the Trade-Related Aspects of Intellectual Property Rights (TRIPs) Agreements—requires an investment of real resources. Hence those actions should be measured against a returns-on-investment yardstick; that is, considered relative to other development opportunities that will be set aside to accommodate them. On the other hand, it basically costs nothing to implement traditional trade liberalization, and so there is no danger that its administrative costs will outweigh its benefits.

This article applies such analysis to the DDA. After describing the links between trade liberalization and poverty, it considers five aspects of the DDA. Three of those aspects—liberalizing agriculture, opening manufacturing markets, and moving workers—offer good opportunities to relieve poverty if they are pursued vigorously and rigorously. The other two aspects—continuing trade preferences and reaching agreements on the so-called Singapore Issues—pose serious threats: they will deliver little direct development or poverty alleviation and could divert attention from other important liberalizing efforts. This article is not a prediction about the outcome of the DDA, but rather an attempt to inform it and influence it.

## **The Links between Trade Policy and Poverty**

This discussion of a framework for thinking about the links between trade policy and poverty draws heavily on the structure outlined in Winters (2000a, 2002) and McCulloch, Winters, and Cirera (2001) and on the empirical evidence surveyed by McKay, Winters, and Kedir (2000) and Winters, McCulloch, and McKay (2002).

## *Economic Growth*

Economic growth is the key to the sustained relief of poverty. It creates the resources to raise incomes, and even if “trickle-down” is insufficient to bring benefits directly to poor people, it gives governments scope for redistributive measures.

Although economic theory offers many reasons to expect trade liberalization to stimulate economic growth, ultimately it is an empirical matter. Through the 1990s several highly visible cross-country studies argued that openness was good for growth (for example, Dollar 1992, Sachs and Warner 1995, and Frankel and Romer 1999). All of those studies, however, have been criticized by Rodriguez and Rodrik (2001) who argued, among other things, that their measures of openness and their econometrics were flawed.

The difficulty in establishing an empirical link between liberal trade and economic growth arises from at least three difficulties (Winters 2000b). First, measuring trade stances is difficult when one comes inside the boundary of near autarchy (zero trade). For example, tariffs need to be aggregated, quantitative restrictions must be assessed and then aggregated, and the levels of credibility and enforcement have to be measured.<sup>2</sup> Second, causation is difficult to establish. Actual openness, usually measured by imports plus exports relative to gross domestic product (GDP), is almost certainly endogenous, but even policy-based measures, such as average tariffs, could be endogenous as well. Third, although liberal trade policies are likely to be beneficial under any circumstances (because they enlarge the set of opportunities for economic agents), a quasi-permanent effect on growth almost certainly also requires that trade policies be combined with other effective policies or sound institutions. For example, Taylor (1998) and Warziarg (2001) both found that investment is a key link and that a poor investment environment could undermine the benefits of trade reform, and Rodrik (1999) showed how the negative effects of external shocks on growth may be mitigated by better institutions for conflict management. Further complicating the issue is the possibility that openness is correlated with improvements in other policies (see Krueger 1978, 1990). Ades and Di Tella (1997, 1999) showed a clear cross-country connection between higher economic rents, created by, for example, active industrial policy or low degrees of openness, and higher corruption; and Romer (1993) suggested that inflation is lower in open economies.

The weight borne by cross-section studies in the recent growth literature is remarkable, given that so many economists profess to distrust those studies.<sup>3</sup> Srinivasan and Bhagwati (2001) chided the profession for forgetting the problems and neglecting other evidence, such as detailed case studies of particular countries, that frequently finds openness at the heart of growth and development.

One also can examine separately the various possible links between openness and growth. Many studies associate openness with faster accumulation (for example, Levine and Renelt 1992, Taylor 1998, and Warziarg 2001), whereas others investigate the link between openness and productivity growth. For example, Jonsson and Subramanian (2000) and Lee (1996) used particular countries' sectoral-level data to suggest very strong positive links. Coe, Helpman, and Hoffmaister (1997) found supportive evidence in a broad cross-section. The later article is consistent with the view

that imports of capital goods from developed countries embody improvements in technology for developing countries but because it poses no alternative hypotheses cannot be said to prove it.<sup>4</sup>

Despite the econometric difficulties of establishing beyond doubt that openness enhances growth, experience and evidence seem strongly weighted in that direction. Jones (2001, p. 337) has argued that despite uncertainty about the size of the effect, “our best estimate is that trade restrictions are harmful to long-run incomes,” and even Rodriguez and Rodrik (2001) conceded that there is no coherent evidence that openness is bad for growth.

Economists long have argued that economic growth tends to reduce poverty—that is, the benefits of growth for poor people typically are not offset by simultaneous worsenings in income distribution (see Bruno, Ravallion, and Squire 1998). Dollar and Kraay (2001) recently confirmed that argument when they related the mean income of the poor (bottom 20 percent) to overall mean income plus some additional variables.<sup>5</sup> They cannot reject the hypotheses that the income of the poor population is proportional to mean income nor, with the exception of inflation, that a variety of other variables affect it only via mean income. Thus, whereas inflation appears to have an adverse impact on poor people in addition to its growth-reducing effects, government consumption, the rule of law, democracy, social expenditure, primary school enrollment, and two measures of openness do not. The residual errors of Dollar and Kraay’s estimates are large and perfectly consistent with there being some instances in which growth hurts the poor. On average, however, such cases are balanced by those in which growth disproportionately benefits the poor, and to date no one has explained adequately the causes of such cases.<sup>6</sup>

The average income of the poorest quintile is a very crude indicator of poverty, especially of absolute poverty. Ravallion (2001), however, suggested that a 1 percent increase in mean income results, on average, in a fall of 2.0–2.5 percent in the number of people living in absolute poverty. Of course, individual experience will vary around this average growth elasticity of poverty, with stronger results where initial inequality is lower (Ravallion 1997) or where poor people are relatively better equipped to take advantage of new opportunities (Ravallion and Datt 1999).

If growth is the key to alleviating poverty and if growth depends on more than simply open trade policies, the anticipated effects on growth should be a key component of any assessment of the DDA. Will the DDA produce a sufficient opening to stimulate economic growth and will it enhance or hinder growth-promoting policy in other dimensions? Economic growth, however, is a long-run phenomenon and may leave some people in poverty, so it is also necessary to consider more direct and immediate links between trade reform and poverty.<sup>7</sup>

### *Households and Markets*

Given that the bulk of poverty is rural and the majority of poor people are self-employed, the best way to think about poor households is in terms of the “farm household” which produces goods or services, sells its labor, and consumes. An

increase in the price of something that the household sells (labor, goods, service) increases its real income; a price decrease reduces it. Poor households typically have several sources of income, including transfers, remittances from absent family members, income in kind, and wages and profits from production. One needs to ask how trade liberalization affects all of those sources, as well as how it affects the prices and availability of the goods the household consumes. One also needs to note that shocks to a household can affect various family members differently. For example, women might suffer from a market liberalization if they must start to work outside the home while continuing to bear all family responsibilities.

Once we have a view of how poor people earn and spend their incomes, we need to ask how trade liberalization affects prices. Even simple economies have several stages between the border where trade policy operates and the poor household, so attention must be given to how much of any price change passes through to the poor people in that economy. Unchanged internal distribution costs attenuate border price shocks on importables as they pass through to households, but they exacerbate them for exportables.<sup>8</sup> Border tax changes may get lost completely if distribution is monopolized, as, for example, with official marketing boards or the private monopolies that sometimes replace them.

More important than price changes is whether markets exist at all: trade reform can create *and* destroy markets. In most cases, extreme adverse poverty shocks are associated with the disappearance of a market, and strong poverty alleviation can occur when markets are created for goods previously not traded or not available. Therefore, a major policy issue for governments involves whether markets are created or destroyed and what might be done to support those markets.

Obviously a household's ability to adjust to a trade shock affects the size of any impact it experiences, but generally does not affect its direction.<sup>9</sup> Adjustment is also the mechanism by which shocks in one market spill over into another. Spillovers that fall heavily on a small set of thin markets can have major impacts on prices in those markets and hence on agents active in them. For example, a major attraction of liberalizing agriculture is argued to be that the direct beneficiaries—farmers—appear to spend much of their extra income on goods and services provided locally by the poor such as construction, personal service, and simple manufactures.

### *Risk and Vulnerability*

It is commonly feared that opening up an economy will expose it and its component households to increased risk. It certainly will expose them to *new* risks, but the net effect may be to reduce overall risk either because world markets (which have many players) are more stable than domestic ones or because those markets offer portfolio benefits. On the other hand, liberalization could increase risk either because it undermines existing autonomous or policy-based stabilization mechanisms or because residents switch to new activities that offer higher average rewards but greater variability. In the latter case it is possible that the poor consciously ignore opportunities for increasing average incomes precisely because they cannot bear the higher risk of

failure that goes with them. Thus they might suffer the adverse effects of a reform—for example, higher consumption prices—without the compensating benefits of higher average earnings, and so be losers overall.

### *Wages and Employment*

In all countries, some of the poor, and, in some countries, most of the poor rely on labor markets for the bulk of their income. Thus the effects of trade reform on wages and employment are important, especially for unskilled workers. If reform boosts the demand for labor-intensive products, it boosts the demand for labor and then wages, employment, or both will increase. But if most of the poor are in completely unskilled families while semiskilled labor receives the boost, poverty will be unaffected—or possibly worsened. Furthermore, where the various wage rates lie relative to the poverty line is a critical factor. If wages are pushed up from subsistence to higher levels, or if the expanding sectors offer wages above the poverty line, then poverty will be alleviated.

In countries where relatively unskilled labor is abundant, trade liberalization generally will relieve poverty. Not all developing countries, however, fall into that class. For example, many Latin American and some African countries have very strong endowments of mineral and agricultural resources, so liberalization will stimulate those sectors rather than the labor-intensive sectors. Similarly, if the unskilled (illiterate) people are employed primarily in nontraded sectors and exports draw mainly on semiskilled labor, a liberalization accompanied by a depreciation could have adverse effects.

Even if favorable in the long run, the gains from trade rely largely on adjusting a country's output bundle. Some people are likely to suffer temporary adverse shocks, most specifically in the form of unemployment. Because people who are not poor at the time of the shock generally can tide themselves over during those periods, poverty statistics will reveal, and public policy mainly should respond to, those people who are relatively poor at the outset and who suffer such temporary setbacks.

### *Government Revenue and Spending*

Trade reform can affect government revenue, but it does so less frequently and less adversely than is popularly imagined. Simultaneously reducing tariff rates and removing tariff exemptions frequently increases revenue. Even where revenue does not increase (as must be true when tariffs fall to zero), it is not inevitable that the poor population suffers. Ultimately it is a political decision whether the new taxes necessary to make up the shortfall or the cuts in government expenditure that result from decreasing revenue hit poor people.

It is clear that different poor households will be affected very differently by the same trade shock both within and between countries, so even when we know the outcome, generalizations about the effects of the Doha Development Agenda can be only rather weak and qualified. It is also plain that many of the channels through which

trade affects poverty are likely to be only slightly affected by WTO-led trade reforms. Finally, both the static and the dynamic determinants of poverty depend on more than trade, and if trade negotiations undermine those other factors, or if they offer less benefit per unit of input than do other governmental activities, they will not be an efficient means of alleviating poverty.

## Agriculture

Agriculture is the key sector for most poverty alleviation. Three-quarters of all poor people live and work in rural areas (IFAD 2001) where agriculture is their major source of income. Farm incomes have a large effect on others in the rural economy, and food accounts for a major share of all poor people's expenditures. The markets in this sector are among the most distorted in the world, with both industrial and developing countries displaying high levels of trade and other intervention. Reforms in industrial and developing economies may relieve poverty to a considerable degree, but particular groups of poor people may suffer from liberalization, depending on their net positions in the goods to be liberalized and on the details of rural labor markets and demand patterns. To increase the chances of positive outcomes, governments must consider such complementary policies as extension services and communications infrastructure that ensure that increased agricultural incomes filter through to the poor population.

Concerning agriculture, the Doha Ministerial Declaration (WTO 2001a, paragraph 13) states

. . . we commit ourselves to comprehensive negotiations aimed at: substantial improvements in market access; reductions of, with a view to phasing out, all forms of export subsidies; and substantial reductions in trade-distorting domestic support. We agree [to] special and differential treatment . . . to enable developing countries to effectively take account of their development needs, including food security and rural development. We . . . confirm that non-trade concerns will be taken into account in the negotiations as provided for in the Agreement on Agriculture.

## *Market Access*

Improved access for temperate products in the countries of the Organisation for Economic Co-operation and Development (OECD) markets could generate huge income gains for some developing countries. Industrial countries' trade barriers have reached absurd levels in some cases (for example, 129 percent tariffs for sugar in the United States and 162 percent tariffs for grains in the EU [Elbehri and others 1999]), and for the developing countries that can supply these temperate products, significant liberalization would make large increases in exports and their prices possible. Such injections of sales and incentives are bound to boost incomes and medium-term growth and thereby help to reduce poverty. Moreover, where production methods are highly labor-intensive, there could also be significant direct reductions in poverty.

Agriculture, however, is primarily land-intensive so translating improved market access into direct poverty reduction generally will depend on having a structure of land ownership that encourages labor-intensive methods. IFAD (2001) suggested that smallholder grower schemes have advantages compared with other production structures in terms of both aggregate output and distribution.

For long-run benefits to accrue, reasonable supply responses are essential, which calls for policies such as investment in complementary infrastructure (irrigation and rural roads), property rights to encourage investment in the land, agricultural extension to disseminate market and technical information, and development of complementary markets for credit, agricultural inputs, and services. This suggests that a successful DDA would require that elevated priority be given to agriculture in development ministries and international financial institutions (IFIs).

Market access improvements in the past often have stemmed from relaxing quotas to allow more exports to be sold below the “standard” tariff and to create rents for preferred developing country exporters. Such rents generally have not been a boon to development (although Mauritius did very well from them), and developing countries should seek genuine most-favored-nation (MFN) tariff cuts rather than quota expansions.<sup>10</sup> MFN tariff cuts, however, will reduce rents for existing quota holders, which could cause problems for them. Improved temperate product market access may be a key benefit of the DDA for many developing countries (as well as for the importing industrial countries) but many other economies will not benefit much from it.

Market access for tropical products is usually very liberal, and where it is not it is mainly a distributional issue between preferred and nonpreferred exporters. This is most notoriously true in the case of bananas in the EU, but EU tariffs also are high on tobacco, manioc, and sugar. In these cases, nonfavored exporters have a strong interest in improved market access, whereas existing exporters frequently will suffer, particularly where preferential access has encouraged strong dependence on a particular crop. The effects of improved access could be significant in both groups of countries, but they should not be allowed to bias policy toward maintaining the status quo in the long run.

Developing country tariffs are also high on sensitive agricultural imports and, just like the developed countries, they will benefit overall from reducing them. The effect of lower domestic prices on poor people will be related principally to whether they are net suppliers or net consumers of the goods in question, and occasionally the effects may be adverse. For example, Löfgren (1999) has identified possible problems for livestock farmers in Morocco as a result of the EU–Moroccan free trade agreement and it is known that small maize farmers in Mexico suffered losses from the North American Free Trade Agreement (NAFTA). In both cases, however, complementary policies are crucial to the debate. Löfgren showed how such policies could alleviate poverty in Morocco, and Nadal (2000) showed that the worst of the poverty-increasing consequences of maize liberalization under NAFTA arose from speeding up the tariff cuts, from cutbacks in support policies following the 1994 peso crisis, and from the failure to prevent powerful tortilla firms from raising prices even as their input prices fell.<sup>11</sup>

Similarly, many developing countries still need to address the anti-agriculture bias in their trade regimes. Niimi, Vasudeva-Dutta, and Winters (2002) traced the effects of Vietnam's somewhat ambiguous trade reforms to household poverty. Their provisional results suggested quite distinct benefits (higher chances of escaping from poverty) for rice producers (where prices rose and exports boomed) and coffee producers (exports boomed) and higher returns to holding a job in the seafood and food-processing sectors (where exports also boomed).

Under the heading of special and differential treatment, extended adjustment periods may be a good idea for opening up markets with particular relevance to poor people, but it is important to distinguish between smoothing adjustment and preventing it. One of the advantages of making a liberalization binding in the WTO is that the phasing of adjustment becomes more credible than if it depends merely on local political commitments, and credibility ultimately eases adjustment and reduces wasteful lobbying against the changes.<sup>12</sup>

### *Agricultural Support*

*Export subsidies* (including most nonemergency food aid) are an even more important aspect of the DDA than is market access. Every developing country has significant amounts of domestic agricultural output (very commonly provided by the poor population) and so may be affected by the reduction in world prices induced by export subsidies. Such subsidies are politically determined and, because they increase as world prices fall, they tend to exacerbate the fluctuations in world prices and thereby increase their effect on poor people who are exposed to them. Industrial country subsidies are too unreliable to enable recipients to adjust permanently to the lower prices they induce and so their effect is to undermine a sector of the economy that developing country governments feel they must maintain. Thus industrial countries' subsidies are a major factor behind developing country governments' wishes to intervene in their own agricultural markets. Although the details will vary from country to country, eliminating OECD countries' export subsidies seems likely to have a strong poverty-reducing effect in developing economies. Thus the DDA's ambiguities about whether subsidies will actually disappear (the Declaration states an aim "without prejudging the outcome of negotiations") and when that might occur ("reductions of, with a view to phasing out, . . .") are very worrisome (WTO 2001a, paragraph 13). A serious commitment to reducing poverty would leave no such ambiguity.

Much the same analysis applies to reducing OECD countries' *domestic agricultural support*, although there is no realistic prospect of abolishing such support. Moreover, the DDA's explicit recognition of nontrade concerns—"multifunctionality" in current usage or "so-called non-economic objectives" (SNOs) in previous analyses (Winters 1989)—leaves room for doubt that there will be any serious reductions in production support because, in practice, it is very difficult to uncouple support from output entirely.

### A “Development Box”

Agricultural liberalization raises two serious concerns about food availability for poor countries and implicitly, although not automatically, about the poor people in them. First, if world food prices rise, incomes will fall for any country that is naturally a *net food importer*.<sup>13</sup> The Uruguay Round recognized this danger and included a decision covering food aid and committing the Bretton Woods Institutions to view such cases sympathetically. This commitment continues to apply. Besides, one should not expect major food price increases as a result of trade liberalization, as analysis predicting the Uruguay Round effects showed—for example, Hathaway and Ingco (1996). Hence, although the world should remain alive to any problems of this kind created by the DDA, such problems are sufficiently unlikely and sufficiently mild that fear of them should not constrain the degree of liberalization.

Second, there are issues of *food security*, the ability to maintain food supplies in the face of adverse shocks. Food security frequently is invoked by developing countries to justify protecting their farmers. Domestic production of most agricultural products is far more variable than is world production, and opening up markets should improve security in physical terms. World markets, however, may exhibit greater price fluctuation than do domestic markets and governments may need to ensure that they have sufficient reserves or credit to continue to import necessary foodstuffs when prices rise. Moreover, imported food is more sensitive to general macroeconomic shocks and mismanagement than are domestic supplies. The answers to problems of food security are essentially macroeconomic rather than matters of agricultural trade policy, and protecting agriculture generally is just as poor a policy in developing countries as it is in industrial ones.

A third issue is *rural development*. Many developing countries have argued the need to protect or subsidize their agriculture so as to maintain rural livelihoods, rural populations, or both. Even where there is a poverty-related case for stimulating the rural sector beyond what neutral policies provide, agricultural trade policy is not the best means to do so for the following reasons: Development usually entails letting people leave agriculture (often to pursue other rurally based activities), not encouraging them to stay; regional (rural development) subsidies are perfectly WTO-legal if they are not sector specific; developing countries will not win any subsidy wars they engage in with OECD countries; and, as a grim warning, Europe’s hugely expensive and inefficient Common Agricultural Policy ostensibly grew from the same noble intention.

These issues frequently are raised in terms of introducing a “Development Box” into the WTO’s Agriculture Agreement that would permit developing countries to increase their domestic agricultural support from its currently negligible level.<sup>14</sup> Although a development box would cover only developing countries, the issues it covers clearly parallel those that some industrial countries wish to pursue under “multifunctionality.” Developing countries clearly will lose if in the DDA they pay for a development box in terms of weaker agricultural liberalization by industrial countries. The parallel has surely been noted in Tokyo and Brussels, so advocates of a development box should be mindful of the indirect costs it could impose.

### *The Movement of Natural Persons*

The movement of natural persons (as opposed to legal persons, that is, corporations) is one of four modes of trade in services (Mode 4) recognized under the General Agreement on Trade in Services (GATS). In the Uruguay Round the other three modes, including the establishment of firms, registered quite a number of scheduled concessions. The liberalization of Mode 4, however, has registered little progress. The few concessions that have been made refer to skilled and professional, rather than unskilled, labor. Services were already under negotiation in 2000 via the so-called built-in agenda of the Uruguay Round. The Doha Declaration rolled those discussions into the DDA, thereby reaffirming their importance and, incidentally, extending their duration somewhat.

The big political problem in facilitating mobility under Mode 4 is in confusing mobility of temporary workers with permanent migration (see Winters et al. 2003). Temporary workers face the same bureaucratic hurdles as do longer-term migrants and they incur the same resistance in the receiving countries where they are seen as a threat to social capital, social structures, and social expenditures. Effectively managed temporary mobility, however, poses none of those threats because temporary workers delivering services have little effect on the culture, politics, and demand for public services in their host countries. The only real political downside of such mobility is the competition it provides to local less-skilled workers. In those terms the competition differs little from imports of labor-intensive goods, which face barriers to trade but not complete blockage.

Worker mobility also entails myriad technical problems (discussed in Winters et al. 2002), but for the current purposes the important point is to ensure that liberalization generates genuinely additional movement of laborers. Many formal and informal routes to labor mobility from developing to industrial countries already exist, and they generate a good deal of income for the developing economies. When the topic is negotiated in the WTO, extreme care must be taken to ensure that any resulting codification of the mobility rules does not restrict existing flows. The GATS talks should not be used to turn illegal immigrants into legal ones because unless such an action is accompanied by a huge increase in numbers, it will restrict rather than promote movement. No deal at all would be better than that. The Indian suggestion for creating a GATS visa, which would create a new route for explicitly temporary mobility, should be explored (see WTO 2000).

There seems to be a basis for a deal on Mode 4 in the DDA. Industrial countries are keen to secure readier access to developing countries for their business travelers, professional firms, and the managers and skilled technical staff in their companies. At the same time, major developing countries are keen to gain access to industrial countries for their independent professionals, and the industrial countries are increasingly keen to have them. But such a deal is not guaranteed to alleviate poverty in the developing world. It might, via the trickle-down effect of improved skills, better market connections, and higher taxes and transfers; on the other hand, it might not if it caused significant declines in the availability of skilled workers operating at home. The key to poverty reduction is extending Mode 4 effectively to lesser skilled and,

eventually, unskilled workers who are relatively scarce in the industrial world (and growing scarcer all the time), more abundant in the developing world, and much more likely to come from or be connected to poor families.

Walmsley and Winters (2002) have used a computable general equilibrium (CGE) model to estimate the effect of increasing the number of temporary workers' permits in industrial countries by 3 percent of their current skilled and unskilled work forces, thereby permitting an extra 8.0 million skilled and 8.4 million unskilled workers to be employed at any time. (This is "revolving door" migration: the jobs are permanent but the job-holders are not.) The economic benefits of such mobility, shared by industrial and developing countries, are estimated to exceed \$150 billion annually, compared with benefits of about \$100 billion for complete goods trade liberalization. As table 1 summarizes, the global gains from unskilled labor mobility (column 2) exceed those from skilled labor mobility (column 3), essentially because the inputs lost to developing country production as a result of transfer are less valuable in the former case. The results also illustrate the danger of focusing on relative benefits. The original residents of the industrial countries benefit more than those of the developing countries under unskilled mobility, whereas they gain less under skilled mobility. However, the absolute advantages of the former make it the better bet even for developing country residents.<sup>15</sup> CGE estimates should not be taken too literally, but they are instructive so far as orders of magnitude and relativity are concerned.

The technical barriers involved in implementing the liberalization of Mode 4 are formidable, especially in ensuring that temporary workers truly are temporary. To that end Winters et al. (2003) recommended licensing firms to manage mobility and charging them with proving that their workers have left at the end of their contracts. Furthermore, they recognize that initially liberalization is likely to be restricted to certain sectors and constrained by quotas.

It is improbable that many extremely poor people will be able to take advantage of new opportunities to work abroad—they are mostly too unskilled and too disconnected from labor markets. However, there are several routes through which they might benefit indirectly: simple trickle-down and increased tax revenues from those who do benefit are likely to help the poorest populations to some extent; as labor demand increases in general, poor people more readily will be drawn into modern and formal labor markets; and eventually the increased returns for acquiring suffi-

**TABLE 1.**  
Change in Welfare of "Citizens" Regardless of Place of Work (US\$ billions, 1997)

Workers' Regions of Origin:	Type of Labor Mobility		
	Skilled and Unskilled Workers	Unskilled Workers Only	Skilled Workers Only
Developed countries	75,559	57,447	18,111
Developing countries	78,301	50,773	27,528

Source: Walmsley and Winters 2002.

cient skills to permit mobility may encourage greater education and training and may encourage governments to provide such opportunities.

Although the traditional concerns about the brain-drain apply to temporary worker mobility, they do so with much less force than to permanent or quasi-permanent migration. First, although temporary migrants withdraw the flow of their skills from the local economy for some period of time, they do not withdraw their citizenship or their offspring. Thus, general spillovers and the intergenerational benefits of education are likely to persist. Second, because mobile workers do not withdraw their labor permanently, there is far greater likelihood that local benefits will arise from their acquiring new skills abroad and there are better chances that these skills will link back into the resident work force. Third, there is likely to be more extensive turnover among temporary workers than among permanent migrants—that is, if a country could send  $n$  of its residents abroad temporarily at any one time, the number of residents with experience of working abroad will far exceed  $n$ . Thus the incentives for acquiring the necessary skills as well as the resulting higher incomes are likely to be relatively widely spread with temporary mobility.

To the author's knowledge, there is no formal analysis of temporary worker mobility and poverty, but it seems likely that all of the arguments above will be stronger the greater the proportion of the less skilled among temporary mobile workers. If so, the meaningful liberalization of Mode 4 for less-skilled workers should be a high priority in the DDA. Indeed, considering its political sensitivity in OECD countries, Mode 4 liberalization will serve as a real touchstone of those countries' genuine concern for the development aspects of the DDA.

## The Liberalization of Trade in Manufactures

The Doha Declaration (*op. cit.*, paragraph 16) states

We agree to . . . the reduction or elimination of tariff peaks, high tariffs, and tariff escalation, as well as non-tariff barriers, in particular on products of export interest to developing countries. . . . The negotiations shall take fully into account the special needs and interests of developing and least-developed country participants, including through less than full reciprocity in reduction commitments, . . .

Average tariffs on manufactures are low in industrial countries (0.8 percent on imports from industrial countries and 3.4 percent on imports from developing countries [Hertel and Martin 2000]) but there remain a number of peaks and considerable escalation in their schedules. The objections to peaks and escalation are well known. The peaks occur in precisely those labor-intensive industries in which developing countries have a strong comparative advantage. Developing countries' exports and production of those goods (and perhaps their prices) are cut back with consequential welfare losses. Industrial countries' tariff escalation discourages developing countries from processing activity for exports, not only for manufactures but also for agricultural products. If developing countries can enter higher value-added processing industries, the impact on poverty is likely to be beneficial because better-paying jobs will be

created. And if, as is often suggested, processing local raw materials offers the easiest way into manufacturing, there may be positive spillovers for other industries as entrepreneurs and workers become more adept in that field. In many sectors of the economy the direct effect on the poor of increased processing is unlikely to be strong, but in others major effects have been observed. For example, in Mauritius and Bangladesh the expansion of female employment and the rise in female wages in the garments sectors have been major factors in poverty relief, especially given the declines in traditionally male-dominated sectors (Milner and Wright 1998; CUTS 2002).

Just as important as industrial country markets, however, are developing countries' own markets. Tariffs on developing countries' exports to each other average 12.8 percent compared with 3.4 percent on exports to high-income countries (even allowing for the peaks). Approximately three-quarters of developing country exports are manufactures and about 40 percent of them go to other developing countries (Hertel and Martin 2000). The returns to liberalizing these flows are potentially very large, both in terms of less costly and better goods for consumers and users and in terms of better jobs for producers.

Clearly, dismantling protective barriers is likely to produce adverse consequences for some poor workers in manufactures. Much local manufacturing, however, has a high degree of natural protection so even in the absence of compensating export growth one should not expect to see the sector decimated. For example, Zambia suffered a 15 percent decline in manufacturing value added in the 1990s following major trade reforms, but that decline reversed after a few years (WDI online, <http://www.worldbank.org/data/wdi2002/>), and Harrison and Revenga (1998) found that, except in Eastern Europe, manufacturing employment generally grew after trade reforms. Moreover, if liberalization proceeds multilaterally there is a much higher chance of offsetting export growth in most countries because, just as industrial countries discovered, manufacturing can be so finely differentiated that it allows a lot of scope for mutual trade. The fear that opening markets will enable the industrial countries to recapture developing country markets for simple manufactures is exaggerated—the two groups of countries produce substantially different goods. Where exports to other developing countries do expand, one might expect them to be more labor- and less skill-intensive than other exports, and so more likely to be directly supportive of poor people.

In light of this discussion, the recognition of special and differential treatment in the nonagricultural market access paragraph of the Doha Declaration is worrisome. An alarmist could interpret this as a return to the old GATT convention of mutual noninterference between developing and industrial countries that left the former more or less outside the system. It is not that pressure on developing country governments to liberalize is intrinsically desirable, but that active involvement in “the game” will increase those governments' chances of receiving concessions on their exports (as Finger [1979] found for the Kennedy Round). Moreover, external involvement increases developing country governments' ability to resist their own protectionist interest groups (including multinational firms that supply their markets from behind the barricades).

If agriculture and Mode 4 are the touchstones of industrial countries' good faith toward a poverty-alleviating DDA, manufacturing is the touchstone for developing country governments. The Doha Declaration does not make it easy for them.

## Preferences

Preferences for exports are dear to the hearts of many developing country policymakers, and who can blame them for not wishing to turn down an apparently free lunch? Historically, however, preferences have not addressed the problems faced by developing countries and the world trading system. At best, preferences are temporary trade-related transfers of rent; at worst, they completely distort developing countries' relationships with the world economy.

The evolution of the DDA illustrates this problem well. It was widely reported that the condition on which the African, Caribbean, and Pacific (ACP) countries agreed to the Doha Declaration launching the DDA was that WTO members granted a waiver for the Cotonou Agreement between the EU and the ACP countries. Of course it would have been embarrassing for the signatories to have lost the Cotonou Agreement after five years of negotiations but, viewed objectively, it seems amazing that the ACP countries' top priority would be a few years' continuation of unilateral preferential access to the EU market plus the right to join a poorly defined and long-running negotiation for a highly complex arrangement that will probably be contrary to their interests.<sup>16</sup> Over the years, developing country policymakers have shown the same exaggerated attachment to the Generalized System of Preferences.

The Doha Declaration is effusive on preferences in general. For example,

We commit ourselves to the objective of duty-free, quota-free market access for products originating from LDCs [less-developed countries]...[Ministerial Declaration, paragraph 42]

... reaffirm that preferences granted to developing countries pursuant to the ... "Enabling Clause" should be generalised, non-reciprocal and non-discriminatory. [Declaration on Implementation, WTO 2001b, paragraph 12.2]

### *The Generalized System of Preferences*

The Generalized System of Preferences (GSP) has been a major plank in developing countries' trade diplomacy platforms for many years, but it delivers little for most countries. For example, in the EU the preference margin (that is, the reduction in the tariff) ranges from 100 percent to 0 percent of the MFN tariff, according to the "sensitivity" of the products in the EU. Because MFN tariffs also are graduated by sensitivity, developing countries typically receive proportionately little relief from high tariffs and much more relief from low ones. Very sensitive products—that is, agricultural produce—are excluded completely and any trade flow may still be constrained by safeguards or anti-dumping action if EU imports of it grow "too" large. Any beneficiary country that provides more than one-quarter of the EU's imports of a "4-digit" heading or that have annual per capita incomes in excess of approxi-

mately \$8,500 are automatically excluded from receiving preferences.<sup>17</sup> Deeper preferences are available if recipients meet EU-defined social and environmental conditions. Those conditions currently are not very demanding, but their potential for intrusiveness is obvious. Rules of origin both impose an administrative burden on exporters and exclude many developing country products from preferences; moreover, uncertainty about the rules and about product standards and other import regulations discourages developing country exporters. Sapir (1998) estimated that 36 percent of EU imports from GSP-eligible countries are in categories with zero MFN tariffs, and that only 24 percent of the remaining 64 percent of EU imports qualify for and claim preferences. (The exact official figures are, unforgivably, unavailable.)

Preferences are fundamentally a poor way of integrating developing countries into the world economy. The access they grant is highly conditional and insecure, and in the current, still liberal, atmosphere that access is bound to erode over time. Hence, it provides little incentive for investment. Preferences typically pass the “benefits” of European protection to the exporters by allowing them to receive the tariff-inclusive price for their exports rather than the pretariff price that MFN exporters receive. Income transfers are fine for the short run but either they create rents, which promote corruption and resistance to change, or they encourage production to increase to levels at which costs rise to absorb the higher prices. In the latter case, developing countries are encouraged to be inefficient, and because OECD countries will not guarantee an unending desire to import from inefficient sources, preferences sow the seeds of future collapse. The great adjustment stresses faced by the Windward Islanders now that the EU is no longer able to grant such deep preferences for their bananas is just one extreme illustration of the dangers of preferences. The preferences success story of Mauritius, on the other hand, is one of using short-term benefits wisely and diversifying before the axe falls. It may be replicable, but its rarity is salutary.

Preferences are not particularly efficient in reaching poor people. The rents they create will rarely accrue to the poor and, although any extra exports they engender are likely to increase employment, those increases will be less than would result from genuine MFN liberalization by industrial countries. With regard to the DDA, preferences hinder trade liberalization by distracting policymakers and permitting tokenism on the part of industrial countries that profess to care about development.<sup>18</sup> The solution is to phase out preferences and replace them with bound MFN liberalization in sectors of interest to developing countries.

### *Everything But Arms (EBA)*

In 2001 the EU guaranteed duty-free and quota-free access for all LDCs’ exports except arms and, temporarily, three sensitive agricultural products. In the DDA, similar aspirations are expressed by other industrial countries. Universal and guaranteed access removes some of the preferences problems noted above, especially when importers also agree (as the EU proposes for the new round) to forego anti-dumping duties on LDCs. This initiative is useful for the LDCs because it gives them some

security of access and, through its comprehensiveness, removes the need for expensive future negotiations over details.

EBA, however, is not a great global poverty policy. The LDCs account for just over 10 percent of the world's population and approximately 20 percent of the world's very poor people (defined by the "dollar-a-day" poverty line), but those simple proportions paint too rosy a picture. LDCs produce almost nothing that is directly competitive with EU production, and they produce so few other goods that admitting their exports duty-free rarely will reduce the prices paid by EU consumers and so expand the demand for those goods. Hence, the only effect of EBA will be to divert EU purchases from other countries to the LDCs. The countries that compete most closely with LDCs are those whose incomes fall just outside the "least-developed" limit, so EBA will benefit exporters in the LDCs at the expense of those in countries that are very nearly as poor as the LDCs.<sup>19</sup> The net effect on world poverty is likely to be small and might be negative. The moral is not to stop EBA but to broaden it and be serious about using access to OECD markets as a broad-based tool for reducing poverty.

### *The Cotonou Agreement*

In 2000 the EU and the African, Caribbean, and Pacific countries signed the Cotonou Agreement to replace the Lomé Convention. In its trade dimension, this agreement perpetuates the current deep unilateral trade preferences for ACP exports into the EU until 2008, by which time the parties are expected to have negotiated reciprocal free trade agreements (Economic Partnership Agreements [EPAs]), first among various subgroups of ACPs and then between those subgroups and the EU. The agreement will do very little to aid the ACP countries' development and elimination of poverty. The short-term preferences are not worth very much (although the ACP's preferences are deeper and more secure than are those of the GSP, the ACP countries continue to have very poor trade performance), and the longer-term reciprocal trade agreements offer very few benefits (see Winters 2001 and Schiff and Winters 2002).

The preferential access that ACP countries must grant each other under the EPAs almost certainly will divert trade and hence exact an economic cost. The preferences they must grant to EU goods will not only prompt trade diversion, but also entail a major transfer of tariff revenues *from* ACP governments *to* EU producers. The benefits frequently ascribed to "North-South" free trade agreements—for example, policy credibility, investment booms, and institution-building—are unlikely to be realized. On credibility, in particular, Cotonou is hardly a convincing signal that the ACP countries have changed their attitudes toward economic management, given that they more or less had to be dragged into the agreement. And the EU is not likely to be willing to incur the internal and external political costs necessary to discipline countries that are so small and so distant as to have no effect on its own welfare (see, for example, World Bank 2000).

Nearly all EPAs will include both least-developed and other developing countries. Because the former will have EBA access and the latter will not, operating those agreements will be very complex. Indeed the EPAs will need internal restrictions

and rules of origin to maintain the EBA/non-EBA distinction between their members! Related to that issue is the significant cost of negotiating and administering bilateral agreements (discussed in European Commission 1997). Obtaining estimates of those costs is difficult, but indicators of their magnitude include the length of negotiations (for example, consider previous EU talks with South Africa, Egypt, or Mercosur), the sizes of the delegations required to cope with the complex agenda, and requests by some countries negotiating agreements with the EU to postpone their WTO Trade Policy Reviews because of their work overload. The direct costs are high but the critical negative component is the opportunity cost incurred as resources and attention are diverted from less glamorous but more significant tasks, such as customs administration or domestic policy reform.

Moreover, the two-stage process—fixing matters among ACP partners and then negotiating with the EU—is likely to be costly. Economies of scale may be realized in the second stage because several countries will negotiate together, but the first (intra-ACP) stage will have to be predicated on assumptions about what the EU will accept in the second stage. When those assumptions prove to be wrong, as they inevitably will, ACP national governments will have to redesign the first stage and undertake the second stage simultaneously.

The Cotonou Agreement already has detracted from the DDA by deflecting ACP political efforts from more useful tasks. But the DDA still could offer a way out of the Cotonou bind by providing the negotiating machinery to agree on significant EU concessions on MFN tariffs of interest to ACP countries, improved GSP access, significant nondiscriminatory liberalization in ACP states, and reciprocal cuts in other countries' tariffs on goods exported by ACP countries (Winters 2001a).

## The “Singapore Issues”

The first WTO Ministerial Meeting in Singapore in 1996 established exploratory work programs on four issues: investment, competition policy, government procurement, and trade facilitation. Those issues have remained controversial. The DDA proposes a compromise whereby the four topics are explored further within the WTO structure, with a final decision on their inclusion in negotiations to be made at the next (fifth) Ministerial Meeting in 2003—just over a year before the intended close of the round!

The Doha Declaration says of each issue:

... we agree that negotiations will take place after the Fifth Session of the Ministerial Conference on the basis of a decision to be taken, by explicit consensus, at that Session on modalities of negotiations [for example, paragraph 20].<sup>20</sup>

Furthermore, for each subject the Declaration locates the interim work in the WTO structure, lists illustrative issues that such work might consider, and makes strong commitments to provide technical assistance and capacity building for both developing and least-developed countries (although with subtle differences in wording that could be significant).

The Declaration makes clear that if any of the Singapore issues does enter the final agreement, it will be included as part of the Single Undertaking; that is, it will apply to all members without exception. Although the requirements in these areas might vary according to members' income, size, level of development, or some other criterion to be negotiated, such a position commits the WTO to extensive oversight of members' policies "behind the border." That commitment will raise governance issues for several industrial countries (indeed, the United States was lukewarm about negotiating these issues), but to many developing countries it looks distinctly threatening.

The question about the Singapore issues is not whether they are intrinsically harmful to developing countries' interests; all four address issues that correlate with development and growth and that ultimately would be likely to help alleviate poverty. Rather, the questions are the following:

- Are the priorities implied by the DDA the right ones for developing countries?<sup>21</sup> (The word "are" is used because the main elements of discussion in each area have largely been defined already.)
- Does bringing these issues to the table via the WTO, with its focus on market access and its air of international pressure and compulsion, actually assist progress in them?
- Do developing countries have the resources to run the resulting institutions or to conduct negotiations on what are complex and intrusive areas of policy?

## *The Four Issues*

### *Investment*

Investment is central to development and, where it is available, foreign direct investment (FDI) clearly is a key component. The crucial factors behind FDI, however, are sound macroeconomic and trade policies, political stability, and secure property rights. Those factors are essentially post-establishment issues relating to the treatment of foreign firms once they have arrived. The issues are primarily domestic and where they are not, they are at least partly addressed directly by development institutions such as the Multilateral Investment Guarantee Agency (MIGA) and the International Center for the Settlement of Investment Disputes (ICSID). Binding commitments in the WTO backed by sanctions may improve countries' credibility in these areas and thereby aid FDI inflows somewhat, but that appears not to be the focus of the current WTO agenda.

The WTO investment agenda is concerned mainly with pre-establishment commitments, focusing on which sectors are open to FDI and on who may invest. There certainly are advantages to permitting FDI—and hence contestability—on a broad front because sectoral exceptions will be distortionary and almost certainly open to political capture and both of those situations generally will be contrary to the interests of poor people. That is just the same as with tariffs and other trade barriers. However, whereas the reversal of a tariff liberalization imposes immediate costs on

consumers and users of the goods concerned, the reversal of an open FDI policy generally will have only long-run effects. Provided that post-establishment policy is sound, the multinational corporations (MNCs) that entered when FDI policy was liberal will continue to operate even when policy changes. It is true that commitments to keep sectors open to FDI will help governments resist pressure from early entrants to protect them from later ones, but beyond this, it appears that binding pre-establishment policy has a rather low priority in development.

The investment work program is replete with references to the development dimension, implying that developing countries initially will be required to make few commitments and change few policies in this area. They will be invited, however, to negotiate a more or less binding path along the road to implementing the full agreement at some future time—pay now, eat later. The intended timetable foresees two years of prenegotiation followed by one year of full negotiation. Because the pressure on developing countries in that third year will be immense, there is, in fact, pressure to devote resources to the subject immediately. The implications of this pressure for the negotiations are discussed fully below, but it is worth noting here that an investment agreement at least has the advantage of being easy to administer. It calls on countries to forgo certain instruments of economic policy rather than to carry out some set of functions on a continuing basis.

### *Competition Policy*

Competition policy also is crucial to long-run economic development. Competition generally is a strong force for alleviating poverty because it replaces power and influence with the market, and where the poor are marginalized in market terms their interests bear even less weight politically (World Bank 2000). Moreover, development-centric competition policy would make developing countries the beneficiaries of improved disciplines on international market power (cartels) and restrictions on the application of antidumping duties. Competition policy overall is an area of potentially fruitful advance, both domestically and internationally.

The Doha Declaration calls for preliminary work on “core principles [of competition policy], including transparency, nondiscrimination and procedural fairness, and provisions on hardcore cartels; modalities of voluntary co-operation” (paragraph 25). The EU proposal, which is certain to influence policy negotiation significantly because competition is an “EU issue,” clearly states that the WTO should mandate no new institutions or institutional forms and that no country should be obliged to proceed faster than it wishes (European Union 2001). Despite the seeming goodwill of that position, it is not wholly benign.

As is true with investment policy, if no immediate policy changes will occur, the cost of negotiation predates the benefits; countries, however, cannot opt out of the negotiations because those talks will define a binding future path. Second, competition policy is expensive to operate so the negotiations are likely to impose ongoing costs on developing countries. Moreover, despite the promise of no new institutions, significant expenditure will be necessary if developing countries are to gain anything from a new agreement. In the EU documents, “procedural fairness” means “due

process” and “effective remedies”—exactly the expensive bits of competition law. If, for example, an industrial country and a developing country were acting together against a hardcore cartel, the former would seem likely to require the latter to match its own procedures. Either the industrial country government will want to act, in which case it will not want its own legal case undermined by procedural laxity on the developing country’s part, or it will not want to act, in which case no industrial country government will pursue its own firms’ alleged misdemeanors on the basis of evidence and analysis less detailed than it requires in its own courts. (A third scenario would have the industrial country needing none of the developing countries’ evidence, but that would be no different from the status quo.)

Thus, if developing economies are to gain from a competition policy agreement, they will have to accept the transfer of U.S. and U.K. legal standards and practices to their system—a proposition that will be either expensive or impossible. In the United Kingdom, the Office of Fair Trading (OFT)—one half of the “prosecution” side of competition policy—had 450 staff and a budget of £33 million in 2000 (OFT 2000). The other half—the Competition Commission—has 90 staff plus many part-time consultants. In the United States the Anti-Trust Division of the Department of Justice has a budget of \$110 million. Add to that the cost of courts and private legal representation to meet or avoid official action and one is starting to look at serious money.<sup>22</sup>

Another concern is whether WTO involvement will help developing countries produce their own competition disciplines. Competition policy is fiercely redistributive and so requires a good deal of political support if it is to be effective. In industrial countries competition policies have evolved as a local response to local abuses. Parachuting the policy in from outside seems unlikely to endow it with the same level of popular support, and a poor competition authority can be more of a problem than no competition authority at all.

Finally, the prospect that competition authorities could cooperate or exchange information seems perfectly reasonable, and does not need to be negotiated or enshrined in a WTO agreement that carries, ultimately, the prospect of dispute settlement (see Evenett, Levenstein, and Suslow 2001). Indeed, the EU and the United States could discipline international cartels themselves now if they wished to because very rarely does a significant cartel have no contact with either party. Therefore, the returns to developing countries in terms of controlling hardcore cartels reside substantially in whether a competition agreement would enable developing countries to prompt action by industrial countries against the latter’s own firms. Not only will that effort be expensive for developing economies, but posed in such stark terms one also wonders whether it is feasible at all. If it *is* feasible, a useful confidence-building measure while the DDA is under way would be for the EU and the United States to initiate some serious anti-cartel action in the interests of developing countries. (There is some doubt whether current law permits the EU to discipline cartels where the costs are external, but the law could be changed in the interest of goodwill. That, after all, is what the EU will be expecting of its trading partners.)

### *Transparency in Government Procurement*

Transparency in government procurement is subject to the same sort of analysis as are the investment and competition policy agendas. Undoubtedly transparency is a good thing and it will eliminate a certain amount of covert protection, but care is necessary to set it up in a way that it is not too burdensome. In particular the procedures necessary to prove transparency in WTO dispute settlement must not be too demanding of skilled administrative labor. Moreover, it would be comforting to believe that a WTO agreement on transparency truly would improve market access. Evenett and Hoekman (2002) have provided convincing reasons why it might not have that effect if opacity is driven by corruption rather than protective intentions.

### *Trade Facilitation*

Trade facilitation is a fundamental requirement for any trading nation. No amount of liberalization can boost trade if goods are delayed in transit or at the ports. Here again, however, the WTO agenda is potentially useful but restricted. Whereas developing countries need physical infrastructure and corruption-free customs, the trade facilitation negotiations will focus on transit rules, customs fees, and the publication of trade regulations. The EU says it hopes to see “developments” in the Articles of the General Agreement on Tariffs and Trade 1994 that pertain to these issues and the introduction of minimum standards on them, which countries may exceed “according to ability” (DFID 2002). As with agreements on investment and competition, the negotiations are now but the payoff is likely to be later, and there is a danger that proving compliance with any new “developments” will divert attention from more pressing priorities.

### *Technical Assistance and Capacity Building*

The stock response to developing countries’ worries about the burden of negotiating and administering the Singapore issues has been the industrial countries’ offer of technical assistance and capacity building. In the 5,000-word Ministerial Declaration there are 21 references to technical assistance and 19 to capacity building. On all four Singapore issues, commitments are made to focus on the priorities of developing economies and to provide adequate technical assistance and capacity building. It is not clear how to define “adequate,” but assuming good faith, this could presumably be overcome. Nonetheless, technical assistance and capacity building are only a partial answer to the complexity of the DDA.

There are critical shortages of human capital and skills throughout developing countries—indeed, this is arguably the reason why these economies are still “developing.” So trade capacity building (that is, training more public officials to deal with international trade) may exacerbate capacity shortages elsewhere in both the public and private sectors. In fact, private sector capacity is very important, and governments should welcome the fact that when they have been trained, trainees will move into the private sector where they can produce economic benefits directly in the form of output and employment.

But if there is excess demand for skills, one should consider not only the supply but also the demand for them. Developing countries, international organizations, and donor countries need to devise programs and structures that require less rather than more skilled input. There is no guarantee that staffing their Geneva offices, contributing to international standards committees, or negotiating policies that will not be implemented for years are better uses of developing countries' scarce resources than, say, domestic policymaking, manufacturing, or education. And if they are better, we must ask ourselves how we came to fashion a world so hostile to developing country interests that this is true.

Moreover, if developing countries lack the capacity to negotiate or administer agreements we cannot merely look to technical assistance as a means of underpinning complex and demanding agreements in those economies. Developing country governments have to manage the assistance they receive. They will be suspicious of programs for which they cannot do so and probably will be unable to internalize and take advantage of those programs. Management problems of this type seem almost inevitable in a negotiation of the Singapore issues that spans only three years. Even with technical assistance, the complexity of this part of the DDA will drain skills from other activities in developing countries. Possibly the most important guideline for trade policy should be simplicity. One of the great virtues of the "old" trade liberalizing agenda was that, while facilitating integration, it freed resources rather than used them (consider, for example, the administrative and political simplicity of a uniform tariff).

Multilateral trade rounds are most useful when they provide a supportive framework for policies that developing country governments already want to pursue—that is, when they relax the domestic political constraints on good policy. Thus commentators recommend that governments view negotiations not as constraints but as opportunities (see, for example, Mattoo's [2000] discussion of services). But that recommendation is scant comfort for the Singapore issues. Aside from investment, few developing countries have policy aspirations in the direction of those issues. With only three years before they must sign binding agreements, they will hardly have time or expertise to develop those aspirations properly. And providing industrial country nationals funded by industrial country negotiating mandates will not solve the problem.

The formal statement that negotiations on the Singapore issues will proceed only on the basis of "explicit consensus" is not worth much. In a consensus-driven organization every member has a veto, so the explicit consensus rule only makes exercising that veto politically less embarrassing. It does not alter the fact that vetoing the Singapore issues will entail costs elsewhere in the DDA—almost certainly in agriculture (where similar hedging language was inserted at the last moment) and probably elsewhere. In other words, excluding the Singapore issues could well vitiate the whole round.

The Singapore issues are effectively *in* the DDA already. Two years of preparatory work and one year of negotiation are the absolute minimum required to devise technical solutions and achieve political agreement. But they do very little to help alleviate poverty. Investment, competition, procurement, and efficient transactions are admirable aims that ultimately offer a great deal for the poor, but including them

in the DDA has added little benefit at quite a high potential cost. Negotiating and administering the intended agreements threaten to take skilled labor from other critical, nontrade tasks, such as domestic tax reform, education, and health care. Even in purely “trade” terms, the Singapore issues will divert attention and expertise from the analysis and formulation of strong negotiating briefs in the traditional areas of trade liberalization that offer direct and indirect poverty payoffs. Moreover, including those issues in the round is likely to increase mutual suspicion among governments (and possibly between governments and civil society), and ultimately could undermine progress on traditional issues.

If they cannot be dropped at this stage, the best option for the Singapore issues is to shift them out of the Single Undertaking (see page 20 above) and turn them into plurilateral agreements. If developing countries wish to join those agreements in future rounds of negotiation, the agreements will have to be reviewed fundamentally at that stage. This option still places the developing countries at a disadvantage because it is more difficult to revise an agreement you are joining than to influence one that is being designed, but at least it will remove the immediate pressure from the DDA. This will allow a genuinely liberalizing market-access-focused round and will allow for important areas such as investment and competition to be integrated into development, rather than trade, plans.

## Conclusion

The Doha Development Agenda includes much more than the five topics discussed here, but all the items included raise essentially the same issues. Liberal trade is an important part of the policy cocktail for achieving long-term growth and alleviating poverty, and it can play an important shorter-term, direct role in the latter goal. Some elements of the DDA—liberalizing agriculture, the movement of natural persons, services, and manufactured goods—could contribute significantly to achieving the World Poverty Target of halving extreme poverty by 2015. However, two important conditions should be met. First, the threats and caveats to genuine liberalization must be overcome in both industrial and developing countries. Second, the DDA must not be allowed to become too burdensome on developing countries. Loading items of general economic management onto the WTO agenda threatens to divert bureaucratic, political, and analytical efforts from the more important liberalizing agenda and from equally important domestic components of the fight against poverty.

## Notes

1. To oversimplify—but only a little—“The best bits of liberalization are free.”
2. Effective openness requires predictability, transparency, and convenience of the trade regime, as well as low barriers. For example, although in 1997 Brazil and Chile had broadly equal average tariffs (12 percent and 11 percent, respectively), Brazil was effectively

much less open than was Chile because its import regime was complex and subject to a good deal of discretionary intervention.

3. The cross-sectional (or panel) assumption that the same model and parameter set applies to Austria and Angola is heroic. So too is the neglect of dynamics and path dependency implicit in the view that the data reflect steady-state relationships. There are huge cross-country differences in the measurement of many of the variables used. Obviously important idiosyncratic factors are ignored. And there is no indication of how long it takes for the cross-sectional relationship to be achieved. Nonetheless the attraction of simple generalizations has seduced most of the profession into taking their results seriously when giving policy advice.
4. Two recent advances on Coe, Helpman, and Hoffmaister make their results seem more plausible. Lumenga-Neso, Olarreaga, and Schiff (2001) allowed for technology to reach developing countries indirectly (for example, a developing country's imports from France embody some U.S. technology because France imports from the United States) and Schiff, Wang, and Olarreaga (2002) found such technology flows in industry-level data.
5. A similar approach is found in Gallup, Radelet, and Warner (1998).
6. There is still some controversy about Dollar and Kraay's results, but Winters, McCulloch, and McKay (2002) argued that their findings seem to be robust.
7. Some researchers (for example, Bussolo and Solignac Lecomte 1999) have tried to deconstruct the effects of trade liberalization on poverty into growth and inequality effects. Growth figures in the present analysis, but inequality does not. Poverty and inequality are different phenomena, with poverty referring only to the lower end of the income distribution. To find how that end is affected by trade shocks, one needs to analyze prices and incomes in exactly the way described below. In short, predictions about income inequality are informed by poverty analysis, not vice versa.
8. For an importable with world price  $P_w$ , the price to the poor family is  $(P_w + r)$  where  $r$  is transaction costs. With fixed  $r$ ,  $(P_w + r)$  changes less than proportionately with  $P_w$ . For an exportable that sells at world price  $P_w$ , the internal price is  $(P_w - r)$ , which changes more than proportionately with  $P_w$ .
9. If a household was initially making the best of its circumstances and those circumstances change for the worse, flexibility can reduce the harm done but not turn harm into good. Likewise, if the change is for the better, flexibility can help the household take advantage of it, but not turn advantage into disadvantage.
10. Developing economies also should seek simplified OECD tariff regimes comprising only *ad valorem* tariffs that are held constant throughout the year.
11. This is a failure of domestic competition enforcement in Mexico—quite a separate issue from the case for an international competition policy agreement.
12. In this respect, the weight given in the DDA to reviewing Uruguay Round commitments (under the heading of Implementation) runs the risk of imposing a future systemic cost in terms of lost credibility. The need to revisit agreements that have become unexpectedly burdensome is a valuable WTO/GATT tradition, but it must not be overused.
13. “Naturally” is an important caveat. If countries are net importers of food because of their own policy distortions—for example, various anti-agriculture biases—increasing world food prices actually may benefit them. Essentially, they are losing welfare by constraining agricultural output below optimal levels and a price rise tends to correct this distortion (see Tyers and Falvey 1989).
14. The “box” terminology comes from the Uruguay Round agreement on domestic support that recognized an amber box (support that should be reduced), a green box (support that

- is acceptable because it is ostensibly uncoupled from production), and a blue box (U.S. and EU support that is exempt from cuts for essentially political reasons).
15. Table 1 classifies people according to their country of origin regardless of where they end up working after mobility has been increased. The large gains recorded for industrial country residents include the benefits of higher wages earned by their citizens temporarily working abroad. There are many of these people in the global economy, although the numbers do not change as a result of the increased developing-to-industrial mobility considered in this exercise.
  16. Julian (2001) documented the extraordinary and unprecedented political coordination and maneuvering that went into obtaining the waiver. Winters (2001) discussed the principles of the agreement.
  17. There are approximately 1,250 four-digit headings in the EU's trade classification.
  18. See Finger (1991) on how preferences allowed industrial countries to ignore the development dimensions of their trade policy.
  19. Hoekman, Ng, and Olarreaga (2001) confirmed that the EBA will entail strong trade diversion: Of a US\$2.5 billion increase in LDC exports, just under US\$2.4 billion is trade diversion. They argue that this is just 0.1 percent of other developing countries' exports and so is negligible. But if we recognize that these losses are likely to be focused on the countries just outside the LDC range, the proportions could be significant and the adverse effect on poverty just as strong as is the beneficial effect in LDCs. In fact, some LDCs are richer than some non-LDCs. Thus, for example, Guinea (per capita GDP US\$530) will gain, while Pakistan (US\$470) will lose.
  20. Some industrial country commentators argue that, contrary to the reading in the text, this wording commits to there being a negotiation, with only its nature (modalities) to be agreed.
  21. See, for example, Hoekman and Kostecki (2001, chapter 13) for a general discussion, Hoekman and Saggi (2000) on investment, Hoekman and Holmes (1999) on competition policy, and Evenett and Hoekman (2002) on procurement.
  22. Competition Authority costs are currently much lower in developing economies (see CUTS 2002), but this is not relevant. The argument here is that they will have to rise.

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The word "processed" describes informally produced works that may not be available commonly through libraries.

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## Comment on “Trade, Growth, and Poverty— A Selective Survey,” by Andrew Berg and Anne Krueger, and “Doha and the World Poverty Targets,” by L. Alan Winters

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T. ADEMOLA OYEJIDE

In their attempts to relate trade liberalization, openness, growth, and poverty alleviation to one another, the articles by Berg and Krueger and by Winters confront the inherent limitations of both theory and empirical analysis in this context. First, economic theory yields ambiguous results with respect to these linkages. Second, an appeal to empirical findings often fails to resolve the issues completely. Available empirical analyses yield mixed results or fail to separate the specific effects of each important variable.

Those limitations in turn give rise to two other problems. The first is the temptation to read into research results much more than legitimately can be found there by making insufficiently supported “judgment calls.” The second problem is the danger of policy advocacy, which emanates from drawing policy implications that appear patently obvious and eminently reasonable to the advocate but often are not adequately supported by theory or empirical findings. It is my view that the article by Winters was more successful in avoiding those pitfalls than was the Berg and Krueger article. For instance, Berg and Krueger start with the sweeping assertion that “20 years ago a consensus had emerged that trade liberalization strongly promoted growth and poverty reduction.” It is possible, of course, that a sufficiently selective survey of the huge and growing literature on trade liberalization could produce that assertion, but many other analysts are more likely to agree that general consensus about many of the relationships explored by Berg and Krueger remains elusive. This lack of consensus may help explain why the literature continues to grow.

My comments here are organized around the main relational themes addressed in the two articles: trade liberalization, openness, and economic growth; trade liberalization, economic growth, and poverty reduction; and the Doha Development Agenda and poverty.

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T. Ademola Oyejide is professor of economics at the University of Ibadan, Nigeria.

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## Trade Liberalization, Openness, and Growth

Both articles appear to equate trade liberalization with openness to trade, but the literature suggests that the two concepts are not necessarily the same. McCulloch, Winters, and Cirera (2001) have defined openness to trade in practice as the importance of trade in a country's economy whereas openness in policy reflects the existence and extent of policy measures designed to control trade. According to those definitions, a country's openness in practice will be influenced by its size; and a country may be open in practice but not in policy, and vice versa. Furthermore, lack of (or inadequate) openness in practice may result not only from restrictive trade policy but also from an exchange rate regime that is largely responsible for the domestic price distortions observed in practice. Thus, the concept of openness to trade involves concerns with structure (country size and the impact of openness on the trade/output ratio), trade policy reform (or trade liberalization), and macroeconomic policy reform (including stabilization and devaluation). In other words, openness to trade concerns more than just trade policy. The use of trade liberalization and openness as equivalent concepts runs the risk of misattribution, which constitutes a key part of the difference of opinion in the literature regarding the efficacy of trade policy (see, for instance, Rodrik 1992).

In spite of the econometric difficulties of measurement and direction of causality that their authors acknowledge, both articles conclude that openness to trade enhances economic growth. Part of the evidence they marshal in support of that broad conclusion amounts to no more than backhanded compliments to trade liberalization; it includes findings that show trade restrictions to be harmful to long-run growth and no apparent coherent evidence showing openness to be bad for growth.

The next big claim in the Berg and Krueger article is even more controversial. In their own words, "in our view, there are few true preconditions—that is, reforms in the absence of which trade openness is a poor idea." Like much of the literature, the Winters article argues that a country that wishes to derive a "quasi-permanent" growth effect from trade liberalization must combine it with other good policies, including sound institutions. In particular, according to Winters, reasonable supply responses are the key to reaping long-term growth benefits from trade liberalization; those in turn require investment in complementary infrastructure.

Furthermore, although Berg and Krueger admit that "reforms tend to come in packages," they argue that this does not give rise to a policy problem. I believe, however, to the extent that trade liberalization tends to be more effective in combination with other good policies, an inherent *policy design* problem may arise; that is, how should the various elements of the policy reform package be sequenced to maximize the benefits and minimize the costs of reform? Recent experience in Haiti has demonstrated quite clearly that it is unrealistic to implement trade liberalization on the assumption that such liberation is all that is necessary to elicit the expected good results or the assumption that trade policy reform automatically will bring about the other good policies that must be combined with trade liberalization.

Finally, the Berg and Krueger article appears to move, very grudgingly, in the direction of much of the literature by describing trade liberalization first as “not obviously decisive” and “not sufficient” in triggering successful cases of “takeoff” into rapid and sustained economic growth. Confronted with the puzzling combination of substantial trade liberalization and disappointing economic growth performance of the 1980s and the 1990s, the Berg and Krueger article repeats the central message of much of the literature; that is, openness is not a “magic bullet,” and although trade liberalization may be necessary, it clearly is not sufficient for generating economic growth.

### **Trade Liberalization, Growth, and Poverty**

The central issue in the relationship of these three variables pertains to whether and, if so, to what extent trade liberalization stimulates economic growth which in turn reduces poverty. The applicable assertions made in the Berg and Krueger article are subject to challenge. For instance, Rodrik (2001) has argued that countries such as China, India, and Vietnam, which have experienced the most rapid increases in their trade/output ratios during the last decade or so, are not necessarily those that have adopted the most pro-trade policies. In addition, those countries appear to have experienced strong economic growth *prior* to the implementation of deep trade policy reforms.

In this context, the Winters article does great service by pointing out that the links between trade liberalization and poverty alleviation are not necessarily as direct as current debate suggests and that openness to trade is not sufficient for achieving the goal of relieving poverty. It also warns against overstating the significance of trade liberalization for poverty alleviation and against raising undue expectations that liberalization will deliver quick antipoverty benefits. The article demonstrates that the most fruitful way to explore the linkages and their effects is to move away from aggregate regression analysis and to concentrate instead on analysis of prices and incomes that may be affected by trade policy changes. This research design yields the kinds of empirical results that are more in tune with a priori expectations; that is, that generalizations about the effects of trade liberalization on poverty alleviation will be weak and qualified because different poor households will be affected differently by the same trade policy change within and across countries.

### **The Doha Development Agenda and Poverty**

The Winters article explores links between trade liberalization and lessened poverty in the context of five key aspects of the ongoing multilateral trade negotiations. The article’s overall conclusions are in two parts. The first part suggests that trade liberalization in agriculture, manufacturing, and services (particularly the movement of workers) would offer good opportunities for relieving poverty. The second part of the

article suggests that continuing trade preferences and pursuing the Singapore issues would deliver no significant direct benefits for developing countries in terms of growth or reduced poverty. Rather, Winters holds that concern for those issues might be quite costly as it diverts attention from a more beneficial focus on straightforward import liberalization.

There is much that one can agree with in the first part. It is important to note, however, that the primary focus of the “Development Box” demanded by developing countries is precisely to meet the need for “reasonable supply responses” that Winters posits as essential for reaping the long-run benefits of trade liberalization. Clearly it will be unfortunate (and counterproductive) if industrial countries react to this demand by offering weaker liberalization in exchange.

Winters argues strongly against preferences for the exports of developing countries. The arguments canvassed are not new and, more important, they relate primarily to the inherent limitations of the *nature* of trade preferences that industrial countries have chosen to offer. What developing countries have repeatedly requested is a multilateral and comprehensive trade preference scheme devoid of the limitations that render many of the existing schemes essentially inappropriate as instruments for long-term development. Such a scheme is neither difficult to design nor costly to implement. It has been shown, for example, that unrestricted access for *all* exports of Sub-Saharan Africa to the markets of the European Union, the United States, Canada, and Japan could generate a 14 percent increase in the region’s non-oil exports with very negligible costs either to other developing countries or to the preference-granting countries (Ianchovichina, Mattoo, and Olarreaga 2001).

Winters’s conclusions about including the Singapore Issues in the ongoing multilateral negotiations under the Single Undertaking principles broadly agree with the perspectives of low-income countries, particularly those in Sub-Saharan Africa (Oyejide 2000; Hoekman and Martin 2001; Oyejide and Njinkeu 2002). I hope that Winters’s voice will carry a greater and more effective weight in the World Trade Organization than will those of previous writers on that specific issue.

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## **Comment on “Trade, Growth, and Poverty— A Selective Survey,” by Andrew Berg and Anne Krueger, and “Doha and the World Poverty Targets,” by L. Alan Winters**

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JULIO J. NOGUÉS

Although the articles commented on here address the links between trade and poverty from different perspectives, they both arrive at a similar conclusion—namely, that policy reforms moving economies toward free trade and worldwide integration are poverty reducing. In light of the increasing criticisms by antiglobalizers, these findings are of great importance.

Andrew Berg and Anne Krueger present a review of an abundant literature, showing that there is a link between trade liberalization and poverty reduction that works mainly through the growth-inducing effects of trade. The existence of this link, therefore, becomes an important argument for unilateral reforms of developing and industrial countries. Based in part on the literature reviewed by Berg and Krueger, Alan Winters develops the liberalization elements that the Doha Development Round should achieve if it is to reduce poverty. Therefore, in contrast to the article by Berg and Krueger, the emphasis in the discussion offered by Winters is on multilateral trade liberalization. These are excellent and complementary pieces whose reading I strongly recommend.

### **Comments on “Trade, Growth, and Poverty”**

In a review of more than 100 studies, most of them published during the last 10 years, Andrew Berg and Anne Krueger arrive at three main propositions: (1) average per capita growth is the major determinant of poverty reduction, (2) trade openness is an important determinant of growth, and (3) the growth that is associated with trade is as pro-poor as growth in general. The authors present convincing evidence that the three propositions are supported by the literature that they have surveyed. I will present brief comments on each of these three propositions.

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Julio J. Nogués is a consultant and professor in the School of Government at Universidad Di Tella, Buenos Aires, Argentina.

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### *Growth and Poverty*

The evidence in favor of the first proposition is taken mostly from recent work by Dollar and Kraay (2001). In a cross-country study those authors regressed the average annual change in log of per capita income of the lowest quintile on the average annual change in the log of per capita income finding a regression coefficient that is close to 1. Although statistically significant, the  $R^2$  of this regression is 0.49, which indicates that there have been cases in which negative per capita growth of the lowest quintile has occurred in countries experiencing positive per capita growth. Those are countries in which growth has hurt the poor, and that appears to have occurred several times. In which countries has that happened? Are there some common characteristics to explain why it has occurred? We have to pay particular attention to those cases because they are most likely to discredit the globalization process.

Questions like those indicate that cross-country econometrics can take us only so far; after that we have to go into in-depth country studies. In the case of Argentina, for example, although in 1998 the incidence of poverty (measured by the percentage of the population with incomes below the poverty line) was only slightly below the figure recorded for 1989, the per capita income level was 26 percent higher. That failure of growth to be associated with poverty reduction has been used by part of the domestic political system to discredit the whole program of reforms implemented in Argentina in the early 1990s. While the political system was failing to focus on those elements that prevented a faster reduction of poverty, an increasing proportion of the population has ceased to believe in the efficacy of market-based policies—although it is clear that for the first time in decades these are the policies that proved capable of accelerating the growth performance of the economy.<sup>1</sup> One lesson from Argentina's experience is that the multilateral system and the reforming countries themselves have to remain alert to any signals that accelerating growth following the implementation of reforms is not showing poverty reduction effects.

### *Trade and Growth*

Regarding the effects of trade, Berg and Krueger argue that openness fosters growth through a number of channels, including improved resource allocation, higher degree of competition, more rapid acquisition of knowledge and innovations, and lower levels of rent-seeking and corruption.

The driving question is whether increased levels of openness actually have accelerated growth. Essentially two types of econometric approaches have been used to address that question: cross-country analysis explaining growth with several variables, including measures of openness, and studies of the convergence properties in regions of individual countries such as the United States or in regions that are quite integrated, like parts of Europe. According to Berg and Krueger, this second type of analysis shows a clear convergence of the poorer regions to the income levels of the richer regions. Although these studies are comforting in their suggestion that full integration of economic policies and institutions is a powerful force for convergence, most developing countries are still far from such integration. When integration is not

full, the crucial question for econometric testing is how to measure differential degrees of openness. There have been two approaches for measuring this variable: policy-based indicators and results-based indicators. Berg and Krueger conclude that although the second type of variables has been criticized by Rodríguez and Rodrik (2001), numerous studies using both approaches show sufficient evidence to conclude that there is a positive association between openness and growth.

Again, as revealed in the studies on linkages between growth and poverty, those studies that have analyzed the relationship between openness and growth have shown high residual variability. On that point Berg and Krueger assert, “We recognize that there is substantial uncertainty surrounding these estimates. In some specifications openness is not robust, for example, and frequently related variables of interest are too correlated for the data to tell which matters most.”

### *Trade and Poverty*

Berg and Krueger conclude, “On the question of whether the poor benefit more or less than others do, no clear pattern emerged from the numerous studies of individual liberalization episodes.” I was a little surprised with the conclusion that growth fostered by trade liberalization has been as pro-poor as growth in general. Theory and empirical evidence suggest that trade liberalization in labor-abundant countries is pro-unskilled employment and, therefore, should be more pro-poor than trade liberalization in countries with somewhat higher capital relative to labor endowments. I believe we have to look more closely at this outcome because econometric analysis may not be the most suitable approach for reaching clear conclusions on this linkage.

For example, factor markets distortion is one possible explanation for why trade liberalization in Argentina was not as pro-poor as expected. Other explanations include the pattern of trade liberalization and protectionism, including more rapid opening to labor-intensive than to capital-intensive imports. One underlying force that helps explain why strong growth had only marginal positive effects on poverty is that the growth created relatively few employment opportunities.<sup>2</sup> As a consequence, the open unemployment rate rose and has remained very high. Although in 1991 unemployment was 6.6 percent, it jumped to 20.2 percent in 1995 and strong growth in the next three years could reduce it only to an average of 16 percent. The core questions are why did unemployment grow so strongly until 1995, and why did the strongly growing economy not create enough jobs when it emerged from the 1995 tequila recession?

Some analysts argue that distortions in factor markets played a central role in impeding job creation and increasing unemployment. For example, with the aim of modernizing the economy, during most of the 1990s a consistent policy goal was to reduce as much as possible the price of capital goods that carried the lowest possible tariff, often 0 percent. Furthermore, imports benefited from an overvalued exchange rate. During these years, the very high taxes on wages and other distortions were only partially reformed and that generally prevented the economy from being flexible enough to adjust to significant business cycles that were associated in part with con-

tagion effects. Clearly, the reform program appears to have reduced too deeply the relative price of capital to wages. As Anne Krueger has put it very clearly in many of her past studies, analysis of factor markets is a key to understanding whether shifting to openness will lead to a more or less labor-intensive growth path (Krueger 1983) and whether those distortions can be so serious as to prompt backsliding of trade liberalization as appears to have occurred in some countries.

### *Conclusion*

A powerful observation by Berg and Krueger is that in the experience of the last 20 years, “there are no examples of recent-takeoff countries that have not opened to an important extent as part of the reform process.” But we know that experiences vary greatly, and there is evidence of marginalization—some countries have implemented some trade liberalization but apparently failed to grow their economies and to reduce poverty. Those cases fall within the range of variability of the econometric studies, but the multilateral system has to remain vigilant for reforming countries that fail to grow because that failure may reveal some development traps. In making this comment I am aware that some of the countries that have been classified as strong globalizers, such as the Republic of Korea, have developed from a situation of extreme poverty similar to the one that characterizes many developing countries today. But many things have changed since Korea’s economy took off and they may have increased the possibility of development traps in very poor countries. For example, the continued increase of agricultural protectionism can become a development trap for countries that are efficient producers.

Finally, if the Doha Development Round fails to arrive at important trade liberalization, particularly in agriculture (which as I indicate below is likely to happen), then the case for regional integration with a rich country such as the United States is strengthened. This comes from the conclusion by Berg and Krueger that the “evidence does not speak to whether trade liberalization itself is sufficient to permit poor countries to grow fast, but it does suggest that if a poor region adopts enough common institutions and liberalizes enough (*and if its partners liberalize fully*), then relatively fast growth will ensue.”<sup>3</sup> Assuming a balanced and reciprocal outcome of the ongoing negotiations, the Free Trade Agreement of the Americas (FTAA) could deliver part of what the Doha Development Round Agenda (DDA) is unable to deliver.

### **Comment on “Doha and the World Poverty Targets”**

As I’ve indicated, the essential link between trade and poverty is growth. Winters’s analysis is framed in a normative dimension as he selects some of the items in the DDA that promise to deliver the most significant welfare gains to the world economy. He also discusses others elements of the agenda that may thwart achievement of liberalization goals. In the first group he puts agriculture and the movement of natural persons, and in the second group he puts the Singapore issues and preferences.

The first question I pose in commenting on Winters's article is: Will the DDA be seriously supportive of liberalizing trade in agricultural goods and of the movement of natural persons? Given available information, my answer is that most likely the outcome of the DDA will not be seriously trade-liberalizing. I base this forecast on evidence indicating that important liberalization of agriculture and the movement of natural persons is unlikely. After arguing that, I will present some comments on the Singapore issues.

### *Agriculture*

Winters notes that agriculture is the key sector for most poverty alleviation because nearly three-quarters of poor people in the less developed countries and half in the developing countries work in that sector. Agriculture is also the sector expected to deliver the most significant gains from liberalizing trade in goods (World Bank 2002). So what is the starting point of the DDA? From the analysis of many authors searching for the trade liberalization effects of the Uruguay Round Agreement on Agriculture (URAA), the conclusion is that we have to look through a magnifying lens to find some evidence of its existence and even then, we are likely to find nasty surprises. For example, in an analysis comparing the average import to domestic consumption ratios of several agricultural products of the Organisation for Economic Co-operation and Development (OECD) countries during the periods 1989–94 and 1995–2000, Diakosavvas (2001) found a statistical significant increase only for wheat.<sup>4</sup> He concluded that the results “provide support to the argument that for a number of agricultural commodities in the OECD area, *market openness in the post-URAA era is not discernibly different from that of the pre-URAA.*” Not only has access to OECD markets remained relatively unchanged since the conclusion of the UR, but also some import policies (for example, reference prices and export subsidies) have continued destabilizing and distorting world agricultural markets (as recently emphasized by the World Bank [2002]).

**TABLE 1.**  
**Tariffication of Nontariff Barriers by Some OECD Countries**

European Union	Tariff equivalent of NTBs (1)	Tariff binding 2000 (2)	Binding 2000/ tariff equivalent (3)
Wheat	68	109	1.60
Coarse grains	89	121	1.36
Rice	103	231	2.24
Beef and veal	97	87	0.90
Other meat	27	34	1.26
Dairy products	147	205	1.39
Sugar	144	279	1.94
EU unweighted average	45	73	1.63
U.S. unweighted average	13	23	1.77

Source: Anderson (1998) based on Ingco (1995).

Why did such a disappointing UR outcome occur? A brief recounting of the round will illustrate some disturbing factors. First, the most significant obligation that industrial countries undertook in the URAA was the tariffication of many of their nontariff barriers (NTBs) into ad valorem tariffs, and the reduction of those barriers by 36 percent over a period of six years that concluded in 2000. What degree of liberalization was accomplished with the implementation of these tariffs? The selection of a particular base period (1986–88), characterized by low international prices, for estimating equivalent ad valorem tariffs already biased the tariffication exercise toward high ad valorem tariffs. To make things much worse, the evidence indicates that for many products in many countries, the tariff equivalents of the NTBs notified to the World Trade Organization (WTO) as part of the country schedules often were appreciably higher than the true tariff equivalents prevailing in the base period. Those inflated tariffs have been called dirty tariffs and, as the last column in Table 1 shows, in some cases the reported tariffs exceed the tariff equivalent by 50 percent or even 100 percent.

For some products, the situation is so bad that even under a significant trade liberalization outcome of the DDA, resulting protection levels could be higher than before the UR, which indicates that two multilateral trade rounds will have not reduced protection at all. Agricultural markets in industrial countries remain highly distorted not only as a consequence of dirty tariffs but also by tariff quotas, with many very high if not prohibitive out-of-quota rates, tariff peaks, and tariff escalation, and with specific tariffs for some products like fresh fruits that vary by period of the year and by the level of import prices.

Given the degrees of freedom that remain in the URAA for providing protection and subsidies, it is not surprising that as a result of declining world agricultural prices in recent years, the total support to agriculture by OECD countries increased massively between 1997 and 1999 without violating the URAA. For some products the distortions are so significant that some countries that are natural net importers of agricultural products have become net exporters.<sup>5</sup>

The highly distorted OECD agricultural markets have serious negative consequences for efficient producers. In addition to the uncertainty coming from high international price variability,<sup>6</sup> negative effects could occur through financial channels when foregone exports attributed to agricultural protection worsen the solvency indicators of efficient producers (Nogués 2001).<sup>7</sup>

What are the odds for agricultural liberalization in the DDA? It is risky to make a forecast but on the basis of the previous discussion I suggest that the prospect for such an outcome could be much higher than what it is today. First, there is no substantive difference between the language of the Doha Ministerial Declaration and that of the declaration that launched the UR. Both promise a reduction of import protection and both promise a tightening of subsidies and domestic support policies. If promises were not kept in the UR, why should we expect something different this time? Second, as Winters recalls, in the Doha ministerial meeting the European Union (EU) was successful in deleting from the declaration the Cairns group and the United States request that negotiations should seek the elimination of export subsidies.

Third, several OECD countries have made it clear that in the area of sanitary and phytosanitary standards they intend to continue pressing for increasingly demanding food safety levels with potentially negative effects on trade (World Bank 2002). Fourth, the EU's reluctance to liberalize trade takes place in spite of very high welfare gains that it would obtain from such a policy and that suggests that a very powerful lobby is at work. Fifth, the concept of multifunctionality has now been institutionalized and unless it is carefully crafted, it will most likely be used to *provide* protection rather than to dismantle it. Sixth, the approval of a record subsidy-granting farm bill by the U.S. Congress will become another source of trade tensions in the North Atlantic region and will add to the negative effects on efficient producers like some countries in the Cairns group. Finally, as discussed above, there are so many dirty tariffs that even if an important liberalization is agreed to, trade barriers for some products at the conclusion of the DDA might remain higher than in the pre-URAA.

My comments offer no basis for suggesting that the DDA will seriously liberalize agricultural trade.

### *Movement of Natural Persons*

Winters writes that according to his estimates, if a successful negotiation on the movement of natural persons (meaning relatively unskilled workers) is concluded, the gains for developing countries could be more than twice as important as the gains from liberalizing trade in goods. What are the prospects of liberalizing this type of trade in services? Again, I believe the possibilities are low. First, Srinivasan (2002, p. 16) has reminded us that the UR established a negotiating group on the movement of natural persons with a mandate to complete negotiations by mid-1995 but "negotiations are still to be concluded."

Second, both the United States in the FTAA negotiations and the EU in its negotiations with the Mercado Común del Sur (MERCOSUR) have made it clear that they do not want this subject on the table. For example, the United States has indicated that it "excludes immigration policy and access to employment markets from the scope of the services chapter of the FTAA agreement."<sup>8</sup> If industrial countries take this position in the regional negotiations, why should we expect them to take a more liberal position in the DDA?<sup>9</sup>

### *Singapore Issues and Intellectual Property*

I have no doubt that all of the Singapore issues (trade and investment, trade and competition, government procurement, and trade facilitation) have a role to play at some point in the development process. Winters questions (a) whether the WTO is the right place to discuss them, (b) how possible multilateral rules could affect development, and (c) whether developing countries have the resources to run the institutions that likely will be created and how efficiently they will perform that job. A parallel with the intellectual property negotiations of the Uruguay Round that resulted in the

agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) helps to illustrate some of the delicate issues at stake. The TRIPS agreement was reached against the will of many developing countries that did not see clear benefits to strengthening their intellectual property laws—at least not in the way that the WTO agreement mandates (Finger and Nogués 2002). To my knowledge, during the UR negotiations there never was a clear assessment of TRIPS's likely consequences for different developing countries and therefore they can be characterized as lacking transparency.

It is important to recall that the issue never was whether intellectual property rights (IPR) had a role to play in development because, at the time of the UR negotiations, most if not all of the WTO developing members had laws that protected those rights. The issue was then and still is whether what the industrial countries were seeking in terms of harmonizing and strengthening those rights was the appropriate policy for all developing countries. This issue is most apparent in the case of patents for pharmaceutical drugs where discussions were more influenced by powerful lobbies than by informed analysis. Winters's discussion of the Singapore issues suggests that many important questions remain unanswered. Those questions have to be addressed by developing countries and incorporated into the research programs of international development organizations.<sup>10</sup> Therefore, until developing countries conclude that any of these issues will result in clear benefits to their economies, they should not support early negotiations. Not taking a firm stand in the UR led developing countries to sign the TRIPS agreement that was and remains clearly unfavorable to them. Winters hints that if developing countries stand firm against the Singapore issues, industrial countries might retaliate with less agricultural liberalization. Perhaps that could occur, but in an open and transparent trading system it should not happen. If developing countries' rights to understand and conclude that there are clear benefits to be reaped from the Singapore issues are curtailed, then the transparency of the multilateral trading system is called into question.

### *Conclusion*

In terms of the mercantilist yardstick with which international trade negotiations are assessed, the UR outcome was unbalanced against many developing countries. Without a significant liberalization of agriculture and the movement of natural persons, the DDA is likely to result in another unbalanced outcome, and that would support neither the interests of developing countries nor those of the trading system (Finger and Nogués 2002). Although I hope my forecast is wrong, the available information indicates that the DDA is very unlikely to result in the serious liberalization of trade in goods and services that would confer important export and development opportunities on developing countries.

So what can developing countries do to protect their interests? As said, my bottom line is that they should stand firm when having reasonable doubts about the net benefits of possible negotiating outcomes, and request clarifications before they sign any proposed multilateral agreement. A firm stance in the DDA by developing coun-

tries will help achieve a more balanced outcome and, in doing this, those countries would be increasing the capability of the trading system to contribute to poverty reduction. If in spite of this, the outcome of the DDA is unbalanced against developing countries, the ongoing globalization process would have moved a step closer to failing to deliver benefits to all.

## Notes

1. This comment is based on factors prevailing before the recession that started in late 1998. That recession and the chaotic macroeconomic policies implemented after the devaluation in early 2002 have made things worse.
2. There also was an increase in labor supply.
3. Italics here and elsewhere in quoted materials are mine.
4. I focus on agricultural protection by developed countries, but I agree with Winters that some developing countries maintain an important anti-agriculture bias in their trade policies that should be reduced if this sector is to increase its contribution to their growth.
5. As an example, the World Bank (2002) reported that before 1992 the EU was a net wheat importer but since then export subsidies have allowed it to become a net exporter.
6. Citing the 1986 World Development Report, Gardner (2001) recalled that “global market liberalization would reduce the volatility of all major traded commodities by one-half or more.”
7. Clearly, agricultural protectionism is a source of incoherence between the multilateral trading system and the international financial system, and its financial and debt consequences have to be studied more carefully by the Bretton Woods Institutions. The financial consequences of protectionism are discussed in greater detail in Nogués (forthcoming).
8. Taken from the United States position in the FTAA negotiating group on services as presented in [www.ustr.gov](http://www.ustr.gov). As a contrast to the position taken by the EU, Lindert and Williamson (2001) quantified the significant contribution of Argentina and other southern countries as recipients of European migration during the first wave of globalization between 1870 and 1910.
9. More research by the Bretton Woods Institutions could raise awareness on the importance of this subject.
10. For example, a great majority of developing countries do not even have a competition law. At a minimum, passing these laws and creating competition commissions should only be considered if there are good professionals to run them. Also, as Winters indicates, even if the country can ensure an adequate budget and technical expertise, this is no guarantee that these commissions would be independent of political influences. Regarding costs, it may be illustrative to mention that the annual budget of Argentina’s competition commission is approximately U.S.\$1.3 million, and those resources clearly are inadequate.

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# **Africa's Future: Industrial or Agricultural Development**

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## Primary Commodity Dependence and Africa's Future

PAUL COLLIER

*Until recently virtually all developing countries were heavily dependent on exports of primary commodities. Globally this gave rise to three severe problems. First, because commodity prices are highly volatile, countries had to cope with large shocks, both positive and negative. Evidence suggests that the largest of these shocks were poorly managed, with negative shocks causing substantial contractions in output. Second, for various reasons, the rents generated by primary commodities have been associated with poor governance. Third, primary commodity dependence is associated with a substantially higher risk of civil war. Given these problems, diversification seems desirable and, indeed on average over the past two decades, developing countries have diversified their exports massively so that such dependence is a thing of the past. Africa has not experienced this diversification and remains heavily dependent on primary commodities. Does this indicate that Africa has an immutable comparative advantage in primary commodities?*

*Collier argues that Africa's current comparative advantage in primary commodities often results not from its intrinsic endowments or location but from a poor investment climate that is policy related. This investment situation most handicaps those activities that are intensive in transactions. Globally, manufacturing and agricultural processing have a high share of nonfactor costs in total costs compared with agriculture, natural resource extraction, and services. Collier discusses how it may be feasible to lower those costs in a coordinated way—through export processing zones—and so become competitive in manufacturing.*

*However, for the next decade, even if Africa embarks on effective diversification, it will have to live with primary commodity dependence. So there is an urgent task to reduce the problems that have to date been caused by such dependence. Many of the policies that could be effective require action by industrial countries. Collier sug-*

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Paul Collier is the director of the Development Research Group at the World Bank. The findings, interpretations, and conclusions expressed in this article are entirely those of the author. They do not necessarily represent the views of the World Bank, its executive directors, or the countries they represent.

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*gests a range of such policies, including making aid flows contingent on commodity prices, and introducing greater transparency in corporate payments of primary commodity rents to governments.*

## **Introduction**

Most African countries are highly dependent on exports of a few primary commodities. Globally such primary commodity dependence generates some serious problems. The problem that is most familiar is coping with the volatility of world prices. Recent research has shown that primary commodity dependence is associated with various dimensions of poor governance and some routes have been analyzed through which this association may be causal. Most recently, research has found an association between dependence on primary commodity exports and the risk of civil war. Africa has not escaped these global relationships. Its economies are indeed shock-prone, governance is poor on average, and there is a high incidence of civil war. Although these problems have multiple causes, primary commodity dependence is a credible part of their explanation and in the following section I briefly review the evidence.

The core of this article accepts the proposition that dependence on primary commodity exports has been problematic and considers what can be done about that. Basically there are two options: diversifying away from primary commodities or learning how to live with them more successfully. In the third section I explore the option of diversification. During the last 20 years, as part of the latest wave of globalization, the structure of developing country exports has changed profoundly. In 1980 three-quarters of developing country exports were primary commodities. Now approximately 80 percent are manufactures (Collier and Dollar 2001). Developing countries as a group are no longer dependent on primary commodities, but Africa has not been part of this transformation. It has not broken into the global market for manufactures and remains highly dependent on primary commodities. Does this persistent fact reflect something intrinsic in Africa's comparative advantage? In the fourth section of this article I consider how the international community can make it easier to live with primary commodity dependence. My overall argument is that Africa should adopt differentiated strategies. For many countries diversification is feasible in principle but has not occurred because dependence has certain trap-like features that make it persistent. For some countries diversification cannot be a credible strategy, and for those countries it is vital that the international community take the actions that will improve those countries' chances of successful poverty reduction.

## **Three Problems with Primary Commodity Dependence**

### *Price Shocks*

The world prices of primary commodities are highly volatile, producing both booms and crashes. Most African countries are dependent on a very narrow range of com-

modities and this narrowness exposes them to severe macroeconomic shocks. For other developing regions such shocks are largely a thing of the past because of export diversification.

Globally these large shocks are problematic for exporting countries. Typically, booms do not translate into sustained increases in income—they are missed opportunities—whereas crashes produce devastating and long-lasting declines. It is particularly useful to test this concept within the now-conventional framework that analyzes the relationship between aid and growth. With Jan Dehn, I have investigated how very large shocks in the country-specific index of primary commodity exports affect growth during the four-year periods considered by Burnside and Dollar (Collier and Dehn 2001). We focused on the most severe of these shocks—the 2.5 percent tails of the distribution of annual price changes. For negative shocks the typical event is for a year-on-year price fall of 44 percent, with a direct loss of income for given export quantities of approximately 7 percent of gross domestic product (GDP). Such shocks are massive relative to the shocks that are encountered by industrial societies, whereas the capacity to withstand them is far more limited because there is less liquid wealth. Take for comparison one industrial country's recent adverse shock, which appropriately received massive media coverage—namely, the epidemic of foot-and-mouth disease among cattle and sheep in the United Kingdom. This epidemic was rightly seen as a devastating shock for British farmers and had wide repercussions for the rest of the economy. But the entire British agriculture sector accounts for only 2 percent of British GDP. The sort of shocks that are hitting those developing countries that are dependent on a narrow range of primary commodities are analogous only to the great depressions of the 1930s.

In the case of the typical large negative export shock, directly costing 7 percent of GDP, the shock then triggers a cumulative contraction in the economy over the next two or three years, leading to an additional loss of output of around 14 percent of initial GDP (table 1, column 1). Hence, there appears to be a Keynesian-type multiplier by which each dollar of direct loss from large terms of trade shocks ends up costing the economy three dollars.

There are various reasons why large booms might often be missed opportunities. The most obvious reason, for which there is considerable case study evidence, is that large windfalls tend to destabilize the government budget. Schuktnect (1999) provided clear evidence that coffee booms tended to lure governments into unsustainable increases in expenditures into which they find themselves locked as revenue falls again. A second set of reasons concerns regulations or institutional weaknesses that make it difficult for the private sector to transform the windfall into productive investment. A third set of reasons concerns transfer mechanisms that inadvertently disguise the source of windfall income so that recipients lose the vital information that the additional income is unlikely to be sustained.

Because Africa is much more exposed to these shocks than are other regions, it would face major problems even if its performance in coping with them were average. However, not only is Africa atypically exposed to these shocks; it is atypically bad at coping with them. African governments have less technical economic expert-

**TABLE 1.**  
**Dependent Variable: GDP Growth Rate Per Capita**

Variable name	Regression 1	Regression 2
	Burnside-Dollar (full sample) and shocks	Shock × aid
Initial income	-0.59 (0.55)	-0.77 (0.59)
Ethnolinguistic fractionalization	-0.41 (0.74)	-0.38 (0.78)
Assassinations	-0.40 (0.27)	-0.37 (0.29)
Ethnolinguistic fractionalization × assassinations	0.68 (0.46)	0.63 (0.48)
Institutional quality	0.64*** (0.17)	0.67*** (0.19)
Money (M2)/GDP	0.01 (0.02)	0.02 (0.02)
Sub-Saharan Africa	-1.76** (0.77)	-2.05*** (0.73)
East Asia	1.29** (0.60)	1.21* (0.64)
Policy	0.69*** (0.20)	0.82*** (0.19)
Aid	-0.09 (0.16)	-0.20 (0.13)
Aid × policy	0.21*** (0.07)	0.10* (0.06)
Up to three years of education	-0.26 (0.59)	1.31* (0.71)
Up to four years of education	-0.26 (0.66)	1.31* (0.69)
Up to five years of education	-3.34*** (0.62)	-1.32** (0.64)
Up to six years of education	-1.17** (0.55)	0.62 (0.55)
Up to seven years of education	-2.03*** (0.67)	
Negative shocks	-0.03*** (0.01)	-0.03** (0.01)
Positive shocks	0.02 (0.01)	0.00 (0.01)
Negative shocks × change in aid		0.04*** (0.01)
Positive shocks × change in aid		0.00 (0.02)
Negative shocks × lagged-level aid		0.01 (0.00)
Positive shocks × lagged-level aid		0.02** (0.01)
N (countries)	56	56
N (observations)	275	234
F	15.530***	15.030***
R <sup>2</sup>	0.417	0.458

\*Significant at 1 percent; \*\*significant at 5 percent; \*\*\*significant at 10 percent.

Source: Collier and Dehn (2001).

ise. Their polities are more fractionalized into rival ethnic groups and so may find it more difficult to reach agreement on how to apportion large abrupt changes in aggregate income. African firms and households have fewer assets with which to buffer shocks and less access to credit.

### *Governance*

I now turn to the second and perhaps more important adverse consequence of primary commodity dependence, namely, worsened governance. The association between primary commodity dependence and poor governance can result from various routes (Sachs and Warner 1995; Auty 2001; Isham and others 2002).

A route stressed by political scientists is that government finance tends to become detached from broad-based taxation. Primary commodities typically generate high location-specific rents that governments can tax heavily without killing the activity. African governments have relied disproportionately for revenue on the taxation of primary commodities, either directly through export taxes, or indirectly by taxing the imports that such exports finance. Globally, representative governments have originated from governments conceding representation in return for taxation. The electorate then used the power of representation to scrutinize the use of its tax revenues. Africa has not been through that process and so African governments face less domestic scrutiny than do most other governments.

Alternatively or additionally, the high rents from primary commodities might require the public sector to administer more resources than it can effectively manage relative to the size of the economy. Rents are seldom directly transferred back to households. Usually, they are spent through the provision of public services or accumulated as publicly owned and operated capital.

We can get some quantitative evidence of this from the related phenomenon of the absorption of aid that, like resource rents, accrues to the government. With David Dollar, I have investigated the limits of the contribution of aid to growth (Collier and Dollar 2002). Our simple regression model of the relationship between aid and growth finds diminishing returns to aid, dependent on policy as measured by the Bank's Country Policy and Institutional Assessment (CPIA) index:

$$G = a + bA + cP + dAP - eA^2.$$

where  $G$  is the growth rate;  $A$  is aid as a percentage of GDP; and  $P$  is CPIA.

From that regression the point at which the economy is saturated with aid and, by analogy, with natural resource rents, follows as

$$dG/dA = b + dP - 2eA = 0$$

so that the *saturation point* is reached at a level of resources as a share of GDP, measured at purchasing power parity, of

$$A^s = (b + dP)/2e.$$

Empirically, we find that the coefficient  $b$  is approximately zero, and that  $d/e$  is approximately 2.5, as is the conversion from purchasing power parity to prevailing market exchange rates. Hence, the saturation point is reached when resources are about six times the policy score. Natural resource–dependent economies tend to have poor policy scores of around 2.5, so that if natural resource rents function like aid, the typical country would reach the saturation point when rents were around 15 percent of GDP. Beyond that point, according to our growth model, rents would actually become dysfunctional, reducing growth. Many natural resource economies are well beyond this point. For example, Nigeria has oil resources equal to approximately 40 percent of GDP. In effect, the first half of the oil resources is contributing to growth and the second half is undermining it.

Furthermore, some routes by which natural resource rents worsen economic performance do not apply to aid, so that the analogy with aid absorption may flatter primary commodity dependence. For example, Hoff and Stiglitz (2002) have suggested why primary commodity dependence might reduce the constituency for the rule of law. Starting from a weak rule of law, they let agents choose between illegal asset stripping and legal investment. They argued that the larger the natural resource endowment of firms relative to other sources of income, the more attractive will be illegal asset stripping relative to investment. As a result of that, a larger proportion of the population finds that it has an interest in the persistence of a weak rule of law. Finally, given the expectation that lawlessness will persist because it is in the interest of so many, investment becomes even less attractive. Their analysis does not depend literally on a majority of the population opting for asset stripping, but rather on a sufficient proportion of the elite having enough of an interest that they can block efforts to establish the rule of law.

If primary commodity dependence tends to produce poor governance it is particularly serious because countries with large primary commodity exports are more in need of good governance than are other countries. The social benefits from primary commodity rents depend on the government being able to use those resources effectively. Rents are taxed—and indeed should be taxed—because otherwise it may be difficult for the rents to be distributed equitably. But this places a great responsibility on government to function fairly and effectively. Hence, poor governance in Nigeria has a much higher social opportunity cost than does poor governance in a society that does not need the state to redistribute primary commodity rents.

### *Rebellion*

The final problem generated by dependence on primary commodities is greater exposure to the risk of civil war. With Anke Hoeffler, I have investigated the causes of civil war in Africa and globally (Collier and Hoeffler 2001). We took all the civil wars initiated between 1960 and 1999 and estimated a logit model of the initiation of conflict during each five-year subperiod, explained by characteristics at the start of the subperiod, testing for whether Africa is distinctive among regions (table 2). We investigated a comprehensive range of possible causes—political, social, historical, geo-

graphic, and economic. Of those possible causes, three economic variables turned out to be the most important. The risk of conflict is strongly related to the level and growth of income and to its structure as reflected in the dependence on primary commodity exports. The risk arising from primary commodity exports is substantial. At the mean of other variables, a country without such exports would have a risk of civil war of only about 1 percent over a five-year period; with primary commodity exports at 30 percent of GDP, the risk rises to approximately 20 percent. Hoeffler and I found that if primary commodity dependence is very substantial, the risks begin to decline again, perhaps because the state has so many resources that it can both defend itself and placate opposition.

**TABLE 2.**  
**Is Africa More Prone to Civil War Than the Rest of the World?**

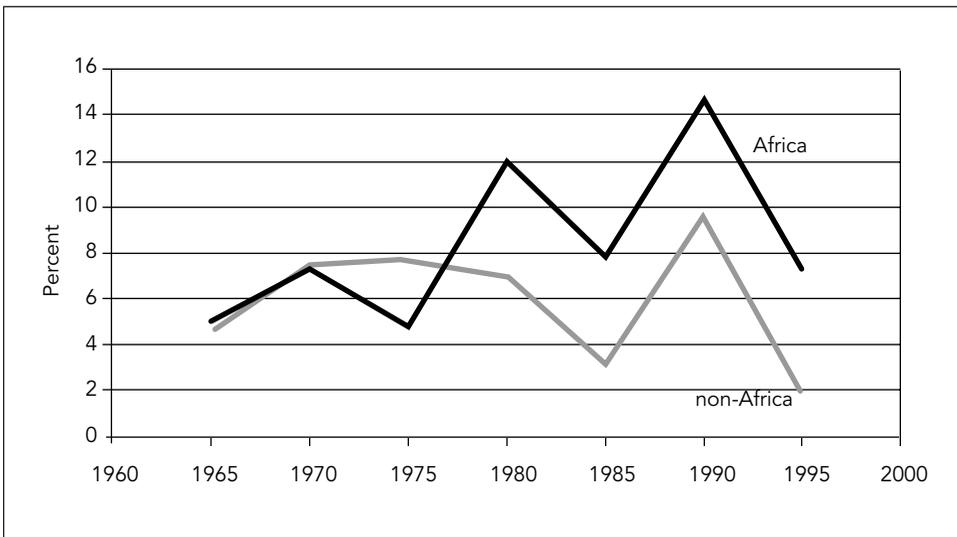
Variable name	Regression 1	Africa dummy	Francophone Africa dummy
Ln GDP per capita	-0.950 (0.245)***	-1.053 (0.289)***	-0.965 (0.244)***
(GDP growth) <sub>t-1</sub>	-0.098 (0.041)**	-0.1027 (0.042)**	-0.098 (0.042)**
Primary commodity exports/GDP	16.773 (5.206)***	16.691 (5.175)***	15.989 (5.218)***
(Primary commodity exports/GDP) <sup>2</sup>	-23.800 (10.040)**	-23.532 (9.958)**	-22.942 (10.023)**
Social fractionalization	-0.0002 (0.0001)***	-0.0002 (0.0001)**	-0.0002 (0.0001)**
Ethnic dominance (45–90 percent)	0.480 (0.328)	0.449 (0.331)	0.431 (0.330)
Peace duration	-0.004 (0.001)***	-0.004 (0.001)***	-0.004 (0.001)***
Ln population	0.510 (0.128)***	0.473 (0.137)***	0.5473 (0.130)**
Geographic dispersion	-0.992 (0.909)	-0.994 (0.907)	-0.775 (0.933)
Sub-Saharan Africa dummy		-0.370 (0.526)	
French Sub-Saharan Africa dummy			-0.885 (0.791)
N	750	750	750
Pseudo R <sup>2</sup>	0.22	0.22	0.23
Log likelihood	-146.84	-146.50	-146.10 0

\*Significant at 10 percent; \*\*significant at 5 percent; \*\*\*significant at 1 percent.

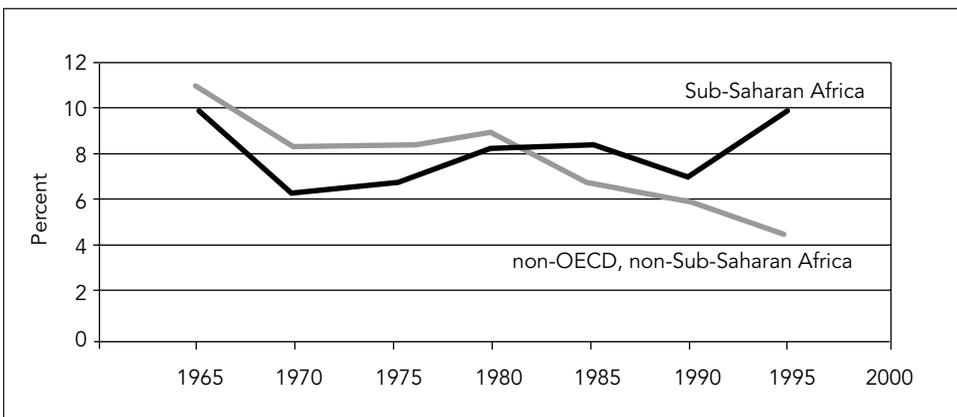
Notes: All regressions include a constant. Standard errors appear in parentheses.

Thirty years ago Africa had a lower incidence of civil war than other developing regions. Over the last 30 years it has had a rising incidence, whereas other regions have had a declining incidence (figure 1). Now Africa has a higher incidence of civil war than other regions. We found that the behavioral relationships governing conflict are not statistically different from the global relationships. The divergent trends in the incidence of war are well predicted by the divergence in economic performance. In other regions the radical reduction in primary commodity dependence, accelerated growth, and hence cumulatively higher incomes have all contributed to a virtuous circle of more peaceful societies. The predicted divergent trends are shown in figure 2.

**FIGURE 1.**  
Trends in the Incidence of Civil War



**FIGURE 2.**  
Predicted Incidence of Civil War



Thus Africa's continued dependence on primary commodities, in contrast to patterns in other developing regions, both directly and indirectly through its connection to poor growth performance, appears central to its problem of civil war. We also have investigated whether the risk differs between broad types of primary commodities and found that only oil has a significantly different pattern of risk—the risk rising more slowly with oil dependence but continuing to rise for a longer period before it peaks.

Regression analysis is not well suited to understanding why primary commodity dependence has such adverse effects. However, case study evidence has suggested that an important route is that the rents from primary commodities can be looted to make rebel organizations financially viable. Such looting can be thought of as a special class of criminal activity with distinctive requirements of violence. Although crime is a major sector of the economy, it is unusual in its very low degree of concentration: the largest firms have only a small share of the market. Evidently, in most crime there are no economies of scale so that small firms prevail. Rebel organizations, however, are the exception to that pattern, typically having at least 500 full-time employees. Large rebel organizations, such as UNITA (Angola), RUF (Sierra Leone), and SPLA (Sudan), have many thousands of employees. Perhaps the reason for this exceptionalism is that the predation of primary commodities requires the control of large rural areas for significant periods of time and for that there are scale economies in violence. Rebellion is the organizational form that criminal activity must take if it is to be effective in predation of primary commodity exports. Note that crime need not be the motivation for the rebellion. Rather, rebel organizations may be not-for-profit enterprises for which financial viability is merely a constraint rather than an objective.

The experience of the Democratic Republic of the Congo (DRC) provides an example. When Laurent Kabilla was marching across the DRC (then called Zaire) en route for Kinshasa, he was interviewed by a journalist. He reportedly said that in Zaire rebellion was easy—all that was needed was \$10,000 and a satellite phone. His explanation neatly exemplifies Africa's proneness to civil war—\$10,000 was enough to hire a small army, and with a satellite phone it was possible to start making deals on mineral extraction. Kabilla apparently struck mining deals of \$500 million before reaching Kinshasa. Africa is atypically prone to civil war because of its atypical opportunities for rebellion—unusually low costs and unusually high revenues.

Primary commodity dependence thus directly increases the risk of conflict because it provides means of financial viability for rebel groups. It may also increase risk through its adverse effects on governance as discussed above. Furthermore, to the extent that primary commodity dependence reduces growth, as I have suggested, then it further increases conflict risk because both growth itself and the level of income are risk factors. Civil war is heavily concentrated on low-income countries that are dependent on primary commodity exports and in economic decline.

Those conflicts have obvious and substantial adverse economic effects. For the country concerned, economic growth is on average reduced by more than 2 percent a year. In extreme cases, such as in Sierra Leone, which has suffered from very lengthy conflict, per capita income is now only one-third of its 1960s level. There also are

growth spillovers to neighbors (Murdoch and Sandler 2002). Finally, there is a conflict trap: once a country has had a conflict it is considerably more likely to have another conflict. Perhaps this is because during the conflict rebellion-specific capital has accumulated while other capital has dwindled, so that, by a process analogous to that in the Hoff-Stiglitz model, the incentive for peace and hence its likelihood are reduced.

### *Summary*

I have suggested that primary commodity dependence has three powerful adverse effects on an economy and a society. We would expect a country dependent on primary commodities to have slower growth, worse governance, and more violent conflict than one which was not so dependent. Africa has become more distinctive relative to other developing regions in each of those dimensions and that has coincided with a marked divergence in the extent of primary commodity dependence.

### **Why Has Africa Not Diversified out of Primary Commodities?**

Thirty years ago Africa was like other areas of the developing world in being dependent on primary commodity exports. Over the last 30 years all other developing regions have diversified their exports. Indeed, since 1980 the share of primary commodities in the exports of developing countries has come down from approximately 75 percent to about 20 percent. Many countries have broken into the global market for manufactures. Africa has not followed that pattern; it is approximately as dependent on primary commodity exports as it was 30 years ago. Africa has thus recently revealed a strong comparative advantage in primary commodities relative to Asia. The question is what is the source of that advantage?

### *Two Established Theories*

Two theories offer an account of why Africa has failed to break into the market for global manufactures.

The first theory is the extension of the Heckscher-Ohlin theory developed by Adrian Wood (Wood and Mayer 1998). He proposed that because Africa is better endowed than Asia with natural resources, although less well endowed with human capital, it has an endowment-based advantage in primary commodities. In essence, that theory explains Africa's lack of manufacturing by Dutch disease—abundant land raises real incomes and so makes Africa uncompetitive relative to land-scarce regions. At some stage this mechanism might well determine Africa's trade pattern. But currently Africa has the lowest income in the world. Few African countries have been priced out of manufacturing by resource abundance. Even a resource-rich country like Nigeria should not have been precluded from industrializing by Dutch disease. For example, Indonesia was able to establish a large labor-intensive manufactured

exports sector despite its oil endowment. Nigeria's problem was not that it had oil, but that its costs became too high for other reasons. Some African countries are not resource abundant, although they are well located, but they have not yet industrialized—examples include Ghana, Mozambique, and Tanzania.

The second theory is based on the introduction of transport costs. Redding and Venables (2002) developed this theory. They argued that the key comparative advantage is proximity to market and to suppliers because proximity economizes on transport costs. The need to minimize transport costs gives rise to powerful forces for agglomeration and provides a massive comparative advantage to those countries that industrialize first. A few countries in the developing world recently have managed to overcome these agglomeration economies because of a massive wage differential. The initial differences among developing countries that enabled some to break into manufacturing may have been modest and even ephemeral. However, when some low-income countries started to industrialize, they began to benefit from agglomeration economies and so became far more competitive than those countries that were left out. Agglomeration economies imply that manufacturing activity always will be concentrated in relatively few locations. Those locations, such as Africa, that have not yet industrialized may have permanently missed out. Industry may therefore be viable in Africa only to the extent that it serves the local market and benefits from the natural protection of high transport costs.

Transport costs obviously prohibit manufacturing exports for those countries that are landlocked. However, coastal West Africa is the low-income area most proximate for markets in the Organisation for Economic Co-operation and Development (OECD). The high costs of transport to coastal Africa reflect shipping cartels, port inefficiencies, and the simple lack of scale. For example, Mauritius initially was very badly located for manufacturing because shipping routes ignored it, but routes changed in response to the rise in exports. Furthermore, there is new evidence that the costs of transport are changing, with end-costs falling relative to distance-costs (Brun and others 2003). Such a cost reduction should favor West Africa relative to Asia because its distance-to-market would be shorter.

### *Comparative Advantage as the By-Product of Political Economy*

I now suggest a simple theory in which comparative advantage is determined neither by factor endowments nor by distance-related transport costs, but by political economy.

The World Bank now emphasizes the importance of the investment climate—that is, the costs and risks of doing business. The three consequences of primary commodity dependence—prevalence of macroeconomic shocks, poor governance, and a high incidence of civil war—all adversely affect the investment climate. Ultimately, those effects depress the risk-corrected incomes of factors of production.

However, factors of production differ greatly in their ability to resist reductions in income. Capital is fairly mobile internationally so that the return on capital in one region cannot diverge too sharply from the return in another region. Capital is evi-

dently not sufficiently mobile to eliminate differences in endowments between the north and the south. However, it is sufficiently mobile among different southern locations that risk-corrected expected returns among developing countries are probably broadly equalized. That is partly the result of a pool of risk capital that is willing to locate anywhere that returns are satisfactory. More important for Africa, it is the result of capital outflows from countries with limited investment opportunities. With Anke Hoeffler and Cathy Pattillo, I have estimated the proportion of private wealth held abroad. We estimated that for Africa, even by 1990, the proportion was 40 percent. The political economy consequence of that mobility is that capital has strong bargaining power relative to the immobile factors of production that I will consider to be land and labor. Hence, the burden of poor governance is shifted more or less fully to those immobile factors.

Although the ultimate incidence of poor governance, shocks, and civil war falls on the immobile factors, the routes by which their incomes are reduced are largely indirect. As an approximation, I will suppose that poor governance raises costs, whereas shocks and civil war expose firms to additional risks.

Poor governance includes both sins of commission and sins of omission. Probably the primary route for sins of commission is through increased prices for imported inputs. Imported inputs are directly subject to tariffs and to the costs of delay. However, because both tariffs and delays are to an extent at the discretion of quite lowly government officials, actual tariffs paid and delays experienced will be *ex post* of payments extracted to moderate threatened levels. An important route for sins of omission is deficient public service delivery. I will simplify by assuming that a poor investment climate raises the costs of doing business through these routes in a manner that uniformly raises the cost of nonfactor inputs. These high costs can be thought of as “unsmart” predation. That is, the predation is not directly attached to the rents in factor returns. If predation were targeted so as to extract rents it would not kill off an activity. “Unsmart” predation is analogous to the competitive and therefore uncoordinated predation that Shleifer and Vishny (1993) have shown to be more damaging for economic activity than monopolistic and therefore targeted predation. In their analysis, competitive predation eliminated the activity, whereas monopolistic predation retained it. In the present analysis, indirect predation raises the cost of nonfactor inputs transactions to all activities equally.

Macroeconomic shocks and civil war increase risks. Again, although these risks must ultimately reduce the returns to the immobile factors, exposure is indirect. An important route by which shocks and insecurity affect risk is by increasing the unreliability of supply by other domestic firms (Fafchamps 1996). Macroeconomic shocks create episodes of widespread bankruptcy and credit shortage. Insecurity not only interrupts supply, but also provides an alibi for a failure to meet contractual conditions. The firm surveys conducted under the auspices of the World Bank’s Regional Program on Enterprise Development in Africa (available at [www.worldbank.org/rped](http://www.worldbank.org/rped)) found both a high incidence of default on contractual terms and very high forgiveness of those defaults. For example, a Ugandan firm producing mattresses faced default from a retailer. The retailer argued that its stock in the north of

the country had been looted during a civil war. The firm heard unofficially that this was probably untrue but the climate of uncertainty created by the conflict provided an effective alibi. Evidently, a problem for one firm creates a chain of unreliability through the system. Exposure to this risk is approximately proportionate to the share of nonfactor inputs in total costs.

I have suggested that the incomes of immobile factors must be depressed to cover the costs and the risks that are caused indirectly by primary commodity dependence, and that the incidence of those costs and risks is approximately in proportion to the share of nonfactor inputs in the total costs of an activity. Activities differ substantially in their dependence on nonfactor inputs and in their reliance on immobile factors, and those two features combine into a political economy theory of comparative advantage. Table 3 shows the world average total cost structures for different activities with data from the Global Trade Analysis Project (GTAP).

Consider first the differences in the share of nonfactor inputs in total cost. The sector least intensive in nonfactor inputs is natural resource extraction, with a share of only 37 percent. Agriculture also has a low share—only 44 percent. By contrast, manufacturing is much more intensive in nonfactor inputs, with a share of between 65 percent and 68 percent depending on the industry group. Interestingly, agricultural processing, which is often held up as Africa's next step in comparative advantage, is the sector most intensive in nonfactor inputs, with a share of 72 percent.

Next consider the share of the immobile factors in total costs. Again, natural resource extraction and agriculture are the sectors that are well placed, with shares of 34 percent and 41 percent, respectively. By contrast, agricultural processing is the sector with the lowest share—only 12 percent.

To see what this implies, consider two activities—one in labor-intensive manufacturing and one in natural resource extraction. Suppose that the combined effects of poor governance, exposure to shocks, and conflict risk are equivalent to an  $x$  percent surcharge on intermediate inputs. How large can  $x$  get before the returns on the

**TABLE 3.**  
**Global Cost Structures, by Sector**  
(percentages)

	Inputs	Land	Labor		Capital	Scope for Compression (%)
			Unskilled	Skilled		
Agriculture	45	15	25	1	15	91
Agricultural processing	72	0	9	3	16	17
Natural resources	37	20	11	3	29	92
Labor-intensive manufacturing	65	0	16	5	15	32
Capital-intensive manufacturing	68	0	13	7	12	29
Services	40	0	20	14	26	85

Source: Global Trade Analysis Project.

immobile factors are driven to zero? In part this depends on the scope for substitution between factors in production. However, for simplicity I will abstract from this substitution.

In manufacturing, total value added is only 35 percent of total costs, and nearly half of that is mobile, so that those factor returns that can be reduced without the factors leaving the country account for only 21 percent of total costs. On that small base of costs that may be reduced as factors are forced to accept lower returns than available elsewhere in the world, there is the mountain of 65 percent intermediate inputs. Thus, each 1 percent surcharge on the cost of nonfactor inputs raises total costs by approximately 0.65 percent, requiring an offsetting reduction of about 3 percent in the payments to immobile factors. By the time the surcharge has reached 32 percent, the amount available for payment to immobile factors has been driven to zero. By contrast, in natural resource extraction the scope for compression is much larger. The surcharge on nonfactor inputs can reach 92 percent before the returns to immobile factors are compressed to zero. Obviously, the activity ceases to exist well before the return to the immobile factors is driven to zero, but the key point is that if the costs and risks of nonfactor inputs are significantly above the world average, there is a wide range over which manufacturing is not viable, but natural resource extraction and agriculture remain viable, as indicated in the last column of table 3.

Thus, poor policy locks a country into primary commodity dependence because that is the only export activity that remains viable. Collier and Hoeffler (2002) tested this proposition. The effect of policy on primary commodity dependence was difficult to establish empirically because causality also runs in the other direction: primary commodity dependence tends to worsen policy. To control for this we investigated the effect of policy in a panel of countries, including country-fixed effects. The dependent variable was the log of the share of primary commodity exports in GDP during a five-year period. That is explained on the CPIA score, which proxies the policy and institutional environment (the same index used above), the level of income, and the level of aid, all measured as averages during the preceding five-year period. Testing the specification of the model confirmed the need for the country-fixed effects. Hence, controlling for differences among countries, we were testing whether changes in policy, sustained over a five-year period, affect the degree of dependence on primary commodity exports. The regression results were as follows<sup>1</sup>:

$$\ln(\text{primary commodities})_{it} = 3.696 - 0.90\text{Policy}_{i,t-1} - 0.012\text{Aid}_{i,t-1} - 0.737\ln\text{GDP}_{i,t-1}.$$

(3.81)      (2.02)      (2.43)      (5.64)

As predicted, poor policy was found to increase dependence on primary commodity exports significantly, controlling for aid and the level of GDP.

### *Is Diversification Feasible?*

#### *Can Africa Break into Manufactures?*

Whether Africa can break into manufacturing is, I think, undecided. It depends primarily on whether there can be sufficient political impetus behind the radical reform of the investment climate. Usually, the macro-level reforms, such as tax rates and exchange rates, have already been adopted. This is easy to do by fiat. The reforms that remain are largely at the micro-level and these are much more difficult. Getting ports and other utilities to work efficiently is highly politicized and requires behavioral change in thousands of people. Preventing those officials who have power over firms, such as tax collectors and regulation enforcers, from abusing their power poses severe principal-agent problems and tradeoffs among competing objectives.

In addition to the usual problems of bureaucratic self-interest, reform of the investment climate faces two political economy problems. The first is a coordination problem. If many different aspects of the business environment are potentially constraining, the returns to fixing any one problem are modest. Manufacturing cannot develop until many deficiencies have been addressed. Indeed, in the most extreme case, the return on reform of the investment climate is zero until the last impediment has been removed, so there is no incentive to undertake piecemeal reform. The second problem is that the existing manufacturing firms may survive because of, rather than despite, deficiencies in the investment climate. That is, deficiencies may provide protected market niches. The activities that are most damaged by a poor investment climate simply do not exist. Africa's domestic markets for manufactures are so small that for Africa to industrialize it will need to rely substantially on export markets. Empirically, however, manufacturing plants that do not export within the first two years of their establishment seldom switch into exporting. Hence, Africa's current manufacturing firms may have little to gain from reform. They are very largely organized to serve the domestic market, and their management has expertise in surmounting problems that should never exist in a firm that wishes to be competitive globally. Sometimes, management solutions, such as carrying large inventories to guard against unreliable channels of supply, have created habits that would have to be unlearned were the firms to find themselves in an environment in which they could be globally efficient. There is also evidence that in Africa, unlike firms in other regions, if a firm does export it experiences substantial learning effects that raise its productivity toward international standards (Bigsten and others 1999). This suggests that there is a substantial productivity gap between firms oriented toward the domestic market and world productivity levels. A few firms manage to break into world markets and then get on a productivity escalator, but for most firms the productivity gap will simply preclude initial entry.

Hence, Africa is in a double trap: dependence on primary commodities tends to worsen the investment climate, and there is little domestic impetus for reform. To break the impasse on reform, Africa needs both a coordinated reform effort by government and the entry of new private actors.

A simple way to coordinate policy reforms to improve the investment climate is to focus spatially. Export processing zones (EPZs) have usually failed in Africa but this may be because they have been conceived as providing compensating tax incentives for a hostile investment climate. The approach of compensation makes viability dependent on political patronage and so further threatens governance and may heighten risk. However, EPZs do not have to be conceived as compensation arrangements. Rather, they can be local zones for good public service delivery and even for good governance, as proposed by Shin Jin Wei (2000).

EPZs also have some potential for the coordinated entry of new, export-oriented firms. A useful supplement is for Africa to get preferential access to OECD markets through initiatives along the lines of the Africa Growth and Opportunity Act, which gives African manufactures some preferential access to the U.S. market, and the European Union's offer to negotiate regional economic preference areas (REPAs). These initiatives may help to overcome the problem of international manufacturing firms knowing little about Africa as a production location and seeing no reason to incur the costs of improving their information.

### *Can Africa Move up from Agriculture to Agricultural Processing?*

It is often suggested that Africa's dynamic comparative advantage is to move up from primary commodity exporting to the processing of primary commodities. The evidence in table 3 suggests that this is unrealistic. Even on the criterion of factor proportions, agricultural processing, on average, is intensive in capital and uses little unskilled labor. However, if the decisive aspect of cost structures is the share of nonfactor inputs, as I have suggested, then agricultural processing is highly unsuited for Africa. Such processing is the sector with the highest share of nonfactor inputs to total cost.

### *Can Africa Break into Services?*

A striking implication of table 3 is that the services sector has a cost structure very similar to that of the natural resources sector. Both have very low dependence on nonfactor inputs. The major difference is that natural resources are intensive in land and services are intensive in unskilled labor. Africa, however, is now abundant in both of these factors so, given its current high costs of nonfactor inputs, Africa should have a comparative advantage in services exports. To date, any such potential has not been realized. That may be partly the result of global impediments to trade in services—very high transport costs and regulatory barriers. However, recent developments in global telecommunications have radically brought down the cost of trading many services. For example, the U.S. health insurance company Aetna is now starting to process some of its paperwork in Ghana, thereby creating 3,000 jobs. The potential for this sort of work is enormous. Africa has both time zone and language advantages over Asia. Landlocked African countries, especially, might concentrate on a services strategy. The impediments to African entry into the emerging global trade in services may result partly from deficiencies in two domestic policies that are differentially important for services. First, transport costs in the new trade in services

are highly dependent on good communications infrastructure and competitive pricing of services. Some African countries have lagged in introducing a competitive telecommunications sector. Second, as shown in table 3, the services sector is uniquely intensive in skilled labor. Just as the manufacturing sector may benefit from EPZs, new export-oriented service activities may benefit from business parks located close to universities.

## **Living with Primary Commodity Dependence**

I have suggested that parts of Africa may have a future that is not dependent on primary commodities. For the present, however, Africa must live with that dependence, and for parts of Africa such dependence is the only likely future. It is therefore imperative that the problems posed by primary commodity dependence be addressed. I will concentrate on what can be done by the international community because for all three of the problems I have discussed there are important neglected policy options.

### *Cushioning Primary Commodity Price Shocks*

I have already described the effect of severe falls in the prices of primary commodity exports on domestic activity. Recall that Dehn and I found that each dollar of direct income loss from lower prices causes a further two-dollar loss through a contraction in output.

African producers face many risks but export price shocks are particularly important because they are systemic, affecting all producers at the same time without being offset by gains elsewhere in the society. It is therefore more difficult for societies to make insurance arrangements to counter such shocks than to counter shocks that are largely idiosyncratic, such as ill health where even local community insurance might be able to reap most of the potential benefits of risk pooling. Export price shocks need to be insured internationally.

Most low-income countries receive aid inflows, and that provides a potential mechanism whereby they can benefit from international insurance. The flow of aid to a country could be contingent on its export prices. Dehn and I (2001) investigated whether contingent aid can prevent the output contraction generated by large adverse price shocks (table 1, column 2). Specifically, we added to the growth regression terms for the interaction of the shock and changes in aid inflows. For the large negative shocks we found that the interaction with changes in aid inflows has a statistically and economically significant effect on growth. If aid happens to increase during those four-year growth episodes in which there is a large adverse price shock, then each additional dollar of aid raises output by approximately two dollars beyond its normal effects on growth. Thus, additional aid works equivalently to additional export income, reducing the output contraction. Aid thus can be supereffective if it is well targeted to coincide with such shocks.

We also investigated whether aid has tended to cushion these large price shocks. Historically we could find no significant relationship. For most aid that is not surprising—project aid is highly unresponsive to short-term macroeconomic conditions, and even program aid requires relatively long lead times for negotiation and decision. However, until 2000 the international community had two schemes specifically designed to provide compensation for export price falls, the Compensatory Financing Facility (CFF) of the International Monetary Fund, and the Stabex scheme of the European Union. The CFF was virtually unused simply because it provided only non-concessionary loans, whereas at the onset of a negative shock of uncertain duration, governments would be most unwise to increase such debt substantially. The Stabex scheme disbursed aid through specific types of projects. As a result, the lags between entitlement and disbursement were so long that the disbursements actually became pro-cyclical. Both schemes were rightly abandoned in 2000. In a sense that has made it easier for the international community to respond appropriately to the need for shock compensation. There is no longer even an appearance that these needs are being met.

How might contingent aid work? The overriding need is for a response mechanism that is fast, and therefore arrangements must be automatic. One simple mechanism would be for debt service to be contingent on export prices, being suspended for a period if prices dropped sharply. A further arrangement would have a component of programmatic aid contingent on the same price triggers. Clearly, no arrangement should aim to provide a permanent cushion around a particular level of export prices. Rather the aim would be to provide transitional finance. Contingent aid would not address many of the problems generated by large external shocks but it has the potential to make shock-induced recessions less severe. Because the social costs of shocks probably rise more than proportionately with the severity of the shock, even modest reductions in their amplitude might be very valuable.

### *Improving the Governance of Primary Commodity Revenues*

Now consider how the international community can help break the link between primary commodity dependence and poor governance. I will focus on oil as the most important single commodity. There are real limits to the ability of the international community to improve the governance of natural resource rents. If a democratic country chooses to spend its own resources inefficiently, that is its prerogative. However, in many societies with high oil rents the preconditions do not currently exist for informed decisions about resource use. In extreme cases, payments by oil companies are made to entities that are not subject to scrutiny and from which revenues are transferred to improper uses. For example, some 34 oil companies are making payments to the government of Angola, but there is a serious lack of transparency in what happens to those payments. Many appear not to reach the Angolan budget. In 2000 British Petroleum became sufficiently concerned about this state of affairs that it decided to make public its payments, a move that was strongly resisted by the Angolan authorities for undisclosed reasons. The authorities put pressure on the

other 33 oil companies operating in Angola not to adopt this policy of transparency, and to date none has done so.

That incident demonstrates both a possible way forward and the limits of independent private-sector action. As in the case of resistance to bribery, unless all companies act together there are high costs to behaving honestly. The coordination problem evidently cannot be solved by oil companies alone. In the case of resistance to bribery, the OECD came in as the coordinating agency, reaching agreement among its governments that they would all introduce national legislation making bribery of foreign officials a criminal offense. Since 2000 these coordinated changes have rippled across OECD legislatures. A similarly coordinated approach is needed in respect of oil revenues. One simple possibility, proposed by the nongovernmental organization Global Witness, is for transparency in payments to governments to be made a requirement for achieving a stock market listing in OECD countries. Apparently, the reporting burden would be minimal and this requirement would have the added advantage of not singling out any particular revenue-receiving government.

Transparency in payments is the first necessary step toward reasonable governance of primary commodity rents. Unless it is publicly known what revenues are, it obviously cannot be determined how they are used. However, the international community also can be instrumental in the second step toward improving governance, which is building adequate domestic institutions for scrutiny of expenditures. Evidently, the ideal is for the normal system of parliamentary scrutiny of the budget to be effective, with reliable budget numbers and with democratic representatives who are able and motivated to hold the government to account. In the absence of such institutions, partial solutions are better than none. The alliance of the donor community and international companies was effective in enabling parts of civil society to scrutinize the use of revenues from the Chad-Cameroon pipeline—a pioneering effort that has been partially effective.

### *Reducing the Risk of Conflict Generated by Primary Commodity Dependence*

The global community has considerable scope both to reduce the risks associated with primary commodity dependence and to offset them. There is scope for better global governance of those primary commodities that are most commonly used by rebel groups to raise funding: diamonds, timber, and drugs. The new Kimberley initiative in the diamond industry has led the way. The industry has introduced a certification process intended to create a deep discount for illicit diamonds relative to legally produced diamonds and a consequent curtailment in volumes. The scale of this discount is relatively simple to observe, somewhat analogous to discounts in some currency markets, and so over time the efficacy of the arrangements can be assessed.

Improved governance in the diamond industry is very recent (UNITA has been earning revenues from diamonds for about 30 years), but diamonds are in some respects an easy natural resource to regulate. The industry is highly concentrated, with a product that is highly image sensitive. Hence, the major firms in the industry

have a realistic chance of overcoming the collective action problem and a strong incentive to prevent contamination of their product's image. In such circumstances there are reasonable prospects that self-regulation will work. The regulation of timber is more problematic because the industry is much less concentrated and the product is less image sensitive.

The most difficult conflict-related commodity is drugs. To date, the dominant policy has been for developing country governments to enforce production bans, but the penalties for consumption in industrial countries have been relatively modest. This combination has permitted high demand while it eliminated legitimate supplies and so has produced very high prices. Those high prices have, in turn, created a high demand for territory outside the control of recognized governments on which drugs can be cultivated: in effect, rebel organizations can be rentiers of land for drug production. There are alternatives to present policies. For example, for many years Britain operated a policy of legal supplies for registered addicts. In turn, legal consumption permits legal production and so avoids a premium for territory outside the control of governments. Obviously, drug policy in industrial countries cannot be set solely, or even primarily, with a view to its effect on the risk of conflict in developing countries. The primary purpose of drug policy is to curtail addiction. However, it is worth noting that during the period of legal consumption by addicts, addiction rates were far lower than under subsequent policy regimes.

Finally, I consider the extent to which aid can be used to offset the high risks of conflict that Africa faces from primary commodity dependence. There is reason to use aid to reduce conflict risk because such risk is reduced by growth and in many countries aid can accelerate growth. On average, each percentage point increase in growth rates reduces conflict risk by approximately one-tenth for the typical developing country. Aid can be much more effective than this suggests, however, because its effectiveness in the growth process is atypically high in countries where the risk of conflict is atypically high, namely, postconflict countries.

Postconflict societies face extraordinarily high risks of repeat conflict. Hoeffler and I found that risks gradually fade if peace is maintained, but that immediately after the end of a conflict there is more than a 50 percent chance that conflict will recommence during the next 10 years (Collier and Hoeffler 2001). We have investigated the efficacy of aid in the postconflict growth process. Such societies have atypical needs and so it is quite possible that aid plays a distinctive role. We found that for the first 3 years postconflict aid is no more effective than in other societies. Perhaps exceptional needs are fully offset by exceptional difficulties of aid absorption. For the subsequent 4 years, however, aid is exceptionally effective. Table 4 reproduces the core result (Collier and Hoeffler 2002). The dummy variable for the postconflict period is statistically significant and substantial when interacted with aid. Aid is far more effective in raising growth in postconflict than in other societies: returning to the concept of the saturation point, saturation occurs at double its level in other societies. Historically, aid allocations have not responded to the needs and opportunities of postconflict societies, especially in Africa. Aid typically has not been higher during the first decade postconflict, and even where it initially increases, it is usually being phased out by the fourth postconflict year.

**TABLE 4.**  
**Aid and Growth Postconflict**

Variable name	Regression 1	Regression 2	Regression 3	Regression 4
Initial per capita income	0.718 (0.627)	0.715 (0.621)	0.717 (0.618)	0.712 (0.617)
Governance (ICRGE)	0.196 (0.160)	0.197 (0.157)	0.198 (0.157)	0.172 (0.155)
CPIA	0.991 (0.397)**	0.991 (0.396)**	0.988 (0.390)**	1.021 (0.392)***
ODA × CPIA	0.134 (0.066)**	0.134 (0.066)**	0.134 (0.065)**	0.127 (0.064)*
(ODA/GDP) <sup>2</sup>	-0.028 (0.012)**	-0.028 (0.012)**	-0.028 (0.012)**	-0.028 (0.012)**
South Asia	2.614 (0.644)***	2.611 (0.639)***	2.619 (0.625)***	2.662 (0.620)***
East Asia	2.891 (0.663)***	2.889 (0.660)***	2.884 (0.660)***	2.880 (0.660)***
Sub-Saharan Africa	-0.440 (0.821)	-0.442 (0.817)	-0.442 (0.816)	-0.366 (0.809)
Middle East/ North Africa	1.590 (0.568)***	1.591 (0.567)***	1.589 (0.567)***	1.606 (0.563)***
Europe/Central Asia	-0.400 (1.059)	-0.402 (1.056)	-0.403 (1.054)	-0.365 (1.053)
postconflict1	1.385 (3.237)	1.445 (3.073)	0.913 (0.755)	
postconflict1 × CPIA	-0.186 (1.011)	-0.180 (1.019)		
postconflict1 × (ODA/GDP) <sup>2</sup>	-0.009 (0.102)			
postconflict1 × (ODA/GDP) × CPIA	0.168 (0.330)	0.141 (0.042)***	0.139 (0.041)***	0.186 (0.046)***
Observations	344	344	344	344
postconflict observations	13	13	13	13
R <sup>2</sup>	0.38	0.38	0.38	0.38

CPIA Country Policy and Institutional Assessments; ICRGE International Country Risk Guide; ODA official development assistance.

\*Significant at 10 percent; \*\*significant at 5 percent; \*\*\*significant at 1 percent.

Note: Robust standard errors appear in parentheses. All regressions include time dummies that are jointly significant.

## Conclusion

Africa has stayed dependent on primary commodity exports over a period in which other developing regions have diversified to a spectacular extent. Evidently, Africa currently has a strong comparative advantage in such activities. It is unfortunate that primary commodity dependence globally creates severe problems, and Africa has not escaped from that pattern. I have suggested that either the continent needs to diversify, as other regions have done, or it needs to be able to live better with continued dependence. I have considered both of these options but, in a sense, these are not alternatives.

Regardless of whether the continent eventually succeeds in diversifying, it is important that the global patterns that have linked primary commodity dependence to shocks, poor governance, and conflict be changed. Because these are global relationships, it seems unlikely that the solutions will come solely from within Africa, and so I have focused on how international policies can improve the consequences of dependence on primary commodities. For each of the three problems there are relatively simple strategies that have not, to date, been adopted. I hope that as our awareness of these opportunities increases, the global institutions will take action.

Regardless of whether the consequences of primary commodity dependence can be improved, it is sensible for some African countries to attempt to diversify into manufactures or services. Some of the coastal countries, such as Nigeria, simply lack the land and natural resources to support their large populations at a reasonable living standard other than by diversifying into manufactures. A landlocked, urbanized economy, such as Zambia, faced with the imminent exhaustion of its copper reserves, would be well advised to look to services. For such countries, my argument that they have been trapped in a vicious cycle in which primary commodity dependence has created problems that permit only primary commodities to be competitive carries a hopeful message. Coordinated policy improvement may improve the investment climate sufficiently to help these countries break out of the trap. Alternatively, relatively simple policy changes may enable Africa to break into the new trade in services, a sector that, like natural resources and agriculture, may be relatively insensitive to the problems generated by primary commodities.

## Note

1. T-ratios in parentheses.  $N = 345$ ,  $F$ -test for the joint significance of the country-specific effects:  $F(104,237)$ ,  $p = 0.00$ .

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## Could Africa Be Like America?

ADRIAN WOOD

*Although there are important lessons for Africa in the experience of East Asia, the sectoral and spatial structures of an increasingly prosperous Africa will be more like those of the Americas. Because it is land-abundant, as are the Americas, Africa will always have a larger primary sector and a smaller manufacturing sector than will the land-scarce regions of Asia and Europe. Moreover, because much of its land is far from the sea, which raises internal transport costs, a prosperous Africa will resemble the Americas in having a relatively unpopulated interior, based on agriculture and mining, with urban industrial concentrations on its coasts. Africa could surpass the current income level of South America. Its tropical climate and its division into many countries, however, may keep Africa from ever quite catching up with the income level of North America. What is mainly needed to raise Africa from poverty to prosperity are improvements in governance that will reduce the risks of investment and encourage the return of flight capital, both physical and human. Similar improvements in governance are needed in all poor countries, but the policy priorities of land-abundant Africa differ from those of land-scarce Asia in three ways. First, it is even more crucial for Africa than for Asia to apply knowledge to nature by promoting scientific research, education, and training in agriculture and mining. Second, to overcome the problems of internal spatial dispersion Africa must spend more on transport and communications and must facilitate the movement of people, especially from the interior to the coasts. Third, Africa must ensure widely distributed access to land and education so that high levels of inequality do not slow growth and perpetuate poverty.*

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Adrian Wood is chief economist of the Department for International Development (DFID), London. The views in this article are his own, not those of DFID. The article draws on earlier work with Jörg Mayer, who also made valuable comments on an earlier draft, as did Enrique Aldaz, Nick Amin, Victor Bulmer-Thomas, Alexis Ferrand, Marzia Fontana, Paul Isenman, Gavin McGillivray, Kevin O'Rourke, Sheila Page, Paul Spray, Judith Tendler, two referees, the discussants at the Annual World Bank Conference on Development Economics, and participants in seminars at DFID and the World Bank. Elizabeth Turner provided excellent research assistance.

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In an earlier article (Wood and Mayer 2001), I asserted that Africa should follow “a development path more like that of land-abundant America than of land-scarce Asia.” I went on to claim that “the long-term model for African development is not Japan but the United States, and Africa’s medium-term trajectory should take it in the direction not of the East Asian NICs [newly industrialized countries], but of Latin America.” The purpose of this article is to explore that claim further. The first reaction of most readers to the question posed in its title is likely to be strongly negative. There are such obvious differences between Africa and both the north and the south of the Western hemisphere that the question may even seem absurd. Yet it is not quite so obvious which of those differences are fundamental and permanent and which of them are superficial and transitory.

Moreover, there are some basic similarities, both geographical and historical, between Africa and the Americas that have been neglected. I have found only one article (Helleiner 1989) that attempts a general comparison between Africa and Latin America, along with a few mentions in other works of particular pairs of countries (for instance, Brazil and South Africa), and some cross-country growth regressions that include dummy variables for both Africa and Latin America (usually without comment on the implied comparison). By contrast, many books and articles draw lessons for Africa from the experience of East Asia, a region that is also conspicuously different from Africa in many ways (for example, Harrold, Jayawickrama, and Bhattasali 1996, and Roemer 1996).

The first section of this article reviews some of the similarities between Africa and the Americas, with special emphasis on their land abundance. The second section shows how this land abundance causes the sectoral structure of exports and output of Africa and the Americas to be similar, and how accumulation of capital in Africa could cause them to become even more similar. The third section examines the obstacles, past and present, to capital accumulation and other sources of growth in Africa by comparison with Latin America and such rich, land-abundant countries as the United States. The final section examines prospects and policies for Africa, asking whether and how the region could overcome those obstacles and hence catch up with the Americas.

### **Some Basic Similarities between Africa and the Americas**

Given a map of the world and asked which other continent was “most like” Africa, any child would pick out South America. The two continents are huge landmasses of roughly similar shape, both in the Southern hemisphere, both largely tropical, and both with jungles, deserts, and mountains, as well as large amounts of more moderate terrain. North America is another large landmass of a similar shape, although it is outside the tropics. Anyone who had read Diamond (1997) would also spot that all three continents are on North-South axes (which restricts the diffusion of agricultural technologies) and would recall that all three continents had few indigenous large animals that could be domesticated.

Moreover, although the histories of Africa and the Americas seem very different to us, they are likely to seem much more similar to a historian of the world writing in the year 3000. Starting in the middle of the second millennium, Europeans with a mixture of mercenary, religious, and political motives invaded and conquered these continents, all three of which were sparsely inhabited by peoples with ancient but technologically backward civilizations, and divided them up rather arbitrarily into countries of various shapes and sizes. By the end of the second millennium, however, all three continents had won political independence from Europe, and in each continent the decades after independence were disfigured by violent conflict among and within their nations.

### *Factor Endowments*

Moving on from geography and history to economics, table 1 shows two resource ratios for six groups of countries in 2000: the skill (or human capital) to labor ratio,  $h$ , proxied by average adult years of schooling, and the land to labor ratio,  $n$ , proxied by square kilometers of land area per 100 adults. The six groups, whose members are listed in the appendix to this article, are fairly standard. Africa (Sub-Saharan), East Asia, Latin America (with the Caribbean), and South Asia are the four main developing regions. The other two groups are the industrial countries of the Organisation for Economic Co-operation and Development (OECD), divided up on the basis of their land/labor ratios: “low- $n$  OECD” is Japan and Western Europe; “high- $n$  OECD” is Australia, New Zealand, North America, and Scandinavia. The resource ratios for each group are shown as both unweighted and weighted averages.

Three of the six groups are land abundant, and three are land scarce. The average land/labor ratios of Africa, Latin America, and the high- $n$  OECD countries are from 5 to 20 times greater than those of East Asia, the low- $n$  OECD countries, and South Asia. There is wide variation in land/labor ratios among the countries within all three land-abundant groups: the unweighted standard deviations are roughly equal to the

**TABLE 1.**  
**Regional Factor Endowment Ratios, 2000**  
(unweighted and weighted averages)

Country group	Average adult years of schooling		Square kilometers of land per 100 adults	
	Unweighted	Weighted	Unweighted	Weighted
High- $n$ OECD	11.4	11.9	18.3	10.4
Latin America	6.1	6.1	5.1	5.8
Sub-Saharan Africa	3.1	3.5	7.6	6.9
Low- $n$ OECD	8.5	8.4	1.0	0.8
East Asia	7.2	6.4	0.9	1.0
South Asia	4.2	4.7	0.6	0.5

$n$  Land/labor ratio.

Notes: Adults are >15 years of age. Weighted by adult population.

Source: Barro and Lee 2000.

means, and the range is from 0.5 square kilometers of land per 100 adults in Haiti and Rwanda to more than 50 square kilometers in Canada and Mauritania. However, there can be no denying that, in terms of land/labor ratios, Africa as a region is much more similar to the Americas (taking high-*n* OECD as a proxy for North America) than it is to Asia and Europe.

In terms of skill/labor ratios, the six groups divide into three pairs: two at low levels of education (Africa and South Asia), two at intermediate levels of education (East Asia and Latin America), and the two highly educated OECD groups. The variation in average years of schooling among the countries within each group is small, and there are fewer overlaps between them: 12 African countries have more schooling than the least-educated Latin American country, but no Latin American country has more schooling than any of the high-*n* OECD countries. The same rankings as for average years of schooling evidently would apply to per capita income or any other indicator of development (as will be illustrated in more detail later). The six groups thus fall into a two-by-three matrix: land-abundant countries and land-scarce countries crossed with low, medium, and high levels of development. That places Africa on the lowest rung of a ladder that extends upward to Latin America and the high-*n* OECD countries.

The evolution of resource ratios from 1960 to 2000 is shown in figure 1, which tracks the unweighted average values for the six groups at five-year intervals. Increases in population moved each group to the left by reducing its land/labor ratio (measured here in logs so that distances correspond to proportional rates of growth). Each group also moved upward because education expanded. The sizes of the movements in both dimensions differed somewhat among the six groups, but their relative positions in 2000 were still roughly the same as they had been in 1960.

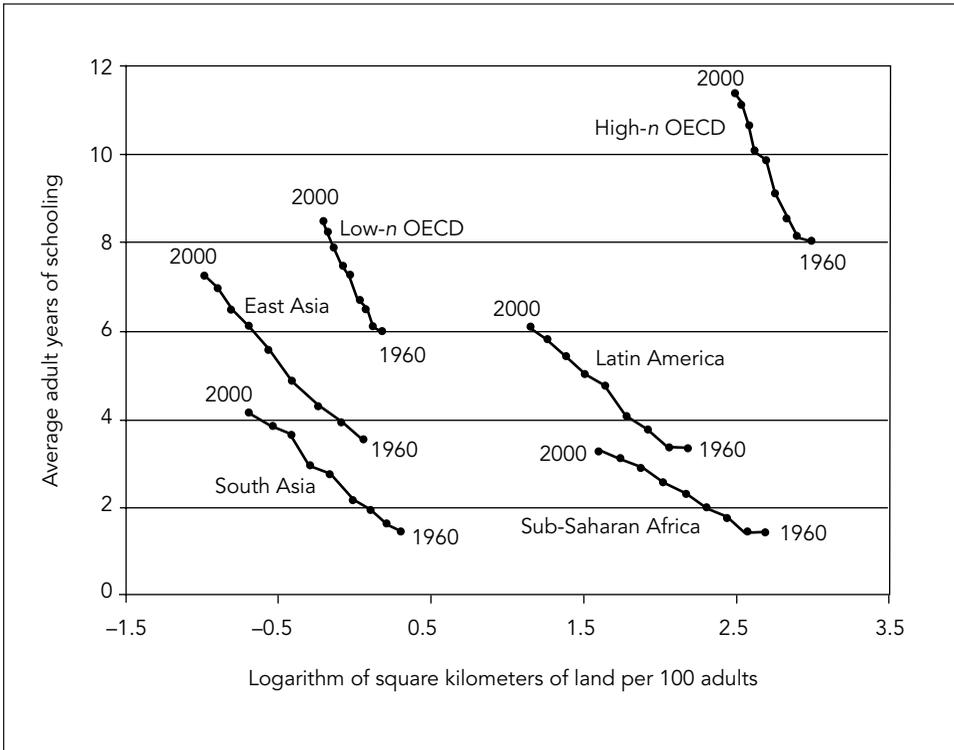
For Africa to become more like America there will have to be a narrowing of the educational differences between it and both Latin America and the high-*n* OECD countries. It can be seen in figure 1 that such narrowing did not happen over the last four decades: the gaps widened in absolute terms both between Africa and Latin America and between Latin America and high-*n* OECD countries (although the gaps narrowed in proportional terms because of the low starting points of the less-educated groups). That was a less favorable outcome than in the land-scarce category, where both East Asia and South Asia narrowed the absolute gaps in schooling between them and the low-*n* OECD countries, although the gap between East Asia and South Asia widened.

### *A Long View of Land/Labor Ratios*

The intergroup differences in land/labor ratios extend back far beyond 1960. Table 2 shows these ratios at intervals of a century or more from 1000 to 2000. For at least the last millennium, the split between land-scarce and land-abundant regions has been qualitatively the same, with far higher land/labor ratios in Africa, Latin America, and the high-*n* OECD countries than in Asia and Western Europe. The world's population is now 20 times larger than it was a thousand years ago. It has grown par-

**FIGURE 1.**  
**Regional Factor Endowment Ratios, 1960–2000**

(unweighted averages)



Source: Barro and Lee 2000.

ticularly fast in Latin America and—above all—in the high-*n* OECD countries, which have thus become less land abundant relative to all the other groups. But the relative positions of Africa, Asia, and the low-*n* OECD countries have not altered much.

Because differences in land/labor ratios among regions are at the heart of this article, it is important to ask why they exist. One major cause is the varying suitability of land for the production of food with premodern agricultural technologies, and especially the natural fertility of the soil and the availability of fresh water. For 10,000 years or more, birth rates and in-migration rates were higher and death rates and out-migration rates lower in areas where food was more easily grown. That current differences in land/labor ratios still largely reflect this historical interaction between geography and demography is clear from casual observation: there are evidently fewer people per square kilometer in Africa than in Asia, for example, because of the lesser suitability of most African land for the cultivation of food crops. Gallup and Sachs (1998) also found a strong and detailed statistical correlation across the world between population density and land quality in terms of good soil and water supply.

If that correlation of population density with land quality were perfect and extended to all other aspects of land quality, it would be misleading to describe low-*n* and

**TABLE 2.**  
**Regional Land/Labor Ratios, 1000–2000**

(square kilometers per 100 people, weighted)

Country group	1000	1500	1700	1820	1913	1998
High- <i>n</i> OECD	1,095	720	728	178	23	8.3
Latin America	175	114	165	94	25	3.9
Africa	91	65	49	40	24	4.0
Low- <i>n</i> OECD	11	5	3	2	1	0.7
Asia	10	7	5	3	2	0.5

*n* Land/labor ratio.

Notes: Refers to total population rather than adult population. Africa includes North Africa. East Asia and South Asia are combined.

Source: Maddison 2001, table B-10.

high-*n* countries as “land scarce” and “land abundant” because the economic value of their natural resources per person would be the same despite their different population densities. However, that is unlikely to be the case. New technologies have greatly changed the relative economic values of different sorts of land, especially in the last two centuries, for both food and nonfood crops and for mining as well as for agriculture. For example, without steel plows and draft animals, indigenous North Americans could not realize the agricultural potential of the Western prairies; and the desert pastoralists of Arabia were long unaware of what lay under their sand. Moreover, the demographic response to variation in land quality, always slow and imperfect, has probably become even more so: fertility is now less Malthusian; and nation-states increasingly have restricted immigration (after a surge in the 19th century).

For those reasons it is plausible to assume that variation in land/labor ratios across countries and regions is only partly offset by variation in land quality and thus in part also measures variation in land abundance in an economic sense—the value of natural resources per worker. The lack of any good index of overall land quality precludes a direct test of this assumption, but the next section will provide an indirect test.

## Sectoral Structure

The obvious framework in which to analyze the economic effects of these differences in factor endowments among country groups is Heckscher-Ohlin (H-O) trade theory. A particularly useful H-O model is that of differing paths of development, set out by Krueger (1977) and extended by Leamer (1987). Growth is driven solely by the accumulation of capital (physical and human), which, by raising labor productivity and per capita income, can take any country over time from the lowest to the highest level of development. In its simplest form, the model assumes that all countries always have access to the same unchanging technology and treats the rate of capital accumulation as exogenous—assumptions that will be revisited later in this article.

The distinctive contribution of the Krueger-Leamer model is to show that the sectoral structures of production and trade will evolve differently in the course of devel-

opment in different countries, depending on their initial land/labor ratios. For H-O reasons, countries specialize in the sectors in which their mix of factor endowments gives them a comparative advantage. Thus if a country accumulates capital faster than the rest of the world, the composition of its output and exports will shift away from less capital-intensive primary sectors toward more capital-intensive manufacturing and services. However, at any given level of capital per worker, a country with more land per worker will have a larger primary sector and a smaller manufacturing sector than a country with less land per worker. That is because it will have a lower ratio of capital to land, and because primary production is both less capital intensive and more land intensive than is manufacturing.

The details of the differing evolution of sectoral structures in land-abundant and land-scarce countries depend on the assumed number and factor intensities of the goods in the model, but some broad features are intuitively evident. The initial result of capital accumulation in a poor land-abundant country will be mainly a shift from unprocessed to processed primary products (which are more capital intensive), whereas in a poor land-scarce country at that stage the shift will be mainly from unprocessed primary products to labor-intensive manufactures (which are also more capital intensive, but less land intensive). As accumulation proceeds further, both sorts of countries will shift toward the production of even more capital-intensive manufactures.<sup>1</sup> Land-abundant countries, however, will remain net exporters of primary products for longer than will land-scarce countries (and perhaps forever). They also are less likely ever to export labor-intensive manufactures: by the time a land-abundant country's capital/land ratio has risen to a level high enough to shift its comparative advantage from primary production to manufacturing, its capital/labor ratio will be so high that it will move straight into exporting capital-intensive manufactures.

Formally, the Krueger-Leamer model makes the usual strong H-O assumptions: equal access to technology, constant returns to scale, identical homothetic preferences, and no factor intensity reversals. However, its sectoral predictions survive relaxation of these assumptions, provided that differences in technology among countries are more or less neutral across sectors and that in all countries the ranking of goods in terms of factor intensities is similar. In exploring these predictions below, the focus will be on human capital rather than on physical capital (following Wood [1994]), but empirically that makes little difference because human and physical capital stocks are strongly correlated across countries. The analysis begins with the sectoral structure of exports, on which there are more data, and then examines the sectoral structure of production itself.

### *Export Structure*

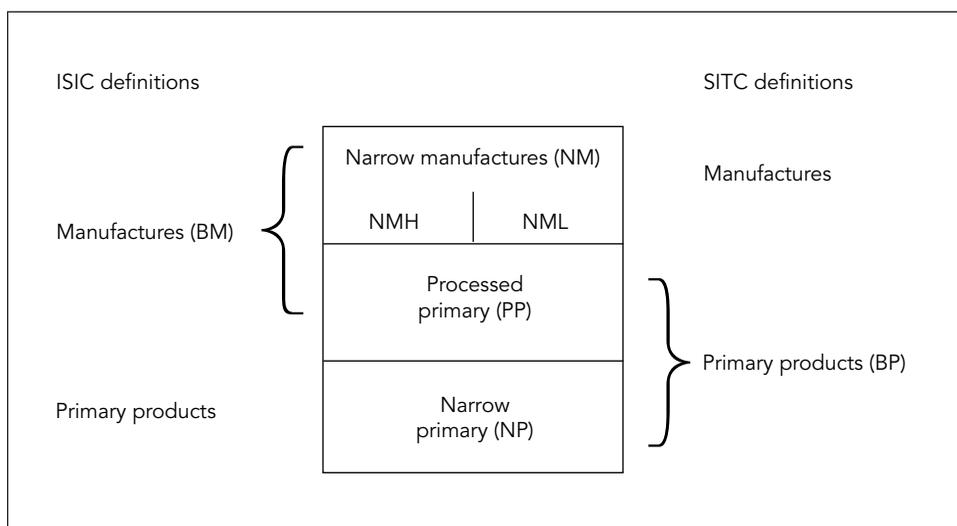
Mayer and Wood (2001) and Wood and Mayer (2001) divided all merchandise exports into four broad sectors, described in figure 2. Our definition of manufactures was the one used by trade statisticians, namely categories 5 through 8 less 68 (non-ferrous metals) of the Standard International Trade Classification (SITC). In the figure that category is labeled “NM” (for “narrow manufactures”) because it is more

narrow than that used by production and employment statisticians, based on the International Standard Industrial Classification (ISIC), which includes also natural resource-based products made in factories, such as canned food, paper, and refined petroleum, and which we labeled “BM” (for “broad manufactures”). Our definition of primary products was thus the broad SITC one, which we labeled “BP” (for “broad primary”) and within which we separated unprocessed (or “narrow”) primary products, “NP,” from processed primary products, “PP”—the latter being the goods that are classified in ISIC as manufactures but in SITC as primary. The “NM” category was subdivided between goods of high (“NMH”) and low (“NML”) skill intensity, referred to below as skill-intensive and labor-intensive manufactures.<sup>2</sup>

The first seven rows of table 3 report the results of cross-country regressions that describe the relationships between export structure and factor endowments in 1990. They cover all countries with populations over one million for which data are available. The first regression shows that variation in manufactured/primary export ratios is rather well explained simply by variation in skill/land endowment ratios, but the second improves the explanation by separating the skill/land ratio into two separate factor ratios (skill/labor and land/labor), which allows also for variation in labor intensity, and including a country size variable to allow for economies of scale in manufacturing. The ratio of manufactured to primary exports tends to be higher in countries that have more skill per worker and less land per worker and that are bigger.

The economically and statistically significant negative coefficient on  $n$  in regression (2) is consistent with the assumption discussed earlier that variation in the land/labor ratio is measuring variation in the value of natural resources per worker,

**FIGURE 2.**  
**Export Categories**



Source: Mayer and Wood 2001; Wood and Mayer 2001.

and is not being fully offset by variation in land quality. That conclusion is open to challenge: a sparse population might confer a comparative disadvantage in manufacturing because of the need for close interfirm linkages, so that countries with higher  $n$  would export fewer manufactures even if the value of natural resources per worker were equal in all countries. That interpretation seems implausible because the need for linkages usually causes manufacturing to be located in cities and towns, and sparse population is not an obstacle to urbanization. However, systematic variation in land quality shows up in the smaller negative coefficient on  $n$  in regression (3) in which the denominator of the dependent variable is agricultural rather than total primary exports (the rest being minerals).<sup>3</sup> That result implies that the share of agriculture in primary exports falls as  $n$  rises, confirming that the quality of land is usually lower in more sparsely populated countries. The coefficient on  $n$  in regression (3) is still significant: agriculture tends to account for a larger share of total exports in

**TABLE 3.**  
Regressions Explaining Sectoral Structure, 1990

Dependent variable	Coefficients on independent variables					$R^2$	Number of countries
	Constant	$h/n$	$h$	$n$	$p$		
<i>Export ratios</i>							
1. NM/BP	-5.01 (-13.3)	0.82 (11.2)				0.53	111
2. NM/BP	-7.43 (-9.0)		1.44 (7.1)	-0.57 (-6.3)	0.27 (2.9)	0.62	111
3. NM/BPA	-5.05 (-5.5)		1.79 (7.9)	-0.24 (-2.4)	0.18 (1.7)	0.50	111
4. PP/NP	-3.70 (-12.1)		1.64 (8.2)			0.38	111
5. PP/NP	-4.78 (-5.5)		1.49 (6.9)	-0.13 (-1.4)	0.10 (1.0)	0.40	111
6. NMH/NML	-3.36 (-7.4)		1.61 (6.3)			0.38	69
7. NMH/NML	-3.70 (-4.1)		1.59 (6.2)	-0.07 (-0.8)	0.01 (0.1)	0.38	69
<i>Output ratios</i>							
8. BM/NP	-2.64 (-9.2)	0.50 (8.9)				0.46	96
9. BM/NP	-3.27 (-5.6)		1.30 (8.6)	-0.28 (-4.4)	0.03 (0.4)	0.60	96

BM broad manufactures; BP broad primary products; BPA agricultural products;  $h$  skill per worker (average adult years of schooling);  $n$  land per worker (square kilometers per adult); NM narrow manufactures; NMH skill-intensive manufactures; NML labor-intensive manufactures; NP unprocessed primary products;  $p$  total adult population (thousands); PP processed primary products.

Note: All variables in natural logarithms; t-statistics in parentheses.

Sources: Mayer and Wood 2001; Wood and Jordan 2000; Wood and Mayer 2001.

more sparsely populated countries, but such countries have an even stronger comparative advantage in mining.

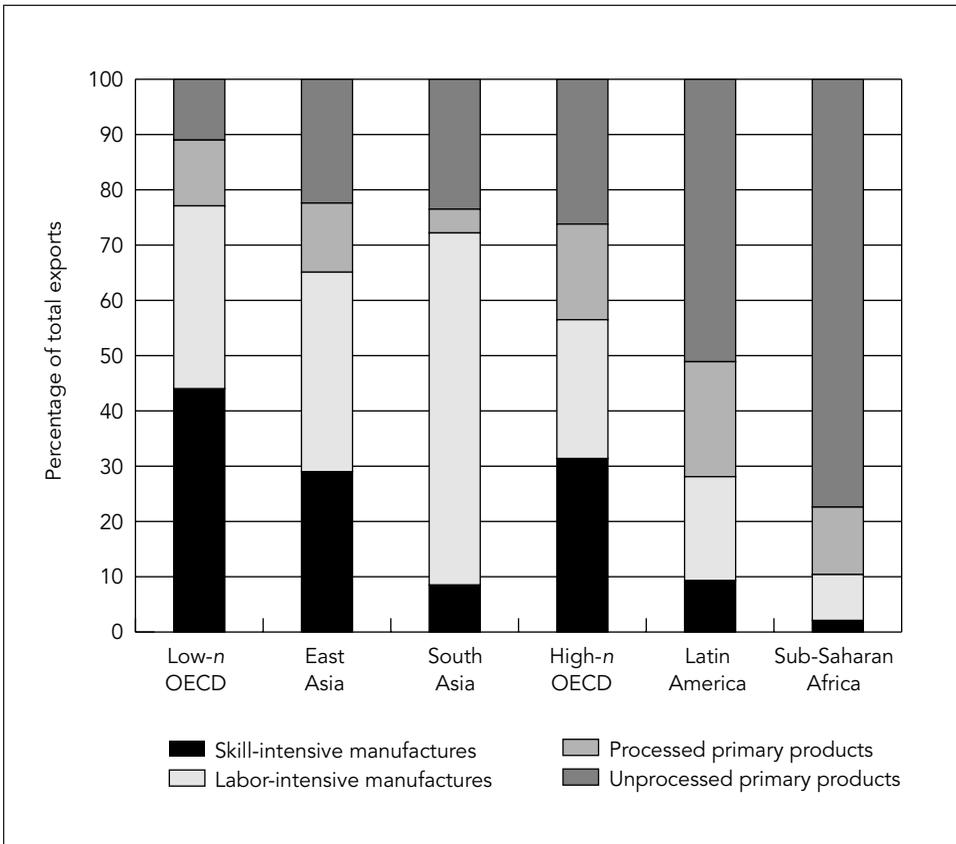
The next two regressions explain cross-country variation in the ratio of processed to unprocessed primary exports. In the full specification (5), the largest and statistically most significant coefficient, by far, is that on  $h$ : countries with higher levels of skill per worker tend to export more of their primary products in processed form. The coefficient on  $n$  is negative because inputs of natural resources are a smaller share of the cost of processed than of unprocessed items, but it is small and insignificant. The same is true of the positive coefficient on country size. Thus the simplified specification (4), with  $h$  as the sole explanatory variable, fits the data almost as well.

Regressions 6 and 7 explain cross-country variation in the division of manufactured exports between skill-intensive (NMH) and labor-intensive (NML) items. Those regressions are estimated using a smaller set of countries, namely, those in which manufactures account for 10 percent or more of total exports. In countries that export few manufactures, the NMH/NML ratio varies widely and erratically because of the vagaries of statistical classification. The largest and most significant coefficient in the full specification (7) is that on  $h$ . The coefficients on the other two variables,  $n$  and  $p$ , are small and insignificant so that the simplified specification (6) fits just as well.

Those regression results give strong support to the H-O framework of the Krueger-Leamer model. All of them leave half or more of the cross-country variation in export structure unexplained. That is partly because of measurement errors in the trade and resource data, but it also must reflect systematic influences on trade omitted from H-O theory, including trade policies. It is nonetheless remarkable that such simple models with such crude data so clearly confirm the usefulness of H-O theory as a broad-brush explanation of some major features of the pattern of trade. The regressions refer to gross exports but similar results are obtained for net exports (exports minus imports), which relate even more closely to the theory (Owens and Wood 1997).<sup>4</sup>

The correspondence between the actual export structures of particular countries and the predictions of these regressions, and the reasons for deviations, are analyzed in Mayer and Wood (2001), Wood and Jordan (2000), and Wood and Mayer (2001). Of special interest here, however, is the correspondence for the six groups of countries defined above. Figure 3 shows the unweighted average export structure of each group, using the same four product categories as the regressions.<sup>5</sup> In accordance with the Krueger-Leamer model there are differences between land-abundant and land-scarce groups at each level of development: the share of primary products in exports (the sum of the top two slices) is much larger for high- $n$  OECD countries than for low- $n$  OECD countries, for Latin America than for East Asia, and for Africa than for South Asia. Also in accordance with the model, as the level of education increases within both the land-abundant and the land-scarce categories the share of primary products in exports falls (except between East Asia and South Asia) and the share of processed items in primary exports rises, as does the share of skill-intensive items in manufactured exports.

**FIGURE 3.**  
**Composition of Exports, by Region, 1990**  
 (unweighted averages)

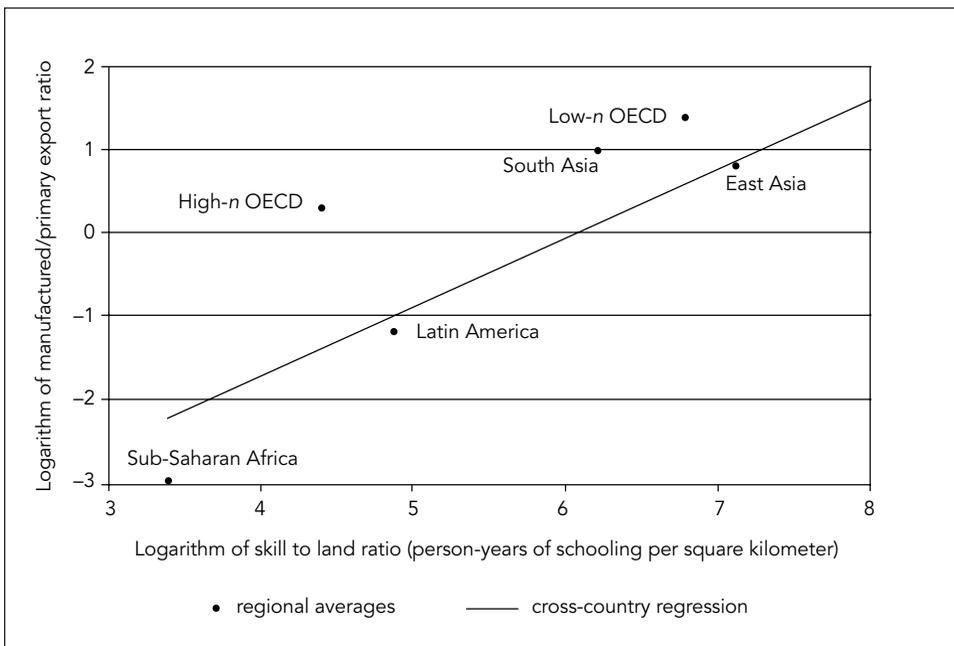


Source: Wood and Mayer (2001) database.

The influence of differences in group factor endowments on group export structures is further illustrated in figures 4a–c. Each figure shows the relationship estimated across all individual countries, using the simplified specifications of the regressions in table 3, and the (unweighted) average export structures and factor endowments of each of the country groups. As in the regressions, all the variables are logged.

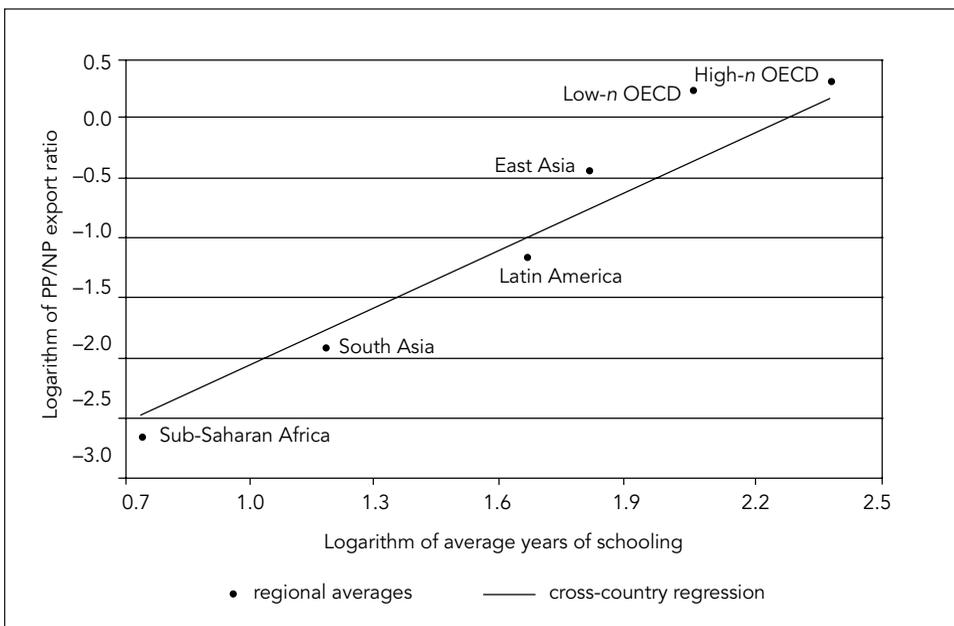
Figure 4a relates the manufactured/primary export ratio to the skill/land ratio. The four developing regions follow roughly the pattern of the regression line, but with South Asia some way above it (entirely the result of atypical Nepal) and Africa some way below it (because of other obstacles to manufactured exports in the minority of African countries with low land/labor ratios (Wood and Mayer 2001). Both OECD regions lie above the line. The deviation for the high-*n* OECD group, which is of particular interest in this article, is strikingly large and is not caused by any specific country or by the lack of weighting. The actual export ratios of all the countries in the group are greater than would be predicted from their skill/land ratios.

**FIGURE 4a.**  
**Export Structure (Manufactured/Primary) and Resources, by Region, 1990**  
 (unweighted averages)



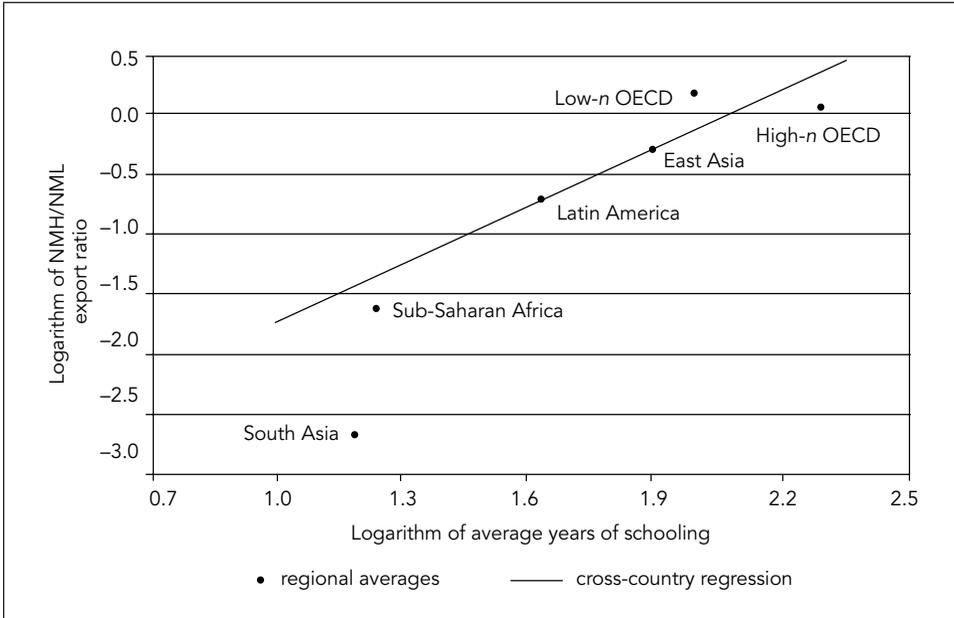
Source: Wood and Mayer (2001) database.

**FIGURE 4b.**  
**Export Structure (Processed/Unprocessed Primary) and Resources, by Region, 1990**  
 (unweighted averages)



Source: Wood and Mayer (2001) database.

**FIGURE 4c.**  
**Export Structure (Skill-intensive/Labor-intensive Manufactures) and Resources,**  
**by Region, 1990**  
 (unweighted averages)



Source: Wood and Mayer (2001) database.

Wood and Berge (1997) improved the explanatory power of a similar model by adding a 30-year lagged export ratio, which suggested that it may be past learning by doing that gives OECD countries an unusually strong comparative advantage in manufacturing. In that context, the larger upward deviation for high-*n* than for low-*n* OECD countries could reflect the fact that in an earlier era of much higher transport costs, possession of natural resources such as coal and iron was helpful for industrialization (Atack and Pasell 1994; Blomstrom and Meller 1991; David and Wright 1997).<sup>6</sup> Historically, in other words, the coefficient on *n* may have been much smaller or even negative.

Figure 4b relates the processed/unprocessed primary export ratio to the level of skill per worker. The six country groups conform closely with the pattern of the regression line: countries with more schooling process larger shares of their primary exports, and the relationship is the same for both land-abundant and land-scarce groups. Figure 4c similarly shows that the share of skill-intensive items in manufactured exports rises fairly steadily across the six groups with their average level of education. Only South Asia is a long way from—in this case, below—the regression line (a discrepancy explored by Mayer and Wood [2001]). Figure 4c, like the NMH/NML regressions in table 3, refers to a smaller set of countries than does figure 4b, including only those where manufactures are 10 percent or more of total exports, and that changes the membership (and horizontal positions) of some country groups, most notably Africa.

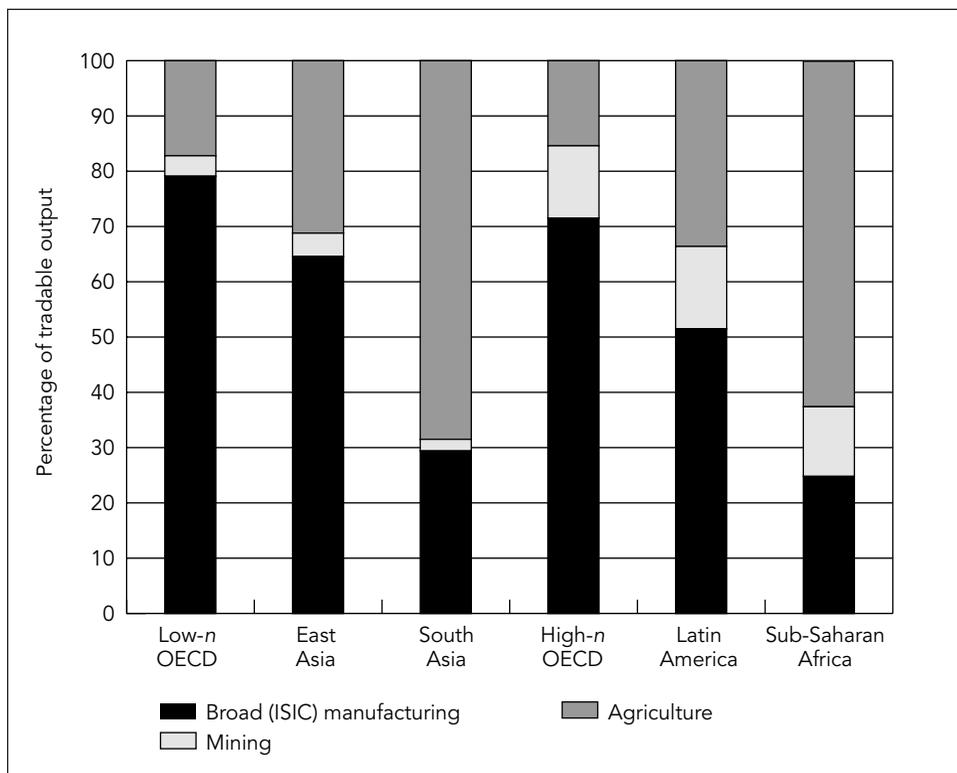
### Production Structure

Output data that match the sectoral categories in the export data are not available for a large set of countries. However, the shares of broad manufacturing (NM + PP) and narrow primary (agriculture and mining) value added in GDP in 1990 for most of the countries in the Wood and Mayer dataset were obtained by Wood and Jordan (2000). Regressions 8 and 9 in table 3 relate this manufacturing/primary (BM/NP) output ratio to the same independent variables as for the NM/BP export ratio in regressions 1 and 2. The results are fundamentally similar: the ratio of manufactured to primary output tends to be greater in countries with more skill per worker and less land per worker. However, the coefficients on the endowment ratios ( $h$ ,  $n$ , and  $h/n$ ) are all absolutely smaller than in the export regression.<sup>7</sup> That is because the sectoral structure of exports in an open economy tends to be more specialized than that of production,<sup>8</sup> and because barriers to trade (mainly “natural”) in all economies limit the degree of specialization in production.

Figure 5 shows for each of the country groups unweighted average sectoral shares in total “tradable” output (BM + NP), distinguishing within NP between agriculture

**FIGURE 5.**  
**Composition of “Tradable” Output, by Region, 1990**

(unweighted averages)

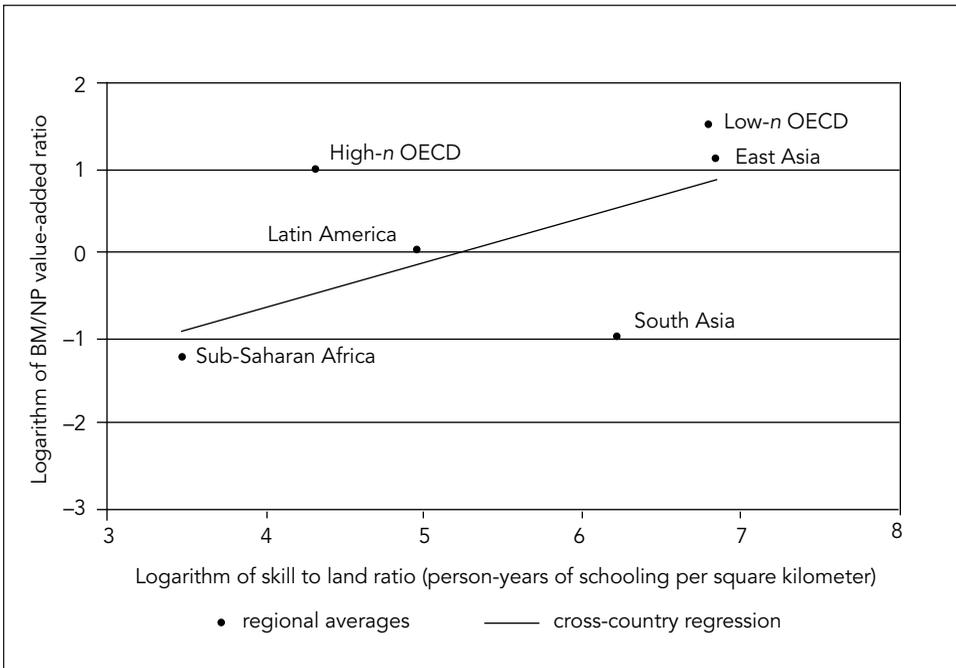


Source: Wood and Jordan (2000) database.

and mining. The rise in the manufactured output share with the level of education across groups is clear within both the land-abundant and the land-scarce categories, much as with the export shares in figure 3. Also, as with exports, the share of manufacturing in tradable output at each level of development is lower in the land-abundant group than in its land-scarce counterpart group: lower in high-*n* OECD countries than in low-*n* OECD countries, lower in Latin America than in East Asia, and lower in Africa than in South Asia. But the differences are smaller than for the export shares in figure 3, partly as predicted by theory and partly as a result of the difference in sectoral definitions. The shift of PP from primary (in figure 3) to manufacturing (in figure 5) is bound to lessen the differences between land-abundant and land-scarce countries.

Figure 6 relates the manufactured/primary (BM/NP) output ratio to the skill/land ratio, showing both the cross-country regression (8 in table 3) and the unweighted average values for the country groups. The positions of the groups in relation to the regression line are similar, with one exception, to those in figure 4a: developing regions lie close to the line, and both OECD groups are well above it, especially the high-*n* OECD countries. The exception is South Asia, which is now far below the line—and this is true of all the countries in the group, so that this deviation is not the result of an outlier or the lack of weighting. A plausible explanation is that South

**FIGURE 6.**  
**“Tradable” Output Structure (Broad Manufactures/Narrow Primary) and Resources,**  
**by Region, 1990**  
 (unweighted averages)

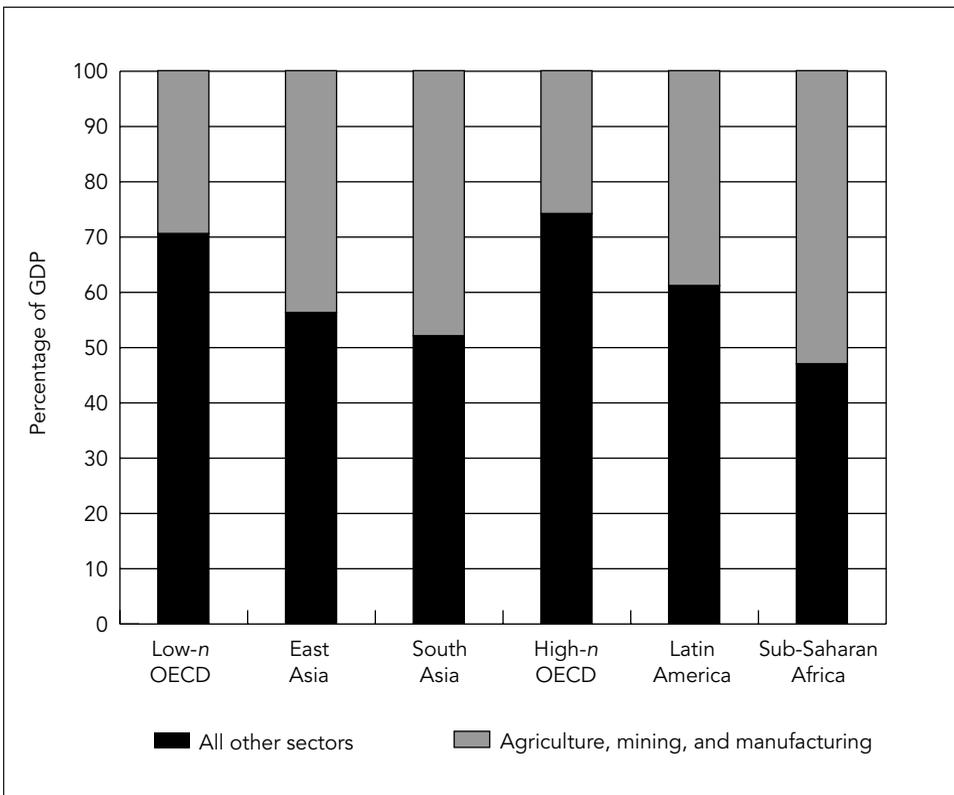


Source: Wood and Jordan (2000) database.

Asia is largely closed to trade; it has by far the lowest trade/GDP ratio of any group, as much because of the size and poor transport infrastructure of the countries concerned as because of their trade policies. Its output structure is thus way out of line with its comparative advantage.

Figure 7 is inserted as a reminder that figures 5 and 6 cover only part of total output. It shows the average shares of “tradable” (primary and manufacturing) sectors and “nontradable” (all other) sectors in GDP in each of the country groups (the quotation marks are a reminder that the true dividing line between tradable and nontradable goods and services differs from that between these sectors). Only in Africa, and even there only slightly, is “tradable” output more than half of GDP. Moreover, the share of “tradable” output falls as the level of development rises within both the land-abundant and the land-scarce categories. However, there is no clear difference in the “tradable” output share at each level of development between land-abundant and land-scarce countries. The share is lower in high-*n* OECD countries than in low-*n* OECD ones and lower in Latin America than in East Asia, but it is higher in Africa than in South Asia.

**FIGURE 7.**  
**“Tradable” and “Nontradable” Shares of GDP, by Region, 1990**  
 (unweighted averages)



Source: Wood and Jordan (2000) database.

### *Agriculture and Mining*

Figure 5 also shows that the higher narrow primary output share of the land-abundant group at each level of development is largely the result of mining. In two of the three cases, the share of agriculture in tradable output at each level of development is slightly higher in the land-scarce group—and this is so in all three cases with weighted rather than unweighted group averages. Part of the reason is likely to be that agriculture usually is more protected against imports in land-scarce countries than in land-abundant ones, which raises the share of agriculture in GDP by increasing both the volume of output and its price. However, that pattern probably also partly reflects the generally lower quality of agricultural land in high-*n* countries than in low-*n* countries.

Further light can be shed on these two likely explanations by examining the shares of agriculture and mining in exports (rather than in output), which are measured at world prices rather than domestic prices. Unweighted averages using the same categories as in figure 5 show that both mining and agriculture shares are larger in the high-*n* group than in the low-*n* group at each level of development, which confirms that agricultural output shares in land-scarce countries are raised by higher internal prices. The same is true using weighted export averages, however, in only two of the three cases. Africa has a slightly smaller weighted agricultural export share than does South Asia. That difference is reversed when South Africa is excluded from the African average but, either way, the weighted averages underline an important fact about Africa: roughly half of its aggregate exports are minerals (including oil). Even if South Africa is excluded, agriculture accounts for only about a third of Africa's total narrow primary exports.

These calculations raise an important question about Africa's future export structure: will the high share of minerals persist, or is there scope for a substantial relative expansion of its agricultural output and exports? If the currently low share of agriculture were caused mainly by the low quality of Africa's land, there would be little reason to expect any increase in the future. However, there are several reasons for doubting that this is the case and for supposing instead that the main cause of the currently low share is Africa's unusually backward agricultural technology and institutions, improvement of which in the future could greatly increase its output and exports. There is no doubt that Africa has land of lower quality than Asia, but none of the available indicators (Kydd and others 2001) suggests that this quality difference is big enough to cancel out its tenfold advantage in land area per worker.

Moreover, although the share of agriculture in primary exports tends to be lower in more sparsely populated countries, it is not generally lower in African countries than would be predicted from a regression estimated across non-African countries. There is also a striking disparity between Africa's big share of the world's tropical land area and its small and declining share of world exports of tropical products (Fafchamps, Teal, and Toye 2001), which makes it hard to believe that Africa's land is unproductive just because it is in the tropics. Finally, it is widely acknowledged that Africa has not yet benefited from a technological green revolution and its accompanying intensification of water and fertilizer use, and that policies and institutions in

African agriculture are less favorable than in Asia (Kydd and others 2001). Land conditions and sparseness of population partly explain why the green revolution in Africa has been delayed, and they will limit the scope for technological improvements. On balance, however, the share of agriculture in African primary output and exports seems likely to rise in the future.

## Poverty and Prosperity

The evidence in the previous section, testing the Krueger-Leamer model, suggests that accumulation of capital at a sufficiently high rate could propel the sectoral structures of trade and output in Africa along a trajectory initially toward the current structure in Latin America and ultimately toward the current structure in North America. This section will examine another dimension of the model: its prediction that the accumulation of capital also drives up levels of output, labor productivity, and per capita income. It is in this dimension that the differences between Africa and America today are most marked and have most impact on the comparative well-being of their populations. It is also in this dimension that the Krueger-Leamer model most needs augmentation—to explain the causes of capital accumulation, to allow for the influence of technology as well as capital on output, and to include measures of well-being other than per capita income.

The first row in table 4 confirms that the land-abundant regions are spread out over a wide range of per capita income—the weighted average in Latin America in 1995 being four times that in Africa, but only a quarter of that in the high-*n* OECD countries. Figure 8 shows how those differences evolved over the last 500 years. The proportional gap between the high-*n* OECD countries and Latin America widened slowly over three centuries of colonial rule, but opened up between 1820 and 1870, with Latin America stagnating during its first half-century of independence and with growth accelerating in high-*n* OECD countries during that same time period. Growth then speeded up in Latin America, which for the next century held its position relative to the high-*n* OECD countries before slipping further back during 1973–98. Africa’s per capita income is conjectured to have risen little until 1870 and so to have fallen behind those of both other regions, especially those of the high-*n* OECD countries. During the next century Africa grew quite rapidly, but not so fast as the other regions to which it thus gradually lost more ground. It then ceased to grow for the last quarter of the 20th century and fell much further behind both other regions.

The rest of table 4 shows that there also are large differences among land-abundant regions in other indicators of well-being. The proportion of the population living on less than one dollar a day, negligible in high-*n* OECD countries, is 15 percent in Latin America and nearly one-half in Africa—the effect of low average incomes being amplified by high income inequality in both the developing regions (although with wide variation among countries, especially in Africa).<sup>9</sup> Adults in high-*n* OECD countries on average have six more years of schooling than do those in Latin America, and nearly nine years more than those in Africa (where the shortfall is particu-

**TABLE 4.**  
**Development Outcomes**  
 (weighted regional averages)

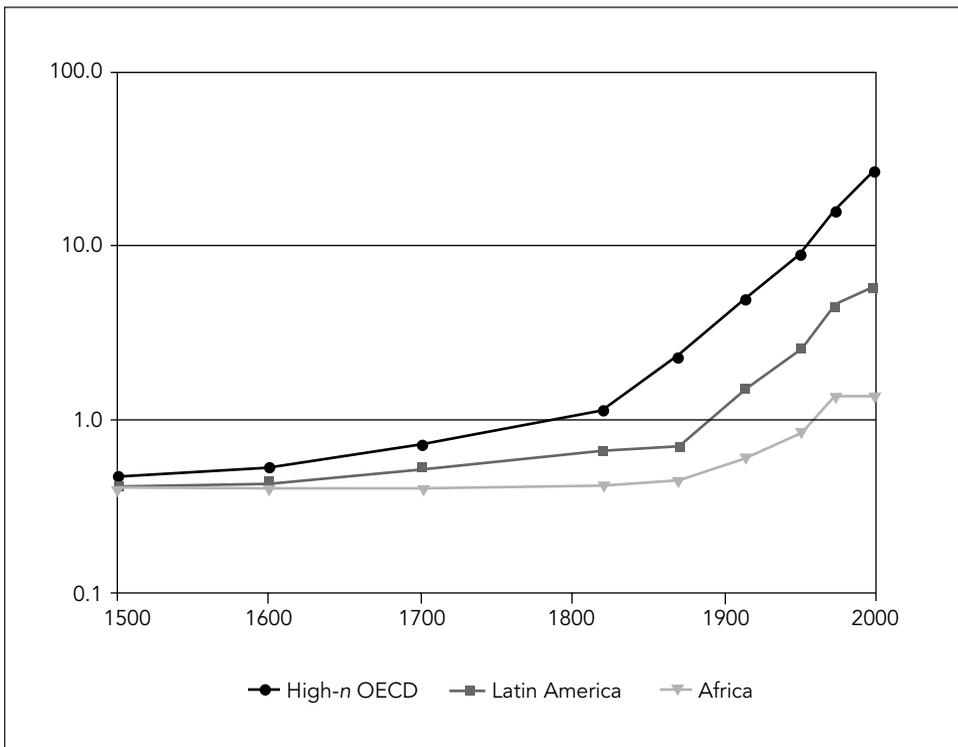
	Sub-Saharan Africa	Latin America	High-n OECD
Per capita GDP (PPP\$000), 1995	1.5	6.4	26.9
Poverty (percent of population <\$1/day), 1999	46.7	15.1	..
Income inequality (Gini, most recent year)	46.1	54.7	38.4
Average adult years of schooling, 2000	3.5	6.1	11.9
Female/male years of schooling (percent), 2000	65.9	93.9	99.0
Infant mortality (per 1,000 live births), 1995	94.0	33.6	7.1

*n* Land/labor ratio; PPP purchasing power parity.

Note: Weighted by population, except schooling (adult population).

Sources: Barro and Lee 2000; World Bank 2001a; World Bank 2001c.

**FIGURE 8.**  
**Per Capita GDP, 1500–2000**  
 (1990 PPP\$000, weighted regional averages)



Note: Africa includes North Africa.

Source: Maddison 2001, tables B-10, B-21.

larly large for women). Infant mortality in Africa is 13 times greater than it is in the high-*n* OECD countries.

To understand why Africa is now so far behind the Americas and to explore whether and how it could catch up, it is convenient to follow Rodrik (2003), who distinguishes between accounting explanations and deep explanations and then divides the deep explanations into three categories: geography, openness, and institutions.

### *Accounting*

The first two rows of table 5 show that the differences in per capita income among the three groups are partly the result of differing dependency ratios but mainly the result of differences in output per worker, which the following three rows decompose into differences in the amount of physical and human capital per worker and differences in total factor productivity (TFP), using data from Hall and Jones (1999). Output per worker is lower in Latin America and Africa than in the high-*n* OECD countries partly because Latin America and Africa have lower capital-output ratios and less human capital. But there are also large differences in efficiency: Latin America's TFP is 67 percent of that of the United States; the corresponding figure for Africa is only 25 percent and explains more than half of its shortfall in output per worker.<sup>10</sup> Similar results emerge from other studies: the Krueger-Leamer story of growth through capital accumulation contains much, but not the whole, truth.

**TABLE 5.**  
**Accounting Explanations**  
(weighted regional averages)

	Sub-Saharan Africa	Latin America	High- <i>n</i> OECD
Dependency ratio (total/adult population, percent), 1995	175	151	128
Output and inputs (United States = 100), 1998:			
GDP per worker	8	33	97
Physical capital contribution	68	82	101
Human capital contribution	43	54	97
Total factor productivity	25	67	98
Shares of national wealth (percent), 1994:			
Produced assets	23	17	20
Human resources	66	75	75
Natural capital	11	8	5
Land ownership (Gini, most recent year)	66	80	71
Education distribution (Gini), 1990	66	41	15

Notes: Outputs and inputs weighted by adult population; wealth weighted by GDP at purchasing power parity; dependency ratio and Gini coefficients weighted by population. Country coverage in Africa is limited for the Gini coefficients (land, 7 countries; education, 12 countries).

Sources: Barro and Lee 2000; Deininger and Olinto 2000; Hall and Jones 1999; Kunte and others 1998; Thomas, Wang, and Fan 2000; World Bank 2001c.

The bottom five rows of table 5 explore some possible accounting explanations for the variation in income inequality across the three land-abundant groups. The breakdown of total national wealth suggests that little of the variation results from Africa and Latin America having relatively more physical capital or natural resources—assets that tend to be unequally distributed in all countries—than do the high-*n* OECD countries. Highly unequal ownership of land seems to be only a small part of the explanation in Latin America because natural resources are less than 10 percent of total wealth. More of the variation is probably explained by inequality of education, which is greater in Africa and Latin America than in the high-*n* OECD countries, and which has a large influence because human resources in all three groups account for most of total wealth.

### *Geography*

Restricting comparisons to the three land-abundant groups controls roughly for one dimension of geography—variation in the land/labor ratio or population density—that other studies have argued to be a determinant of economic performance (Auty [2001] reviewed this literature). The focus here, by contrast, is on why some land-abundant countries have done better than others, and in particular on why Africa has done less well than Latin America, which in turn has done less well than the high-*n* OECD countries. But variation among these groups in other dimensions of geography may have contributed to the differences in their performance.

Bloom and Sachs (1998) and Gallup and Sachs (1998) argued forcefully that a tropical climate hinders development by degrading the quality of soils and by undermining the health of plants, animals, and humans—not least because of the prevalence of malaria. The first two rows of table 6 are consistent with this argument: the prosperous high-*n* OECD countries lie almost entirely in temperate zones, whereas three-quarters of the population of middle-income Latin America and more than 90 percent of the population of low-income Africa live in the tropics. The prevalence of malaria, which is zero in the high-*n* OECD countries, is far higher in Africa than in Latin America. The afflictions of a tropical climate are clearly plausible explanations both for low rates of investment and for low levels of human and agricultural productivity.

Others have challenged the weight placed by Sachs on tropical climate as a cause of poverty (Collier 1998, Udry 1998). They noted the economic success of some tropical East Asian countries using new technology in agriculture and air conditioning in industry, and the past elimination of malaria from many countries (which suggests that malaria's prevalence is an endogenous result of development rather than an exogenous cause). Acemoglu, Johnson, and Robinson (2001) also argued econometrically that climate and health variables cease to be significant if institutional influences on development are controlled for, although this has been disputed by McArthur and Sachs (2001).

Tropical climate also has been suggested as a cause of high inequality, especially in Latin America. Engermann and Sokoloff (1997) argued that economies of scale in certain tropical crops, particularly sugar, in combination with scarcity of labor, led in

**TABLE 6.**  
**Geography**

(weighted regional averages)

	Sub-Saharan Africa	Latin America	High- <i>n</i> OECD
Land in tropics (percent of total land area)	93	73	10
People in tropics (percent of total population), 1994	92	75	0
Malaria prevalence index, 1994	93	10	0
Land within 100 kilometers of coast or navigable river (percent)	10	27	18
People within 100 kilometers of coast or river (percent), 1994	21	42	69
Urban population (percent of total), 1995	31	73	77

Note: Weighted by population, except land shares (total land area).

Sources: Gallup and Sachs 1998; World Bank 2001c.

the colonial period to a concentration of land ownership and forced labor practices, including slavery, which established a pattern of extreme and self-perpetuating inequality in much of the region. In most of North America, by contrast, the temperate climate and soils were suited to the farming of grains and livestock with few economies of scale, which led to a more equal pattern of small family farms. Even today, a general cross-country relationship between income inequality and proximity to the equator is discernible (IADB 1998). However, the relationship is not a close one. Many tropical crops, such as coffee, can be grown either on plantations or by smallholders; and Engermann and Sokoloff have acknowledged that inequality in early Latin America was shaped also by the social hierarchy of the Iberian settlers and by preconquest social structures.

Another dimension of geography emphasized by Gallup and Sachs (1998) is access to the sea as a determinant of openness to trade (discussed more fully below). As table 6 shows, only 10 percent of Africa's land area is within 100 kilometers of the coast or an ocean-navigable river, a proportion much lower than that in Latin America (27 percent). The percentage in high-*n* OECD countries falls between Africa and Latin America (pulled down in this area-weighted average by Canada and Australia). More revealing are the proportions of people who live near coasts or rivers. Africa still has the lowest share—a little over 20 percent—whereas the average share in high-*n* OECD countries is almost 70 percent and Latin America between the two at about 40 percent. Those proportions match the ranking of their levels of development. Thus human geography is just as vital as physical geography. In all country groups, people tend to live near coasts or big rivers but that is more often the case in the high-*n* OECD countries than in Africa or Latin America. Table 6 also shows that Latin America's population is nearly as urbanized as that of the high-*n* OECD countries, despite its lower level of income. Africa, on the other hand, is still mainly rural.

### *Openness*

The “openness” of a country is basically the ease and cheapness with which foreigners can do business in it and its own citizens can do business abroad. Openness in this

sense is a crucial determinant of prosperity because business linkages are the main channels for the diffusion of economically useful knowledge among countries, particularly through trade (Keller 2001), and indeed within countries (historically in the United States there was more innovation in places close to transport facilities: Engermann and Sokoloff [1997]). Debate continues about the medium-term relationship between the growth of exports and of output, and about the best trade policies for rapid development (Rodríguez and Rodrik 2000; World Bank 2001b). But the strong correlation between levels of openness and levels of prosperity across the world is consistent with the view that variation in openness is an important cause of the wide variation in TFP documented in accounting studies (Alcalá and Ciccone 2001).

That correlation is only weakly apparent in the first row of table 7, which shows the average ratios of trade to GDP in the three country groups. By this measure, the high-*n* OECD countries are 50 percent more open than the other two groups, but there is little difference between Africa and Latin America (and if GDP were measured at official exchange rates rather than at purchasing power parities, Africa's trade ratio would be the highest of the three). The correlation is obscured partly by the lack of control for country size—trade ratios tend to be higher in smaller countries, and most African countries are small. In addition, however, variation in ratios of trade to GDP understates variation in openness because by obstructing inflows of knowledge, barriers to trade reduce GDP as well as trade. The correlation between openness and prosperity ought thus to be clearer when barriers to trade are measured directly.

An important element of variation in trade barriers is variation in trade policies. The second row of table 7 shows one commonly used measure that combines several specific policy indicators over a recent 25-year period: the policies of high-*n* OECD countries were fully open, but this was so for only 11 percent of Latin America and only 3 percent of Africa. The pattern is corroborated by much other evidence on trade policies in Africa and Latin America during 1960–90 (Bulmer-Thomas 1994; World Bank 1994): high taxes on imports and exports and quantitative restrictions on imports seriously discouraged trade in most countries. Changes in trade policies

**TABLE 7.**

**Openness**

(weighted regional averages)

	Sub-Saharan Africa	Latin America	High- <i>n</i> OECD
Exports+imports/GDP (at PPP, percent), 1995	17	16	24
Percentage of years with open trade policies, 1965–90	3	11	99
Rail route length (kilometers per 1,000 square kilometers), 1991	2	6	10
Paved roads (kilometers per 1,000 square kilometers), 1991	6	18	104
Telephone lines (per 1,000 adults), 1995	26	131	793
Air passengers carried (per 1,000 people), 1995	29	156	1,846

PPP purchasing power parity.

Note: Weighted by GDP (trade ratio and trade policies), land area (rail and road length), and population (phones and air travel).

Sources: Canning 1998; Sachs and Warner 1995; World Bank 2001c.

during the 1990s, however, have narrowed the differences among the three groups. These differences in policies were also smaller in earlier periods, with few restrictions on trade until the 1940s in Latin America and the 1960s in Africa, and with tariffs on industrial imports during the 19th and early 20th centuries in most high-*n* OECD countries, including the United States (Atack and Pasell 1994).

Another important cause of the differences in openness among countries is the differences in transport and communications costs. That is vividly illustrated by a recent estimate that transport costs would impose the equivalent of a tax of about 80 percent on exports of clothing to world markets from Uganda (Milner, Morrissey, and Rudaheranwa 2000). Because Uganda's capital is some 900 miles by rail from the nearest port, that example also illustrates the significance of the coastal population shares in table 6. In the high-*n* OECD countries only 30 percent of people live more than 100 kilometers from the coast or an ocean-navigable river, compared with 60 percent in Latin America and 80 percent in Africa. That tends to make barriers to trade greater on average in Latin America than in the high-*n* OECD countries and greater still in Africa because transport over land (or by air) is more expensive per ton-kilometer than transport by water.

The difference in transport costs is compounded by the lower quality of overland transport facilities in the two poorer groups. As can be seen in table 7, per square kilometer of land area, Africa has only one-third the railroad and paved road length of Latin America, which in turn has only half as much rail track and one-fifth as much paved road length as the high-*n* OECD countries. The gaps would appear even larger if allowance were made for differences in maintenance and management of railways, roads, and ports. The crude indicators in table 7 confirm that there are large disparities also in the availability, cost, and quality of air transport and telecommunications. Those variations matter not only for foreign trade but also for integration of internal markets. Even in open economies, most production is for the home market, and barriers to internal trade are a source of inefficiency and inequality, reducing specialization and slowing the diffusion of technology. That is especially so in land-abundant countries whose lower population densities tend to be associated with greater average distances between their citizens (Platteau 2000).

The differences in transport and communications costs among these three groups of countries have been more persistent than have the differences in trade policies. Their rank order in terms of proximity of people to the coast has been the same since at least the early 19th century. Moreover, although transport infrastructure has been greatly improved in all these groups over the past 200 years, its quantity and quality in Africa have consistently been far lower than in Latin America, which in turn has lagged a long way behind the high-*n* OECD countries (Atack and Pasell 1994; Bulmer-Thomas 1994; Herbst 2000; Thorp 1998). Differing internal transport costs thus seem a more likely explanation than do differing trade policies for the widening income gaps among land-abundant countries over the past two or three centuries, although trade policies might explain the acceleration of this widening over the past two or three decades.

## *Institutions*

Differences in the amount of capital per worker explain roughly half the difference in output per worker between Africa and the high-*n* OECD countries, and they reflect big differences in past rates of investment in physical and human capital. Those and similar differences in investment rates among countries are plausibly attributed by much recent research to differences in “institutions” (for example, Hall and Jones 1999; Knack and Keefer 1995; Landes 1998). Of particular importance are institutions that reduce the noncommercial risks of investment, including laws of property and contract (efficiently and equitably enforced by the courts), respect by all likely governments for private property rights (and hence a low risk of expropriation), legal and policing systems that minimize corruption and serious crime, political stability, absence of violent conflict, and sound macroeconomic policies. Those characteristics are a subset of the broader concept of good governance emphasized, for example, by the World Bank (2000).

Many studies have found strong cross-country correlations between per capita income and various measures of institutions of these sorts. Table 8 shows the average values of four of these measures (which clearly parallel the rank order of their prosperity) for the three land-abundant groups. In the 1990s, in terms of the rule of law, absence of corruption, political stability and peace, and protection against expropriation, the high-*n* OECD countries offered the greatest security against noncommercial investment risks. Africa on average offered the least security, and Latin America ranked in between the two. On all measures, but particularly on the rule of law and political stability and peace, Africa on average also offered less security to investors than did South Asia, the other low-income region.

Institutions appear to be an exogenous determinant of economic performance, even though there is also positive feedback. Particularly convincing evidence has been presented by Acemoglu, Johnson, and Robinson (2001), who traced a causal path from mortality among early European settlers to the extent of settlement in the 19th century, from European settlement to the quality of institutions, and from institutions to levels of per capita income today in former European colonies. Their argument is

**TABLE 8.**  
**Institutions**  
(weighted regional averages)

	Sub-Saharan Africa	Latin America	High- <i>n</i> OECD
Rule of law index, 1997–98	−0.8	−0.3	1.3
Absence of corruption index, 1997–98	−0.7	−0.2	1.5
Political stability and peace index, 1997–98	−0.8	−0.3	1.1
Protection against expropriation index, 1985–95	5.5	7.2	9.9
Settler mortality (per 100), 19th century	67.9	7.5	1.5
European settlers/population (percent), 1900	2.3	30.9	89.7

Note: Weighted by population.

Sources: Acemoglu, Johnson, and Robinson 2001; Kaufmann, Kraay, and Zoido-Lobaton 2000.

that the colonizers had incentives to create institutions that fostered long-term investment only in countries where they could safely settle in large numbers. In less healthy climates, the institutions they created were to aid in extracting natural resources rather than to promote accumulation of capital. Those differences in institutions persisted and still powerfully affect national prosperity.

There are many other sources of differences in institutions: for example, the high rates of investment in East Asian countries clearly have nothing to do with high levels of European settlement (and the variation in institutions within East Asia, including China, shows that there is more than one way to encourage accumulation). However, almost all of the countries in our land-abundant groups are former European colonies (the exceptions being Ethiopia and Scandinavia), and the differences among the groups fit the Acemoglu argument. As can be seen in table 8, mortality rates among early settlers were low in the high-*n* OECD countries, higher in Latin America, and extremely high in Africa, whose interior was hardly penetrated by Europeans, except in the temperate South, until the 1880s, four centuries after Vasco da Gama first sailed round its coast (Herbst 2000). Rates of European settlement in 1900 varied inversely: low in Africa, moderate in Latin America, and great in the high-*n* OECD countries, a pattern that is still evident in the composition of their populations.

European settlement often had a dark side: brutal treatment of indigenous people and the creation of extreme social and economic inequalities that persist today. The relationship across the three groups between the extent of European settlement and the degree of income inequality today (shown earlier in table 4) is not monotonic. Latin America, the group of countries that experienced an intermediate level of European settlement, appears more unequal than either Africa or the high-*n* OECD countries. Perhaps that is because the differences in income between settlers and indigenous people, although large everywhere, have less influence on the overall distribution when one or the other of those categories is numerically small—Europeans being a tiny share of Africa’s population and the bulk of the high-*n* OECD population—than when both categories of population are substantial, as in much of Latin America (and in South Africa).

Finally, there is more to good governance than reducing noncommercial investment risks. Both accumulation and TFP directly and indirectly benefit from the effective delivery of public services, particularly in education, health, and infrastructure, and from the efficiency of the tax system used to finance those services. The evenness with which public services and taxes are spread among a country’s population also affects levels of income inequality and social indicators of well-being. The high living standards of the OECD countries could not have been achieved without motivating their private sectors, but they also have resulted from good public expenditure and tax policies.

## Prospects and Policies

Could Africa be like America? No, not literally or in detail. But yes, Africa surely could attain living standards similar to those of contemporary Latin America, and

ultimately much higher standards, although probably not as high as those of the United States and other land-abundant OECD countries that have the advantage of more temperate climates. And in two basic respects, a prosperous Africa will resemble the Americas more than it will resemble land-scarce Asia and Europe.

One respect is its sectoral structure. Africa will continue to have a larger primary sector and a smaller manufacturing and traded service sector than will Asian countries at the same level of income. The difference will be larger in the structure of exports than in the structure of output, and it will get smaller as the level of income rises (both because a rising capital/land ratio will make the structures of tradable output less dissimilar and because the share of tradable output in total output will decline in both sorts of countries). However, the higher ratio of land to labor in Africa will cause it to have a distinctive sectoral structure even at high levels of development, just as that of the land-abundant OECD countries today is distinct from that of the land-scarce OECD countries.

The other respect is its spatial structure. As Bloom and Sachs (1998) suggested, a prosperous Africa probably will resemble both South and North America in having a relatively unpopulated interior whose economy is based mainly on agriculture and mining, and large urban industrial concentrations on its coasts—perhaps an eastern concentration between Mombasa and Dar es Salaam, a western one around the Gulf of Guinea, and a southern one linking South Africa and Mozambique.<sup>11</sup> The coastal locations make it easier and cheaper for manufacturing (and related services) to be integrated into the global economy. Africa's coastal population density is already twice that of its interior, but migration of people from the interior will widen this gap substantially. Migration also eventually will narrow the gap in incomes between the coast and the interior—much as has occurred in the United States where residents of inland states are far less numerous but not much less affluent than those of coastal states (Rappaport and Sachs 2001).

A corollary of these structural features is that different African countries will prosper in different ways (Fafchamps, Teal, and Toye 2001). This article has considered the region as a whole, focusing on broad features that span and link the countries of Africa. But there is wide variation among individual African countries, both in their land/labor ratios (Wood and Mayer 2001) and in their locations. Relative resource costs will tend to cause densely populated countries to become more industrialized and urbanized than the sparsely populated ones that will remain largely rural and based on primary activities. The pattern of population densities in Africa will change, however, with coastal countries gaining people and interior countries losing people. In particular, some now sparsely populated coastal countries are likely to become much larger, relative to others, in terms of both population and aggregate output.

### *Ceteris Non Paribus?*

It might be argued that this vision underplays basic geographic differences between Africa and North or South America. Africa, like South America, is mainly tropical and so faces problems that North America is spared. Some tropical countries—in

South America and Asia—have tackled these problems successfully, and that shows that African countries could do so in the future. But the solutions have costs. Furthermore, compared with the more temperate climate of North America, the tropical climates of Africa and South America will always cause smaller proportions of their populations to live near the coasts because high altitudes inland are cooler and less humid. Another enduring reason why fewer people will live on the coasts in Africa and South America than in North America is that the former continents are split up into more countries whose borders inhibit the movement of people. Both obstacles to coastal concentration will be especially costly for Africa, which has the smallest share of its landmass close to the sea or to an ocean-navigable river, and especially for Africa's landlocked countries—as can be seen from the continuing poverty of Bolivia and Paraguay within South America.

A geographical question mark remains also over Africa's agricultural potential, because of the poor quality of its tropical soils and the difficulty of irrigation in many areas, and because its sparse population hinders the intensification of agriculture by raising the cost of transporting inputs and outputs and by impeding the creation of market institutions and the diffusion of knowledge (Platteau 2000). That could mean that Africa's sectoral structure will be less different from the structure of Asia than was suggested above or that its distinctively large primary export and output shares will consist largely of minerals (which can be a source of corruption and conflict). The evidence reviewed in this article suggests that the quality of Africa's land for agriculture is not nearly poor enough to offset its vast area, and thus that in the long run Africa will have larger sectoral shares of agriculture as well as of mining than will the land-scarce countries of Asia. But African agriculture has fallen behind that of Asia, and raising the continent's productivity will be a more complex and costly task than in Asia (Kydd and others 2001).

It also could be argued that times have changed in ways that will disadvantage Africa relative to the historical experiences of North and South America. One such change is that transport costs are now far lower than in the 19th century, which means that having abundant natural resources gives less of an advantage for industrialization than it used to because raw materials and energy can be moved cheaply around the world (Sachs 2000). The difference in sectoral structure between a prosperous Africa and a prosperous Asia thus might ultimately be larger than that between today's high-*n* and low-*n* OECD countries. But by speeding the international diffusion of technology, reductions in travel and communications costs (Tang and Wood 2000) enable developing countries today to grow far faster than did the now-industrial countries in the 19th century. Air transport and telecommunications offer special advantages to Africa by reducing the costs of sparse population and of long distances from coasts or rivers.

Changes in transport and communications costs also might affect the spatial structure of a prosperous Africa. To the extent that people in the future work as providers of teleported services, there will be less need for clustering on coasts—just as, for most of history, population distribution was determined less by proximity to the sea than by availability of fertile and well-watered agricultural land (Gallup and Sachs

1998). The clustering of population in urban areas will not diminish—the advantages of proximity to other people are even greater in knowledge-based services than in industry (Glaeser and Gaspar 1998)—but more of the cities will be inland. Rumors of the death of distance, however, have been exaggerated: transport costs are demonstrably still crucial (Crafts and Venables 2001) and a future without production and movement of material goods in huge quantities is unimaginable.

Another relevant respect in which times could be argued to have changed since the 19th century is that world markets for primary commodities have become more competitive. Science has developed synthetic substitutes for many natural materials. New suppliers of primary products have emerged and the old suppliers have continued to expand their output. The resulting global surplus of primary products may thus make it unattractive or impossible for Africa to achieve the major expansion of its primary exports and output implied by the comparison with the Americas. However, the extent of the past secular decline in primary product prices remains a matter of debate, and future rapid growth in the populous but land-scarce countries of Asia will tend to increase world demand for primary products. More generally, all world markets have become more competitive, not least those for labor-intensive manufactures in which Africa would find it even harder to compete because of the comparative disadvantage arising from its current combination of human and natural resources.

Finally, there have been demographic changes. Population densities everywhere are much higher than they were two centuries ago, including in Africa where scarcity of land recently has ended the extensive dimension of agricultural growth—the moving frontier—from which North and South America benefited for 100 years or more (Atack and Pasell 1994; Bulmer-Thomas 1994; Platteau 2000). Africa also has been unusually hard hit by the HIV/AIDS epidemic, and that will tend to raise its land/labor ratio relative to the rest of the world (and thus make its primary sector larger than it otherwise would have been), and will slow its per capita income growth by reducing the ratio of workers to population. Political barriers to migration are now also greater than they were in the 19th century. There can be no repetition in Africa of the inflows from another continent that populated the coasts of the Americas, and within Africa long-range permanent migration is now more difficult than in any previous era.

### *An African Policy Agenda*

Even if the vision of becoming like America is realistic, one needs to ask how Africa could get from here to there. Faster accumulation of capital will be vital, and that will require a reduction of conflict, greater political and macroeconomic stability, better legal systems, and less corruption—improvements in governance that decrease the noncommercial risks of private investment in physical and human capital and encourage firms and people to invest more and to keep their assets in Africa rather than taking them abroad. It also will require large increases in public spending on health, education, and infrastructure. Better governance and infrastructure

will enhance business links between Africa and the rest of the world and thereby accelerate the flow from the global pool of knowledge into Africa, raising the efficiency with which all the continent's resources are used. Better health, education, and infrastructure will help translate aggregate growth into widespread increases in living standards.

This policy agenda for Africa is familiar, is widely accepted, and was set out most fully and persuasively in a recent collaborative report by several agencies (World Bank 2000). Its ingredients are similar in many respects to those that are needed to raise living standards in low-income Asia, which implies that there is a large overlap between the requirements for achieving prosperity in land-abundant and in land-scarce countries (and much that Africa can learn about the process from East Asia, even if its ultimate destination will be structurally different). There are, however, three areas in which the policy priorities of a land-abundant region such as Africa differ from those of a land-scarce developing region: knowledge for natural resource exploitation, spatial distribution of economic activity, and reduction of inequality.

### *Applying Knowledge to Nature*

It is widely believed that natural resource-based activities are inherently backward technologically. Nothing could be further from the truth. Modern agriculture and mining are science-based, their technological frontiers are moving fast, and economic success in land-abundant countries depends crucially on applying science and technology to their natural resources. The greater prosperity of the high-*n* OECD countries over that of Latin America is partly the result of a long history of more government support for higher education and research in agriculture and mining (Blomstrom and Meller 1991; David and Wright 1997; de Ferranti and others 2002). Within Latin America, too, the recent rapid growth and diversification of primary exports in Chile and Costa Rica owes much to those countries' investments in sector-specific research, education, training, and extension services (Agosin 2001; Rodríguez 2001).

Similarly, the lesser prosperity of Africa than of Latin America is caused partly by the even lower levels of scientific research, education, and training in its natural resource-based sectors. Fafchamps, Teal, and Teye (2001) attributed Africa's declining share of the world's exports of tropical products largely to neglect of agronomic research on export crops, greater attention to which has enabled countries in Southeast Asia and Latin America to capture much of the world market in such items as cocoa and coffee. They noted (as did Kydd and others [2001]) the need for an African green revolution in food crops and for science-based advances in animal husbandry. Outside South Africa, the mining sector is an odd mixture of primitive artisans and foreign enclaves. Few African universities or research institutes have much capability to train and employ natural resource specialists or to disseminate relevant scientific knowledge.

Progress in these areas will require more funding and organizational changes in public institutions, both national and international, including the formation of a research network on export crops to parallel the Consultative Group on Interna-

tional Agricultural Research's network on food crops (Fafchamps, Teal, and Toye 2001). Progress also will require greater involvement of (and collaboration with) the private sector, which leads the field in biotechnology. Greater regional collaboration within Africa would be helpful, not only among universities and research institutes but also among standard-setting and regulatory government agencies. For example, common standards for seed certification would make research on new varieties for the African market more attractive to the private sector. Progress also will require attracting home a substantial proportion of the large number of African scientists and engineers who have left the continent in recent decades. That will not happen without general improvements in governance and the creation of more and better-paying jobs in those expatriates' specific fields, but it offers a remarkable opportunity to increase Africa's stock of scientists rapidly and in a way that ensures strong international linkages.

### *Managing Spatial Dispersion*

To achieve a high level of development, Africa's generally sparse population will require greater expenditures for transport and communications than does a densely populated region. For instance, compared with the low-*n* OECD countries, high-*n* OECD countries have (on a weighted per capita basis) 50 percent more telephone lines, more than twice as much paved road length, three times as much passenger air travel, and more than three times as much rail track. They also have more than double the electrical generating capacity. Africa will need to invest at least twice as much of its GDP in infrastructure as will low-income Asia, and will have higher recurrent charges for operation and maintenance. Those costs must be incurred not only to link Africa with the rest of the world but also to integrate it internally, thereby allowing greater specialization and reducing spatial inequalities. Meeting those costs will require increased partnership between the public and private sectors. Providing efficient transport throughout Africa also will require more cooperation among the governments of different countries in designing and operating regional transport corridors and in easing transborder movements and access of interior countries to ports.

For reasons described earlier, achieving extensive development in Africa also will require large movements of people—within rural areas to places of greater agricultural potential (Platteau 2000), from rural areas to towns and cities, and from the interior to the coasts. Such movements have occurred during the last few decades—between countries, as well as within them—but their pace will accelerate in proportion to the success of Africa's economic progress. They will have costs as well as benefits, both for areas of out-migration and for areas of in-migration, making it crucial that African governments recognize the need for these movements to occur and take steps to support them and to minimize their costs. Among other things, that recognition should influence the way in which regional economic agreements are conceived and implemented. At a minimum, agreements must allow free movement of labor across borders, and to the extent politically possible, the governments concerned should commit themselves jointly to promoting the well-being of all the peo-

ple of the region, regardless of whether they live in their country of citizenship. Such a government-level commitment might entail transferability of social and political rights and obligations, including votes, taxes, and pensions, and of economic assets, such as qualifications and property.

### *Minimizing Inequalities*

A negative lesson for Africa from the experience of Latin America concerns the importance of avoiding extreme income inequality. Such inequality not only allows substantial absolute poverty to persist in upper-middle-income countries, but also makes it harder to achieve a high level of per capita income. Econometric evidence of an inverse relationship between inequality and growth across developing countries in recent decades (Morrissey, Mbabazi, and Milner 2002) is consistent with historical evidence of the adverse effect of inequality on the economic progress of Latin America where social polarization discouraged investment by causing recurrent political instability—and continues to do so (Bulmer-Thomas 1994). Africa has an advantage over Latin America, namely, lower levels of European settlement (except in Southern Africa), and thus less of a cleavage between settlers and indigenous people but income distribution in most African countries is still disturbingly unequal.

The best way to moderate inequality is to spread the ownership of productive assets more widely, and in a land-abundant developing region the most obvious asset is land itself. The extremely unequal distribution of land in colonial times was a root cause of Latin America's chronic income inequality. The inequity arose partly from the fact that some tropical crops are subject to economies of scale, and that implies that inequality may be more difficult to reduce in Africa than in a temperate region. But the inequalities of ownership in Latin America reflect also a history of missed opportunities to create a more equal pattern (Bulmer-Thomas 1994)—a history that Africa should try not to repeat. Smallholders dominate in some African countries, but in others ownership is highly unequal, and traditional land tenure systems have proved hard to reform (Herbst 2000). In some cases the best strategy will be to redistribute ownership and in others to reform tenure rules. Differences in land quality and access to markets and services among localities also are important sources of inequalities that improved transport and mobility of people should help reduce (World Bank 2000).

Latin America's unequal ownership of land has contributed to unequal access to another asset, education, whose distribution (particularly a low rate of secondary schooling) is now the main cause of income inequality in the region (IADB 1998). By contrast, the land-abundant OECD countries of North America and Scandinavia, with less unequal land ownership and a stronger political commitment to mass education, achieved less unequal distributions of schooling and hence of income (Blomstrom and Meller 1991). Africa must follow this latter path with universal primary education as the first step and widespread secondary education as a medium-term objective. The quality as well as the quantity of education will matter at all levels.

### *Time Horizons*

How long might it take Africa to become like America? Africa slipped behind the Western hemisphere over several centuries, largely for geographical reasons—disease and internal distances there were much bigger obstacles than in North or South America to its integration with the world economy and to the transfer of new institutions and new technologies. It fell even further behind during its first few decades after independence—in a phase of conflict, political instability, and economic stagnation similar to that in Latin America after its own independence 150 years earlier (Bulmer-Thomas 1994). But Latin America moved from this first troubled phase of nation-building into an extended period of growth, and Africa could do the same.

Recent experience in other developing countries shows that growth can be rapid in tropical as well as temperate climates. Technologies are available that can overcome most of the obstacles formerly created by disease and distance—new drugs and new modes of transport and communication. The binding constraint on the speed of progress in Africa is no longer geography—it is politics. The region will grow if the noncommercial risks of investment are reduced and if infrastructure, education, and health systems are improved. To achieve the rapid and sustained growth needed to make Africa as prosperous as America will require finding solutions to many difficult problems, including those discussed above—but not all are needed immediately and not all are absolute preconditions of progress (Fafchamps, Teal, and Toye 2001). Quite small changes in policies and institutions sometimes transform the attractiveness of countries to investors (Rodrik 2003).

If the binding constraint on progress in Africa is indeed politics, then what will matter most are the choices and actions of African people and African governments. But the rest of the world needs to help in a range of ways (DFID 2000; World Bank 2000). One small such way is to contribute ideas to the debate within Africa, and that is the purpose of this article. Its aim has been to suggest a somewhat different approach to thinking about Africa's future—not to replace but to complement existing approaches. Even if the approach is felt to be useful, however, this article should be seen as just the start of a larger agenda of comparative policy research on Africa and the Americas.

### **Appendix: Membership of Groups**

The maximum coverage\* of the six groups used in this article is as follows:

*High-n OECD*: Australia, Canada, Finland, New Zealand, Norway, Sweden, the United States.

*Latin America*: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, República Bolivariana de Venezuela.

*Sub-Saharan Africa:* Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Republic of Congo (Brazzaville), Democratic Republic of Congo, Côte d'Ivoire, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe.

*Low-n OECD:* Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, Portugal, Spain, Switzerland, Turkey, the United Kingdom.

*East Asia:* China, Hong Kong (China), Indonesia, Republic of Korea, Malaysia, Myanmar, the Philippines, Singapore, Taiwan (China), Thailand.

*South Asia:* Bangladesh, India, Nepal, Pakistan, Sri Lanka.

\*The actual coverage is smaller in some tables and figures because of lack of data (details are available on request). Other countries are included in the regressions reported in table 3.

## Notes

1. Lal and Myint (1996) also considered a less optimistic scenario in which the accumulation of capital in a land-abundant country is so slow, relative to population growth, that its comparative advantage shifts into less capital-intensive manufactures. Similarly, the widening educational gaps between Africa and other regions during 1960–2000 (shown in figure 1) are one basic reason why Africa's exports remained concentrated on unprocessed primary products.
2. For details of the allocation of goods to sectors, see Mayer and Wood (2001) and Wood and Mayer (2001). The latter article also contains some analysis of trade in services.
3. There is surely also much variation in land quality that is uncorrelated with  $n$  and that reduces the explanatory power of these regressions. However, statistical efforts to allow for variation in land quality have been largely unsuccessful (Wood and Berge 1997; Wood and Mayer 2001).
4. For the theoretical underpinnings of the econometric specification of these regressions, see Wood and Berge (1997) and Aldaz-Carroll (2002).
5. In principle, trade within each group should be netted out, which would tend to widen the intergroup differences, but that is not possible with the data used.
6. Leamer (1984) discovered that supplies of coal were correlated with revealed comparative advantage in manufacturing in 1958 and 1975, although most other natural resources had the opposite effect.
7. The change in dependent variable and country sample between the export and production regressions in table 3 understates the reduction in coefficient size for  $h$  and overstates the reduction in coefficient size for  $n$ . In the full-specification regression of the BM/NP *export* ratio for the same set of countries as in regression 9 in table 3, the coefficients on  $h$  and  $n$  are 1.76 and  $-0.44$ , respectively. More puzzling, the coefficient on  $p$  in regression 9 is insignificant, casting doubt on its meaning in the export regression (because economies of scale should be as important for production as for exporting).
8. For instance, in the standard  $2 \times 2 \times 2$  H-O model each country produces both goods, albeit in differing proportions, but exports only one of them.

9. The higher average Gini coefficient in Latin America than in Africa is at least partly because of inequality usually being measured on the basis of income in the former region and of expenditure in the latter. In both regions these summary statistics omit the inter-country dimension of income inequality.
10. Differences in land per worker are not allowed for in this decomposition and in principle should thus be captured in the residual TFP term. However, estimated TFP is not systematically higher in the three land-abundant groups than in the three land-scarce groups.
11. This spatial structure arises from the combination of a low population density and a large landmass both in Africa and in the Americas. Europe is different, and so is much of Asia—although that does not include China, which is developing a rather similar structure because of its geographical size.

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## **Comment on “Could Africa Be Like America?” by Adrian Wood, and “Primary Commodity Dependence and Africa’s Future,” by Paul Collier**

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EMMANUEL TUMUSIIME-MUTEBILE

### **Considering Wood’s Thesis**

Adrian Wood’s article makes many important points, most notably that we cannot ignore resource endowments in designing appropriate policies for long-term development. A development strategy that is feasible in Africa is not necessarily the same as that which is feasible in Asia, where population densities are much higher. Africa’s development will be more like that of resource-abundant Latin America than labor-abundant Asia, according to Wood’s thesis.

Before we examine the implications of natural resource endowment in detail, I think a few points of caution are in order. First, within Africa there is enormous heterogeneity in resource endowments, with some parts of the continent—such as areas of Nigeria and the Great Lakes region—having high population and high land densities. Hence, it is not clear that all countries on the continent have a comparative advantage in natural resources.

Second, development depends on much more than simply exploiting factor endowments as efficiently as possible. In particular, development entails radical changes in the institutional structure of societies—for example, how they are governed; the prudence and soundness of macroeconomic policies; the time consistency of policy in general, the quality of the country’s structural and competition policies; attitudes toward business, property rights, and contract enforcement; and opportunities for savings, investment, and wealth creation. Latin America faces severe socio-economic problems, which Wood acknowledges stem in part from the consequences of economic development based on natural resources. It has enormous inequalities in wealth and income, which in many countries reflect both ethnic and class divisions, a quasi-feudal land structure, and a history of dreadful governance characterized by brutal military dictatorships and human rights abuses. In that respect, Africa must

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Emmanuel Tumusiime-Mutebile is Governor of the Bank of Uganda in Kampala.

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avoid repeating the history of Latin America. Therefore it is important to enhance our understanding of how natural resource-based development appears to exacerbate social inequalities and problems of governance. Both Adrian Wood and Paul Collier offer some answers to these questions.

Wood argues that capital accumulation in land-abundant countries will transform their production structures from unprocessed primary products to processed primary products and eventually to capital-intensive manufacturing, but that these countries will never become major producers of labor-intensive manufactured products because they will never have a comparative advantage in labor-intensive manufactures.

Wood's thesis may help to explain why neither Africa nor Latin America has had much success with labor-intensive manufactures, compared with East Asia, although I doubt that it is the full explanation. Other factors also may be at work.

East Asia historically has had important entrepreneurial classes (which in most East Asian countries are of Chinese origin), dating back a century or more. Those entrepreneurs were originally primarily traders but have since expanded into a wide range of businesses, including manufacturing. They have accumulated resources of both financial capital and the business skills needed to move from pure trade into more complex business activities, such as manufacturing. In contrast, Africa's indigenous business class is still embryonic—it stretches back at most one or two generations—and for the most part it has not yet built up the business experience and expertise nor accumulated the capital needed to operate successfully such large-scale enterprises as manufacturing. Consequently, African-owned manufacturing businesses often struggle because they are undercapitalized and lack modern professional management.

The implication of Wood's thesis is that developing countries in Asia, with their huge and cheap labor forces located in coastal areas, have a major cost advantage over Africa in the production of labor-intensive manufactures, such as garments, for the world market. This cost advantage means that domestic policy measures to promote labor-intensive manufacturing in Africa through, for example, export processing zones with tax incentives and other government subsidies are likely to be counterproductive. Value added at world prices in these industries is likely to be very low, if it is positive at all.

That also has implications for the trade policies of industrial countries. It implies that an initiative like the United States Africa Growth and Opportunity Act (AGOA), which offers enhanced trade preferences to such African exports as textile and apparel, is likely to be largely ineffective as a stimulus to development because Africa has no comparative advantage in the products that will benefit most fully from the trade preferences conferred by AGOA. Indeed some might consider it not too cynical to argue that this is why the United States offered that trade concession in the first place.

What would be far more useful for Africa is genuine liberalization of global agricultural markets, including the removal of the massive public subsidies that currently support production in the countries of the Organisation for Economic Co-operation and Development (OECD) and that are major barriers to Africa's exploiting its comparative advantage in agriculture. Both the European Union and

the United States have extended trade preferences to African countries. That is welcome. Removing tariff and quota barriers to African exports, however, will have limited benefit for Africa while the products with which African exporters must compete enjoy large public subsidies in the industrial countries.

To exploit their comparative advantage most African countries must modernize and commercialize their agricultural sectors, which are currently characterized, for the most part, by very rudimentary technology and only limited production for the market. Modernization and commercialization will require public resources to provide the public goods needed to support modern farming and other rural industries, together with policies to develop domestic, regional, and international markets for Africa's agricultural products and ancillary services, such as rural finance and equitable rural markets for both inputs and outputs. The public goods needed to support agricultural development in Africa include agricultural research and extension services; an expansion of the transport infrastructure in rural areas; and improved primary health care, education, and water and sanitation to enhance human capital development, water harvesting, and, where feasible, irrigation infrastructure to cushion agricultural production from draught.

Raising productivity and incomes on smallholder farms also will be one of the most effective ways to reduce poverty in Africa because the majority of poor people live in the rural areas. Exploiting a comparative advantage in agriculture should be a pro-poor development policy. This has been an important lesson of Uganda's economic reforms over the last decade. Economic reforms that benefited cash-crop farmers, such as exchange rate reform and the liberalization of coffee marketing, not only brought about a revival of coffee production but also led to a 30 percent fall in the incidence of poverty among cash-crop farmers in the 1990s. Uganda now faces the more difficult challenge of cutting poverty among the more numerous food-crop farmers.

The distribution consequences of natural resource-based development will be more problematic for countries whose comparative advantage lies in minerals rather than agriculture. Mineral extraction is usually highly capital intensive and generates only limited employment. In those countries it will be especially important for governments to ensure that government spending is focused on sectors that can reduce poverty and income inequalities, such as the provision of basic social services and support for the development of the food-crop sector.

In much of Africa increased production of food crops often leads to a sharp fall in farm gate prices because the outlets through which to market the crops do not exist. The price decline and lack of outlets discourage farmers from investing in the technology needed to boost output. We currently face the paradoxical and potentially tragic situation in which people in southern Africa are threatened with starvation because of crop failures, although farmers in Uganda and other parts of East Africa have produced bumper harvests of food crops. Only a fraction of those crops can be exported to southern Africa because the transport infrastructure is so poor. It will be important to integrate Africa's food markets so that produce can be moved from areas of surplus production and sold in areas of deficit. Such integration requires

much deeper trade liberalization within Africa itself, coupled with improvements in the transport infrastructure.

A natural resource-based development strategy puts a large premium on good fiscal policy. As Paul Collier has noted in his article, fiscal policy has been very problematic in many natural resource-based economies because government revenues are often volatile as a result of commodity price instability and because there is often strong political pressure for governments to provide urban employment in economies where the exploitation of natural resources provides little direct urban employment. With government revenues dependent on commodity prices, government expenditures often rise sharply when commodity price booms relax the government's budget constraint, but the end of a commodity boom and an accompanying fall in government revenues then lead to severe fiscal deficits because of the inflexibility of government expenditures.

What sorts of fiscal policy reforms are needed in primary commodity dependent economies? First, governments should strengthen public expenditure controls and, in particular, plan government expenditures so that they are fiscally sustainable over the medium to long term, based on realistic projections of government revenues and such other sources of funding for the budget as foreign aid. The introduction of medium-term expenditure frameworks (MTEFs) in many African countries, including Uganda, is a useful reform in that regard because, if implemented properly, MTEFs can help ensure that aggregate government expenditures are planned in a manner that is consistent with medium-term resource availability.

Second, governments have to diversify their revenue bases so that they are less reliant on revenues generated by primary commodities. Reforms to promote growth in income tax and consumption taxes, such as the value-added tax (VAT), which are naturally buoyant tax heads, can help broaden the tax base in African countries.

Third, more flexible fiscal policies are required to enable governments to respond appropriately to commodity shocks. Governments must ensure that they have the capacity to make cuts in nonessential expenditures if falls in domestic revenues demand it. It is essential that the ministry of finance control expenditures by line ministries and that it has the authority to restrict spending when this is necessary. In Uganda centralized control by the ministry of finance over the release of funds to line ministries on a monthly basis has been one of the key ingredients in restoring fiscal discipline since the early 1990s.

Fourth, fiscal policy must support poverty reduction and the reduction of income inequalities. The main instrument for achieving such reductions will be a reallocation of government expenditure toward sectors that directly contribute to poverty reduction. Uganda already has made considerable progress toward this goal. The share of the budget allocated through the Poverty Action Fund to sectors that improve poor people's quality of life or assist them in raising their incomes has increased from 18 percent in 1997-98 to 34 percent in the current fiscal year.

To sum up, the domestic policies that African governments adopt will be crucial in determining whether African economies can develop successfully on the basis of natural resource exploitation, transform their production structures to incorporate a

much greater degree of processing and enhanced value added, and ensure that resource-based development reduces poverty. The key policies will be sound macroeconomic and fiscal policies, open trade policies, and, in particular, support for the development of agriculture. In addition, genuine reform of agricultural markets in industrial countries will be a necessary complement to policy reforms in Africa.

## Considering Collier's Arguments

Paul Collier's article is as interesting and persuasive as it is controversial. It makes two particularly contentious arguments: first, that primary commodity dependence worsens governance in primary commodity-producing countries and makes those countries more vulnerable to civil war, and, second, that primary commodity dependence is not the result of factor endowments (as Wood argues) but of political economy.

### *Problems with Primary Commodity Dependence*

Few people would argue with Collier's assertion that the economies of primary commodity exporters are damaged by the price volatility of those products on global markets. Over the last 30 years, the macroeconomic, fiscal, and, in some cases, income distributional problems associated with primary commodity dependence have been demonstrated in many countries where commodity price volatility has severely destabilized inflexible economic structures.

However, I do not believe that it is inevitable that commodity price shocks should have the disastrous consequences that Paul Collier found in his cross-country analysis. Since 1999 Uganda has suffered a terms of trade shock equivalent to a gross domestic product (GDP) loss of approximately 2 percent a year as a result of the double whammy of declining coffee prices on world markets and the rise in oil prices globally. Collier's research suggested that the multiplier effect should have reduced GDP growth by a factor of three: that is, by about 6 percentage points a year. In fact, the reduction in GDP growth in Uganda during the last 3 years, compared with the average of 6.5 percent recorded over the last 10 years, was only between 0.5 percent and 1 percent per annum. Uganda escaped relatively lightly from the terms of trade shock because the economic reforms, such as trade and exchange rate liberalization, implemented over the last decade have made the economy much more flexible in responding to external shocks and because fiscal policy reforms have broadened the tax base and enhanced control over public expenditure so that a widening of the fiscal deficit was avoided.

Collier argued that the impact of primary commodity dependence is not confined to the economy; rather, it also worsens governance and increases vulnerability to civil war.

Although it is possible to think of sound reasons why an economic structure dependent on primary commodities might provide more scope for predatory government than might a manufacturing-based economy, the only empirical evidence in

Collier's article to support that reasoning is that which is implied indirectly by the regression model of aid and growth. That model assumes that aid receipts and commodity revenues are equivalent in their effects on governance. Aside from the regression results, the empirical evidence does not appear to be very strong. There are some primary commodity exporters, such as Botswana, who have a history of very good governance over the last 30 years, and there is no shortage of countries with large labor-intensive manufacturing sectors in Asia with very poor records of governance in terms of corruption and the abuse of human rights.

The argument that primary commodity production encourages civil war is also tenuous. The opportunity to loot certain primary commodities, such as diamonds and timber, may encourage rebellions and can certainly sustain them—it is undeniable that the civil wars in Sierra Leone and Angola have been fueled by trade in illicit diamonds—but there are many other civil wars in Africa and elsewhere—Rwanda, Burundi, Chad, the Sudan, Sri Lanka, and Nepal—that offer few opportunities for rebels to loot valuable commodities. It is more likely that the major causes of civil war in Africa are political; for example, the lack of legitimacy of incumbent governments as perceived by large sections of the population, especially in ethnically divided societies; the extremely low levels of income; the collapse of state authority; and the opportunities for looting are largely secondary factors. The notion that rebellions are a special class of criminal activity that enjoy economies of scale is facetious. Rebellions usually have political causes. Potential rebels have easier and safer ways to steal than by starting a civil war. We should be wary of seeking purely economic explanations for all of the ills of human society.

### *The Political Economy of Commodity Dependence*

Collier argued that Africa's comparative advantage in primary commodities is not the result of its factor endowments but of the political economy of countries ruled by predatory, rent-seeking governments. Manufacturing is far more vulnerable to such governments than are agriculture and natural resources, such as minerals, because rents are generated by taxing intermediate inputs, and those are a much larger share of gross output in manufacturing than in agriculture or mining.

That argument is not very convincing for several reasons. First, in many countries the sectors of the economy that have suffered the most from predatory governments were the export commodity producers because governments imposed ruinous taxation on agricultural exports through state monopoly marketing boards, high levels of commodity taxes, and overvalued exchange rates. Collier's argument is more convincing when applied to the mining and oil industries because those are largely enclave-type activities with few linkages to the domestic economy and, crucially, the multinational firms involved (unlike peasant coffee or cocoa farmers) usually have the political clout to defend themselves against excessive predation by governments.

Second, even if taxing intermediate inputs provided the main avenue for predatory rent seeking in Africa, which is in itself debatable, the volume of intermediate inputs passing through ports in manufacturing-based economies would be much larg-

er than in primary commodity–dependent economies, and so the rate of taxation on intermediate inputs would not need to be as high to generate the same level of rents for the government. Therefore, in a manufacturing-based economy the pressure to impose economically ruinous rates of taxation on intermediate inputs would be lower than in an economy dependent on a primary commodity.

For example, if the volume of intermediate imports in a manufacturing-based economy is double that of a primary commodity–based economy, the rate of taxation on those imports in the manufacturing economy need only be half the rate in the primary commodity dependent–economy to generate the same level of rents for the government.

Third, it is far too sweeping to argue that predatory rent-seeking behavior by governments is uniform across Africa. Clearly there are different degrees of predatory behavior on the continent that should be reflected in differential economic consequences, as indeed they are. Countries, such as Botswana since the 1960s and Uganda and Mozambique since the late 1980s, have enjoyed relatively good governance and that is reflected in their economic performances, which are among the best in the developing world in terms of GDP growth, macroeconomic stability, and poverty reduction. Despite these differences between African countries in terms of their governance and their economic performance, however, there is virtually no globally competitive manufacturing anywhere in Sub-Saharan Africa. There must be reasons other than the rent-seeking behaviors of governments that impede manufacturing in Africa.

### *Policy Conclusions*

One of the implications of Collier’s political economy explanation for primary commodity dependence is that it will be even more difficult for Africa to develop agricultural-processing industries than to develop labor-intensive manufacturing because the former is even more vulnerable to taxation of intermediate inputs by rent-seeking governments.

Even if Collier’s theory is right, the implications for agricultural processing are not as bleak as he has implied. First, those industries are not uniformly intensive in their use of capital.

Second, even though agro-processing is intensive in its use of intermediate inputs, the scope for taxing those inputs is much less than is the case with the intermediate inputs of labor-intensive manufacturing because the import component of the intermediate inputs of agro-processing is much lower than that of labor-intensive manufacturing. In many cases agricultural processing companies grow their own inputs on plantations or obtain the inputs through out-grower schemes. The opportunities for governments to tax those inputs are very limited. If Africa does have a comparative advantage in agro-processing, it will be because it can grow the inputs domestically. It will certainly not have a comparative advantage in this sector if the inputs have to be imported. In contrast, many labor-intensive manufacturing industries import most of their intermediate inputs.

Third, although it is undeniable that governance has been poor in many African countries, that does not mean that governance cannot be improved and that the burden of rent-seeking on productive private business cannot be lifted. There are many reformers within Africa, in both government and civil society, who are working to improve the quality of governance on the continent. As I have already mentioned, important progress has been made in Uganda and Mozambique. Within Africa public pressure for good governance is much greater than it was 10 years ago.

Collier suggested that Africa has a comparative advantage in services because services have a cost structure similar to that of natural resources. That might be the case, although it is difficult to predict how the market for traded services will evolve in the future, given that many traded services are closely tied to technological innovations. As he pointed out, services are mainly skill intensive so the growth of the sector requires a very strong government commitment to improving education.

In fact, Africa is already earning huge incomes from services, in the form of labor exports. Remittances from Ugandans abroad currently exceed merchandise export earnings there.

I support Collier's recommendation that program aid be provided in a counter-cyclical manner to help cushion the adverse effects of sharp commodity price falls. It is probably too complex to link debt service payments to commodity prices because that would involve agreement with many different creditors if the principal of equal burden sharing by creditors underlying the Heavily Indebted Poor Countries (HIPC) debt relief initiatives is to be preserved. But a group of the major aid donors could agree to provide emergency aid to countries that are suffering sharp terms of trade shocks but whose economic programs are otherwise performing satisfactorily. That was attempted in 2000 when the World Bank and some bilateral donors, including the Netherlands and the United Kingdom, made more program aid available to countries that had been hit by the fall in their export commodity prices and the rise in oil prices. In Uganda this enhanced aid provided useful support for our foreign exchange reserves. Aid, however, is not equivalent to domestic revenue in its economic impact, and governments in Africa must take the primary responsibility for ensuring that their economies can adjust to commodity price shocks by improving the flexibility of their economies and by strengthening their fiscal policies.

To conclude, both Adrian Wood and Paul Collier have written very thought-provoking articles. We need to understand where Africa's comparative advantage lies and how it will evolve in the future, given changes in technology, world market demands, and so forth. It is a measure of how much is yet to be understood about long-term development patterns that these two articles can reach such markedly different conclusions.



## **Comment on “Primary Commodity Dependence and Africa’s Future,” by Paul Collier, and “Could Africa Be Like America?” by Adrian Wood**

CHARLES C. SOLUDO

I have enjoyed reading the two insightful articles by Paul Collier and Adrian Wood for several reasons. First, there are synergies as well as differences in their interpretations of Africa’s development and the way forward. Second, they both echo and adumbrate some of the recurring themes in the debate on Africa’s atypical development traps—geography/destiny versus policy; limits of domestic policy and the nature of regional and global approaches to coordinated action; places where Africa can learn useful lessons for the road ahead; the role of aid; and so forth. Both articles also provoke debate on possible limits to Africa’s development prospects (or certainly to the prospects of some of the countries there). These articles have made very important contributions and I highly recommend them to policy analysts and researchers on African development.

In the next section I highlight some of the important synergies and differences in the two articles, and follow that with some comments and issues pertaining to the major analyses and conclusions of the two articles.

### **Synergies and Differences in the Two Articles**

If one were to synthesize the two articles into one, a common title could be “The Causes and Consequences of Primary Commodity Dependence in Africa.” That title underscores the common themes of the two articles. Africa is the only region of the world that has not diversified away from dependence on primary commodities—indeed, it has intensified its dependence on a few such commodities in the last 30 years. Why? The authors use different analytical perspectives to explain why Africa’s comparative advantage has been in natural or primary commodities and not in manufacturing or agricultural processing. Wood relies on the extended Heckscher-

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Charles C. Soludo is executive director of the African Institute for Applied Economics, Enugu, Nigeria, and a professor at the University of Nigeria in Nsukka.

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Ohlin endowment/geography-based model and Collier invokes the political economy-induced/poor investment climate/transaction costs model. Both agree that Africa needs to diversify away from near total dependence on primary commodities, although Wood sees only a limited possibility given the constraints of geography—sectoral and spatial. Collier argues that addressing the transaction costs would unleash the momentum for diversification in most countries, although he notes that not all countries can transform and those that cannot will learn to live with primary commodity dependence and with continued reliance on aid. To make progress both authors agree that Africa's governance structure needs to be improved. Furthermore, both conclude that Africa's transformation process—whether for increased research and training for agriculture and natural resources or for infrastructure development à la Wood, or for development of the investment climate and public service delivery as proposed by Collier—will require significant financial resources, perhaps beyond the present scope of many African governments. Remarkably, both articles provoke a new debate on the limits of African development, with or without the assistance of the international community. For Wood, “Africa could surpass the current income level of South America, although it may never quite catch up with North America because of its tropical climate and its division into many countries, which obstructs internal movement of goods, ideas, and people.” For Wood, therefore, geography—Africa's location in the tropics and its sectoral structure and spatial concentrations—constitute a binding constraint to its growth prospects, thus reenacting the possible geographic determinism inherent in Bloom and Sachs (1998). On his part, Collier argues that Africa must live with dependence on primary commodities for the present, and that in parts of Africa that is the only likely future. It is not clear from Collier's article which “parts of Africa” are condemned to perpetual, precarious dependence on primary commodities, and why. For those countries Collier sees hope coming from (perpetual?) dependence on aid. The key message from the two articles in this regard is that aggregate Sub-Saharan Africa faces some binding limits to its development possibilities—mostly because of its geography.

There is another kind of limitation—limits on the ability of Africa's domestic policies to change the situation. For Wood, “the rest of the world needs to help in a range of ways,” and for Collier, “many of the policies that could be effective require action by industrial countries.” These are important and sobering messages. They underscore the overriding principle behind the nearly 40 different initiatives designed to forge a compact between Africa and the international community to solve Africa's problems within the framework of *development partnerships*, including the recent New Partnership for Africa's Development (NEPAD). In essence, the realization that Africa's sustained development is not possible without concerted efforts by both Africans and the global community is not new. What is sorely missing and perhaps highly debatable pertains to the nature and implementability of such a coordinated agenda. Collier offers some insightful ideas about what the international community could do, and Wood concentrates on the domestic agenda, although both sides do not necessarily complement each other.

Let me now turn to more specific comments.

## Which Africa?

First, much of the analysis in both articles discusses Africa as if it is a country rather than a continent of 53 different countries or as Sub-Saharan Africa with 48 countries. Let me suggest that insofar as the domain of policy remains the nation state, using the categories of, for example, Africa, Latin America, or Asia, and couching the debate in terms of an Asian model or an American model may not add much value. African countries are as similar to countries on other continents as they are widely different. For example, there might be as many African countries that are similar to Asian countries—with scarce land, coastally situated, and the like—as there are African countries similar to the Americas in terms of land-to-labor ratio. The question is have those that are similar in endowments to Asia behaved as such? Probably not, and that’s one of the puzzles. The two African star performers—Botswana and Mauritius—embody characteristics that make any categorical classification unrealistic. Botswana is landlocked and dependent on natural resources, but has managed to outperform even some coastal, land-scarce Asian countries. On the other hand, Mauritius is a land-scarce island country that has managed to diversify away from primary commodity into manufactures and services. At the other extremes are several coastal, land-scarce countries that have failed to mimic Asia or Latin America. Analysis of Africa in the aggregate as done in the two articles obfuscates rather than clarifies many of the lingering puzzles of African underdevelopment.

## Simultaneity Problem and Circularity of Logic: The Primary Commodity Dependence/Poor Governance Model

The analysis by Collier about the causal interactions between primary commodity dependence and poor governance is very illuminating, but it is not clear what he believes should be done. His prescription implies that governance must be in place before transformation away from primary commodity dependence can happen. Where and how would good governance (upon which everything else depends) emerge, given that it is endogenous to primary commodity dependence? The authors, and particularly Collier, fail to explain why, with comparatively similar backgrounds, both the political economy and governance variables favored diversification in some countries (including some in Africa) but not in a majority of countries. An explanation must be sought again in the geography/destiny argument, in policy, or in both. But policy, it must be remembered, is a function of governance, which in the analysis is a function of primary commodity dependence—and so we are presented with some circularity of logic. Evidently, some African countries (such as Nigeria) are very much like Asian countries, with scarce land and coastal geography, but such countries as Malaysia and Indonesia were blessed with the “exogenous positive shock” of good governance whereas Nigeria and other African countries received “bad governance.” Why the difference? It comes down to whether good governance is an exogenous or endogenous variable—and why Africa has had an oversupply of bad gover-

nance. That is a particularly critical question especially if it is agreed that every society gets the leadership it deserves.

Wood points in the direction of a variable that is seldom studied in the literature, Africa's atypical geographic history—its balkanization and artificial strictures or “creations” by the colonizers. I argue that colonization alone is not the key variable because many other countries in other regions were colonized. African countries, however, were not just colonized, they were “created” through artificial borders that have almost perpetually forced strange alliances in many countries with inherent conflicts and poor governance. Interethnic tensions and hence the dominance of distributive politics are the defining characteristics of many of those countries. This phenomenon needs to be thoroughly understood and dealt with as part of a comprehensive development agenda. Furthermore, I believe the reason that Africa has not diversified away from primary commodities could lie in the perverse incentives provided by the various provisions of the Lomé Convention. By these incentives the European Union provided a gamut of concessions to the export of unprocessed primary commodities by the African, Caribbean, and Pacific countries. Is it an accident that those countries are also the most dependent on primary commodity exports?

### Can Africa Diversify?

Although both authors agree that diversification is desirable for Africa, they are uncertain whether it *can* diversify. Collier says it is “undecided”—depending on the political impetus for radical reform of the investment climate. “To break the impasse on reform, Africa needs both a coordinated reform effort by government and the entry of new private actors.” In some sense, Collier seems to be saying that the admission fee has gone up for new entrants and incremental reforms may not work. But he fails to say how coordinated reform could occur and new participants enter exogenously and independent of the reliance on primary commodities that worsens the investment climate.

According to Wood, Africa can diversify and significantly increase its share of the manufactures export market, but “the binding constraint on the speed of progress in Africa” is politics rather than geography, because off-the-shelf technologies and global knowledge banks can be tapped to overcome the limiting factors of geography and disease. Wood also argues that small improvements in institutions and policies can transform a country's attractiveness to investors. This is an important, albeit debatable, point. Some African countries have reformed more than some Asian and transition economies, but the flow of foreign direct investment (FDI) into Africa is minuscule relative to the flow to those “less reforming” countries. A comparison of the FDI into Ghana and Uganda on one hand and into Vietnam and Romania on the other makes the point. This investment pulse, even for star reformers in Africa, raises fundamental questions about the determinants of FDI, including the possibility of *covariance of risks* among African countries and the *ethnicity* of international capital. In the eyes of foreign investors, Africa is one village to the extent that conflicts

or risks associated with one end of the continent inevitably hurt other parts of the region. Furthermore, there is a possibility that foreign investment flows mostly to *culturally contiguous* locations, except for extractive industries that can afford to create enclave centers. Consider two examples that lend weight to that possibility: the flying geese model<sup>1</sup> of Japanese investors putting money more often in Asian developing countries than elsewhere and the fact that more than 50 percent of the FDI to India and China come from ethnic Indians and Chinese in North America and other economies in the Organisation for Economic Co-Operation and Development. Determinants of FDI is an issue that requires further research.

### What Can or Should Aid Finance? Not Another Lomé

Collier makes very interesting proposals on what the international community should do, including the provision of contingent aid to cushion the effects of primary commodity shocks because “each dollar of direct income loss from lower prices causes a further two-dollar loss through a contraction in output.” That is a novel proposal but I am unsure about its potential long-term effects. Is it intended to smooth government consumption spending? Contingent aid would perpetuate dependence as the Lomé Convention did by perverting or biasing the incentive structure in favor of primary commodity dependence. With aid tiding over countries during economic shocks, there would be no incentive to diversify. Collier also proposes making such contingent aid “automatic” but he does not explain how that would be accomplished, especially in light of reduced aid. He does not explain where the money would come from and how such countercyclical aid flows would be enforced. Currently, the global aid budget is about US\$60 billion, and there is a concerted global campaign to raise it to US\$100 billion to fund the attainment of the Millennium Development Goals. Providing *additional* aid contingent on primary commodity shocks would not be trivial. According to the World Bank and others (2000), Sub-Saharan Africa lost US\$68 billion annually because of commodity terms of trade shocks between 1972 and 1997, and official development assistance (ODA) has averaged less than US\$20 billion a year in the last five years.

Evidently, the entire global ODA is not enough to cushion this negative terms of trade shock. What kind of global aid regime would be able to mobilize the appropriate amount and deliver it at the right time to the most deserving nations under the right conditions?

Given that aid is falling, and even if an additional US\$68 billion could be mustered for Africa, what should even one additional dollar in aid be spent on? Should it be spent to maintain or promote consumption? I suggest that it should be spent more productively to tackle the plethora of nonfactor input costs, that is, address the many noncommercial risks by tackling the problems of regional security, regional research institutions, and regional infrastructure. Aid also should be deployed to buoy the private sector through regional insurance for FDI. That is required because of the high covariance of risks in Africa, and because Africa has been severely rated

by the risk-rating agencies. New aid should focus on building capacity for private sector and export competence. If aid is used productively to link all major economic cities in Africa with high-speed railways and highways; to ensure regional security, a coordinated financial system, and telecommunications; to build state-of-the-art regional seaports; and to fund regional research and development in agriculture and the like, it will be a different kind of aid and a different kind of Africa. That way, Collier's and Wood's proposals for a coordinated regional approach would have meaning on the ground.

Paradoxically, I started by saying that "aggregate Africa" is not the proper domain of analysis and now I end by saying that any solution that does not recognize the covariance of risks in the region, and so does not promote regional approaches, misses the point. Both articles recognize this imperative. Perhaps NEPAD offers a useful framework to begin, but a lot more work is required if Africa is to escape the primary commodity dependency trap.

## Note

1. The phenomenon of the flying geese model is the situation in which Japanese firms, especially those dealing with labor-intensive manufactures, relocate from higher-labor-cost Japan to lower-cost Asian countries. As the wage rate in Japan goes up, the firms seek lower-cost production sites in other Asian countries to maintain their international competitiveness.

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# **Education and Empowerment**

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# Education, Empowerment, and Gender Inequalities

RAVI KANBUR

*Kanbur considers a seeming disconnect between the consensus in policy circles that reducing gender inequalities should be prioritized in strategies for reducing inequality and poverty, and a view in mainstream economics (and in some policy circles) that gender inequalities are overemphasized. The latter view is not stated openly, it being politically incorrect to do so, but is nevertheless present. In specific terms, there is a sense that gender inequalities are not large relative to other types of inequalities, that the evidence on the consequences of gender inequality for economic growth is weak, and that in any event inequality of power is not something that should receive policy priority over conventional economic interventions. Kanbur takes those positions seriously and argues that on some readings the narrowly economic evidence does indeed support them, but that to some extent this is an issue with economic evidence and with its interpretation. A reexamination of the evidence and the arguments suggests a number of directions for research and analysis in exploring the economics of gender inequalities.*

## Introduction

“Promoting gender equality is thus an important part of a development strategy that seeks to enable all people—women and men alike—to escape poverty and improve their standard of living.”

—*World Bank, 2001, p. 1*

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Ravi Kanbur is T.H. Lee professor of world affairs and professor of economics, Cornell University. The author is grateful to his two discussants, Christina Paxson and Jungyoll Yun, to two anonymous referees, and to participants at the conference for their comments.

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“Are we focusing on women because we believe that gender is a good category for addressing the inequalities in the world? That is certainly false by an order of magnitude, maybe two.”

—*Anonymous reviewer of the initial proposal for this article*

As with trade liberalization, gender equity is part of the World Bank’s mantra on equitable development and poverty reduction. Gender equity is the part of the mantra that I personally welcome and repeat. But apparently not everyone is convinced. The stark position taken above by an anonymous reviewer of an earlier proposal for this article could be easily caricatured and dismissed, but that would be a mistake.<sup>1</sup> Although such positions are rarely stated in public these days, because it is politically incorrect to do so, they are more widespread in mainstream economic thinking than is commonly realized. And, what is more, they are intimately related to the economic evidence on gender inequality and to the frameworks for interpreting them.

What might underlie the disquiet about the emphasis being given to gender inequalities? In this article I identify three possible strands of thought. First, there is a sense that gender inequalities in education and other variables are not as large as they are made out to be, in comparison with inequalities along other dimensions, such as country of residence. Second, there is the argument that the macroeconomic evidence for the beneficial effects on growth of reducing gender inequalities—again in education, for example—is weak. Third, there is a view that to the extent that gender inequalities need to be addressed, the focus should be on economic and social inequalities, such as inequality in consumption or in education, and not on inequalities in power.

Why do such views persist at the core of mainstream economic thinking? I believe the answer is that the narrowly economic evidence can be, and is, read as giving support to these positions. At least that evidence is not seen to support prioritizing the reduction of gender inequalities as strongly as the policy conventional wisdom now seems to advocate.<sup>2</sup>

This article argues that there is some truth to this characterization of the currently available economic evidence. However, that is a reflection on the nature of that evidence. It is important for economists and policy analysts to understand these concerns and to address them where possible—in narrowly economic terms as well as in broader disciplinary contexts.

The contents of the article are as follows. The next section addresses the exact sense in which gender inequalities are “large” by considering several ways of defining “large” and by making different comparisons of inequalities in various outcomes. Throughout the article there will be a focus on gender inequalities in education because of the prominence it receives in the literature, but other aspects, such as consumption, also will be considered. The third section looks at the evidence on gender inequality and economic growth and finds that in conventional macroeconomic studies, causality is not as strongly established as one would like. The fourth section argues that the dominant household model in mainstream economics—the unitary

household with unique and given preferences—tends by its nature to emphasize economic inequalities over political ones. The article concludes with a discussion of the implications of the disconnection between the policy consensus and the narrowly economic evidence and argument, and highlights the interesting research questions that arise as a result.

### **Are Gender Inequalities “Large”?**

There is considerable evidence that, generally (with exceptions, of course), the average achievements of women in consumption, health, and education are lower than those of men.<sup>3</sup> But those differences are invariably smaller than, for example, differences across industrial and developing countries, between rural and urban residents within a country, or between the top and bottom quintiles within a country. How are we then to address the question of whether gender inequalities are “large”?

There are both conceptual and empirical issues. Conceptually, a common enough approach is the following. Consider any variable measuring individual attainment, the inequality of which is of interest. This could be educational attainment or consumption, for example. The inequality in the distribution of this variable across individuals can be measured using any one of a number of standard inequality indexes. Suppose now that individuals also have other characteristics, such as gender, location, or age. Each characteristic divides individuals into mutually exclusive and exhaustive groups. The overall distribution of the variable of interest can now be seen as composed of subdistributions for each group. Inequality among the groups can then be related to the differences in the means among the groups, with inequality within groups reflected in the spread of the variable around each group’s average.

If gender is the characteristic in question, then gender inequality can be measured simply in terms of the differences in the mean of the variable for men and for women (this is also an estimate of the difference in the expected value of the variable conditional upon being a member of one group or another). Another method is to “decompose” overall inequality into its “between-group” and “within-group” components following standard techniques, and to use the between group component as the measure of gender inequality (see Shorrocks 1984). Yet another method is to regress the variable against a gender dummy and to use the percentage of variation explained as a measure of the degree of gender inequality. Any of these measures can then be compared with the corresponding measure for another characteristic—for example, location—to draw a conclusion about whether gender inequality is “large” relative to other groupings in society.

All three of the above measures are used in the literature to argue the case for the importance, or otherwise, of gender inequality.<sup>4</sup> But it is important to make sure that like is being compared with like. The most common way in which this requirement is violated is when comparing the measures for characteristics that do not have the same number of categories. For example, the problem arises if gender, with two categories, is compared with location (for example, countries in international comparisons, or

provinces for comparisons within a country), which has more categories. For a start, it is not clear how mean differences between two groups are to be compared with mean differences among more than two groups. The second measure above does allow comparisons in this case, but as the number of categories increases the within-group component could decrease. There is, of course, no guarantee of this because it depends on the exact nature of the groupings. But it certainly happens in the limit—when the number of categories is the same as the number of individuals, only the between-group component remains and the within-group component is zero.

Consider therefore whether the gender dimension of educational inequality is “large” when comparing gender with wealth (or income), which is often done, with the conclusion that wealth “accounts for” more inequality than does gender. But wealth, in these analyses, is an individual-level variable—in other words, there are as many categories for this characteristic as there are individuals. It is perhaps not surprising, then, that gender-based inequality in education is not “large” compared with wealth-based inequality in education. A fairer comparison would be to treat wealth also as two categories—high and low. But even here, there is no natural dividing line between high and low wealth (in the way that there is a natural division for gender), although above and below the population mean might be one option.

The above discussion of inequality has a natural extension to poverty. Given a critical cutoff (the “poverty line”) for the variable in question (educational attainment or consumption), a number of poverty indexes can be used to describe the lower end of the distribution. Of particular interest is the FGT (Foster-Greer-Thorbecke) family of indexes, which can be decomposed across characteristics that divide individuals into mutually exclusive and exhaustive groups as before (see Foster, Greer, and Thorbecke 1984). In this case, each FGT index can be written as a weighted sum of group FGTs, each weight being the population share of the group in question. The analog to the question of whether gender inequality is high is now whether differences across gender groups contribute “a lot” to overall poverty. The corresponding thought experiment might be to equalize means across gender groups and ask how much this changes poverty, compared with the same exercise for another characteristic having the same number of categories.

To my knowledge, such an exercise has not been reported in the literature. However, the following thought experiment has been analyzed (Kanbur 1987). Consider a small redistribution from one category to another, taking small amounts from each individual in one group and transferring the proceeds to individuals in the other group. Such marginal redistributions may in any case be more policy relevant than eliminating in one fell swoop all inequality among groups. What is the impact on poverty? The answer clearly depends on the details of the redistribution. For the case where subtractions and additions are additive, a particularly clear result is available for the FGT family. For FGT( $a$ ), where “ $a$ ” is the famous “poverty aversion” parameter, such a redistribution reduces poverty in proportion to the difference between FGT( $a-1$ ) for the two groups. Thus, from this perspective, absolute differences in FGT( $a-1$ ) for men and women become a measure of how “large” gender inequality is. That difference is to be compared with the corresponding difference for the two

groups defined by another characteristic, such as location (for example, urban/rural), age (young/old), or employment status (employed/unemployed).<sup>5</sup>

The thought experiments above have a key feature—they keep constant the overall mean of the variable in question. That accords well with the “constant budget comparisons” principle of modern public finance analysis when the variable in question is consumption or income. But thinking of the variable as educational attainment raises questions about the constant budget requirement, unless it is assumed that the unit cost of educational attainment is constant. More generally, there is the question of the actual administrative and economic costs of the redistribution attempted in the thought experiment. These costs are unlikely to be the same across different categories such as gender, age, or location. Thus using the “thought experiment impact” of redistribution across categories as a measure of the quantitative magnitude of the inequality across those categories is not complete without an assessment of the costs of the redistributions. Such comparative assessments are not found in the literature. And yet, without such analysis, any answer to the question of whether gender inequalities are large will not have adequate conceptual foundation.

So much for the conceptualization of whether gender inequality is large. In empirical implementation, a fundamental problem presents itself: for the standard consumption-based measures of poverty, we cannot identify individual values through our standard household survey data sets. Although education can be measured directly as an individual attainment, consumption data are collected at the household level, and the way to generate individual-level consumption is to assume that allocation is equal distribution across the members of the household (or, in a few studies, according to adult equivalent scales). Thus the most commonly used variable in distributional analysis simply cannot address gender differences per se. Rather, differences in gender are forced to be differences across households in which the genders live. The same is true of age. The household-level characteristics include, of course, location and the average consumption or wealth of the household. Is it any wonder then that gender does not explain individual outcomes in consumption beyond wealth of the household or average consumption of the household, or averages for region or country of the household?

There is well-known literature on comparing “female-headed households” with the average household to attempt to identify gender differences. Interesting as those comparisons are in their own terms (for example, in highlighting the plight of widows in India), it should be clear that the comparison cannot be used conceptually to pronounce on whether gender differences are small or large.<sup>6</sup> There is also a small amount of literature on genuinely trying to identify individual consumption by focusing on food intake. One study, which used calorie intake (adjusted for needs) and calculated the understatement of true inequality and poverty compared with standard procedures that ignore intrahousehold inequality, came up with a figure of 30–40 percent. But this was for all aspects of intrahousehold inequality, not just gender differences.<sup>7</sup>

The prospects for getting true measures of individual-level consumption are not bright. The problems are conceptual as well as empirical. The individual food consumption data methods have their own problems. When we get beyond food, it is not

clear how precisely to allocate household public goods consumption across individuals, especially if preferences differ across individuals. Thus we are stuck with a situation in which our standard “headline” measures of consumption-based poverty assume no gender difference within the household, and there is no way to assess how serious an assumption this is within the same framework. It is not surprising that other variables for which information can be collected at the individual level will always remain important in the study of gender differences. These variables include education, health, income streams, and time use. And assessing whether gender inequality is large in terms of these variables takes us back to the issues raised at the start of this section and underscores the importance of addressing the conceptual issues raised there in specific empirical contexts.

### **Do Gender Inequalities Inhibit Efficiency and Growth?**

Whether gender inequalities are large is important in understanding whether gender-based redistribution could have a major impact on overall inequality and poverty, particularly when compared with inequalities in other dimensions. But it also may be important for another reason—if it can be shown that gender inequality impedes overall efficiency and growth, either directly or because of its contribution to overall inequality. In particular, the gender dimension of education inequality is often emphasized as holding back economic growth.

The most striking feature of the literature encompassing inequality, education, gender, and growth is the profound disconnection between the theoretical and microempirical studies on the one hand and the macroempirical studies on the other. The former invariably produce arguments or evidence for why education inequality and inequality in general, and gender inequality in particular, can impede efficiency and growth. The latter set of studies tends to be far more agnostic, if not directly contradictory to the micro studies. Focusing on one set versus the other could give a totally different picture on gender inequality, efficiency, and growth.

Start with inequality in general. Contrary to the earlier conventional wisdom that inequality helped growth because the rich saved a higher proportion of their income than did the poor, a whole host of theoretical studies in the last 15 years suggest that high inequality in a general sense can be detrimental to efficiency and growth. Reports of these studies have been surveyed in Kanbur (2000) and in Kanbur and Lustig (2000), and there is no need to go into detail here.<sup>8</sup> Suffice it to say that the basic structure of the argument takes off from a second-best world where, for example, incentive compatibility constraints bite. Redistribution can then release these constraints, thereby permitting welfare gains, even perhaps Pareto improvements.<sup>9</sup> Another line of argument follows from the political economy effects on policy, it being shown that a more equal distribution of endowments leads to a more pro-growth policy being chosen by the political institutions.

In stark contrast to the tone of the theoretical literature, the empirical literature is much more circumspect. The “reverse Kuznets effect” literature, which tries to

explain growth in a cross-section of countries as a function of the standard variables plus inequality at the start of the growth period, started off with a strong push in the direction of a negative relationship between inequality and growth.<sup>10</sup> However, recent articles have been less clear-cut, with some even suggesting that the relationship is positive—a return to the old conventional wisdom.<sup>11</sup> No doubt the debate will continue with other articles finding that results in either direction are “fragile.”<sup>12</sup> The fact that the empirical literature is inconclusive is surely related to the well-known problems of data and method, well known from the old Kuznets curve literature that found no relationship between inequality and per capita GNP in cross-section econometrics.<sup>13</sup> Although the inequality data set has improved over the last two decades, major problems of comparability and quality still remain.<sup>14</sup> Methodologically, the central problem in establishing causality is in identifying exogenous movements of the inequality variable that are not capturing other differences to a large extent.<sup>15</sup>

Turning now to gender inequality, there is considerable micro-level evidence that gender asymmetries of various sorts lead to inefficiency. Typically, the studies have argued that women are constrained from efficient use of certain inputs like credit or inefficiently low supply of effort because of labor market discrimination, which leads to inefficiently excessive exploitation of other inputs, like common property resources. Equalization, in the sense of lifting those constraints on women, thus can be shown to increase efficiency (see Tzannatos 1999 and Ilahi 2000). More general arguments flow from the strongly established effect of female education on fertility and a (more controversial) causal relationship of low fertility to growth (Jejeebhoy 1995; Klasen 1999). But again, finding effects at the macro level—for example, finding a strong relationship between gender inequality in education and growth—proves to be more difficult.

Before turning to the effect of gender inequality on growth, it should be noted that there is a strong disconnection between micro and macro results on education and growth in general. At the micro level, human capital theory underpins a strong relationship between earnings and education, one of the more firmly established relationships in micro applied economics.<sup>16</sup> Of course this relationship applies equally to men and women. Some years ago, this micro relationship also was argued to be present in the macro data, showing that as average education levels increased, average income levels and income growth rates also rose. But research in the last decade has left the position much less certain, particularly for developing countries. There was a tremendous expansion of education as officially measured in the decades after 1960. However, the effects on growth have proved difficult to detect (after all, as education levels increased from the 1960s to the 1990s, growth rates moved in the opposite direction for many countries, especially in Africa).<sup>17</sup>

Could one reason for the lack of a relationship between levels of education and growth be that gender inequality in education was increasing between the 1960s and the 1990s? In fact, this inequality, as measured by the differential enrollment rates, also generally declined, although its levels remain high. Of course, this could still be consistent with a positive contribution of education equity to growth, and we need to look at the analysis more carefully. In doing so, we should be careful to distinguish

between the effect of simply increasing female education while holding male education constant and a genuine inequality effect beyond the level effect. In any event, as documented in World Bank (2001), despite some studies that argue for a positive effect of gender education equality on growth, the picture emerging from cross-country regression analysis is decidedly mixed.<sup>18</sup> This should not be surprising, however, given the inconclusive nature of the broader literature on education and growth and on inequality and growth. Indeed, it would be surprising if it were otherwise.

### Is Inequality of Power the Fundamental Inequality?

Whatever one's view of whether gender differences are large, one's view of their consequences for inequality, poverty, and growth, why are female achievements (in education and along other dimensions) lower than those of males?

One way to study this is to consider the interaction between household-level processes and processes and parameters that are outside the household—in the community, the country, and the world. Consider two models of the household, “unitary” and “bargaining.” In the unitary model, the household acts as if it has a single and given set of preferences and chooses its actions to satisfy those preferences given the constraint set.<sup>19</sup> In that setting, as the outside parameters become more unfavorable to women—for example, as gender discrimination in the labor market increases or as the schooling that girls receive worsens—the household rationally will deploy its labor accordingly. It will send its women out to work less frequently and send its girls out to schools less often. But any given level of total household resources will still be divided in the same way as before, according to the household preference function.

In the bargaining model, members of the household (for simplicity, the man and the woman) have outside options but are in a household for various reasons, among which are types of joint production and scale economies.<sup>20</sup> The issue of distribution of the benefits, as viewed by individual preferences, is an open one in the bargaining model. Among other things, it depends on the outside options facing individuals. But those outside options are themselves determined by parameters and processes outside the household.

With the household framework there is an intricate and interactive relationship between inequality of “power” and inequality of outcomes for men and women. But it is different for the two views of how a household operates. Thus in unitary households external moves to improve education for women, by removing discriminatory practices, will improve the position of the household as a whole, assuming its preferences are to send girls to school. But the same applies to credit constraints, land inequality, and a plethora of other external factors that constrain households independent of a gender dimension. With a bargaining view of the household, however, outside parameters that affect outside options of men and women have a deep impact on the distribution of the gains from household activity, including the distribution of consumption, expenditures on education, health care, time allocation, and so on.

There are two senses in which power is being exercised here. One is in the determination of the outside parameters, to the extent that they are affected by political processes and social norms. This is the same for the unitary and the bargaining models. The other sense is in the determination of outcomes within the household. That is radically different for the two models. In particular, notice that in the unitary model women and men will be equally interested in changing outside parameters insofar as the change benefits their household's total resources (which will then be divided according to the household preferences). Put another way, women will not necessarily be more interested in reforming discriminatory land ownership regulations than, say, in improving overall credit to the region in which they live. Of course, changing these overall policies and structures will pit different types of households, and perhaps rich versus poor households, against each other. But there will not be a gender dimension to the politics, certainly not within the household by definition, and not outside the household.

The bargaining model, however, leads to a gender dimension of politics inside and outside the household. Outside options determine bargaining power within households, and bargaining power determines outcomes for men and women in terms of individual outcomes within the household. Those are the two precise senses in which inequality of power is the fundamental inequality that explains outcomes—first, intrahousehold power given the outside parameters; second, the power to influence the political process that affects the outside parameters. Notice that in the second sense, with a bargaining model, there is a clear gender dimension to politics outside the household as well.

Now, there is a sense in which, even in the bargaining model, it can be argued that direct political power is not as fundamental. That is found in the often-heard argument that it is better to improve women's education and their labor market position than, for example, to improve their capacity to organize themselves into a political force to change those parameters for themselves. The reasoning is that improving education and other economic opportunities for women will strengthen their bargaining power within the household, which will further improve their outcomes and resources. Those improved resources will then provide the base for women to organize themselves. Without economic resources to start with, organization to change outside parameters will be weak. In this sense, therefore, political empowerment must take second place to economic advancement for women, which will empower them within the household and eventually outside of it.

This is a powerful argument but it can be countered to some extent on the grounds that we cannot assume that increased education for women and reduced discrimination in factor markets will happen just like that. Such changes are outcomes of political processes, and unless the preferences of women are given weight in those processes, either directly or through "enlightened" intermediaries, they will not happen, or will not happen as fast or in quite the best way for women. Although enlightened intermediaries are always welcome, and there may be long periods when they are all who are on the scene, the objective must always be to increase the voice and power of women in political and social processes outside the household. The difficulty is

partly that we do not have any idea of the relative costs, per unit of gain in outcomes for women, of the economic versus empowerment alternatives—supporting access to credit for women versus supporting women’s organizations, for example. In the absence of such specific evidence, there is polarization on which tack to take, with the standard compromise reached in policy syntheses that we should do both.<sup>21</sup>

But the basic argument that inequality of power between the genders is fundamental cannot get off the ground if the unitary model rules the roost—and it still does among mainstream economists. This is despite many studies that purport to show, for example, that the income pooling hypothesis—a key implication of the unitary model—is not supported by the data. According to that hypothesis, what should matter to household expenditure patterns are the total resources of the household, not who brings in those resources. Again and again it is shown that who brings in the income does matter to the allocation of household resources.<sup>22</sup> But the bulk of ongoing research on demand patterns and on general policy analysis, and consideration of what is taught in basic courses, show that mainstream economists continue to be unitarist by instinct, raising methodological issues with studies that question income pooling. In particular, the standard argument is that the same factors might affect the composition of income as, for example, relative expenditure on women’s clothing (because a woman who goes out to work will need to spend more on work clothes).<sup>23</sup> Even though seven years ago, in light of the mounting evidence, a group of us issued a manifesto to “shift the burden of proof” to those who would argue in favor of the unitary model, this shift is not really seen in economics or even in development economics (see Alderman and others 1995). As a result, interventions that directly address inequality of power do not get as strong a support as they might from mainstream economics.

## Conclusion

This article has argued that the narrowly economic evidence can indeed be read to support the view that gender inequalities (in education and other variables) are not large, that they do not necessarily impede economic growth, and, in any case, that addressing gender inequalities of power should receive less priority than more conventional economic interventions should receive. Although those who hold these views could be dismissed as being a minority, that would be a mistake. Despite the impressive synthesis represented by the World Bank (2001), such views are more widespread than commonly realized and are intimately connected to the nature of economic evidence and the framework for interpreting that evidence. Taking the views seriously leads to an interesting research and data collection agenda even in terms of conventional economic analysis.

Comparing the contribution of gender inequalities to overall inequality with such other divisions as age or location poses a basic conceptual problem because gender has only two categories whereas other divisions tend to have more than two. There is thus a natural tendency for the contribution of gender to be understated. Correcting for this understatement raises interesting analytical questions—for example, how

does the between-group component of decomposable inequality indexes behave as the number of groups increases? Clearly, any general conclusions can only be reached in terms of the mathematical expectation of this component across all possible two-group divisions versus all possible three-group divisions, four-group divisions, and so forth. I am not aware of such an analysis in the literature, but it is essential as the first step to an empirical assessment of whether gender inequalities are large relative to inequalities along other dimensions.

More important than this technical question, however, is that the costs of alternative forms of inequality reduction—based on gender, country of residence, rural versus urban location, wealth, and the like—need to be incorporated into the analysis before any conclusion can be reached that an inequality along a particular dimension is large. If “large” means “that which policy should focus on as a priority,” the cost side of the intervention has to be analyzed, and these costs depend on the details of the policy instruments being used. Such specific analysis will in the end prove more productive than would a debate on whether gender inequalities are large in the abstract, seen purely as a measurement issue.

Despite the evidence and arguments marshaled by the World Bank (2001), there is not a groundswell of consensus in mainstream economics on the macroeconomic evidence for the positive benefits of gender equality for growth. To some extent the lack of consensus is because the cross-country regressions-based evidence on causality from inequality in general to growth in particular is decidedly mixed. Kanbur and Lustig (2000) noted that “the jury is still out” and since the time of that publication studies have continued to appear that support one line or the other. Consensus remains elusive also because, given that gender inequality in education is a key focus, the macroeconomic empirical literature on growth and education (in contrast to the microeconomic literature on education and income) is itself deeply inconclusive. Those strands of the literature set the stage for skepticism about discovering strong causal connections between gender inequality and growth in the current literature. There is no alternative here but to persevere, at every level of the literature, in trying to find persuasive instrumental variables that can convince a skeptical profession that the causality issue really has been tackled, and in continuing to improve the quality of the data sets.

After two decades of mounting evidence that questions the predictions of the unitary household model, mainstream economics still continues to use it as the workhorse model and to teach it to its students as the dominant view of the profession. It is argued here that so long as the unitary model dominates economics teaching and discourse, inequalities of power will naturally get secondary importance in comparison with standard economic (and social) interventions. This is something that must be tackled at the core of mainstream economics through yet more evidence on violations of the unitary model assumption, and through the increased deployment of nonunitary approaches in modeling and in empirical analysis to such “conventional” topics as optimal taxation policy, consequences of trade for income distribution, composition of public expenditure, and so forth.<sup>24</sup> The intrahousehold development economics literature is, for the moment, ahead of the curve.

Thus the seemingly contrarian views on gender inequality link closely to the current state of development economics. Even within its own terms, taking these views seriously leads to very interesting lines of research. But, in conclusion, let me note that there is a vast realm of evidence produced by other disciplines and other methodologies, evidence that supports the view that gender inequalities are large, that they impede efficiency, and that inequality of power is fundamental. Such evidence has been surveyed to some extent by the World Bank (2001). But this evidence is typically qualitative in nature, differing in methods and interpretation from the typically quantitative approaches in economics. Taking qualitative approaches seriously and integrating them with quantitative approaches is another line of inquiry that stands out for development economics as it grapples with the fundamental issues of gender inequalities, their causes, and their consequences.<sup>25</sup>

## Notes

1. My original proposal, titled “Education and the Empowerment of Women,” was for an article that attempted to integrate intrahousehold bargaining models (for example, of the type in Ghosh and Kanbur 2002) and political economy models of policy determination in the context of educational choices and expenditures. But when I read the general arguments being advanced in the review, I set about looking at the evidence on gender inequalities in detail. Then the nature of the article changed. The modeling exercise will have to wait for another occasion.
2. The most recent statement of the policy conventional wisdom is offered by the World Bank (2001).
3. See, for example, the documentation in Mammen and Paxson (2000).
4. For example, the work of Filmer (1999) is sometimes used to argue that when wealth, gender, and residence gaps are used simultaneously to explain variations in social outcomes, not much is left for gender to explain when the other two variables are in play.
5. The analysis can be extended from giving guidance on marginal redistributions to a characterization of the fully optimal redistribution, using this or that category across which to redistribute. See Ravallion and Chao (1989) and Ravallion and Sen (1994) for such “optimal targeting” calculations for geographical and for landholding categories, respectively.
6. In any event, the literature is inconclusive. For example, Buvinic and Gupta (1997) found a preponderance of cases in which female-headed households were poorer than average, but Quisumbing, Haddad, and Pena (2000) found a significant difference in very few of the cases they considered.
7. See Haddad and Kanbur (1990). But other nutrition-based studies are inconclusive on whether nutrition within the household is unequally distributed relative to need—for example, Appleton and Collier (1995).
8. See also Aghion, Caroli, and Garcia-Penalosa (1999) or Benhabib and Rustichini (1996).
9. Such an argument is developed by Hoff and Lyon (1995), for example.
10. Alesina and Rodrik (1994), Alesina and Perotti (1996), and Persson and Tabellini (1994) are articles in that vein.

11. Forbes (2000) found a positive and significant association between inequality and growth, and Banerjee and Duflo (2000) found that the growth rate was an inverted-U-shape function of changes in inequality. Arguello (2001) reported that “there is virtually no panel estimation evidence here of a negative correlation between inequality and growth.” See also Li and Zou (1998).
12. See, for example, Morrissey, Mbabazi, and Milner (2002).
13. For an early critique of studies that claimed to find a Kuznets curve, see Anand and Kanbur (1993). For more recent critiques using expanded data sets, see, for example, Li, Squire, and Zou (1998).
14. A critique focusing simply on the OECD data in the newly available data sets was provided by Atkinson and Brandolini (2001). The problems apply with greater force to developing country data sets.
15. In a recent article, for example, Easterly (2001b) claimed to have found a novel instrument—settler mortality in newly settled colonies.
16. For a recent review of the empirical literature on education and income, see Case (2001a). The micro evidence on returns to education for girls is highlighted in Schultz (2001).
17. Easterly (2001a) presented a formidable critique of the methods and conclusions of the education and growth literature based on the work of Pritchett (1997), Klenow and Rodríguez-Clare (1997), Judson (1996), and Benhabib and Spiegel (1994), among others. For a recent counterargument, however, see Cohen and Soto (2001).
18. Barro and Lee (1994) argued that gender inequality actually improved growth. Dollar and Gatti (1999) and Klasen (1999) are the current studies that argue for a significant effect of gender inequality in education on economic growth.
19. A standard application of this framework to the agricultural household is seen in Singh, Squire, and Strauss (1986).
20. One of the first attempts to formalize this setup is found in Manser and Brown (1980). For more recent modeling in this vein, see Kanbur and Haddad (1994) and Ghosh and Kanbur (2002).
21. That approach can be seen, for example, in World Bank (2001). Jungyoll Yun, in his discussant’s comments, argued that in Korea the improvement in women’s education had not directly led to the improvement of their intrahousehold bargaining power. He also highlighted the key role of social norms and values: it was only in 1990, as the result of political organization by women’s groups, that key legal provisions were introduced to give a woman the right to inherit her parents’ and husband’s property. Although this observation does not resolve the “economic versus political intervention” argument, it should certainly be kept in mind when assessing the relative efficacy of the two types of interventions.
22. See the impressive compilation in the World Bank’s (2001) appendix 4. The studies include Browning and Chiappori (1998), Quisumbing and Maluccio (1999), Lundberg, Pollak, and Wales (1997), Haddad and Hoddinott (1994), and Thomas (1997).
23. As Christina Paxson pointed out in her discussant’s comments, some recent articles by Duflo (2000), Chattopadhyay and Duflo (2001), and Case (2001b) are not subject to this type of criticism, and all provide strong evidence against the unitary model.
24. See, for example, the exercises in Kanbur and Haddad (1994), Haddad and Kanbur (1993), and Basu (2001).
25. For an assessment of complementarities between qualitative and quantitative methods and ways of combining them, see Kanbur (2001). On development economics and other social science disciplines, see Kanbur (2002).

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## Comment on “Education, Empowerment, and Gender Inequalities,” by Ravi Kanbur

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JUNGYOLL YUN

*Ravi Kanbur’s article presents seemingly contrarian views on some issues of gender-based inequality, such as the size of gender inequality, the effect of it on economic growth, and the importance of power inequality between the genders.*

### The Size of Gender Inequality

Kanbur indicates that economic evidence does not support the popular view that gender-based inequality in education or consumption is large, and he writes that this is partly the result of a conceptual problem in defining “large” in this context. Because gender has only two categories, whereas many other characteristics affecting education or consumption have more than two, measured gender inequality tends to be underestimated.

If the largeness of gender inequality has to be determined by its relative size compared with the inequality induced by another characteristic, the question becomes which characteristic-based inequality should be compared with gender-based inequality? There are a couple of relevant points on this issue. First, the characteristic to be compared with gender in the size of inequality it causes has to be exogenous and should not vary with gender in particular. The wealth-based inequality (in education) that is mentioned in Kanbur’s article, for example, may pose some problems when it is compared with gender-based inequality in education. To the extent that individual wealth is related to the gender variable, a considerable portion of variation in education explained by wealth may be attributed to gender.<sup>1</sup>

Second, because gender inequality indicates the level of distortion, unfairness, or both that gender causes, the characteristic to be compared with gender may well be one that also generates either or both distortionary and unfair variation. Race, for

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Jungyoll Yun is professor of economics at Ewha University, Seoul, Republic of Korea.

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example, would be a good characteristic to compare with gender, but experience-based variation in earnings would not. Variation by individual experience is legitimate in the sense that experience increases individual productivity and hence individual earnings; the variation in earnings caused by experience is neither distortionary nor unfair. Therefore, it would not be meaningful to compare experience-based inequality in earnings with gender inequality in earnings.

## The Effect of Gender Inequality on Economic Growth

My comment on this issue will be focused on the relevance of the relationship between gender inequality in education and growth—a relationship, as argued by Kanbur, that is responsible, in turn, for the weak link between education and growth. In asking whether gender inequality in education impedes growth, we implicitly take individual educational choices to be exogenous. If education were considered to be endogenously chosen by a woman, the relationship between gender inequality in education and growth would not provide us with meaningful implications. The expected return and costs of education investment, which are compared with each other in the individual choice of education, are affected by gender discrimination in labor and credit markets. One may thus argue that gender inequality in education is negatively related to growth if gender discrimination imposes distortions on labor and credit markets.<sup>2</sup> But it would be more relevant to ask how gender discrimination in general, rather than gender inequality in education, affects growth because that negative relationship is a part of a much larger relationship between generalized gender discrimination and growth.

Suppose, on the other hand, that educational choice for a woman is largely determined by noneconomic factors, such as social custom, social attitude toward those with more or less education, or individual preference for greater schooling. That is the case in some countries, like Japan and the Republic of Korea, where the proportion of college graduates among the female population is relatively high. In fact, however, various aspects of gender discrimination in labor markets in those countries have kept women's participation rate low relative to other comparable countries.<sup>3</sup> In short, it is gender discrimination in general that determines the relationship between gender inequality in education and growth because it affects job opportunities for the educated female in labor markets.

## The Importance of Power Inequality

Kanbur contrasts a unitary household model with a bargaining household model as a framework to explain how the parameters outside the household affect the intrahousehold process. This type of classification of the models has a meaningful implication that I would like to discuss in this comment.

Although the article argues that the intrahousehold process is determined by outside parameters in the bargaining model, it also seems to be the case that intra-

household distribution in consumption or in time use affects each individual's outside option. As women can use only a limited amount of their time in jobs outside the home (rather than in household production), for example, they would not be able to have more job opportunities in the labor market. That suggests that there is an accelerating interaction between intrahousehold process and outside parameters.

In such circumstances, providing more education to women would not be effective. Consider the experience of Korea, which has a relatively high number of female college graduates but a low labor market participation rate for women relative to other comparable economies. Rather than more education, policies or institutional changes that directly affect outside options or intrahousehold distributions would be effective in reducing gender inequality. Government measures, such as affirmative action programs, that can directly affect outside options for women would be necessary. Political representation for women also will be effective in this circumstance because it can bring about a favorable intrahousehold distribution for women.<sup>4</sup>

In general, however, institutional change is an extremely slow process when directed at reducing gender inequality. After several decades of struggle by women's organizations in Korea, for example, key amendments in 1990 gave women the right to inherit their parents' and husband's property. But people responded to that institutional change by writing wills so that the cultural norms that favored sons' rights of inheritance would be maintained. Unless the social norms and values change in accordance with nondiscriminatory changes in policies, it will be difficult to achieve real improvements toward gender equality.

In short, Kanbur's article is expected to make a good contribution to our understanding of gender inequality in two respects. First, as he points out the vagueness of important concepts used or examined in the literature of gender inequality, which could be presented more formally as indicated in my comments, Kanbur suggests one good direction of the future research for the thorough analysis of gender inequality. Second, Kanbur's compelling argument for the importance of power inequality between genders will provide an important insight especially for those pursuing policy issues on gender inequality. In particular, his analytical framework that contrasts the unitary household model with the bargaining household model might initiate a fruitful line of research on gender inequality in the future.

## Notes

1. That may be one reason why the size of gender inequality in education is estimated to be small relative to wealth-based inequality in education in some studies, including that of Filmer (1999).
2. See Dollar and Gatti (1999), for example.
3. Barro (1997) also reported some findings that female education contributes little to economic growth.
4. That point has also been emphasized by the World Bank (2001a, 2001b).

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## Comment on “Education, Empowerment, and Gender Inequalities,” by Ravi Kanbur

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CHRISTINA PAXSON

In his article Ravi Kanbur asks a difficult question: should the reduction of gender inequities be a major priority for the reduction of inequality and poverty? He discusses three views that, taken together, support the position that gender inequality should not be a priority. Those views are the following:

- Gender inequalities in education and other variables are not large, at least when compared with inequalities along other measurable dimensions.
- The macroeconomic evidence that reducing gender inequities increases growth is weak.
- To the extent that gender inequality should be addressed, the focus should be on economic and social inequalities rather than on inequalities in power.

My comments will focus on the first and third points. I share Kanbur’s skepticism about the macroeconomic evidence but I have little to add to that discussion.

### Are Gender Inequalities Large?

Kanbur starts with some methodological considerations. He considers the various ways of measuring the “size” of gender inequality in an outcome—for example, decomposing inequality into “within-gender” and “between-gender” components, or regressing an outcome against an indicator variable for gender and other controls and seeing how much of the variation in the outcome is explained by gender relative to the other variables.

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Christina Paxson is professor of economics and public affairs at Princeton University, Princeton, N.J. This comment refers to the version of the article that was delivered at the conference, available at <http://poverty.worldbank.org/library/view/13566>.

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He makes a point that either I do not understand or, if I do understand it, I do not agree with it. The point is that, when comparing the fraction of variance explained by gender relative to the fraction explained by a “competing” variable, such as location, gender will be at a disadvantage if the other variable has more than two categories. Specifically, he posits that as the number of categories increases in a regression variable, the explanatory power of that variable also rises. Including a larger number of “other” variables in a regression model, however, or including another variable in a more nonparametric manner will not necessarily reduce the fraction of the total variance explained by gender. People of different genders are often evenly represented across (for example) regions and wealth levels. If gender is orthogonal to the “other” variables, their numbers and numbers of categories will have no effect on the fraction of total variance in education accounted for by gender.

A few numbers from actual data will illustrate this point. The regressions in table 1 are from the 1999 Nigerian Demographic and Health Survey. Each column shows an ordinary least squares regression of an indicator for whether a child (between the ages of 6 and 14) is enrolled in school. The first column controls only for the child’s gender. The second column adds a complete set of indicators for the child’s age. The third column adds a complete set of dummies for the household head’s years of education. The fourth column adds an indicator for whether the child lives in a rural area. The fifth column takes the final step of including household-specific fixed effects and age indicators for the child so that the relationship between gender and schooling is identified only from (age-adjusted) differences across children living in the same households.

There is a clear gender gap in education in Nigeria. Girls are about 4 percentage points less likely than boys to attend school, given age, education of the household head, and location of residence. Is this a large number? In the case of Nigeria, maybe not. Factors other than gender are clearly important, as evidenced by the rising  $R^2$  when additional controls are included. And some of the controls have large effects on schooling. For example, the results indicate that children in rural areas are 12 percentage points less likely to be enrolled in school than those in urban areas, a number three times bigger than the gender gap.

**TABLE 1.**  
**Regression Results**

Indicator	No controls	Age indicators	Indicators for age and head of household’s years of education	Indicators for age, head of household’s education, and rural residence	Indicators for age and household fixed effects
Child is female	-0.047 (.016)	-0.042 (.016)	-0.036 (.0142)	-0.0381 (.0141)	-0.044 (.012)
$R^2$	0.0025	0.0379	0.210	0.225	0.840

Notes: Ordinary least squares, using 3,516 observations. Dependent variable: indicator for whether child is enrolled in school. Standard errors appear in parentheses.

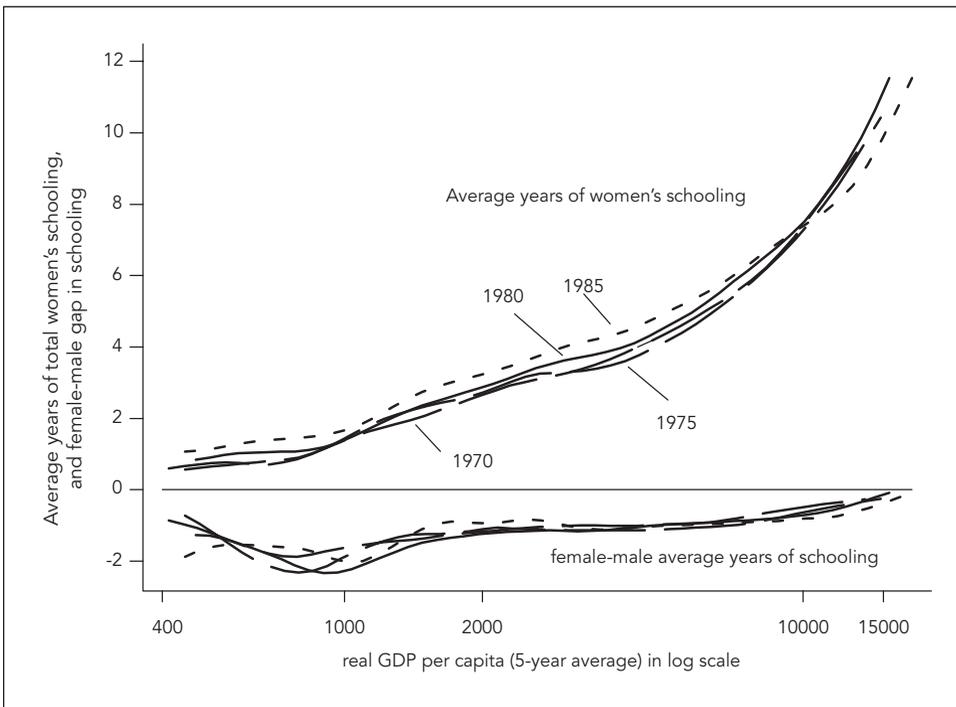
Source: Author’s calculations using the 1999 Nigerian Demographic and Health Survey, available at <http://www.measuredhs.com/start.cfm?CFID=337872&CFTOKEN=79894219>.

However, a simple comparison of those gaps does not imply anything about policy. Gender and location are not “treatments” that policies aim to change. We are not asking whether children should be moved from rural to urban locations to improve their educational outcomes, and certainly not suggesting that girls should be changed into boys. The relevant questions are whether there are feasible policies that could be used to increase girls’ school enrollment and, if so, what are the costs of and returns to implementing those policies? How do these costs and benefits compare with comparable policies designed to increase school enrollment in rural areas? Taken alone, the size of gaps in gender relative to gaps associated with other variables does not provide conclusive evidence on which policies should be implemented.

In addition to those conceptual issues, Kanbur notes that it is difficult to measure the living standards of women relative to men. Men and women share households and often share common budgets. Even if money within households is not pooled, it is a rare survey that attempts to collect measures of living standards at the level of the individual. The focus on gender differences in education partly results from educations being one of the few “personal” welfare measures that are readily available.

Kanbur’s article does not show any evidence of what gender differences in measurable outcomes look like for countries at different standards of living. Although those differences may be well known, they are worth highlighting. First, as shown by cross-country, nonparametric regressions graphed in figure 1, the average gender

**FIGURE 1.**  
Women’s education and education gaps



Source: Mammen and Paxson 2000.

gap in years of schooling is about two years for the poorest countries and falls to zero only for the wealthiest countries. Evidence that private and social rates of return on education are higher for women than for men implies that trying to reduce these gaps is probably a good idea. Schultz (2001) presented a good summary of arguments based on efficiency grounds for why investments in girls' education should be a priority. Equity considerations add force to those recommendations.

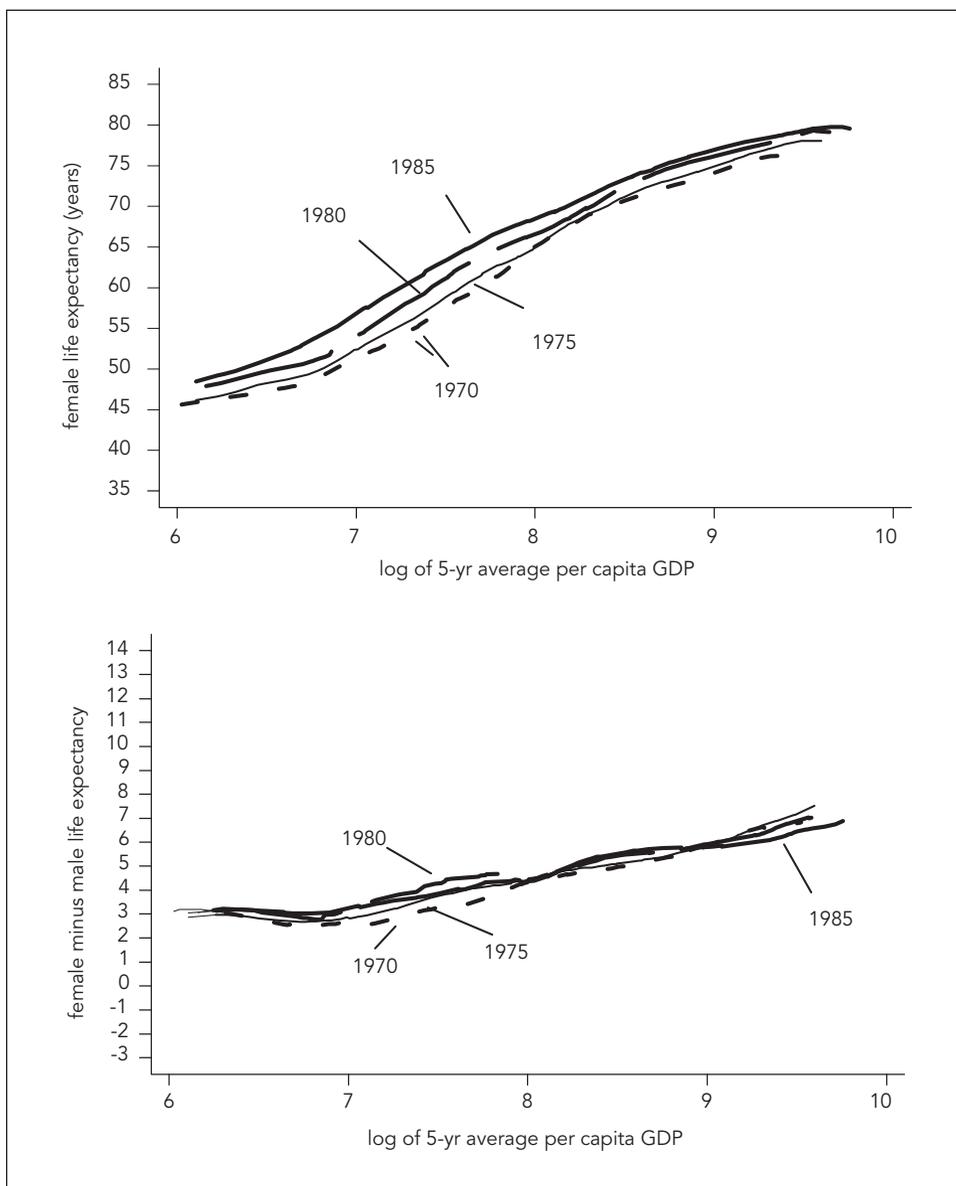
What measures of welfare can we look at in addition to education? Life expectancy provides a window on the health of women relative to men. Figure 2 shows life expectancy for women (in the top panel) and the difference in the life expectancy between women and men (in the bottom panel) at different levels of per capita gross domestic product (GDP). Although women generally have higher life expectancies than do men even at low income levels, the advantage enjoyed by women climbs with rising per capita GDP, from about three years at low incomes to seven years at the highest incomes. There is less evidence from developing countries on morbidity, but some research suggests that women in poor countries fare worse along some dimensions of health (see, for example, Case and Deaton 2002). Expanding the range of measures of personal welfare should be a priority in data collection.

### **Should Policy Focus on Economic and Social Inequalities or on Inequalities in Power?**

This section of the article focuses on the implications of “nonunitary” household models in which command over resources in the world outside of the household affects allocations within it. Nonunitary models provide strong grounds for reducing gender biases in the economy and political structure because when women have more resources and better options outside of their households, they improve their positions within their households.

Kanbur argues that there is mounting evidence that the nonunitary view of households is correct. Many tests for the presence of intrahousehold bargaining are based on the idea that households in which women have more “power”—because of higher education or wages, for example—should allocate resources differently, in a direction that is more “pro-woman” (and possibly pro-child). As Kanbur notes, the empirical literature on nonunitary households has been criticized because it often is possible to construct stories that are consistent with the data within a “unitary” framework. The basic issue is that factors that may be correlated with women's education or command over economic resources might also be correlated with determinants of allocation decisions. For example, men who choose to marry highly educated women may also prefer to educate their daughters. Or more women and girls might be educated in locations in which return on female education is high. In those cases, the positive correlation between the education of mothers and daughters need not reflect greater bargaining power of more-educated mothers.

**FIGURE 2.**  
**Female life expectancy and the female–male gap in life expectancy**



Source: Mammen and Paxson 2000.

Recent articles by Duflo (2000) and Chattopadhyay and Duflo (2001) are not subject to these criticisms and so have provided especially convincing evidence that the nonunitary view has some validity. Duflo (2000) examined the effects of the South African pension given to nearly all elderly African women and men. Duflo showed that pension receipt by women has beneficial effects on granddaughters, whereas pension receipt by men does not. This evidence supports the view that who controls

money within households matters. Another South African article (Case 2001), which does not focus on gender, reaches similar conclusions. The benefits of pensions spill over to younger members only in households that report pooling of incomes.

Chattopadhyay and Duflo (2001) used Indian data to examine whether the involvement of women in local politics affects local decisions. The potential endogeneity of women's political involvement, which normally would be an issue, is not an issue in this case: randomly selected villages were required to have a woman head the local governing body. The authors found that villages required to have female leaders did indeed fund different packages of local public goods than did those headed by men.

Those articles and others do not answer the question of the size of welfare gains that result from reallocating "power" toward women, nor do they address how policies should be prioritized. At the risk of sounding like one of the "mainstream" economists that Kanbur criticizes, I find it hard to believe that policies that aim only for reallocations of resources across genders within households or even within local areas can produce enormous gains in welfare for women. The cross-country evidence indicates that gender inequalities generally improve as countries get richer. Although policies to promote growth need not come at the expense of those that promote equity, growth should not get lost in the shuffle. At the same time, it may often be straightforward to design policies intended to increase incomes for both men and women in such a way as to give an extra boost to women. The Progres program in Mexico, which rewards poor households for sending their children to school and gives larger rewards for girls' schooling, is a good example of such a policy.

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# **Investment Climate and Productivity**

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# Foreign Direct Investment to Africa: The Role of Price Stability and Currency Instability

CARMEN M. REINHART AND KENNETH S. ROGOFF

*Africa lags behind other regions in attracting foreign direct investment. In some circumstances, there are obvious explanations for the absence of foreign direct investment, such as a high incidence of war. Reinhart and Rogoff examine the role that monetary and exchange rate policy may have played in explaining this outcome. Specifically, they document the incidence of inflationary episodes and currency crashes to compare countries within the region as well as to make comparisons with other regions. Furthermore, because monetary policy can range from very transparent to very opaque, the authors assess Africa's track record with dual and parallel markets. Reinhart and Rogoff use the parallel market premia as an indicator of the degree of distortion and extent of transparency. Their findings suggest that this is a promising line of inquiry because Africa does stand apart from other regions in this measure of transparency. The authors also discuss some of the fiscal underpinnings of Africa's bouts with high inflation.*

## Introduction

Strong, stable macroeconomic policies are not sufficient conditions for investment and growth. Among many other important factors are the transparency of macroeconomic policies, robust institutions, low levels of corruption, absence of wars, openness to trade, and a favorable external environment. But macroeconomic policy stability—especially price stability—is almost certainly an essential ingredient. Without it, the risks to doing business rise drastically, internal trade is significantly hampered, and external trade is impeded to an even greater extent. High and unpre-

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Carmen M. Reinhart is deputy director of the research department at the International Monetary Fund. Kenneth S. Rogoff is director of the research department and economic counselor at the International Monetary Fund. The authors wish to thank Kenichiro Kashiwase, Daoude Sembene, and Ioannis Tokatlidis for superb research assistance, and Vincent Reinhart for helpful comments and suggestions.

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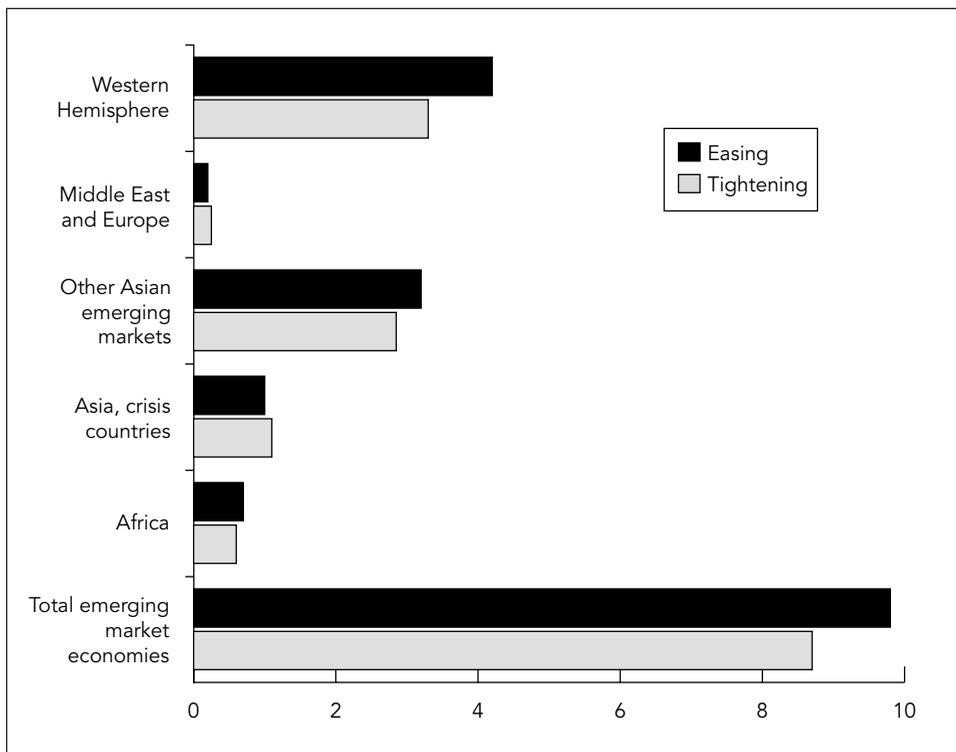
dictable inflation, especially, cripples business planning and checks the development of financial intermediation within the private sector. Because this is well known many countries throughout the world have strived to achieve notable success in bringing down inflation since the 1980s in the industrial countries and especially over the 1990s, in emerging markets and developing countries. The key to achieving that success is well known and well proven: a strong, independent central bank that places a high value on maintaining low inflation. Whether this low inflation is attained by appointing skilled, highly competent central bankers who are known to be committed to price stability—the most common approach—or through a more complex institutionalized system of checks and balances, or through a combination of both is second-order compared with maintaining meaningful central bank independence.

Some people have argued that this prescription cannot be transferred to Sub-Saharan Africa because many countries in the region are in too early phases of political development. Those countries, according to that argument, lack the necessary institutional structure to establish a meaningfully independent central bank. If the judiciary and the parliament are unduly influenced by the chief executive or the rule of law is in some other ways indistinct, the central bank has nowhere to hide. In such circumstances, when the chief executive phones the head of the central bank and asks for funds, the central bank can hardly refuse. Because of these internal pressures, many African countries have sought to import price stability by joining a regional currency or a regional currency block anchored to a reserve currency, such as the euro or the dollar.

Aside from currency arrangements, many developing countries must put a high premium on attracting foreign direct investment (FDI). Yet, as figure 1 illustrates, FDI to Africa does not depend on whether the large economies, such as the United States, are in recession. Furthermore, Africa did not benefit much from the surge in FDI to emerging markets during the 1990s. How can African nations achieve the climate of price stability needed to promote investment?

This is a difficult question that we will attempt to address by examining some essential features of Africa's historical experience with inflation and exchange rate arrangements, drawing on the extensive chronologies developed in Reinhart and Rogoff (2002) that encompass all economies of the world. This historical perspective yields some useful insights. First, the typical inflation and exchange rate experience in postcolonial, non-CFA (Communauté Financière Africaine) franc Africa is weak compared with that of Europe and Asia. But even excluding the more stable CFA franc zone countries, it is not notably worse than the experiences of many countries in Latin America, in the Middle East, or in post-1980s transition economies. This assessment may seem like faint praise because so many countries in those other regions have such a checkered inflation history. But it is relevant if one wants to argue that Africa needs a completely different set of arrangements than do economies elsewhere. Second, we find that the incidence of extremely high parallel exchange market premia (50 percent or more—exceeding 500 percent in some cases) is remarkably high in Africa, and therein lies the real differences. Averaging across all countries between 1979 and 1998, the parallel premia in non-CFA Sub-Saharan Africa exceed-

**FIGURE 1.**  
**U.S. Monetary Policy and Capital Flows to Emerging Market Economies:**  
**Net Real Private Direct Investment**  
 (billions of 1970 U.S. dollars)



Source: Reinhart and Reinhart 2001.

ed 50 percent more than one-third of the time! We argue that parallel premia at that level are highly problematic in that they breed significant corruption and governance problems. As such, they are often an excellent barometer of broader and deeper problems in macroeconomic stabilization and governance. The case for advocating unified exchange rate regimes rests as much on improving governance and reducing corruption as on any macroeconomic benefit. A third conclusion we reach is that adopting the currency of an industrial country has its own set of problems, not the least astonishing of which is the incidence of frequent deflation.

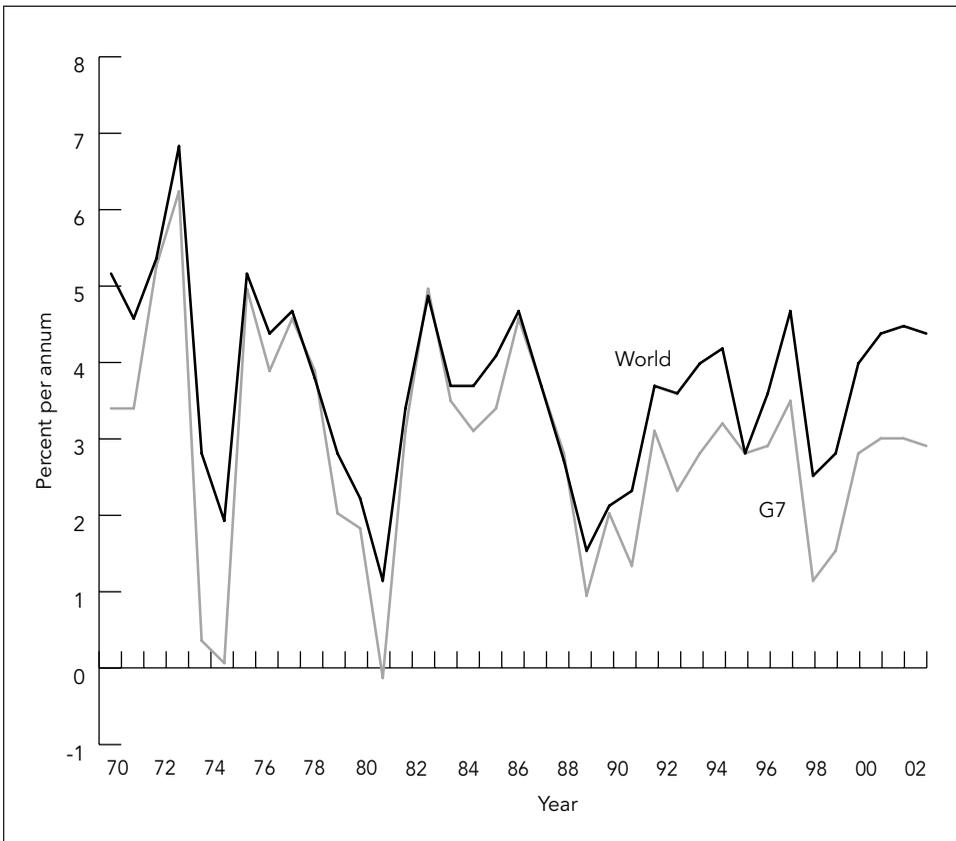
This article is divided into six parts including this introduction. The second section briefly puts the postcolonial African exchange rate experience in perspective relative to Europe. The third section looks at the incidence of high inflation and the frequency of currency crashes in Africa compared with other regions. In that discussion our emphasis is in assessing the extent to which price and currency instability are behind the low observed levels of FDI. In our analysis of behavior of the parallel market premia in the fourth section, we find that the high probability of extremely large premia makes the African experience markedly different from that

of the rest of the world. We argue that the high parallel premia may be symptomatic of more general governance problems in many cases, including corruption and obstacles to trade—with deleterious consequences for FDI. The fifth section of the paper offers some insights on the root cause of inflation from a broad theoretical perspective. The perspective suggests that the funding needs of the fiscal authority—that is, fiscal dominance—is likely to be a significant problem for many of the highly indebted African countries. The concluding section speculates on options for Africa in the light of its experience.

### *The African Experience in Perspective*

Modern central banking is a relatively recent development. Only a couple hundred years ago few countries in the world had the governmental checks and balances needed to maintain an independent central bank. As a case in point, the central bank of Spain began in 1782 as the Bank of St. Charles, founded originally as a quasiprivate bank by King Charles III of Spain. The unabashed purpose was to help absorb government debt. The name of the bank itself speaks volumes about how (not) independent it was from the chief executive. When King Ferdinand came to the throne, the Bank of St. Charles became the Bank of St. Ferdinand. Only much later did it become the Bank of Spain, which today stands as a funding member of the nascent Euro system. In the United States, efforts to sustain a national central bank foundered twice during the 19th century. During that country's civil war of 1861–65, the Confederate states abandoned the Yankee dollar and printed their own currency. Civil wars are not an unusual feature of a relatively young state, nor are their monetary consequences. The modern U.S. Federal Reserve System was founded in 1913. During the first half of the 20th century, the internal governance structures that helped to sustain its independence were less firmly established than they are today. In 1934, for example, the U.S. government invalidated gold contracts, and a few years later President Franklin D. Roosevelt seriously entertained expanding the U.S. Supreme Court from 9 members to 18 or 20 to stack the court with justices who would support his programs. Eventually he abandoned this proposal, but the point is that even in relatively modern-day experience, governance structures have continued to evolve. Similar examples can be given across the industrial world. In that regard, the problems of Africa in establishing independent central banks are not unique to young nations, but the benefits can be great and as modern central banking techniques continue to improve, there is a strong case to be made that improved monetary policy has been one factor in the greater stability of output and employment observed in many industrial countries since the 1980s. This point is illustrated dramatically in figure 2, which gives year-to-year changes in growth rates for the Group of Seven (G7) (Japan is an exception) and the world. As is evident from the figure and can be confirmed by closer statistical analysis, output volatility has been dropping dramatically since the mid-1980s. Thus, although high inflation is often a symptom rather than a cause of growth problems, it can also be a problem in its own right.

**FIGURE 2.**  
**GDP Growth: World and G7 Countries, 1970–2002**



Source: IMF 2002.

### High Inflation, Currency Crashes, and FDI: Is Africa Different?

This section of the article is descriptive, as we neither offer nor test a formal model of the determinants of FDI to Africa nor to any other region.<sup>1</sup> We begin by looking at some of the possible “pull” factors that may influence FDI. As to “push” factors, Reinhart and Reinhart (2001) have shown that FDI to developing countries has an important cyclical component, more so than other types of capital flows. As a general rule, FDI flows more heavily to emerging market economies when the United States economy is expanding than when it is in recession. This cyclical pattern has important consequences for the volume of FDI that developing countries in Asia and the Western Hemisphere receive, as illustrated in figure 1. But the cycle is not relevant for African economies, which generally receive very little FDI at any stage of the U.S. cycle. Indeed, looking at panel data on total capital flows to Africa, Calvo and Reinhart (1998) concluded that, in contrast to other regions, the only external factor that systematically influences capital flows to Africa is world commodity prices.

Flows increase during booms in commodity prices and, other things being equal, decline during busts. In what follows, we document what in principle could be expected to be deterrents to investing in Africa.

### *Basics for Attracting FDI*

An obvious and powerful deterrent to FDI is political instability. Edwards (1990) found that the political instability is always statistically significant, irrespective of what other variables were included as regressors in his cross-country regressions. Of course, wars are an extreme form of political instability—and Africa has had more than its share. Using the dates of wars provided in Collier and Hoeffler (2001, 2002), we constructed the probability of war for three regions—Africa, Asia, and the Western Hemisphere (excluding Canada and the United States)—from 1960 to 2001. This probability is simply the number of months during which there was a war over the total number of months for a particular country. We then averaged across countries to obtain the regional number. As shown in table 1, the probability for Africa, at 12.6 percent, is almost twice as large as that of the developing Western Hemisphere but slightly below the probability for Asia. Column 3 of that figure, however, paints a strikingly different picture—40 percent of the countries in Africa have had at least one war during 1960–2001, and 28 percent of the countries have had two or more. That is more than three times the incidence of war in the Western Hemisphere and almost twice that of Asia. In the case of the latter, the higher probability shown in column 2 results from a smaller number of countries having had longer wars.

Whereas wars, per se, are a likely deterrent to FDI, wars also are often a source of another deterrent to FDI, inflation.

### *Incidence of High Inflation and Currency Crashes*

As a rule of thumb, we can take a 40 percent inflation rate over a 12-month period as the threshold over which price instability becomes seriously dysfunctional. In Africa, there are five countries where the average annual inflation rate over the

**TABLE 1.**  
Incidence of War: January 1960–December 2001

Region (1)	Probability of war: percentage of months during which there is conflict (2)	Percentage of countries in the region with at least one war during the sample (3)	Regional susceptibility to war index: average percentage of columns 2 and 3 (4)
Africa	12.6	40.0	26.3
Asia	13.9	23.9	19.4
Western Hemisphere (excluding Canada and the United States)	6.4	13.3	9.9

Sources: Collier and Hoeffler 2001, 2002; and authors' calculations

**TABLE 2.**  
**African Countries for Which the Average Inflation Rate during 1970–2001**  
**Is above 40 Percent**

Country	Average annual inflation, 1970–2001 (percent)	Percentage of months during which there is conflict
Congo, Dem. Rep. of	1,112.9	30.3
Angola	345.4	96.3
Uganda	67.2	18.5
Ethiopia	43.0	65.2
Zambia	41.1	0
Regional average excluding Congo	12.4	9.1

Sources: Collier and Hoeffler 2001, 2002; IMF 2002; and authors' calculations.

1970–2001 period exceeded 40 percent. These are shown in table 2, alongside the probability of war as measured by the percent of months during which there was conflict. For four of the five high-inflation cases, the probability of war was notably higher than for the rest of Africa.<sup>2</sup> Furthermore, for those four cases, not only is inflation well above the average for the rest of the region; the probability of war is also well above the average for the remainder of the countries in the region.

Hence, it is an understatement to suggest that conflict, as well as the economic instability that it brings, can be expected to have deleterious consequences for the investment climate. For Africa, the cross-country correlation between the average inflation rate and the probability of war over the same period is 0.36 and is statistically significant. Apart from wars, however, inflation may also arise in peacetime when there is a problem of fiscal dominance—an issue that we take up later in greater detail.

Over and beyond these more extreme cases, tables 3 to 6 document other countries' experiences with high inflation (that is, above 40 percent). The tables provide information on the dates of high inflation episodes and their average duration in years and months.<sup>3</sup> The main results that emerge from the more detailed country-by-country analysis are summarized in table 7, which gives the regional averages for the probability that the 12-month inflation rate is above 40 percent, as well as the average duration of the inflation spells. Table 7 also provides information on currency crashes, which we will discuss next. For North and CFA Africa, inflation is clearly not the critical issue, as these countries score well relative to other regions. (For the CFA franc zone countries, which are pegged to the French franc, the more considerable problem has been deflation, as Reinhart and Rogoff (2002) have documented.) The contrast that emerges from comparing non-CFA Africa to other regions is that Africa's inflation track record is far worse than Asia's track record. However, Africa's inflation performance is not that different from the average for developing Europe and the Middle East. Most notably, Africa has a better historical record than that of the inflation-prone Western Hemisphere. This is an important finding as we already alluded to in the introduction. Africa's inflation record may not be strong, but it is not as exceptional as many have maintained. Therefore the extent to which special solutions are required should not be exaggerated.

**TABLE 3.**  
**High Inflation Spells: North Africa and Sub-Saharan CFA Franc Zone Countries, 1965–2001**

Country	Episodes of inflation above 40 percent	Total number of years and months with inflation above 40 percent
<b>North Africa</b>		
Algeria	1994:1–1995:1	1 yr., 1 mo.
Morocco	—	—
Tunisia	—	—
Average for the region	—	4 mos.
<b>Sub-Saharan Africa, CFA</b>		
Benin	1994:1–1994:12	1 yr.
Burkina Faso	—	—
Cameroon	1994:1–1994:12	1 yr.
Central African Republic	1994:1–1995:1	1 yr., 1 mo.
Chad	1994:1–1995:1	1 yr., 1 mo.
Congo, Rep. of	1994:1–1995:1	1 yr., 1 mo.
Côte d'Ivoire	—	—
Equatorial Guinea	1994:1–1994:12	1 yr.
Gabon	1994:1–1994:12	1 yr.
Guinea-Bissau	—	—
Mali	—	—
Niger	1994:1–1994:12	1 yr.
Senegal	1994:1–1994:11	11 mos.
Togo	1994:1–1994:12	1 yr.
Average for the region	—	9 mos.

— Not applicable.

Sources: Collier and Hoeffler 2002; Fischer, Sahay, and Végh 2001; IMF, International Financial Statistics (various issues); Mitchell 1982; and Reinhart and Rogoff 2002.

Of course, it is worth noting that FDI to high-inflation regions of the Western Hemisphere was also only a trickle during the 1980s, and that FDI only surged following the various efforts within many countries in the region to bring inflation under control. What these recent trends imply is that, going forward, Africa should focus on maintaining a climate of price stability.

Another manifestation of uncertainty that can be expected to affect the investment climate is the incidence of currency crashes—which is, of course, intimately related to the inflation performance. Because the CFA franc zone has had a long history of a stable exchange rate versus the French franc first and now versus the euro, we now turn out attention to documenting currency crashes mostly for the non-CFA countries.<sup>4</sup>

As we discuss in the following section, it has been a common practice in many African countries to peg the official exchange rate to some anchor currency (often the U.S. dollar). Sometimes this was done in the context of dual markets and sometimes in the context of an inflation stabilization plan. Some currency crashes, however, did not take place against the backdrop of a pegged official exchange rate but against the backdrop of a loss of monetary control.

To compare Africa's performance in this dimension with that of other regions, we constructed two measures of currency crashes that are very similar to those intro-

**TABLE 4.**  
**High Inflation Spells: Sub-Saharan Africa non-CFA Franc Zone Countries, 1965–2001**

Country	Episodes of inflation above 40 percent	Total number of years and months with inflation above 40 percent
Angola	1991:3–2001:12	10 yrs., 9 mos.
Burundi	1978:1–1979:7 1996:5–1997:5	2 yrs., 6 mos.
Congo, Dem. Rep. of	1967:1–1968:9 1975:1–1984:8 1987:2–1997:11	21 yrs., 6 mos.
Ethiopia	1990:6–1991:7	1 yr., 1 mo.
Gambia, The	1985:1–1987:2	2 yrs., 1 mo.
Ghana	1973:10–1984:5 1986:4–1987:9 1989:8–1990:9 1994:3–1996:8 1999:11–2001:4	15 yrs., 11 mos.
Guinea	1986:1–1986:12	1 yr.
Kenya	1992:9–1994:3	2 yrs., 1 mo.
Madagascar	1947:1–1948:12 1994:1–1995:8	2 yrs., 7 mos.
Malawi	1993:11–1996:6	2 yrs., 7 mos.
Mozambique	1993:6–1995:7	2 yrs., 1 mo.
Nigeria	1983:4–1984:9 1987:2–1989:12 1991:6–1996:3	9 yrs.
Rwanda	—	—
Somalia	1978:11–1981:6 1982:7–1986:8 1987:2–1989:11	9 yrs., 5 mos.
South Africa	—	—
Sudan	1978:11–1980:2 1980:8–1981:8 1983:9–1985:6 1986:10–1997:4	14 yrs., 6 mos.
Swaziland	—	—
Tanzania	1983:4–1985:3 1992:6–1995:3	7 yrs., 8 mos.
Uganda	1981:1–1982:5 1983:8–1990:4	8 yrs.
Zambia	1985:1–1996:9	11 yrs., 8 mos.
Zimbabwe	1991:5–1993:2 1997:12–1999:12	3 yrs., 10 mos.
Non-CFA franc zone average	—	6 yrs., 7 mos.

— Not applicable.

Notes: Hyperinflation begins in the month when the rise in prices exceeds 50 percent and ends in the month when the monthly rise in prices drops and stays below that amount. See Fischer, Sahay, and Végh (2001) for a recent discussion of hyperinflations.

Sources: Collier and Hoeffler 2002; Fischer, Sahay, and Végh 2001; IMF, International Financial Statistics (various issues); Mitchell 1982; and Reinhart and Rogoff 2002.

**TABLE 5.**  
**High Inflation Spells: Asia, Europe, and the Middle East, 1965–2001**

Country	Episodes of inflation above 40 percent	Total number of years and months with inflation above 40 percent
<b>Asia</b>		
China, Hong Kong	—	—
China, mainland	—	—
India	—	—
Indonesia	1972:7–1974:6 1997:7–1999:3	2 yrs., 9 mos.
Korea	—	—
Lao People's Dem. Rep.	1988:6–1990:4 1997:4–2000:2	3 yrs., 11 mos.
Malaysia	—	—
Myanmar	1972:8–1976:2 1988:4–1989:5 1990:5–1991:5 1993:1–1994:1 1996:8–1999:1	9 yrs.
Nepal	—	—
Pakistan	—	—
Philippines	1984:4–1985:2	10 mos.
Singapore	—	—
Sri Lanka	—	—
Thailand	—	—
Average for the region	—	1 yr., 2 mos.
<b>Europe and Middle East</b>		
Egypt, Arab Rep. of	—	—
Iceland	1973:5–1976:1 1977:5–1984:5	9 yrs., 8 mos.
Iran, Islamic Rep. of	1994:2–1996:2	2 yrs.
Iraq—	—	—
Israel	1951:1–1951:12 1973:10–1986:12	14 yrs., 2 mos.
Jordan	—	—
Lebanon	1984:3–1993:3	9 yrs.
Libya, Arab Republic of	—	—
Poland	1988:1–1992:12	4 yrs., 11 mos.
Romania	1990:10–2001:3	11 yrs., 5 mos.
Saudi Arabia	—	—
Turkey	1976:9–1981:3 1983:4–2001:12	22 yrs. 2 mos.
Average for the region	—	6 yrs., 1 mo.

— Not applicable.

Sources: Collier and Hoeffler 2002; Fischer, Sahay, and Végh 2001; IMF, International Financial Statistics (various issues); Mitchell 1982; and Reinhart and Rogoff 2002.

**TABLE 6.**  
**High Inflation Spells: Western Hemisphere, 1965–2001**

Country	Episodes of inflation above 40 percent	Total number of years and months with inflation above 40 percent
Argentina	1970:8–1992:2	21 yrs., 6 mos.
Bolivia	1972:9–1974:12 1978:12–1986:12	10 yrs., 6 mos.
Brazil	1980:1–1995:5	16 yrs., 4 mos.
Chile	1971:5–1978:6	7 yrs., 1 mo.
Costa Rica	1980:9–1983:6	2 yrs., 9 mos.
Dominican Republic	1984:1–1985:11 1987:7–1989:6 1989:8–1991:8	5 yrs., 9 mos.
Ecuador	1982:5–1984:4 1987:4–1993:8 1997:10–2001:4	9 yrs., 11 mos.
Guatemala	1985:3–1986:6 1989:6–1991:4	3 yrs., 1 mo.
Guyana	1988:1–1991:12	3 yrs., 11 mos.
Haiti	1993:5–1995:1	1 yr., 8 mos.
Jamaica	1977:7–1979:4 1990:7–1992:12	4 yrs., 2 mos.
Mexico	1981:5–1988:12 1994:12–1996:1	8 yrs., 8 mos.
Nicaragua	1978:6–1980:5 1982:8–1992:2	11 yrs., 5 mos.
Paraguay	1985:4–1986:4 1989:5–1991:1	2 yrs., 1 mo.
Peru	1975:9–1993:11	18 yrs., 2 mos.
Suriname	1986:5–1987:12 1991:5–1995:11	6 yrs., 1 mo.
Uruguay	1962:12–1969:1 1972:1–1981:1 1982:2–1995:9	24 yrs., 6 mos.
Venezuela, R.B. de	1988:2–1997:7	9 yrs., 5 mos.
Average for the region	—	9 yrs., 6 mos.

— Not applicable.

Notes: Hyperinflation begins in the month when the rise in prices exceeds 50 percent and ends in the month when the monthly rise in prices drops and stays below that amount. See Fischer, Sahay, and Végh (2001) for a recent discussion of hyperinflations.

Sources: Collier and Hoeffler 2002; Fischer, Sahay, and Végh 2001; IMF, International Financial Statistics (various issues); Mitchell 1982; and Reinhart and Rogoff 2002.

duced by Frankel and Rose (1996). The first of these definitions of currency crashes measures a “severe” currency crash, which refers to a 25 percent or higher monthly depreciation that is, in turn, at least 10 percent higher than the previous month’s depreciation. The “milder” version represents a 12.5 percent monthly depreciation that is at least 10 percent above the preceding month’s depreciation. To put these magnitudes in perspective, monthly depreciations of this magnitude, when annualized, amount to 1,355 percent and 310 percent, respectively.

Columns 3 and 4 in table 7 present regional averages, and tables 13 through 16 (in the appendix) give the individual country particulars. Not surprisingly, the regional patterns that emerge are very similar to those of the high-inflation episodes. Africa (excluding CFA countries and North Africa) has a propensity to crash similar to that of the Western Hemisphere, and both regions compare poorly with Asia and the other regions. Currency instability, as measured by frequent currency crashes, is strongly linked to poor inflation performance, and *ex ante* it can be expected that neither is conducive to a favorable inflation climate. Indeed, Kamaly (2001), who covered a panel of 151 countries from 1990 to 1999, presented systematic evidence that such exchange rate volatility has a significant adverse impact on FDI flows.

However, this discussion has focused only on the inflation and exchange rate crisis outcomes of monetary policy. A dimension of monetary policy that would also be expected to influence investment decisions is the transparency (or lack thereof) of the policy arrangement—an issue examined in the next section.

### Distortions and Lack of Transparency: The Role of Exchange Rate Arrangements

Dual markets and multiple exchange rates are by far the least transparent form of exchange rate arrangement. Usually, although not always, dual rates are accompanied by a variety of restrictions on capital movements. If there is (in principle) a dual market, but capital flows freely (as was the case in Belgium until 1990 and in the

**TABLE 7.**  
Regional Vulnerability to High Inflation and Currency Crashes, 1965–2001

Region or group	Probability of having inflation greater than 40 percent (percentage) (1)	Average duration of spells where inflation is above 40 percent (2)	Probability of a severe currency crash in any 24-month period (percentage) (3)	Probability of any currency crash in any 24-month period (percentage) (4)
North Africa	1.0	4 mos.	5.4	7.2
Sub-Saharan Africa, CFA	2.1	9 mos.	5.4	5.4
Sub-Saharan Africa, non-CFA	17.8	6 yrs., 7 mos.	32.4	48.6
Asia	3.2	1 yr., 2 mos.	12.4	23.8
Europe and the Middle East	16.4	6 yrs., 1 mo.	20.5	36.8
Western Hemisphere	25.6	9 yrs., 6 mos.	32.4	48.6

Sources: Tables 1–4 and 13–18.

CFA zone until 1993), the free market premium tends to be trivial. However, when there are tight capital account restrictions, dual markets can really have teeth and the free market premia can be astonishingly high. Under these conditions, and especially if there are multiple exchange rates, monetary policy is at its most opaque. It is typically also in this kind of arrangement that corruption can flourish with a vengeance.

### *Prevalence of Dual Exchange Rates*

Reinhart and Rogoff's (2002) reclassification of historical exchange rate arrangements recognizes that the official exchange rate can be meaningless in this setting and that dual or multiple exchange rate practices need to be treated as a separate category. To do so, we constructed detailed chronologies, such as the sample shown in table 8 for Ghana. The episodes labeled "freely falling" are the instances when the 12-month inflation rate was above 40 percent—what we have called here "high-inflation" episodes.<sup>5</sup> The chronology also notes when dual or multiple exchange rate practices were in place.

The downside of this opaque type of arrangement has not been trivial for Africa. Easterly (2001) has stressed the negative contribution to growth of high parallel market premia. Reinhart and Rogoff (2002) also presented evidence that growth is lower and inflation higher for dual or multiple exchange rate arrangements. But in Africa dual or multiple exchange rate arrangements account for about 32 percent of all observations (by country, by month) in the 1970–2001 period.

### *Parallel Premia, Distortions, and Corruption*

Tables 17, 18, and 19 (in the appendix to this chapter) document the likelihood that the monthly parallel market premia exceed three high thresholds. Whereas a 50 percent premium would be considered already high, we also document the incidence of the probability (by country and region) that the premium exceeds 100 percent and 500 percent. Figures 5 and 6 provide a cross-regional comparison. The main point that emerges from this exercise is that to the extent that the premium is a catch-all for distortions, lack of transparency, and corruption, non-CFA Africa stands out from other regions in its the extremely elevated incidence of very high premia. Even relative to the chronic inflation crisis-prone Western Hemisphere, the comparison is striking. The likelihood of premia above 50 percent is 35 percent and 23 percent for Africa and the Western Hemisphere, respectively. Premia above the 100 percent threshold prevailed in 25 percent of the months during 1970–98 in Africa—more than twice that for the Western Hemisphere, and premia over 500 percent were present in 10 percent of those months.

An interesting exercise involves looking jointly at (a) the probability that the premium is above 50 percent over the period 1970–98 for each of the countries in our sample, and (b) the corruption index published by Transparency International for 2000, which assigns a value of 0 to the most corrupt countries and a value of 10 to the most transparent. The simple pairwise correlation between the two is 0.55, which

**TABLE 8.**  
**Ghana: A Sample Chronology**

<b>Date</b>	<b>Classification (primary/secondary/tertiary)</b>	<b>Comments</b>
1916–July 14, 1958	Currency board/peg to pound sterling	West African pound is introduced by the West Africa currency board.
July 14, 1958–July 19, 1965	Peg to pound sterling/parallel market	Ghana pound replaces the West African pound.
July 19, 1965–Nov. 4, 1971	Peg to pound sterling/parallel market	The cedi replaced the Ghana pound. The new cedi was introduced in 1967.
Nov. 4, 1971–Sept. 1973	Managed floating/parallel market	The cedi is officially pegged to U.S. dollar.
Oct. 1973–June 19, 1978	Freely falling/managed floating/parallel market	The cedi is officially pegged to U.S. dollar. There are multiple exchange rates.
June 19, 1978–May 1984	Freely falling/managed floating/parallel market	The official peg to the U.S. dollar is abandoned. There are multiple exchange rates.
June 1984–April 1986	Freely floating/parallel market	There are multiple exchange rates.
May 1986–Sept. 19, 1986	Freely falling/freely floating/parallel market	There are multiple exchange rates.
Sept. 19, 1986–Sept. 1987	Freely falling/freely floating/dual market	There are multiple exchange rates.
Oct. 1987–July 1989	Freely floating/dual market	There are multiple exchange rates.
August 1989–April 27, 1990	Freely falling/managed floating/dual market	There are multiple exchange rates.
April 27, 1990–Sept. 1990	Freely falling/managed floating	There are multiple exchange rates.
Oct. 1990–February 1994	Managed floating	There are multiple exchange rates. Since early 1993 the parallel market premium has been in single digits.
March 1994–July 1996	Freely falling/managed floating	
August 1996–Oct. 1999	Managed floating	
Nov. 1999–March 2001	Freely falling/managed floating	
April 2001–December 2001	Managed floating	

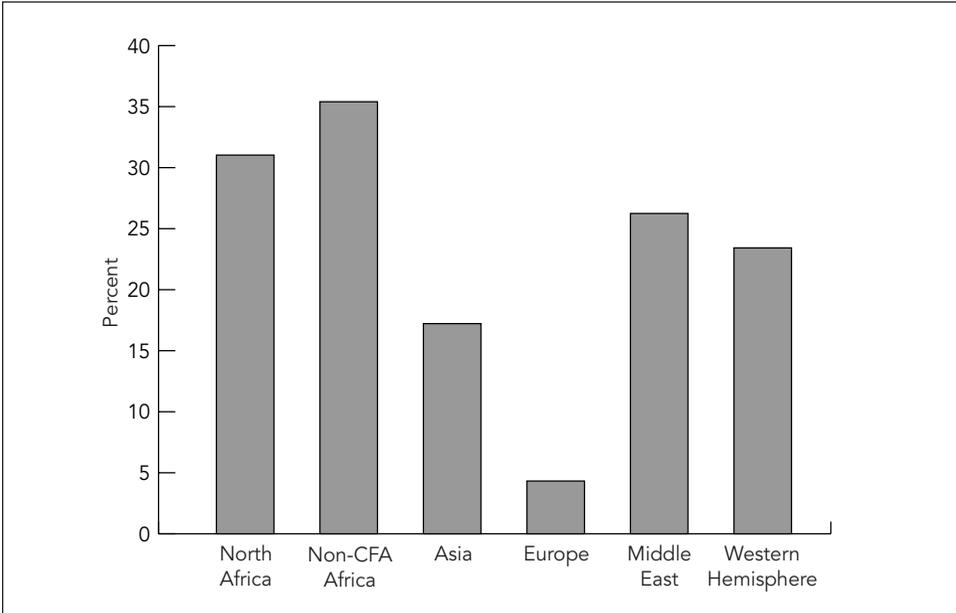
Notes: Ghana was known formerly as Gold Coast. Reference currencies are the U.S. dollar, the pound sterling, and the South African rand.

is statistically significant at standard confidence levels. Indeed, this simple exercise may suggest that the ranking of countries by their transparency exhibits considerable inertia.<sup>6</sup>

### *What Does It All Mean for FDI?*

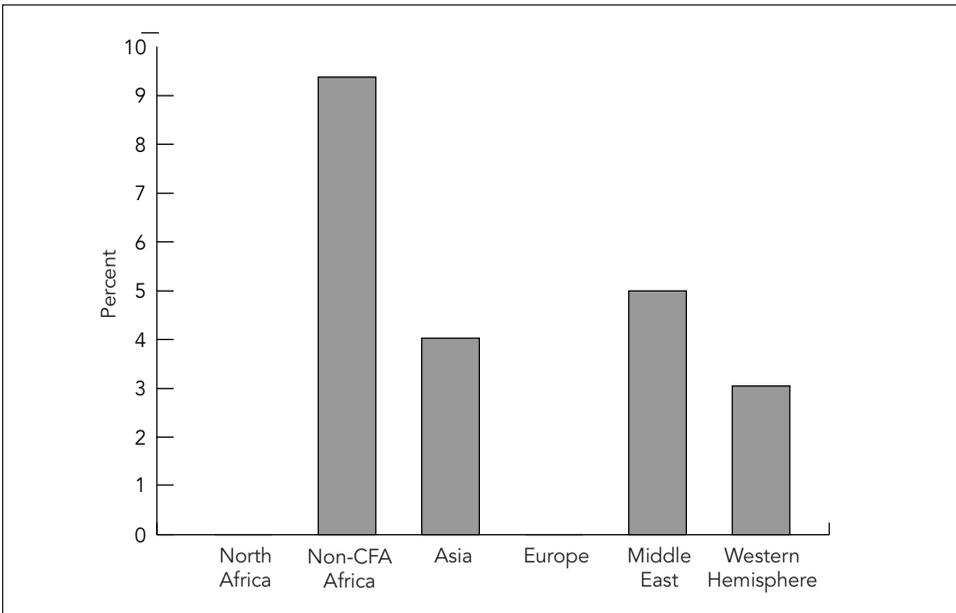
We have suggested that the investment climate is adversely influenced by actual wars—or the odds of a war. Wars, in turn, apart from the destruction of life and infrastructure, seem to bring additional deterrents to investment, such as frequent currency crashes and high inflation. Even when not accompanied by war, the

**FIGURE 5.**  
**Percentage of Months in Which the Parallel Market Premia Were Above 50 Percent, 1979–98**



Source: IMF (various; annual); IMF, International Financial Statistics (various issues); *World Currency Yearbook* (various issues); authors' calculations.

**FIGURE 6.**  
**Percentage of Months in Which the Parallel Market Premia Were Above 500 Percent, 1979–98**



Source: IMF (various; annual); IMF, International Financial Statistics (various issues); *World Currency Yearbook* (various issues); authors' calculations.

prospects of price and currency instability during peacetime are not conducive to FDI. Furthermore, high parallel market premia—which is a proxy for distortions, inconsistent policies, and corruption—affect investment adversely. Table 9 presents a family of simple pairwise correlations to summarize these points, and tables 10 and 11 present a synopsis of the literature on the empirical determinants of FDI. At first glance, our findings seem to depart strikingly from those of Gastanaga and others (1998), who found no evidence that the parallel market premium influences FDI. Of course, one interpretation of our contrasting results that merits further scrutiny is that they have a separate variable controlling for corruption. As shown in table 9, the premium is correlated with this type of index, which suggests that the results are not necessarily inconsistent—all the more so if, as we contend, lack of transparency breeds corruption.

Our emphasis, thus far, has been on the different ways monetary policy contributes to spur or deter investment. We have discussed one of the causes of inflation in Africa—namely, wars and civil conflict—but there are other causes for high and chronic inflation in the region that merit discussion. The next section focuses on the issue of fiscal dominance, which seems to be a promising explanation of why inflation has been difficult to tame in many of the countries in the region.

## Fiscal Dominance and Inflation

In most of the world, and throughout most of history, episodes of very high inflation have almost invariably arisen out of situations of broader macroeconomic and political instability. Governments desperate to finance large fiscal deficits will turn to the printing presses to finance expenditures. Large and uncontrolled fiscal deficits occur for many reasons but political instability of some form is surely the leading cause. Inflation taxation is nothing new; even in Roman times it was a standard technique to shave precious metal coins and recycle them in smaller form. Governments would also debase the currency by diluting the precious metal content of coins and by changing their metal content altogether. The advent of the modern printing press, for better or for worse, only served to vastly improve the technology for generating inflation.

**TABLE 9.**  
**FDI to Africa: Selected Correlations**

FDI and conflict	−0.31*
FDI and inflation: CFA countries	−0.23*
FDI and inflation: non-CFA countries	−0.17**
FDI and the probability that the parallel market premia are above 50 percent	−0.36*
Memorandum item:	
Parallel market premia and corruption index	−0.54*

Notes: An asterisk (\*) denotes significance at the 5 percent level; a double asterisk (\*\*) indicates significance at the 10 percent level.

When the government is starved for resources and lacks sufficient taxation alternatives, it is obvious that the need to finance fiscal deficits leads to monetary expansion and inflation. An absolutely critical question, however, in assessing a monetary regime is under what conditions monetary expansion and inflation policy can be separated from fiscal policy? Again, it is useful to frame the debate in the context of modern monetary policy among industrial countries. In academic circles there is currently a significant debate over whether “fiscal dominance” may be the rule rather than the exception, even in low-inflation industrial countries. The subtle difference from the canonical case of a poor high-inflation country, however, is that inflation is leveraged on a much higher base of nominal debt, including not only currency but nominal government debt. Sargent and Wallace (1981), in their classic article, “Some Unpleasant Monetarist Arithmetic,” first stressed how, even in countries with apparently strong monetary institutions, rising and uncontrolled government budget deficits can arguably feed quickly into inflation if agents expect that monetary independence someday will snap under the burden of rising government debt. In theory, expectations of future money growth can be so large as to lead to high inflation immediately, overwhelming the efforts of the central bank to attain monetary tightness.

Recently, the Sargent-Wallace argument has been sharpened into the “fiscal theory of the price level” (Leeper 1991; Sims 1994; and Woodford 1995). The basic argument is that one can always write the government’s intertemporal budget constraint as

$$(1) \quad (\text{Nominal government debt})/\text{Price level} = \\ \text{Present value of real government taxes (including the inflation tax)} - \\ \text{Present value of real government expenditures}$$

Equation (1) simply states that the present value of the government’s future surpluses, including the inflation tax, must equal the real value of its debt (nominal debt over the price level.) For simplicity, we have looked at a certainty equivalent formulation. In reality, of course, the right-hand side of equation (1) would correspond to a function of the expected value of future government surpluses, which are uncertain. Equation (1) has to hold if the government is solvent. If the real value of expected future surpluses were less than the real value of the debt, the market value of the debt would have to drop immediately, which could be effected by an increase in the price level. (Things are a bit trickier in a sticky-price world where bonds would temporarily sell at discount, but in the long run prices would adjust and the story is the same.) If people expected that the government would never run surpluses, they would never voluntarily hold government debt except for money needed to finance transactions. Of course, in many developing countries domestic banks are sometimes forced to hold government debt, but in terms of equation (1), forced holding of such debt should be thought of as a way of expanding the taxes that enter on the left-hand side.

Equation (1), of course, is nothing new—it is simply a budget constraint that has long been well understood. However, in the traditional literature on industrial countries, it was typically assumed that the path of the price level could be determined by monetary policy, via a traditional relationship where

**TABLE 10.**  
**Determinants of FDI: A Review of the Literature**

Study	Sample	Endogenous variable	Variables	
			Explanatory variable	Main results
Schneider and Frey (1985)	54 developing countries for three different years (1976, 1979, and 1980)	FDI	Economic determinants: real per capita GNP, GNP growth, inflation, balance of payments deficit, secondary education enrollment, and bilateral aid from Western countries. Political determinants: political instability and a dummy for left-wing regime.	Two models were estimated. One included both economic and political determinants of FDI and the other included only economic determinants. The former model gave better results and the best forecasting errors.
Edwards (1991)	58 developing countries covering the period 1971–81; annual data.	Average ratio of OECD FDI flows to country <i>i</i> to total OECD FDI flows to LDCs and FDI to GDP	Real per capita income, size of government, openness, real exchange rate, real GDP, domestic investment ratio, structure of the economy, regional dummies, and political variables (stability and polarization)	Variables were averages for the period covered. All variables were significant and with the expected sign except per capita income, which was insignificant. Both economic and political variables were important in determining the magnitude and the distribution of FDI, but political variables were not as crucial as the economic ones.
Singh and Jun (1995)	31 developing countries for the period 1970–93; annual data	FDI	Sociopolitical instability, business operating conditions, international trade variables, and other control variable	Not all the control variables were found to be significant. Sociopolitical instability, business operating conditions, and international trade variables were found to be important factors in driving flows, especially to high FDI countries.
Gastanaga, Nugent and Pashamova (1998)	49 developing countries for the period 1970–95; annual data	Gross FDI flows to GDP	Lagged and future real GDP growth, BMP, degree of openness to capital flows and FDI, lagged dependent variable, and other variables capturing country reforms and the degree of corruption	BMP was found to have little effect on FDI. Economic growth had significant effect on FDI. Corruption and corporate tax had negative and significant effect on FDI. The effect of tariff varied with the model specification.
Fernández-Arias and Haumann (2000)	All countries where data were available for the period 1996–98; simple average was used	Total commercial flows to GDP, FDI to commercial flows, and FDI to GDP	Variables capturing institutional infrastructure, political stability, and economic policies together with three control variables— income, size, and openness	In general, capital flows were drawn to countries with sound financial markets, capable institutions, and a stable political environment. The high share of FDI as a percentage of capital flows was not necessary for and indicative of “good health.” Higher share of FDI was associated with riskier and financially underdeveloped countries with weaker institutional structures.

Wei (2001)	59 to 93 borrowing countries, depending on the endogenous variable for the period 1994–96; simple average was used	Bilateral FDI compiled by OECD, bank lending, log ratio of loans to FDI, log ratio of portfolio investment to FDI, and FDI to total inflows	<p>For FDI regressions: corruption, tax rate, FDI incentives, FDI restrictions, log GDP, log per capita GDP, log distance, linguistic tie, and exchange rate volatility</p> <p>For regressions involving portfolio investment and loans: same variables but substituting a variable capturing the case in investing in securities and bond market instead of FDI restrictions and incentives variables and dropping the tax variable</p>	<p>Mainly two exercises: the first tested the effect of corruption on FDI and the second tested the effect of corruption on the composition of capital flows. Fixed-effects and random-effects specifications were used. In case of the first exercise, the majority of variables were statistically significant and with the expected signs. Corruption had a very significant negative effect on FDI. The second exercise revealed that the higher the corruption, the more the composition of capital flows tilted toward bank loans and portfolio flows and less toward FDI. Results were found to be robust to the change in the sample period to 1997–98.</p>
Wheeler and Mody (1992)	U.S. investment abroad by country	Actual and planned expenditure abroad by U.S. companies.	<p>Foreign investment is regressed against labor cost, corporate taxation, and agglomeration benefit indexes, such as infrastructure quality, the level of FDI, and degree of industrialization; various measures of risk and openness were also used</p>	<p>The classical variables (labor cost and market size) were statistically significant as were the three agglomeration indexes. The results for the other indexes were much more sensitive to the specification chosen.</p>

BMP black market exchange rate premium; GNP gross national product; LDC developing country; OECD Organisation for Economic Co-operation and Development.

Sources: Excerpts from Kamaly 2001 and the authors.

**TABLE 11.**  
**Determinants of FDI: Regional Studies**

Study	Sample	Endogenous variable	Variables		Main results
			Explanatory variable		
Schneider and Frey (1985)	54 developing countries for three different years (1976, 1979, and 1980)	FDI	Economic determinants: real per capita GNP, GNP growth, inflation, balance of payments deficit, secondary education enrollment, and bilateral aid from Western countries. Political determinants: political instability and a dummy for left-wing regime.		Two models were estimated. One included both economic and political determinants of FDI and the other included only economic determinants. The former model gave better results and the best forecasting errors.
Torrisi (1985)	Colombia for the period 1958–80; annual data	FDI and total U.S. FDI	Real GDP, growth rate of GDP, lag trade balance, and a dummy capturing the establishment of a trade bloc		GDP coefficient was found to be significant together with trade balance but the latter took a negative sign.
Bathattacharya, Montiel, and Sharma (1997)	15 Sub-Saharan African countries for the period 1980–95; annual data	Private flows, FDI, and private loans—all as a percentage of GDP	Lag growth rate of GDP, lag gross fixed capital formation to GDP, lag exports plus imports to GDP, lag total external debt to GDP, coefficient of variation of monthly real effective exchange rate index, lagged endogenous variable, and U.S. three-year government bond yield		Panel analysis was used. For private flows all variables were significant with expected signs except real exchange rate variability. For FDI, key variables were GDP growth, openness, and variability of exchange rate. For private loans, key factors were domestic investment and external debt ratios. U.S. interest was found not to be significant in any of the regressions.
Claessens, Djankov, and Klingebiel (2000)	21 countries belong to Central and Eastern Europe and the former Soviet Union for the period 1992–96; annual data	Total flows, official flows, all private flows, FDI, commercial debt flows, portfolio flows, and short-term flows	Six-month LIBOR and economic growth in OECD, GDP growth, inflation, fiscal balance, private savings, lag change in reserves, dummy for countries likely to become EU members, nominal interest rate minus rate of change of nominal exchange rate, and domestic credit growth		Panel analysis was used (fixed effects and common intercept). Generally, movements in flows were influenced more by fundamentals than by GF. EU dummy was found to be significant in driving total flows and FDI. The interest rate variable was not significant in any of the seven definitions of flows. Reforms appeared to be the most important force in driving flows.

EU European Union; LIBOR London interbank offered rate.

Source: Excerpts from Kamaly 2001.

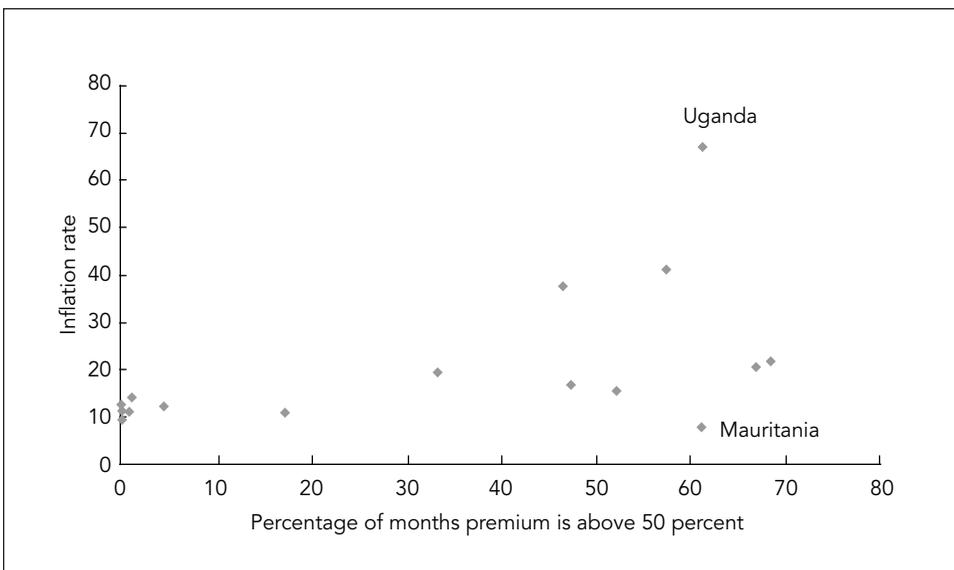
$$(2) \text{ Supply of real balances} = \frac{\text{Nominal money}}{\text{Price level}} = \text{Demand for real money balances}$$

Given the price level and the future path of monetary policy (implied by the monetary authorities' prospective as well as current policies), the price level in equation (1) is given. Because today's value of nominal government debt is given by history, the implication is that to ensure that equation (1) holds, fiscal policy must adjust, if not today then in the future. Thus, the implicit assumption is that the monetary authorities never have to capitulate to the fiscal authorities, so that monetary policy is "dominant" in the determination of the price level.

The fiscal theory of the price level challenges this assumption that monetary policy is dominant. Instead, advocates of the fiscal theory of the price level argue that, even in industrial countries, fiscal policy is dominant and it is monetary policy that must adjust. More precisely, monetary policy can adopt an interest rate policy, and the path of prices will adjust. In a flexible price world, the initial price level must therefore adjust to ensure that intertemporal budget balance is attained in a manner consistent with the path of primary surpluses (which is exogenous) and the path of interest rates (which is exogenous).

There is considerable debate in the academic literature over whether the fiscal theory of the price level really applies, or whether the traditional view that monetary policy is dominant in setting the price level is the correct one. Very recent work has started to focus on whether there is some threshold level debt and fiscal position that will tilt the balance from monetary to fiscal dominance. For the low-inflation industrial

**FIGURE 7.**  
Inflation and High Parallel Market Premia, Africa, 1979–1998



Sources: IMF (various; annual); IMF, International Financial Statistics (various issues); *World Currency Yearbook* (various issues); authors' calculations.

countries, the evidence appears to suggest that the traditional monetary dominance paradigm is still the correct one. Canzoneri, Cumby, and Diba (2001), for example, showed empirically that a rise in (that is, an innovation in) the government surplus typically causes a rise in future surpluses and a fall in future government liabilities. The traditional monetary dominant regime offers a simple explanation—namely, that shocks that lead to surpluses tend to be positively correlated over time. Thus, a rise in the path of surpluses allows the government to pay down part of the government debt leading to a fall in future liabilities. The fiscal theory of the price level can explain these results also, but the explanation is rather contorted. The rise in surplus today must eventually become negatively correlated with future surpluses, and this negative correlation must be great enough to make the present value of the future surpluses fall (rather than rise), thus leading to a fall in the value of liabilities. (Part of what makes the fiscal theory of the price level so popular among young researchers is precisely the fact that it gives such counterintuitive results.) For industrial countries there also are other reasons to be skeptical about the fiscal theory of the price level. For example, it can be shown that as long as the path of government real deficits has some self-correcting mechanism, so that deficits decline as debt grows, monetary policy dominance must prevail. For example, the budget and deficit conditions of the Maastricht Treaty turn out to be sufficient to ensure monetary dominance—indeed, they are much stronger than is necessary. Also, it turns out that in, say, a two-country world, it is not logically possible to have the fiscal theory of the price level hold in both countries, provided they have open trade and capital markets (Loyo 1997).

Although the fiscal theory of the price level may not be empirically relevant for industrial countries outside extreme circumstances, it may be more relevant for emerging-market and developing countries. In particular, the conditions on self-correcting budget deficits needed to ensure monetary dominance may not always hold, so fiscal nomination of the price level becomes theoretically feasible. This is almost certainly the case in very high inflation countries where monetary institutions have little meaningful independence from the central government. Unfortunately, we do not have firm evidence yet on the factors that determine when fiscal dominance occurs, although the factors almost surely include high debt levels. For example, government debt/gross domestic product (GDP) levels above 200 percent are almost never observed (except in cases of concessional lending), presumably because fiscal dominance comes into play and the real debt level is restrained by inflation and by inflation expectations. Debt levels below 50 percent of GDP, however, may still be a problem in countries that have very weak tax systems. In table 12 we present some suggestive evidence on the possible link between debt levels and inflation for African countries during various periods. The simple correlations between overall government debt-to-GDP or debt-to-exports mostly go in the right direction. For the CFA franc zone group, these are strikingly high and always statistically significant, irrespective of what sample period or what measure of indebtedness is used. For the non-CFA franc African countries, the results are somewhat more sensitive to the sample and debt measure that is used. There is a strongly significant correlation between debt-to-exports and inflation in the earlier part of the sample that breaks down in the 1990s—at the same time that the

correlation between debt-to-GDP and inflation is increasing and becoming significant in the more recent period. Figures 8 and 9 show the scatter plots of the underlying data for CFA and non-CFA countries, respectively.

## Concluding Remarks

We have presented evidence that major events such as wars and civil unrest occur more frequently in Africa than in other regions. We think that the probability of such adverse outcomes has a critical influence on the investment climate. Such disastrous events often bring other evils with them, including high inflation and a higher level of other distortions, such as capital controls, that help parallel and illegal currency markets thrive. Although bouts of high inflation and all-too-frequent currency crashes are not unique to Africa (witness the Western Hemisphere's track record in this regard), the level of opaqueness and distortions, as revealed by the persistent prevalence of extremely high parallel market premia, is a more unique (non-CFA) African phenomenon. In this regard we believe there are tremendous benefits to be reaped by adopting unified exchange rate regimes broadly throughout the region.

These challenges indeed are difficult to overcome, but not insurmountable. Not many years ago, Uganda suffered from all of the ills discussed in this paper: war, high inflation, frequent collapses in its currency, and dual markets with a parallel market

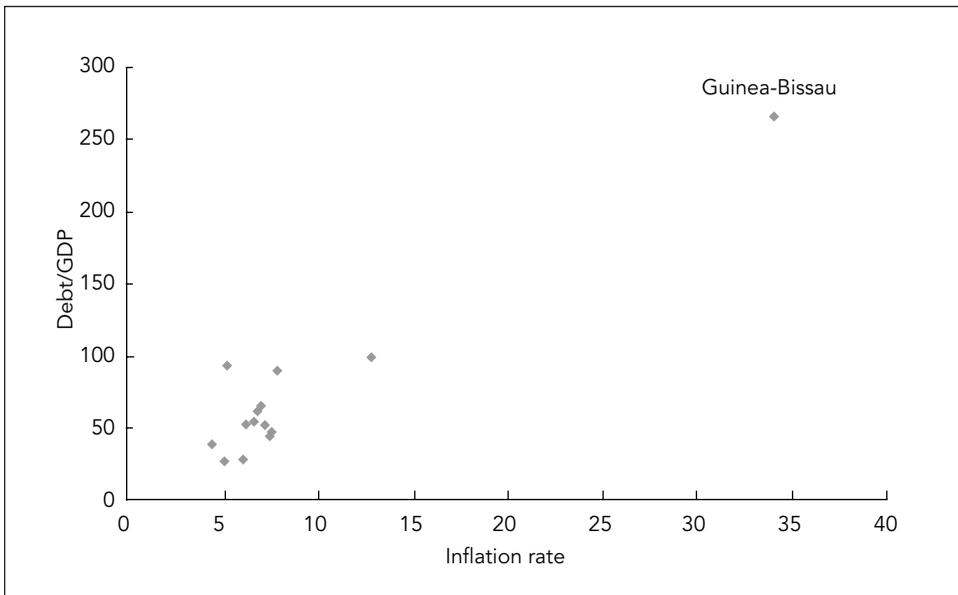
**TABLE 12.**  
Inflation and Debt: Is There a Link? 1970–2001

Correlation of annual inflation and debt/GDP ratio			
Period	North Africa and Sub-Saharan Africa	CFA franc zone countries	Non-CFA franc zone countries
1970–2001	0.308*	0.950*	0.186
1990–2001	0.196*	0.898*	0.209*
1970–79, 1980–89, 1990–2001	0.182*	0.669*	0.202*
1980–89, 1990–2001	0.192*	0.803*	0.216*
Correlation of annual inflation and debt/exports ratio			
1970–2001	0.548*	0.961*	0.518*
1980–89	0.414*	0.964*	0.311*
1990–2001	0.091	0.969*	0.096
1970–79, 1980–89, 1990–2001 averages	0.115	0.860*	0.137
1980–89, 1990– 2001 averages	0.100	0.931*	0.115

Note: An asterisk (\*) denotes significance at the 5 percent level.

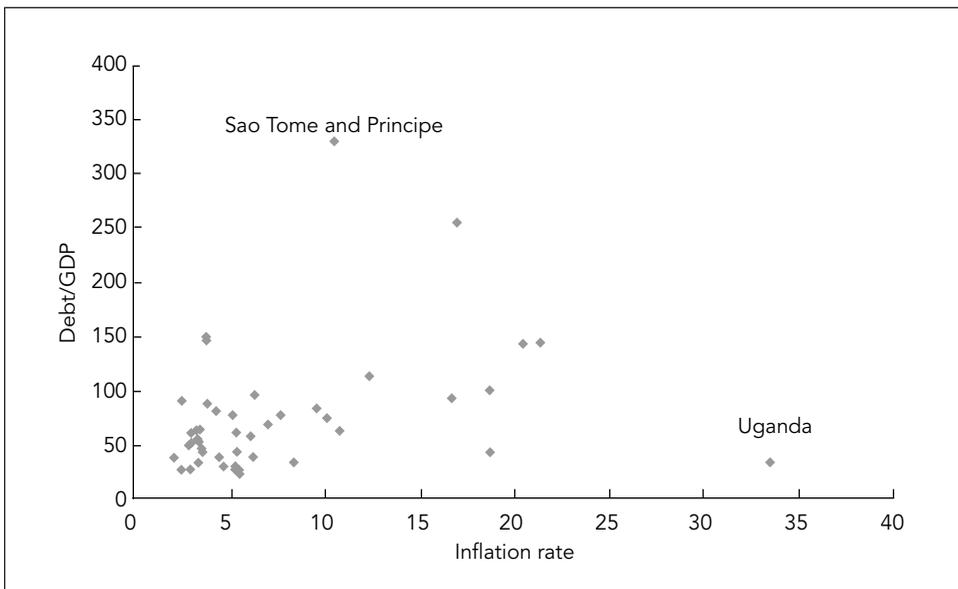
Source: IMF 2002.

**FIGURE 8.**  
**Ratio of Debt to GDP and Rate of Inflation, CFA Franc Zone, 1970–2001**



Source: IMF 2002.

**FIGURE 8.**  
**Ratio of Debt to GDP and Rate of Inflation, Sub-Saharan Africa, 1970–2001**



Note: Scatter plot excludes the Democratic Republic of Congo.

Source: IMF 2002.

premium that hit 567 percent in 1988. The end of the war was, of course, the most critical change. But macroeconomic stabilization has brought inflation down to less than 5 percent, growth has sharply rebounded, and FDI has risen from zero to more than 4 percent of GDP. With stabilization came the end of dual markets and increasing transparency—at the time of this writing the Ugandan shilling is one of the more convertible currencies in Sub-Saharan Africa. Nor is the strong performance by Uganda unique in the region. As discussed in the most recent World Economic Outlook, countries like Benin, Botswana, Burkina Faso, Cameroon, Mali, Mauritius, Mozambique, Senegal, and Tanzania have been consistently strong performers in recent years, both in terms of their macroeconomic policies and their growth performance. Although some of those countries have experienced an increase in FDI in recent years, unfortunately not all of them have—which highlights how much persistence and consistency it takes to build an attractive investment climate. Nevertheless, a unified exchange rate regime (or at least a very low parallel premium) is a key element in a transparent macroeconomic framework and would help produce many beneficial side effects in terms of improving governance and reducing corruption.

### **Appendix: The Costs of Inflation**

Is inflation by itself such a problem? The answer is almost surely yes, but economists' theoretical and empirical evidence on the question is remarkably thin. Because high inflation so seldom occurs in isolation from other macroeconomic problems, time-series or cross-country regressions that show a cost of inflation on growth or output are not always convincing because it is difficult to hold everything else constant. For inflation rates over 40 percent per annum there does seem to be evidence that growth is retarded (see Easterly 2001 and Reinhart and Rogoff 2002). For lower inflation rates (below 40 percent) the evidence is more limited. This is not to say that a country that has an inflation rate of 10 percent is not clearly better off than a country with an inflation rate of 20 percent, and that a country with an inflation rate of 2 percent is not better off than one with 10 percent. The general reduction in inflation rates that has taken place in much of the world over the last 10 to 20 years has almost surely been a factor in raising global growth and increasing macroeconomic stability. Recall again figure 2 of the text, which gives annual growth rates both for the world (using purchasing power parity weights) and for the G7 countries. Visually, the decrease in volatility of output growth since the mid-1980s is striking. Not all countries have enjoyed the same improvement in macroeconomic stability over this period. The United States has enjoyed a particularly large drop in output volatility since the mid-1980s (see Stock and Watson 2002), whereas output volatility for the Federal Republic of Germany appears to have remained roughly constant (reflecting no doubt German unification in 1989) and output volatility for Japan has actually increased (an outgrowth of the bursting of the asset price bubble in the early 1990s and a reduction in trend productivity growth). But for most countries increasing monetary stability has been accompanied by increased output stability. The causal

**TABLE 13.**  
**Currency Crashes: North Africa and CFA Franc Zone Countries, 1965–2001**

Country	Dates of severe currency crashes	Number of severe crashes	Total number of crashes, including severe crashes
North Africa			
Algeria	1991:1, 1991:9, 1994:4	3	4
Morocco	—	0	0
Tunisia	—	0	0
Average for the region	—	1	1.33
Sub-Saharan Africa CFA			
Benin	1994:1	1	1
Burkina Faso	1994:1	1	1
Cameroon	1994:1	1	1
Central African Republic	1994:1	1	1
Chad	1994:1	1	1
Congo, Rep. of	1994:1	1	1
Côte d'Ivoire	1994:1	1	1
Equatorial Guinea	—	—	—
Gabon	—	—	—
Guinea-Bissau	1994:1	1	1
Mali	1994:1	1	1
Niger	1994:1	1	1
Senegal	1994:1	1	1
Togo	1994:1	1	1
Average for the region	—	1	1

— Not applicable.

Notes: Two definitions of currency crashes are used. A severe currency crash refers to a 25 percent or higher monthly depreciation that is at least 10 percent higher than the previous month's depreciation. The "milder" version represents a 12.5 percent monthly depreciation that is at least 10 percent above the preceding month's depreciation. To put this in perspective, the monthly depreciations annualized are 1, 355 percent and 310 percent, respectively.

evidence presented in figure 2 may or may not stand up to careful statistical testing (that is not our purpose here). But it is evidence of a broad trend that has helped persuade many people that increasing monetary stability does pay off, even at lower levels of inflation.

At a theoretical level, it has taken even longer to assess why inflation matters, especially if it is stable and anticipated. Fischer and Modigliani's (1978) work was an early attempt to catalog all of the various theoretical costs of inflation. Their basic conclusion was that the main costs of stable and perfectly anticipated inflation are the "shoe-leather costs," that is, the costs to people of having to economize on their holdings of (real) currency balances in order to minimize their share of the inflation tax. The costs of unanticipated inflation are much greater, particularly in a world of imperfect information and imperfect indexing. Keynes (1936), of course, argued that in the real world, indexing of wages and prices to inflation is very limited (at low to moderate levels of inflation), so that monetary volatility translates directly into variability in output and employment. Though economists have made little progress in

understanding exactly why nominal rigidities are so important, Keynes' basic insight is very much alive today. There is a broader question of why, even in today's hyper-sophisticated (indeed hyperactive) financial markets, there is not greater capacity to index to inflation. Absent such indexation, and given long-term nominal contracts, then uncertain inflation is quite harmful to economic activity, making investment planning difficult and making it difficult to continuously maintain full employment (or whatever the modern search-theory equivalent of full employment is). The government is possibly the greatest source of nominal rigidities in the economy. Tax systems, especially, have important non-neutralities. Some are well known; for example, if tax rates are increasing in income, then inflation will raise average tax levels. If it takes significant amounts of time to collect taxes, then rises in the rate of inflation can lower effective real tax rates if agents are able to pay the government with a lag in depreciated currency. Many governments tax nominal rather than real interest receipts.

All of these are fairly primitive failures of indexation. Feldstein (1998) has emphasized that the effective rate of capital taxation—which is enormously complicated to calculate in practice—can be very sensitive to inflation rates even at low levels. For example, even starting from an inflation rate as low as 2 percent, a 1 percent reduction in inflation might raise the capital stock as much as 3 percent, according to Feldstein's calculations. In principle this problem could be solved via adequate indexation of the corporate income tax. In practice the accounting issues are so complicated that it is much easier to deal with the problem by simply having a lower rate of inflation. That last example is particularly interesting because it highlights how, in the complex modern world, the distinction between high inflation and variable inflation is not as sharp as one might think. When one looks at corporate accounting and taxation, one sees that inflation can lead to problems, even if when it changes only very slowly, because it is so costly to adapt capital taxation and depreciation rules adequately to compensate.

The more important distinction, for our purposes here, is between the effects of inflation in isolation from other forms of macroeconomic instability (for example, if a modern industrial-country central bank mistakenly and temporarily adapts an inefficient control technique) and the costs of inflation instability in a country where the government has a short time horizon and where inflation is accompanied by numerous other macroeconomic problems. The latter is almost surely the typical case in most countries where inflation is over 40 percent.

**TABLE 14.**  
**Currency Crashes: Sub-Saharan Africa and Non-CFA Franc Zone Countries, 1965–2001**

Country	Dates of severe currency crashes	Number of severe crashes	Total number of crashes, including severe crashes
Angola	1991:3, 1991:11, 1991:12, 1992:4, 1993:1, 1993:3, 1993:10, 1994:2, 1994:6, 1994:10, 1995:4, 1995:5, 1995:8, 1995:9, 1996:2, 1996:3, 1996:5, 1997:7, 1999:5, 1999:7, 1999:9, 2000:5	22	25
Botswana	—	0	4
Burundi	1983:11	1	7
Congo, Dem. Rep. of	1967:6, 1976:3, 1978:11, 1979:1, 1979:7, 1980:2, 1981:6, 1983:9, 1990:11, 1991:2, 1991:7, 1991:8, 1991:10, 1991:11, 1992:1, 1992:3, 1992:5, 1992:6, 1992:9, 1992:10, 1993:1, 1993:6, 1993:8, 1993:11, 1993:12, 1994:2, 1994:7, 1995:8, 1995:9, 1995:11, 1996:1, 1997:5, 1998:10, 1999:4, 2000:1, 2000:6, 2000:10	37	44
Ethiopia	1992:10	1	1
Gambia, The	1986:1	1	4
Ghana	1967:7, 1971:12, 1972:2, 1978:8, 1983:10, 1984:11, 1986:1, 1987:2	8	10
Guinea	1986:1, 1986:12, 1987:1	3	4
Kenya	—	0	5
Lesotho	1985:8	1	6
Liberia	1998:1	1	2
Madagascar	1987:6, 1994:5	2	5
Malawi	1987:2, 1994:2, 1994:10, 1998:8	4	13
Mauritania	1992:10	1	2
Mauritius	1979:10	1	3
Mozambique	1981:1, 1987:7, 1988:7, 1991:4	4	6
Nigeria	1986:10, 1989:1, 1992:3, 1999:1	4	7

Rwanda	1966:4, 1990:11, 1994:3, 1994:8, 1995:3	5	7
Somalia	1982:7, 1984:9, 1985:1, 1986:1, 1987:6, 1987:9, 1988:6, 1989:5, 1989:12	9	11
South Africa	1985:8	1	6
Sudan	1979:9, 1981:11, 1982:11, 1985:2, 1987:10, 1991:10, 1992:2, 1993:11, 1994:7, 1995:9, 1995:12, 1996:1	12	13
Swaziland	—	0	6
Tanzania	1983:6, 1984:6, 1986:6	3	6
Uganda	1981:6, 1985:11, 1987:5, 1988:7, 1989:10	5	12
Zambia	1976:7, 1983:1, 1985:10, 1986:10, 1987:2, 1987:4, 1989:7, 1992:2, 1992:12, 1993:11, 1994:1, 1994:3, 1994:10, 1994:11	14	22
Zimbabwe	1991:9, 1997:12, 2000:8	3	6
Average for the region	—	6	9
Average for the region, excluding hyperinflation countries (that is, Angola and Congo, Dem. Rep. of)	—	4	7

— Not applicable.

Notes: Two definitions of currency crashes are used. A severe currency crash refers to a 25 percent or higher monthly depreciation that is at least 10 percent higher than the previous month's depreciation. The "milder" version represents a 12.5 percent monthly depreciation that is at least 10 percent above the preceding month's depreciation. To put this in perspective, the monthly depreciations annualized are 1, 355 percent and 310 percent, respectively.

**TABLE 15.**  
**Currency Crashes: Asia, Europe, and the Middle East, 1965–2001**

Economy	Dates of severe currency crashes	Number of severe crashes	Total number of crashes, including severe crashes
<b>Asia</b>			
China, Hong Kong		0	0
China, mainland	1989:12, 1994:1	2	3
India	1966:6	1	3
Indonesia	1967:11, 1978:11, 1983:4, 1986:9, 1997:12, 1998:1, 1998:5, 1998:10	8	12
Korea	1998:12	1	5
Lao People's Dem. Rep.	1972:4, 1975:3, 1976:6, 1978:5, 1979:12, 1981:6, 1985:10, 1987:9, 1997:12, 1998:6, 1999:9	11	15
Malaysia	—	0	0
Myanmar	1975:1	1	2
Nepal	1967:12	1	5
Pakistan	1972:5	1	2
Philippines	1970:2, 1983:10, 1984:6	3	5
Singapore	—	0	0
Sri Lanka	1977:11, 1998:5, 1998:7	3	6
Thailand	—	0	3
Average for the region	—	2.3	4.4
<b>Europe and Middle East</b>			
Egypt, Arab Rep. of	1979:1, 1989:8, 1990:7, 1991:3	4	4
Iceland	1967:11, 1968:11, 1975:2, 1983:5	4	13
Iran, Islamic Rep. of	1993:3, 2000:12	2	2
Iraq	—	0	0
Israel	1974:11, 1977:11, 1983:10	3	5
Jordan	—	0	1
Lebanon	1985:1, 1986:1, 1986:5, 1986:11, 1987:3, 1987:7, 1987:8, 1987:10, 1990:8, 1990:8, 1990:10, 1991:1, 1992:7	13	19
Poland	1980:12, 1981:12, 1989:8, 1989:9, 1989:11, 1989:12	6	15
Romania	1984:11, 1990:2, 1990:11, 1991:4, 1991:11, 1992:6, 1997:1	7	13
Saudi Arabia		0	0
Syrian Arab Rep.	1988:1	1	1
Turkey	1970:8, 1978:3, 1979:6, 1980:1, 1994:4, 2001:2	6	9
Average for the region		3.8	6.8

— Not applicable.

Notes: Two definitions of currency crashes are used. A severe currency crash refers to a 25 percent or higher monthly depreciation that is at least 10 percent higher than the previous month's depreciation. The "milder" version represents a 12.5 percent monthly depreciation that is at least 10 percent above the preceding month's depreciation. To put this in perspective, the monthly depreciations annualized are 1, 355 percent and 310 percent, respectively.

**TABLE 16.**  
**Currency Crashes: Western Hemisphere, 1965–2001**

Country	Dates of severe currency crashes	Number of severe crashes	Total number of crashes, including severe crashes
Argentina	1967:3, 1975:3, 1975:6, 1975:11, 1976:3, 1976:11, 1981:4, 1981:6, 1982:1, 1982:7, 1987:10, 1989:4, 1989:7, 1989:12, 1990:2, 1991:1	16	23
Brazil	1979:12, 1983:2, 1987:5, 1989:6, 1989:7, 1989:12, 1990:2, 1991:10, 1999:1	9	15
Bolivia	1972:10, 1982:2, 1982:11, 1983:11, 1984:4, 1984:8, 1984:11, 1985:2, 1985:5, 1985:9, 1985:11	11	12
Chile	1967:1, 1971:7, 1972:9, 1973:5, 1973:7, 1973:10, 1974:12, 1975:3, 1985:7	9	12
Colombia	1965:9	1	1
Costa Rica	1974:4, 1981:1, 1981:10	3	4
Dominican Republic	1985:1, 1990:8	2	4
Ecuador	1970:8, 1982:5, 1983:3, 1985:12, 1986:8, 1988:8, 1999:2, 1999:10	8	12
El Salvador	1986:1, 1990:5	2	2
Guatemala	1986:6, 1990:8	2	3
Guyana	1987:1, 1989:4, 1990:6, 1991:2, 1999:3	5	9
Haiti	1991:9, 2000:9	2	3
Honduras	1990:3, 1990:4	2	2
Jamaica	1978:5, 1983:11, 1991:9	3	10
Mexico	1976:9, 1982:2, 1982:12, 1987:12, 1994:12	5	7
Nicaragua	1979:4, 1985:2, 1986:1, 1988:2, 1988:6, 1988:8, 1988:10, 1988:11, 1989:1, 1989:6, 1990:4, 1990:5, 1990:8, 1990:12, 1991:3	15	16
Panama	—	0	0
Paraguay	1984:3, 1984:6, 1985:3, 1986:12, 1989:3	5	5
Peru	1967:9, 1976:6, 1977:10, 1987:10, 1987:12, 1988:9, 1988:11, 1989:1, 1990:3, 1990:8	10	15
Suriname	1994:7, 1994:10, 1999:1, 2000:10	4	6
Uruguay	1965:3, 1965:10, 1967:11, 1968:4, 1972:3, 1982:11, 1982:12	7	9
Venezuela	1984:2, 1986:12, 1989:3, 1994:5, 1995:12, 1996:4	6	6
Average for the region	—	6	9
Average for the region, excluding hyperinflation countries (that is, Argentina, Brazil, and Nicaragua)	—	5	7

— Not applicable.

Notes: Two definitions of currency crashes are used. A severe currency crash refers to a 25 percent or higher monthly depreciation that is at least 10 percent higher than the previous month's depreciation. The "milder" version represents a 12.5 percent monthly depreciation that is at least 10 percent above the preceding month's depreciation. To put this in perspective, the monthly depreciations annualized are 1, 355 percent and 310 percent, respectively.

**TABLE 17.**  
**Incidence of High Parallel Market Premia: North Africa, CFA Countries, and Non-CFA Countries, 1970–98**

Country/Group	Probability that the parallel market premia exceeds		
	50 percent	100 percent	500 percent
<b>North Africa</b>			
Algeria	92.2	73.8	0
Morocco	0	0	0
Tunisia	0	0	0
Average for the region	31.0	24.6	0
<b>Sub-Saharan Africa CFA</b>			
<b>Sub-Saharan Africa Non-CFA</b>			
Botswana	0	0	0
Burundi	17.3	0	0
Congo, Dem. Rep. of	—	—	—
Gambia, The	0	0	0
Ghana	46.6	36.1	17.0
Guinea	52.2	41.9	11.4
Kenya	4.6	1.2	0
Lesotho	0	0	0
Liberia	89.1	89.1	29.7
Madagascar	1.2	0	0
Malawi	33.5	5	0
Mauritania	61.2	45.2	0
Mauritius	0	0	0
Nigeria	68.3	34.3	0
South Africa	0.9	0	0
Swaziland	0	0	0
Tanzania	66.9	46.3	1.2
Uganda	61.3	50.4	23.5
Zambia	57.5	28.4	4.7
Zimbabwe	28.8	17.0	3.2
Average for the region	35.4	24.8	9.5

Sources: Reinhart and Rogoff 2002 and original sources cited therein.

**TABLE 18.**  
**Incidence of High Parallel Market Premia: Asia, Europe, and the Middle East,**  
**1970–98**

<b>Economy</b>	<b>Probability that the parallel market premia exceeds</b>		
	<b>50 percent</b>	<b>100 percent</b>	<b>500 percent</b>
China, Hong Kong	0	0	0
China, mainland	21.9	11.2	0
India	8.6	0	0
Indonesia	0	0	0
Korea	0	0	0
Lao People's Dem. Rep.	42.1	35.2	15.9
Malaysia	0	0	0
Myanmar	100	100	36.5
Nepal	14.4	0	0
Pakistan	8.9	8.1	0
Philippines	0.9	0	0
Singapore	0	0	0
Sri Lanka	27.1	12.7	0
Thailand	0	0	0
Average for the region	17.2	12.9	4.0
<b><i>Europe and Middle East</i></b>			
Belgium	0	0	0
Iceland	8.6	0.9	0
Israel	4.9	0	0
Turkey	3.7	0	0
Average for the region	8.2	0.2	0
<b><i>Middle East</i></b>			
Egypt, Arab Rep. of	59.4	31.7	0
Iran, Islamic Rep. of	65.1	59.4	29.7
Jordan	0	0	0
Lebanon	0.9	0.3	0
Saudi Arabia	0	0	0
Syrian Arab Rep.	58.1	50.7	5.3
Average for the region	26.2	20.3	5.0

Sources: Reinhart and Rogoff 2002 and original sources cited therein.

**TABLE 19.**  
**Incidence of High Parallel Market Premium, Western Hemisphere 1970–1998**

Country	Probability that the parallel market premia exceeds		
	50 percent	100 percent	500 percent
Argentina	32.3	15.6	0
Brazil	16.7	4.3	0
Bolivia	20.5	10.7	2.0
Chile	18.2	14.4	5.8
Colombia	0.3	0.3	0
Costa Rica	8.9	0.3	0
Dominican Republic	13.3	4.0	0
Ecuador	17.0	3.7	0
El Salvador	36.3	16.1	0
Guatemala	13.8	9.6	0
Guyana	43.7	36.5	12.6
Haiti	74.9	37.7	0
Honduras	29.3	2.4	0
Jamaica	16.7	5.4	0
Mexico	3.5	0.3	0
Nicaragua	39.8	31.4	18.2
Panama	0	0	0
Paraguay	23.6	15.6	0
Peru	32.9	7.8	1.2
Suriname	44.7	39.4	27.4
Uruguay	6.9	2.3	0
Venezuela	22.2	15.3	0
Average for the region	23.4	12.4	3.0

Sources: Reinhart and Rogoff 2002 and original sources cited therein.

## Notes

1. See Kamaly (2001) for an interesting new study and for a comprehensive survey of the empirical literature on the determinants of FDI.
2. Indeed, as can be documented from the worldwide historical exchange rate chronologies in Reinhart and Rogoff (2002), the Democratic Republic of the Congo has experienced two hyperinflations since World War II. To date, no other country has had more than one.
3. For an excellent review of the experiences with high inflation, see Végh (1992) and Fischer, Sahay, and Végh (2001).
4. The one-time 100 percent devaluation for the franc zone countries on January 1994 is a well-known rare event that merits relatively little discussion in the context of exchange rate uncertainty. For the CFA franc zone, again, the high incidence of deflation we referred to earlier has been much more of an issue.
5. See Reinhart and Rogoff (2002) for a detailed description of the classification strategy.
6. The transparency index was not published prior to 2000 and our data on the parallel market rate end in 1998.

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## Appropriate Institutions

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SIMEON DJANKOV, RAFAEL LA PORTA,  
FLORENCIO LOPEZ-DE-SILANES, AND ANDREI SHLEIFER

*In recent years, comparative economics experienced a revival, with a new focus on comparing capitalist economies. The transition from socialism, the Asian financial crisis, and the European economic and political integration have challenged our understanding of how capitalist economies and societies work. Capitalist economies differ in important ways in how they regulate market activities, including the extent of public ownership, regulation of social harms and externalities, contract enforcement, modes of dispute resolution, and so on. Capitalist countries also differ in how they regulate political competition, including the structure of electoral systems, the nature of checks and balances, legal procedures, and so on. These institutional differences among countries are both highly systematic and have important consequences on economic and social outcomes. As an important example, the historical origin of a country's legal system has proved to be a crucial factor shaping institutions. A growing body of theoretical and empirical research documents and analyzes how history as well as current conditions shape institutions. This research—which we call the new comparative economics—helps explain many differences in performance and informs the design of economic and political reforms.*

### Introduction

The traditional field of comparative economics deals with the comparisons of socialism and capitalism.<sup>1</sup> Under socialism, the principal mechanism of resource allocation is central planning. Under capitalism, this mechanism is the market. The field of comparative economics, which dates back at least to the discussions of market socialism

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Simeon Djankov is senior economist at the World Bank. Rafael La Porta is associate professor at Harvard University, Cambridge, Mass. Florencio Lopez-de-Silanes is professor of finance and economics at Yale University, New Haven, Conn. Andrei Shleifer is professor of economics at Harvard University.

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in the 1930s, asks under what circumstances either the plan or the market delivers greater economic efficiency and equality.

The collapse of socialism in Eastern Europe and the Soviet Union a decade ago destroyed traditional comparative economics as a field. The economic and political failures of socialism were too evident for any serious scholar to continue contemplating its comparative benefits. Although the academic discussions have probably lasted longer than they should have, by 1990 it had become abundantly clear that socialism produced little but misery and inefficiency—not to mention mass murder by the communist dictators who practiced it. Capitalism, in contrast, produced growth and wealth. With capitalism triumphant, is comparative economics dead?

The answer, we argue in this article, is no. From the ashes of traditional comparative economics emerged a new field. This field, which we call the new comparative economics, shares with its predecessor the notion that by comparing alternative economic systems, we can understand better what makes each of them work. But it sees the key comparisons as being among alternative capitalist models that prevail in different countries. Every capitalist economy has a large number of public and private institutions. These institutions function to choose political leaders, to maintain law and order, to secure property rights, to redistribute wealth, to resolve disputes, to govern firms, to allocate credit, and so on. Political economy over the last two centuries, as well as recent empirical research, demonstrate that these institutions differ tremendously and systematically among countries, and that these differences have significant consequences for economic and political performance. The comparison of these institutions and of their effectiveness, with a focus on understanding which ones are appropriate in what circumstances, is the subject of the new comparative economics.

The new comparative economics shares with institutional economics the recognition that the pure competitive model is not a useful way to think about capitalist economies, and that the political and economic institutions crucially shape performance. Unlike institutional economics, however, which stresses the common achievements of capitalist economies (such as protection of private property), the new comparative economics focuses on institutional diversity. It also shares with the fields of political economy and public choice its emphasis on politics. Most crucial institutional differences among countries—whether regulating markets or regulating politics—are governmental. It is impossible to understand the formation of institutions, their consequences for performance, or their appropriateness for the circumstances without understanding the political forces that drive institutional evolution.

In this article, we do not survey the developments of the new comparative economics. Rather, we discuss some of the main intellectual themes, as well as some of the unanswered questions. The next section deals with three economic changes in the final decades of the 20th century that have shaped the intellectual agenda of the new comparative economics. That discussion is followed by a section that considers the institutions securing property rights against private expropriation—what we refer to as “law and order.” The following section focuses on the institutions that secure property rights against expropriation by the state—also known as “rule of law.” The final section considers policy reform.

## Events and Questions

Three events in the ending decades of the 20th century have spurred interest in the new comparative economics. The first—perhaps the defining economic event of the end of the 20th century—is the collapse of socialism and the transition of the economies in Eastern Europe and the former Soviet Union, as well as that of China, into capitalism. The transition experience has been diverse. Many of the countries of Eastern and Central Europe, especially the Czech Republic, Hungary, Poland, and Slovenia, successfully established secure democracies and many of the legal and regulatory institutions of capitalism during the 1990s. They have grown rapidly and are expected to integrate fully into Europe over the next few years. Countries further east, such as Romania and the Russian Federation, also moved to establish democracies and market institutions but their experience has been more checkered. Some of the Asian economies, from Kazakhstan to China, did not embrace democracy but undertook significant economic reforms and grew, in China's case spectacularly. Finally, several transition economies, including Belarus, Cuba, and many countries of Central Asia, did not reform and they experienced severe stagnation.

By and large, early discussions of transition experiences ignored institutional differences and focused instead on the speed of reforms—big bang versus gradualism—as a crucial determinant of performance. Although it is now clear that the absence of reform—as in Belarus—is associated with both economic and political stagnation, the emphasis on pure speed turned out to be little more than a headline-grabbing diversion. The important differences among countries had more to do with the effectiveness of their newly created institutions than with the speed of reform (see Murrell 1995; Shleifer 1997). The countries of Central Europe succeeded in creating successful institutions of a market economy. Russia—having moved as fast as or faster than those countries on many of its reforms—faced greater problems of corruption and capture and started growing only recently.

These divergent experiences raised new questions about transition. Is democracy the best political system for economic reform or is dictatorship efficient when radical change is required? China's economic success under a communist dictatorship, contrasted with the difficulties of Boris Yeltsin's democracy in Russia, animated the advocates of one-party rule. The successes of democracies of Central Europe pointed in the opposite direction. Within democracies, do reforms proceed better under divided or under consolidated governments? Many economists started with a prior belief that consolidated government is essential when implementing reforms, but here again the deeply divided governments of Central Europe had more success with some of the market reforms than the much more consolidated governments of Russia and Ukraine. How interventionist and regulatory should the government be in transition economies? The transition experience saw both successful regulation of markets (in Poland, for example) and the more typical degeneration of regulation into corruption and selective abuse of new business. How much government ownership is compatible with transition to capitalism? The Czech Republic, Poland, and Russia pursued extensive privatization programs, whereas China retained large state sectors. Is a fed-

eral structure desirable from the viewpoint of economic transformation? Scholars of China credited its federalism and resulting competition among regions for the success of the Chinese reforms (Roland 2000); scholars of Russia attributed to its federalism and the resulting conflict between the regions and the center the difficulties of Russia's reforms, particularly in the fiscal area (Shleifer and Treisman 2000).

All of those questions share two common elements. They deal with capitalist economies, and ask what shape such economies take. They also deal with the institutions of capitalist economies, which appear to differ a great deal. The presumption of all of the questions is that the differences among the institutions of capitalist economies actually matter for economic performance. This, indeed, is the central theme of the new comparative economics.

The second crucial economic event for the new comparative economics is the Asian financial crisis of 1997–98. Actually, Japan—the world's most successful economy of the post-WWII era—led the way, plunging into a recession in the early 1990s and staying in it for at least a decade. The other Asian economic wonders—Hong Kong (China), the Republic of Korea, Malaysia, Singapore, Taiwan (China), and to a lesser extent Indonesia and the Philippines—experienced collapses of their currencies, financial systems, and economies during the crisis. And the very factors seen as responsible for their rapid growth in the previous decades—political guidance of the economy, state direction of credit, openness, the dominance of large and diversified groups in the economy—turned into the culprits of the collapse (Perkins 2002). The Asian growth miracle (World Bank 1993) was rechristened as *crony capitalism*.

Initially economists sought to understand the Asian crisis from a purely macroeconomic perspective, but it quickly became apparent that political and economic institutions had a lot to do with it (Johnson and others 2003). Was the collapse a consequence of the political liberalization that many East Asian countries have experienced? More generally, is Asian growth compatible with democracy? Some champions of the Asian approach, such as Singapore's Lee Kwan Yew, indeed have argued that Asian growth crucially relied on authoritarian discipline. Others see democratization in Korea as a sign of progress. Is heavy-handed government guidance of the Asian economies the source of their success, as many observers of Korea and Singapore insist, or is it the cause of over-borrowing, expansion into inefficient and unprofitable activities, and corruption that precipitated the crisis? Are Asian business groups, with their extreme diversification, integration with banks, and rapid decisionmaking under family control, a source of economic dynamism or an adaptation to the extreme politicization of economic life that ultimately manifested itself in a crisis? Is Asian corruption, for decades seen as efficiently greasing the wheels of commerce, really the hidden cancer that ultimately metastasized and devastated the Asian economies?

The Asian crisis is of great interest, in part, because the Asian economies have many differences among them, despite their many similarities. The countries belong to different legal systems (common law in the cases of Hong Kong [China], Malaysia, and Singapore; civil law in the cases of Korea and Taiwan [China]); they include democracies, such as Korea and the Philippines, and authoritarian states, such as

Indonesia, Malaysia, and Singapore; and they differ in the aggressiveness of state intervention and so on. Moreover, the depth of the crisis varied among the economies: Hong Kong (China) and Singapore fared relatively well, but Indonesia and the Philippines plunged into most extraordinary depressions. Those experiences also drew attention to the variety of capitalist institutions and their divergent effectiveness in coping with a severe economic shock.

European economic integration is the third great economic event of the '90s. It raised many issues about the functioning of economic institutions in a constituency with a great variety of local preferences, laws, customs, and interests. As politicians in Brussels contemplated the common legal rules for Europe, they needed at least to consider which rules actually were good. Should European companies have restrictive labor laws—so common in continental and particularly Mediterranean Europe—or should they use a more *laissez-faire* approach to the regulation of labor? Is the Anglo-Saxon corporate governance system, with widely held firms, strong legal protections of minority shareholders, and developed stock markets, preferable to the German system of powerful banks, family firms, and weak minority rights? How interventionist and regulatory should be the future European state, especially if it wants to compete with the United States in world markets? Again, all of those questions that deal with alternative models of capitalism had to be considered.

The inevitable lessons of these developments are that institutions vary significantly among capitalist economies and that those variations influence the most important economic changes. This raises the question of whether we can think systematically about the diversity of institutions and about the consequences of alternative arrangements. What institutions are appropriate for what countries? If the observed institutions are not appropriate, what forces have shaped them? Finally, can institutions, especially the inappropriate ones, be reformed?

In thinking about those issues it is best to start from first principles. Since the days of the Enlightenment, economists have agreed that good economic institutions must secure property rights (for example, Rothschild 2001), enabling people to keep the returns on their investment, make contracts, and resolve disputes. Such security encourages people to invest in themselves and in physical capital and therefore fosters economic growth. But there are two sides to the security of property rights. On the one hand, investment must be secured from expropriation by one's neighbors—thieves, competitors, or other violators. For this, effective *public* enforcement of property rights is required—what is sometimes called *law and order*. On the other hand, a strong government—one capable of protecting property against private infringement—can itself become the thief. To contain such a government, institutions restricting its power are necessary—what is sometimes referred to as *rule of law*.

Accordingly, it is useful to distinguish two aspects of institutional design. The first aspect concerns restrictions on private expropriation—we call this law and order. The second aspect concerns restrictions of public expropriation—we call this rule of law. Broadly speaking, law and order delineates the scope of government: what services should the government provide, how and what should it tax, what should it own, what and how should it regulate, how should it deal with social

harms and externalities, and which contracts should it enforce and how? Rule of law shapes the trust in government: how are politicians chosen (if at all), what mechanisms exist to keep them in check, how are policies selected, how are powers allocated among different branches and levels of government, and how are judges and regulators controlled?

Of course, the same institutions often simultaneously contribute to—or subtract from—both law and order and rule of law. The pro-market dictatorship of Pinochet or General Park may be good for law and order, but bad for rule of law. The British Labor Party in the 1960s and 1970s, utterly subverted by the labor unions, was subject to rule of law while it oversaw a collapse of law and order. More generally, a state powerful enough to secure law and order is also able to escape the rule of law. For expositional convenience, we consider these two aspects of institutional design separately, while recognizing that a theory of appropriate institutions must be attentive to both aspects simultaneously. In a follow-up paper (Djankov and others 2003), we have considered the relationship between law and order and rule of law in more detail.

## Law and Order

The basic functions of government in almost all economic analysis are to protect property from expropriation, to enforce contracts, and to resolve disputes. This normative perspective, however, does not get us very far in understanding reality. The public sector grew tremendously in the 20th century, coming to account for nearly half of the gross national product in successful *market* economies. Governments provide law and order but also many other public goods. They own banks, mines, industries, railroads, airlines, and many other businesses in both developing and industrial countries. Although governments run courts that resolve disputes and enforce contracts, in many countries a great deal more protection of property is pursued through regulation than through litigation. And in all of those respects, institutions differ tremendously among *capitalist* economies.

The differences are both substantial and material for economic performance. Kaufmann, Kraay, and Zoido-Lobaton (2002) combined data from 15 experts' polls and surveys of business people or citizens in general to construct six measures of institutional quality for 175 countries. The study found enormous dispersion in institutional quality among countries. Beck, Demirgüç-Kunt, and Maksimovic (2001) used data from the World Bank's World Business Environment Survey, which collects from entrepreneurs in a large number of countries opinions about the quality of institutions that affect their businesses. The authors also found significant variation among countries in institutional quality, as well as consistent evidence of lower business growth in countries whose institutions are seen as lacking. A recent World Development Report of the World Bank (2002) is entirely focused on the variation in institutional quality around the world and on the consequences of that variation for economic and social performance.

That variation in law and order among countries raises two related questions.

First, are the existing institutions efficient, and if not, why not? Second, are the factors that shape institutions endogenous to the geographic, ethnic, or political conditions of a country, or are they exogenously determined by a country's history of institutional adoption?

There are good reasons to believe that many existing institutions are efficient and becoming more so over time. After all, the world is surely a better and richer place than it was 100 or 200 years ago. The case for such efficiency has been forcefully made by institutional economists. Demsetz (1967) and North (1981, 1990) have argued that there are fixed costs of establishing institutions. As countries get richer and markets get wider, more and more of the good institutions become efficient because the benefits of efficiency exceed the costs. Demsetz (1967) used that reasoning to explain the transition from common to private property in land as the size of the population, and therefore the land's scarcity, increases. With that logic, the causality is from the level of development to the quantity and quality of institutions, and not just the other way around.

In a series of recent articles, Glaeser and Shleifer focused on another factor that determines institutional efficiency and therefore might influence what institutions are appropriate—namely, the costs of enforcement. To provide law and order, governments need to enforce their rules. The enforcement of rules cannot be taken for granted—it is an economic activity generally performed by the agents of the state and as such is limited in its effectiveness by incentives and resources. A country's circumstances might determine the government's ability to enforce different kinds of rules, and therefore suggest which rules are appropriate.

Along those lines, Glaeser and Shleifer (2002a, 2003) argued that an important property of a successful institution is its invulnerability to subversion by powerful citizens. People will attempt to influence any system to their own advantage, thereby benefiting themselves at the expense of others and making property rights insecure in the process. Controlling such subversion is necessarily costly and may require different approaches in different circumstances. Peaceful, relatively equal societies can adopt decentralized community rules in areas such as dispute resolution because local justice is more efficient and there is relatively little risk of it being subverted. Less orderly, more unequal societies, in contrast, could not rely on enforcing community rules because local justice is likely to be subverted by powerful interests. Instead, they must rely on the more centralized rules promulgated by the sovereign—rules which can withstand attempts at subversion—even when such rules contradict the community's ideas of justice and fairness.

Glaeser and Shleifer (2002a) used that theory to explain why, starting in the 12th and 13th centuries, the jury-based common law system developed in the relatively peaceful England, whereas the state-employed-judge civil law system developed in the warring France. Glaeser and Shleifer (2003) presented a related theory to explain why, during the Progressive Era at the beginning of the 20th century, the United States replaced litigation with government regulation in many areas of social control of business. The reason was the vulnerability of courts to subversion by the newly powerful economic interests—the robber barons. The perception that regulatory

bodies—like the royal courts in 13th-century France—would be less vulnerable to such subversion was an important argument for regulation.

The Glaeser-Shleifer focus on subversion of enforcement has possibly important implications for determining what institutions are appropriate to deliver law and order. Specifically, their theories suggest that advanced, orderly societies, whose officials are least vulnerable to subversion, would rely most efficiently on independent courts to deliver justice. Societies operating at intermediate levels of “law and order” efficiently would choose to use government regulation to control undesirable conduct, at least when damages from such conduct are high, because the regulators might be less vulnerable to influence than the judges. Finally, highly disorderly societies should avoid controlling most economic activity, even when it entails undesirable externalities, because such efforts at control generally would be subverted, leading only to corruption and waste of resources. That last prediction, derived purely from recognizing the costs of enforcement, contradicts much of the conventional wisdom on regulation (Stiglitz 1994), which holds that the poorest countries have the greatest market failures and therefore require the greatest interventions by the state.

The efficiency perspective has much to recommend it, especially in the long run. But we cannot discuss the variety of capitalist institutions without recognizing that many of them are shaped by factors other than efficiency. Two factors are crucial here. First, as we discuss in more detail in the next section, most governments in the world are far from perfect and therefore so are institutions they design and perpetuate. Second, many institutions we observe in developing countries are not indigenous but rather have been transplanted during colonization. Although many transplanted institutions have served to improve the security of property rights, there is no reason to think that colonial transplantation is automatically efficient.

Consider these two factors shaping institutional quality in turn. As argued by public choice theorists, many institutions are created by dictators trying to stay in power, by powerful interest groups capturing public decisionmaking, and by political majorities to benefit themselves at the expense of the minorities. The public-choice perspective has proved to be extremely helpful for understanding institutions. For example, it sees state ownership as a mechanism of dispensing patronage and maintaining political support for incumbent politicians (Shleifer and Vishny 1998). It shows how various regulations, which have ostensibly benign goals, end up protecting incumbent firms from competition and offering extensive corruption opportunities to their enforcers (Stigler 1971; De Soto 1989; Djankov and others 2002). At the most basic level, it explains socialism itself—the system that concentrates all of the political power and economic decisionmaking in the hands of a small elite and thereby provides this elite with the most powerful lever to perpetuate its power, namely, making the whole population of a country economically dependent on the elite.

Much of the evidence on institutions—both within and across countries—is consistent with the public-choice perspective. Within countries, economists took advantage of institutional diversity in federal states, such as India and the United States. Besley and Burgess (2002), for example, examined the differences in legisla-

tion concerning worker rights among the Indian states. They found that pro-worker amendments to the Industrial Disputes Act are associated with lowered investment, employment, productivity, and output in registered manufacturing. The evidence suggests, in line with much other evidence on regulation, that attempts to redress the balances of power between capital and labor can end up hurting the poor.

Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2002) collected data on the regulations faced by entrepreneurs trying officially to open a business in 85 countries. They found that entry regulation is extremely heavy in most countries in terms of both the time and the number of procedures that an entrepreneur must complete. Moreover, heavier entry regulation is not associated with superior quality of products but rather with greater corruption and larger unofficial economies. Furthermore, heavier regulation of entry is pursued by less democratic and less limited governments. All of these results support the public-choice view that entry regulation benefits bureaucrats and politicians rather than consumers.

The second factor possibly responsible for institutional inefficiency is colonial transplantation. As European powers conquered most of the world in the 19th century, they brought with them their laws. It appears that this transplantation accounts for a significant portion of institutional variation among countries.

A brief historical account might be useful. England and France developed very different legal traditions as far back as the 12th century. The English—or common law—tradition is characterized by the relative independence of judges, the importance of juries, and reliance on broad legal principles such as fiduciary duty to resolve disputes. The civil law tradition is derived from Roman law, was rediscovered by the Roman Church in the 11th century, and eventually was adopted by most Continental European states. In the early 19th century, civil law was incorporated into formal legal codes in France and Germany, and indeed writers such as Hayek (1960) have dated the crucial divergence between civil and common law to Napoleon's Codes. The civil law tradition is characterized by state-employed judges, the relative unimportance of juries, and extensive control and oversight of lower-level judicial decisions through superior review.

When European powers conquered and colonized other nations, they brought with them many of their political, legal, and regulatory institutions—and, most important, their laws. England transplanted its laws to Australia, Canada, East Africa, South Asia, the United States, New Zealand, and other areas it colonized. Napoleon exported France's legal system to many European lands he conquered, including Portugal and Spain. French civil law then was transplanted to the parts of the world controlled by the Portuguese, the Spaniards, the Dutch, and the French themselves, and today it remains the basis of the legal systems of Latin America, North and West Africa, and parts of Asia. As a consequence of this colonial transplantation, legal origin was important in shaping the legal and regulatory institutions of many countries.

Legal origin shows up as a determinant of a broad range of institutions. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998), for example, identified legal origin as a crucial determinant of the laws governing the protection of outside investors

from expropriation by corporate insiders, with common law providing better protection than civil law. The authors measured the laws protecting outside shareholders and creditors against expropriation by corporate outsiders in 49 countries. They find that better investor protection is strongly associated with broader and more valuable capital markets, a higher pace of public offerings, more dispersed ownership structure, and other indicators of financial development. Subsequent research has shown that civil law countries generally exhibit heavier government intervention in economic activity, including more burdensome regulation and red tape (La Porta and others 1999), greater government ownership of banks (La Porta, Lopez-de-Silanes, and Shleifer 2002), and more burdensome regulation of new business entry (Djankov and others 2002). Moreover, the evidence has identified no benefits of the more interventionist institutions for economic or social outcomes. To the contrary, French legal origin typically is associated with worse public sector outcomes and with greater corruption.

There is no agreement on why legal origin is so important. In line with Hayek (1960), Glaeser and Shleifer (2002a) and La Porta and others (2002) have stressed the importance of independent judiciary—central to the common law tradition—for guaranteeing the security of private property. According to that view, the state-employed judges of the civil law tradition become instruments of, rather than obstacles to, government intervention—a particularly severe problem for the security of private property in developing countries. Coffee (1999) has emphasized the importance of broad legal principles, such as fiduciary duty, in making common law a force to promote investor protection and financial development. Such reliance on broad legal principles, however, more generally may be part of judicial independence because the tight state control over judges that is so central to civil law is unsympathetic to the judicial discretion inherent in the application of broad principles.

Recent research has pointed to another potentially important aspect of institutional transplantation, which might account for institutional variety. Acemoglu, Johnson, and Robinson (2001) showed that settlers suffered very different rates of mortality in different colonies, and accordingly were much more likely to stay and develop their institutions in the colonies where they survived. The transplantation of Western institutions beneficial for the security of property rights and economic development consequently was more effective in places where the settlers survived than in places where they did not. That theory, like legal origin, accounts for some exogenous variation in institutions among countries. It also suggests that, at least where the colonists settled themselves, institutional transplantation has been highly beneficial. Australia, Canada, and the United States did not have to invent their laws from scratch—they inherited them from England. On the other hand, where the colonists did not settle, transplantation was ineffective.

The fact that many institutions in developing countries have taken their shape through transplantation rather than an organic (and perhaps efficient) response to local conditions raises many challenges to the theory of appropriate institutions. In particular, institutions that are appropriate for democratic countries, with their limited and constrained governments, might not work well when transplanted to a dif-

ferent political environment. Indeed, as Glaeser and Shleifer (2001a, 2003) showed, centralized regulation and law enforcement are least efficient when the interests of the sovereign diverge the most from those of the public, and when the rules are most subject to subversion. Their theory might explain why the centralized institutions of civil law, which work reasonably well in democratic France and Germany, can become so dangerous in the hands of a “bad” government. Understanding the consequences of transplantation has become a central agenda of the new comparative economics.

## Rule of Law

Governments successful in delivering law and order may be so powerful as to escape the rule of law. This is not to say that such powerful governments are never sought after by the citizenry. History is replete with episodes of public demand for dictatorship in the periods of massive deterioration of law and order. Nevertheless, on average, unlimited government seems to be associated with less security of property rights. Historians have focused on the role of the Magna Carta in both limiting the political power of the monarchy and securing property rights in England. Long-term historical evidence shows that, over the last millennium, countries have grown faster under limited government than under autocracy (De Long and Shleifer 1993).

At least since the 18th century, progressive writers have understood that democracy with limited government—government subject to the rule of law—is a better way to organize human affairs than is dictatorship. Political power needs to be contestable in elections, and politicians need to be kept in check while in office to prevent abuse of power. Some degree of separation of executive, legislative, and judicial power is desirable. Both the tyranny of the majority and the capture of the state by narrow special interests are to be avoided. Governments subject to the rule of law are less likely to expropriate their subjects themselves and more likely to strive to keep their subjects from expropriating each other.

Despite some agreement on the goals, how countries achieve the rule of law is subject to great variation around the world, and to varying degrees of success. As before, some evolution of the rule of law is driven by efficiency. Brennan and Buchanan (1980) and North and Weingast (1989) emphasized the benefits of rigid constitutions—the idea that originated in the United States—as a mechanism of restraining the sovereign. Aghion, Alesina, and Trebbi (2002) examined the design of political institutions in light of the tradeoff between restraining the sovereign and providing him or her with sufficient discretion to pursue good policies. They showed how exogenous characteristics of the society, such as polarization of voter preferences and aggregate uncertainty, shape the efficient choice of political institutions.

But, as with law and order, efficiency is obviously not the only factor. More often than not, politicians themselves design and modify institutions to stay in power. This is most clear in monarchies and dictatorships but democracies are not immune. Voting arrangements, constitutional rules, financing of campaigns and political parties,

and other institutions are introduced to keep incumbents in office. Recent research in the new comparative economics has addressed those issues as well. Olson (1982), Acemoglu and Robinson (2000, 2002), and Glaeser and Shleifer (2002b) have shown how horrendous policies and institutions can be best understood from the perspective of efforts to entrench the incumbents.

What is most interesting from our perspective is that differences among countries in the regulation of politics are highly systematic as well, and that transplantation again is crucial to understanding the variation among countries. One important area deals with constitutional design, particularly with respect to the judiciary. According to Hayek (1960), there are two very distinct ways in which the judiciary secures freedom. The first way is the English common law idea of judicial independence: laws passed by Parliament are enforced by courts without political interference. According to this idea, the courts cannot interfere with Parliament, and the Parliament cannot intervene in courts except by passing laws. The second way is the American constitutional idea of checks and balances: the courts themselves have the power to check the decisions and laws passed by the legislature against the Constitution. Unlike in the English conception, here the courts can very much interfere with legislative choices.

Both English and American constitutional ideas were transplanted throughout the world in the last 200 years as most countries wrote their own constitutions. But the ideas spread differently. The institution of judicial independence has spread to Britain's colonies along with other elements of common law. It generally did not get adopted in the civil law countries. The American idea of constitutional review has spread to countries influenced by the U.S. Constitution, especially those in Latin America, after World War II to many other parts of the world, including Continental Europe, as constitutional courts became commonplace.

La Porta and others (2002) examined recent constitutions of 71 countries and measured whether those constitutions adopted either (or both) of the two ideas about the judiciary. They found significant but highly systematic variation among countries, generally following the patterns of transplantation described above. Specifically, judicial independence is prevalent in common law but not civil law countries. Constitutional review, on the other hand, is more typical of countries influenced by the United States. The study also considered the effect of these constitutional rules on measures of political and economic freedom around the world. In their data, independent judiciary is associated with greater economic and political freedom, whereas constitutional review is associated with greater political but not economic freedom. That evidence identifies significant benefits of transplantation of judicial institutions for both law and order and rule of law.

Djankov and others (2003) examined a related dimension of regulation of politics: the operation of courts in 109 countries. Specifically, they focused on the formalism of judicial procedure—the extent to which the law regulates dispute resolution. To that end, they examined in detail the procedures that must be followed to take each of two cases—the eviction of a nonpaying tenant and the collection of a bounced check—through a nation's court. From that examination, they con-

structed indexes of procedural formalism—or regulation of dispute resolution—for each country. They found that French civil law countries exhibit much greater levels of procedural formalism than do common law countries, just as appears to be the case with other kinds of regulation. They also found that greater procedural formalism is associated with significantly longer delays in bringing cases through courts, but not with greater measures of efficiency, consistency, fairness, or accessibility of the legal system. The evidence concerning the regulation of dispute resolution mimics that concerning other kinds of state intervention: legal origin is a strong predictor of greater interventionism, and there is no evidence that such interventionism improves social outcomes.

The articles we have described here point to some patterns in the nature of institutions regulating markets and politics. Specifically, in many instances legal origin appears to shape both. Civil law countries are more centralized and interventionist than are common law countries across a range of institutions—they exercise tighter central control of new entrepreneurs, banks, and courts. In the mother countries—England and France—this difference in institutional design may have been a response to the different law-and-order conditions, as Glaeser and Shleifer (2002a) have argued. But in colonies these institutional features were often transplanted and thus do not have as apparent efficiency justifications. That does not mean that the consequences of transplantation are necessarily adverse—there are significant benefits of common law in both rich and poor countries. The central conclusion for the new comparative economics is that legal origin is an important factor pervasively shaping the institutions of capitalist economies.

Findings concerning the regulation of politics also confirm our earlier conclusion that many aspects of legal origin go together. We previously have emphasized that judicial independence goes along with reliance on broad legal principles in dispute resolution, such as fiduciary duty. The evidence discussed in this section confirms the role of centralized control in the civil law system, manifested both in a lack of judicial independence and in regulation of dispute resolution. Such centralized control is, of course, intimately related to greater government interventionism in developing civil law countries.

## **Conclusion: Appropriate Institutions**

The new comparative economics has made great strides in the last decade. We appreciate—and have begun to measure—the great institutional diversity of capitalist economies. We also have focused on the three forces (and there may be others) shaping institutional development: efficiency, political economy, and transplantation. The lesson of this research is that there is nothing inevitable about the existing institutions. Although some are efficient and appropriate, many are not. The design of many institutions to serve the interests of incumbent rulers and the political interests that support them, combined with the crucial role of colonial transplantation, are the two key sources of inefficiency. In the years ahead institutional reform may become

one of the principal strategies for improving human welfare.

Our understanding of reform strategies remains in its infancy, especially in light of the growing understanding that different institutions might be appropriate in different circumstances. A focus on the forces shaping institutions, however, also suggests some lessons for reform.

We have argued that legal origin is a powerful factor shaping institutions around the world, and that the origin's influence has been driven largely by colonial transplantation. Although legal origin has been important historically, it is not destiny: colonial heritage should not stop reform.

The new comparative economics has shed new light on the potential role of government regulation as an enforceable strategy for securing law and order. Nevertheless, the actual record of regulation in developing countries remains dismal. Nearly all of the available evidence points in one particular desirable direction for reform: reducing government intervention in markets. The evidence on government ownership, on the regulation of entry, and on the regulation of judicial procedures identifies the inefficiencies of excessive intervention in developing countries. That intervention may be a by-product of the transplantation of the interventionist institutions of civil law, combined with a lack of rule of law. But the very fact that we are able to diagnose the causes of inefficiency should encourage reform in the direction of lightening intervention.

That such reforms have been slow suggests that the incumbent governments and the political groups they favor are the beneficiaries of existing arrangements. To the extent that those forces are responsible for the persistence of inefficient institutions, reform strategies will require either their destruction or their cooptation. Indeed, institutional reform in transition economies has progressed largely through such political strategies (see Boycko, Shleifer, and Vishny 1995; Shleifer and Treisman 2000). One lesson from these experiences is that reformers can often—although not always—identify the opponents of change and build sufficient coalitions to improve institutions. Around the world we are seeing more and more examples of such reform.

Identifying the appropriate institutions and designing politically feasible reform strategies for introducing them are both the challenge and the hope of the new comparative economics.

## Note

1. This field has its own category, called economic systems, in the *Journal of Economic Literature*. The subcategories are capitalist systems, socialist systems, socialist institutions, other economic systems, and comparative economic systems.

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## Comment on “Foreign Direct Investment to Africa: The Role of Price Stability and Currency Instability,” by Carmen M. Reinhart and Kenneth S. Rogoff

HOWARD PACK

Carmen Reinhart and Kenneth Rogoff have attempted a new view of the determinants of foreign direct investment (FDI) in Africa by analyzing whether inflation affects incoming FDI. The second part of their article considers the more general issue of the determinants of inflation in Africa and whether there is fiscal or monetary dominance.

The first issue—why FDI is so low in Sub-Saharan Africa—is not relevant to Africa alone. One could ask that question about many developing countries, from India to Bolivia. In those countries, the return on investment is likely to be small given the low quality of infrastructure (including electricity generation, telecommunications, and internal and external transportation links) and the low levels of education (including the absence of technically trained personnel). For example, in 1985 eight textile plants in Tanzania employed a total of 7 textile engineers, whereas most mills in industrial countries have 10 engineers each. As has been emphasized by many analysts the physical environment is generally not attractive because of the prevalence of drug-resistant malaria and the high probability in some countries that employees will be HIV positive. Purely economic problems in potential host countries include high tariffs on imported inputs and the threats of nationalization or worse (for example, the expulsion of citizens of Indian ancestry from Uganda in 1971 reduced potential FDI in all of East Africa).

Inflation undoubtedly plays a role but is probably only one symptom of more general systemic problems, including the absence of an independent central bank.<sup>1</sup> With respect to inflation the authors note that Africa received low FDI even when inflation was low. But inflation should not be a serious problem where investment occurs in natural resources that are largely exported. Even if there is a nominal peg and the real exchange rate declines, local costs are a relatively small share of the value of such

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Howard Pack is professor of business and public policy at The Wharton School, University of Pennsylvania, Philadelphia.

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exports as minerals and oil. More serious problems for extractive industries are posed by difficulties in transportation or demands for kickbacks, such as those that Wrong (2000) documents in the case of Zaire.

The main inflation risk for multinational corporations occurs in manufacturing, where margins are low in highly competitive labor-intensive sectors such as clothing and toys and there are many alternative host countries. But for those sectors other factors are likely to dominate decisions on FDI. For example, given the need for timely seasonal deliveries of clothing and toys, the quality and cost of ports and transportation are critical. The absence of local firms that can perform necessary nontradable activities, such as machine repair, can be a serious handicap. Similarly, the difficulty in obtaining work permits for expatriates may discourage foreign investment. Thus the negative coefficient in cross-country regressions of FDI on inflation quoted by Reinhart and Rogoff is not robust evidence of the adverse effect of inflation as it is almost certainly correlated with many other factors inimical to FDI.

With respect to FDI in manufacturing, one would not expect to see much investment in Sub-Saharan Africa because the value-added share of gross domestic product in manufacturing there is less than 5 percent. This figure implies there are few firms in any individual industrial sector, that there is typically no large pool of experienced workers with industry-specific skills that can be used by many firms. Moreover, many of the firms that do exist in the sector have been dispersed geographically across regions by governments anxious to gain political legitimacy, and that has further weakened potential agglomeration benefits. Firms that locate in Africa cannot take advantage of economies of scope and must be vertically integrated, and that increases their costs. In many countries, high wages relative to those of potential competitors help explain the absence of export-oriented manufacturing FDI. For example, wages in South Africa recently were US\$1.80 per hour. Foreign investors can locate in China or Vietnam and pay less than one-third of that amount.

Some insights about the role of inflation on FDI can be gleaned from comparative experience. Argentina, Brazil, and Chile received substantial FDI during inflationary periods, whereas India, with relatively low inflation, received astonishingly little FDI, given its size. Hostility to FDI in India, initiated by Indira Gandhi and often buttressed by intellectual support from the United Nations Conference on Trade and Development and the United Nations Centre on Transnational Corporations discouraged such investment. Onerous restrictions placed on IBM that eventually led to its exit from India exemplified the problem. Tanzania and many other countries in Africa adhered to socialist rhetoric, often encouraged by analysts from the industrial countries (Leys 1975) whose major demonstration of the harm of FDI was repatriation of earnings, regardless of the initial investment and other benefits conferred on the local economy. Latin America had large inflows of investment capital even during inflationary times because high rates of tariff protection prompted multinational corporations (MNCs) to enter large local markets. By contrast, the recent surge of FDI in Mexico has been a result of the North American Free Trade Agreement. Thus there are often special circumstances that explain the inflow of FDI.

Given much more favorable attitudes and treatment in Asia for the last quarter-century, why would firms locate in Sub-Saharan Africa rather than in China, Indonesia, Malaysia, Singapore, or Thailand, particularly in light of the efforts of these countries not only to accord FDI favorable treatment but also to provide the necessary infrastructure to make these countries low-cost export platforms? More generally, FDI in manufacturing does not occur as a result of MNCs casually scanning the world. Active recruitment has been an important factor. For example, Singapore deployed a special agency that paid high salaries to a selective group of professionals who systematically canvassed potential investors, and China encouraged Chinese citizens living overseas to locate in its special economic zones. African countries simply do not undertake such actions. Even if the macroeconomic policies in African countries were designed to achieve internal and external balance, it is unlikely that FDI would flow to them without active recruitment, supportive infrastructure, and reductions in bureaucratic interference. With respect to bureaucracy, MNCs must often go through extensive negotiations with potential host countries in Africa and obtain permits from fiscal, regulatory, labor, and health ministries. Acquiring all of those permits may take a year or more. In contrast, many Asian countries have established one-stop processing, which enables a potential investor to arrive in the capital city and obtain production, environmental, and tax agreements in a maximum of 10 days.

As Reinhart and Rogoff note, Uganda does provide an example of an increase in FDI in the presence of lower inflation, but there were many other salutary factors present, including a well-publicized commitment by President Yoweri Museveni to encourage development and reduce corruption. And there is at least anecdotal evidence that much of that FDI was undertaken by families of Indian origin who had been expelled in 1971 and who retained considerable knowledge of and interest in Uganda.

In summary, inflation undoubtedly is a factor in the low levels of foreign direct investment in Africa, but it is only one of many other problems that are not conducive to such investment.

## Note

1. For an excellent journalistic account of Mobutu's predatory behavior in the former Zaire, see Wrong (2000). Mobutu knew a lot about fiscal versus monetary dominance.

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## Institutions Matter

Comment on "Appropriate Institutions," by Simeon Djankov, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer and "Foreign Direct Investment to Africa: The Role of Price Stability and Currency Instability," by Carmen M. Reinhart and Kenneth S. Rogoff

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DANIEL KAUFMANN

### Background: Defining and Measuring Governance

Arguably the critical missing elements in the so-called Washington Consensus of over a decade ago were the institutional and governance factors. We think about institutions as the "rules of the game," and in order to contribute to the empirical analysis we have defined "governance" as the exercise of authority through formal and informal traditions and institutions for the common good, thus encompassing (a) the process of selecting, monitoring, and replacing governments; (b) the capacity to formulate and implement sound policies and deliver public services; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them. For measurement and analysis, the three dimensions in this definition are unbundled to comprise two measurable concepts per each of the dimensions above, for a total of six governance components: (1) *voice and external accountability* (that is, the government's preparedness to be externally accountable through their own country's citizen feedback and democratic institutions, and a competitive press, thus including elements of restraint on the sovereign); (2) *political stability and lack of violence, crime, and terrorism*; (3) *government effectiveness* (including quality of policymaking, bureaucracy, and public service delivery); (4) *lack of regulatory burden*; (5) *rule of law* (protection of property rights, judiciary independence, and so on, thus including elements of law and order); and (6) *control of corruption*.

Applying the above definition of governance and gathering data from many different sources, Aart Kraay and I have analyzed hundreds of cross-country indicators as proxies for various aspects of governance (Kaufmann and Kraay 2002).<sup>1</sup> Imposing structure on these many available variables from diverse sources, we mapped the data

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Daniel Kaufmann is the director of Global Governance at the World Bank Institute. The assistance of Massimo Masstruzzi and Erin Farnand is appreciated, as is the research collaboration with Aart Kraay and Joel Hellman. The views and errors are the author's and neither those errors nor the data presented here (which are subject to margins of error and ought not imply precise rankings) necessarily reflect the views of management or the Board at the World Bank.

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to the six subcomponents of governance listed above, expressed them in common units, measured the margins of error, and, thanks to a statistical methodology, aggregated into the six governance indicators—thereby improving the reliability of the resulting composite indicator and the analysis. These indicators for 1996 through 2002, for almost 200 countries, are now available,<sup>2</sup> and they can assist in providing an empirical perspective to the valuable contributions by Djankov and others and by Reinhart and Rogoff presented in this volume.

### Does Governance Actually Matter?

Using the data emerging from worldwide governance indicators (and others), a number of researchers have performed systematic assessments of the benefits of good governance worldwide. Empirical studies have confirmed the importance of institutions and governance for development outcomes. Knack and Keefer (1997) found that the institutional environment for economic activity generally determines the ability of emerging economies to catch up to industrial country standards. The importance of governance and institutional quality for growth and development, among other things, also emerges in the studies carried out by La Porta and others (1999, summarized by DLLS in this volume, emphasizing the importance of legal origins, discussed below). Acemoglu, Johnson, and Robinson (2001) used historical settler mortality patterns of colonizers as instruments of institutional quality. Engelman and Sokoloff (2002) addressed the importance of factor endowments and educational inequality. Mauro (1995) studied the empirical link between corruption and growth. Easterly and Levine (2002) and Rodrik, Subramanian, and Trebbi (2002) claimed the primacy of institutions over geographical and policy determinants of growth. Sachs and Warner (1997), and in a fascinating historical account outside the realm of academic economics, Diamond (1999), provided evidence of the importance of geographical, ethnographic, and epidemiologic factors.

We have also reviewed the link between institutional quality and income growth (as well as other developmental outcomes) in our research. The set of six worldwide governance research indicators that we have developed over the past few years allows systematic assessment of the benefits of good governance in a large sample of countries. At the most basic level, the data at first reveal a very high correlation between good governance and key development outcomes across countries. Yet this is a “weak” finding in terms of policy application because such correlations do not shed light on the direction of causality or on whether an omitted (“third”) correlated variable is the fundamental cause accounting for the effects on developmental outcomes. Thus, we need to probe deeper, which we do with specialized statistical techniques, unbundling each causality direction. We found, in fact, no evidence of a positive effect going from higher incomes to better governance, thus challenging the notion of governance simply being a “luxury” good (Kaufmann and Kraay 2002). By contrast to the absence of any positive causal link going from higher incomes to improved institutional governance, using rule-of-law variables, our analysis suggests a *large direct causal effect* from better governance and institutions to better development outcomes.

## New Comparative Economics

Beyond its contribution toward pointing to the link between institutions and development, important aspects of the vast collaborative research by Djankov and colleagues is synthesized in “Appropriate Institutions,” providing insights to the study of new comparative economics. These authors persuasively argue on the relevance of moving beyond comparisons between capitalism and socialism, focusing instead on relevant differences within capitalist systems. Their research over the years, focusing on central questions regarding potential antecedents to differential institutional performance within capitalist systems, has provided important analytical and empirical insights, has suggested answers, and has shown that capitalist institutions differ substantially across settings. Their codification and analysis of how such systems differ in terms of legal and regulatory issues are important contributions to the field and provide further evidence of some of the negative consequences of overly interventionist measures within some capitalist systems.

This line of inquiry is also rich in research agendas for the future, and by implying some areas of unresolved debates (some of which are suggested below) we complement it with empirical observations garnered from the governance indicators themselves. We point here to selected challenges.

### Is the Importance of Legal Origins Overstated?

Djankov and his coauthors claim that the central conclusion of the new comparative economics is that legal origin is an important factor pervasively shaping the institutions of capitalist economies. That may overstate the case of the nature of legal origins in determining performance, and thus understate the potential importance of a number of other factors. In particular, there is an overreliance on legal formalism in this work, which may especially hamper applicability for emerging economies (legal formalism is common in legal writings in industrial countries) where, in the course of the varied historical developmental paths taken, those formal legal origins may not appear to have left such a clear and lasting “deterministic” legacy. Instead, a complex interplay of initial conditions (of which legal origins arguably is one) coupled with a plethora of intervening factors (throughout the development process) is likely to have a key role in the substantial adaptation and transformation of institutions—also within systems with the same legal origins.

There are a priori considerations supporting the overall case made by the authors: it can be argued that common law is consistent with a higher degree of judiciary independence, lesser interventionism, and more institutional flexibility than under civil law. Indeed, in the empirical work that Djankov and colleagues draw on to argue the importance of legal origins, based on econometric analysis of the pooled set of approximately 60 Organisation for Economic Co-operation and Development (OECD) and developing countries, they found a statistically significant advantage of common law systems in explaining institutional performance today. Indeed, even with the data avail-

able today for a much larger pool of countries (more than 150 countries, for both legal origins and governance quality today), such a finding is likely to remain. The magnitude of the coefficient is unlikely to be very large, however, and the share of cross-country variation explained by legal origins is rather low, which suggests the high importance of other factors as well.

Furthermore, at a basic level there is the simple empirical observation that OECD countries with vastly different legal origins perform well today, whereas some nations in Africa, Asia, Latin America, and the former Soviet Union exhibit notable cases of dysfunctional institutions. Among the latter underperformers there is no clear pattern in terms of legal origins. Our data set comprising almost 200 countries is useful in reviewing the evidence, which we do through a matrix table (table 1) that includes legal origins (civil vs. common vs. German) in the columns and today's rule-of-law quality in the rows.

In comparing civil and common law systems (first two columns) we observe that all four cells are filled with many country illustrations. Instead of a marked diagonal pattern, many countries today exhibit subpar institutions, proxied by the current indicator for the quality of rule-of-law<sup>3</sup> indicator, across countries with common and civil law origins. And countries with very high-quality rule of law today, such as Chile, Costa Rica, France, Netherlands and Spain, have origins in civil law. Furthermore, it is noteworthy that countries with German legal origins (the third column of the matrix), such as Estonia, Hungary, the Republic of Korea, and Slovenia, as well as Scandinavian origins (comprising the Nordic countries, not shown), are all clustered in the good rule-of-law institutional performance cell, and notably absent are any countries with dysfunctional institutions. This, in turn, contrasts with ex-Socialist countries (not shown).

As suggested, in reviewing econometrically the performance ratings of our six governance indicators against legal origins for the worldwide sample, controlling for other factors, on average a small advantage for countries with common law over civil

**TABLE 1.**  
**Rule of Law in 2002 Versus Historical Legal Origins in Selected Economies**

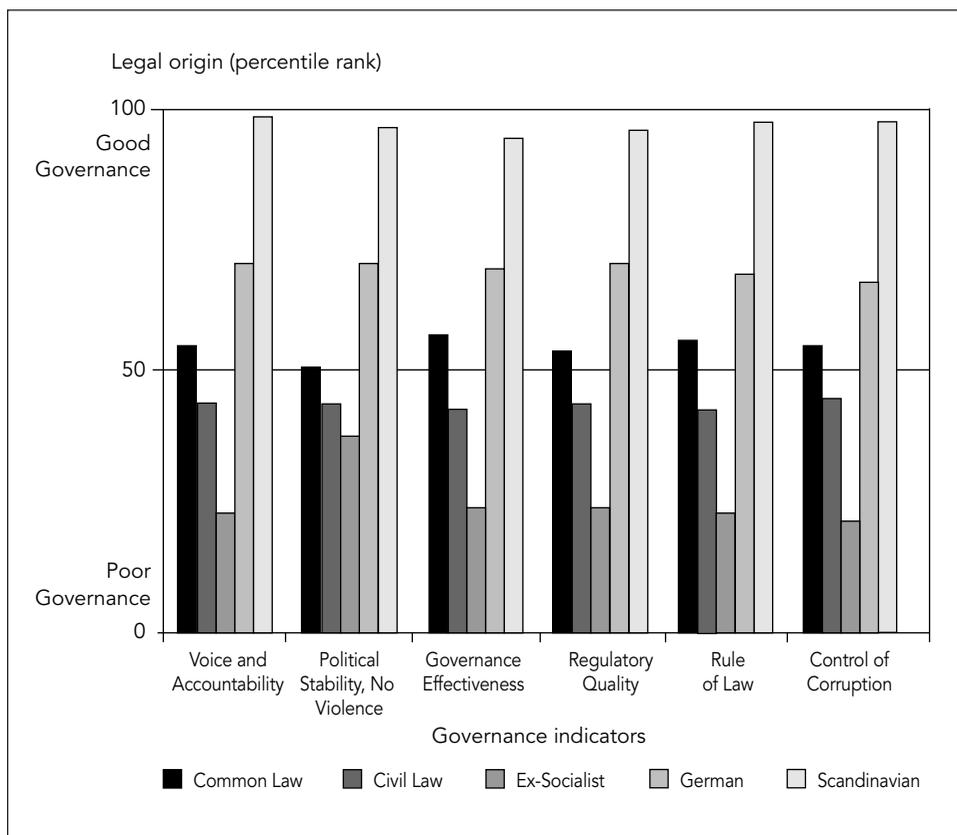
	Civil Law	Common Law	German Law
<i>High-quality rule-of-law, 2002</i>	Chile, Costa Rica, France, Italy, Netherlands, Portugal, Spain, Tunisia, etc.	Australia, Botswana, Canada, Ireland, Singapore, United Kingdom, United States, etc.	Austria, Estonia, Germany, Hungary, Japan, Rep. of Korea, Slovenia, Switzerland, Taiwan (China), etc.
<i>Low-quality rule-of-law, 2002</i>	Angola, Argentina, Côte d'Ivoire, Haiti, Iraq, Laos, Libya, Myanmar, Paraguay, R.B. de Venezuela, etc.	Bangladesh, Liberia, Kenya, Malawi, Nigeria, Pakistan, Sierra Leone, Somalia, Sudan, Zambia, Zimbabwe, etc.	

Sources: Kaufmann, Kraay, and Mastruzzi 2003; La Porta and others 1999; CIA 2002; Djankov, McLiesh, and Shleifer 2003.

law origins in a number of dimensions can be detected. Without such controls, we observe these differences between civil and common law origins in figure 1. Furthermore, we see in figure 1 that German and Scandinavian systems have performed rather well, in contrast with the legacy of the Soviet era (classified as the legal origins for the Commonwealth of Independent States<sup>3</sup>). Undoubtedly there are important lessons for developing countries from a comparison across legal systems that focuses on more than (the admittedly important) distinction between civil and common law systems.

Furthermore, OECD countries have done rather well in spite of vastly different legal origins. Djankov and colleagues emphasize the important distinction between an indigenously developed legal system and transplantation (through, say, colonization) to an emerging country. They argue that the advantages of common law origin would be more salient in the latter case, where particular adaptability to the characteristics of the new destination is needed. Indeed, particular features of common code legal systems lend themselves to further adaptability and flexibility compared with civil codes (partly as a result of the relative independence of judges, the prominence

**Figure 1. World Governance Indicators Today by Legal Origin (percentile ranks)**



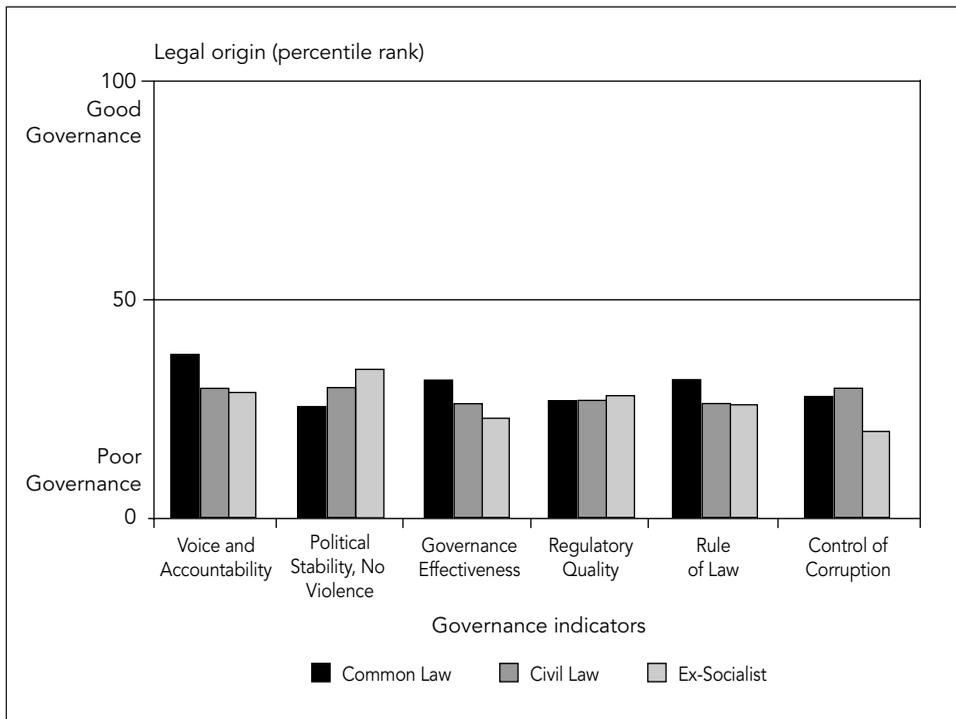
Note: The number of countries studied was 193.

Sources: For governance indicators, Kaufmann and Kraay 2002. For legal origin, La Porta and others 1999; CIA 2002; and Djankov, McLiesh, and Shleifer 2003.

of juries, and reliance on broad legal principles), and there is evidence of a small but significant correlation between legal origins and institutional performance today. In practice, however, the cross-country evidence for all nonindustrial countries today does not point to a more robust relationship than in the world sample. In addition, as we focus on lower-income countries, namely, the group of about 75 countries classified as having incomes per capita below US\$1,435 in 2001, the differences between common and civil law origins essentially disappear (with minor variations in direction across different governance dimensions), as we observe in figure 2. And it is precisely within this group of countries, where many exhibit dysfunctional institutions, that the most daunting challenges in terms of institutional change and performance lie nowadays.

Consequently, with the benefit of a comprehensive data set for developing and transition economies, it not only would be warranted to probe deeper into other potential historical determinants of institutional performance today (such as settler mortality patterns, political institutions, and inequality of factor endowments), but

**Figure 2. Low-Income Countries' Governance Indicators Today by Legal Origin (percentile ranks)**



Note: Governance indicator shown as percentile rank in the world (100 being best in the world). Sample includes all low income countries, defined as per below IDA historical ceiling for eligibility of GNI per capita of US\$1,435 in 2001. Sample including data for both Governance Indicators and Legal Origin includes 74 countries, out of which the following number of countries comprise: common law, 25; civil law, 39; ex-Socialist, 10.

Sources: For governance indicators, Kaufmann, Kraay, and Mastruzzi 2003. For legal origin, La Porta and others 1999; CIA 2002; and Djankov, McLiesh, and Shleifer 2003.

also to study the interaction between such historical origins and the intervening determinants in more recent times.

## On the Capture Vulnerability of Institutions

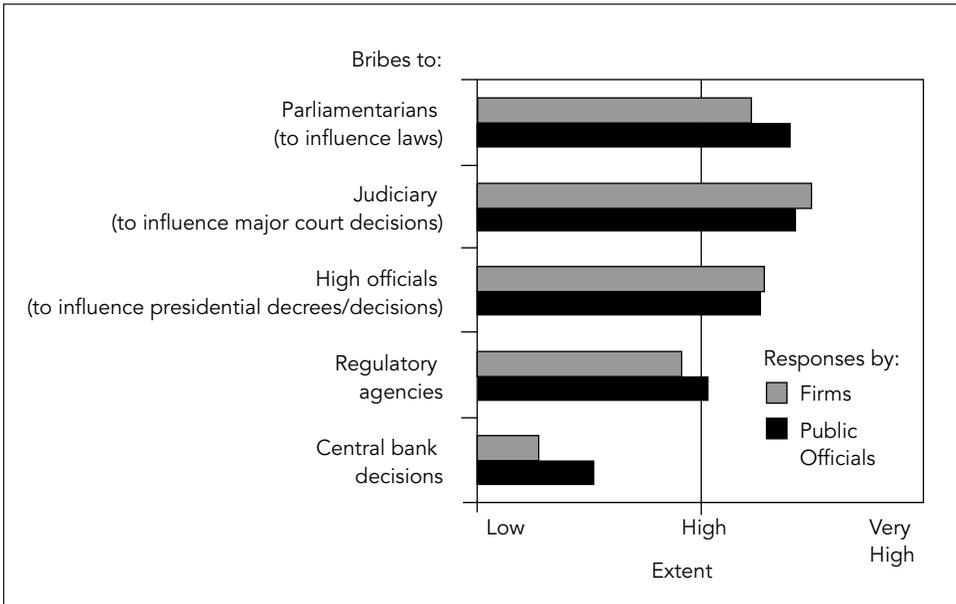
The work by Glaeser and Shleifer on the theoretical underpinnings and characteristics of institutional efficiency, featured in the article by Djankov and others in this volume, is of high relevance, and complements our research findings. Indeed, their argument that an important property of a successful institution is its invulnerability to capture by elite vested interests dovetails with the work we carried out in transition economies (summarized in Hellman, Jones, and Kaufmann [2000]). We have viewed state capture as the ability of powerful firms or interests to shape the rules of the game, often through illicit means, and thereby to affect the formulation of a country's laws, policies, and regulations. And we found in transition economies a dichotomized reality: about half of the countries (largely those in eastern Europe and the Baltics) have made a transition to a healthy market economy, although many other countries (concentrated in the former Soviet Union) have seen their institutions captured by oligarchs.

This empirical investigation into vested interests' capture and undue influence in shaping and operating institutions also has been carried out in a number of settings in Latin America through in-depth country diagnostics. In figure 3 we observe the illustrative case of Peru at the end of the Fujimori-Montesinos era, during which many institutions were captured and subjected to subversion. However, countries such as Peru during the Fujimori era, and some in the former Soviet Union during the transition, also illustrate the pitfalls of deriving policy recommendations from simple typologies. Arguing in favor of the more centralized rules promulgated by the sovereign, which may withstand attempts at subversion, implicitly presumes that central institutions (or the sovereign) are less subject to capture than are judicial institutions in misgoverned settings. That presumption does not necessarily match reality in many countries, and it ignores the elite capture of powerful networks that often closely link centralized political institutions, top leadership, and the judiciary.

In the next phase of this line of inquiry it will be important to probe deeply into the origins of such capture of institutions in some settings, contrasting extensive capture with its relative absence in other settings. Expanding such an empirical line of inquiry into the manifestations and implications of unequal influence within countries (that is, not concentrating only on capture through corrupt practices) is part of the research agenda. Indeed, the extent of state capture, and of unequal (political) influence across countries, varies widely. While legal origins may play an explanatory role, other factors are likely to be very important as well.

The challenge of deriving appropriate policy and institutional implications lies ahead. More research will be needed to distill insights from new comparative economics for practical advice on strategies for making institutions less vulnerable to influence capture and to subversion by private vested interests. In this context we

**Figure 3. Extent of State Capture by Elite Private Interests Extending Bribes to Influence Laws and Regulations, Peru, early 2001 Survey (reported by firms and public officials)**



Source: Kaufmann, Receanatini and Biletsky 2003.

need to broaden the current exclusive focus on the determinants of institutional subversion: capture occurs not only because of an institution's inherent vulnerability (supply-side factors), but also because of the demand-side agent's particular incentives and corporate strategies for capture and influence. Given the current global reality in which powerful conglomerates exert enormous influence on many state institutions, understanding the incentives and strategies of both transnationals and the domestic private elites is important for improving the institutional design and governance strategies in the next phase.

### Macroeconomic Policies of Institutions? Foreign Investment to Africa as a Case Study<sup>5</sup>

Some recent empirical literature has argued not only that institutions matter significantly, but moreover that they may matter much more than some traditional economic policies (see Rodrik, Subramanian, and Trebbi [2002], for instance). A priori, that seems to run counter to the tenor of Reinhart and Rogoff's article in this volume. In their chapter they argue, among other things, for the importance of sound macroeconomic management in attracting foreign direct investment (FDI) in Africa. Yet, given the difficult conceptual and econometric issues (particularly relating to endogeneity) that surround "competing" regression-based tests of policies-versus-

institutional determinants of developmental outcomes, it is difficult to find definitive evidence about the intrinsically low effects of policies as compared with institutions, or vice versa.

Although Reinhart and Rogoff do not present econometric evidence, I concur with them not only that it is obviously a priority to reverse the sagging levels of FDI to Africa, but also that macroeconomic and exchange rate stability is an important precondition to attaining such an objective. Looking ahead, however, the main question is whether macroeconomic and exchange rate stability remains a central obstacle to FDI in Africa, or whether its relative importance may have shifted to other factors. The data are indicative. First, the data point to the fact that the levels of FDI in gross domestic product (GDP) and inflation rates (or parallel premia) during the last two decades have not always moved together in Africa, even though one can detect a correlation. Macroeconomic phenomena were undoubtedly important factors, but clearly the dynamics of FDI need analysis beyond such macroeconomic variables to understand the sources and extent of the variance.

Furthermore, and more important in projecting forward, a positive development in Africa during the 1990s was the increasing quality of macroeconomic management in most settings, which implied a higher degree of macroeconomic stability and, notably, the virtual disappearance of parallel market premia in most countries. In fact, worldwide by the year 2000 there were so few countries with parallel market premia exceeding 10 percent that the World Bank ceased codifying such data altogether for publication in its annual *World Development Indicators*.

The virtual disappearance of parallel market premia today, in the continued presence of misgovernance, implies that the premia, which were never a very good proxy for corruption and lack of transparency, are now an even less satisfactory indicator for such misgovernance. Furthermore, the significant improvement in macroeconomic indicators has not been translated into significantly higher FDI in Africa. Although macroeconomic stability may be a necessary precondition to attract FDI, the evidence does not suggest that it is sufficient. Of course, we do bear in mind that there are key institutions driving macroeconomic policy, such as an independent Central Bank, suggesting that it is somewhat artificial to starkly delink policies from institutions.

Simple statistics using recent data on FDI suggest a much higher correlation with governance and institutional quality factors. In particular, using the governance indicators described at the beginning of this article, we find that the quality of the regulatory regime, rule of law, and control of corruption, which capture various dimensions of governance, do appear to matter very significantly when relating it to FDI in GDP worldwide. And the evidence over time is supportive: for Africa in particular, and the world at large, whereas there has been a steady improvement in macroeconomic stability over the past 10 to 15 years, by sharp contrast the quality of institutions and governance over the same period has been stagnant.

Consequently, in looking ahead to furthering FDI in Africa, it appears pertinent to focus on governance challenges and on health (HIV/AIDS and malaria, both of which

are imposing a very high toll on business as well). Examples attesting to the enormity of the cost of doing business in many countries on the continent that results from the lack of governance in infrastructure are telling. Consider, for example, the “Mombasa Syndrome,” the name given during the 1990s to the bottleneck of the Mombasa (Kenya) port for shipments from landlocked Uganda. The core problem was not the port’s infrastructure itself, but misgovernance and corruption instead.

## Implications

The broader and deeper recognition that institutions matter significantly for development, and the exploration of some possible historical antecedents, signify real progress in the field. In rethinking policy and institutional implications for emerging economies today, it is important to consider various competing and complementary historical institutional factors, and emphasize more their interplay with recent and current country experiences and conditions. The insights emanating from the historical ability to transplant and successfully adapt institutions in some countries in the new world (in contrast with unsuccessful transplantations) may hold lessons for today’s programs of external assistance and capacity enhancement in the developing world—including potential lessons, suitably adapted, from the links between patterns of settler mortality and institutional development. The hypotheses in Djankov and others of relating specific legal origin systems with the tendency to over-regulate and intervene, and potentially to impair voice and accountability mechanisms, is worth further scrutiny in terms of potential implications for institutional design in countries with particular historical antecedents.

As a tool for research inquiry, it also will be important to complement the plethora of cross-country studies with in-depth country comparisons. Indeed, pair-wise comparisons could offer particular insights: What accounts for the rather different institutional paths taken by Argentina and Chile in spite of their very similar cultural, geographical, colonial, and (civil) legal code systems? Or by Poland and Ukraine? Or by both Koreas? Furthermore, it will be important to understand better the extent to which quality of leadership matters, and to define its determinants. These governance-related areas are notably challenging in terms of measurement, and thus the continuing empirical efforts in this field are also key.

Finally, it will be paramount to focus further on dysfunctional institutions and states. A hard look at the indicators assessing institutional quality suggests that for dozens of countries that could be characterized as (quasi-)failed states, the challenge of the polity and governance is so much more daunting than what the insights from focusing on legal origins or macroeconomic policies can offer us.

## Notes

1. For methodological details on the worldwide governance indicators presented here in brief, see Kaufmann and Kraay (2002). The individual indicators used for the composites came from a variety of organizations, including commercial risk-rating agencies, multilateral organizations, think tanks, and other nongovernmental organizations. They are based on surveys of experts, firms, and citizens and cover a wide range of topics: perceptions of political stability and the business climate, views on the efficacy of public service provision, opinions on respect for the rule of law, and perceptions of the incidence of corruption. For a detailed explanation of sources and access to the full governance indicators databank see <http://www.worldbank.org/wbi/governance/govdata2002>.
2. The full governance data set for 1996–2002 is available at [www.worldbank.org/wbi/governance/govmatters3](http://www.worldbank.org/wbi/governance/govmatters3).
3. The rule-of-law indicators we refer to and use are akin to the notion of law and order presented by Djankov and colleagues in this volume. The important governance dimension of restraints (checks and balances) on the sovereign is captured in the voice and (democratic) accountability composite indicator discussed in Kaufmann and Kraay (2002). The points made above (and shown in table 1) also apply if indicators other than rule of law (such as voice and accountability) are used.
4. Legal origin identifies the origin of the company law or commercial code in each country. There are five possible origins: English, French, German, Scandinavian, and Socialist. Sources are: La Porta and others 1999; CIA 2002; Djankov, McLiesh, and Shleifer 2003.
5. Howard Pack has provided specific comments on the article by Reinhart and Rogoff. Thus, in this comment I briefly integrate my remarks within the broader context of policy and institutional determinants of development.

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