

BULLETIN

April–June 2000

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Reducing pollution through community-based approaches

Conventional wisdom suggests that economic development, increases in global trade, and the opening of borders will increase pollution in developing countries. But a new World Bank study finds little evidence of such outcomes. In fact, some developing countries are actually reducing their emissions, largely through fresh approaches based on community involvement.

The severe decline in air quality witnessed in many industrializing countries has raised a worrisome concern: Is pollution the price of development? Do people in developing countries have to choose between better living standards and reasonable air quality? Does the negative relationship observed between per capita income and industrial pollution mean that people living in developing countries will continue to be exposed to worse environmental conditions than people living in wealthier countries (figure 1)?

Many experts long believed that as countries developed, their pollution levels would increase, as they had in the West. The decline in air quality would be exacerbated by the export of old, dirty machinery from the West to developing countries, where regulation had not yet banned such equipment. Lack of institutions, human capital, and information flows in developing countries would prevent adoption of the regulation needed to curtail pollution. Moreover, the argument went, even if developing countries had the ability to curtail pollution, doing so would not be a top

concern, given the other pressing social and economic problems these countries needed to solve.

For all these reasons, pollution in developing countries was expected to increase initially as a result of economic development. Only after per capita income reached a certain level would pollution control be promoted. This view was a variant of the famous Kuznets curve, according to which income inequality first rises

as development proceeds, falling only after income reaches a certain level.

A six-year study by the World Bank—*Greening Industry: New Roles for Communities, Markets, and Governments* (New York: Oxford University Press, 1999)—indicates that this pessimistic prognosis is not borne out by the facts. In much of the developing world many factories are causing less damage to the environment than they did just a decade ago. Total emissions are actually declining in some areas in which industry is growing rapidly. In China, for example, where air pollution is a serious problem, air quality has remained stable or improved over the past decade—despite the country's rapid development.

Moreover, the pollution havens envisaged by many experts in the early 1970s have not materialized. As *Greening Industry* notes, "The record shows that developing countries are not destined to be the world's environmental dumping grounds. Even the most polluted areas are moving away from the nightmare landscapes anticipated only a few years ago."

Replacing traditional environmental regulation with fresh approaches

What has happened? How have developing countries succeeded in stemming the increase in pollution? What kinds of regulatory measures have proved effective?

For years, developing countries adopted traditional means of regulating pollution, borrowed from the West. But Western methods—which set uniform discharge standards for all factories—proved difficult to enforce in developing countries. Moreover, this “one-size-fits-all” approach was not cost-effective because it held all factories to the same standards, regardless of the cost of abatement or the damage to the local environment.

Rather than mimicking traditional Western approaches, many developing countries have adopted new, more flexible approaches to regulation. Some have turned to financial incentives. Others have used simple rating systems to publicize which factories do and which do not adhere to local and national standards. Many have increased public education about pollution, which helps citizens work with environmental agencies and elected officials to curb emissions.

The conventional wisdom was wrong: economic development need not lead to increased industrial pollution

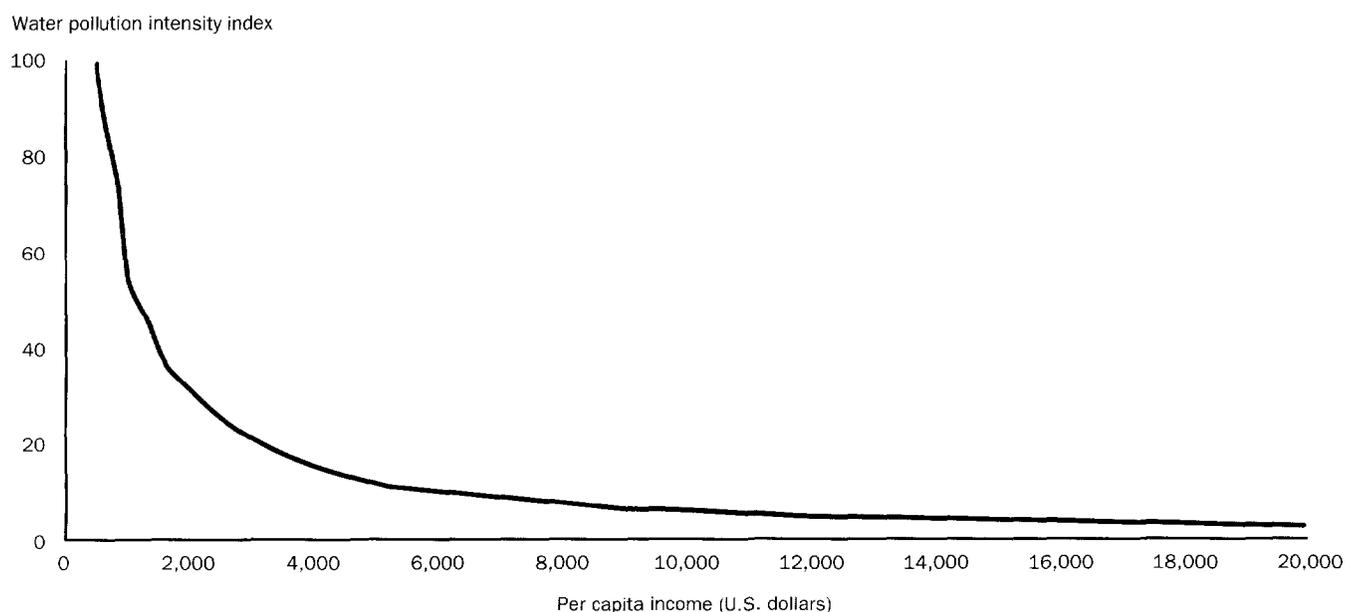
This change in approach was brought about by several factors. Perhaps the most important was the realization that centralized, rigid regulatory systems had failed to achieve results in many developing countries. At the same time, the increase in

personal computer-based information systems in developing countries made it possible to disseminate information more widely; new capital markets flourished; and institutional development models began putting much greater emphasis on community participation. The result has been a rapid shift toward new, community-based regulatory models that use public information and market incentives.

Charging polluters to reduce emissions

One innovative approach to pollution control is the use of financial incentives. Colombia reduced organic discharges 18 percent in just one year after it began charging polluters for each unit of organic pollution discharged into the waterways of the Antioquia district (box 1). These results contrasted sharply with the poor record of traditional regulation in Colombia, which had failed to reduce air or water pollution.

FIGURE 1
Per capita income and industrial pollution: An international comparison



Note: The water pollution intensity index measures the organic pollutant per unit of industrial output.
Source: World Bank. *Greening Industry* (New York: Oxford University Press, 1999).

Traditional regulation of pollution failed to clean up the environment in developing countries. But new approaches are working

The positive results of Colombia's program reveal the obvious: plant managers respond to financial incentives. Imposing sufficiently high costs on polluters will encourage them to pollute less. These costs can take various forms, including fines, plant closures, pollution charges, credit refusals from bankers worried about liability, reduced sales to environment-conscious consumers, and social ostracism within a community.

Providing factory managers with disincentives to pollute allows them to make their own decisions about the level of pollution: if the cost of polluting exceeds the benefits, reducing pollution makes economic sense. By allowing managers to weigh the costs of abatement against the costs of polluting, such incentives achieve a more equitable solution than imposing the same pollution standards on all polluters.

Experience in China, Colombia, and the Philippines has revealed several important lessons about pollution charges. First, enforcement must be flexible. In China actual charges per unit of emissions vary widely across regions, even though the official rate is supposed to be applied uniformly. Such flexibility in administering national regulations appears to be critical to continued support for pollution charges in countries in which conditions vary widely from community to community. Second, industry must support pollution charges. Factory owners need to be convinced that abating pollution will not drive them out of business. Presenting them with credible information from technical experts can assuage their fears that pollution abatement is too costly. Third, regulators must be able to audit emissions records and analyze effluent samples from factories. Good procedures for collecting and accounting for charge funds are also needed. Some countries without the capacity to audit emissions or collect and track fees themselves have hired subcontractors to do so. Colombia, for example, uses bonded auditors to analyze emissions and has hired a large commercial bank to collect pollution fees and handle financial accounting.

Involving the public in pollution abatement

Communities are key to successful pollution abatement, as evidence from Asia, Latin America, and North America demonstrates. Where regulation exists, communities can use the political process to push for strict enforcement. Where

regulation does not exist, non-governmental organizations (NGOs) and community groups can put pressure on polluters themselves.

In many different parts of the world factories negotiate directly with communities in response to threats of social, political, or physical sanctions. But commu-

nity action depends on information (figure 2). Without information about pollution from individual factories, communities have little leverage with which to pressure polluters to reduce emissions.

Regulators can play an important role in collecting and disseminating information. Public disclosure of information on pollution has proved to be an important disincentive to polluters, which often reduce emissions in order to avoid being publicly identified as serious polluters (box 2).

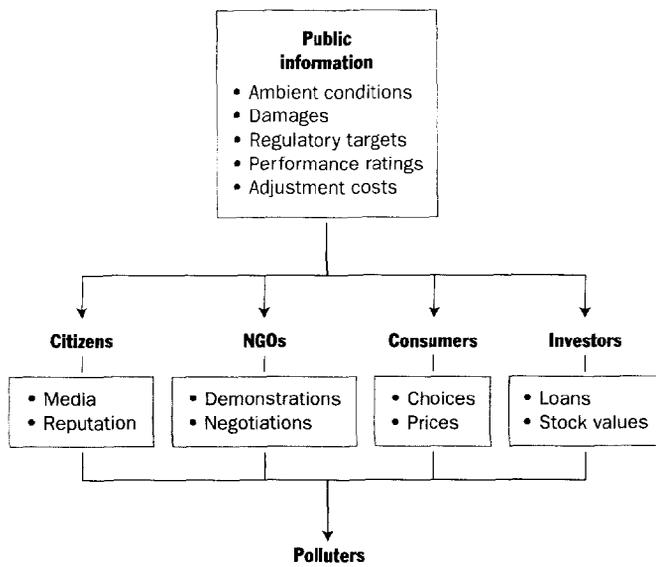
BOX 1
Cleaning up Colombia's waterways by making polluters pay

In 1997 Colombia began charging polluters in three regions of the country. The program has since expanded to seven regions and will cover most of the country within the next few years. The results: polluters have begun to weigh the costs and benefits of polluting and to reduce emissions when it becomes costly to pollute.

Colombia's program allows each region to set its own goals for reducing pollution. Polluters in all seven regions initially pay a pollution charge of \$28 a ton for organic waste and an additional \$12 a ton for total suspended solids. If after six months discharges are not reduced enough to meet a region's pollution abatement goals, the region can raise the pollution charge for the next six-month period. Discharges are tracked and pollution charges raised every six months until the pollution abatement goals are met.

The overall results of the program have been dramatic, with total organic discharges by factories cut by more than half. Still, most factories failed to reduce their emissions, with just 7 of 55 regulated plants on the Rio Negro accounting for all the decline in organic waste in that river basin. That most factories preferred to incur significant pollution charges rather than reduce discharges may suggest that the charges were set too low.

FIGURE 2
Public information and the channels through which it works



Source: Adapted from World Bank, *Greening Industry* (New York: Oxford University Press, 1999).

Using market incentives to reduce pollution

The preferences of consumers and investors may also affect companies' willingness to pollute. Green consumers may boycott products of serious polluters and endorse those of firms that make extraordinary efforts to combat pollution. Investors may worry about regulatory penalties or liability settlements that serious polluters may face. And they may interpret a high level of pollution as a sign that a firm uses inefficient production processes.

Several studies have shown that stock markets respond positively to environmental news and that these changes cause polluters to clean up. World Bank researchers studying companies in Argentina, Chile, Mexico, and the Philippines found that stock prices of companies rose following the release of information showing good environmental performance and fell following news of citizens' complaints. The gains in response to good news were substantial, averaging 20 percent. Bad news led to declines of 4–15 percent.

Helping the poor combat pollution

Throughout the world, the poor face worse environmental conditions than the rich. Poor communities may welcome the jobs industry creates—and sometimes suffer from pollution unless they are well informed about the risks and organized to protect their interests. The poor are also likely to be

BOX 2 Reducing emissions in Indonesia by rating polluters

Indonesia has adopted an innovative program that uses the threat of public disclosure to discipline polluters. Under the Program for Pollution Control, Evaluation, and Rating (PROPER), each factory receives a color-coded rating (see table). Companies that have no pollution controls and cause serious environmental damage receive black ratings. Companies that use clean technology, minimize waste, and prevent pollution receive gold ratings.

To maximize the impact of these ratings, in June 1995 Vice President Tri Sutrisno publicly commended the five Indonesian companies that received green ratings. BAPEDAL, the national pollution control agency, then privately informed other factories of their ratings, giving those that failed to meet national standards six months to clean up. By December half the factories that had received black ratings had improved their compliance enough to warrant red ratings. Among plants that had received the less shameful red rating, only 6 percent improved enough to receive blue ratings.

In December 1995 the government made all ratings public. This information proved very useful to citizen groups, which used the ratings to negotiate pollution control agreements with factories in their communities. The publication of the ratings also reduced pollution: one year after the first ratings were publicized, the number of compliant factories rose from a third of the sample to more than half.

Pollution ratings in Indonesia

Rating	Performance
Gold	Use clean technology, minimize waste, prevent pollution
Green	Exceed standards, practice good maintenance and housekeeping
Blue	Exert efforts meeting minimum standards
Red	Exert efforts falling short of standards
Black	Exert no pollution control effort, cause serious environmental damage

Source: World Bank, *Greening Industry* (New York: Oxford University Press, 1999).

less able than richer, better-educated residents to put pressure on local factories or policymakers to control pollution. In China, for example, regions with high literacy were found to complain about pollution 90 percent more often than regions with low literacy and similar levels of pollution and income. People with lower rates of literacy may complain less than more literate people for a variety of reasons, including lack of information about the effect of pollution on their health, difficulty in organizing for

political action, and the discomfort they may feel confronting educated officials or factory owners.

Environmental agencies can help the poor reduce pollution in their communities by educating them about the risks they face. Agencies can also establish and maintain decent minimum standards of environmental quality for all citizens by making sure that pollution control regulations are enforced, especially in poor communities, where citizens are less likely to complain.

Managing and sustaining reform

Much progress has been made in reducing pollution. But much more needs to be done in regulatory reform, economic policy reform, and environmental management within factories.

Key to managing and sustaining reform are focus, transparency, and community participation. Focus can be maintained by targeting a small group of the worst polluters, limiting regulation to a few important pollutants, auditing emissions, and publicly disclosing polluters' performance. In

Flexible programs based on community participation have reduced emissions in many developing countries

the Brazilian state of Rio de Janeiro, for example, regulators found that targeting just 50 of the largest factories would control 60 percent of the state's serious pollution. Because large factories account for the bulk of emissions, targeting these factories also saves lives.

Transparency is important because it both prevents corruption and ensures that communities have access to information. Without accurate, accessible, and timely information, communities cannot hope to participate in regulating polluters.

Finally, community participation is vital to the process. By voicing their opposition to environmental pollution, communities make it difficult for political leaders to oppose pollution control. They exert pressure on factory owners and shareholders, who may prefer to implement pollution controls rather than deal with hostile neighbors.

For information on ordering the World Bank's Greening Industry, see the last page. For information on research relating to the study, go to www.worldbank.org/nipr.

New Research

The research projects described here are directed by World Bank staff and funded by the Bank's central Research Support Budget (RSB). Research proposals being prepared with RSB funding are listed on page 8. For information about the research projects described here, contact the researchers at the Bank's main address (see back page).

A New Analytical Framework for Evaluating Social Programs

Quentin Wodon

Latin America and the Caribbean Region, Poverty Reduction and Economic Management Sector Unit

This study will test a new analytical framework for evaluating social programs and policies by applying it to a wide range of poverty alleviation programs in Latin America. The framework takes into account flexible distributional weights for translating individual welfare gains into aggregate social gains. One problem with distributional weights based on standard poverty measures is that they place no weight on the welfare of the nonpoor. The new framework takes the gains to all members of society into account, though weighting them differently.

The framework also takes into account the program's targeting performance, the effect of the allocation rules on the distribution of the benefits among participants, and the loss that results because targeting is not perfect, so that some people in the targeted group do not participate.

RSB funding: \$39,000

Staff weeks: 10

Optimal Policies to Control Infectious Diseases

Jeffrey Hammer

Development Research Group

Infections and actions to prevent or cure infections have costs. Individuals balance the costs that they control—and government policy should balance the costs for society, taking into account individuals' behavior. That requires a strategy combining preventive and curative interventions.

This study seeks to contribute to the debate on the relative emphasis governments should give to preventing and curing infectious diseases by merging the insights of epidemiology with those of economics. Using mathematical models of the spread of different infectious diseases, the study will examine the effects of several parameters: the responsiveness of demand for private services (prevention and cure), the cost structure of interventions, the effect of policy interventions on epidemiological parameters, and the prices of all inputs.

RSB funding: \$28,000

Staff weeks: 2

Patterns of Inequality and Government Intervention

Klaus Deininger and Lyn Squire

Development Research Group; and Office of the Senior Vice President, Development Economics

The Deininger-Squire database on income distribution has become a standard source in cross-country analysis of the relationship between inequality and economic growth. This project aims to update and improve the database and increase its usefulness.

Taking advantage of the large number of micro data sets that have

become available, the project will increase both the number of countries and the number of observations covered by the database. It will incorporate data on decile income shares and a rural-urban disaggregation. And it will add data on access to key social services by income decile, facilitating more comprehensive analysis of changes in the welfare of the poor and their access to economic opportunities.

RSB funding: \$38,000

Regionalism and the Terms of Trade

Maurice Schiff

Development Research Group

A standard approach in analyzing the effects of regional integration agreements (trade blocs) has been to assume homogeneous goods. Under this assumption it can be shown that if small open economies form a trade bloc and continue to trade with outside countries, only trade diversion will result—with no trade creation—and member countries' welfare will decline. If goods are differentiated by country of origin, however, the welfare effects may differ because giving preferential access to member countries may force outside countries to lower their export price to the bloc, resulting in an improvement in the bloc's terms of trade.

This study will examine the effects of regional integration on import prices in two countries—Mexico (North American Free Trade Agreement) and Tunisia (free trade agreement with the European Union). The analysis will be based on detailed trade data at the commodity level.

RSB funding: \$39,000

Staff weeks: 10

Yardstick Competition across Ports: An Illustrated Guide for Regulators

Antonio Estache

World Bank Institute, Governance, Regulation, and Finance Division

In many countries the restructuring of ports—unbundling, decentralization, and often commercialization or privatization—has left governments with a need to monitor the performance of port operators to ensure that efficiency gains are maintained. This study is aimed at producing a monitoring approach port regulators can use that is based on yardstick competition—in which the performance of operators enjoying local monopolies can be compared as a way of creating competitive pressure.

Using data on Mexican ports, the study will identify a reasonable quantitative methodology for measuring the relative efficiency of port operators. It will then develop a procedure for new regulators to use in implementing yardstick competition, whether the comparators are multiple ports in a single country or ports in other countries in the region.

RSB funding: \$30,000

Staff weeks: 1

Forecasting Capital Flows

Ashoka Mody

Development Prospects Group

This study will examine three issues relating to developing country borrowing. First, the study will look at what determines the maturity of developing country bonds. The results of this analysis should shed light on what factors might be manipulated to move bonds away from short maturities, which have been shown to be a risk factor in recent financial crises.

Second, the study will examine the effects of a recent sovereign debt restructuring on the country's access to the debt market and its borrowing costs, an analysis that should contribute to the debate on bailout and moral hazard. Finally, the study will look at the relationship between exchange rate regime (hard pegs, soft pegs, and relatively free floats) and the cost of external finance.

RSB funding: \$40,000

Gender and Power Relations in the Household, Female Labor Supply, and Child Welfare

Lyn Squire

Office of the Senior Vice President,

Development Economics

A growing literature has challenged the unitary model of the household, in which a household pools the incomes of all its members and then maximizes a unique utility function. What should replace this model?

One major contender is the collective model, which recognizes that different agents in the household may have different preferences and that the household's consumption pattern—and savings and investment behavior—will change as the balance of power shifts from one agent to another. But this model remains loosely defined, in part because it is still unclear what determines the balance of power.

This study will test some ideas about how power relations in the household can be modeled. And it will examine the effect of alternative models of the collective household on decisions relating to children, such as investments in their health and education, and on women's participation in the labor force. Empirical analysis will

draw on household survey data from India.

RSB funding: \$25,000

Twin Crises and Government Policy

Craig Burnside

Development Research Group

Banking and currency crises have often coincided. This study will examine such twin crises—and the role of government policies in them.

The study will first document the common elements of twin crises. Then it will examine the role played by government policies in precipitating twin crises, focusing on the effect of government guarantees to banks' creditors on banks' investment and hedging strategies, the effect of those strategies on the size of governments' implicit liabilities, and the link between those liabilities and exchange rate crises. Finally, the study will investigate avenues through which governments can minimize the possibility of speculative currency attacks. The project will involve both statistical analysis of an open economy and case studies of different countries.

RSB funding: \$38,045

Staff weeks: 25

RESEARCH PROPOSALS
UNDER PREPARATION

Institutional Means of Controlling Administration and Reducing Corruption in Transition Economies

Richard Messick

Poverty Reduction and Economic Management Network, Public Sector Management Division

RSB funding: \$15,000

**Economics of Tobacco Control:
Analysis of Distributional and
Economic Impact**

Joyce de Beyer

*Human Development Network, Health,
Nutrition, and Population Team*

RSB funding: \$10,000

**The Political Economy
of Decentralization**

Stuti Khemani

Development Research Group

RSB funding: \$15,000

**Analyzing Differences in Income
Distributions: A New Method
with Empirical Application
to South Africa**

Lyn Squire

*Office of the Senior Vice President,
Development Economics*

RSB funding: \$10,000

**Successful Cities: Determinants
of City Growth Rates**

Zmarak Shalizi

Development Research Group

RSB funding: \$10,000

Information on many more research projects under way or recently completed at the World Bank can be found in *World Bank Research Program 1999: Abstracts of Current Studies* (see page 16 for ordering information). Searchable abstracts of research projects are on the Web at www.worldbank.org/research.

Publications and Data

*For information on how to order the
World Bank publications reviewed in
this issue, see page 16.*

B O O K S

**Designing Household Survey
Questionnaires for Developing
Countries: Lessons from 15 Years
of the Living Standards
Measurement Study**

*Margaret E. Grosh and Paul
Glewwe, editors*

*A copublication of the World Bank
and Oxford University Press*

Governments need accurate, current, and relevant data from household surveys to make sound economic and policy decisions. Analysts need such data to model economic behavior, which can provide answers to important policy questions. For many countries, however, household survey data are incomplete, unreliable, or out of date. This handbook was developed to help remedy this situation. A comprehensive treatise on the design of multitopic household surveys in developing countries, it draws on 15 years of experience with the World Bank's Living Standards Measurement Study surveys and other household surveys conducted in developing countries.

The three-volume handbook covers key topics in the design of household surveys, with many suggestions for customizing surveys to fit local circumstances and improving data quality. To help users customize their surveys, it provides detailed draft

questionnaires in both written and electronic (CD-ROM) format.

**Geographical Targeting for Poverty
Alleviation: Methodology and
Applications**

*David Bigman and Hippolyte
Fofack, editors*

Regional and Sectoral Study

Although development projects are carefully designed and meticulously evaluated for cost-effectiveness and benefits, too many of them are not sufficiently targeted geographically. The growing availability of spatial data, organized in a computer system such as a geographic information system (GIS), can help improve targeting and analyze the impact of projects in specific locales.

This book introduces the basic concepts of a GIS and demonstrates how to organize geographic and nongeographic data. In addition, it presents different methods for using the data of the Household Income and Expenditure Survey, together with other surveys and the population census, to provide estimates for the standard of living and incidence of poverty in different geographic areas of a country. It also illustrates different GIS applications for identifying a project's target population, determining its spatial "sphere of influence," and deciding where to locate public facilities.

**Asian Corporate Recovery:
Findings from Firm-Level Surveys
in Five Countries**

*Dominique Dwor-Frécaut,
Francis X. Colaço, and Mary
Hallward-Driemeier, editors*

Although macroeconomic studies investigating the causes of the East

Asian financial crisis of the late 1990s abound, there have until now been few systematic microeconomic explanations of the last two years' events. To fill this information gap, the governments of Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand, with the technical assistance of the World Bank, undertook surveys of 4,000 firms between November 1998 and February 1999.

This volume reports the findings of the surveys and explores the impact of the crisis by looking at changes in capacity utilization, export performance, and employment practices. It examines the causes of the economic decline from the perspective of the firms and discusses credit availability issues. It presents a data set with information on the financial positions of small and medium-size enterprises and large unlisted companies. And it relates the firms' leverage and their reliance on different sources of capital to their reported access to credit.

Frontiers of Development Economics: The Future in Perspective

Gerald Meier and Joseph Stiglitz, editors
A copublication of the World Bank and Oxford University Press

With contributions from 35 leading economists, this book explores the future of development economics against the background of the past half-century of development thinking and practice. The contributors, outstanding representatives of the past two generations of economists, assess development thinking at the turn of the century and look to the unsettled questions confronting the next generation.

The volume offers a thorough analysis of the broad range of issues in development economics and a timely critique of what is needed in development theory and policy to reduce poverty. And it addresses the question of whether development economics is to be regarded in the future simply as applied economics or whether its nature and scope call for a special development theory to supplement general economic theory.

Can Africa Claim the 21st Century?

A copublication of the African Development Bank, African Economic Research Consortium, Global Coalition for Africa, United Nations Economic Commission for Africa, and World Bank
This book is a product of the growing collaboration among some of the main institutions involved in African development. More than 50 scholars, policy-makers, and development practitioners—predominantly African—appraised the region's development at the start of the new century and articulated a road map for the future.

Despite the enormous challenges facing the region, the message of the report is optimistic. Development in Africa is possible—and the 21st century offers the region a chance to take its proper place on the world stage. Never before have the momentum and goodwill for change been better. But to consolidate the momentum requires Africans to take a more active, businesslike approach to governance and economic management. The report provides a broad business plan that countries can adapt—while also arguing for better, more effective partnerships between Africa and its development partners.

East Asia: Recovery and Beyond

Recovery has at last begun in East Asia. But it is now evident that recovery involves much more than a macroeconomic adjustment. This study asks three important questions: Is the recovery built on a solid foundation, or will it soon crumble under the weight of new competition in the global marketplace? Has the crisis changed East Asia's development strategy and its institutional underpinnings? Even if the recovery lasts into 2000, will its foundation be sufficient to launch a new era of high growth?

This volume provides a synthesis of recent work, incorporating selected pieces of analytical work and a progress report on the key elements of concern to the World Bank. The report concludes that East Asia's long-term prospects hinge on unleashing new productivity growth. Raising productivity depends on policies and institutions, including regulatory policies, business institutions, government institutions, and broader social institutions.

The Quality of Growth

A copublication of the World Bank and Oxford University Press

The last decade of the 20th century witnessed striking progress in the developing world but also stagnation and setbacks in development. Key to development are both the pace and the quality of economic growth. This volume presents a collection of essays from an ongoing research project on the quality of growth and the implications for development.

Taking as its departure point the World Bank's *World Development Report 1991: The Challenge of Development*, the book examines how

far we have progressed in the decade since that report was published. It advocates broadening the policy framework, moving beyond a quantitative agenda for short-term economic growth to a qualitative agenda involving human, social, and environmentally sustainable development.

The Political Economy of Water Pricing Reforms

Ariel Dinar, editor

A copublication of the World Bank and Oxford University Press

In recent years many countries, developing and developed alike, have undertaken massive reforms in various sectors. Institutional and pricing reforms in the water sector are part of that trend. These reforms are driven by recognition of the need to address the increased scarcity and reduced quality of water.

Does the water sector differ from other sectors, as some claim? Should reforms in the water sector be designed and implemented differently than similar reforms in other sectors? This book answers these questions through analytical frameworks that allow comparison across different conditions and through comparisons of reform processes in different countries. The book shows the common threads in water pricing reforms by analyzing different aspects of reform in the irrigation and urban subsectors of 10 countries—Australia, Belgium, Brazil, Honduras, Mexico, Morocco, Pakistan, Senegal, the United States, and Yemen. These cases illustrate the difficulties of designing and implementing “optimal” pricing reforms and explain how reform outcomes fall short of the original objectives.

JOURNAL

The articles summarized below appear in the May issue of the World Bank Economic Review, vol. 14, no. 2.

Understanding Patterns of Economic Growth: Searching for Hills among Plateaus, Mountains, and Plains

Lant Pritchett

Stylized facts about the instability and volatility of growth rates in developing countries imply that the exploding econometric growth literature that makes use of the “panel” nature of the data is unlikely to be informative. In contrast, research into what initiates (or halts) episodes of growth has high potential.

Macroeconomic Fluctuations in Developing Countries: Some Stylized Facts

Pierre-Richard Agénor, C. John McDermott, and Eswar S. Prasad

This article documents the main stylized features of macroeconomic fluctuations for 12 developing countries and also analyzes the effects of economic conditions in industrial countries on output fluctuations in the sample countries. The results point to many similarities between macroeconomic fluctuations in developing and industrial countries and some important differences.

Monitoring Banking Sector Fragility: A Multivariate Logit Approach

Aslı Demirgüç-Kunt and Enrica Detragiache

This article explores how a multivariate logit model of the probability of a

banking crisis can be used to monitor banking sector fragility. The proposed approach relies on readily available data, and the fragility assessment has a clear interpretation based on in-sample statistics.

Trade Reform Dynamics and Technical Efficiency: The Peruvian Experience

Ila M. Semenick Alam and Andrew R. Morrison

This article explores whether or not the loosening of trade restrictions has a microeconomic impact on industrial efficiency. It uses a previously unexploited data set to gauge the impact of the 1990 Peruvian reform on plant-level technical efficiency. The results support the argument that the degree of protection and the level of efficiency are inversely related.

Monitoring Targeting Performance When Decentralized Allocations to the Poor Are Unobserved

Martin Ravallion

How can a central government monitor the performance of a decentralized poverty program when the incidence of the program’s benefits is unobserved at the local level? This article shows that using a poverty map and the corresponding spending allocation across geographic areas, one can identify the latent differences in mean program allocations to the poor and the nonpoor.

Child Labor, Child Schooling, and Their Interaction with Adult Labor: Empirical Evidence for Peru and Pakistan

Ranjan Ray

Using data from Peru and Pakistan, this article tests the hypotheses that there is a positive association between

hours of child labor and poverty and that there is a negative association between child schooling and poverty. Both these hypotheses are confirmed by the Pakistani data, but not by the Peruvian data.

A New Development Database: A Cross-Country Database for Sector Investment and Capital

*Donald Larson, Rita Butzer, Yair
Mundlak, and Al Crego*

This article presents a new database on investment and capital in agriculture, manufacturing, and the overall economy that covers 62 industrial and developing countries for the years 1967–92. A common method is used in the calculations to facilitate comparisons across countries and sectors.

DISCUSSION, TECHNICAL, AND RELATED PAPERS

Foreign Investment and Restructuring: The Evidence from Hungary

*Bartłomiej Kaminski and
Michelle Riboud*

Technical Paper 453

Although the official rhetoric in most transition economies has been in favor of foreign direct investment, few countries have succeeded in attracting sizable inflows. Hungary stands out among those that have done so effectively. Several factors helped Hungary get ahead of other transition economies in attracting foreign direct investment. This paper analyzes Hungary's achievement, the scope and depth of foreign direct investment, and its effect on the country's economy and foreign trade.

Intellectual Property Rights and Economic Development

*Carlos A. Primo Braga, Carsten Fink,
and Claudia Paz Sepulveda*
Discussion Paper 412

Over the course of history different legal instruments have emerged for protecting intellectual property. These instruments differ in subject matter, extent of protection, and field of application, reflecting society's objective of balancing the interests of creators and consumers for different types of intellectual works. They are just one of the pieces forming a national system of intellectual property rights protection. Also crucial are the institutions administering these instruments, the mechanisms for enforcing intellectual property rights, and the rules on the treatment of nonnationals.

This paper addresses issues relating to intellectual property rights. It evaluates the relationship between protection of intellectual property and economic activity in developing countries. It also summarizes the economic effects that intellectual property rights have through the creation and diffusion of knowledge and information. And it discusses reforms of intellectual property rights regimes and makes recommendations for administering and enforcing these regimes.

Management and Resolution of Banking Crises: Lessons from the Republic of Korea and Mexico

Jose De Luna-Martinez
Discussion Paper 413

What can be done to rapidly and effectively contain systemic risks, restore the solvency and profitability of financial institutions, minimize the impact of financial sector distress on the economy, and limit the fiscal costs

of a crisis? What set of policies contributes to a rapid and successful resolution of a banking crisis and under what conditions? Can a model of bank restructuring successful in one country be easily implemented in others?

This paper addresses these questions by analyzing and comparing the causes of the banking crises in the Republic of Korea and Mexico and the policies and tools used for managing and resolving the crises. Both crises were triggered by sudden currency devaluations and also had other similarities. But there were major differences in how the countries resolved the crises. This report identifies and explains those differences and assesses the management of the crises, focusing on decisionmaking transparency, the speed and sequencing of reforms, and the social and political obstacles to crisis resolution.

POLICY RESEARCH WORKING PAPERS

Working Papers disseminate the findings of work in progress and encourage the exchange of ideas among Bank staff and all others interested in development issues.

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Many governments in developing and transition economies are working to build more efficient and accountable public sector institutions. How can these governments assess the state of their institutions and pinpoint the areas most in need of attention? To help, the World Bank has been developing diagnostic toolkits that public sector analysts can use in assessing institutional arrangements.

These toolkits, distilled from experience in developing and transition economies, set out the principles that this experience suggests should underpin institutional arrangements, and they provide questions and methods to help in assessing the consistency of a country's institutional arrangements with those principles. The toolkits include the following:

- Central government policymaking institutions—a framework for identifying weaknesses in decision-making arrangements in cabinet government by drawing attention to the key institutional arrangements and the most likely systemic sources of poor policy.

- Constraints on service delivery—a toolkit for locating key constraints and identifying the extent to which they arise from problems within the agencies providing services or from weaknesses in provincial and national policymaking, administration, and governance.

- Civil service institutions—a toolkit for assessing formal and informal institutional arrangements

for public sector employment, including the coherence of civil service rules and the compliance with those rules.

- Commitment to reform—a diagnostic tool for assessing the political desirability, feasibility, and sustainability of proposed reforms.

- Revenue administration—a framework for assessing institutional and organizational deficiencies in arrangements for administering revenues.

- Intergovernmental relations—a toolkit for assessing arrangements for fiscal, administrative, and political decentralization.

- Legal and judicial institutions—a toolkit for assessing the public system's performance in deterring wrongful conduct, facilitating transactions, resolving private disputes, and redressing government abuses of power.

- Public expenditure institutions—a toolkit for assessing formal institutional arrangements for public expenditure and cabinet arrangements for social and sectoral policymaking.

The toolkits can be found on the Web at www1.worldbank.org/publicsector, under Institutional Analysis and Assessment. Many of the toolkits are still being refined and pilot tested. To encourage feedback from users, the Web page for each toolkit includes an electronic form for rating the toolkit and submitting comments.

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The World Bank
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